



DEPARTMENT OF HEALTH & HUMAN SERVICES

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National Institutes of Health  
Freedom of Information Office  
Building 31, Room 5B-35  
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Bethesda, Maryland 20892-2107  
phone: (301) 496-5633  
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via Email: [foia@sirillp.com](mailto:foia@sirillp.com)

April 15, 2022

Aaron Siri, Esq.  
Siri & Glimstad LLP  
200 Park Avenue  
Seventeenth Floor  
New York, NY 10166

Re: NIH FOIA Case No. 54107; *ICAN v. National Institutes of Health*, No. 20-cv-01277

Dear Mr. Siri:

This is a partial response to Freedom of Information Act (FOIA) requests that are the subject of the Complaint filed in *ICAN v. National Institutes of Health*, No. 20-cv-01277. Your FOIA request, dated April 29, 2020, was received by the National Institutes of Health (NIH) on the same day.

You requested the following for the timeframe of November 1, 2019 through the date of the search for:

All emails sent or received by Barney Graham that include the term SARS-CoV, COVID, COVID-19 or coronavirus in any portion of the email, including the body, subject, metadata, sender line, or recipient line of the email, or any attachment to the email.

NIH has processed 306 pages responsive to your request 54107. Attached to this letter are 271 pages; NIH has sent the remaining 35 pages to the Centers for Disease Control, the Department of State and the Department of Health and Human Services for further review. NIH will provide a further response regarding the consulted material once the consultations are complete.

I have determined to withhold portions of the enclosed pages under FOIA exemptions (b)(4), (b)(5) and (b)(6). The information being withheld is protected from release pursuant to Exemptions 4, 5, and 6 of the FOIA, 5 U.S.C. § 552 (b)(4), (b)(5) and (b)(6); and sections 5.31 (d), (e) and (f) of the HHS FOIA Regulations, 45 CFR Part 5. Exemption 4 protects from disclosure trade secrets and commercial or financial information that is privileged and confidential. Exemption 5 permits the withholding of internal government records which are

pre-decisional and contain staff advice, opinion, and recommendations, as well as documents solicited and received by the President or his immediate White House advisers who have broad and significant responsibility for investigating and formulating the advice to be given to the President. Exemption 6 permits the withholding of privacy information, the release of which would constitute a clearly unwarranted invasion of personal privacy.

If you have any questions about this response, please contact AUSA Morrison, of the Department of Justice, at [Kristina.Morrison@usdoj.gov](mailto:Kristina.Morrison@usdoj.gov).

Sincerely,

*for* Gorka Garcia-Malene  
Freedom of Information Officer, NIH



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 9 Apr 2020 03:54:22 +0000  
**To:** Clare Cutland  
**Cc:** Shabir Madhi  
**Subject:** RE: Covid

Sorry for late reply.

Fine to record

OK for CME

Title, "Rapid COVID-19 Vaccine Development: Demonstration of the Prototype Pathogen Approach for Pandemic Preparedness"

BG

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**From:** Clare Cutland <(b) (6)>  
**Sent:** Wednesday, April 8, 2020 7:18 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Cc:** Shabir Madhi (b) (6)>  
**Subject:** RE: Covid

Hi Barney

We have lots of interest in your lecture tomorrow! Please advise on the following:

1. Please send me title of talk you will give
2. Are you happy for me to record it on Zoom for distribution to people who can't attend?
3. We have a weekly journal club on a Thursday for which there is local accreditation for CPD/ CME points. Your lecture will take place instead of JC tomorrow. Are you happy for us to give CPD certificates for it, using our JC accreditation? (I am not sure if you have any restrictions regarding this!)

Regards, Clare

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**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Tuesday, April 7, 2020 11:00 PM  
**To:** Clare Cutland (b) (6)  
**Cc:** Shabir Madhi <(b) (6)>  
**Subject:** Re: Covid

Ok. Will do.

Barney

Sent from my iPhone

On Apr 7, 2020, at 4:53 PM, Clare Cutland (b) (6) > wrote:

Dear Barney

Please could we have an hour of your time on Thursday morning, 9<sup>th</sup> April from 07h00-08h00?

I will forward you a Zoom meeting invitation shortly.

Regards, Clare

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**From:** Graham, Barney (NIH/VRC) [E] (b) (6)

**Sent:** Monday, April 6, 2020 10:48 PM

**To:** Shabir Madhi (b) (6) >; Clare Cutland (b) (6) >

**Subject:** RE: Covid

If it's 7AM my time, most days should be OK. Whenever you can get the largest audience.

BG

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**From:** Shabir Madhi (b) (6)

**Sent:** Monday, April 6, 2020 4:39 PM

**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >; Clare Cutland (b) (6) >

**Subject:** Re: Covid

Dear Barney, thanks for getting back. I managed to join the Advac meeting, but would still be great to have you present to SA scientist. Clare will arrange logistics .. are there any specific dates that you prefer? Regards shabir

Sent from my iPhone. Kindly excuse the brevity of messaging and any typos!

On 06 Apr 2020, at 22:33, Graham, Barney (NIH/VRC) [E] (b) (6) > wrote:

Hi Shabir,

I would be glad to give a Zoom lecture to your group in South Africa. Let me know a time that works. Starting something at 7AM my time could work well because most days are very booked up.

Strange times, but having Zoom has made it more workable. If this had happened in 2003 with the first SARS, we would be lost.

Best wishes and take care,

Barney

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**From:** Shabir Madhi <(b) (6)>  
**Sent:** Thursday, April 2, 2020 8:28 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** Covid

Hi Barney- realise that you very likely to be super busy, however, was wondering whether could impose for you to do a Zoom call for ALIVE with regard to SARS-COV-2 vaccine development. This will extend beyond the MSC students and will include other scientist in SA. anytime that suites you will work.

Unfortunately I forgot to register for todays ADVAC alumni call

PS! Great seeing you on Al-Jazera with AF and DT!

RGds

shabir

<image002.jpg>

**Shabir A. Madhi**

[Professor of Vaccinology: University of Witwatersrand]

Director: MRC Respiratory and Meningeal Pathogens Research Unit

[DST/NRF South African Research Chair: Vaccine Preventable Diseases]

Co-director African Leadership in Vaccinology Expertise (ALIVE)

Address: 11th Floor, Central West Wing, ||

Chris Hani Baragwanath Hospital, Chris Hani Road

Diepkloof, Soweto|Gauteng, South Africa|Webpage: [www.rmpru.com](http://www.rmpru.com)

E-mail: (b) (6) (b) (6) Switchboard:

PA: (b) (6)

E-mail: (b) (6)

(b) (6) Fax: 086 683 0362

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)

**Sent:** Thursday, 19 March 2020 00:18

**To:** GIERSSING, Birgitte; Sinead Delany-Moretlwe; Bernard Fritzell; Shabir Madhi; Karron, Ruth; Klaus Cichutek; G Kang; Marian Wentworth; Papania, Mark (CDC/DDPHSIS/CGH/GID); Yshao; Jerome Kim; Peter Smith; Claudio Lanata; (b) (6); Alejandro Cravioto

**Cc:** Kaslow, David; SPARROW, Erin Grace; VEKEMANS, Johan; Hasso-Agopsowicz, Mateusz; FRIEDE, Martin Howell; GRIFFIN, Geraldine Margaret

**Subject:** RE: Information on the 2020 PDVAC meeting

Thanks Gitte,

I think 2 hours a month or 4-6 hours every 2—3 months by videoteleconference could work well.

Barney

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**From:** GIERSSING, Birgitte (b) (6)>  
**Sent:** Wednesday, March 18, 2020 5:15 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Sinead Delany-Moretlwe (b) (6); Bernard Fritzell (b) (6); (SPmig) Shabir Madhi (b) (6); Karon, Ruth (b) (6); Klaus Cichutek (b) (6); G Kang (b) (6); Marian Wentworth (b) (6); Papania, Mark (CDC/DDPHSIS/CGH/GID) (b) (6); Yshao <(b) (6)>; Jerome Kim (b) (6); Peter Smith (b) (6); Claudio Lanata (b) (6); (b) (6); Alejandro Cravioto <(b) (6)>  
**Cc:** Kaslow, David (b) (6); SPARROW, Erin Grace <(b) (6)>; VEKEMANS, Johan (b) (6); Hasso-Agopsowicz, Mateusz <(b) (6)>; FRIEDE, Martin Howell (b) (6); GRIFFIN, Geraldine Margaret (b) (6)>  
**Subject:** Information on the 2020 PDVAC meeting

Dear PDVAC,

Thank you for your input on the PDVAC meeting agenda last month. Since then, the situation for everyone has changed dramatically, and as you'd expect, we will be deferring the June F2F meeting. But - there are a number of important topics that we'd planned to discuss and we'd like to propose an alternative format to engage with you over the near term.

We are proposing to convene 2-3 hour virtual mini-PDVAC sessions on dedicated topics, every 4-6 weeks. To accommodate the various time zones that you are all operating over, it seems that between 2-5pm Geneva suits most people best (see below), but I apologise to those of you who'll be awake either very early or very late!

The list of proposed meeting topics below with tentative dates is based on alignment with Martin, Kate and David. We're planning to structure each Zoom call with presentations from subject matter experts, as we would in the F2F format. We hope to include approximately 10 invited observers (including industry) for the open discussion. Each meeting would then conclude with at least 30 mins closed session to address specific questions and develop recommendations. We'd like to solicit your (light touch) input as we plan these sessions.

**Could you let me know if you think this is a reasonable way to proceed? Our aim is to maintain presence and momentum for PDVAC through this challenging period, whilst prioritizing flexibility to all of you. The first meeting will likely be at the end of April.**

If you're happy to proceed, Erin Sparrow, on cc here is part of the new Vaccine Platforms & Prioritization Team within the Vaccine Product and Delivery Research – PDR - Unit (formerly IVR), and will reach out to you to schedule some placeholders for these meetings. We will also investigate the feasibility of identifying a 2 day block later in the year for a F2F meeting, but we acknowledge that there are many meetings that are being rescheduled for this time.

In follow up to the questions that you had related to how PDVAC and the R&D Blueprint interact and overlap, I did have a discussion with them and the summary of this is also pasted below.

Please don't hesitate to reach out with questions or concerns.



Very best,  
Gitte  
\*\*\*\*\*

Proposed list of topics and tentative dates:

- Review of existing PPCs, discussion of any required updates – April
- RSV, monoclonals (new MAb PPCs) – May
- TB – June
- ETEC (Etvax) results, burden and new PPC – July
- HIV - Sept
- CHIM – Oct
- GC - Nov

Alignment of timezones for PDVAC meetings:  
<image004.png>

Outcome of the meeting with R&D Blueprint:

- The R&D Blueprint covers vaccines, therapeutics and diagnostics. They have their own Scientific Advisory Group (SAG) and Global Co-ordination Meetings (GCM) to provide strategic oversight and communicate about activities related to Blueprint activities.
- The SAG reports to the STAG HI (Hazardous Infections), not SAGE.
- David Kaslow sits on the GCM but there is no overlap with the SAG and PDVAC.
- The R&D Blueprint is a member of the CEPI board, and there is close collaboration between the two.
- The list of priority vaccines is updated based on input from the SAG. TPPs and Roadmaps are developed for priority vaccines by the Blueprint team. They do not prioritize manufacturing or delivery platforms.
- Platform types that can move fastest into Phase I tend to be prioritized for funding, but there is not much focus on longer term bottlenecks - such as access issues.
- There was some concern that PDVAC was proposing to prioritise manufacturing platforms (it is not at this time). We are proposing to collaborate on product development, regulatory, acceptability aspects for novel manufacturing platforms that are common to both the PDVAC and Blueprint portfolios.
- We agreed it's important to communicate about the work that each are doing to ensure we don't duplicate or contradict. The Blueprint now has its own website and will be circulating a regular newsletter. PDVAC will inform the R&D Blueprint with respect to any consultations that might be synergistic.

**Birgitte Giersing, PhD**

Acting Team Lead Vaccine Platforms & Prioritization

Vaccine Product and Delivery Research (PDR)

Dept of Immunization, Vaccines and Biologicals (IVB) | World Health Organization (WHO)

(o) M135 (t) (b) (6) (m) (b) (6) (e) (b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 1 May 2020 13:18:56 +0000  
**To:** Spisso, Suzanne (NIH/NIAID) [E]  
**Subject:** RE: Confirming I will add 3 slides CME required slides for Friday  
**Attachments:** COVID Vaccines GR 1May2020 HO.pdf

Hi Sue,

Here are my slides.

Thank you for the opportunity to speak.

Take care,

Barney

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**From:** Spisso, Suzanne (NIH/NIAID) [E] (b) (6)  
**Sent:** Friday, May 1, 2020 9:14 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** RE: Confirming I will add 3 slides CME required slides for Friday

Just a quick reminder to send me a copy of your slides to submit to the CME company. They will not be shared with anyone.

Thanks  
Sue

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**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Wednesday, April 29, 2020 11:07 AM  
**To:** Spisso, Suzanne (NIH/NIAID) [E] (b) (6)  
**Cc:** Daniel Lucey (b) (6); Daniel Lucey <(b) (6)>; Beigel, John (NIH) [E] (b) (6)>; Nguyen, Trang (NIH/NIAID) [E] (b) (6)>  
**Subject:** Re: Confirming I will add 3 slides CME required slides for Friday

I will add the slide and recommend using the chat function.

Barney

Sent from my iPhone

On Apr 29, 2020, at 10:49 AM, Spisso, Suzanne (NIH/NIAID) [E] <(b) (6)> wrote:

In terms of the Q&A, Barney- when you are done speaking, please ask the audience to submit their questions via the chat. I will read the questions to you and for everyone to hear them. I will also be watching the time for the Q&A and cut off when necessary. We can go a few minutes past, but I don't want to go too long.

---

**From:** Daniel Lucey (b) (6)  
**Sent:** Wednesday, April 29, 2020 9:06 AM  
**To:** Spisso, Suzanne (NIH/NIAID) [E] (b) (6)>  
**Cc:** Daniel Lucey (b) (6)>; Beigel, John (NIH) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Nguyen, Trang (NIH/NIAID) [E] (b) (6)>  
**Subject:** Confirming I will add 3 slides CME required slides for Friday

Sue, I am confirming receipt and that I have read the three (3) slides that I will include immediately after my title slide for this Friday's 8am Grand Rounds with John and Barney. I will send you my slides in advance for CME, and limit my presentation to 14-15 minutes to allow same or more time for John, then Barney, and this ~10 minutes for the many Q&A before 9am end if webinar. Will you moderate Q&A or what should the three speakers anticipate regarding Q&A? Thank you, Dan (b) (6)

Sent from my iPhone

On Apr 29, 2020, at 8:58 AM, Spisso, Suzanne (NIH/NIAID) [E] (b) (6)> wrote:

Good Morning,

Attached are the CMD slides for Friday's lecture. Dan, since you are the first lecturer, please insert the slides labeled 5-1-2020 CME slides into your presentation immediately following your title slides. These will cover the disclosures, unapproved/unlabeled use, objectives for the entire lecture. It also includes a slide on how to obtain CME credit.

Barney, since you are the last speaker, there is a single slide, labeled, CME credit slide only. Please insert this into your presentation as the very last slide. It is a repeat of how to obtain CME credits.

Please remember to send me a final copy of your slides to submit to the CME company only. They will not be shared with anyone else.

If you have any questions, please do not hesitate to reach out to me.

Sue

Suzanne Spisso RN, MS  
Nurse Consultant  
Intramural Clinical Management & Operations Branch (ICMOB)

Division of Clinical Research, NIAID, NIH  
10 Center Drive, Rm. 5-5543  
Bethesda, MD 20892

Office: (b) (6) | Mobile: (b) (6) | Fax: 301-480-5560 | Pager: (b) (6) | Email:  
(b) (6)

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<5-1-2020 CME slides.pptx>  
<CME credit slide only.pptx>



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 9 Mar 2020 13:45:21 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: Korea Tracking Number Shipment-FedEx Shipment 137764627780  
Notification  
**Attachments:** image001.jpg, image002.jpg, image003.jpg

I'm trying to keep you copied on everything coming through. Maybe we need a more explicit communication plan. I am not copying you on all the clinical, regulatory, policy, political, ..., but anything to do with science and reagents.

BG

Sent from my iPhone

On Mar 9, 2020, at 9:23 AM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

Dr. Graham, When you forward requests for me to send things to people can you please be explicit about that you are telling them that I am sending. That way this doesn't happen and I don't look like I'm out of the loop.

Jason's email specially asked for: "What do you think, (b) (5)  
(b) (5)  
Which is exactly what I sent.

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

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**From:** Barney Graham (b) (6)  
**Date:** Sunday, March 8, 2020 at 8:41 PM

**To:** Kizzmekia Corbett (b) (6)

**Subject:** RE: Korea Tracking Number Shipment-FedEx Shipment (b) (4) Notification

Hi Kizzy,

Have we reviewed the sequence with more than one person? The sequence for the VPP will need to have (b) (5). Can we discuss this in the morning to make sure we are on the right path.

BG

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**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)

**Sent:** Friday, March 6, 2020 6:47 PM

**To:** Gall, Jason (NIH/VRC) [C] (b) (6)

**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)

**Subject:** Fwd: Korea Tracking Number Shipment-FedEx Shipment (b) (4) Notification

Jason, I'm mobile but I wanted you to have the sequence now. See attached zip, & disregard the additional items unless of course you are interested.

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

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**From:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >

**Date:** Friday, March 6, 2020 at 1:36:52 PM

**To:** "최장훈" <>

**Cc:** "김성순" <>, "최병선" <>, "이주연" <>, "이한샘" <>, "Stein, Judy (NIH/VRC) [C]" <jstein@mail.nih.gov>

**Subject:** Re: Korea Tracking Number Shipment-FedEx Shipment (b) (4) Notification

Please find all the info you need attached.

--

**Kizzmekia S. Corbett, PhD**

Senior Research Fellow | Scientific Lead

Coronavirus Vaccines & Immunopathogenesis (coVip) Team

Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

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**From:** <(b) (6)> on behalf of 최장훈 (b) (6)

**Date:** Friday, March 6, 2020 at 12:53 AM

**To:** Kizzmekia Corbett (b) (6)>

**Cc:** ""김성순"" (b) (6)>, ""최병선"" (b) (6), ""이주연""

(b) (6), ""이한샘"" (b) (6)>

**Subject:** RE: FW: Korea Tracking Number Shipment-FedEx Shipment (b) (4) Notification

Dear Dr. Corbett,

Thank you for updating shipment. Would you please send me the (b) (4)

Jagnhoon

----- 원본 메일 -----

보낸사람 : "Corbett, Kizzmekia (NIH/VRC)" (b) (6)>

받는사람 : (b) (6)>

받은날짜 : 2020년 3월 6일(금) 08:07:24

제목 : FW: Korea Tracking Number Shipment-FedEx Shipment (b) (4) Notification

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**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**

**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

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**From:** "Abiona, Olubukola (NIH/VRC) [F]" (b) (6) >  
**Date:** Thursday, March 5, 2020 at 4:22 PM  
**To:** Kizzmekia Corbett <(b) (6)>  
**Subject:** Korea Tracking Number Shipment-FedEx Shipment (b) (4) Notification

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**From:** [TrackingUpdates@fedex.com](mailto:TrackingUpdates@fedex.com) <[TrackingUpdates@fedex.com](mailto:TrackingUpdates@fedex.com)>  
**Sent:** Thursday, March 5, 2020 4:17 PM  
**To:** Abiona, Olubukola (NIH/VRC) [F] <(b) (6)>  
**Subject:** FedEx Shipment (b) (4) Notification

<image001.jpg>

This shipment is scheduled to be sent on 03/05/2020.

The delivery date may be updated when FedEx receives the package.

See "Preparing for Delivery" for helpful tips

Tracking # (b) (4)

Anticipated ship date:

Thu, 3/5/2020

**FREIGHT**

**FORWARDING**

**SECTION**

NIH/TRANSPORTATION

MANAGEMENT DIV.

BETHESDA, MD 20892

US

<image002.jpg>

Initiated

Estimated delivery date:

Mon, 3/9/2020 by 6:00 pm

**JANGHOON CHOI,**

**PHD**

DIV OF VIRAL  
DISEASES RESE,

KOREA

CHEONGCHE-DO, REP  
OF KOREA

NTL INST OF HLTH, 187

OSONGSAEN  
CHEONGJU-SI  
HEUNGDEOK-GU,  
28159  
KR

## Shipment Facts

Tracking number:	(b) (4)
Reference:	(b) (4)
Service type:	International Priority®
Packaging type:	Your Packaging
Number of pieces:	1
Weight:	6.00 lb.
Special handling/Services:	Deliver Weekday Dry Ice

<image003.jpg>

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 3:16 PM CST on 03/05/2020.

All weights are estimated.

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(b) (6), (b) (4), (b) (5)





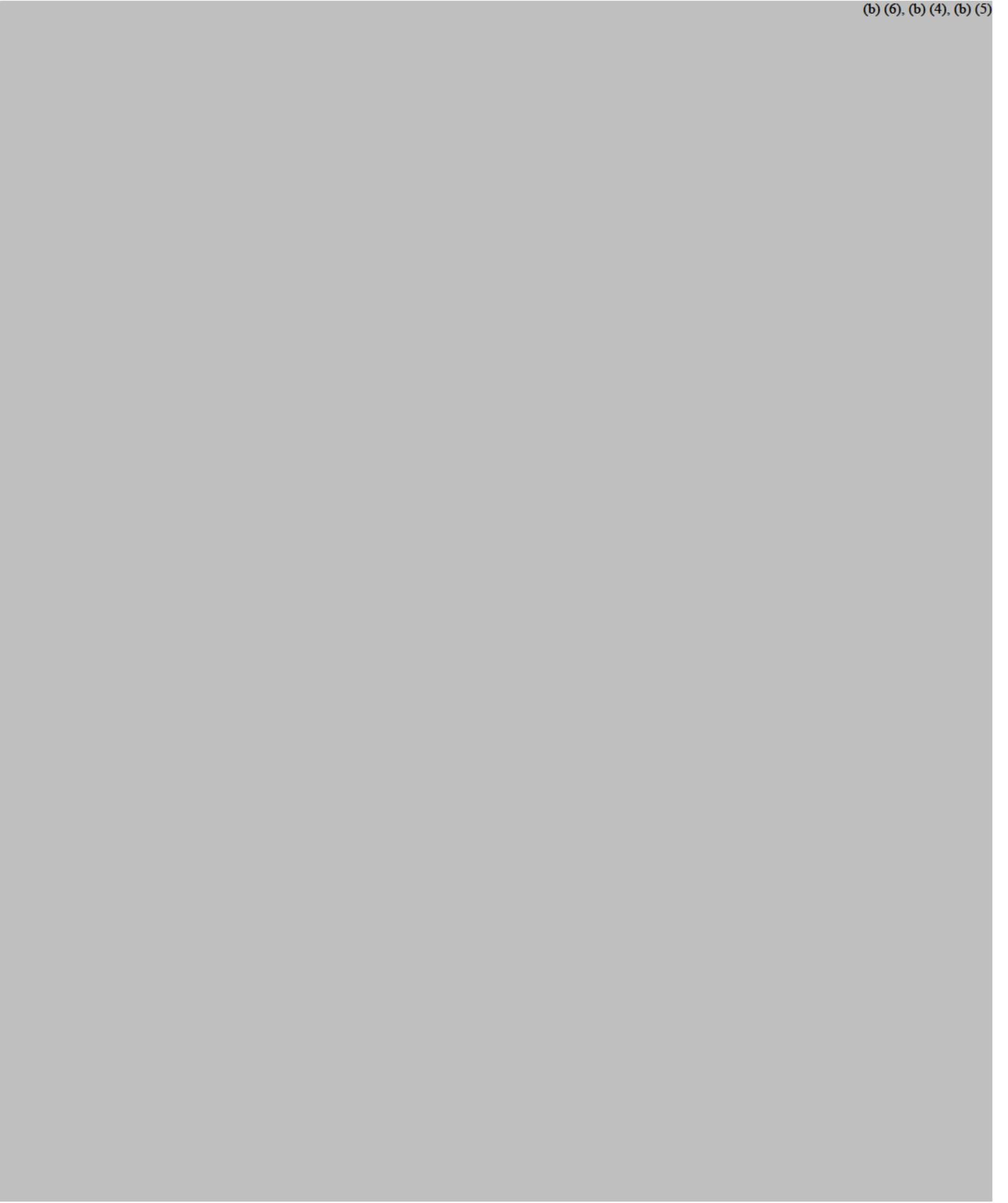
(b) (6), (b) (4), (b) (5)








(b) (6), (b) (4), (b) (5)



(b) (6), (b) (4), (b) (5)



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 18 Mar 2020 22:44:12 +0000  
**To:** Harris, Christina (NIH/NIAID) [E]; Prince, Tasheema (NIH/VRC) [C]  
**Subject:** FW: Travel Restrictions and Impact to DIS Processes

One for discussion. Not sure how many will be affected.

Is there guidance on summer students yet?

We have an IRTA and hopefully a postdoc hire we need to start with the CoV team in April. Will there be a problem with that?

Barney

---

**From:** DIS <DIS@mail.nih.gov>  
**Sent:** Wednesday, March 18, 2020 5:21 PM  
**To:** List VISITING\_PROGRAM\_SPONSORS <VISITING\_PROGRAM\_SPONSORS@LIST.NIH.GOV>  
**Subject:** Travel Restrictions and Impact to DIS Processes

Dear NIH Sponsor,

In light of the rapidly evolving COVID-19 situation and restrictions to travel\*, the [Division of International Services](#) will be moving towards implementing the following:

- **For new trainees (non-FTEs)** in the Visiting Program that are currently overseas and will not be able to onboard (EOD) before March 18, 2020, the DIS will review their program and automatically push back their start dates to May 11, 2020.
- **Case Submission and SEFT:** Effective March 18, 2020, the Institute/Center (IC) Administrative Key Contact should submit completed [cases](#) to our office via SEFT (<https://secureemail.nih.gov/bds/Login.do>). Please send the documents to [DIS@mail.nih.gov](mailto:DIS@mail.nih.gov) with the subject: "Case Submission for [Insert NIH Designation]" via SEFT. DIS will not accept unencrypted documents through email. This modified process will continue for 20 days from the date of this announcement. We will revisit the case submission process as telework schedules evolve.
  - For requests received after March 18, 2020 for new [trainees](#) from abroad (non-FTE), ICs should select a start date after May 11, 2020 when completing request packages. Although, we are not issuing or shipping any documents to new trainees who are overseas, we will process cases up to the document issuance point.
  - For requests received after March 18, 2020 for [employees](#) (FTE), these cases will be handled case-by-case and ICs will be contacted directly by our office.

- **For current trainees or employees in the Visiting Program that are overseas** in an area that is under travel restrictions and are unable to return to the U.S., please encourage them to notify the DIS with the most updated information regarding their travel plans. DIS will work to assist them in returning to the U.S. once the travel restrictions are lifted.
- **For current trainees or employees in the Visiting Program that have plans to travel overseas** in the next 60 days, please encourage them to review [CDC Coronavirus Disease 2019 Information for Travel](#) and consult with our office.

\*The United States Government announced several new travel restrictions for travelers coming to the U.S. from the [Schengen Area](#), [United Kingdom](#), [Ireland](#), [China](#), and/or [Iran](#). The proclamations temporarily suspended and limited the entry into the United States of all immigrants or nonimmigrants who were physically present within the Schengen Area, United Kingdom, Ireland, China, and/or Iran during the 14-day period preceding their entry or attempted entry into the United States. For purposes of this proclamation, the Schengen Area comprises 26 European states: Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, and Switzerland. NIH trainees and employees (and their dependents) who are currently in the Schengen Area, United Kingdom, Ireland, China, and/or Iran will likely experience delayed arrival to the U.S. due to these restrictions. Our office will continue to monitor the situation and update the Visiting Program community of any changes in the travel restrictions.

Thank you for your assistance.

*The DIS Team*

Division of International Services/ORS  
National Institutes of Health  
31 Center Drive, MSC 2028  
Bethesda, MD 20892-2028  
Tel: 301-496-6166, Fax: 301-496-0847  
Email: [DIS@mail.nih.gov](mailto:DIS@mail.nih.gov)  
<http://www.ors.od.nih.gov/pes/dis/Pages/default.aspx>

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 18 Feb 2020 22:25:49 +0000  
**To:** Paul Henri Lambert  
**Subject:** RE: safety issues for COVID-19 vaccines follow up

Thanks Paul Henri. Hope to see you there.

Barney

---

**From:** Paul Henri Lambert <[REDACTED]> (b) (6)  
**Sent:** Tuesday, February 18, 2020 5:11 PM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Subject:** Re: safety issues for COVID-19 vaccines follow up

Dear Barney  
You will soon receive from CEPI a doodle with all dates proposed for this meeting  
Best regards  
Paul Henri

Paul Henri Lambert, MD  
Centre of Vaccinology  
University of Geneva  
Switzerland

Le 18 févr. 2020 à 14:39, Graham, Barney (NIH/VRC) [E] <[REDACTED]> (b) (6)> a écrit :

I'll be at the SAGE meeting at end of March so a meeting on Friday April 3 would be the easiest day for me and I could come home one day later.

I'll also be in Lyon next week for the 65th anniversary of the  
**International Alliance for Biological Standardization** that was started by  
Charles Merieux. But can't stay long.

We have been extremely involved in rapid vaccine development for  
this new coronavirus outbreak so time is limited.

Barney

Sent from my iPhone

On Feb 18, 2020, at 3:56 AM, Paul Henri Lambert (b) (6) wrote:

Dear Graham,  
I will inform the CEPI EB about your interest and your limited availability.  
If it would be decided to look for other dates, do you have other possibilities for a f2f meeting in March ?  
Best regards

Paul Henri

Provenance : [Courrier](#) pour Windows 10

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**De :** [Graham, Barney \(NIH/VRC\) \[E\]](#)  
**Envoyé le :** lundi, 17 février 2020 23:43  
**À :** [Paul Henri Lambert](#)  
**Objet :** Re: safety issues for COVID-19 vaccines

I arrive in Florence at 12:30 on the 15th. I could definitely be on a phone call that afternoon. If you want me in Brussels on Saturday the 14th I would have to change my flight arrangements. The 20th I'm obligated at a satellite symposium in Siena.

Barney

Sent from my iPhone

On Feb 17, 2020, at 4:55 PM, Paul Henri Lambert (b) (6) wrote:

Dear Graham,  
Would 14 or 15 March be better?  
Best regards  
Paul Henri

Paul Henri Lambert, MD  
Centre of Vaccinology  
University of Geneva  
Switzerland

Le 17 févr. 2020 à 21:04, Graham, Barney (NIH/VRC) [E] <[REDACTED]> a écrit :

Hi Paul Henri,

I would very much like to be involved in the discussion. I've spent my whole career trying to define and articulate the basis for the RSV vaccine-enhanced disease that happened in 1966/1967. Because of the

(b) (4)

Unfortunately, I am in Florence Italy that week for the Transforming Vaccinology Keystone meeting. I might be able to make a brief appearance by video depending on timing.

This is a very important discussion because if people misinterpret historical literature or get ADE mixed up with vaccine-enhanced respiratory disease, it could significantly impact the regulatory pathway for vaccine or mAb development.

Best wishes,

Barney

Sent from my iPhone

On Feb 17, 2020, at 12:04 PM, Paul Henri Lambert [REDACTED] (b) (6) wrote:

Dear Barney,

I am deeply involved with CEPI in the organization of a meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines.

The idea is to mix scientists, regulators and vaccine developers to build a consensus on what should be done at pre-clinical and early clinical stages to reduce the risk of enhanced disease with vaccines presently in development.

It has been tentatively proposed to have it in Brussels on 19 March to take advantage of the presence in Brussels, for another meeting, of Marion Gruber, Marco cavalieri and other regulators.

We would be most pleased , first, if you could give us your views on such a meeting (tentative draft included) and, second, if you could participate in such a constructive discussion.

Best regards

Paul-Henri

Provenance : [Courrier](#) pour Windows 10

<tentative agenda 1702 vers3[13038].docx>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 7 Apr 2020 05:37:36 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Cc:** Phung, Emily (NIH/VRC) [F]; Abiona, Olubukola (NIH/VRC) [F]; Chang, Lauren (NIH/VRC) [F]  
**Subject:** Re: Results from (b) (4)  
**Attachments:** image001.png, image002.png, image003.png

Well at least the (b) (5), (b) (4)

BG

Sent from my iPhone

On Apr 6, 2020, at 11:22 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) wrote:

These curves are (b) (5), (b) (4) **Welcome back to no error land!!!**

I am so happy the crew has reunited. Let's give the 4<sup>th</sup> floor a run for their money (secretly). Haha.

--

**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**

**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

---

**From:** "Phung, Emily (NIH/VRC) [F]" (b) (6)>  
**Date:** Monday, April 6, 2020 at 11:18 PM  
**To:** Kizzmekia Corbett (b) (6) Barney Graham (b) (6)>, "Abiona, Olubukola (NIH/VRC) [F]" (b) (6)>, "Chang, Lauren (NIH/VRC) [F]"

(b) (6)

**Subject:** Results from (b) (4)

Hi Everyone,

Lauren and I completed the analysis for the (b) (4) today.

Please find attached the following:

1. Summarized spreadsheet of the results

(b) (4)

(b) (4)

3. Endpoint calculation spreadsheet

4. PPT summary of graphs (contents included below)

All files can be accessed in (b) (5), (b) (4)

<image001.png>

<image002.png>

<image003.png>

Please let me know if you have any questions.

Thank you,

Emily Phung







**From:** (b) (6)  
**Sent:** Thu, 26 Mar 2020 11:58:38 -0400  
**To:** Mascola, John (NIH/VRC) [E]  
**Subject:** Re: a voice from the past

(b) (4)

BG

Sent from my iPhone

On Mar 26, 2020, at 11:54 AM, Mascola, John (NIH/VRC) [E] <(b) (6)> wrote:

I understand you know (b) (4).

(b) (4)

Confidential of course.

John

---

**From:** Corey MD, Larry (b) (6)  
**Sent:** Wednesday, March 25, 2020 6:33 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6)  
**Cc:** Dieffenbach, Carl (NIH/NIAID) [E] (b) (6)  
**Subject:** FW: a voice from the past

This arrived today

---

**From:** (b) (6), (b) (4)  
**Sent:** Wednesday, March 25, 2020 2:44 PM  
**To:** Corey MD, Larry (b) (6) >  
**Cc:** Minnich, Beth (b) (6) >; (b) (6), (b) (4)  
**Subject:** RE: a voice from the past

Hi Larry,

Great to hear from you. Apologies for getting to you late in the day, East Coast time. As you can imagine, (b) (4)

(b) (4)

(b) (6), (b) (4)

---

**From:** Corey MD, Larry <(b) (6)>

**Sent:** Wednesday, March 25, 2020 10:10 AM

**To:** (b) (6), (b) (4)

**Cc:** Minnich, Beth <(b) (6)>

**Subject:** [EXTERNAL] a voice from the past

Bill

Hope all is well. I contacted Emilio Emini for your email so hope this connection from the past is ok with you )

(b) (4)

Larry Corey MD,

(b) (6) is my cell phone .

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sun, 23 Feb 2020 17:37:53 +0000  
**To:** Stein, Judy (NIH/VRC) [C]  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]  
**Subject:** Re: Request for collaboration on (b) (5)

Ok. Thanks.

BG

Sent from my iPhone

On Feb 23, 2020, at 12:27 PM, Stein, Judy (NIH/VRC) [C] (b) (6) wrote:

Hi Barney,  
We would do this under a regular patent pending SLA.  
(b) (4) in part because it needs to be signed by Mike Mowatt. You can sign the SLA that I will send out.  
Thanks  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Saturday, February 22, 2020 2:11 PM  
**To:** Venigalla B Rao (b) (6)>  
**Cc:** Young, Monique (NIH/VRC) [E] (b) (6) Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Bok, Karin (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)>  
**Subject:** RE: Request for collaboration on (b) (4)

Dr. Rao,

We have a (b) (4) that we have shared with other academic investigators. We have not made (b) (4). We will arrange to send you (b) (4) through an (b) (4)

Best wishes,

Barney

---

**From:** Venigalla B Rao (b) (6)>  
**Sent:** Thursday, February 20, 2020 10:05 PM

**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Cc:** Young, Monique (NIH/VRC) [E] (b) (6)  
**Subject:** Re: Request for collaboration on (b) (4)

Dear Barney,

I am following up my request on the possibility of receiving (b) (4)

(b) (4) We have in the past signed SLAs from VRC for receiving (b) (4) materials. Please let me know and who might be in charge of processing the SLAs. I will be happy to contact that person(s) and move it forward.

Many thanks.

Rao

On Tue, Feb 18, 2020 at 8:41 AM Venigalla B Rao (b) (6) wrote:

Dear Barney,

Good morning!

Having submitted the flu grant proposal, we are seriously considering applying the (b) (4) (b) (4). In fact, (b) (4) (b) (4)

I am hoping that you group can help us by providing either (b) (4) (b) (4)

(b) (4) It would be useful to discuss this over the phone and clarify any questions you may have, which I would greatly appreciate.

With best regards,

Rao

On Sun, Feb 9, 2020 at 11:44 AM Venigalla B Rao (b) (6) wrote:

Thanks for consideration, best of luck with your WHO meeting on Coronavirus.

Rao

On Sun, Feb 9, 2020 at 11:20 AM Graham, Barney (NIH/VRC) [E] (b) (6) wrote:  
Dr. Rao,

As noted in the last note, we won't have the bandwidth to collaborate, but can provide access to some reagents like the (b) (4)

The ability to collaborate is even more difficult now with the onset of the Wuhan CoV. I am out of town and headed to Geneva tomorrow for an emergency WHO meeting.

Barney

Sent from my iPhone

On Feb 9, 2020, at 11:09 AM, Venigalla B Rao (b) (6) > wrote:

Dear Barney,

I am wondering if you will be able to provide a letter of collaboration. As I mentioned, please feel free to make any changes to the letter I sent to you last week. I will need the grant finalized and sent to the University office by Tuesday of this week. Greatly appreciate your consideration and letting me know.

With best regards,  
Rao

On Tue, Feb 4, 2020 at 12:15 PM Venigalla B Rao (b) (6) > wrote:

Dear Barney,

To make things easier, I have prepared a draft of collaboration letter for your perusal, which I hope that you will be able to provide. This is merely a draft, please make changes as you wish. I would appreciate it if you could add some specific information regarding the materials available at VRC that you could provide for our project. As written, it is quite general.

Please also note that challenges will be done at our university, you are not committing for that.

I know that your time is overstretched, therefore we do not need a conference call as long as you are basically ok with the letter. If you have any questions, please let me know.

With best regards,  
Rao

On Sat, Jan 25, 2020 at 8:25 PM Venigalla B Rao (b) (6) > wrote:

Dear Barney,

I understand, the Wuhan virus situation seems rather scary. Thank you all for the work you are doing to develop a potential vaccine fast.

Thank you for consideration regarding the (b) (4). The grant is due in the university office by ~Feb 10th.

Monique, please free to send me potential days and times for a phone call.

With best regards,  
Rao

On Sat, Jan 25, 2020 at 4:24 PM Graham, Barney (NIH/VRC) [E] (b) (6) > wrote:

Dear Rao,



We have been consumed by the response to the Wuhan outbreak, and I will be out of town next week. I'll ask Monique Young to find time for a brief call sometime in February. As noted, we are already working beyond our bandwidth and a more involved collaboration beyond reagent sharing is not going to be possible at this time.

Best wishes,

Barney

**From:** Venigalla B Rao (b) (6) >  
**Sent:** Tuesday, January 21, 2020 2:26 PM  
**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Subject:** Re: Request for collaboration on (b) (4)

Dear Barney,  
Good afternoon!

I have a couple of questions that can be quickly clarified in a phone call. I would greatly appreciate it if you could give me a few minutes of your time as per your convenience. Please let me know.

Many thanks.

Rao

On Wed, Jan 8, 2020 at 9:29 AM Venigalla B Rao <(b) (6)> wrote:

Dear Barney,  
(please call me "rao")

Thanks for your email. Greatly appreciate extending your help with reagents, mAbs, and assay protocols. These would be very helpful for us. Regarding the (b) (4)

me know if in principle you can consider it, that is all that is needed at this point. DMID is a good source but they will not entertain any proposals for (b) (4)

MTA is not necessary at this point we are not there yet with specifics. At minimum, we are talking about at least a year. All I need now is a letter of collaboration stating that you will provide such and such for the proposed studies. I can draft a preliminary letter and send to you for consideration and feel free to make any changes you wish to make. Many thanks.

With best regards,

Rao

On Wed, Jan 8, 2020 at 8:53 AM Graham, Barney (NIH/VRC) [E] (b) (6) > wrote:  
Hi Dr. Rao,

Thank you for your note and sorry I couldn't be there for the lecture a few months ago.

Your (b) (4) idea sounds interesting. However, we have a pipeline here that is already more than we can manage. We would be able to provide (b) (4), but we would not be able to (b) (4). DMID (extramural NIAId) recently announced the CIVICs program that is a consortium of academic sites focused on (b) (4) development and they may be able to help with this, but you would need to check with DMID.

Let me know if the reagents would be helpful to you and we could initiate an MTA.

Best wishes,

Barney

Sent from my iPhone

On Jan 6, 2020, at 5:14 PM, Venigalla B Rao (b) (6) > wrote:

Dear Barney,

We communicated briefly through email in Sept '19 (below). After that, I had a chance to meet with and discuss further about the (b) (4) with your then colleague Dr. Michelle Crank. I am getting back to you and see whether you can help us by collaborating on the (b) (4)

I am preparing an R21 grant proposal for submission to NIH for the Feb '20 deadline. I would very much appreciate it if you could provide a letter of collaboration that would involve (b) (4)

I will be happy to put together a draft letter for your consideration. I will also be happy to discuss more details with you over the phone, or meet in person.

With best regards,



Rao

Dr. Venigalla B. Rao  
Professor  
Department of Biology  
The Catholic University of America  
Washington, DC.

----- Forwarded message -----

From: **Venigalla B Rao** (b) (6) >  
Date: Mon, Sep 30, 2019 at 12:36 PM  
Subject: Rao HIV Fusion peptide paper  
To: Crank, Michelle (NIH/NIAID) [E] <(b) (6)>

Michelle,  
I enjoyed your talk!!  
Thank you very much for taking the time to meet with me today. As per our conversation, I am attaching the (b) (4)  
I will send the animation by a separate email to increase the chances of transmission.  
Please let me know if you received it ok.  
Best,  
Rao

On Mon, Sep 30, 2019 at 9:02 AM Crank, Michelle (NIH/NIAID) [E] (b) (6) > wrote:  
Perfect. Thanks so much, and see you soon.  
Michelle

---

**From:** Venigalla B Rao (b) (6) >  
**Date:** Monday, September 30, 2019 at 8:46 AM  
**To:** Michelle Crank (b) (6) >  
**Cc:** Lauren Bassaro (b) (6) >, Swati Jain (b) (6)  
**Subject:** Re: Meeting at Catholic

Good morning, Michelle!  
After you come out of the Metro escalator, please walk a bit and cross the road. There is a security post at the corner. Walk straight up the hill (it is brand new paved, tiled, road). Biology is at the end of that block on left. There is a sign "McCort Ward Hall" at the end of that street (go past the Nursing-Biology sign). Enter the building near the McCort Ward sign, turn right and take two flights of stairs. Or, go through the double door after you turn right at the entrance and take the elevator on the left to 3rd floor. My office is in Rm 306.  
I should be in office by ~9:40. Swati is my student. She will take you to the lecture room at ~10:50 or so.  
My Cell# (b) (6), feel free to call me if there is a question.

Look forward to meeting you!  
Rao

On Mon, Sep 30, 2019 at 6:32 AM Crank, Michelle (NIH/NIAID) [E] (b) (6)> wrote:  
Good morning, yes I should be able to meet you at 10.  
I will be walking over from the metro and have not been to the biology building before, but on the map it seems to be immediately beside the metro exit.  
Which section of the building is your office in?  
Would you be able to direct me to the room for the seminar when we are finished, or I can let the student organizers know where I will be and maybe they can come meet me?  
I believe they would like me to arrive half an hour before my talk to load my slides.  
Many thanks.  
Michelle

---

**From:** Venigalla B Rao (b) (6)  
**Date:** Friday, September 27, 2019 at 5:23 PM  
**To:** Michelle Crank (b) (6)  
**Subject:** Re: Meeting at Catholic

Sure, I will be in my office (Rm 306) by 10am. I could also come earlier than 10am if you prefer to meet early.  
Thanks.  
Rao

On Fri, Sep 27, 2019 at 4:19 PM Crank, Michelle (NIH/NIAID) [E] (b) (6)> wrote:  
Hi Rao,

I would like to meet with you, but would it be possible to talk before my presentation rather than afterward? I have an obligation back at NIH at 2pm, so I won't be able to stay after lunch.

Thanks so much for contacting us.

Michelle C. Crank, M. D.  
Head, Translational Science Core  
Viral Pathogenesis Laboratory  
National Institutes of Health  
National Institute of Allergy and Infectious Disease  
Vaccine Research Center  
40 Convent Drive  
Building 40 / Room 2508 / MSC 3017  
Bethesda, MD 20892-3017  
Phone: (b) (6)  
Cell: (b) (6)  
Email: (b) (6)

> On Sep 27, 2019, at 4:01 PM, Venigalla B Rao (b) (6)> wrote:

>  
> Dear Dr. Crank,  
> I reached out to Dr. Barney Graham as he is scheduled to give a seminar at Catholic on Monday. But he informed me that you will be presenting the seminar instead (email below). My lab has some interest in developing (b) (4). I would be very much interested to meet with you as well, if possible, after your lunch meeting with students. Probably ~1:30 to 2pm. Please let me know if this works for you. I am attaching a couple of our recent papers that relate to the (b) (4).  
> Many thanks.  
> Rao  
> ----- Forwarded message -----  
> From: Graham, Barney (NIH/VRC) [E] <(b) (6)<mailto:(b) (6)>>  
> Date: Tue, Sep 24, 2019 at 3:54 PM  
> Subject: RE: Meeting at Catholic  
> To: Venigalla B Rao (b) (6)<mailto:(b) (6)>  
>  
>  
> Dr. Rao,  
>  
> Thank you for your email and for sharing your papers. I will look over them, and will enjoy learning more about (b) (4)  
>  
> Unfortunately, I had an obligation come up that I could not avoid, so my colleague who helps manage the influenza program will be giving the talk on Monday instead of me. Dr. Crank will show most of what I just showed 2 weeks ago at the international influenza meeting.  
>  
> Sorry I was unable to attend in person.  
>  
> Best wishes,  
>  
> Barney  
>  
>  
>  
> From: Venigalla B Rao (b) (6)<mailto:(b) (6)>>  
> Sent: Tuesday, September 24, 2019 3:00 PM  
> To: Graham, Barney (NIH/VRC) [E] (b) (6)<mailto:(b) (6)>  
> Subject: Meeting at Catholic  
>  
> Dear Dr. Graham,  
> I am happy to know that you will be giving a talk at the Catholic University on Monday. I know Peter Kwong and his work for many years and I am also little bit familiar with the HIV and Flu vaccine work at VRC including yours. Although my lab is focused on (b) (4)  
(b) (4)  
(b) (4)  
(b) (4)  
(b) (4)  
I am attaching a couple of our recent papers.  
> I would be very much interested to meet with you, if time permits on Monday. Lunch with students will generally finish by ~1 to 1:30. If we can meet for about half an hour immediately after lunch, that would be great. You would still be able to leave CUA by ~2pm.  
> Please let me know if this is possible.

> Looking forward to your talk on Monday.  
> With best regards,  
> Rao  
>  
> Dr. Venigalla B. Rao  
> Professor  
> Department of Biology  
> The Catholic University of America  
> Washington, DC, 20064.  
>  
> <Oct 2018 anthrax plague vaccine mBio.pdf>  
> <Aug 2019 Science Advances T4-AAV hybrid vector.pdf>  
<2019 HIV structure Nature Communications.pdf>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 29 Apr 2020 14:42:20 +0000  
**To:** Lisa Conti  
**Subject:** Re: invited JCI viewpoint

In the acknowledgements I would add,

“The authors are inventors on patent applications involving vaccines and monoclonal antibodies for COVID-19 and other viral diseases.”

Thanks,

Barney

Sent from my iPhone

On Apr 29, 2020, at 10:26 AM, Lisa Conti <[science\\_editor@the-jci.org](mailto:science_editor@the-jci.org)> wrote:

Hi Barney,

Yes, please add a patent statement. You can send via email or add as a COI statement.

Best regards,  
Lisa

On 4/28/20 3:42 PM, Graham, Barney (NIH/VRC) [E] wrote:  
Hi Lisa,

Thank you for your comments and for relatively minimal edits. I liked your one sentence summary and I changed the section titles a little but kept to less than 9 words. I also answered the conflict of interest questions and filled out the acknowledgements. Let me know if we need to add the patent statement to the acknowledgements.

We appreciate the opportunity to publish in JCI.

Best wishes,

Barney

---

**From:** Lisa Conti <[science\\_editor@the-jci.org](mailto:science_editor@the-jci.org)>  
**Sent:** Sunday, April 26, 2020 3:58 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Subject:** Re: invited JCI viewpoint



Hi Barney,

Thank you so much for writing this excellent Commentary for us! The Board found the piece very interesting. I have attached some suggested edits, most of which serve to conform to JCI style and grammar guides. Please go through and add additional edits to this document. Please have your final text to me by Tuesday, April 28th.

Cheers,  
Lisa

On 4/16/20 3:41 PM, Graham, Barney (NIH/VRC) [E] wrote:  
Dear Lisa,

Please find a brief commentary attached reviewing some of our thoughts on COVID-19 and pandemic preparedness.

Thank you for the opportunity to publish in the Journal of Clinical Investigation. Please let me know if you need any additional information. If there are going to be any publication charges I would need to know prior to acceptance.

Best wishes and take care,

Barney

\*\*\*\*\*

Barney S. Graham, MD, PhD  
Senior Investigator  
Deputy Director, Vaccine Research Center  
Chief, Viral Pathogenesis Laboratory  
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--

Lisa Conti, Ph. D.  
Assistant Science Editor  
The Journal of Clinical Investigation  
[science\\_editor@the-jci.org](mailto:science_editor@the-jci.org)

--

Lisa Conti, Ph. D.  
Assistant Science Editor  
The Journal of Clinical Investigation  
[science\\_editor@the-jci.org](mailto:science_editor@the-jci.org)



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 23 Mar 2020 16:36:28 +0000  
**To:** Benjamin Petsch  
**Subject:** Re: ADE for SARS-CoV vs. RSV

Ok. Let me know. I'm trying to find time to write a commentary on this topic based mostly on my RSV experience.

Barney

Sent from my iPhone

On Mar 23, 2020, at 12:09 PM, Benjamin Petsch <(b) (6)> wrote:

Hi Barney  
I m carefully reading the provided literature. Thanks a lot.  
Will come back in case of questions.  
Best  
Benni

Gesendet über BlackBerry Work  
(www.blackberry.com)

---

**Von:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Datum** Donnerstag, 19. März 2020, 11:55 AM  
**An:** Benjamin Petsch <(b) (6)>  
**Betreff:** RE: ADE for SARS-CoV vs. RSV

Hi Benni,

These were our last two major publications on the FI-RSV vaccine-enhanced illness in 2004. I'm also including our 1<sup>st</sup> one just to show you where it started.

(b) (4)

(b) (4) I think some of the published work is compromised by failure to account for cell and media contaminants in the prime that match the content of the high inoculum challenge.

Barney

---

**From:** Benjamin Petsch (b) (6)  
**Sent:** Wednesday, March 18, 2020 7:49 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** ADE for SARS-CoV vs. RSV

Dear Barney,

I had the pleasure to attend the workshop organized from CEPI and Brighton collaboration last week.

Nevertheless, some questions remain for me.

(b) (4)-

(b) (4)

A second question is more logistically, could you indicate a publication of the RSV challenge study design with break-through replication as you described earlier already (like in the RSV SAB we had in 2018)? That would be helpful.

Thanks a lot.

Best,

Benni

i.V. [Dr. Benjamin Petsch](#)  
Senior Director Infectious Diseases Research

---

**CureVac AG**  
Paul-Ehrlich-Str. 15 | 72076 Tübingen | Deutschland  
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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 17 Mar 2020 20:49:15 +0000  
**To:** Fisher, Brian (NIH/VRC) [E]  
**Cc:** Ruckwardt, Tracy (NIH/VRC) [E]; Kanekiyo, Masaru (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: PAPR's in lieu of facemasks  
**Attachments:** image003.png, image004.png

Sure. It wouldn't hurt to have some available.

Sent from my iPhone

On Mar 17, 2020, at 4:36 PM, Fisher, Brian (NIH/VRC) [E] <(b) (6)> wrote:

Hi All,

I ordered a case of N95 masks ~1.5 months ago and as expected they haven't arrived. Should I order some of these?

Thanks

B.

---

**From:** Chiedi, Carmelo (NIH/VRC) [C] (b) (6)  
**Sent:** Tuesday, March 17, 2020 4:32 PM  
**Subject:** PAPR's in lieu of facemasks

Good Afternoon Lab Managers,

As you of you aware facemasks are extremely limited at the moment. I wanted to share this email in order to provide everyone with an alternative option that 'should' be readily available.

Rich Nguyen upstairs and my staff currently use these PAPR's at the VRC; they are pretty comfortable to wear and are none invasive in addition to not requiring a fit test.

If you have interest in procuring some, please let me know and I can get you in touch with our Rep from Life Science Products. You can also order from Mopec if you prefer or wanted to get comparative quotes.

v/r  
Carmelo

\*\*\*\*\*

Carmelo Chiedi, CMAR, RLATG  
Project Manager – Alpha Omega Bioservices, Inc.  
National Institutes of Health - Vaccine Research Center

Translational Research Program

Building 40/Room 1610

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---

**From:** Mopec <[marketing@mopec.com](mailto:marketing@mopec.com)>

**Sent:** Friday, March 13, 2020 8:40 AM

**To:** Chiedi, Carmelo (NIH/VRC) [C] (b) (6)>

**Subject:** Order Your Coronavirus PPE for Autopsy & Pathology Now

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*Professor & Chair - Dept. of Pathology*

*WMU Homer Stryker M.D.*

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<image004.png>



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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 14 Feb 2020 18:25:25 +0000  
**To:** Stoffels, Paul [JJCUS]  
**Subject:** Accepted: COVID-19 vaccine development

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 30 Mar 2020 16:38:53 +0000  
**To:** Denison, Mark  
**Subject:** RE: VRC-VUMC-UNC serologic study plan: Moderna vaccine antisera

No problem. They are lucky to have you involved with so little notice.

BG

---

**From:** Denison, Mark (b) (6)  
**Sent:** Monday, March 30, 2020 12:37 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Subject:** FW: VRC-VUMC-UNC serologic study plan: Moderna vaccine antisera

Ok I will deep breathe!

We really want to do these and be integral to this.

But really its (b) (3) (A) in the BSL3. We have two others but they are stuck in training (no time) and Select Agent (DOJ is frozen)

Did I sound like a whiner- I don't know hardly any of these people

I don't want to make you look bad.

---

**From:** "Graham, Barney (NIH/VRC) [E]" (b) (6)>  
**Date:** Monday, March 30, 2020 at 11:31 AM  
**To:** "Denison, Mark" (b) (6)  
**Subject:** Re: VRC-VUMC-UNC serologic study plan: Moderna vaccine antisera

I can call later. Don't worry. If we get a correlation to other assays we need to streamline anyway. I would just plan to do the first 45 subjects. The rest is up to Moderna (and us).

Barney

Sent from my iPhone

On Mar 30, 2020, at 12:27 PM, Denison, Mark (b) (6) wrote:

Barney

Well I said my piece. I need to chat with you

See below what I want to send to Chris Roberts. I could use a conversation.

(b) (4)

(b) (4), (b) (3) (A)

(b) (6), (b) (3) (A)

---

**From:** "Roberts, Chris (NIH/NIAID) [E]" (b) (6)

**Date:** Monday, March 30, 2020 at 10:40 AM

**To:** "Chappell, Jim" (b) (6)>, Michael J Gale (b) (6), Ralph Baric (b) (6)>, "Lee, Marina (NIH/NIAID) [E]" (b) (6)>, "Denison, Mark" <(b) (6)>

**Cc:** "Luke, Catherine (NIH/NIAID) [C]" (b) (6), "Kim, Sonnie (NIH/NIAID) [E]" (b) (6)>

**Subject:** Re: VRC-VUMC-UNC serologic study plan: Moderna vaccine antisera

Hi All,

Just to follow-up on this, please forward me a short write-up on the exact request for sera samples and include short blurb on how it will support product development strategies, not only for Moderna's product but other vaccines that may be in the pipeline. Cc myself, Sonnie Kim and Catherine Luke. We are hoping to schedule a meeting to discuss prioritization of sample requests asap.

Thanks

Chris

---

**From:** "Chappell, Jim" (b) (6)  
**Date:** Wednesday, March 25, 2020 at 10:15 AM  
**To:** Renee Ireton (b) (6); Michael J Gale (b) (6); "Graham, Barney (NIH/VRC) [E]" (b) (6); "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6); "Baric, Ralph" (b) (6); "Stevens, Laura J" (b) (6); "Roberts, Chris (NIH/NIAID) [E]" (b) (6); "Lee, Marina (NIH/NIAID) [E]" (b) (6)  
**Cc:** "Denison, Mark" <(b) (6)>  
**Subject:** RE: VRC-VUMC-UNC serologic study plan: Moderna vaccine antisera

Hello again everyone, all of whom I hope are remaining safe and healthy.

I updated the testing diagram with pertinent information extracted from the study protocol. We can replace question marks with numbers/dates tomorrow during our call. Of course, please forward corrections, additions, or comments in the meantime.

Thanks.

Jim

---

**From:** Chappell, Jim  
**Sent:** Monday, March 23, 2020 4:43 PM  
**To:** Renee Ireton (b) (6); Michael J Gale (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Baric, Ralph S (b) (6); Stevens, Laura J (b) (6)  
**Cc:** Denison, Mark (b) (6)  
**Subject:** VRC-VUMC-UNC serologic study plan: Moderna vaccine antisera

Hi All.

Does the attached simplified scheme accurately represent our collective plans for initial testing of participant antisera?

VRC and UNC: please take a brief look at your sections and correct any errors. Numbers where possible are most appreciated.

Please freely edit, comment, and/or revise content or style.

Thanks.

Jim

<< File: COVID-19 Vaccine Immunogenicity Testing\_3.23.20.pptx >>

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<2Copy of Assays and interim reporting 20-0003\_v5\_29Mar20\_CR.xlsx>

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 16 Mar 2020 21:33:07 +0000  
**To:** Neil King  
**Subject:** RE: for the record

I think we are on the same page or at least close. John also thinks having Gates commit to something like this could be good. Haven't talked to Lynda yet, but I had back-to-back calls today and am talked out. Will try tomorrow.

BG

**From:** Neil King [REDACTED] (b) (6) >  
**Sent:** Monday, March 16, 2020 5:29 PM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Subject:** for the record

Hi Barney,

Thanks again for taking time to chat again yesterday. I know you are crazy busy and I really appreciate it.

Hopefully you and Lynda will get a chance to catch up soon. Just wanted to drop you a note to say that, for the record, my view is that there would be no harm in BMGF [REDACTED] (b) (4) if they are interested in doing so. What happens after that? I have no idea, but if they feel that it is important to take the initial step on developing a [REDACTED] (b) (4) now, I support it.

That being said, I think you and I would both need to be in agreement for this to happen. I do not want to make any decisions without you -- we are partners in this.

Thanks again,  
and keep truckin',  
Neil



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 31 Mar 2020 14:10:39 +0000  
**To:** William Dowling  
**Subject:** Accepted: WHO Consultation on SARS-CoV -2 Reagents, Cross reactivity and immune Assays - Wed 3 PM CET

**From:** (b) (6)  
**Sent:** Wed, 12 Feb 2020 03:16:45 +0100  
**To:** Ana Maria Henao-Restrepo  
**Cc:** Jason Mclellan;Valda Vinson  
**Subject:** nCoV structure paper  
**Attachments:** nCoV-2019 S Combined.pdf, ATT00001.htm

Hi Ana-Maria,

We are sharing a paper with you and the WHO nCoV working group that is now submitted for publication and will be submitted to BioRxiv within the next day or two. Please let me know if you have any questions.

Best wishes,

Barney

\*\*\*\*\*

Barney S. Graham, MD, PhD  
Senior Investigator  
Deputy Director, Vaccine Research Center  
Chief, Viral Pathogenesis Laboratory  
National Institute of Allergy and Infectious Diseases, NIH  
40 Convent Drive, MSC 3017  
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Phone: (b) (6)

URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 7 Feb 2020 19:58:54 +0000  
**To:** (b) (6)  
**Subject:** RE: coronavirus materials

We only work with virus through collaborators. Otherwise we used recombinant proteins.

---

**From:** (b) (6)  
**Sent:** Friday, February 7, 2020 2:13 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** RE: coronavirus materials

Thanks very much. Do you work with SARS and MERS in the BL2?

Thanks  
Greg

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Friday, February 7, 2020 12:44 PM  
**To:** (b) (6)  
**Subject:** RE: coronavirus materials

We do not have nCoV virus in our lab, and don't have BL3 space at the VRC. Virus is being shipped to the BEI repository from the CDC.

Barney

---

**From:** (b) (6) >  
**Sent:** Thursday, February 6, 2020 6:02 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Subject:** coronavirus materials

Dear Dr. Graham,

We have assembled a collaborative group to produce diagnostic assays for infection diseases using two formats (b) (4)  
(b) (4)

Today, the PO of one of my NIH grants sent me an announcement about a critical response NIH program for several subjects related to nCoV. I think that the (b) (4)  
(b) (4)

Thanks very much  
Greg

Gregory J. Tobin, PhD  
President and Chief Executive Officer  
Biological Mimetics, Inc.  
124 Byte Drive  
Frederick, MD 21702  
(b) (6) cell

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 14 Jan 2020 18:06:48 +0000  
**To:** Marston, Hilary (NIH/NIAID) [E]; NIAID Coronavirus Response SWAT 2020  
**Subject:** RE: 1 R01 AI149693-01 - Genetic and ecological determinants of coronavirus recombination

As Kizzy noted yesterday, it looks like the

(b) (5)

(b) (5)

BG

---

**From:** Marston, Hilary (NIH/NIAID) [E] (b) (6)  
**Sent:** Tuesday, January 14, 2020 12:54 PM  
**To:** NIAID Coronavirus Response SWAT 2020 <NIAIDCoronavirusResponseSWAT2020@mail.nih.gov>  
**Subject:** FW: 1 R01 AI149693-01 - Genetic and ecological determinants of coronavirus recombination

Apologies if you are receiving twice. Sharing with permission but please do not disseminate further.

---

**From:** Park, Eun-Chung (NIH/NIAID) [E] (b) (6)>  
**Sent:** Tuesday, January 14, 2020 12:46 PM  
**To:** Marston, Hilary (NIH/NIAID) [E] <(b) (6)>  
**Cc:** Cassetti, Cristina (NIH/NIAID) [E] (b) (6)>  
**Subject:** FW: 1 R01 AI149693-01 - Genetic and ecological determinants of coronavirus recombination

Hilary,  
See the attached document describing preliminary analysis of Wuhan coronavirus sent by Simon Anthony from Columbia. Cristina suggested to share with you as well.

Sincerely,  
Eunchung

PH: (b) (6)  
(b) (6)

---

**From:** Cassetti, Cristina (NIH/NIAID) [E] (b) (6)>  
**Sent:** Tuesday, January 14, 2020 12:33 PM  
**To:** Park, Eun-Chung (NIH/NIAID) [E] (b) (6)>  
**Subject:** FW: 1 R01 AI149693-01 - Genetic and ecological determinants of coronavirus recombination

Hi Eunchung,

You might want to send this also to Hilary Marston since she is coordinating coronavirus activities with our colleagues around the institute.

Cristina

---

**From:** Park, Eun-Chung (NIH/NIAID) [E] (b) (6)>  
**Sent:** Tuesday, January 14, 2020 11:08 AM  
**To:** NIAID VB <[VARB@niaid.nih.gov](mailto:VARB@niaid.nih.gov)>; RDBViral <[NIAIDRDBViral@mail.nih.gov](mailto:NIAIDRDBViral@mail.nih.gov)>; Cassetti, Cristina (NIH/NIAID) [E] (b) (6)>; Erbelding, Emily (NIH/NIAID) [E] <(b) (6)>; Handley, Gray (NIH/NIAID) [E] <(b) (6)>  
**Subject:** FW: 1 R01 AI149693-01 - Genetic and ecological determinants of coronavirus recombination

Sharing preliminary analysis of "Wuhan" coronavirus sequences sent by Simon Anthony (a junior faculty member in Ian Lipkin's group at Columbia). Simon asked to share this only internally.

Sincerely,  
Eunchung

PH: (b) (6)  
(b) (6)

---

**From:** Anthony, Simon J. (b) (6)>  
**Sent:** Monday, January 13, 2020 10:35 PM  
**To:** Park, Eun-Chung (NIH/NIAID) [E] (b) (6)>  
**Subject:** Re: 1 R01 AI149693-01 - Genetic and ecological determinants of coronavirus recombination

Dear Eun Chung,

You have likely seen that the Wuhan CoV genomes were released yesterday. We did a quick evaluation of them today and thought you might be interested to see our notes. Nothing fancy, of course, but you might still find it useful or interesting.

Cheers!  
Simon



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 24 Mar 2020 18:09:19 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: SARs-CoV-2 (b) (5)

I think we can manage strategically through Kevin. I already told Kevin that (b) (5), (b) (6)  
(b) (5), (b) (6)

BG

Sent from my iPhone

On Mar 24, 2020, at 2:03 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6)> wrote:

I can't be offended without speaking up at some point. (b) (6), (b) (5)  
(b) (6), (b) (5)

Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
coVip Scientific Lead  
VRC | NIAID | NIH  
(b) (6)

---

**From:** "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Date:** Tuesday, March 24, 2020 at 12:41:36 PM  
**To:** "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>  
**Subject:** Re: SARs-CoV-2 (b) (5)

(b) (6), (b) (5)

Barney

Sent from my iPhone

On Mar 24, 2020, at 12:28 PM, Corbett, Kizzmekia (NIH/VRC) [E]

(b) (6) wrote:

Another email.

(b) (5)

--

**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**

**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

---

**From:** "McDermott, Adrian (NIH/VRC) [E]" (b) (6)

**Date:** Tuesday, March 24, 2020 at 11:37 AM

**To:** Kizzmekia Corbett (b) (6)

**Subject:** Re: SARs-CoV-2 (b) (5)

...and thanks again! (b) (5) will call him and find out

---

**From:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >

**Date:** Tuesday, March 24, 2020 at 10:41 AM

**To:** "Foulds, Kathryn (NIH/VRC) [E]" (b) (6) >, Barney Graham

(b) (6) >, Richard Koup (b) (6) >, "McDermott, Adrian (NIH/VRC) [E]" (b) (6)

**Cc:** Mario Roederer (b) (6), "Ruckwardt, Tracy (NIH/VRC) [E]"

(b) (6)

**Subject:** Re: SARs-CoV-2 (b) (5)

Dear all,

Tracy Ruckwardt has ordered (b) (5) already and can provide specific details here.

--

**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
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Laboratory: (b) (6)

Personal: (b) (6)

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---

**From:** "Foulds, Kathryn (NIH/VRC) [E]" (b) (6)

**Date:** Tuesday, March 24, 2020 at 10:39 AM

**To:** Barney Graham (b) (6)>, "Koup, Richard (NIH/VRC) [E]"

(b) (6)>, "McDermott, Adrian (NIH/VRC) [E]" (b) (6)>,  
Kizzmekia Corbett (b) (6)

**Cc:** "Roederer, Mario (NIH/VRC) [E]" (b) (6)>

**Subject:** SARs-CoV-2 (b) (5)

Hi all,

I just got off a call with Mario and he asked me to inquire about the status of ordering SARs-CoV-2

(b) (5) I briefly discussed with Rick last week that (b) (5)

Any thoughts?

Kathy

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 25 Apr 2020 13:28:53 +0000  
**To:** Hiawatha Fountain; Lewis, Leon (DCRA)  
**Cc:** Robert Louis Shepard; Mitchell Harris; Errol Boone; Louis Brice; James Brown; Matt Bryant; byrdjab; Eggerton Campbell; John Carrington; Ike Coles; Elvis Davis; Christopher Douglas; Albert Ducker; Dumas, Tarra (NIH/NCI) [C]; Joseph Eley (Bass-mtcbc); Tom Evans- C; Anthony Gary; Morton Grant; Randy Green; Joe Harris; (b) (6); Richard Henry; Gale Holmes; MACK HOLT; Kevin Hopson; (b) (6); Brian Jackson; MMW-Walter Jamison; James Lockwood; Jay Johnson; Jeffrey Johnson; John Snowdy-Jay cell; Walter McCoy; Leonard Miller; James Moore; Carl Piggott; (b) (6); Vance Shepard; Elroy Sims; Milton; (b) (6); Jefferson Whitehead; Wilbert Williams; Vohn Higginbotham; Russell Price; Charles Bailey  
**Subject:** Virtual Men's Bible Study - COVID info

Dear Men,

These are the links mentioned during today's bible study

Archived lecture available on NIH webcast: <https://videocast.nih.gov/watch=36377>

For clinical trial information: [VRCCOVIDtrials@nih.gov](mailto:VRCCOVIDtrials@nih.gov)

Take care,

Barney

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 5 Feb 2020 01:26:54 +0000  
**To:** J. Christopher Love  
**Cc:** Lynda, Stuart;Harry Kleanthous;David Vaughn;Peter Dull;Holger Kanzler (b) (6);Morabito, Kaitlyn (NIH/VRC) [E];Corbett, Kizzmekia (NIH/VRC) [E];Bok, Karin (NIH/VRC) [E];Stein, Judy (NIH/VRC) [C];Gall, Jason (NIH/VRC) [C];Mascola, John (NIH/VRC) [E];Young, Monique (NIH/VRC) [E]  
**Subject:** Re: E-introduction to nCoV (b) (4)  
**Attachments:** image001.gif, image002.gif, image003.jpg

I've copied Monique Young here and she can help find a time for a call.

Barney

Sent from my iPhone

On Feb 4, 2020, at 8:04 PM, J. Christopher Love (b) (6) wrote:

Hi Barney,

Thanks for your thoughtful response. And please do say hello to Mario—it has been a while since we have had a chance to cross paths. We are still doing work in the single-cell area with Alex Shalek, in addition to our recent work on (b) (4)

I read through the PNAS paper Lynda sent, and it is a fantastic study. Certainly these structures are complex as you point out. They will present interesting manufacturing challenge (b) (4),  
(b) (4)

(b) (4)

(b) (4)

A phone call as Lynda suggested sounds like a good next step.

Best,

Chris

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Tuesday, February 4, 2020 5:48 PM  
**To:** J. Christopher Love (b) (6); Lynda, Stuart (b) (6);>  
**Cc:** Harry Kleanthous <(b) (6)>; David Vaughn  
(b) (6);>; Peter Dull (b) (6);>; Holger Kanzler  
(b) (6);>; Morabito, Kaitlyn (NIH/VRC) [E]  
(b) (6); Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Bok, Karin  
(NIH/VRC) [E] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6);>; Gall, Jason  
(NIH/VRC) [C] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6)>  
**Subject:** RE: E-introduction to nCoV (b) (4)

Hi Chris,

I've been following your work since I saw you present at a HIPC meeting several years ago. I'm the one who told Mario Roederer about your work.

(b) (4)

Glad to have further discussions if you are interested in pursuing this.

Best wishes,

Barney



---

**From:** J. Christopher Love (b) (6) >  
**Sent:** Tuesday, February 4, 2020 2:30 PM  
**To:** Lynda, Stuart (b) (6) >; Graham, Barney (NIH/VRC) [E]  
(b) (6)  
**Cc:** Harry Kleanthous (b) (6); David Vaughn  
(b) (6) >; Peter Dull (b) (6) >; Holger Kanzler  
(b) (6)  
**Subject:** RE: E-introduction to nCoV (b) (4)

Lynda, thanks for the introduction.

Barney, it is great to meet you. Our general interests seem to have been orbiting in similar spaces in the past couple of years so really great to connect.

As Lynda says. (b) (4)  
(b) (4)

We have some ideas about where we could start pending a conversation.

Best,  
Chris

---

**From:** Lynda Stuart <(b) (6)>  
**Sent:** Tuesday, February 4, 2020 12:43 PM  
**To:** J. Christopher Love (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)  
**Cc:** Harry Kleanthous <(b) (6)>; David Vaughn  
(b) (6); Peter Dull <(b) (6)>; Holger Kanzler  
>  
**Subject:** E-introduction to nCoV (b) (4)

Dear Barney

I wanted to introduce you to Chris Love from MIT. Chris wears many hats including being the head of the AltHost Consortium – an academic private partnership on novel ways to make proteins faster and cheaper. He leads a group working on (b) (4)

(b) (4)

(b) (4)

(b) (4). I have cleared much of my calendar for this week and will make myself available to join a call. I will ask (b) (6), cc'ed here, to help with arranging a time for you to connect ASAP.  
Lynda

Chris - I am attaching Barney

(b) (4)

(b) (4)

(b) (6) – please can we try to get some time ASAP. Please include myself as required and those on the cc line if possible.

Lynda

**Lynda Stuart MD PhD**

Deputy Director, Vaccines & Human Immunobiology  
Global Health Discovery & Translational Sciences

V  
C  
E

(b) (6)

Bill & Melinda Gates Foundation

[www.gatesfoundation.org](http://www.gatesfoundation.org)

<image001.gif>

[Facebook](#)

<image002.gif>

[Twitter](#)

<image003.jpg>

[Impatient Optimists](#)

(b) (6)

Program Assistant  
Discovery & Translational Sciences  
Global Health

V  
E

(b) (6)





**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sun, 15 Mar 2020 18:01:41 +0000  
**To:** (b) (6)  
**Subject:** Fwd: Guess what???

FYI.

BP

Sent from my iPhone

Begin forwarded message:

**From:** "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Date:** March 15, 2020 at 9:24:00 AM EDT  
**To:** (b) (6)  
**Subject:** RE: Guess what???

Hi (b) (6)

I am so proud, and look forward to hearing about the outcome!

The messaging you forwarded is pretty mixed up about several things and I'm not sure what their point is.

1. The HIV gp160 or its subcomponent gp120 do not by themselves suppress the immune system. The major way HIV damages the immune system is by killing our CD4 T cells. There are a lot of other nuanced ways that HIV can affect the regulation of our immune system, but much more difficult to explain.
2. The coronavirus spike protein is a class 1 fusion protein like the HIV gp160, so it functions in a similar way, but the chemistry and structure and surface contours are entirely different. I'm not sure what gp160 has to do with coronavirus in the statements below.
3. There are some HIV drugs being used experimentally to see if they work on coronavirus because they are both RNA viruses even though they are organized and behave very differently. The better more specific drug more likely to work is Remdesivir which is being tested experimentally. Mark Denison played a big role in its discovery.
4. Random proteins don't last in our bodies. They are secreted or taken up by cells and degraded.
5. HIV can last in our bodies even after treatment and clearance of virus from the blood. However, it does this because part or all of its RNA genome integrates into one of our chromosomes as a DNA copy and becomes latent or hidden. It doesn't make protein until it is reactivated to start making new viruses. This is why HIV has been so hard to cure.
6. Antibiotics are for bacteria not viruses.

(b) (6)

**From:** (b) (6)  
**Sent:** Friday, March 13, 2020 8:53 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Subject:** Guess what???

(b) (6)

I wanted to let you know that, after years of watching you write grants, I finally just finished writing MY first grant!!! I've attended workshops and got my first client.

In other news ☐, I have a question for you...

Someone just posted this on FB Page about Corona virus and I want to check with you to see if it's true:

Glycoprotein 160 (reduced to glycoprotein 120) suppresses the immune system. Having this protien even in low doses disrupts T-cell generation. This means that those with challenged immune systems are at a higher risk for death but all of us are at risk for becoming extremely ill and maybe even dying. The whole idea that this like the flu is actually misleading.

Glycoprotein 120 is actually the surface protein in HIV. It is used to reduce/suppress the immune system in order to allow the second part of this virus ( SARS- MER- COV) to attack the cells.

The most effective treatment thus far has been aids treatments aimed at bringing the white blood cells/ T-cells back up and then an antibiotic to help them fight the other part of the virus.

It's actually is a big deal

My only concern is once you get rid of the base virus, wdf happens to the proteins in the body? I've never known anyone to get rid of HIV proteins.

Trying to stop misinformation from running rampant.

(b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 16 Apr 2020 17:38:13 +0000  
**To:** Minnich, Beth  
**Subject:** Accepted: COVID-19 study lab assays



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 10 Apr 2020 21:49:08 +0000  
**To:** Grier, Shardae (NIH/VRC) [E]; Gall, Jason (NIH/VRC) [C]  
**Subject:** strategic planning meeting

Topic: potential COVID-19 vaccine collaborations – (b) (4)

BG

\*\*\*\*\*

Barney S. Graham, MD, PhD  
Senior Investigator  
Deputy Director, Vaccine Research Center  
Chief, Viral Pathogenesis Laboratory  
National Institute of Allergy and Infectious Diseases, NIH  
40 Convent Drive, MSC 3017  
Bldg 40, Room 2502  
Bethesda, MD 20892-3017  
Phone: (b) (6)  
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 21 Mar 2020 18:31:24 +0000  
**To:** Jason McLellan  
**Subject:** RE: important error in S-protein annotation (maybe)

OK. Thanks,

BG

---

**From:** Jason McLellan (b) (6) >  
**Sent:** Saturday, March 21, 2020 1:32 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** RE: important error in S-protein annotation (maybe)

Hi Barney,

Nianshuang has the primers but hasn't cloned it yet. I asked him to prioritize this.

Jason

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Sent:** Friday, March 20, 2020 4:31 PM  
**To:** Jason McLellan (b) (6)  
**Subject:** RE: important error in S-protein annotation (maybe)

Hi Jason,

Did you ever try (b) (4)

BG

---

**From:** Jason McLellan (b) (6) >  
**Sent:** Tuesday, March 10, 2020 10:19 AM  
**To:** Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6)  
**Subject:** RE: important error in S-protein annotation (maybe)

(b) (4)

-Jason

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>  
**Sent:** Monday, March 9, 2020 11:51 PM  
**To:** Jason McLellan <(b) (6)>; Graham, Barney (NIH/VRC) [E]  
(b) (6); Mascola, John (NIH/VRC) [E] (b) (6)  
**Subject:** Re: important error in S-protein annotation (maybe)

I checked the (b) (4)

Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
coVip Scientific Lead  
VRC | NIAID | NIH  
(b) (6)

---

**From:** "Jason McLellan" (b) (6)  
**Date:** Monday, March 9, 2020 at 11:47:32 PM  
**To:** "Graham, Barney (NIH/VRC) [E]" (b) (6)>, "Mascola, John (NIH/VRC) [E]"  
(b) (6)  
**Cc:** "Michael Farzan" (b) (6)  
"Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)  
**Subject:** RE: important error in S-protein annotation (maybe)

The construct we're using starts (b) (4)

(b) (4)

-Jason

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Monday, March 9, 2020 8:49 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6)>  
**Cc:** Michael Farzan (b) (6); Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6)>; Jason McLellan (b) (6)>  
**Subject:** Re: important error in S-protein annotation (maybe)

Thanks John and Mike. I did see Mike's earlier email and will review (b) (4)  
(b) (4)

However, (b) (4) would be good to know.

Barney

Sent from my iPhone

On Mar 9, 2020, at 9:05 PM, Mascola, John (NIH/VRC) [E] (b) (6) > wrote:

Thanks for sending Mike – I've copied Barney Graham and his lab, and Jason McLellan – who are doing the CoV vaccine work. They can take a look.

So far we know (b) (4)

Happy to keep in touch on this.

Best,  
John

---

**From:** Michael Farzan (b) (6) >

**Sent:** Monday, March 9, 2020 8:55 PM

**To:** (b) (6) Mascola, John (NIH/VRC) [E] <(b) (6)>

**Subject:** important error in S-protein annotation (maybe)

Hi Gary, John,

We don't have key data yet, but it seemed important enough to draw it to your attention anyway.

If time is short, glance at (b) (4) analysis in Fig. 3.

(b) (4)

If you have time, let me know if we are wrong. Otherwise feel free to share.

Mike

<Spike\_Error\_Impedes\_Folding\_0.88.pdf>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 11 Mar 2020 22:18:21 +0000  
**To:** Hiatt, Nissa (NIH/VRC) [C]; Mascola, John (NIH/VRC) [E]  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E]; Koup, Richard (NIH/VRC) [E]; Daucher, Marybeth (NIH/NIAID) [E]; Conrad, Patricia (NIH/NIAID) [E]; Harris, Christina (NIH/NIAID) [E]; Bok, Karin (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Gall, Jason (NIH/VRC) [C]; Stein, Judy (NIH/VRC) [C]; Prince, Tasheema (NIH/VRC) [C]  
**Subject:** RE: Review: Agenda for VIP Tour of VRC Lab

Since I will now be here on Friday, I should be in the room, but I think it is fine if John does major presentation.

Barney

---

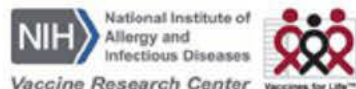
**From:** Hiatt, Nissa (NIH/VRC) [C] (b) (6)>  
**Sent:** Wednesday, March 11, 2020 10:53 AM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E] <(b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6)>; Conrad, Patricia (NIH/NIAID) [E] (b) (6); Harris, Christina (NIH/NIAID) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6); Prince, Tasheema (NIH/VRC) [C] (b) (6)>  
**Subject:** RE: Review: Agenda for VIP Tour of VRC Lab

Hi everyone,

Here is an updated version of the draft agenda. An updated guest list is attached as well.

Best,  
Nissa

**Nissa Hiatt**  
Communications  
Vaccine Research Center, NIAID, NIH  
40 Convent Drive, Bldg. 40, Room 1107  
Bethesda, MD 20892  
office: (b) (6)  
mobile: (b) (6)  
(b) (6)





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**From:** Hiatt, Nissa (NIH/VRC) [C]  
**Sent:** Tuesday, March 10, 2020 6:31 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E] <(b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6)>; Marybeth (NIH/NIAID) Daucher [E] (b) (6)>; Christina (NIH/NIAID) Harris [E] (b) (6)>; Karin (NIH/VRC) Bok [E] (b) (6)>  
Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)>; Tasheema (NIH/VRC) Prince [C] (b) (6)>  
**Subject:** RE: Review: Agenda for VIP Tour of VRC Lab

Please consider this version of the draft agenda for Friday that reflects Kaitlyn's participation.

Best,  
Nissa

**Nissa Hiatt**  
Communications  
Vaccine Research Center, NIAID, NIH  
40 Convent Drive, Bldg 40, Room 1100  
Bethesda, MD 20892

(b) (6)



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**From:** Hiatt, Nissa (NIH/VRC) [C]  
**Sent:** Tuesday, March 10, 2020 5:05 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6)>; Marybeth (NIH/NIAID) Daucher [E] (b) (6)>; Christina (NIH/NIAID) Harris [E] (b) (6)>; Karin (NIH/VRC) Bok [E] (b) (6)>  
Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)>; Tasheema (NIH/VRC) Prince [C] (b) (6)>



(b) (6)

**Subject:** Review: Agenda for VIP Tour of VRC Lab

Hi everyone,

For Friday's VIP visit, a draft outline of what was discussed with the WH advance team for the lab presentation is attached for your review. Once VRC discusses the plan for the lab portion of the visit, we will share it with NIAID.

**Ask:**

Review tentative outline of lab presentation for Friday morning's VIP visit.

**Notes:**

- The advance team would like the VP to hear about therapeutic trials, drugs and mABs, in addition to vaccine development work by VRC.
- Dr. Erbelding is included in this version of the agenda. TBD if she will present in the lab or on the 1<sup>st</sup> floor.
- What, if any, VRC SARS-CoV-2 antibody efforts would we like to include in the presentation? Do we distinguish how the antibodies would potentially be used or keep the presentation general? Of note: [Abcellera](#) and Vir BioTech (pending distribution, probably this week) have issued their own press releases about antibody work with VRC. Judy may know of other collaborators that have also shared VRC antibody collaborations publicly.

Best,  
Nissa

**Nissa Hiatt**

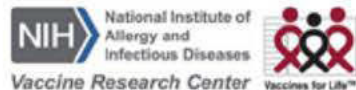
Communications

Vaccine Research Center, NIAID, NIH  
40 Convent Drive, Bldg. 40, Room 1107  
Bethesda, MD 20892

office: (b) (6)

mobile: (b) (6)

(b) (6)



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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 6 Mar 2020 17:49:22 +0000  
**To:** McDermott, Adrian (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]  
**Cc:** Koup, Richard (NIH/VRC) [E]; Mascola, John (NIH/VRC) [E]; O'Connell, Sarah (NIH/VRC) [C]; Narpala, Sandeep (NIH/VRC) [C]; Taylor, Alison (NIH/VRC) [C]; Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** RE: Developing a Standardized (b) (5) CoV assay

We have (b) (5)  
It may be good to look at all of them together as suggested by others.

Barney

-----Original Message-----

From: McDermott, Adrian (NIH/VRC) [E] <(b) (6)>  
Sent: Friday, March 6, 2020 9:12 AM  
To: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>  
Cc: Graham, Barney (NIH/VRC) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; O'Connell, Sarah (NIH/VRC) [C] (b) (6)>; Narpala, Sandeep (NIH/VRC) [C] (b) (6)>; Taylor, Alison (NIH/VRC) [C] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>  
Subject: Re: Developing a Standardized (b) (5) CoV assay

General idea would be to multiplex the (b) (5)  
..etc to Sandeep and Sarah O'Connell.

Thanks  
Adrian

Sent from my iPhone

> On Mar 6, 2020, at 9:06 AM, Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)> wrote:  
>  
> Adrian,  
>  
> Do you just want the (b) (5) as well if you're multiplexing?  
>  
>  
> We're on the 3rd floor conference room today at 10am and here's the GoToMeeting info:  
>  
> Emerging Infectious Diseases Team  
>  
> Please join my meeting from your computer, tablet or smartphone.  
> (b) (6)  
>  
> You can also dial in using your phone.  
> United States (Toll Free): (b) (6) United States: +1 (b) (6)  
>  
> Access Code: (b) (6)

>  
> New to GoToMeeting? Get the app now and be ready when your first meeting starts:  
> (b) (6)  
>  
> W  
>  
> On 3/6/20, 9:04 AM, "McDermott, Adrian (NIH/VRC) [E]" (b) (6) > wrote:  
>  
> I am at the MHRP Vaccine meeting right now. Do you have a call in?  
> Maybe Sarah it Sandeep could call in and contribute?  
> Thanks so much  
> Adrian  
>  
> Sent from my iPhone  
>  
>> On Mar 6, 2020, at 8:48 AM, Graham, Barney (NIH/VRC) [E] < (b) (6) > wrote:  
>>  
>> Good idea. We have an EID meeting at 10am. Do you want to come?  
>>  
>> BG  
>>  
>>  
>>  
>> Sent from my iPhone  
>>  
>>>> On Mar 6, 2020, at 7:51 AM, McDermott, Adrian (NIH/VRC) [E] (b) (6) > wrote:  
>>>>  
>>>> Barney,  
>>>> Wondering if we could get some (b) (5)  
>>>>  
>>>> (b) (5)  
>>>>  
>>>>  
>>>> Thanks  
>>>> Adrian  
>>>>  
>>>>  
>  
>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 14 Apr 2020 19:34:46 +0000  
**To:** Leist, Sarah Rebecca  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; Baric, Ralph; Alexandra Schaefer; Dinnon, Kenneth Harold III; Martinez, David Rafael  
**Subject:** RE: Update on SARS-CoV-2 mRNA study

Hi Sarah,

I put a numbered list of top (b) (4)  
(b) (4)

Of course we would like to see data on all of them.

Barney

---

**From:** Leist, Sarah Rebecca (b) (6) >  
**Sent:** Monday, April 13, 2020 9:55 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Baric, Ralph (b) (6); Alexandra Schaefer (b) (6) >; Dinnon, Kenneth Harold III (b) (6) >; Martinez, David Rafael (b) (6)  
**Subject:** Re: Update on SARS-CoV-2 mRNA study

Hello everyone,

We are getting a new system to analyze (b) (4).

We are not sure about the time line, yet. However, as soon as the system is running we'll try to get it established ASAP.

I will hold on to the titer samples then.

In which of the following would you be interested:

(b) (4)

(b) (4)

Thanks,  
Sarah

---

**From:** "Graham, Barney (NIH/VRC) [E]" <(b) (6)>  
**Date:** Monday, April 13, 2020 at 9:44 AM  
**To:** "Leist, Sarah Rebecca" (b) (6)  
**Cc:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Baric, Ralph S" (b) (6), "Schaefer, Alexandra" (b) (6), "Dinnon, Kenneth Harold III" (b) (6), "Martinez, David Rafael" (b) (6)>  
**Subject:** Re: Update on SARS-CoV-2 mRNA study

Unless you think you could run (b) (4)  
(b) (4) Don't know what your setup is in BL3.

Barney

Sent from my iPhone

On Apr 13, 2020, at 9:15 AM, Leist, Sarah Rebecca (b) (6) wrote:

Yes,  
We are very limited on space with a lot of experiments going on right now – (b) (4)

Sarah

---

**From:** "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>  
**Date:** Monday, April 13, 2020 at 9:13 AM  
**To:** "Leist, Sarah Rebecca" (b) (6) "Graham, Barney (NIH/VRC) [E]"  
(b) (6)  
**Cc:** "Baric, Ralph S" (b) (6) >, "Schaefer, Alexandra"  
(b) (6) >, "Dinnon, Kenneth Harold III" (b) (6)  
"Martinez, David Rafael" (b) (6) >  
**Subject:** Re: Update on SARS-CoV-2 mRNA study

It would be preferable for us to keep samples through publication, in case any assay needs to be re-run .  
Please let me know if it is a problem, storage or otherwise.

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

---

**From:** "Leist, Sarah Rebecca" (b) (6)  
**Date:** Sunday, April 12, 2020 at 10:21 PM  
**To:** Barney Graham (b) (6)  
**Cc:** Kizzmekia Corbett (b) (6), Ralph Baric (b) (6) >,  
Alexandra Schaefer (b) (6) >, "Dinnon, Kenneth Harold III"  
(b) (6), "Martinez, David Rafael" (b) (6)  
**Subject:** Re: Update on SARS-CoV-2 mRNA study

Hello,  
Are we are good to toss the (b) (4)?  
It would be really important for us to know.  
We are definitely planning to keep (b) (4) samples.

Thanks,  
Sarah



---

**From:** "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Date:** Wednesday, April 8, 2020 at 3:10 AM  
**To:** "Leist, Sarah Rebecca" (b) (6) >  
**Cc:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >, "Baric, Ralph S" (b) (6) >, "Schaefer, Alexandra" (b) (6) >, "Dinnon, Kenneth Harold III" (b) (6), "Martinez, David Rafael" (b) (6)  
**Subject:** Re: Update on SARS-CoV-2 mRNA study

Thanks Sarah,

Great work.

BG

Sent from my iPhone

On Apr 7, 2020, at 8:23 PM, Leist, Sarah Rebecca (b) (6) wrote:

Hello everyone,

Please find attached the up to date summary of the data we've collected so far (b) (4)

(b) (4) and will have results by Thursday. I will send out another email including the (b) (4) later this week.

Unfortunately, we will not be able to work on the (b) (4) data this week because (b) (4) have not come in yet – we are hoping they will arrive next week.

I will keep you posted!

Thanks to everyone who contributed to this initial study – the data looks beautiful and is very robust!

Have a nice evening,  
Sarah

<VRC mRNA vaccine.pptx>

<VRC mRNA vaccine SARS-CoV-2.xlsx>

<SRL153 - VRC mRNA vaccine SARS-CoV-2 3 weeks boost.pzfx>

<SRL153 - VRC mRNA vaccine SARS-CoV-2 4 weeks boost.pzfx>

<SRL153 - VRC mRNA vaccine SARS-CoV-2 no boost.pzfx>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 9 Apr 2020 10:43:38 +0000  
**To:** Marston, Hilary (NIH/NIAID) [E]; Fauci, Anthony (NIH/NIAID) [E]  
**Cc:** Mascola, John (NIH/VRC) [E]  
**Subject:** Fwd: Preliminary Challenge Results from vaccinated BALB/c  
**Attachments:** VRC mRNA vaccine[1][1].pptx, ATT00001.htm, mRNA-1273 Mouse Immunogenicity Update\_V5.docx, ATT00002.htm

Hi Tony,

We were going to wait a few days till we could show you a more complete story but since Stephane Bancel saw this and replied to you, we are forwarding the preliminary and confidential immunogenicity and protection data in mice for the mRNA vaccine that will be in a short report to the FDA. I would just look at the one page Word document, and would also ask for a few more days to provide a more complete dataset. We are still waiting for pathology.

Take care,

Barney

Sent from my iPhone

Begin forwarded message:

**From:** "Graham, Barney (NIH/VRC) [E]" (b) (6)>  
**Date:** April 8, 2020 at 10:19:00 PM EDT  
**To:** Bennett Hamilton (b) (6)>  
**Cc:** Andrea Carfi <(b) (6)> Darin Edwards (b) (6)>, Sunny Himansu <(b) (6)>, "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), "Bok, Karin (NIH/VRC) [E]" <(b) (6)>, "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6), "Carlton, Kevin (NIH/VRC) [E]" <(b) (6)>, "Mascola, John (NIH/VRC) [E]" (b) (6), "Gall, Jason (NIH/VRC) [C]" (b) (6)>, "Ledgerwood, Julie (NIH/NIAID) [E]" (b) (6)  
**Subject:** FW: Preliminary Challenge Results from vaccinated BALB/c

Hi Hamilton et al,

I'm forwarding an email Kaitlyn prepared describing our ongoing mouse experiments. The data are encouraging and will be part of a package DMID is sending to the FDA in the coming days. We are also

preparing a

(b) (4), (b) (5)  
(b) (4), (b) (5)

(b) (4), (b) (5). That data should be sent tomorrow.

Take care,

Barney

FROM KAITLYN:

We received some of the preliminary challenge data from Ralph's group that we wanted to send you in the attached powerpoint.

(b) (4), (b) (5)  
(b) (4), (b) (5)

Additionally, DMID received some FDA feedback

(b) (4), (b) (5)

(b) (4), (b) (5)

We put together the attached summary sheet that we plan to send to DMID tomorrow. Please let us know if you have any edits .

We have also made some progress in

(b) (4), (b) (5)

(b) (4), (b) (5)

--  
Kaitlyn M. Morabito, M.S., Ph.D.

Scientific Program Manager, Vaccine Development for RSV and Emerging Viral Diseases

Viral Pathogenesis Laboratory, Vaccine Research Center

National Institutes of Allergy and Infectious Diseases, NIH

Bldg. 40, Rm. 2508

40 Convent Drive

Bethesda, MD 20892

(b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 1 May 2020 13:26:35 +0000  
**To:** Rasmussen, Zeba (NIH/FIC) [C]  
**Subject:** RE: Some of your slides?  
**Attachments:** COVID Vaccines GR 1May2020 HO.pdf

Here are the slides I used this morning.

Best wishes,

Barney

---

**From:** Rasmussen, Zeba (NIH/FIC) [C] (b) (6)  
**Sent:** Friday, May 1, 2020 9:03 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Subject:** Some of your slides?

Dear Dr. Graham,

I just was listening to your presentation at NIAID grand rounds and my computer got stuck from the slide which first showed how new technologies are changing vaccinology till the third to last slide. I was listening on my phone so heard it all. Would you be willing to share your slides? Of course I would not share any further. It's just frustrating not to be able to have seen what you were describing.

Thank you very much for considering this. Amazing what you are able to do these days!  
Congratulations.

Zeba

*Zeba Rasmussen MD MPH  
Senior Research Fellow (Contractor)  
Division of International Epidemiology and Population Studies  
Fogarty International Center, NIH  
16 Center Drive  
Bethesda MD 20892 USA  
Tel: (b) (6)  
Cell: (b) (6)*

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 26 Mar 2020 16:27:58 +0000  
**To:** Stein, Judy (NIH/VRC) [C]  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Petrik, Amy (NIH/NIAID) [E]  
**Subject:** Re: (b) (4)-COVID Request from Emergent (b) (4)

Fine. We can give the background plasmids and (b) (4), (b) (5)

Barney

Sent from my iPhone

On Mar 26, 2020, at 11:52 AM, Stein, Judy (NIH/VRC) [C] (b) (6) wrote:

Hi Barney,  
I am checking with Salk, (b) (4), (b) (5)  
(b) (4), (b) (5)

Thanks,  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Thursday, March 26, 2020 11:49 AM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6)  
**Subject:** Re: (b) (4)-COVID Request from Emergent (b) (4)

I think it needs to be sent through a (b) (5)  
(b) (5) Why are we still hung up on that?

Barney

Sent from my iPhone

On Mar 26, 2020, at 11:41 AM, Stein, Judy (NIH/VRC) [C] <(b) (6)> wrote:



Hi Barney,

To confirm, [REDACTED] (b) (5), (b) (4)  
[REDACTED] ?

Either way, [REDACTED] (b) (5), (b) (4);  
[REDACTED]

Thanks,  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Sent:** Thursday, March 26, 2020 9:37 AM  
**To:** Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E]  
[REDACTED] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] [REDACTED] (b) (6)  
**Subject:** Re: (b) (4) COVID Request from Emergent [REDACTED] (b) (4)

As for others we can [REDACTED] (b) (4) by licensure through TTIPO.

Barney

Sent from my iPhone

On Mar 26, 2020, at 7:51 AM, Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6) wrote:

Hi everyone,  
Please see Kelly's question below.  
Thanks,  
Judy

---

**From:** Warfield, Kelly [REDACTED] (b) (6)  
**Sent:** Wednesday, March 25, 2020 5:21 PM  
**To:** Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)  
**Cc:** Raykar, Prashant [REDACTED] (b) (6)  
**Subject:** (b) (4)-COVID

Hi Judy,

Emergent (our Therapeutics Business Unit) is working to develop [REDACTED] (b) (4)  
[REDACTED]

(b) (4)

(b) (4) and I'm wondering if there is any way to get ahold of them through a MTA to use (b) (4) quickly, to facilitate our work?

Please let me know if I need to talk to someone else!

Thanks, Kelly

P.S. As you can imagine, (b) (4) and then we can send it back to Carol!

**Kelly Lyn Warfield, Ph.D.**

Vice President, Vaccines Research and Development

O (b) (6) | C (b) (6)

**Emergent BioSolutions Inc.**

400 Professional Drive, Suite 400, Gaithersburg, MD 20879

[emergentbiosolutions.com](http://emergentbiosolutions.com) | [LinkedIn](#) | [Twitter](#) | [Instagram](#)

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 10 Dec 2019 23:31:43 +0000  
**To:** Denison, Mark; Jack Stapleton  
**Subject:** FW: nominatin of Mark Denison for KUMC distinguished medical alumnus  
**Attachments:** 2020 KUMC distinguished alumnus nomination form.pdf, Denison KUMC 2020 Alumni award nomination letter.pdf, Mark Denison KU Nov 2019 Stapleton V2.pdf, Denison CV December 2019 V2.docx

FYI. Nomination submitted.

BG

---

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tuesday, December 10, 2019 6:29 PM  
**To:** alumni@kumc.edu  
**Subject:** nominatin of Mark Denison for KUMC distinguished medical alumnus

I am submitting a nomination for Mark R. Denison MD80 for the Distinguished Medical Alumnus Award. Please let me know if you need any additional information.

Best wishes,

Barney Graham MD79

\*\*\*\*\*

Barney S. Graham, MD, PhD  
Senior Investigator  
Deputy Director, Vaccine Research Center  
Chief, Viral Pathogenesis Laboratory  
National Institute of Allergy and Infectious Diseases, NIH  
40 Convent Drive, MSC 3017  
Bldg 40, Room 2502  
Bethesda, MD 20892-3017  
Phone: (b) (6)  
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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[REDACTED]

Page appears blank in original

[REDACTED]

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 29 Apr 2020 14:55:54 +0000  
**To:** Kathleen Neuzil  
**Subject:** Fwd: draft protocol concept  
**Attachments:** COVID19 Vaccine Efficacy Trial Concept Draft 28Apr 2020\_v3.docx, ATT00001.htm, covid 19 sites as of April 28 2020.pptx, ATT00002.htm

FYI. Have you seen this yet?

BG

Sent from my iPhone

Begin forwarded message:

**From:** "Corey MD, Larry" (b) (6) >  
**Date:** April 29, 2020 at 12:16:16 AM EDT  
**To:** "Mascola, John (NIH/VRC) [E]" (b) (6) >, "Conrad, Patricia (NIH/NIAID) [E]" <(b) (6)>, "Fauci, Anthony (NIH/NIAID) [E]" <(b) (6)>, "Dieffenbach, Carl (NIH/NIAID) [E]" <(b) (6)>, "Erbelding, Emily (NIH/NIAID) [E]" (b) (6) >  
**Cc:** "Graham, Barney (NIH/VRC) [E]" (b) (6) >  
**Subject:** draft protocol concept

Enclosed is the draft protocol for a NIAID supported efficacy trial for a candidate COVID 19 vaccine .

I wouldn't necessarily call it a master protocol but it is a synopsis of what I would term a harmonized protocol concept for the evaluation of several candidate COVID 19 vaccine , It outlines in principle the ideals we set forth in the Science Policy perspective into a draft protocol .Individualized but harmonized protocols that allow for licensure of an individual vaccine but also allow one to utilize common clinical trial networks, laboratories endpoint adjudication processes, centralized laboratories or specimen sharing, common DSMB , and access to endpoint and laboratory data to have an independent group of statisticians do endpoint analysis and hence effect of the virus on civil society.

The concept is to enroll persons in our country who are at high risk of Sars Cov2 infection into a double blind randomized trial to determine whether the vaccine prevents infection or ameliorates disease or both .

The trial is designed to vaccinate people and then monitor them closely both by prospective evaluation of whether they develop COVID infection which the sites will determine with readily available PCR testing as well as serologic evaluation of infection which we monitor with a serologic test that can discriminate Vaccination with spike protein from infection( usually nucleoprotein )



We will evaluate if the vaccine prevents acquisition ( hooray) or modifies disease severity ( great) albeit that requires very detailed assessment of the clinical course between vaccinated versus placebo vaccinated persons. The NIAID trial sites will blanket the US and we will also use “ modern methods to track the virus to insure we get the micro epidemics involved in the trial. We will be sensitive to enrolling underserved minority populations in the study o, one of the major advantages of these networks that have long standing community outreach programs . We feel we can recruit populations with a 2% per 6 months or a 4% annualized incidence rate ; That translate to a 8500 size trial .

I have tried to highlight in bold the key concepts to shorten the document for you . Our statisticians ( NIAID cross network) wanted to be thorough and hence the length of the document . I am also including a picture of the current COVID Network map of 48 US sites ; we are in the process of activating them hence they are ready to initiate this study once it meets its safety and immunogenicity targets .

We have 2 trials in the field with COVID 19; a trial to identify persons infected to draw blood and look at what target immune responses we may need for success ( neutralizing titer ; binding to the receptor binding domain , Cd4+ and Cd8+ T cell responses and breadth) and a repeat assay to evaluate post trial whether the natural immune response wanes over time. . These will have results in mid-June and should inform the immune response standards desired to move forward .

If questions please call

Larry Corey

(b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 18 Mar 2020 23:54:26 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: Submit RD-13-IV-04

Done.

Sent from my iPhone

On Mar 18, 2020, at 6:56 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) > wrote:

Please please please sign this!!!  
Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
coVip Scientific Lead  
VRC | NIAID | NIH  
(b) (6)

---

**From:** "Stein, Judy (NIH/VRC) [C]" (b) (6) >  
**Date:** Wednesday, March 18, 2020 at 6:20:55 PM  
**To:** "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>  
**Subject:** RE: Submit RD-13-IV-04

I almost removed Barney but he is the PI for the animal study...  
Would you be able to get him to e-sign?  
Cynthia can be added back after – long lists of people needing to e-sign tend to hold these up and after the approval, nobody ever seems to check if they did or not.

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Sent:** Wednesday, March 18, 2020 6:12 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6); Stein, Judy (NIH/VRC) [C]  
(b) (6)  
**Cc:** Kong, Wing-Pui (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E]  
(b) (6) Ziawo, Cynthia (NIH/VRC) [F] (b) (6)  
**Subject:** Re: Submit RD-13-IV-04

An auto email will go to all persons (Cynthia and Dr. Graham who were added)

Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
coVip Scientific Lead



VRC | NIAID | NIH

(b) (6)

---

**From:** "Mascola, John (NIH/VRC) [E]" (b) (6)>  
**Date:** Wednesday, March 18, 2020 at 6:10:34 PM  
**To:** "Stein, Judy (NIH/VRC) [C]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)  
**Cc:** "Kong, Wing-Pui (NIH/VRC) [E]" (b) (6)>  
**Subject:** RE: Submit RD-13-IV-04

Ok. done. Its says signature by lab personnel required.

---

**From:** Stein, Judy (NIH/VRC) [C] <(b) (6)>  
**Sent:** Wednesday, March 18, 2020 6:06 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Cc:** Kong, Wing-Pui (NIH/VRC) [E] <(b) (6)>  
**Subject:** RE: Submit RD-13-IV-04

Hi John,

The website is oms.ors.nih.gov

The file is under Drafts and is RD-13-IV-04 amend TO DELETE and submit new reg – but Kizzmekia called Rick and he said that the revised amendment could be submitted.

If you go to the button in the lower right hand corner, it is the link to the PI esignature.

Thanks,

Judy

---

**From:** Mascola, John (NIH/VRC) [E] (b) (6)  
**Sent:** Wednesday, March 18, 2020 5:31 PM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>  
**Cc:** Kong, Wing-Pui (NIH/VRC) [E] (b) (6)  
**Subject:** RE: Submit RD-13-IV-04

Just let me know what I need to do

---

**From:** Stein, Judy (NIH/VRC) [C] (b) (6)>  
**Sent:** Wednesday, March 18, 2020 5:27 PM  
**To:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6)>; Kong, Wing-Pui (NIH/VRC) [E] (b) (6)>  
**Subject:** RE: Submit RD-13-IV-04

Hi Kizzmekia,

I'm sorry – only John is allowed to submit – proxies are not allowed. Do you have the website available? If not, I can find it – I haven't used it in awhile.

John,

Once we send the website, would you be able to log in and submit?

I should be able to check this is in the next 5 minutes to see if it was saved.

Thanks,

Judy

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Sent:** Wednesday, March 18, 2020 5:12 PM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6)>  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Kong, Wing-Pui (NIH/VRC) [E]  
(b) (6) Baumann, Richard (NIH/OD/ORS) [E] <(b) (6)>  
**Subject:** Submit RD-13-IV-04

Hi Judy,

Can you log into Dr. Mascola's IBC registration account, and press submit on the revisions I made to RD-13-IV-04? The paragraph I included is below, just in case I failed to aptly save it.

(b) (5), (b) (4)

--

**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**

**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

---

**From:** Wing-Pui Kong (b) (6) >  
**Date:** Wednesday, March 18, 2020 at 4:36 PM  
**To:** Kizzmekia Corbett (b) (6), "Mascola, John (NIH/VRC) [E]" (b) (6) >, Barney Graham (b) (6)  
**Cc:** John-Paul Todd (b) (6), "Bao, Hana (NIH/VRC) [E]" (b) (6) >, "Baumann, Richard (NIH/OD/ORS) [E]" (b) (6)  
**Subject:** RE: Registration RD-13-IV-04 amend TO DELETE and submit new reg Not Approved

Hi Kizz,

Not at all, let me know if you need any help or information.

Thanks!

Wing

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>  
**Sent:** Wednesday, March 18, 2020 4:25 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** Kong, Wing-Pui (NIH/VRC) [E] (b) (6); Todd, John-Paul (NIH/VRC) [E] (b) (6) >; Bao, Hana (NIH/VRC) [E] (b) (6) >; Baumann, Richard (NIH/OD/ORS) [E] (b) (6) >  
**Subject:** Re: Registration RD-13-IV-04 amend TO DELETE and submit new reg Not Approved

I'm being added as a proxy to Dr. Mascola's protocols, and will fill in info requested. (1) detail of the vaccine (2) addition of all relevant persons. Will be expedited for review. Safety thought we were working with pandemic viruses.

Wing, do you mind if I take the lead here?

Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
coVip Scientific Lead  
VRC | NIAID | NIH  
(b) (6)

---

**From:** "Mascola, John (NIH/VRC) [E]" (b) (6)  
**Date:** Wednesday, March 18, 2020 at 4:12:26 PM  
**To:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >, "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Cc:** "Suhana, Tina (NIH/VRC) [E]" (b) (6), "Austin, Sarah (NIH/NIAID) [E]"

(b) (6)>

**Subject:** RE: Registration RD-13-IV-04 amend TO DELETE and submit new reg Not Approved

I'm in office

Cell in (b) (6)

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>

**Sent:** Wednesday, March 18, 2020 4:11 PM

**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)

**Subject:** Fwd: Registration RD-13-IV-04 amend TO DELETE and submit new reg Not Approved

Can I handle this? On the phone with JP and the IND declined it. Need to have convo, 3-way call with one of you now?

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

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**From:** "Todd, John-Paul (NIH/VRC) [E]" (b) (6)>

**Date:** Wednesday, March 18, 2020 at 4:08:55 PM

**To:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>

**Subject:** FW: Registration RD-13-IV-04 amend TO DELETE and submit new reg Not Approved

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**From:** Baumann, Richard (NIH/OD/ORS) [E] (b) (6)

**Sent:** Wednesday, March 18, 2020 3:41 PM

**To:** Mascola, John (NIH/VRC) [E] (b) (6)

**Cc:** Health Rx Support (CIT) <[Support@healthrx.com](mailto:Support@healthrx.com)>; Baumann, Richard (NIH/OD/ORS) [E]

(b) (6); Chen, Xuejun (NIH/VRC) [E] (b) (6)>; Kong, Wing-Pui (NIH/VRC) [E] (b) (6)>; Louder, Mark (NIH/VRC) [C] (b) (6)>; Stein, Judy (NIH/VRC) [C] <(b) (6)>; Holland-Linn, Janel (NIH/VRC) [C] (b) (6);

Bao, Hana (NIH/VRC) [E] (b) (6); Austin, Sarah (NIH/NIAID) [E] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; Schwartzman, Louis (NIH/OD/ORS) [E]

(b) (6); Todd, John-Paul (NIH/VRC) [E] (b) (6)>; Roederer, Mario (NIH/VRC) [E] (b) (6)>; Scorpio, Diana (NIH/VRC) [E] (b) (6)

**Subject:** Registration RD-13-IV-04 amend TO DELETE and submit new reg Not Approved

Dear John Mascola,

This email serves to notify you that your recent Registration **RD-13-IV-04 amend TO DELETE and submit new reg** has been returned to you for comment. Please login to your PI-Dashboard at [oms.ors.nih.gov](https://oms.ors.nih.gov)

and find this registration in your **Drafts** folder under your **My Research** tab to address these comments.

**BSO Comments:**

Dear Dr. Mascola,

This amendment request is lacking significant detail to determine if the origin of the proposed vaccine in the amendment is related at all to the recombinant work as originally described. (b) (5)

is needed to adequately describe what you are proposing here as opposed to amending the existing work to add the new ASP vaccine study. Therefore I am returning this proposed amendment back to you for either more information or to submit a new registration. Please add sufficient detail in the context of the amendment or submit a new rDNA registration for the IBC to review and approve. The deadline for April 1st review is Wednesday, March 25th. Please let me know if you have additional questions or concerns.

Best Regards,

Richard G. Baumann, Ph.D.  
Biological Safety Officer

(b) (6)

Email Reference: [f0f24379e350e32c01c4600ab369d876]

Time Sent: [3/18/2020 3:41 PM]



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 23 Mar 2020 16:38:19 +0000  
**To:** Carlton, Kevin (NIH/VRC) [E]  
**Subject:** Re: Coordination of COVID-19 response effort

Can you send me your cell phone number?

BG

Sent from my iPhone

On Mar 23, 2020, at 12:29 PM, Carlton, Kevin (NIH/VRC) [E] (b) (6) > wrote:

Hi Barney,

Will do.

I know you sit on phone calls the majority of the day and do not want another one, but I would like to speak with you soon on my thoughts on integration of the teams, team structure, and technical leads.

I am available after 3:30.

Kevin

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Sent:** Monday, March 23, 2020 11:38 AM  
**To:** Carlton, Kevin (NIH/VRC) [E] (b) (6) >  
**Cc:** Koup, Richard (NIH/VRC) [E] (b) (6); Boritz, Eli (NIH/NIAID) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6); Douek, Daniel (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C] (b) (6) >; Hirsch, Marie (NIH/VRC) [E] (b) (6); Kwong, Peter (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) >; Mascola, John (NIH/VRC) [E] (b) (6); McDermott, Adrian (NIH/VRC) [E] (b) (6); Mittelman, Abraham (NIH/VRC) [C] (b) (6); Roederer, Mario (NIH/VRC) [E] (b) (6); Scorpio, Diana (NIH/VRC) [E] (b) (6); Seder, Robert (NIH/VRC) [E] (b) (6); Sullivan, Nancy (NIH/VRC) [E] (b) (6) >; Bok, Karin (NIH/VRC) [E] (b) (6); Vazquez, Sandra (NIH/VRC) [C] (b) (6) >; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >; Chen, Grace (NIH/NIAID) [E] (b) (6) >; Harris, Christina (NIH/NIAID) [E] (b) (6) >; Bok, Karin (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6) >  
**Subject:** Re: Coordination of COVID-19 response effort



Thanks Kevin,

Please keep Kaitlyn Morabito and Karin Bok and Gabriela Alvarado on the list. They are critical for different aspects of the CoV project management.

Barney

Sent from my iPhone

On Mar 23, 2020, at 10:54 AM, Carlton, Kevin (NIH/VRC) [E] <(b) (6)> wrote:

Hi Everyone,

Thank you to VRC Leadership, Pls and Senior Staff for having the confidence in me to lead such an important group at such a critical time. As I get started on forming the teams and organizing our efforts, please do not hesitate to let me know if you feel that I, the team, or our efforts is missing or underperforming a vital activity. I will not take offense and see this as a vital necessity to ensuring an efficient and high performing effort.

Today (this afternoon or tonight), I will lay out a draft Team structure (1 overarching team, with multiple subgroups) for review and comment, along with reaching out to those involved in response to start generating the teams lists.

More to follow.

Kevin

---

**From:** Koup, Richard (NIH/VRC) [E] (b) (6)>

**Sent:** Monday, March 23, 2020 9:59 AM

**To:** Boritz, Eli (NIH/NIAID) [E] (b) (6)>; Daucher, Marybeth (NIH/NIAID) [E]

(b) (6)>; Douek, Daniel (NIH/VRC) [E] (b) (6)>; Gall, Jason (NIH/VRC)

[C] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)>; Hirsch, Marie

(NIH/VRC) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E] (b) (6)>; Kwong,

Peter (NIH/VRC) [E] (b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E]

(b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; McDermott, Adrian

(NIH/VRC) [E] (b) (6)>; Mittelman, Abraham (NIH/VRC) [C]

(b) (6)>; Roederer, Mario (NIH/VRC) [E] (b) (6)>; Scorpio, Diana

(NIH/VRC) [E] (b) (6)>; Seder, Robert (NIH/VRC) [E] (b) (6)>

**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Chen, Grace (NIH/NIAID) [E]

(b) (6)>; Carlton, Kevin (NIH/VRC) [E] (b) (6)>; Daucher, Marybeth

(NIH/NIAID) [E] (b) (6)>; Harris, Christina (NIH/NIAID) [E]

(b) (6)

**Subject:** Coordination of COVID-19 response effort

All,

After discussions over the last few days it has become evident that the major focus of the VRC in the coming weeks and months will be our response to COVID-19 – vaccine, serosurvey, and evaluation of infected and convalescent volunteers. Limitations on lab utilization while maintaining physical distancing and assuring the safety of our personnel will greatly complicate this effort. Duplication of effort is not an option in this environment. As such, Kevin Carlton has agreed to take on the effort of leading the project management of the COVID response team. He will be collecting data from the various efforts and generating lists of tasks, personnel, space, and reagent needs. He will then let us know his thoughts on the best way to efficiently coordinate this important and herculean effort that lies before us. Paraphrasing something Barney said to some of us last night – This is something the VRC has got to get right.

Kevin – welcome aboard!

Rick

Richard A. Koup, MD  
Chief, Immunology Laboratory  
Deputy Director  
Vaccine Research Center, NIAID, NIH  
40 Convent Drive, MSC 3022  
Building 40, Room 3502  
Bethesda, MD 20892  
Tel: (b) (6)  
Fax: 301-480-2779  
(b) (6)

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 21 Apr 2020 13:42:56 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** RE: Reminder! Re: Admin Day April 22nd

Are you still wanting a note for this?

To Monique,

You are the glue that holds us together, the engine that keeps us running, and the fixer that solves all our problems. Enjoy your day and know that you are appreciated.

BG

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Sent:** Tuesday, April 21, 2020 9:06 AM  
**To:** Lederhofer, Julia (NIH/VRC) [F] (b) (6); Kanekiyo, Masaru (NIH/VRC) [E] (b) (6); Ruckwardt, Tracy (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); Gillespie, Rebecca (NIH/VRC) [E] (b) (6); Creanga, Adrian (NIH/VRC) [E] (b) (6); Boyoglu-Barnum, Seyhan (NIH/VRC) [E] (b) (6); Yap, Christina (NIH/VRC) [F] (b) (6); Chen, Man (NIH/VRC) [E] (b) (6); Nair, Deepika (NIH/VRC) [E] (b) (6); Dipiazza, Anthony (NIH/VRC) [F] (b) (6); Chintalacheruvu, Saavan (NIH/VRC) [F] (b) (6); Chang, Lauren (NIH/VRC) [F] (b) (6); Moin, Syed (NIH/VRC) [E] (b) (6); Fisher, Brian (NIH/VRC) [E] (b) (6); Phung, Emily (NIH/VRC) [F] (b) (6); Kumar, Azad (NIH/VRC) [E] (b) (6); Loomis, Rebecca (NIH/VRC) [E] (b) (6); Abiona, Olubukola (NIH/VRC) [F] (b) (6); Ziwawo, Cynthia (NIH/VRC) [F] (b) (6); Hutchinson, Geoffrey (NIH/VRC) [F] (b) (6); Krug, Peter (NIH/VRC) [C] (b) (6); Derrien-Colemyn, Alexandrine (NIH/VRC) [C] (b) (6); (b) (6)  
**Cc:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** Reminder! Re: Admin Day April 22nd

Reminder to send me money if you opt to put into the gift. I plan to make the purchase today.

- Cashapp: (b) (6)
- Venmo: (b) (6)
- Apple Pay: (b) (6)
- Google Pay & PayPal: (b) (6)

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**



Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal (b) (6)

Fax: (301) 480-2771

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**From:** "Lederhofer, Julia (NIH/VRC) [F]" <(b) (6)>

**Date:** Monday, April 20, 2020 at 10:23 AM

**To:** "Kanekiyo, Masaru (NIH/VRC) [E]" (b) (6)>, "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6)>, Kaitlyn Morabito (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6), "Gillespie, Rebecca (NIH/VRC) [E]" (b) (6), "Creanga, Adrian (NIH/VRC) [E]" (b) (6)>, "Boyoglu-Barnum, Seyhan (NIH/VRC) [E]" <(b) (6)>, "Yap, Christina (NIH/VRC) [F]" (b) (6), "Chen, Man (NIH/VRC) [E]" (b) (6)>, "Nair, Deepika (NIH/VRC) [E]" (b) (6)>, "Dipiazza, Anthony (NIH/VRC) [F]" (b) (6), "Chintalacheruvu, Saavan (NIH/VRC) [F]" (b) (6)>, "Chang, Lauren (NIH/VRC) [F]" (b) (6)>, "Moin, Syed (NIH/VRC) [E]" (b) (6)>, "Fisher, Brian (NIH/VRC) [E]" (b) (6)>, "Phung, Emily (NIH/VRC) [F]" (b) (6)>, "Kumar, Azad (NIH/VRC) [E]" (b) (6)>, "Loomis, Rebecca (NIH/VRC) [E]" (b) (6)>, "Abiona, Olubukola (NIH/VRC) [F]" (b) (6)>, "Ziwawo, Cynthia (NIH/VRC) [F]" (b) (6)>, "Hutchinson, Geoffrey (NIH/VRC) [F]" (b) (6)>, "Krug, Peter (NIH/VRC) [C]" <(b) (6)>, "Derrien-Colemyn, Alexandrine (NIH/VRC) [C]" <(b) (6)>

**Cc:** Barney Graham (b) (6)>, Kizzmekia Corbett <(b) (6)>

**Subject:** Admin Day April 22nd

Hi all,

Admin day is coming up this Wednesday!

We have to be a bit creative this year and cannot decorate their offices and buy them flowers etc. However, we still think it would be nice to send Monique and LaTanya a digital voucher for Starbucks or Target to show our appreciation.

If you want to contribute (voluntarily) please do this by the end of tomorrow (April 21<sup>st</sup>).

Here are the transfer details:

- Cashapp: (b) (6)
- Venmo: (b) (6)
- Apple Pay: (b) (6)
- Google Pay & PayPal: (b) (6)

If you have any questions please let us know.

Stay healthy,  
Kizzmekia and Julia

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 20 Apr 2020 16:15:40 +0000  
**To:** Stein, Judy (NIH/VRC) [C]  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** RE: SARS-CoV-2 pseudovirus protocol?

We got several cell lines in from Denis Burton, Mike Farzan, etc. I'm not sure which one is working best yet.

BG

---

**From:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Sent:** Monday, April 20, 2020 12:14 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Subject:** RE: SARS-CoV-2 pseudovirus protocol?

Hi Barney,  
Who are they from and were they provided under an agreement?  
Thanks,  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Monday, April 20, 2020 12:12 PM  
**To:** Lynch, Rebecca (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)  
**Subject:** RE: SARS-CoV-2 pseudovirus protocol?

The (b) (4) came from someone else, so there would need to be an additional permission, but we can supply most things.

Barney

---

**From:** Lynch, Rebecca <(b) (6)>  
**Sent:** Monday, April 20, 2020 11:25 AM  
**To:** Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)  
**Cc:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Subject:** Re: SARS-CoV-2 pseudovirus protocol?

Thank you as always for your help! It's so appreciated.

On Mon, Apr 20, 2020 at 10:56 AM Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)> wrote:



Good morning. We can share plasmids with the appropriate agreement. Judy Stein, **cc'ed here** can assist with that. Attaching the protocol for icing on the cake.

I trust that you guys are doing well. Say hello to (b) (6) for me.

--

**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**

**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

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**From:** "Lynch, Rebecca" (b) (6) >

**Date:** Monday, April 20, 2020 at 10:40 AM

**To:** Barney Graham (b) (6) >

**Cc:** Kizzmekia Corbett (b) (6) >

**Subject:** Re: SARS-CoV-2 pseudovirus protocol?

Hi Barney,

Thank you for all your help. I was wondering if it would be possible to obtain starting reagents from your lab such as (b) (4)

(b) (4) I realize you are very busy. We have applied for funding but currently do not have money to start analyzing responses, so I am just reaching out to see if it would be possible to get starting material under our MTA.

Thank you for your consideration and advice!

Best,

Rebecca

On Sun, Mar 29, 2020 at 11:45 AM Graham, Barney (NIH/VRC) [E] (b) (6) wrote:

Hi Rebecca,

In principal yes, but I will let Kizzy answer whether the (b) (4) is where you should put your effort. The (b) (4) would also be informative in the short run.

Barney

**From:** Lynch, Rebecca (b) (6) >

**Sent:** Sunday, March 29, 2020 11:43 AM

**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) >

**Subject:** SARS-CoV-2 pseudovirus protocol?

Hi Barney and Kizzi,

Congratulations on all the wonderful work you are doing!! It has been wonderful hearing you on news. I can't imagine how busy you are, but I'm emailing for a favor. As GW hospital has more cases, my lab is interested in studying (b) (4) I know that you published on the MERS pseudovirus neut assay, and I'm assuming that you have it working already for SARS-CoV-2. I was wondering if you are able to share your protocol? No worries if not!

Thank you for any advice,

Rebecca

--

Rebecca M. Lynch, PhD

Assistant Professor

Department of Microbiology, Immunology & Tropical Medicine, The George Washington University,  
Ross Hall 622, 2300 Eye Street, NW Washington, DC 20037

(b) (6)

email: (b) (6)

website: <http://smhs.gwu.edu/lynch-lab/>

--

Rebecca M. Lynch, PhD

Assistant Professor

Department of Microbiology, Immunology & Tropical Medicine, The George Washington University,  
Ross Hall 622, 2300 Eye Street, NW Washington, DC 20037

(b) (6)

email: (b) (6)

website: <http://smhs.gwu.edu/lynch-lab/>

--

Rebecca M. Lynch, PhD

Assistant Professor

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Ross Hall 622, 2300 Eye Street, NW Washington, DC 20037

(b) (6)

email: (b) (6)

website: <http://smhs.gwu.edu/lynch-lab/>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 14 Feb 2020 19:01:39 +0000  
**To:** Sailland, Juliette /FR/EXT; Sesay, Sanie /FR  
**Cc:** Maarif, Monia /FR; Young, Monique (NIH/VRC) [E]  
**Subject:** RE: Rescheduling of the RSV Elderly eSAB  
**Attachments:** Graham BioSketch for flu 2020.docx

I cannot be reimbursed for this or receive an honorarium so have not attached the form.

My other answers are inserted below.

Barney

---

**From:** Sailland, Juliette /FR/EXT (b) (6)  
**Sent:** Wednesday, February 12, 2020 5:48 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Sesay, Sanie /FR (b) (6) >  
**Cc:** Maarif, Monia /FR (b) (6) >  
**Subject:** RE: Rescheduling of the RSV Elderly eSAB

Dear professor Graham,

Thank you very much for your answer.

In the context of your participation to the "RSV elderly Advisory board"; we are in charge of the management of your agreement with Sanofi Pasteur, **we would like to draw your attention on the following steps which may require your kind collaboration.**

**1) Information:**

For the engagement, **we will need the following information:**

- Is this going to be : a personal agreement between yourself and Sanofi Pasteur OR an agreement between Sanofi Pasteur and your institution (in this case please then let us know whether you will sign on behalf of your institution or if there is an alternative contact for us)

**I will be doing this as an official government duty. Judy Stein manages the permission process for this.**

In case of personal agreement and in order to report on the form 1099-MISC the services fees Sanofi Pasteur will pay you in 2020, we would ask you to fill out the W-9 form, sign it and send it back to us by email ? You can find the W-9 form on IRS website [www.irs.gov/w9](http://www.irs.gov/w9).

- What is the address to be put in the agreement?



- Are you a registered healthcare professional? If yes, could you please provide us with your national identification number as an HCP?

I am a licensed physician but don't have a national ID number because I no longer write prescriptions.

- Are you a Member of an organization linked to the government or an official committee? If yes, please provide details.

I am Deputy Director of the Vaccine Research Center, NIAID, NIH. This is an intramural program and is not involved in awarding grants.

- Could you please send us a brief Bio Sketch in order to add to my request of your engagement.

Attached

## 2) Contract :

Once we get all the required information and documents we will be able to send you a contract.

➤ We will ask you **to confirm if you agree with the terms and conditions of this document and to sign it electronically.**

If Judy Stein agrees

## 3) Fees payment :

Regarding the payments of your honorarium, it shall be made by wire transfer on the bank account of which you are the direct beneficiary. This account shall be located in your country of residence.

**Payments will be made upon receipt of the original corresponding invoice(s)** according to the use of different currencies (you will find attached a proposed template) detailing the expenses incurred, to be sent by mail after completion of the Mission, together with all supporting documentation requested by Sanofi Pasteur, to the following address :

**Sanofi Pasteur**  
**Attn. : Corinne Mathon**  
**Global Medical Department**  
**14 espace Henry Vallée**  
**69007 Lyon**  
**FRANCE**  
**Phone : (b) (6)**

You will find hereafter a proposed template

Let me remind you that our accounting department requires 1 invoice / currency (EUROS or DOLLARS) and **doesn't accept handwritten invoices.**

If you have any doubts about your invoice, do not hesitate to send me the scan copy by email in order for me to validate it before you send it by post mail.

**I will not be receiving payment.**

Thank you in advance for your kind cooperation.

On behalf of the organization team

Juliette SAILLAND

---

**De :** Graham, Barney (NIH/VRC) [E] (b) (6)

**Envoyé :** mercredi 12 février 2020 10:24

**À :** Sesay, Sanie /FR <(b) (6)>

**Cc :** Sailland, Juliette /FR/EXT <(b) (6)>

**Objet :** [EXTERNAL] Re: Rescheduling of the RSV Elderly eSAB

**EXTERNAL :** Real sender is (b) (6)

I will be in town week of March 23rd and should be able to work out timing.

Barney

Sent from my iPhone

On Feb 12, 2020, at 9:45 AM, Sesay, Sanie /FR <(b) (6)> wrote:

Dear Dr. Graham,

Just a friendly reminder if you have received my e-mail about the rescheduling of the Sanofi Pasteur RSV Elderly eSAB.

Kind regards,

**Sanie Samuel Sogoyan SESAY**

Director Clinical Development

Tel.: (b) (6) Mobile: (b) (6)

Address : Bureau 316, Bâtiment X'Ouest, 1541 Avenue Marcel Mérieux, 69280 MARCY L'ETOILE, France.

---

**From:** Sesay, Sanie /FR  
**Sent:** Monday, 10 February 2020 09:21  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** Sailland, Juliette /FR/EXT (b) (6) >  
**Subject:** Rescheduling of the RSV Elderly eSAB

Dear Dr. Graham,

Due to recent news on the schedule of experts participating in the RSV elderly program's planned electronic advisory board (eSAB); some experts may not be available on the previously discussed dates. As a result, we have rescheduled the timing of the eSAB to ensure full participation.

We propose as new dates:

- Utilization of the **e-platform for Q&A from March 16<sup>th</sup> to 23<sup>rd</sup>**, and
- An **e-meeting** lasting 3 hours on either **March 23<sup>rd</sup>, 24<sup>th</sup>, or 25<sup>th</sup>** based on your availabilities

Please let us know if the 16<sup>th</sup> to the 23<sup>rd</sup> of March is suitable for your participation in the eSAB, and what your availabilities are for a 3-hour e-meeting on the 23<sup>rd</sup>, 24<sup>th</sup> or 25<sup>th</sup> of March?

As we are advancing on the organizational aspects of the meeting, we would like to receive your answer by February 11<sup>th</sup>. We would also like you to chair the e-meeting.

We hope you accept to be part of the panel, as your expertise is invaluable to our efforts in developing an RSV vaccine for the elderly.

Please do not hesitate to contact me or Juliette if you have any further questions.

Kind regards,

Sanie.

**Sanie Samuel Sogoyan SESAY, MBChB, MSc, DTM&H, DLSHTM, PhD.**

Director Clinical Development, Global Clinical Sciences

Tel.: (b) (6) Mobile: (b) (6)

Address : SANOFI PASTEUR, CAMPUS MERIEUX – 1541, AVENUE MARCEL MERIEUX – 69280 MARCY L'ETOILE – France.

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[<image001.jpg>](#)

[<image005.png>](#)

[<image004.png>](#)

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\*\*\*\*\*

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\*\*\*\*\*

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 17 Mar 2020 21:05:16 +0000  
**To:** McCurdy, Lewis  
**Subject:** Re: Question

Hi Lewis,

Nice to hear from you. Our vaccine trial using mRNA to express the stabilized spike started yesterday in Seattle. Busy times.

I would read the old Caroline Hall paper on nosocomial RSV. They showed you needed gloves, mask, and eye shield to stop spread. Without all three spread continued. I suspect the same is needed here.

The N95 only filters 95% so surgical masks probably in the 70% range. Better for protecting the patient than you.

Barney

Sent from my iPhone

On Mar 17, 2020, at 4:04 PM, McCurdy, Lewis (b) (6) wrote:

Hello Dr. Graham, hope you're doing well. I've been following your work on the coronavirus. Sounds like you guys are making great progress on structural work. Wanted to ask a couple quick questions to get your opinion. What are your thoughts on the droplet versus airborne precautions. As I'm sure you're aware there is national shortage of N95 masks. Any advice on surgical mask versus N95.

Thanks and take care

Lewis

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 16 Mar 2020 21:33:25 +0000  
**To:** Sarah Jackson; Joel Blankson  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** RE: Could you write a viewpoint article for JCI?

We will see what happens in the next few days then propose a timeline.

Barney

---

**From:** Sarah Jackson <editors@the-jci.org>  
**Sent:** Monday, March 16, 2020 5:16 PM  
**To:** Joel Blankson (b) (6); Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** Re: Could you write a viewpoint article for JCI?

That's fantastic news! Many thanks to you and Dr. Corbett.

We do have some leeway on the length and references if need be. I'm attaching formatting instructions here. The article may also include 1 display item (table or figure), and we have a professional illustrator on staff who can assist with a publication worthy figure, if desired.

Once you are ready to submit, you can simply email a Word document version of your text directly to me. I realize how incredibly busy you must be at this time -- what kind of time frame do you think would be reasonable to submit? Of course the topic is very timely, but we can be flexible. Would April 6th work for you?

Thanks,  
Sarah

On 3/16/20 5:08 PM, Joel Blankson wrote:

Thanks Barney and Kizzmekia!

We truly appreciate it.

Dr. Sarah Jackson will have all the details.

Best,

Joel

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Monday, March 16, 2020 5:05:24 PM

**To:** Joel Blankson  
**Cc:** 'Sarah Jackson'; Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** RE: Could you write a viewpoint article for JCI?

Hi Joel,

I've been trying to isolate myself to write something about vaccine development and vaccine-enhanced disease concepts. It might end up a little over 1500 words, but it needs to be done and after 35 years in RSV vaccine-enhanced disease and being immersed in Zika and flavivirus biology for the last few years, I guess I am the one to do it.

The rhetoric over (not the risk of) vaccine-enhanced disease is probably the greatest threat to vaccine development. Fortunately, our COVID-19 trial expressing the stabilized SARS-2 spike trimer by mRNA started today in Seattle, so we were not blocked.

I was going to send this elsewhere, but for you, I will send it to JCI. Dr. Kizzmekia Corbett will be my co-author.

Best wishes,

Barney

---

**From:** Joel Blankson (b) (6)  
**Sent:** Monday, March 16, 2020 4:24 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** 'Sarah Jackson' <[sarah.jackson@the-jci.org](mailto:sarah.jackson@the-jci.org)>  
**Subject:** Could you write a viewpoint article for JCI?  
**Importance:** High

Hi Barney!  
Congrats on the recent Science paper. I'm sure you're very busy but we were hoping you could write a quick viewpoint article on any aspect of COVID-19.  
The pieces are intended to be focused in nature, and should be ~1500 words, no more than 20 references.  
Please let us know if you can find time to do this.  
Thanks!  
Joel

--  
Sarah Jackson, PhD  
Executive Editor  
The Journal of Clinical Investigation  
[www.jci.org](http://www.jci.org)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 30 Jan 2020 05:23:59 +0000  
**To:** Kening Li  
**Cc:** Mascola, John (NIH/VRC) [E]; Gall, Jason (NIH/VRC) [C]; Ledgerwood, Julie (NIH/NIAID) [E]; Bok, Karin (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Marston, Hilary (NIH/NIAID) [E]; Stein, Judy (NIH/VRC) [C]; Young, Monique (NIH/VRC) [E]  
**Subject:** Re: Urgent request for assistance-- (b) (4) cell lines available at the NIAID

We will hopefully be (b) (4). We will know more on Feb 3rd. It will be several more weeks until we can obtain (b) (4)

Barney

Sent from my iPhone

On Jan 29, 2020, at 11:51 PM, Kening Li (b) (6) wrote:

Dear Dr. Graham,

I just realized that you asked me to re-connect with you "next week" but that was last Saturday. In my eagerness to get help, I am interpreting it to be this week. Please let me know if you can give me an update on the (b) (4)

Many thanks and best regards,

Kening

---

**From:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Sent:** Sunday, January 26, 2020 5:59 AM  
**To:** Kening Li (b) (6)  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Marston, Hilary (NIH/NIAID) [E] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6); Young, Monique (NIH/VRC) [E] (b) (6)  
**Subject:** RE: Urgent request for assistance-- (b) (4) cell lines available at the NIAID



I've copied Judy Stein here who manages Tech Transfer for the VRC and she can initiate the CDA. If we find anything (b) (4), we could arrange a call to discuss further options.

Barney

---

**From:** Kening Li (b) (6) >  
**Sent:** Saturday, January 25, 2020 4:53 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C]  
(b) (6) Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) Bok, Karin (NIH/VRC) [E] (b) (6) >; Morabito, Kaitlyn (NIH/VRC) [E]  
(b) (6) Corbett, Kizzmekia (NIH/VRC) [E] < (b) (6) >;  
Marston, Hilary (NIH/NIAID) [E] (b) (6) >  
**Subject:** RE: Urgent request for assistance-- (b) (4) cell lines available at the NIAID

Dear Dr. Graham,

Thanks a lot for your quick response!

(b) (4)  
(b) (4) so as to enter into commercial production quickly due to the crisis situation here in China. Nevertheless, please do keep me updated as to your progress, and let me know what we can do in any way to help.

If you think a CDA or a CRADA is needed, or both, please let me know and I can get them prepared and send it to you for handling.

Many thanks again and I look forward to our likely collaboration.

Best regards,

Kening

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Sunday, January 26, 2020 3:10 AM  
**To:** Kening Li (b) (6)  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6) >; Gall, Jason (NIH/VRC) [C]  
(b) (6) Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) >; Bok, Karin (NIH/VRC) [E] (b) (6) Morabito, Kaitlyn (NIH/VRC) [E]  
(b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6);  
Marston, Hilary (NIH/NIAID) [E] (b) (6) >  
**Subject:** RE: Urgent request for assistance-- (b) (4) cell lines available at the NIAID

Dr. Li,



Thank you for your email and thank you to Genscript for helping with our gene synthesis efforts, especially during the last 2 weeks.

It looks like the [REDACTED] (b) (4)  
[REDACTED] (b) (4)

We have isolated a new [REDACTED] (b) (4)  
[REDACTED] (b) (4)

I can give you an update about this next week if you email me again. We are progressing as fast as we can.

Best wishes,

Barney

---

**From:** Kening Li [REDACTED] (b) (6) >  
**Sent:** Saturday, January 25, 2020 11:48 AM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Subject:** Urgent request for assistance-- [REDACTED] (b) (4) cell lines available at the NIAID  
**Importance:** High

Dear Dr. Graham,

Please allow me to introduce myself: my name is Kening Li, of GenScript Corp., and Nanjing Legend (a wholly owned subsidiary of GenScript). I live in [REDACTED] (b) (6), though I am currently in China. (As you may or may not know, GenScript is a research reagents supplier (including antibody contract manufacturing services) and Nanjing Legend has a pipeline of CAR-T products, of which the BCMA-based MM treating CAR-T is undergoing Phase II trial in the U.S.)

I am sure that you have heard of the nCov outbreak in China. We are aware of some work around 2007 by some NIAID researchers (see the two attached articles). We believe that some of the [REDACTED] (b) (4)  
[REDACTED] (b) (4)

Specifically, [REDACTED] (b) (4)  
[REDACTED] (b) (4)

We are interested in other strategic partnership relationships should the situation warrants it, for example, having some of [REDACTED] (b) (4) for further research. We are highly experienced in bringing biologics from lab to clinics in China, and our founder is originally from

Wuhan, where this new virus originated. He has both the desire and will, and all resources (including financial, clinical and political) to make the (b) (4) a success.

We would very much appreciate your help in halting a likely worldwide epidemiological disaster!

Please let me if you are interested, and how you suggest we should proceed. Please call me at (b) (6) at your earliest convenience.

Thanks a lot,

Kening Li, J.D., Ph. D  
General Counsel and Vice President, Corporate Development  
GenScript Corporation  
860 Centennial Ave  
Piscataway, NJ 08854, USA

Tel: + (b) (6)

Email (b) (6)

Web: [www.genscript.com](http://www.genscript.com)

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 31 Mar 2020 14:11:08 +0000  
**To:** William Dowling  
**Subject:** Accepted: WHO Consultation on SARS-CoV -2 Reagents, Cross reactivity and immune Assays - Wed 3 PM CET

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 25 Feb 2020 15:02:58 +0000  
**To:** Mascola, John (NIH/VRC) [E]  
**Cc:** Folkers, Greg (NIH/NIAID) [E]; Ledgerwood, Julie (NIH/NIAID) [E]; Sitar, Sandra (NIH/VRC) [C]; Morabito, Kaitlyn (NIH/VRC) [E]  
**Subject:** Re: Barney, John tick-tock slide for Tony COVID-2019  
**Attachments:** image001.jpg, image003.jpg, image004.jpg, image005.jpg

Also, the trial has evolved to be n=45 a little larger than what Tony was told initially.

BG

Sent from my iPhone

On Feb 25, 2020, at 9:58 AM, Mascola, John (NIH/VRC) [E] (b) (6) wrote:

And if we start in March, Tony can say that we beat the WSJ projection !

---

**From:** Folkers, Greg (NIH/NIAID) [E] (b) (6)  
**Sent:** Tuesday, February 25, 2020 9:32 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Sitar, Sandra (NIH/VRC) [C] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)  
**Subject:** RE: Barney, John tick-tock slide for Tony COVID-2019

Thanks, very much

We are starting to make some storytelling slides eg

<image001.jpg>

<image003.jpg>

<image004.jpg>

Question:  
Did WSJ get this one right yesterday?

<image005.jpg>

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Tuesday, February 25, 2020 9:24 AM  
**To:** Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)  
**Cc:** Folkers, Greg (NIH/NIAID) [E] (b) (6)>; Mascola, John (NIH/VRC) [E]  
(b) (6)>; Sitar, Sandra (NIH/VRC) [C] (b) (6); Morabito, Kaitlyn  
(NIH/VRC) [E] (b) (6)>  
**Subject:** Re: Barney, John tick-tock slide for Tony COVID-2019

Kaitlyn and I are editing the timeline and will ask Julie and team to review before sending.

BG

Sent from my iPhone

On Feb 25, 2020, at 9:01 AM, Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)> wrote:

Hi Greg

Just checking to be sure you have what you need for this. Sandra can assist with gathering needed info or slide prep if helpful.

Best,  
Julie

---

**From:** Folkers, Greg (NIH/NIAID) [E] (b) (6)  
**Sent:** Sunday, February 23, 2020 8:15 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>; Mascola, John (NIH/VRC) [E]  
(b) (6)  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: Barney, John tick-tock slide for Tony COVID-2019

Barney, thanks  
Will be sure to underscore the collaborative/ecumenical nature of this

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Sunday, February 23, 2020 7:06 PM

**To:** Mascola, John (NIH/VRC) [E] <(b) (6)>

**Cc:** Folkers, Greg (NIH/NIAID) [E] <(b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E]  
(b) (6)>

**Subject:** Re: Barney, John tick-tock slide for Tony COVID-2019

Hi Greg. We have the outline of a slide and have been thinking about how to show this. Will work with Kaitlyn. Notably, VRC did not do this one by ourselves. Many groups were involved which required a lot of coordination.

Barney

Sent from my iPhone

On Feb 23, 2020, at 5:29 PM, Mascola, John (NIH/VRC) [E] (b) (6)> wrote:

Barney has been tracking this – so will let him respond. Julie also copied.  
Of note, DMID holding IND and will do phase 1 – so this is inter divisional NIAID.

Currently, I don't know of a slide – but we could ask our clinical group to make one – as we have before.

Best,  
John

---

**From:** Folkers, Greg (NIH/NIAID) [E] (b) (6)>

**Sent:** Sunday, February 23, 2020 5:18 PM

**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>; Mascola, John (NIH/VRC) [E]  
(b) (6)>

**Cc:** Folkers, Greg (NIH/NIAID) [E] (b) (6)

**Subject:** Barney, John tick-tock slide for Tony COVID-2019

Barney, John

We want to make a timeline slide showing how fast we (you) have moved on COVID-2019

Do you have a timeline (text or slide) that I could use to flesh out/improve on what I have below

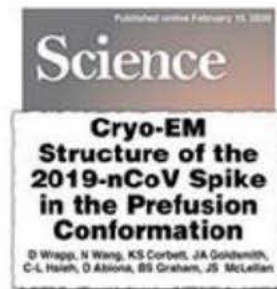
- 12-31-2019 WHO alerted of cluster of pneumonia cases in Wuhan, China
- 1-9-2020 WHO announces that outbreak in Wuhan caused by a novel coronavirus (now called SARS-CoV-2)
- 1-10-2020 Chinese release first genome of SARS-CoV-2



- 1-28-2020 VRC: Stabilized spike protein designed and samples produced
- 2-10-2020 VRC: 3D molecular structure of spike protein reconstructed; manuscript submitted to *Science*
- 2-17-2020 VRC: Manuscript accepted by *Science*
- 2-19-2020 VRC: Paper published online by *Science*
- 2-21-2020 VRC: IND for mRNA vaccine submitted

Thanks as ever for your help

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Atomic-level structure of SARS-CoV-2 spike protein. Receptor binding domain is colored green.



#### NIAID's New Infectious Diseases Clinical Research Consortium (IDCRC)

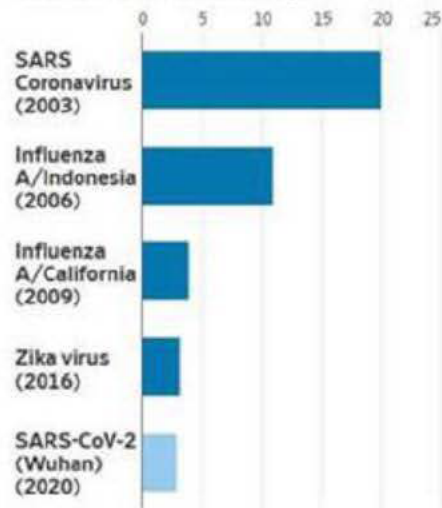


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### Faster Vaccines

Researchers are using new technologies to accelerate vaccine development after infectious diseases emerge.

**Months from viral genetic-sequence selection to first human study**



Note: Timeline for Wuhan virus vaccine is projected  
Timelines for first four vaccines published in JAMA in 2018.

Source: National Institute of Allergy and Infectious Diseases

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 7 Feb 2020 20:02:34 +0000  
**To:** Abeer Alshukairi  
**Cc:** Stanley Perlman; Wang, Lingshu (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]  
**Subject:** RE: Research update  
**Attachments:** 7Feb20 [REDACTED] (b) (4).pptx

Dear Dr. Alshukairi,

I am attaching data from the [REDACTED] (b) (4) are still being processed. We've tried to point out the most important findings on the last slide and mention next steps. Dr. Perlman may have additional interpretations.

If you need another type of written report, please let me know.

Best wishes,

Barney

**From:** Abeer Alshukairi <[REDACTED] (b) (6)>  
**Sent:** Wednesday, February 5, 2020 10:32 PM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>  
**Subject:** Research update

Dear Professor Barney.

I hope all is well with you.

I need to submit the research progress of our collaborative [REDACTED] (b) (4) project to our IRB within one week.

What is the update about our work?

I understand that you are extremely busy with several research projects regarding the new coronavirus.

What do you think is the expected time to complete our collaborative project?

Thank you for your care.

I wish you all the best in your research of the novel coronavirus.

Regards.

Abeer

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 15 Jan 2020 15:00:04 +0000  
**To:** Gall, Jason (NIH/VRC) [C]  
**Cc:** Morabito, Kaitlyn (NIH/VRC) [E]  
**Subject:** CoV Goals Objectives.pptx  
**Attachments:** CoV Goals Objectives.pptx

Preliminary goals.

BG

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 23 Jan 2020 23:55:59 +0000  
**To:** (b) (6)  
**Subject:** RE: (b) (6) - Prospective Postbac IRTA

Hi (b) (6)

Thank you for your email and sorry for my late reply. Unfortunately the lab is very crowded at the moment and we are not looking to fill new IRTA positions. This could change by end of summer, so if you are still looking please feel free to reconnect.

Best wishes,

Barney Graham

\*\*\*\*\*

Barney S. Graham, MD, PhD  
Senior Investigator  
Deputy Director, Vaccine Research Center  
Chief, Viral Pathogenesis Laboratory  
Vaccine Research Center, NIAID, NIH  
40 Convent Drive, MSC 3017  
Bldg 40, Room 2502  
Bethesda, MD 20892-3017  
Phone: (b) (6)  
URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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**From:** (b) (6)  
**Sent:** Tuesday, January 21, 2020 10:06 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** Re: (b) (6) - Prospective Postbac IRTA

Good morning Dr. Graham,

I hope you had a great weekend. I am following up on my previous email to express my continued interest in your laboratory as a postbac fellow in the near future.

Thank you for your time. I look forward to hearing from you soon.

Best, (b) (6)

(b) (6)

---

**From:** (b) (6)  
**Sent:** Tuesday, January 14, 2020 5:12 AM  
**To:** (b) (6)  
**Subject:** (b) (6) - Prospective Postbac IRTA

Dear Dr. Graham,

My name is (b) (6) and I received my Bachelor of Science in biology from (b) (6). As I look for new opportunities to expand my capabilities, I have realized that I am most interested in cellular and molecular biomedical research with clinical applications and hope to find laboratories that support these interests.

I am emailing you to express my interest in a one or two-year position as part of the Postbaccalaureate IRTA Fellowship Program.

While studying at (b) (6), I worked in a multifaceted cancer research lab that investigates the pathways involved in squamous cell carcinoma and multiple myeloma. Specifically, I co-lead an experiment that (b) (6)

After publication, I hope to expand upon my research experiences by engaging in biomedical research at the NIH. Therefore, I was very excited to learn about your research, which aims to better understand the basic principles of viral pathogenesis and apply that knowledge to the development of a more efficient coronavirus vaccine.

While I do not have much experience working with pathogenic viruses, I am very interested in working with pathogenic microorganisms and wish to pursue research in this field. I am



confident that I can be of help in your experiments with my knowledge of protein and RNA analysis.

I would be grateful to receive the opportunity of being a Postbac IRTA fellow in your laboratory and contribute to your research. I am interested in discussing your laboratory's work and have attached my resume, which describes my previous research and work experience in more detail. You are welcome to reach out to any of my references as they all know I am applying for positions at this time.

I am available to further discuss this opportunity and I look forward to hearing back from you soon.

Sincerely,

(b) (6)

A large rectangular area of the document is redacted with a solid gray fill, covering the signature and any contact information that might have been present.

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 18 Apr 2020 11:54:45 +0000  
**To:** a.farrell@us.nature.com  
**Subject:** RE: Request to review (b) (6) from Nature Medicine (Alison Farrell)

Hi Alison,

I would like to help with this, but am totally swamped with CoV work on the vaccine program. My close associate Dr. Masaru Kanekiyo is an expert on HA stem-based immunity and vaccine design, would likely have time to do this, and would provide erudite comments. His email is: (b) (6) if you would like to try him.

Take care,

Barney

---

**From:** a.farrell@us.nature.com <a.farrell@us.nature.com>  
**Sent:** Thursday, April 16, 2020 3:20 PM  
**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Subject:** Request to review (b) (6) from Nature Medicine (Alison Farrell)

16th Apr 2020

Our ref: (b) (6)

Dear Barney,

We have received two cosubmitted articles: (b) (6)  
(b) (6)

(b) (6). We were hoping you would review the 2 manuscripts and advise us as to their likely importance to the biomedical research community. I have attached a full author list and the abstract for each manuscript below.

(b) (6)

(b) (6)



AND

(b) (6)



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(b) (6)



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We will be in touch again as soon as we have received comments from our referees. In the meantime - the status of your manuscript can be followed in the manuscript tracking system.

Thank you again for your consideration.

Sincerely,

Alison

Alison Farrell, Ph.D.  
Senior Editor  
Nature Medicine

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---

Authors:

(b) (6)



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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 13 Mar 2020 21:52:41 +0000  
**To:** April Killikelly  
**Subject:** Re: Nice to hear you on the CEPI Call

Hi April,

Nice to hear from you and to know where you are. You are well primed to interpret the enhanced illness syndrome.

Thanks for writing and take care. You are right about the level of busyness but it will hopefully only be for a few more weeks (or months).

Barney

Sent from my iPhone

> On Mar 13, 2020, at 5:29 PM, April Killikelly (b) (6) wrote:  
>  
>  
> Hi Barney,  
>  
> I know you are probably crazy busy right now so no need to reply. I wanted to let you know how nice it was to hear your thoughts and what the VPL/VRC has been up to on SARS-CoV-2. I am very surprised to hear how much FI-RSV dovetails with SARS-CoV-2, so hearing your opinions on subunit vaccines and the questions that need to be answered for the transition from Phase 1 to Phase 2 was really helpful.  
>  
> I was on the call in my capacity at the Public Health Agency of Canada looking at the vaccine product landscape and trying to think about leveraging Canadian research capacity for clinical trials and other R&D.  
>  
> I've been thrilled to see the lab/research/platform getting great attention (fantastic shout-out in NYT!). I can imagine it must be very satisfying to see this proof-of-concept come to fruition after the preparation that you must have been doing for decades.  
>  
> That being said, I'm sure it is also putting a lot of pressure and stress on you, the lab and your family. I hope you all are well and taking the time and space to look after yourself- I'm not just talking about social distancing!  
>  
> It was great to hear your voice and I hope our paths cross again soon.  
>  
> Cheers,  
> -April

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 21 Jan 2020 18:40:34 +0000  
**To:** Bok, Karin (NIH/VRC) [E]  
**Cc:** Marston, Hilary (NIH/NIAID) [E]; Hiatt, Nissa (NIH/VRC) [C]; Daucher, Marybeth (NIH/NIAID) [E]; Harris, Christina (NIH/NIAID) [E]  
**Subject:** Re: Coronavirus vaccine

I think it would be fair to say that NIAID is activating its extensive network of intramural and extramural scientists and coordinating with other government and international agencies and industry partners to understand and respond to the outbreak.

BG

Sent from my iPhone

On Jan 21, 2020, at 12:18 PM, Bok, Karin (NIH/VRC) [E] (b) (6) > wrote:

Hilary,  
I think the response Jennifer proposes is accurate.

(b) (5)

Copying Barney in case he has a more current update from this weekend.  
Karin.

Karin Bok, MS, PhD  
Vaccine Research Center

On Jan 21, 2020, at 12:11 PM, Marston, Hilary (NIH/NIAID) [E] <(b) (6)> wrote:

Please see below. Anything we can say publicly?

---

**From:** Stover, Kathy (NIH/NIAID) [E] (b) (6) >  
**Sent:** Tuesday, January 21, 2020 12:08 PM  
**To:** Marston, Hilary (NIH/NIAID) [E] (b) (6) >  
**Cc:** Routh, Jennifer (NIH/NIAID) [E] (b) (6)  
**Subject:** FW: Coronavirus vaccine  
**Importance:** High

Hi Hilary,

Would a fair response to this question be: (b) (5)

---

**From:** Tirrell, Meg (NBCUniversal) <[Meg.Tirrell@nbcuni.com](mailto:Meg.Tirrell@nbcuni.com)>

**Sent:** Tuesday, January 21, 2020 11:40 AM

**To:** Billet, Courtney (NIH/NIAID) [E] (b) (6); Stover, Kathy (NIH/NIAID) [E]  
(b) (6)

**Cc:** Taylor, Harriet (NBCUniversal) (b) (6)

**Subject:** Coronavirus vaccine

Hi Courtney and Kathy,

We're covering the new coronavirus story today, and saw that NIH is in the early stages of working on a vaccine for it. Is there any additional information you can share, including whether NIAID is working with an industry partner?

Thanks so much,  
Meg

-----  
Meg Tirrell  
Biotech & Pharma Reporter, CNBC  
(201) 735-3113 (o)  
(b) (6) (m)  
[meg.tirrell@nbcuni.com](mailto:meg.tirrell@nbcuni.com)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 24 Mar 2020 18:37:49 +0000  
**To:** Morabito, Kaitlyn (NIH/VRC) [E]  
**Cc:** McDermott, Adrian (NIH/VRC) [E]; Andrews, Charla (NIH/NIAID) [C]; Flach, Britta (NIH/VRC) [C]; Amoa-Awua, Obrimpong (NIH/NIAID) [C]; Koup, Richard (NIH/VRC) [E]; Carlton, Kevin (NIH/VRC) [E]; Ledgerwood, Julie (NIH/NIAID) [E]; Lin, Bob (NIH/VRC) [C]; Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: Data Transfer for mRNA-1273 trial

I'm counting on Kevin to organize that call.

Barney

Sent from my iPhone

On Mar 24, 2020, at 2:36 PM, Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) > wrote:

Hi Adrian,

Please keep Kizzmekia on all Coronavirus emails, as she is the coronavirus scientific lead. I think it would be good to have Kizzmekia QC the data, as Tracy did with the RSV Neutralization assay, before finalizing the data.

There is a plan for data sharing to ensure that all parties (DMID, Moderna, and VRC) are notified about the same time about the data. It would probably be good to have a call to discuss the data pipeline with all involved.

Kaitlyn

---

**From:** Adrian McDermott <(b) (6)>  
**Date:** Tuesday, March 24, 2020 at 2:27 PM  
**To:** "Andrews, Charla (NIH/NIAID) [C]" (b) (6) >  
**Cc:** Britta Flach (b) (6) >, "Amoa-Awua, Obrimpong (NIH/NIAID) [C]" (b) (6), Richard A Koup (b) (6), "Carlton, Kevin (NIH/VRC) [E]" (b) (6) >, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), Julie Ledgerwood (b) (6), "Lin, Bob (NIH/VRC) [C]" (b) (6)  
**Subject:** Data Transfer for mRNA-1273 trial

Hi Charla,

I hear that you are dovetailing with Kaitlyn with regards communication surrounding the mRNA-1273 trial, and sent a note to Britta. In order to alleviate some of the workload of Barney's team and to ensure that future trials (including the expansion of ph1 into ph2) would be precise, consistent the

(b) (4)

In the regard of 'clinical trial data' – we would routinely make this data available to VRC and other investigators directly via Prism and Excel – in this instance with the investigators being at DMID, I presume it would be appropriate to send to Barney (his CoV team), John and Julie? Any other parties that need to be notified either through EMMES or via DMID?

Just trying to get an idea of the amount of data sharing we can ethically do within the trial?

Thanks

Adrian

*Adrian B McDermott. Ph.D.  
Chief, Vaccine Immunology Program  
Vaccine Research Center, NIAID, NIH  
40 Convent Dr., Room 3508  
Bethesda, MD 20892-3015  
Phone (office): (b) (6)  
Phone (Cell): (b) (6)*

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sun, 15 Mar 2020 18:31:36 +0000  
**To:** Mascola, John (NIH/VRC) [E]  
**Cc:** Gall, Jason (NIH/VRC) [C]; Seder, Robert (NIH/VRC) [E]; Ledgerwood, Julie (NIH/NIAID) [E]; Koup, Richard (NIH/VRC) [E]  
**Subject:** Re: (b) (4) from Dynavax

Agree. This is a group who with just a little information could do this on their own.

BG

Sent from my iPhone

On Mar 15, 2020, at 2:03 PM, Mascola, John (NIH/VRC) [E] <(b) (6)> wrote:

Just to VRC Group.

Jason, Barney – from my perspective, we want to be enabling for companies, without cutting into key bandwidth. (b) (4) a call with them might be useful in both directions.

I've also copied Bob here for his thoughts on (b) (4) – and he could join a call if available.

Action item: If Janson and Barney agree – Jason to schedule call.

Thanks,

John

---

**From:** Robert Coffman (b) (6) >  
**Sent:** Sunday, March 15, 2020 1:25 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C] (b) (6) >; David Novack (b) (6); Rob Janssen (b) (6)



(b) (6) >  
**Subject:** RE: (b) (4) from Dynavax

Dear Barney,

Thanks for the encouraging reply. No apologies needed – I cannot imagine what your in-box looks like these days! Our thinking has evolved in the past week, so let me summarize briefly

(b) (4)

We would very grateful for an opportunity to discuss our plans with you and/or your colleagues if your schedule permits. What would be particularly helpful is if we could talk in the next few days with someone in your group concerning the (b) (4).  
This could be very helpful (b) (4).

Thank you again for your interest and your quick response,

Bob Coffman

*Robert L. Coffman*

*Consultant to Dynavax Technologies*

*Phone:* (b) (6)

*Email:* (b) (6)

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Sunday, March 15, 2020 8:49 AM  
**To:** Robert Coffman <(b) (6)>  
**Cc:** Mascola, John (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C]

(b) (6) >

**Subject:** RE: (b) (4) from Dynavax

Hi Bob,

Sorry for this delayed response. I agree that

(b) (4)

(b) (4)

Let us know if you would like to discuss in more detail. I've copied John Mascola our director and Jason Gall head of strategic planning and process development.

Best wishes,

Barney

---

**From:** Robert Coffman <(b) (6) >

**Sent:** Saturday, March 7, 2020 7:59 PM

**To:** Graham, Barney (NIH/VRC) [E] (b) (6) >

**Subject:** (b) (4) from Dynavax

Dear Barney,

I know you are likely swamped with inquiries about development of vaccines to prevent COVID-19, but I hope this offer will be of interest to you and your VRC colleagues. I am writing on behalf of Dynavax

Technologies to (b) (4)

(b) (4)

(b) (4)

Best regards,

Bob Coffman

Robert L. Coffman

Consultant to Dynavax Technologies

Phone: (b) (6)

Email: (b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sun, 5 Apr 2020 16:26:45 +0000  
**To:** Andrea Carfi  
**Subject:** Re: Few question

No problem Andrea. There is a lot of pressure on everyone. I just don't want any data leaving the lab without me fully vetting and approving. Hopefully by the end of this week we will be in a much better position. (b) (6)  
(b) (6) put us behind and a little on edge.

Barney

Sent from my iPhone

On Apr 5, 2020, at 11:56 AM, Andrea Carfi <(b) (6)> wrote:

Thank you and sorry if we are putting to much pressure on Kizzy or anyone else.  
Best,  
Andrea

On Apr 5, 2020, at 10:48 AM, Graham, Barney (NIH/VRC) [E] (b) (6)> wrote:

Thanks Andrea. We will get (b) (4)  
(b) (4) We will be communicating with UNC early in the week.  
Barney

Sent from my iPhone

On Apr 5, 2020, at 7:33 AM, Andrea Carfi <(b) (6)> wrote:

Thanks you Kizzy. Helpful to know that (b) (4) will be on Monday. Can you also confirm if we will get (b) (4) Tuesday or when you think that may happen?  
Let me also clarify that (b) (4)  
(b) (4)

(b) (4)

Thanks,  
Andrea

On Apr 5, 2020, at 2:29 AM, Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)> wrote:

Andrea, these types of calls can not be made without (b) (4) which is coming tomorrow. Dr. Graham and I will make sure you have the data expeditiously.

Thank you.

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

---

**From:** "Andrea Carfi" (b) (6)

**Date:** Friday, April 3, 2020 at 6:42:39 AM

**To:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>

**Cc:** "Graham, Barney (NIH/VRC) [E]" (b) (6), "Abiona, Olubukola (NIH/VRC) [F]" <(b) (6)>, "Chang, Lauren (NIH/VRC) [F]"

(b) (6) "Wang, Lingshu (NIH/VRC) [E]" (b) (6)>, "Zhang, Yi (NIH/NIAID) [C]" (b) (6)>

**Subject:** Re: Few questions

Hi Kizzy,

We have a meeting today to discuss the (b) (4)

(b) (4)

Best,  
Andrea

> On Apr 2, 2020, at 7:38 PM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)> wrote:

>

> Hi Andrea,

> Please see my replies below:

>

> --

> Kizzmekia S. Corbett, PhD

> Senior Research Fellow | Scientific Lead

> Coronavirus Vaccines & Immunopathogenesis (coVip) Team  
> Viral Pathogenesis Laboratory | Vaccine Research Center  
> National Institutes of Allergy and Infectious Diseases  
> National Institutes of Health

>  
> Building 40 Room 2608  
> 40 Convent Drive  
> Bethesda MD 20892  
> Laboratory: (b) (6)  
> Personal: (b) (6)  
> Fax: (301) 480-2771

>  
>  
> On 4/2/20, 5:58 PM, "Andrea Carfi" (b) (6) wrote:

>  
> Hi Kizzy,  
> Just to help me to put things in perspective ones wondering when (and if) we could expect:  
> 1) (b) (4) - this is happening tomorrow or Tuesday, I have to check more specifically  
> 2) (b) (4) (I think it runs Friday) completed today, data should be in my inbox or  
review shortly.  
> 3) (b) (4) - these have not been put in the queue yet,  
> 4) (b) (4) will share shortly, if not tonight... tomorrow.  
> 5) (b) (4) (delay in secondary  
arrival)

>  
> Thank you,  
> Andrea

>  
>  
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>



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 5 Feb 2020 02:57:17 +0000  
**To:** Stein, Judy (NIH/VRC) [C]  
**Subject:** Re: E-introduction to nCoV (b) (4)

I don't think so. The comments I'm making should be considered public at this point.

BG

Sent from my iPhone

On Feb 4, 2020, at 9:35 PM, Stein, Judy (NIH/VRC) [C] (b) (6) wrote:

Hi Barney,  
Do you need a CDA for this call?  
Thanks,  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Sent:** Tuesday, February 4, 2020 8:27 PM  
**To:** J. Christopher Love (b) (6)  
**Cc:** Lynda, Stuart (b) (6); Harry Kleanthous  
(b) (6) David Vaughn (b) (6); Peter  
Dull <(b) (6)>; Holger Kanzler <(b) (6)>;  
(b) (6) Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia  
(NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); Stein, Judy  
(NIH/VRC) [C] <(b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6); Mascola, John  
(NIH/VRC) [E] (b) (6); Young, Monique (NIH/VRC) [E] (b) (6)  
**Subject:** Re: E-introduction to nCoV (b) (4)

I've copied Monique Young here and she can help find a time for a call.

Barney

Sent from my iPhone

On Feb 4, 2020, at 8:04 PM, J. Christopher Love (b) (6) wrote:

Hi Barney,

Thanks for your thoughtful response. And please do say hello to Mario—it has been a while since we have had a chance to cross paths. We are still doing work in the single-cell area with Alex Shalek, in addition to our recent work on (b) (4)

I read through the PNAS paper Lynda sent, and it is a fantastic study. Certainly these structures are complex as you point out. They will present interesting manufacturing challenge (b) (4)  
(b) (4)

(b) (4)

A phone call as Lynda suggested sounds like a good next step.

Best,  
Chris

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Tuesday, February 4, 2020 5:48 PM  
**To:** J. Christopher Love (b) (6); Lynda, Stuart (b) (6)>  
**Cc:** Harry Kleanthous (b) (6)>; David Vaughn (b) (6); Peter Dull (b) (6)>; Holger Kanzler (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Bok, Karin (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6)  
**Subject:** RE: E-introduction to nCoV (b) (4)

Hi Chris,

I've been following your work since I saw you present at a HIPC meeting several years ago. I'm the one who told Mario Roederer about your work.

(b) (4)

(b) (4)

Glad to have further discussions if you are interested in pursuing this.

Best wishes,

Barney

---

**From:** J. Christopher Love (b) (6)

**Sent:** Tuesday, February 4, 2020 2:30 PM

**To:** Lynda, Stuart <(b) (6)>; Graham, Barney (NIH/VRC) [E]  
(b) (6)>

**Cc:** Harry Kleanthous (b) (6)>; David Vaughn  
(b) (6)>; Peter Dull (b) (6)>; Holger Kanzler  
(b) (6)

**Subject:** RE: E-introduction to nCoV (b) (4)

Lynda, thanks for the introduction.

Barney, it is great to meet you. Our general interests seem to have been orbiting in similar spaces in the past couple of years so really great to connect.

As Lynda says, (b) (4)

(b) (4)

(b) (4)

We have some ideas about where we could start pending a conversation.

Best,  
Chris

---

**From:** Lynda Stuart <(b) (6)>

**Sent:** Tuesday, February 4, 2020 12:43 PM

**To:** J. Christopher Love (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)

**Cc:** Harry Kleanthous (b) (6); David Vaughn

(b) (6)>; Peter Dull (b) (6); Holger Kanzler  
(b) (6)>

**Subject:** E-introduction to nCoV (b) (4)

Dear Barney

I wanted to introduce you to Chris Love from MIT. Chris wears many hats including being the head of the AltHost Consortium – an academic private partnership on novel ways to make proteins faster and cheaper. He leads a group working on (b) (4)

(b) (4)

(b) (4) I have cleared much of my calendar for this week and will make myself available to join a call. I will ask (b) (6), cc'ed here, to help with arranging a time for you to connect ASAP.

Lynda

Chris - I am attaching Barney (b) (4)

(b) (4)

(b) (6) – please can we try to get some time ASAP. Please include myself as required and those on the cc line if possible.

Lynda

**Lynda Stuart MD PhD**

Deputy Director, Vaccines & Human Immunobiology  
Global Health Discovery & Translational Sciences

V (b) (6)

**C** (b) (6)  
**E** (b) (6)

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(b) (6)  
Program Assistant  
Discovery & Translational Sciences  
Global Health  
**V** (b) (6)  
**E** (b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 11 Mar 2020 22:35:09 +0000  
**To:** Meagan Phelan  
**Subject:** RE: Possible Science Facebook Live on how viral structure informs vaccine design

I think Jason and I would make a good team, but we are not co-located. He is in Austin. Depends what the set up is like.

Barney

---

**From:** Meagan Phelan <[mphelelan@aaas.org](mailto:mphelelan@aaas.org)>  
**Sent:** Wednesday, March 11, 2020 6:15 PM  
**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Subject:** RE: Possible Science Facebook Live on how viral structure informs vaccine design

Hi Barney,

Thank you so much for your reply, and apologies for my delay to you. Today included far too many meetings. (I know it must be the very same—or more so!—there for you.)

I'm thrilled to hear you might be able to participate in a Facebook Live, pending approval from NIH. No, I'd not yet reached Jason. Valda Vinson had suggested to me that you would be best-equipped from this author group to speak to the way virus structure informs vaccine design—with the road to the vaccine being the theme we think the public will be most keen to discuss. Would you recommend, though, that Jason be brought in? If so, I'm very happy to invite him as well. And we could have a planning call together to talk about opening remarks you both might offer, and likely questions, too.

best,

**Meagan Phelan**, *Science* Press Package Executive Director  
American Association for the Advancement of Science (AAAS)  
1200 New York Avenue, NW | Washington, DC 20005  
**Office Phone:** 202-326-6436  
**Cell Phone:** (b) (6)  
**E-mail:** [mphelelan@aaas.org](mailto:mphelelan@aaas.org)  
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**From:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Sent:** Tuesday, March 10, 2020 9:45 PM  
**To:** Meagan Phelan <[mphelelan@aaas.org](mailto:mphelelan@aaas.org)>  
**Subject:** Re: Possible Science Facebook Live on how viral structure informs vaccine design



Thanks Meagan. Sounds like an interesting opportunity. I'll pass it by our communications office and see if we can find a time. It's been overwhelmingly busy trying to keep the vaccine moving.

Have you also reached out to Jason McLellan?

Barney

Sent from my iPhone

On Mar 10, 2020, at 3:05 PM, Meagan Phelan <[mphelelan@aaas.org](mailto:mphelelan@aaas.org)> wrote:

Dear Dr. Graham, I hope this note finds you well. Thank you for your help to us last month; it's been wonderful to see all the attention to your paper, much of which is captured on its Altmetrics tab, at the bottom of this page: <https://science.sciencemag.org/content/early/2020/02/19/science.abb2507/tab-article-info>

Separately, my team, the Science Press Package team, has been considering holding one of our popular Facebook Live events—a way to connect the public with recently published experts—on your paper, with a focus on how cutting-edge viral structure information informs vaccine and antiviral design. Is participating in such an event something you may wish to (and have availability) to do? If so, we'd be delighted for you to recommend another co-author from your paper to participate along with you, in an event I would moderate. The event itself would require about an hour and a half, on the slated day (including prep time). A few days prior, we would hold a run-through (where your press officers would be welcome) to address both technical specs and event format – including likely questions you'd receive from the audience, and also how to pivot on questions not in your scope of expertise. We would plan the event as soon as might be feasible for you in the coming two weeks.

Thank you for considering participating in such a discussion, something we hope could help the public better understand how research into virus structure paves the way for the therapies from which they will benefit.

best,

**Meagan Phelan**, *Science Press Package* Executive Director  
American Association for the Advancement of Science (AAAS)  
1200 New York Avenue, NW | Washington, DC 20005  
**Office Phone:** 202-326-6436  
**Cell Phone:** (b) (6)  
**E-mail:** [mphelelan@aaas.org](mailto:mphelelan@aaas.org)  
**Follow me on** [Twitter](#)

---

**From:** Meagan Phelan <[mphelelan@aaas.org](mailto:mphelelan@aaas.org)>

**Sent:** Sunday, February 16, 2020 1:51 AM

**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>; Jason McLellan

(b) (6) >

**Cc:** Olivia Tarantino <[otarantino@aaas.org](mailto:otarantino@aaas.org)>; Matthew Wright <[mwright@aaas.org](mailto:mwright@aaas.org)>

**Subject:** Immediate release of Wrapp et al. - seeking author contact info for media

Dear Drs. McLellan and Graham,

My name is Meagan Phelan and I write from the press package at AAAS/*Science*. We are looking very forward to promoting your manuscript, once ready, to a network of 6,000+ global journalists. Given the circumstances of this paper — part of rapid data sharing efforts related to 2019-nCov — we will deploy this paper to our journalist network as soon as it is ready, via what is known as “immediate release,” and with no embargo. Our journalists will receive notice (tentatively as early as Wednesday morning) that your paper is online and available for consideration, for stories they may wish to write in their continued coverage of 2019-nCov.

We would be grateful if you could forward this message to your affiliated press officers for their planning.

The official release time of your paper, again, is still being finalized with editorial; as such, my team and I will stand by to deploy the paper to journalists at the final, official release time as soon as we learn it (I understand it may be as early as Wednesday morning. I would ask that you please stay in touch with Valda for final, official confirmation). When we do deploy the paper to journalists, it will be accompanied by a one-paragraph lay summary that I will write (as is our custom). The Science Press Package team would also like to list author contact info for reporters interesting in reaching out for interviews. May I ask which authors from the paper should be listed as media contacts, with your associated emails?

I also understand the paper is now on bioRxiv. As Valda notes below, if reporters reach out now having seen it there, it is your decision as to whether you wish to speak to them; we do ask that you not mention that the manuscript is at *Science* and we’d be grateful if you could remind reporters that the bioRxiv version is not peer-reviewed.

If you have any questions, please don’t hesitate to let me know. I also note that I will be out Tuesday and Wednesday this week, when your paper is likely to go out. So I have copied Matt Wright, *Science* Press Package Deputy Director, and Olivia Tarantino, *Science* Press Package Communications Associate, and they will be very glad to help in answering any questions. Thank you for working with us.

Best,

**Meagan Phelan**, *Science* Press Package Executive Director  
American Association for the Advancement of Science (AAAS)  
1200 New York Avenue, NW | Washington, DC 20005

**Ph:** 202-326-6436

**E-mail:** [mphelan@aaas.org](mailto:mphelan@aaas.org)

Follow “SciPak” on [Twitter](#)

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**From:** Jason McLellan (b) (6)  
**Date:** Friday, February 14, 2020 at 12:04 PM  
**To:** Valda Vinson <[vvinson@aaas.org](mailto:vvinson@aaas.org)>  
**Cc:** "Graham, Barney (NIH/VRC) [E]" (b) (6), Meagan Phelan <[mphehan@aaas.org](mailto:mphehan@aaas.org)>  
**Subject:** RE: Coronavirus research for Science

Hi Valda,

Good timing. Thanks very much for your edits to the manuscript. Regarding your question in the text, (b) (4)  
(b) (4)

(b) (4) If we send you the revised text and figures on Monday would that work for a Tuesday roll-out?

I'll remind everyone not to mention that the manuscript is at Science before you release it and I'll be sure to let reporters know that the bioRxiv version is not peer reviewed. I contacted BioRxiv yesterday and they said they have a lot of manuscripts to review and they don't know when they will put ours online. Seems odd, I thought this was supposed to be a rapid method for disseminating information...

I look forward to hearing from you, and let me know if you want to have a quick chat about anything.

Best regards,  
Jason

---

**From:** Valda Vinson <[vvinson@aaas.org](mailto:vvinson@aaas.org)>  
**Sent:** Friday, February 14, 2020 1:51 PM  
**To:** Jason McLellan (b) (6) >  
**Cc:** Graham, Barney (NIH/VRC) [E] (b) (6); Meagan Phelan <[mphehan@aaas.org](mailto:mphehan@aaas.org)>  
**Subject:** RE: Coronavirus research for Science

Dear Jason,

I just this minute sent you the revision package – I hadn't checked e-mail in a while because I was working on this. I also am surprised that it's not up at BioRxiv yet. I don't think any major revisions are called for – in my edits I was aiming at accessibility because I think this will be read by non-experts. If you could give me a sense of how much time you need to revise once you see the reviews and edited manuscript, that will be very helpful. On our end, after acceptance, the manuscript would be promoted to a network of global reporters. We are likely to do this without an embargo, but instead with immediate release. I am copying Meagan Phelan, our Science Press Package Director, who can give further guidance. In terms of preparing for publication, there is the complication of the Monday holiday, so I think it would be difficult for us to plan a roll out before Tuesday. I anticipate that once the paper goes live on bioRxiv you may start getting questions. Feel free to contact Meagan's team for help, basically it is your decision about when to speak to reporters, but we ask that you not mention that the



manuscript is at Science before we release it and we'd be grateful if you remind reporters that the bioRxiv version is not peer reviewed.

For now though please let me know your time frame as soon as you can.

Best Regards  
Valda

---

**From:** Jason McLellan (b) (6) >  
**Sent:** Friday, February 14, 2020 2:16 PM  
**To:** Valda Vinson <[vvinson@aaas.org](mailto:vvinson@aaas.org)>  
**Cc:** Graham, Barney (NIH/VRC) [E] (b) (6) >; Priscilla Kelly <[pkelly@aaas.org](mailto:pkelly@aaas.org)>  
**Subject:** RE: Coronavirus research for Science

Hi Valda,

I was wondering if you had an update on our manuscript. Any information you could provide is greatly appreciated.

I'm still waiting for BioRxiv to publish our manuscript online. I submitted it on Tuesday and it's still not available.

Best regards,  
Jason

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 16 Apr 2020 18:10:52 +0000  
**To:** Bok, Karin (NIH/VRC) [E]; Mascola, John (NIH/VRC) [E]  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E]  
**Subject:** RE: Division Directors meeting tomorrow

I am probably going to be on another call tomorrow between noon and 2pm. Hopefully John will be available for the DDir meeting. He know the mAb stories.

Barney

---

**From:** Bok, Karin (NIH/VRC) [E] (b) (6) >  
**Sent:** Thursday, April 16, 2020 2:05 PM  
**To:** Mascola, John (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E]  
(b) (6) >  
**Cc:** Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) >  
**Subject:** Division Directors meeting tomorrow

John, Barney,

Hilary and Mary are planning on having an overview of SARS-CoV-2 abs at the DD meeting tomorrow. While Mary will introduce clinical plans, Hilary asked if VRC could give an overview of the most promising candidates to date, the expected timelines, and a high level expected plan for pre-clinical evaluation.

I have put some slides together for you. I am currently checking with DMID and DAIT to make sure I am not missing major info.

John-would you mind introducing the abs before Mary if you are attending tomorrow. If you cannot, what do you propose?

Also, do you have any other critical mab development info that you would like to add?

Thank you, let me know,

Karin.

Karin Bok, MS, PhD  
Senior Advisor, Vaccine Development  
Office of the Director, Vaccine Research Center  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
phone: (b) (6) | mobile: (b) (6) | email: (b) (6)  
<https://www.niaid.nih.gov/about/vrc>

[REDACTED]

[REDACTED]

[REDACTED]

page appears blank in original



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 6 Mar 2020 17:59:20 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** RE: Slides on 2nd floor

I might hand off one slide earlier so be on your toes. 😊

BG

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >  
**Sent:** Friday, March 6, 2020 12:56 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** Re: Slides on 2nd floor

Same general run thru as Wednesday?

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

---

**From:** Barney Graham <(b) (6)>  
**Date:** Friday, March 6, 2020 at 12:54 PM  
**To:** "Mascola, John (NIH/VRC) [E]" <(b) (6)>, "Hiatt, Nissa (NIH/VRC) [C]" <(b) (6)>, "Prince, Tasheema (NIH/VRC) [C]" <(b) (6)>, "Austin, Sarah (NIH/NIAID) [E]" <(b) (6)>  
**Cc:** "Daucher, Marybeth (NIH/NIAID) [E]" <(b) (6)> Kizzmekia Corbett <(b) (6)>, Kaitlyn Morabito

<[REDACTED] Monique Young <[REDACTED]  
**Subject:** RE: Slides on 2nd floor

I will plan to end on the timeline or the VRC bldg. slide.

BG

---

**From:** Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)>  
**Sent:** Friday, March 6, 2020 12:35 PM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>; Hiatt, Nissa (NIH/VRC) [C]  
[REDACTED] (b) (6); Prince, Tasheema (NIH/VRC) [C] [REDACTED] (b) (6)>; Austin, Sarah  
(NIH/NIAID) [E] [REDACTED] (b) (6)>  
**Cc:** Daucher, Marybeth (NIH/NIAID) [E] [REDACTED] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E]  
[REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)>; Young,  
Monique (NIH/VRC) [E] [REDACTED] (b) (6)  
**Subject:** RE: Slides on 2nd floor

Here is the merged slide set – using Tony’s original slides, and some VRC overview slides. I will show these in 1203.

Barney – one overlap is the slide on VRC Products for Public Health, slide 25, which I will show.

Nissa, Sarah, please make sure these are loaded and ready and IT has all set.

Thanks,  
John

---

**From:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>  
**Sent:** Friday, March 6, 2020 12:19 PM  
**To:** Hiatt, Nissa (NIH/VRC) [C] [REDACTED] (b) (6)>; Prince, Tasheema (NIH/VRC) [C]  
[REDACTED] (b) (6)>  
**Cc:** Daucher, Marybeth (NIH/NIAID) [E] <[REDACTED] (b) (6)>; Mascola, John (NIH/VRC) [E]  
[REDACTED] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)>; Morabito,  
Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)>; Young, Monique (NIH/VRC) [E]  
<[REDACTED] (b) (6)>  
**Subject:** Slides on 2nd floor

FYI. The slides on the second floor are the slides I thought John was going to show on the first floor.

Also, the setup on the 2<sup>nd</sup> floor I don't know how to switch between files. It is not in normal powerpoint.

Barney

\*\*\*\*\*

Barney S. Graham, MD, PhD

Senior Investigator

Deputy Director, Vaccine Research Center

Chief, Viral Pathogenesis Laboratory

Vaccine Research Center, NIAID, NIH

40 Convent Drive, MSC 3017

Bldg 40, Room 2502

Bethesda, MD 20892-3017

Phone (b) (6)

URL: <https://www.niaid.nih.gov/research/barney-graham-md-phd>

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 4 Mar 2020 22:19:38 +0000  
**To:** Ledgerwood, Julie (NIH/NIAID) [E]  
**Cc:** Pierson, Theodore (NIH/NIAID) [E]; Whitehead, Steve (NIH/NIAID) [E]  
**Subject:** Re: COVID-19 screening: (b) (6)

I think first step is to (b) (6)

BG

Sent from my iPhone

On Mar 4, 2020, at 3:57 PM, Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) wrote:

Hi Ted

The NIH CC has an internal clinical test and is running something like (b) (5) per day.

Right now, they are testing employees and established patients and there is a strict containment protocol so that the patient doesn't just show up randomly at the CC.

(b) (6), (b) (5)

Let me check and then should I just contact (b) (6)

JL

---

**From:** Pierson, Theodore (NIH/NIAID) [E] (b) (6)  
**Sent:** Wednesday, March 4, 2020 3:03 PM  
**To:** Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>  
**Cc:** Whitehead, Steve (NIH/NIAID) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** COVID-19 screening: (b) (6)

Hi Julie,

Are there COVID screening resources available in the clinical center at this time via one of your protocols (like the one you used to (b) (5) (b) (6)

(b) (6) and has been a collaborator for many years (b) (6)

(b) (6). Any information about local (NIH) resources that (b) (6) might have access to would be

terrific.  
Warmest regards,  
Ted

---

**From:** Eva Harris (b) (6)  
**Date:** Wednesday, March 4, 2020 at 2:46 PM  
**To:** "Diamond, Michael" (b) (6) >, "Ted C. Pierson" (b) (6) >, Steve Whitehead <(b) (6)>, "Waggoner, Jesse J." (b) (6) >, Aubree Gordon (b) (6) >  
**Cc:** (b) (6)  
**Subject:** COVID-19 info for (b) (6)

Hallo all  
so am just pinging you on behalf of (b) (6)  
(b) (6)  
(b) (6) etc. but they are way more in the dark than any of  
you! And if/when they decide (b) (6)  
(b) (6)

Thanks all!! (b) (6)  
(I am currently in (b) (6) flying back your tonight my tomorrow morning, will be back in SFO by 11:30 am Thursday. This info is for (b) (6) but pls do keep me in the loop).  
Mil gracias!!  
abrazos  
Eva

\*\*\*\*\*

Eva Harris, PhD  
Professor, Division of Infectious Diseases and Vaccinology  
Director, Center for Global Public Health  
Chair, Infectious Diseases and Immunity Graduate Group  
School of Public Health  
University of California, Berkeley  
185 Li Ka Shing Center (mail, courier); 500B LKS (office)  
1951 Oxford Street  
Berkeley, CA 94720-3370

Tel. (b) (6)

Email: (b) (6)

\*\*\*\*\*



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 10 Apr 2020 21:50:01 +0000  
**To:** Lisa Conti  
**Subject:** RE: Viewpoint article for JCI

Thank you for letting me know. It's almost done.

Barney

---

**From:** Lisa Conti <[science\\_editor@the-jci.org](mailto:science_editor@the-jci.org)>  
**Sent:** Friday, April 10, 2020 5:33 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** RE: Viewpoint article for JCI

Dear Barney,

I'm writing to let you know that Sarah is (b) (6) and I'll be handing the edits for your Viewpoint article on COVID-19 vaccine development . When your draft is complete, please submit to me at this email address [science\\_editor@the-jci.org](mailto:science_editor@the-jci.org). Please let me know if you have any questions or if I can be of assistance. I look forward to working with you.

Cheers,  
Lisa

--  
Lisa Conti, Ph. D.  
Assistant Science Editor  
The Journal of Clinical Investigation  
[science\\_editor@the-jci.org](mailto:science_editor@the-jci.org)  
-->

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 2 Apr 2020 15:54:49 +0000  
**To:** Alvarado, Gabriela (NIH/VRC) [C]; Michael Malison  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Bok, Karin (NIH/VRC) [E]  
**Subject:** RE: update from Medigen

I am on calls until about 7pm tonight, but have more availability tomorrow. Will this include Taiwanese colleagues. If so, it will be either very early or late in the day.

Barney

---

**From:** Alvarado, Gabriela (NIH/VRC) [C] (b) (6)  
**Sent:** Thursday, April 2, 2020 10:24 AM  
**To:** Michael Malison (b) (6) >  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6)  
**Subject:** Re: update from Medigen

Hi Michael,

We'll try our best to find some time today or as soon as possible. You'll be receiving a poll with our availability shortly.

Thanks,

Gabriela S. Alvarado, Ph.D.  
Scientific Program Manager, Vaccine Development  
Viral Pathogenesis Laboratory, Vaccine Research Center  
National Institute of Allergy and Infectious Diseases, NIH  
Bldg. 40, Rm. 2508  
40 Convent Drive  
Bethesda, MD 20892  
(b) (6)

---

**From:** Michael Malison (b) (6) >  
**Date:** Thursday, April 2, 2020 at 10:02 AM  
**To:** "Alvarado, Gabriela (NIH/VRC) [C]" <(b) (6)>  
**Cc:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Graham, Barney

(NIH/VRC) [E]" (b) (6)>

**Subject:** Re: update from Medigen

Gabi - I'm available today if that works for others.

M. Malison

On Apr 1, 2020, at 11:44 AM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

This would be great. Cc'ing Gabi who can set up the call.

--

**Kizzmekia S. Corbett, PhD**

**Senior Research Fellow | Scientific Lead**

**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**

Viral Pathogenesis Laboratory | Vaccine Research Center

National Institutes of Allergy and Infectious Diseases

National Institutes of Health

Building 40 Room 2608

40 Convent Drive

Bethesda MD 20892

Laboratory: (b) (6)

Personal: (b) (6)

Fax: (301) 480-2771

---

**From:** "Michael D. Malison" (b) (6)>

**Date:** Wednesday, April 1, 2020 at 11:44 AM

**To:** Kizzmekia Corbett (b) (6)

**Cc:** "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, Barney Graham

<(b) (6)>

**Subject:** update from Medigen

Hi Kizzmekia,

Hope you're staying healthy and are still able to work despite the mitigation policies in place.

If you have a few mins today, I'd like to give you and Dr. Graham an update on the considerable progress Medigen has made in producing its own (b) (4)

(b) (4) and what next steps we anticipate in the coming months.

Please let me know a convenient time and I'll give you a call.

M. Malison

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 9 Apr 2020 12:14:44 +0000  
**To:** Stein, Judy (NIH/VRC) [C]; Young, Monique (NIH/VRC) [E]  
**Cc:** Grier, Shardae (NIH/VRC) [E]; Petrik, Amy (NIH/NIAID) [E]  
**Subject:** RE: SARS-CoV-2 (b) (4)

I would love for Amy to do the signing.

BG

---

**From:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Sent:** Thursday, April 9, 2020 8:03 AM  
**To:** Young, Monique (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E]  
(b) (6)>  
**Cc:** Grier, Shardae (NIH/VRC) [E] (b) (6)>; Petrik, Amy (NIH/NIAID) [E]  
(b) (6)  
**Subject:** FW: SARS-CoV-2 (b) (4)

Hi Monique and Barney,

How are you doing?

Can this agreement please be signed. They are getting the (b) (4) (one less shipment) so I let them know that they can proceed with the transfer.

Barney, we can revert to having Amy sign these agreements going forward. I thought that the requests might slow down by now but they don't seem to be.

Thanks,

Judy

---

**From:** Sarah Gilbert <(b) (6)>  
**Sent:** Thursday, April 9, 2020 7:45 AM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Cc:** Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6)>; Petrik, Amy (NIH/NIAID) [E] (b) (6); Alvarado, Gabriela  
(NIH/VRC) [C] (b) (6)>; Giada Mattiuzzo (b) (6); Mark Page  
(b) (6)>  
**Subject:** RE: SARS-CoV-2 (b) (4)

Dear Judy,

Please find the SLA for receipt of the SARS-CoV-2 (b) (4) at NIBSC, this has been signed by NIBSC signatories.

Kindest regards  
Sarah

**Sarah Gilbert**  
Business Support  
Division of Infectious Disease Diagnostics  
NIBSC,  
Blanche Lane  
South Mimms,  
Potters Bar,  
Herts  
EN6 3QG

Direct Line: (b) (6)

[nibsc.org](http://nibsc.org)

Sign up to our mailing list to keep up to date with our activities and CFAR reagents by following this link:

[http://www.nibsc.org/about\\_us/stay\\_connected.aspx](http://www.nibsc.org/about_us/stay_connected.aspx)

---

**From:** Giada Mattiuzzo (b) (6)  
**Sent:** 08 April 2020 21:13  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6); Mark Page (b) (6); Sarah Gilbert (b) (6)  
**Cc:** Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)  
**Subject:** RE: SARS-CoV-2 (b) (4)

Dear Judy,

Thank you for the quick reply. I am forwarding the MTA to our business development team for signatures.

Kind regards

Giada

---

**From:** Stein, Judy (NIH/VRC) [C] (b) (6)>  
**Sent:** 08 April 2020 18:34  
**To:** Giada Mattiuzzo (b) (6); Mark Page (b) (6); Sarah Gilbert (b) (6)  
**Cc:** Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>  
**Subject:** RE: SARS-CoV-2 (b) (4)

Dear Giada,

I have attached a SLA to transfer the materials. Can you please review, edit the signature block as needed, sign (or have signed) and return this to us for our signature.

Once we have the signed SLA, it will be fine to obtain the (b) (4)

Thanks very much.

Judy

Judy Stein, MBA, MSPH [C]  
Strategic Planning and Development  
Vaccine Research Center, NIAID, NIH



Tel: (b) (6)

---

**From:** Giada Mattiuzzo (b) (6)  
**Sent:** Wednesday, April 8, 2020 4:25 AM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Cc:** Mark Page (b) (6); Sarah Gilbert (b) (6)  
**Subject:** SARS-CoV-2 (b) (4)

Dear Judy Stein,

I have been given your email address by a colleague at the Jenner Institute in Oxford, as contact point for obtaining permission to receive the (b) (4) from Dr Barney Graham.

I work at the National Institute for Biological Standards and Control, UK and we are

(b) (4)

Our colleagues in Oxford will be happy to share with us what they have already received from Dr Graham, pending we have an MTA in place as well.  
Could you please advise how to proceed?

Kind regards,

Giada Mattiuzzo, PhD  
Senior Scientist  
Division of Virology  
NIBSC-MHRA  
Blanche Lane  
South Mimms  
United Kingdom

TEL: (b) (6)





**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 28 Feb 2020 15:02:35 +0000  
**To:** Lederhofer, Julia (NIH/VRC) [F]  
**Subject:** RE: Travel to Florence - Keystone conference

Hi Julia,

(b) (6)

Let's discuss on Monday and see where we are.

Barney

-----Original Message-----

From: Lederhofer, Julia (NIH/VRC) [F] (b) (6)>  
Sent: Friday, February 28, 2020 9:29 AM  
To: Graham, Barney (NIH/VRC) [E] (b) (6)  
Subject: Travel to Florence - Keystone conference

Hi Barney,

(b) (6)

Thanks,  
Julia

On 2/27/20, 10:40 PM, "info@keystonesymposia.org" <info@keystonesymposia.org> wrote:

Dear Meeting Attendee

In light of the current coronavirus situation, we would like to provide an update on your upcoming meeting.

The health and safety of our meeting attendees is our top priority, and we are carefully monitoring the coronavirus situation around the world to ensure we take the necessary precautions as recommended by healthcare providers and public health organizations.

Currently, your meeting will proceed as scheduled, and we will contact you immediately if anything changes. Decisions will be made on a moment to moment basis, as new information becomes available. We assure you that the leadership team at Keystone Symposia is closely monitoring global developments, and will take swift action to ensure the health and safety of all meeting participants.

We are continuing to update our website to reflect the current situation and advisories, and are working with attendees and speakers for whom travel has been affected.

At the meeting, we suggest following these recommendations from the National Foundation of Infectious Disease:

- \* The best way to protect yourself against COVID-19 is similar to how you would take precautions against the cold or flu. Wash your hands often using soap and water for at least 20 seconds. Cover your cough or sneeze with a tissue or the crook of your elbow rather than your hands.

- \* There is no need to wear a face mask if you are well and do not have symptoms—masks protect the sick from spreading germs but will not prevent you from getting sick.

- \* Do not assume that anyone of Asian descent is more likely to have coronavirus—do not forget about the importance of inclusivity and evidence-based information.

While this is a time we must all be vigilant about public health measures, it is also a time to remain calm, rational and scientific in addressing the situation. We encourage you to engage with your fellow colleagues at the meeting as you normally would, to forge new collaborations and novel ideas that will drive your research and the field in innovative and fruitful directions.

We wish you a very successful and inspiring meeting.  
Sincerely,

Dr. Debbie Johnson  
Chief Executive Officer,  
[debbiej@Keystonesymposia.org](mailto:debbiej@Keystonesymposia.org)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 7 Apr 2020 13:15:58 +0000  
**To:** Hiatt, Nissa (NIH/VRC) [C]  
**Cc:** Routh, Jennifer (NIH/NIAID) [E]; Oplinger, Anne (NIH/NIAID) [E]  
**Subject:** Fwd: Article for Nature

Any objections?

Barney

Sent from my iPhone

Begin forwarded message:

**From:** Megan Scudellari <megan@scudellari.com>  
**Date:** April 7, 2020 at 9:05:20 AM EDT  
**To:** "Graham, Barney (NIH/VRC) [E]" (b) (6)>  
**Subject:** Article for Nature

Dear Dr. Graham,

Hello, this is Megan Scudellari, a reporter with *Nature*. I spoke with Jason McLellan at UT yesterday and he suggested I speak with you as well. How are you?

We are planning a feature news story on the rush to obtain structures of SARS-CoV-2 proteins and then use that information in drug/vaccine discovery. The story will focus on the rapid timeline of these discoveries and intensive teamwork among various scientific groups.

I hoped you might be available to chat with me about the *Science* publication of the virus' spike protein structure that you and Jason collaborated on, and your work to translate that into a vaccine.

If so, is there a good day and time this week that I could give you a call to chat? I will only take about 30 minutes of your time.

Thank you! I look forward to hearing from you.

Best,  
Megan

--

Megan R. Scudellari

Science Reporter

Boston, MA

phone: (b) (6)

email: [megan@scudellari.com](mailto:megan@scudellari.com)

web: <http://megan.scudellari.com>

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 9 Mar 2020 14:19:26 +0000  
**To:** Wellington Sun  
**Cc:** Roberts, Chris (NIH/NIAID) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Pikaart-Tautges, Rhonda (NIH/NIAID) [E]; Buchanan, Wendy (NIH/NIAID) [E]; Beigel, John (NIH) [E]; Makhene, Mamodikoe (NIH/NIAID) [E]; Bennett Hamilton; Morabito, Kaitlyn (NIH/VRC) [E]; Elsafy, Mohamed (NIH/NIAID) [C]; Andrea Carfi; Arega, Janice (NIH/NIAID) [E]; Hoang, Binh (NIH/NIAID) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Mascola, John (NIH/VRC) [E]  
**Subject:** RE: FDA non-hold comments for 20-0003  
**Attachments:** (b) (4)

(b) (4)

Barney

---

**From:** Wellington Sun <(b) (6)>  
**Sent:** Monday, March 9, 2020 9:51 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Cc:** Roberts, Chris (NIH/NIAID) [E] (b) (6)>; Pikaart-Tautges, Rhonda (NIH/NIAID) [E] (b) (6); Buchanan, Wendy (NIH/NIAID) [E] (b) (6); Beigel, John (NIH) [E] (b) (6); Makhene, Mamodikoe (NIH/NIAID) [E] (b) (6); Bennett Hamilton (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Elsafy, Mohamed (NIH/NIAID) [C] (b) (6)>; Andrea Carfi (b) (6)>; Arega, Janice (NIH/NIAID) [E] (b) (6)>; Hoang, Binh (NIH/NIAID) [E] <(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)  
**Subject:** RE: FDA non-hold comments for 20-0003

May I use that information in (b) (4)

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**From:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Sent:** Monday, March 9, 2020 9:39 AM  
**To:** Wellington Sun <(b) (6)>  
**Cc:** Roberts, Chris (NIH/NIAID) [E] (b) (6); Pikaart-Tautges, Rhonda (NIH/NIAID) [E] (b) (6)>; Buchanan, Wendy (NIH/NIAID) [E] (b) (6)>; Beigel, John (NIH) [E] (b) (6)>; Makhene, Mamodikoe (NIH/NIAID) [E] <(b) (6)>; Hamilton Bennett (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Elsafy, Mohamed (NIH/NIAID) [C] <(b) (6)>; Andrea Carfi <(b) (6)>; Arega, Janice (NIH/NIAID) [E] (b) (6)>; Hoang, Binh (NIH/NIAID) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)  
**Subject:** Re: FDA non-hold comments for 20-0003

(b) (4)

Barney

Sent from my iPhone

On Mar 9, 2020, at 9:22 AM, Wellington Sun (b) (6) wrote:

Hi Barney,

Thanks for this excellent summary.

(b) (4)

(b) (4)

Thanks,  
Wellington

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)

**Sent:** Saturday, March 7, 2020 10:21 AM

**To:** Roberts, Chris (NIH/NIAID) [E] (b) (6); Pikaart-Tautges, Rhonda (NIH/NIAID) [E] (b) (6); Buchanan, Wendy (NIH/NIAID) [E] (b) (6); Beigel, John (NIH) [E] (b) (6); Makhene, Mamodikoe (NIH/NIAID) [E] (b) (6); Hamilton Bennett (b) (6); Wellington Sun (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Elsafty, Mohamed (NIH/NIAID) [C] (b) (6)>  
**Cc:** Arega, Janice (NIH/NIAID) [E] (b) (6); Hoang, Binh (NIH/NIAID) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6)>

**Subject:** RE: FDA non-hold comments for 20-0003



This is the updated document I promised

(b) (4)

(b) (4)

Barney

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**From:** Roberts, Chris (NIH/NIAID) [E] (b) (6)  
**Sent:** Friday, March 6, 2020 4:55 PM  
**To:** Pikaart-Tautges, Rhonda (NIH/NIAID) [E] (b) (6); Buchanan, Wendy (NIH/NIAID) [E] (b) (6); Beigel, John (NIH) [E] (b) (6); Makhene, Mamodikoe (NIH/NIAID) [E] (b) (6); Bennett Hamilton (b) (6); Sun Wellington <(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Elsafy, Mohamed (NIH/NIAID) [C] (b) (6)  
**Cc:** Arega, Janice (NIH/NIAID) [E] (b) (6); Hoang, Binh (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: FDA non-hold comments for 20-0003

Hi Hamilton, Wellington

I assume you can draft some language

(b) (4)

(b) (4)

Chris

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**From:** Pikaart-Tautges, Rhonda (NIH/NIAID) [E] (b) (6)>  
**Sent:** Friday, March 6, 2020 2:31 PM  
**To:** Roberts, Chris (NIH/NIAID) [E] <(b) (6)>; Buchanan, Wendy (NIH/NIAID) [E] (b) (6); Beigel, John (NIH) [E] (b) (6); Makhene, Mamodikoe (NIH/NIAID) [E] (b) (6); Bennett Hamilton (b) (6); Sun Wellington (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6); Elsafy, Mohamed (NIH/NIAID) [C] (b) (6)>  
**Cc:** Arega, Janice (NIH/NIAID) [E] (b) (6); Hoang, Binh (NIH/NIAID) [E]

(b) (6)

**Subject:** FDA non-hold comments for 20-0003

**Importance:** High

Hi all,

We just received the non-hold comments from the FDA.

(b) (4)

Rhonda

(b) (6)

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**From:** Pikaart-Tautges, Rhonda (NIH/NIAID) [E]  
**Sent:** Monday, March 2, 2020 3:48 PM  
**To:** Roberts, Chris (NIH/NIAID) [E] <(b) (6)>; Buchanan, Wendy (NIH/NIAID) [E] <(b) (6)>; Beigel, John (NIH) [E] <(b) (6)>; Makhene, Mamodikoe (NIH/NIAID) [E] <(b) (6)>; Hamilton Bennett <(b) (6)>; Wellington Sun <(b) (6)>  
 Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)> Elsafty, Mohamed (NIH/NIAID) [C] <(b) (6)>  
**Cc:** Arega, Janice (NIH/NIAID) [E] <(b) (6)> Susan Wong <(b) (6)>; Hoang, Binh (NIH/NIAID) [E] <(b) (6)>  
**Subject:** Just received the safe to proceed call from the FDA for 20-0003  
**Importance:** High

Hi all,

The FDA just called, we are safe to proceed.

Non-hold comments will be assembled and will come later.

Rhonda

Rhonda Pikaart-Tautges  
 Sr. Regulatory Affairs Manager, COR III  
 Office of Regulatory Affairs, DMID, NIAID, NIH, DHHS  
 5601 Fishers Lane, Rm 7F58, MSC 9826  
 Bethesda, MD 20892-9826 (Courier/Express Mail: Rockville, MD 20852)  
 Branch phone: (b) (6)  
 Direct phone and voice mail: (b) (6)  
 Telework: Tuesday, Friday  
 IM Skype  
 e-mail: (b) (6)

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(b) (4)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 28 Mar 2020 19:41:56 +0000  
**To:** William Dowling  
**Subject:** RE: ELISA data  
**Attachments:** WHO Serological assays overview 25Mar2020.pdf

Hi Bill,

I've attached the slides I showed last week.

Barney

---

**From:** William Dowling (b) (6) >  
**Sent:** Friday, March 27, 2020 4:41 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** ELISA data

Hello Barney

I am writing under both of my roles regarding your ELISA data. In my WHO role, I am inquiring again about whether I can get a copy of the slides that you presented on Wed. in my CEPI role, I am

(b) (4)

(b) (4) What are your thoughts?

Thanks  
Bill

**William Dowling, PhD**  
Non-Clinical Vaccine Development Leader

**CEPI** New vaccines  
for a safer world

---

(b) (6)  
(o)  
(m)

(b) (6)

1901 Pennsylvania Ave, NW, Suite 1003, Washington, DC 20006 USA

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[www.cepi.net](http://www.cepi.net)



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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 27 Jan 2020 21:17:07 +0000  
**To:** JohnDeng 鄧中信  
**Cc:** Kwong, Peter (NIH/VRC) [E];Soukas, Peter (NIH/NIAID) [E];Embry, Alan (NIH/NIAID) [E];Stein, Judy (NIH/VRC) [C];Morabito, Kaitlyn (NIH/VRC) [E]  
**Subject:** Re: Coronavirus Outbreak

Dear Dr. Deng,

We have a preferred sequence for beta-CoV spike proteins that was published in a 2017 PNAS paper. It is more immunogenic and has better expression than WT constructs. It is available for licensing.

I've also copied Alan Embry in the extramural division of NIAID, and his team may have additional suggestions for you.

Best wishes,

Barney

Sent from my iPhone

On Jan 21, 2020, at 11:29 PM, JohnDeng 鄧中信 (b) (6) > wrote:

Dear Dr. Graham and Dr. Kwong,

I am reaching out to you on behalf of Medigen Vaccine Biologics Corp. (MVC) in Taiwan via Mr. Peter Soukas' recommendation. It is particularly in regards to a novel coronavirus that has caused heightened concern globally because of its connection to Severe Acute Respiratory Syndrome (SARS).

With human-to-human transmission being confirmed, we are bracing for the worst for the Lunar New Year holidays with huge volume of domestic and international traffic in China. Since supportive care is the only means of therapy, preventative vaccines are our best chance against the spread of these emerging viral diseases. (b) (4)  
(b) (4)

MVC is a comprehensive biopharmaceuticals manufacturer in Taiwan with focus on regions of Southeast Asia and business fields covering human cell-based vaccines and biosimilars. MVC is fully armed to handle development and future production of the coronavirus vaccine including (b) (4)

(b) (4)

Our previous experiences with the US NIH includes technology transfer of live-attenuated dengue vaccine, as well as licensing products from other global pharmaceuticals. Please check out the following link for more details.

[http://www.medigenvac.com/public/en/about\\_us/our\\_company](http://www.medigenvac.com/public/en/about_us/our_company)

I would be grateful if I could have the opportunity to discuss details with you. I look forward to hearing from you.

Best regards,

John Deng, Ph.D.

Medigen Vaccine Biologics Corp.

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 19 Feb 2020 12:01:21 +0000  
**To:** Marston, Hilary (NIH/NIAID) [E]  
**Cc:** Embry, Alan (NIH/NIAID) [E]; Handley, Gray (NIH/NIAID) [E]; Cassetti, Cristina (NIH/NIAID) [E]; Bok, Karin (NIH/VRC) [E]; Woodson, Sara (NIH/NIAID) [E]; Bozick, Brooke (NIH/OD) [E]; Degrace, Marciela (NIH/NIAID) [E]  
**Subject:** Re: Request for SARS-CoV2

I'm surprised they haven't already obtained the Australian isolate.

BG

Sent from my iPhone

On Feb 19, 2020, at 7:00 AM, Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

We can provide a small amount of (b) (4), (b) (5) for serology diagnostics. They should be able to re-create the CDC PCR.  
Barney

Sent from my iPhone

On Feb 18, 2020, at 10:54 PM, Marston, Hilary (NIH/NIAID) [E] (b) (6) wrote:

(b) (5) I have not had a chance to discuss with ASF yet, so would get his guidance first.

---

**From:** Alan Embry <(b) (6)>  
**Date:** Tuesday, February 18, 2020 at 10:47 PM  
**To:** Gray Handley (b) (6)>, Cristina Cassetti (b) (6)>, "Graham, Barney (NIH/VRC) [E]" (b) (6), Karin Bok (b) (6)>, Hilary Marston (b) (6)>  
**Cc:** Hilary Marston (b) (6) "Woodson, Sara (NIH/NIAID) [E]" (b) (6)>, "Bozick, Brooke (NIH/OD) [E]" (b) (6)>, "Degrace, Marciela (NIH/NIAID) [E]" (b) (6)>  
**Subject:** RE: Request for SARS-CoV2

Gray,

DMID would be happy to help with the request. However, we are still working through the necessary channels to gain approval for transfer of the viral isolate to international investigators. We do not yet know how long this process will take, but Hilary is considering (b) (5)

Once approvals are in place, we will be glad to work with Dr. Kang. Jojo or Sara, would you be able to touch base with Dr. Kang to explain the situation?

Thanks,  
Alan

---

**From:** Handley, Gray (NIH/NIAID) [E] (b) (6)>  
**Sent:** Tuesday, February 18, 2020 10:17 PM  
**To:** Cassetti, Cristina (NIH/NIAID) [E] (b) (6)>; Embry, Alan (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6) Bok, Karin (NIH/VRC) [E] (b) (6)>; Marston, Hilary (NIH/NIAID) [E] (b) (6)>  
**Cc:** Marston, Hilary (NIH/NIAID) [E] (b) (6)>; Chopra, Nandita (NIH/NIAID) [E] (b) (6)  
**Subject:** FW: Request for SARS-CoV2

Friends, Is this a request we can respond to positively? Can we send her information about how to access these reagents from the BEI? Would the VRC be interested in this reach-out?

As perhaps all of you know, Dr. "Cherry" Kang is an outstanding Indian investigator and head of a key institution there.

Please let me know what you advise.

Thanks. Gray

**From:** G Kang (b) (6)>  
**Sent:** Tuesday, February 18, 2020 9:28 PM  
**To:** Handley, Gray (NIH/NIAID) [E] (b) (6) (b) (6)  
Dr. Renu Swarup (b) (6)>; ALKA SHARMA (b) (6) Guruprasad Medigeshi (b) (6)>; Milan Surjit (b) (6)>; Tripti Shrivastava (b) (6)>  
**Subject:** Request for SARS-CoV2

Dear Gray,

I spoke with Dr. Renu Swarup yesterday and she asked me to reach out directly for reagents that we need for diagnostics for SARS-CoV-2 or COVID-19.

BEI has the virus grown by the CDC listed in its catalog as SARS-Related Coronavirus 2, Isolate USA-WA1/2020, NR-52281.

Is there someone who could help us with the process of getting the virus to India? If helpful, at THSTI, we have been through the agreements with NIAID for the dengue strains from Steve Whitehead. Have not received them yet, but I believe the paperwork is complete.

I know you will be very busy, but if Nandita or you could connect us to the right people, we can follow up.

Thanks and regards,

Cherry

गगनदीप कंग / Gagandeep Kang

कार्यकारी नदिशक / Executive Director

ट्रांसलेशनल स्वास्थ्य वज्ञान और प्रौद्योगिकी संस्थान

Translational Health Science and Technology Institute

(भारत सरकार के जैव-प्रौद्योगिकी विभाग का एक स्वायत्त संस्थान)

(An autonomous institute of the Dept of Biotechnology, Govt Of India)

NCR Biotech Science Cluster,

3rd Milestone, Faridabad-Gurgaon Expressway

PO Box#4, Faridabad, Haryana-120001

Phone (b) (6)

Website: [www.thsti.res.in](http://www.thsti.res.in)



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 1 May 2020 13:28:44 +0000  
**To:** Stephane Bancel;Fauci, Anthony (NIH/NIAID) [E];Mascola, John (NIH/VRC) [E]  
**Cc:** Tal Zaks;Juan Andres  
**Subject:** RE: Moderna partners with Lonza to scale up manufacturing for SARS-CoV-2 vaccine

Thanks Stephane,

That is good to hear. It will only be a matter of weeks before we know a lot more about whether it will work.

Take care,

Barney

---

**From:** Stephane Bancel (b) (6) >  
**Sent:** Friday, May 1, 2020 8:49 AM  
**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6); Mascola, John (NIH/VRC) [E]  
(b) (6) Graham, Barney (NIH/VRC) [E] (b) (6) >  
**Cc:** Tal Zaks <(b) (6)>; Juan Andres (b) (6)  
**Subject:** Moderna partners with Lonza to scale up manufacturing for SARS-CoV-2 vaccine

Dear Tony, John and Barney,

First, I want to thank you for the incredible partnership between NIAID and Moderna for now a few years. The work and collaboration over the last few months has been remarkable.

We wanted to make you aware that this morning, we are announcing that we are partnering with Lonza to be able to (b) (4)  
(b) (4)

So if the vaccine works, and we will have a better sense soon with (b) (4)  
(b) (4)

Please let us know if any questions

Cheers

Stephane



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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 26 Mar 2020 16:28:48 +0000  
**To:** Stein, Judy (NIH/VRC) [C]  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Petrik, Amy (NIH/NIAID) [E]  
**Subject:** Re: (b) (4)-COVID Request from Emergent (b) (4)

That would also be a good option then they just need our (b) (4), (b) (5).

Barney

Sent from my iPhone

On Mar 26, 2020, at 11:56 AM, Stein, Judy (NIH/VRC) [C] (b) (6) wrote:

Hi Barney,  
I think (b) (5), (b) (4)  
Thanks,  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Thursday, March 26, 2020 11:49 AM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6)  
**Subject:** Re: (b) (4)-COVID Request from Emergent (b) (4)

I think it needs to be sent through a (b) (5)  
(b) (5) Why are we still hung up on that?

Barney

Sent from my iPhone

On Mar 26, 2020, at 11:41 AM, Stein, Judy (NIH/VRC) [C] (b) (6) wrote:

Hi Barney,

To confirm, [REDACTED] (b) (5), (b) (4)  
[REDACTED] ?

Either way, [REDACTED] (b) (4), (b) (5).

Thanks,  
Judy

---

**From:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Sent:** Thursday, March 26, 2020 9:37 AM  
**To:** Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] [REDACTED] (b) (6)  
**Subject:** Re: (b) (4) COVID Request from Emergent [REDACTED] (b) (4)

As for others we can [REDACTED] (b) (4) by licensure through TTIPO.

Barney

Sent from my iPhone

On Mar 26, 2020, at 7:51 AM, Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6) wrote:

Hi everyone,  
Please see Kelly's question below.  
Thanks,  
Judy

---

**From:** Warfield, Kelly [REDACTED] (b) (6)  
**Sent:** Wednesday, March 25, 2020 5:21 PM  
**To:** Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)  
**Cc:** Raykar, Prashant [REDACTED] (b) (6)  
**Subject:** (b) (4)-COVID

Hi Judy,

Emergent (our Therapeutics Business Unit) is working to develop [REDACTED] (b) (4)  
[REDACTED] (b) (4)

(b) (4)

(b) (4) and I'm wondering if there is any way to get ahold of them through a MTA to use (b) (4) quickly, to facilitate our work?

Please let me know if I need to talk to someone else!

Thanks, Kelly

P.S. As you can imagine, (b) (4) and then we can send it back to Carol!

**Kelly Lyn Warfield, Ph.D.**

Vice President, Vaccines Research and Development

O (b) (6) | C (b) (6)

**Emergent BioSolutions Inc.**

400 Professional Drive, Suite 400, Gaithersburg, MD 20879

[emergentbiosolutions.com](http://emergentbiosolutions.com) | [LinkedIn](#) | [Twitter](#) | [Instagram](#)

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 13 Dec 2019 08:10:40 +0000  
**To:** Nnadi, Chime  
**Subject:** RE: Thank you  
**Attachments:** book\_978-3-642-38919-1.pdf, RSV Review Immunity 2019.pdf

Hi Chime,

It was good to meet you and I look forward to working with you on RSV issues.

I'm sending you the book I mentioned and a recent review paper. These summarize much of the science around RSV, at least the way I think about it. There is not much here that would guide clinical development strategies, because those are more product and target population-specific.

I will send you a separate email introducing you to Rev. Sanders with whom I have had many discussions over the years discussing "Fact vs. Faith" in the context of communicating vaccine and other biological concepts to the general public, especially across cultures.

Best wishes,

Barney

-----Original Message-----

From: Nnadi, Chime <(b) (6)>  
Sent: Thursday, December 12, 2019 9:21 AM  
To: Graham, Barney (NIH/VRC) [E] (b) (6)  
Subject: Thank you

Dear Dr. Graham,

It was a great privilege to meet and learn from you during the Annecy Vaccinology Conference.

I will appreciate further opportunities on connecting with Rev. Edwin Sanders regarding our vaccine confidence work as well as the any insights from your RSV experience.

Many thanks again for the outstanding lecture.

Best wishes,

Chime

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 23 Mar 2020 16:47:15 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Cc:** Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Bok, Karin (NIH/VRC) [E]  
**Subject:** Re: Taking Off Tomorrow

Good choice.

BG

Sent from my iPhone

On Mar 23, 2020, at 12:25 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) wrote:

Tomorrow, I have no meetings until 3pm, thus I am taking a day to myself to get done with some things that are critical to my career advancement, ie. Manuscripts and recruitment documents. I will likely not answer emails all day. If it's an emergency tomorrow, my cell phone is best. Dr. Graham, we can still have data review. I will be un-active in the VRC Touch Base Meeting.

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 18 Mar 2020 23:57:06 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Cc:** Bok, Karin (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]; Morabito, Kaitlyn (NIH/VRC) [E]; Young, Monique (NIH/VRC) [E]; Petrik, Amy (NIH/NIAID) [E]  
**Subject:** Re: (b) (4)

I don't think so. My sense from John is that (b) (4), (b) (5) I will be talking with Mark Esser by phone.

BG

Sent from my iPhone

On Mar 18, 2020, at 7:35 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) wrote:

Are we still planning to (b) (5), (b) (4)  
Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
coVip Scientific Lead  
VRC | NIAID | NIH  
(b) (6)

---

**From:** "Bok, Karin (NIH/VRC) [E]" <(b) (6)>  
**Date:** Friday, March 6, 2020 at 2:01:00 PM  
**To:** "Stein, Judy (NIH/VRC) [C]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Cc:** "Young, Monique (NIH/VRC) [E]" <(b) (6)> "Petrik, Amy (NIH/NIAID) [E]" (b) (6)  
**Subject:** Re: (b) (4)

(b) (4) was our primary contact.

Karin Bok, MS, PhD  
Senior Advisor, Vaccine Development  
Office of the Director, Vaccine Research Center  
National Institute of Allergy and Infectious Diseases  
National Institutes of Health  
phone: (b) (6) | mobile: (b) (6) email: (b) (6)  
<https://www.niaid.nih.gov/about/vrc>

---

**From:** "Stein, Judy (NIH/VRC) [C]" (b) (6)  
**Date:** Friday, March 6, 2020 at 1:48 PM  
**To:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6); "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6); ">, "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Cc:** "Young, Monique (NIH/VRC) [E]" (b) (6); ">, "Petrik, Amy (NIH/NIAID) [E]" (b) (6); Karin Bok (b) (6); ">  
**Subject:** RE: (b) (4)

Hi,  
I would start with (b) (4), (b) (6).  
(b) (6)  
Thanks,  
Judy

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Sent:** Friday, March 6, 2020 1:13 PM  
**To:** Stein, Judy (NIH/VRC) [C] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); ">, Graham, Barney (NIH/VRC) [E] (b) (6)  
**Cc:** Young, Monique (NIH/VRC) [E] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); ">  
**Subject:** Re: (b) (4)

Dr. Graham, who is the (b) (4) contact?

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

---

**From:** "Stein, Judy (NIH/VRC) [C]" (b) (6); ">  
**Date:** Friday, March 6, 2020 at 9:36 AM

**To:** Kaitlyn Morabito (b) (6)>, Barney Graham (b) (6)>  
**Cc:** Monique Young (b) (6)>, Kizzmekia Corbett  
(b) (6), "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, "Bok, Karin  
(NIH/VRC) [E]" (b) (6)  
**Subject:** RE: (b) (4)

Yes – if (b) (4), (b) (5) it can be sent with a transfer letter.

Thanks

Judy

---

**From:** Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>  
**Sent:** Friday, March 6, 2020 9:32 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Cc:** Stein, Judy (NIH/VRC) [C] (b) (6)>; Young, Monique (NIH/VRC) [E]  
(b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Petrik, Amy  
(NIH/NIAID) [E] (b) (6)>; Bok, Karin (NIH/VRC) [E] <(b) (6)>  
**Subject:** Re: (b) (4)

Hi Barney,

I wasn't at the meeting, so if it was discussed in person it was not communicated to me, but it was not in any of the follow up email traffic. It does cover (b) (4), (b) (5).

Thanks,

Kaitlyn

---

**From:** Barney Graham <(b) (6)>  
**Date:** Friday, March 6, 2020 at 9:15 AM  
**To:** "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>  
**Cc:** Judy Stein (b) (6)>, Monique Young <(b) (6)>, Kizzmekia  
Corbett (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" (b) (6),  
Karin Bok (b) (6)>  
**Subject:** Re: (b) (4)

That seems like an oversight. (b) (4), (b) (5)

Barney

Sent from my iPhone

On Mar 6, 2020, at 8:54 AM, Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) wrote:

Hi Barney,

The [REDACTED] (b) (4), (b) (5)

Kaitlyn

---

**From:** Barney Graham <[REDACTED] (b) (6)>  
**Date:** Friday, March 6, 2020 at 8:49 AM  
**To:** Judy Stein [REDACTED] (b) (6)  
**Cc:** Monique Young [REDACTED] (b) (6)>, Kizzmekia Corbett  
[REDACTED] (b) (6)"Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6)>,  
"Petrik, Amy (NIH/NIAID) [E]" [REDACTED] (b) (6)  
**Subject:** Re: [REDACTED] (b) (4)

Ok. Thanks. Let's try to get the [REDACTED] (b) (4), (b) (6) over there ASAP.

BG

Sent from my iPhone

On Mar 6, 2020, at 7:44 AM, Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)> wrote:

Hi everyone,  
This [REDACTED] (b) (4) is now legally signed.  
Monique and Barney,  
This needs an acknowledgement signature to be complete.

I will be out next week but if you send it to Amy and Nicole (see email below), and copy me, then this will be distributed to everybody who needs it.  
Thanks  
Judy

---

**From:** [REDACTED] (b) (6), (b) (4)  
**Sent:** Thursday, March 5, 2020 5:54 PM  
**To:** Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)  
**Cc:** [REDACTED] (b) (6), (b) (4)  
**Subject:** RE: [REDACTED] (b) (4)

Hi Judy- Here is the signed contract on our end. Can you route this to the appropriate people?  
Thanks

(b) (4)

---

**From:** Stein, Judy (NIH/VRC) [C] (b) (6) >  
**Sent:** Thursday, March 5, 2020 4:17 PM  
**To:** (b) (4)  
**Subject:** FW: (b) (4)

**CAUTION:** This email originated outside (b) (4). Do not open the attachment(s) unless you recognize the sender and know the content is safe.

Hi (b) (4)  
I see that (b) (4) is out until Monday so I am sending this to you too.  
Thanks,  
Judy

---

**From:** Stein, Judy (NIH/VRC) [C]  
**Sent:** Thursday, March 5, 2020 4:15 PM  
**To:** (b) (6), (b) (4)  
**Cc:** Petrik, Amy (NIH/NIAID) [E] (b) (6)  
**Subject:** FW (b) (4)

Hi (b) (4)  
How are you doing?  
I have attached the (b) (4) for your signatures. Once you sign, we will ask Barney to acknowledge.

Thanks very much and please let us know if you have questions.  
Best wishes.  
Judy

(b) (6), (b) (4)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 20 Apr 2020 16:20:34 +0000  
**To:** Victoria Demby;Joleen White;Ruckwardt, Tracy (NIH/VRC) [E]  
**Cc:** Velagapudi, Raja  
**Subject:** RE: Request speaker for COVID-19 vaccine

Sorry we didn't get back to you on this. We are a little swamped at the moment and behind on email.

Thank you for understanding.

Take care,

Barney

---

**From:** Victoria Demby (b) (6)  
**Sent:** Sunday, April 19, 2020 6:49 PM  
**To:** Joleen White (b) (6); Graham, Barney (NIH/VRC) [E]  
(b) (6); Ruckwardt, Tracy (NIH/VRC) [E] (b) (6)  
**Cc:** Velagapudi, Raja (b) (6)  
**Subject:** RE: Request speaker for COVID-19 vaccine

Dear all,

We were able to find a speaker and fill our agenda. We understand how busy you are right now and we are all in your corner for the work you are doing to combat COVID-19. All the best and thank you.

**Kind regards,**  
**Vicki**

\*\*\*\*\*

**Victoria E. Demby, Ph.D.**  
Senior Director, Team Leader  
Global Regulatory Affairs, Oncology Therapeutic Group  
GlaxoSmithKline  
1250 South Collegeville Road  
Collegeville, PA 19426

**Email** (b) (6)  
**Office** (b) (6)  
**Mobile**

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Please consider the environment before printing this email

---

**From:** Joleen White <(b) (6)>  
**Sent:** Friday, April 17, 2020 4:05 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Tracy Ruckwardt, (NIH/VRC) (b) (6)>  
**Cc:** Velagapudi, Raja <(b) (6)> Victoria Demby (b) (6)>  
**Subject:** RE: Request speaker for COVID-19 vaccine

**EXTERNAL**

I have now cc'ed Raja (the chair of the preventive approach session) and Vicki (the meeting chair).

Thank you,  
Joleen

---

**From:** Joleen White  
**Sent:** Friday, April 17, 2020 10:27 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Tracy Ruckwardt, (NIH/VRC) (b) (6)  
**Subject:** Request speaker for COVID-19 vaccine

Dear Barney and Tracy,

I would like to invite someone from your group to speak at a live-stream workshop on COVID-19 for the American Association of Pharmaceutical Scientists (AAPS). There is strong interest in the COVID-19 vaccine efforts, and the VRC collaboration with Moderna is of particular interest. I particularly enjoyed the WVCW webinar including how earlier work helped accelerate and the value of a prospective approach to other potential threats. Would either of you or another involved scientist be available to speak at 2:15-2:35pm on April 28 or at least join the panel discussion at 2:35-3?

We are also still soliciting a few additional talks if you know others who may be interested in discussing epidemiology (May 11 11:45am-12:05pm) or business continuity (May 11 2:15-2:35pm).

Thank you,  
Joleen

**Joleen T White, PhD**  
Bioassay Lead  
W + (b) (6)  
E (b) (6)

Bill & Melinda Gates Medical Research Institute  
245 Main Street, Cambridge, MA 02142

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 16 Mar 2020 21:45:53 +0000  
**To:** Lawrence Wright  
**Subject:** RE: Covid-19

OK. Let me know. I've attached an image of the 3D model. We published the structure in Science a few weeks ago.

Barney



-----Original Message-----

From: Lawrence Wright (b) (6) >  
Sent: Monday, March 16, 2020 5:42 PM  
To: Graham, Barney (NIH/VRC) [E] (b) (6)  
Subject: Re: Covid-19

Thanks, Barney. The publication date has been moved up from May 28 to April 23. It would be sooner but it turns out there are only two printers who still do book jackets, so we're in line.

Are you using the 3D model of the covid-19 spike protein? It's such an ungainly entity.

That sounds really hopeful about the phase 1 trial. I suspect that the NY'er believes it already has that covered because of Kormann's piece. Maybe we could talk about what makes this virus distinct?

I dropped a note to Catherine Bullis in the communications office.

Larry

> On Mar 16, 2020, at 4:15 PM, Graham, Barney (NIH/VRC) [E] (b) (6) > wrote:  
>  
> Hi Larry,  
>

> I've been wondering about you and your book during this crisis and hope you can get it out.  
>  
> We are executing some of the things we discussed for your book. Since we had been working on coronavirus intensively for the last 7 years, we knew the spike structure and stabilizing mutations to produce the right antigen once the sequence came out on January 10th. Since we had been working with Moderna using their mRNA platform to make a similar vaccine for MERS CoV that we had already proven would work we had access to a rapid manufacturing technology. Our phase 1 clinical trial started today in Seattle. It's a good story.  
>  
> Last week I interviewed with another New Yorker writer (Korman). She wrote part of the story, but was not a biologist so I'm not sure how much she appreciated what we were doing.  
>  
> Let me know what you would like to do. I am extremely busy and have been on the phone all day, but some things are more fun than others. I recommend that you contact the NIAID OCGR (Office of communications and government relations) because they would need to get clearance from above.  
>  
> Best wishes,  
>  
> Barney  
>  
>  
>  
> -----Original Message-----  
> From: Lawrence Wright [REDACTED] (b) (6)  
> Sent: Monday, March 16, 2020 4:38 PM  
> To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>  
> Subject: Covid-19  
>  
> Dear Barney,  
>  
> I'm certainly in an odd spot, with this novel looming on the horizon and reality outracing me. I often reflect on how grateful I am for the guidance you and others provided.  
>  
> The New Yorker is desperate for me to write something about Covid-19. I wonder if there's something you can talk to me about concerning efforts to develop a vaccine, and the characteristics of this new virus that distinguish it from other diseases.  
>  
> If so, let's set a time to talk. I'm mindful that your time is short and valuable.  
>  
> Hope you and yours are all well.  
>  
> Larry

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Mon, 30 Mar 2020 16:50:38 +0000  
**To:** Stein, Judy (NIH/VRC) [C]; Koup, Richard (NIH/VRC) [E]; Young, Monique (NIH/VRC) [E]; Thompson, Danielle (NIH/NIAID) [E]  
**Subject:** RE: COIs for (b) (4)  
**Attachments:** COI (b) (4) Graham.pdf

Signed document attached.

Thanks,

BG

---

**From:** Stein, Judy (NIH/VRC) [C] (b) (6)  
**Sent:** Monday, March 30, 2020 9:39 AM  
**To:** Koup, Richard (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Young, Monique (NIH/VRC) [E] (b) (6); Thompson, Danielle (NIH/NIAID) [E] (b) (6)  
**Subject:** COIs for (b) (4)

Hi everyone,  
I have attached 2 COI forms for the (b) (4).  
Can you please sign (stamp, e-sign are fine) and return these to me.

I will circulate an initial draft of the research plan soon and then follow with other documents.  
Thanks  
Judy

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 17 Mar 2020 21:08:16 +0000  
**To:** Georgiev, Ivelin  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: SARS (b) (4)

Hi Ivelin,

I'll let Kizzy decide. We will help if we can but it is very busy and we are short-handed. We are also (b) (4)

Best wishes,

Barney

Sent from my iPhone

On Mar 17, 2020, at 3:52 PM, Georgiev, Ivelin <(b) (6)> wrote:

Hi Barney, congratulations on the start of the vaccine clinical trial – amazing that something like this can be put together so quickly!

As I mentioned, Jason and I have started working together (b) (4)  
(b) (4)

Thanks!

Ivelin

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Saturday, February 22, 2020 12:32 PM  
**To:** Georgiev, Ivelin (b) (6)>  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)  
**Subject:** RE: SARS (b) (4)  
**Sensitivity:** Confidential



Hi Ivelin,

We have an original [REDACTED] (b) (4)

James Crowe has already received these, so not sure how you two are working together, but they are already at VU.

Barney

---

**From:** Georgiev, Ivelin <[REDACTED] (b) (6)>  
**Sent:** Friday, February 21, 2020 10:39 AM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Subject:** SARS [REDACTED] (b) (4)  
**Sensitivity:** Confidential

Dear Barney, I was talking with Jason about potential efforts to [REDACTED] (b) (4)  
[REDACTED] (b) (6)  
[REDACTED]

Thanks!

Ivelin

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 31 Mar 2020 15:34:27 +0000  
**To:** Needham, Emma  
**Subject:** RE: UpToDate: Message from Dr. Mary Torchia

Thank you for asking, but I am completely immersed in trying to advance our vaccine candidate that is now in clinical trials. I would not be the best person for this anyway. Perhaps you could ask Ruth Karron at Johns Hopkins if she would be willing to do this.

Take care,

Barney

---

**From:** Needham, Emma <Emma.Needham@wolterskluwer.com>  
**Sent:** Tuesday, March 31, 2020 11:17 AM  
**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Subject:** UpToDate: Message from Dr. Mary Torchia

*Sent on behalf of Dr. Mary Torchia*

Dear Dr. Graham,

I hope you are safe and well. I am certain that you are extremely busy with COVID-19-related responsibilities and hesitate to make this request, though hope that you may be willing—or at least willing to suggest someone else with appropriate expertise who would be willing-- to author an UpToDate topic related to COVID-19 in children. There will be a separate topic for antenatal, perinatal, and neonatal issues. The existing content that is focused on COVID-19 in adults is being expanded and need not be replicated in the pediatric topic.

Once the topic is published, I will be responsible for adding new information for you to review. I am willing to do whatever is necessary to make this task as easy as possible for you.

I will provide additional details if you are interested. If possible, please let us know of your interest or suggestion as soon as possible, ideally by Monday, April 6.

Thank you for your consideration,

Stay well,  
Mary

**Mary M. Torchia, MD**  
Deputy Editor, Pediatrics  
UpToDate

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[Mary.Torchia@wolterskluwer.com](mailto:Mary.Torchia@wolterskluwer.com)

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 25 Feb 2020 15:42:56 +0000  
**To:** De wit, Emmie (NIH/NIAID) [E]; Munster, Vincent (NIH/NIAID) [E]  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; van Doremalen, Neeltje (NIH/NIAID) [E]  
**Subject:** RE: (b) (5) reagents

Thanks Emmie,

We are probably going to start (b) (4), (b) (5)

(b) (4), (b) (5)

Barney

---

**From:** De wit, Emmie (NIH/NIAID) [E] (b) (6)  
**Sent:** Tuesday, February 25, 2020 10:25 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Munster, Vincent (NIH/NIAID) [E]  
(b) (6)  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6)  
**Subject:** RE: (b) (5) reagents

Hi Barney,  
Here are the (b) (4), (b) (5)

(b) (4), (b) (5)

Emmie

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Tuesday, February 25, 2020 7:55 AM  
**To:** Munster, Vincent (NIH/NIAID) [E] <(b) (6)>  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; van Doremalen, Neeltje (NIH/NIAID) [E] (b) (6)>; De wit, Emmie (NIH/NIAID) [E] (b) (6)>  
**Subject:** Re: (b) (5)reagents

Thanks Vincent. I would like to see the (b) (4), (b) (5)  
(b) (4), (b) (5)

I got some [REDACTED] (b) (5)

[REDACTED] I don't know the clinical story very well and trying to get more information.

Barney

Sent from my iPhone

On Feb 25, 2020, at 9:46 AM, Munster, Vincent (NIH/NIAID) [E] <[REDACTED]> (b) (6)  
wrote:

Thanks Barney,

[REDACTED] (b) (4), (b) (5)

Vincent Munster, PhD  
Chief, Virus Ecology Section  
Laboratory of Virology  
Rocky Mountain Laboratories  
NIAID/NIH

---

**From:** Barney Graham [REDACTED] (b) (6)>

**Date:** Tuesday, February 25, 2020 at 7:32 AM

**To:** [REDACTED] (b) (6)

**Cc:** "Corbett, Kizzmekia (NIH/VRC) [E]" [REDACTED] (b) (6) Neeltje van Doremalen  
[REDACTED] (b) (6)>, Emmie De wit [REDACTED] (b) (6)

**Subject:** Re: (b) (5) reagents

Hi Vincent. We can give you a [REDACTED] (b) (4), (b) (5)

[REDACTED] (b) (4), (b) (5)

Barney

Sent from my iPhone



On Feb 25, 2020, at 9:30 AM, Munster, Vincent (NIH/NIAID) [E] [REDACTED] (b) (6) wrote:

Hi VRC team, we are looking for (b) (5) reagents to set-up here at RML,

We are interested in either [REDACTED] (b) (5)

[REDACTED] (b) (5)

Vincent Munster, PhD  
Chief, Virus Ecology Section  
Laboratory of Virology  
Rocky Mountain Laboratories  
NIAID/NIH

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 24 Jan 2020 11:22:30 +0000  
**To:** Steven GONG  
**Cc:** Cassetti, Cristina (NIH/NIAID) [E]; Stemmy, Erik (NIH/NIAID) [E]; Embry, Alan (NIH/NIAID) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; (b) (6), (b) (4); Bok, Karin (NIH/VRC) [E]  
**Subject:** Re: Recombinant 2019 Novel Coronavirus (2019-nCoV) Subunit Vaccine development @ Clover Biopharma

Dr Gong,

Thank you for describing your ability to (b) (4)  
(b) (4)

Best wishes,

Barney Graham

Sent from my iPhone

On Jan 24, 2020, at 3:18 AM, Steven GONG (b) (6) >  
wrote:

Thank you very much Dr. Cassetti and all.

Drs. Stemmy and Embry:  
We would be interested to learn more about (b) (4)  
(b) (4)

If there is any further information / questions you have for Clover Biopharma, please let us know. We would also be available for a TC if helpful.

Drs. Graham and Morabito:  
If there are any (b) (4).  
Any guidance / recommendation on the general study plan would also be appreciated.

Clover has in-house research labs in China (HQ) and partner labs in US, where we can conduct the studies.

(b) (4)

Thanks again and look forward to your responses.

**Steven GONG | 龚东屹**

**Clover Biopharmaceuticals | 三叶草生物制药**

(b) (6)

VP, BD & Strategy | 副总裁, 业务发展和战略

M: (b) (6)

[www.cloverbiopharma.com](http://www.cloverbiopharma.com)

发件人: Cassetti, Cristina (NIH/NIAID) [E] [mailto:(b) (6)]

发送时间: 2020年1月24日 11:36

收件人: (b) (6)

抄送: Stemmy, Erik (NIH/NIAID) [E] (b) (6); Embry, Alan (NIH/NIAID) [E]

(b) (6); Graham, Barney (NIH/VRC) [E] (b) (6);

Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)

主题: FW: Recombinant 2019 Novel Coronavirus (2019-nCoV) Subunit Vaccine development @

Clover Biopharma

重要性: 高

Dear Dr. Gong,

Dr. Fauci asked me to respond to your email on his behalf. Thank you for reaching out to us to let us know about your vaccine development plans (b) (4) I

would like to introduce you to some of my colleagues at NIAID to initiate these discussions. Drs. Erik Stemmy and Alan Embry work in our extramural Division of Microbiology and Infectious Diseases (b) (4)

(b) (4) Drs. Barney Graham and Kaitlyn Morabito are intramural scientists that work at the Vaccine Research Center and that are developing their own 2019-nCoV vaccine candidate based on previous experience with MERS and other

coronaviruses. They might be able to provide some advice and share some protocols and reagents. Feel free to reach out to them directly for further discussions.

Best wishes,

Cristina

Cristina Cassetti, Ph.D.  
Deputy Director  
Division of Microbiology and Infectious Diseases  
National Institute of Allergy and Infectious Diseases, NIH  
[5601 Fishers Lane](#), Room 7G51  
[Rockville, MD 20852](#)  
Tel: (b) (6)  
(b) (6)

Administrative Assistant:  
Ms. Roshawn Treadwell-Hyde  
Tel: (b) (6)  
(b) (6)

---

**From:** Steven GONG <(b) (6)>  
**Sent:** Wednesday, January 22, 2020 5:57 AM  
**To:** Fauci, Anthony (NIH/NIAID) [E] (b) (6)>  
**Subject:** Recombinant 2019 Novel Coronavirus (2019-nCoV) Subunit Vaccine development @ Clover Biopharma  
**Importance:** High

Dear Professor Fauci,

This is Steven GONG from Clover Biopharma. I am writing to inform you that Clover has started development of a **recombinant coronavirus (2019-nCoV) S-protein subunit-trimer vaccine** using our globally-patented Trimer-Tag platform, and we would like to seek your advice (b) (4)  
(b) (4)

Clover is a global, clinical-stage and VC-backed biopharmaceutical company, and our novel & proprietary *Trimer-Tag*<sup>®</sup> Technology platform can be used produce covalently-trimerized fusion proteins to target trimerization-dependent pathways. (b) (4)  
(b) (4)

(b) (4)

We would greatly appreciate any guidance for the preclinical study plan.

(b) (4)

I have attached a brief introduction to Clover, Trimer-Tag, and our Subunit-Trimer Vaccines. Let us know if any further questions.

I hope that Clover's innovative subunit-trimer vaccines platform could be of some help in assisting CDC/NIAID in rapidly developing a viable coronavirus vaccines. We will keep you posted on our progress on this as more data will be come out in next couple of weeks, and we appreciate your comments on our approach

(b) (4)

---

**Steven GONG | 龚东屹**

**Clover Biopharmaceuticals | 三叶草生物制药**

(b) (6)

VP, BD & Strategy | 副总裁, 业务发展和战略

M: (b) (6)

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 18 Apr 2020 11:56:06 +0000  
**To:** Mo  
**Subject:** RE: Howdy

Thanks Moriah,  
We are not around bldg. 40 much these days, but when the CoV passes, please feel free to stop by.  
Thanks for the update.

Take care,

Barney

**From:** Mo (b) (6) >  
**Sent:** Thursday, April 16, 2020 2:39 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** Howdy

Hi Dr. G,

How have you been? I know it's been a while since we have last spoke and I apologize for that. Life got a little crazy. I hope the NIH has been treating you well. After graduating from (b) (6)

(b) (6)

Pretty cool right! Once this madness has calm down, I promise to visit.

Hope to hear from you soon and please stay safe,

Moriah♥👉



page appears blank in original

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 13 Mar 2020 22:22:39 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Cc:** Hadi Mohamad Yassine; Maria Smatti; Stein, Judy (NIH/VRC) [C]  
**Subject:** Re: COVID-19  
**Attachments:** image003.png, image006.jpg, image007.png

I think we can share with (b) (4), (b) (6) program. 😊

Hope you and your family are staying well.

Best wishes,

Barney

Sent from my iPhone

On Mar 13, 2020, at 4:43 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) wrote:

Thanks Hadi,  
Judy Stein cc'ed here will let us know if it fits under current agreements and we will then ship expeditiously.

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

---

**From:** "Hadi Mohamad Yassine" (b) (6)  
**Date:** Friday, March 13, 2020 at 4:34:08 PM  
**To:** "Graham, Barney (NIH/VRC) [E]" (b) (6)>  
**Cc:** "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>, "Maria Smatti" (b) (6)  
**Subject:** COVID-19

Dear Barney

I hope all is well around you, your family and the lab; and all the appreciation for your dedication and effort in developing a vaccine for COVID-19.

I just want to inquire about the possibility of getting [REDACTED] (b) (4)  
[REDACTED] that would be really appreciated.

Thank you much and stay safe.

Best

**Hadi M. Yassine, M.Sc., Ph.D.**

Research Projects Manager

Associate Professor of Infectious Diseases

Work phone: [REDACTED] (b) (6)

Mobile Phone: [REDACTED] (b) (6)

E-mails: [REDACTED] (b) (6) (skype), [REDACTED] (b) (6)

\*\*\*\*\*

Qatar University Biomedical Research Center

QU-NRC, Building H10, Zone 5, Room D101

P.O.Box: 2713- Doha-Qatar

<image006.jpg>

<image003.png>

<image007.png>

"The vision of the eye is limited, but the vision of the heart transcends all barriers of time and space"

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**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 21 Jan 2020 21:38:19 +0000  
**To:** Marston, Hilary (NIH/NIAID) [E]  
**Cc:** [REDACTED] (b) (6)  
**Subject:** RE: any glaring issues  
**Attachments:** JAMA - Viewpoint on 2019 n-CoV - Paules Marston and Fauci - 01-21-2020\_BG.docx

Here are a few comments in the margins.

BG

---

**From:** Marston, Hilary (NIH/NIAID) [E] [REDACTED] (b) (6)  
**Sent:** Tuesday, January 21, 2020 10:57 AM  
**To:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) >  
**Cc:** [REDACTED] (b) (6)  
**Subject:** any glaring issues

Barney, ASF was hoping you could take a look at the attached draft today for any glaring errors or issues. Not for line edits – not worth your time and he won't take them. 😊  
Your expertise would be much appreciated. We're hoping to submit later today.

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Tue, 24 Mar 2020 19:18:50 +0000  
**To:** Robert Belshe  
**Subject:** Re: THANKS

Thanks Bob. It will be good to have some chloroquine data out soon because of the confusion created by our politicians. I think this approach might be helpful but it's going to take a large investment and it felt like they were reluctant to go all in. It seemed like they weren't using the obvious control because they didn't want to sacrifice something they could sell. Maybe I'm over interpreting.

Barney

Sent from my iPhone

On Mar 24, 2020, at 3:12 PM, Robert Belshe <(b) (6)> wrote:

Dear Barney- your comments were really helpful. Thanks for joining the call today. Several weak studies are starting to come out that are hard to interpret, (<https://www.fiercepharma.com/pharma-asia/top-covid-19-aspirants-chloroquine-abbvie-s-kaletra-and-a-flu-drug-disappoint-clinical>) and I hope the HIG studies will be designed to give clear answers. Kindest regards, Bob  
Robert B Belshe, MD  
mobile (b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 25 Apr 2020 17:46:21 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Cc:** Hiatt, Nissa (NIH/VRC) [C]  
**Subject:** Re: Invitation to Speak: UNC Gillings SPH Inclusive Excellence Series

This is an academic/educational event that should not require clearance.

Barney

Sent from my iPhone

On Apr 25, 2020, at 1:20 PM, Corbett, Kizzmekia (NIH/VRC) [E]

(b) (6) wrote:

Good afternoon Nissa, Is this seminar considered a comms request? If so, I'm interested and ask that upon Dr. Graham's approval, you fwd to all apt parties.

Thank you.

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

---

**From:** "Cipriani, Kauline" <(b) (6)>

**Date:** Friday, April 24, 2020 at 4:02:04 PM

**To:** "Cherie Butts" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]"

(b) (6).

**Subject:** RE: Invitation to Speak: UNC Gillings SPH Inclusive Excellence Series

Thanks Cherie! Dr. Corbett, I look forward to hearing from you. You can find more info on this series and view the first webinar at <https://sph.unc.edu/diversity/eee-series/>. I hope you both have wonderful weekends. Kauline

---

**From:** Cherie Butts (b) (6)

**Sent:** Friday, April 24, 2020 3:53 PM

**To:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>

**Cc:** Cipriani, Kauline (b) (6)

**Subject:** Invitation to Speak: UNC Gillings SPH Inclusive Excellence Series



Happy Friday, Kizzmekia!

I hope you are looking forward to a restful weekend.

I am contacting you regarding the UNC seminar series noted in the subject line. Kauline (copied on this message) runs the series and asked me about speakers for a panel on vaccine production. I immediately thought of you!

If you are open to this, she can coordinate a date/time for the session. If your schedule will not accommodate participation at this time, I would ask you to provide a few suggestions of people who are as brilliant, dynamic, and forward-thinking as yourself. Kauline provide information on the series (shown below) for you to consider. Please feel free to ask her any questions you may have regarding the series or proposed session.

Take care, and please stay safe.

Cherié

**Series Description:** The Emergency Preparedness, Ethics and Equity Series explores how we might continue to foster inclusive excellence and health equity during the most turbulent of times. Speakers will explore ways to consistently apply culturally relevant, ethical and equitable decision-making so that the most vulnerable among us are not left further disenfranchised post-COVID-19.

**Panel Description:** We would like to offer a webinar on the concerns around ethics and equity that should be considered regarding COVID-19 vaccine production and public release. Final title TBD. Webinars are 60 min in length, will be recorded (pending panelist permission), and will be archived on the Gillings Inclusive Excellence website. Panelist presentations will be 10 min in length with 3 panelists (preferred) or 15 min with 2 panelists. Q&A is approximately 15 min. We use Zoom webinars to register attendees, but we also livestream to Facebook.

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sun, 15 Mar 2020 18:42:59 +0000  
**To:** Jason McLellan  
**Subject:** Re: Help [REDACTED] (b) (4)

(b) (4)

We feel a little tenuous because one infection in the group could shut us down.

BG

Sent from my iPhone

On Mar 15, 2020, at 1:29 PM, Jason McLellan <[REDACTED] (b) (6)> wrote:

Sounds good, thanks for the heads up.

Any update on [REDACTED] (b) (4)  
Jason

---

**From:** Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)  
**Sent:** Saturday, March 14, 2020 4:13 PM  
**To:** Jason McLellan [REDACTED] (b) (6) >  
**Subject:** FW: Help [REDACTED] (b) (4)  
**Importance:** High

Just FYI. We have stopped sending protein to people. Only plasmid. If they cannot make their own protein, they won't get very far.

Barney

---

**From:** You, Zhaoyang <[REDACTED] (b) (6)>  
**Sent:** Friday, March 13, 2020 10:46 AM  
**To:** Jason McLellan [REDACTED] (b) (6); Graham, Barney (NIH/VRC) [E]  
[REDACTED] (b) (6)  
**Cc:** [REDACTED] (b) (6) >  
**Subject:** RE: Help [REDACTED] (b) (4)  
**Importance:** High

Hi Drs. McLellan, Graham and Wang,

Thanks for your prompt response. Also, could you please provide some proteins of (b) (4)

(b) (4)

Hopefully, our (b) (4) in a timely manner.

Our FedEx account number is (b) (4)

Address:

Ms. Xingxing Hao  
Dept of Dermatology  
University of Pittsburgh School of Medicine  
W1104 BST, 200 Lothrop St  
Pittsburgh, PA 15213  
Tel: (b) (6)

Have a great weekend!

ZY

---

**From:** Jason McLellan (b) (6)

**Sent:** Thursday, March 12, 2020 5:58 PM

**To:** You, Zhaoyang (b) (6)

**Cc:** (b) (6) >

**Subject:** RE: Help (b) (4)

No problem. My postdoc Nianshuang Wang (Cc'd) can ship you the plasmid. Please coordinate the shipment with him.

Best regards,  
Jason

---

**From:** You, Zhaoyang (b) (6)

**Sent:** Thursday, March 12, 2020 1:43 PM

**To:** Jason McLellan (b) (6)

**Subject:** Help (b) (4)

**Importance:** High

Hi Drs. McLellan and Graham,

I just read through your seminal paper of SARS-CoV-2 (2019-nCoV) in Science.

My group has focus on vaccine development in particular cancer. We are highly interested in

(b) (4)

If possible, could you please provide the plasmid [REDACTED] (b) (4)  
[REDACTED] constructed in your lab for us [REDACTED] (b) (4)

Thank you very much for your time and consideration.

Have a great rest of your day.

ZY

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 1 Feb 2020 11:28:13 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Subject:** Re: 2019-nCoV (b) (4)

Kizzy,

We should only be sending them plasmid. They can make their own protein. Don't underestimate how much we will need.

BG

Sent from my iPhone

On Feb 1, 2020, at 12:26 PM, Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6) wrote:

Good morning,

Please reply with the desired amount of the following you would like us to send:  
(b) (4)

Sent from the mobile device of:  
Kizzmekia S. Corbett, PhD  
Senior Research Fellow  
NIH | NIAID | VRC  
(b) (6)

---

**From:** "Davide Robbiani" (b) (6)  
**Date:** Friday, January 31, 2020 at 8:55:27 AM  
**To:** "Graham, Barney (NIH/VRC) [E]" (b) (6)  
**Cc:** "Wes Van Voorhis MD PhD" <(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Mascola, John (NIH/VRC) [E]" (b) (6), "Stein, Judy (NIH/VRC) [C]" (b) (6)  
**Subject:** Re: 2019-nCoV (b) (4)

(b) (4)

Davide

> On Jan 31, 2020, at 08:39, Graham, Barney (NIH/VRC) [E] (b) (6) wrote:

>

> Do you mean as (b) (4)?

>

> Barney

>

>

>

>

> Sent from my iPhone

>

>> On Jan 30, 2020, at 11:45 PM, Davide Robbiani (b) (6) wrote:

>>

>> Thank you Wes and Barney, (b) (4).

>> We would be interested in the (b) (4)

(b) (4)

>> With best regards,

>> Davide

>>

>>

>> --

>> Davide F. Robbiani, MD, PhD

>> Research Associate Professor

>> Molecular Immunology

>>

>> The Rockefeller University

>> Browne Center for Immunology

>> 1230 York Avenue, Box 220

>> New York, NY 10065, USA

>>

>> (b) (6)

>> (b) (6) - phone

>> 1.212.327.8370 - fax

>>

>>

>>

>>

>>> On Jan 30, 2020, at 17:40, Van Voorhis, Wes (b) (6) wrote:

>>>

>>> Barney, thanks for your immediate response. It would be great to (b) (4)

(b) (4) Dr. Robbiani at Rockefeller University as they will actually (b) (4)

(b) (4) But I'm happy to participate (b) (4). Thanks

again, Wes

>>>

>>> Wes Van Voorhis MD PhD

>>> Professor, Allergy and Infectious Diseases

>>> Director, Center for Emerging and Re-emerging Infectious Diseases (CERID)



>>> University of Washington

>>> Office: (b) (6)

>>> Fax: 206-616-4898

>>> MS 358061, 750 Republican St., Rm E-606

>>> Seattle WA 98109-4766 USA

>>> SKYPE NAME (b) (6)

>>>

>>> From: Graham, Barney (NIH/VRC) [E] <(b) (6)>

>>> Sent: Thursday, January 30, 2020 1:08 PM

>>> To: Van Voorhis, Wes <(b) (6)>

>>> Cc: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Davide Robbiani

(b) (6) <(b) (6)> Corbett, Kizzmekia (NIH/VRC)

[E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Stein, Judy

(NIH/VRC) [C] (b) (6)>

>>> Subject: Re: 2019-nCoV (b) (4)

>>>

>>> Thanks for your email and interest. (b) (6)

(b) (4)

>>>

>>> Barney

>>>

>>>

>>>

>>>

>>> Sent from my iPhone

>>>

>>>

>>> On Jan 30, 2020, at 9:49 PM, Van Voorhis, Wes <(b) (6)> wrote:

>>>

>>>

>>> Dear Dr. Graham,

>>>

>>> I am at the University of Washington and (b) (6)

(b) (4)

(b) (4)

>>> I understand you are traveling, so have cc.ed your laboratory contact as well, Dr. Morabito.

>>>

>>> Thanks for your consideration!

>>>

>>> Wes Van Voorhis

>>>

>>> Wes Van Voorhis MD PhD

>>> Professor, Allergy and Infectious Diseases

>>> Director, Center for Emerging and Re-emerging Infectious Diseases (CERID)

>>> University of Washington

>>> Office: (b) (6)

>>> Fax: 206-616-4898

>>> MS 358061, 750 Republican St., Rm E-606

>>> Seattle WA 98109-4766 USA

>>> SKYPE NAME (b) (6)

>>>

>>> From: Mascola, John (NIH/VRC) [E] (b) (6)>

>>> Sent: Sunday, January 26, 2020 10:18 AM

>>> To: Wald, Anna1 (b) (6)>; Suhana, Tina (NIH/VRC) [E] (b) (6)>

>>> Cc: Corey MD, Larry (b) (6)>; Helen, Chu (b) (6)>; Julie McElrath

(b) (6); Kathleen Neuzil < (b) (6)>; Van Voorhis, Wesley

(b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia

(NIH/VRC) [E] < (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E]

(b) (6)>; Bok, Karin (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC)

[C] (b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Chen,

Grace (NIH/NIAID) [E] (b) (6)>; Marston, Hilary (NIH/NIAID) [E]

(b) (6)>; Austin, Sarah (NIH/NIAID) [E] (b) (6)>

>>> Subject: RE: Patient with coronavirus

>>>

>>> Great.

>>>

>>> Helen – I just talked to Barney who will be out of town next week, but suggested we proceed with a call. Kaitlyn Morabito is coordinating efforts for his lab and our clinical staff now also copied.

>>>

>>> So lets wait to get confirmation for Hilary Marson from Tony's office – and then Tina can find time for a call.

>>>

>>> A key goal is to discuss providing (b) (4)

>>>

>>> John

>>>

>>>

>>> From: Anna Wald (b) (6)>

>>> Sent: Sunday, January 26, 2020 12:56 PM

>>> To: Mascola, John (NIH/VRC) [E] (b) (6)>

>>> Cc: Corey MD, Larry (b) (6)>; Helen Y Chu (b) (6)>; Julie McElrath

(b) (6)>; Kathleen Neuzil (b) (6)>; Wesley C. Van Voorhis

(b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6).

>>> Subject: Re: Patient with coronavirus

>>>

>>> Dear John,

>>>

>>> That sounds perfect. While I would like to remain in the loop, I am teaching in subSaharan Africa for the next 2 weeks so calls may be hard to coordinate with my schedule and I don't want to delay the discussions. Please go ahead and work with Helen directly- I know she is excited to collaborate. Helen and I will talk so she can update me.

>>>

>>> Please don't hesitate to call my cell if there is anything we should discuss.

>>>

>>> Best, Anna

>>>

>>>

>>>

>>> Anna Wald, MD, MPH

>>>

>>> Head of Allergy and Infectious Diseases Division

>>> Professor of Medicine, Laboratory Medicine & Epidemiology, University of Washington

>>>

>>> tel. (b) (6)

>>> fax. 206/520-4371

>>> University of Washington Virology Research Clinic

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>>>

>>> PHYSICAL LOCATION:

>>> 908 Jefferson St, Suite 11NJ-1166, Seattle, WA 98104

>>>

>>> MAILING ADDRESS:

>>> Harborview Medical Center, 325 9th Ave, Box #359928, Seattle, WA 98104

>>>

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>>> From: Mascola, John (NIH/VRC) [E] (b) (6)

>>> Sent: Sunday, January 26, 2020 9:49:31 AM

>>> To: Anna Wald (b) (6)

>>> Cc: Corey MD, Larry (b) (6); Helen Y Chu (b) (6); Julie McElrath

(b) (6); Kathleen Neuzil (b) (6); Wesley C. Van Voorhis

(b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia

(NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E]

(b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); Stein, Judy (NIH/VRC)  
[C] (b) (6).

>>> Subject: RE: Patient with coronavirus

>>>

>>> Dear Anna,

>>>

>>> Thank you for this important email. We have had discussion with CDC leadership that NIAID/NIH should be primarily involved here. I'm copying the NIH POC, Dr. Hillary Marston, special assistant to Dr. Fauci.

>>>

(b) (4)

>>> Hilary, with help from Karin Bock on our end, can help set up a call, which I suggest would first be between your group and our NIH staff.

>>>

>>> Thank you,

>>>

>>>

>>> John R. Mascola, M.D.

>>> Director, Vaccine Research Center

>>> National Institute of Allergy and Infectious Diseases

>>> National Institutes of Health

>>> email: (b) (6)

>>> office tel (b) (6)

>>>

>>>

>>>

>>>

>>> From: Anna Wald (b) (6)

>>> Sent: Sunday, January 26, 2020 12:02 PM

>>> To: Mascola, John (NIH/VRC) [E] (b) (6)

>>> Cc: Corey MD, Larry (b) (6); Helen Y Chu (b) (6); Julie McElrath

(b) (6); Kathleen Neuzil (b) (6); Wesley C. Van Voorhis  
(b) (6).

>>> Subject: Patient with coronavirus

>>>

>>> Dear Dr. Mascola,

>>>

>>> I am reaching out on suggestion of Larry Corey to touch base about the patient with coronavirus who is (b) (4)

(b) (4)

>>>

(b) (4)



>>>

>>> I am heading to the airport in few hours for a trip to Kenya so will not be on email. However, if anyone is trying to reach me, my cell phone is (b) (6)

>>>

>>> Thank you, Anna

>>>

>>>

>>> Anna Wald, MD, MPH

>>>

>>> Head of Allergy and Infectious Diseases Division,  
>>> Professor of Medicine, Laboratory Medicine & Epidemiology,  
>>> University of Washington

>>>

>>> tel. (b) (6)

>>> fax. 206/520-4371

>>> University of Washington Virology Research Clinic

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[3A\\_depts.washington.edu\\_herpes\\_&d=DwIGaQ&c=JeTkUgVztGMmhKYjxsy2rfoWYibKlYmxXezlG3oNSTg&r=kpbBWD1A1k4ir98CVcLZ-](https://urldefense.proofpoint.com/v2/url?u=http-3A_depts.washington.edu_herpes_&d=DwIGaQ&c=JeTkUgVztGMmhKYjxsy2rfoWYibKlYmxXezlG3oNSTg&r=kpbBWD1A1k4ir98CVcLZ-dlmyCsooxRmpndUDWGq0a8&m=EDD_VrqcOBp2dMVyqBHrdjzVWdu-FSkoajciFqAYNCM&s=Qoe5t1bGtH-5fo4QCvFXeIxpA4t7N5Epad4ZUm4g1Bw&e=)

[dlmyCsooxRmpndUDWGq0a8&m=EDD\\_VrqcOBp2dMVyqBHrdjzVWdu-](https://urldefense.proofpoint.com/v2/url?u=http-3A_depts.washington.edu_herpes_&d=DwIGaQ&c=JeTkUgVztGMmhKYjxsy2rfoWYibKlYmxXezlG3oNSTg&r=kpbBWD1A1k4ir98CVcLZ-dlmyCsooxRmpndUDWGq0a8&m=EDD_VrqcOBp2dMVyqBHrdjzVWdu-FSkoajciFqAYNCM&s=Qoe5t1bGtH-5fo4QCvFXeIxpA4t7N5Epad4ZUm4g1Bw&e=)

[FSkoajciFqAYNCM&s=Qoe5t1bGtH-5fo4QCvFXeIxpA4t7N5Epad4ZUm4g1Bw&e=](https://urldefense.proofpoint.com/v2/url?u=http-3A_depts.washington.edu_herpes_&d=DwIGaQ&c=JeTkUgVztGMmhKYjxsy2rfoWYibKlYmxXezlG3oNSTg&r=kpbBWD1A1k4ir98CVcLZ-dlmyCsooxRmpndUDWGq0a8&m=EDD_VrqcOBp2dMVyqBHrdjzVWdu-FSkoajciFqAYNCM&s=Qoe5t1bGtH-5fo4QCvFXeIxpA4t7N5Epad4ZUm4g1Bw&e=)

>>> pronouns: she/her/hers

>>>

>>> PHYSICAL LOCATION:

>>> 908 Jefferson St, Suite 11NJ-1166, Seattle, WA 98104

>>>

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>>

>>



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 5 Feb 2020 13:06:48 +0000  
**To:** Corbett, Kizzmekia (NIH/VRC) [E]  
**Cc:** Morabito, Kaitlyn (NIH/VRC) [E]; Wang, Lingshu (NIH/VRC) [E]; Kong, Wing-Pui (NIH/VRC) [E]; Shi, Wei (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]; Abiona, Olubukola (NIH/VRC) [F]; Ziwawo, Cynthia (NIH/VRC) [F]; Hutchinson, Geoffrey (NIH/VRC) [F]; Bok, Karin (NIH/VRC) [E]  
**Subject:** Re: bioRxiv: Preliminary identification of potential vaccine targets for 2019-nCoV based on SARS-CoV immunological studies <http://bit.ly/31xn2nh>  
**Attachments:** image001.jpg

We need to get some real data out there.

BG

Sent from my iPhone

On Feb 5, 2020, at 7:03 AM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

---

**From:** "Folkers, Greg (NIH/NIAID) [E]" (b) (6)  
**Date:** Wednesday, February 5, 2020 at 6:58 AM  
**Subject:** bioRxiv: Preliminary identification of potential vaccine targets for 2019-nCoV based on SARS-CoV immunological studies <http://bit.ly/31xn2nh>

[<image001.jpg>](#)

bioRxiv is receiving many new papers on coronavirus 2019-nCoV. A reminder: these are preliminary reports that have not been peer-reviewed. They should not be regarded as conclusive, guide clinical practice/health-related behavior, or be reported in news media as established information.

New Results [Comment on this paper](#)

# Preliminary identification of potential vaccine targets for 2019-nCoV based on SARS-CoV immunological studies

[View ORCID Profile](#)Syed Faraz Ahmed, [View ORCID Profile](#)Ahmed A. Quadeer, [View ORCID Profile](#)Matthew R. McKay

doi: <https://doi.org/10.1101/2020.02.03.933226>

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## Abstract

The beginning of 2020 has seen the emergence of the 2019 novel coronavirus (2019-nCoV) outbreak. Since the first reported case in the Wuhan city of China, 2019-nCoV has spread to other cities in China as well as to multiple countries across four continents. There is an imminent need to better understand this novel virus and to develop ways to control its spread. In this study, we sought to gain insights for vaccine design against 2019-nCoV by considering the high genetic similarity between 2019-nCoV and the Severe Acute Respiratory Syndrome coronavirus (SARS-CoV), and leveraging existing immunological studies of SARS-CoV. By screening the experimentally-determined SARS-CoV-derived B cell and T cell epitopes in the immunogenic structural proteins of SARS-CoV, we identified a set of B cell and T cell epitopes derived from the spike (S) and nucleocapsid (N) proteins that map identically to 2019-nCoV proteins. As no mutation has been observed in these identified epitopes among the available 2019-nCoV sequences (as of 29 January 2020), immune targeting of these epitopes may potentially offer protection against 2019-nCoV. For the T cell epitopes, we performed a population coverage analysis of the associated MHC alleles and proposed a set of epitopes that is estimated to provide broad coverage globally, as well as in China. Our findings provide a screened set of epitopes that can help guide experimental efforts towards the development of vaccines against 2019-nCoV.

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**bioRxiv**

THE PREPRINT SERVER FOR BIOLOGY

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 16 Apr 2020 19:00:16 +0000  
**To:** Van Hoof, Johan [JRDBE]  
**Subject:** Accepted: COVID-19 follow up

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Fri, 6 Mar 2020 18:13:21 +0000  
**To:** Schuster, Henry;Neil King  
**Cc:** David Baker;Leila R Gray;Lance Stewart;Ian C Haydon;Turcotte, Sarah  
**Subject:** RE: IPD  
**Attachments:** EID vaccine development Nat Immunol 2017.pdf, Structure=Based Vaccine Design 2019.pdf, JAMA Vaccine Platform Technologies 2018.pdf, nCoV spike structure Science 2020.pdf

These are a few papers that give you a sense for how we think about viruses, vaccine development, and pandemic preparedness.

Barney

---

**From:** Schuster, Henry <MHS@cbsnews.com>  
**Sent:** Friday, March 6, 2020 1:01 PM  
**To:** Neil King (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Cc:** David Baker (b) (6); Leila R Gray (b) (6)>; Lance Stewart (b) (6)>; Ian C Haydon (b) (6)>; Turcotte, Sarah <TurcotteS@cbsnews.com>  
**Subject:** RE: IPD

David gave me a great overview of protein design and some about coronavirus, but he suggested the two of you would be best suited to give us more detail about vaccines, proteins and coronavirus, so that's where we would like to focus. But we don't know what we don't know so we appreciate any information that puts this in the proper context.

**Henry Schuster**  **60 Minutes Producer**  
**mobile:** (b) (6)

**From:** Neil King <(b) (6)>  
**Sent:** Friday, March 6, 2020 12:49 PM  
**To:** Graham, Barney (NIH/VRC) [E] <(b) (6)>  
**Cc:** Schuster, Henry <MHS@cbsnews.com>; David Baker (b) (6)>; Leila R Gray (b) (6)>; Lance Stewart <(b) (6)>; Ian C Haydon (b) (6)>; Turcotte, Sarah <TurcotteS@cbsnews.com>  
**Subject:** Re: IPD

External Email

Or protein design generally?



On Fri, Mar 6, 2020 at 9:47 AM Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

I will try to be on the 4 pm call.

Are we talking about RSV, influenza or coronaviruses?

Barney

---

**From:** Schuster, Henry <[MHS@cbsnews.com](mailto:MHS@cbsnews.com)>

**Sent:** Friday, March 6, 2020 9:18 AM

**To:** David Baker <(b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>; Leila R Gray <(b) (6)>; Lance Stewart <(b) (6)>; Ian C Haydon <(b) (6)>; Neil King <(b) (6)>

**Cc:** Turcotte, Sarah <[TurcotteS@cbsnews.com](mailto:TurcotteS@cbsnews.com)>

**Subject:** RE: IPD

Neal and Barney,

I wonder if each of you might have time for a phone call. We're producers for 60 MINUTES and we reached out to David at the suggestion of George Church, who pointed us toward the work going on at the IPD.

At the moment, we're just looking at a variety of angles and trying to get ourselves up to speed so we can help 60 MINUTES offer intelligent and forward-leaning coverage.

A call with us would be only for research purposes.

If you have any time in your schedule, we would greatly appreciate it. And in advance of any call, if there is anything you think we should read, please let us know.

Regards,

Henry

**Henry Schuster**  60 Minutes Producer

**mobile:** (b) (6)

---

**From:** David Baker <(b) (6)>

**Sent:** Thursday, March 5, 2020 5:48 PM

**To:** Schuster, Henry <[MHS@cbsnews.com](mailto:MHS@cbsnews.com)>; Barney Graham <(b) (6)>; Leila R Gray <(b) (6)>; Lance Stewart <(b) (6)>; Ian C Haydon <(b) (6)>; Neil King <(b) (6)>

**Cc:** Turcotte, Sarah <[TurcotteS@cbsnews.com](mailto:TurcotteS@cbsnews.com)>

**Subject:** Re: IPD

External Email

Hi Henry,



Neil cc'd above is leading up vaccine efforts at the IPD and Barney is our lead collaborator at the NIH VRC. Let us know if you decide to visit!

David

On Mar 5, 2020, at 2:24 PM, Schuster, Henry <[MHS@cbsnews.com](mailto:MHS@cbsnews.com)> wrote:

David,

Thank you again for your insights yesterday. Our plans are of course dynamic so I don't know if/when we will get out there. But if you don't mind putting me in touch with your vaccine colleagues at IPD and also NIH, I would be grateful.

Sarah, also on this email, is my colleague and I have shared with her the notes from our call yesterday.

Regards,

Henry

**Henry Schuster** <image001.png> **60 Minutes Producer**

**mobile:** (b) (6)

---

**From:** David Baker (b) (6) >

**Sent:** Tuesday, March 3, 2020 1:06 AM

**To:** Lance Stewart (b) (6); ipdadmin (b) (6)

**Cc:** Schuster, Henry <[MHS@cbsnews.com](mailto:MHS@cbsnews.com)>

**Subject:** Re: IPD

**External Email-**

I'll be back tomorrow afternoon. Leslie can schedule a time to talk, perhaps Wednesday?

On Mar 2, 2020, at 12:21 PM, Lance Stewart (b) (6) wrote:

Hi Jay, thanks for the introduction (moving you to bcc to avoid spam).

Henry. David traveling the next couple of days. Let me know if I can be of assistance.

Best wishes.

Lance.

Lance Stewart, Ph.D. MBA  
Chief Strategy and Operations Officer  
Institute for Protein Design

Cell: (b) (6)  
Tel: (b) (6)  
Email: (b) (6)

University of Washington  
Molecular Engineering and Sciences Building  
3946 W Stevens Way NE  
Seattle, WA 98195-1655

On Mar 2, 2020, at 7:35 AM, Schuster, Henry <[MHS@cbsnews.com](mailto:MHS@cbsnews.com)> wrote:

Thanks. Is there a good time to talk in the next couple of days? And would you recommend any reading material in advance from your site or elsewhere?  
Regards,

Sent from my iPad

On Mar 2, 2020, at 10:33 AM, Jay Shendure (b) (6) wrote:

External Email>

Hi Henry,

You absolutely should and that would be David Baker and/or Lance Stewart. I am taking the liberty of adding them here.

Lance/David -- Henry is a producer at 60 Minutes (and led the recent feature on George Church)

Henry -- David is Scientific Director and Lance is Chief Strategy and Operations Officer of the IPD, which I can support George in saying is leading the way to the future on many fronts, including but not limited to vaccines and drugs.

Best,

Jay

---

Jay Shendure, MD, PhD  
Investigator, Howard Hughes Medical Institute  
Director, Allen Discovery Center for Lineage Tracing  
Director, Brotman Baty Institute for Precision Medicine  
Professor, Genome Sciences, University of Washington

(b) (6) | (b) (6)

---

On Mon, Mar 2, 2020 at 7:20 AM Schuster, Henry <[MHS@cbsnews.com](mailto:MHS@cbsnews.com)> wrote:  
George suggests we should learn more about how IPD is leading the way on research for  
vaccines and drugs.

Who is the best person to speak with?

Henry Schuster

(b) (6)

Sent from my iPhone

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Wed, 4 Mar 2020 22:23:17 +0000  
**To:** Jorge Kalil  
**Subject:** Re: coming to Brazil  
**Attachments:** desconhecido.jpg, IMG\_0701.jpeg

Wow! You look like really happy and proud (b) (6)

We are heavy into the nCoV response. We have collaborated with Moderna so it's our vaccine design and their mRNA delivery system. Busy times.

We told Esper I couldn't come this year because of some conflicting meetings. Would be an interesting time to be there. Probably no NCoV during your summertime.

Best wishes,

Barney

Sent from my iPhone

> On Mar 4, 2020, at 3:53 PM, Jorge Kalil (b) (6) wrote:  
>  
> Hi Barney  
> How are you doing? It's one emerging disease after the other. And you are taking all these challenges.  
> I saw that you're developing a vaccine against COVID-19.  
> Is it based on nucleic acid or protein? Are you the entire length of the spike gene or part of it?  
> Are you planning to come to the HIV course? Is Cynthia coming?  
> How is the entire family doing.  
> Our (b) (6)  
> All the best  
> Jorge  
> <desconhecido.jpg>  
> <IMG\_0701.jpeg>  
>



**Jorge Kalil MD PhD FRCP Dr. h.c.**  
Professor of Clinical Immunology and Allergy  
Past President of IUIS - International Union of Immunological Societies

Av. Dr. Enéas de Carvalho Aguiar, 44 - 9º andar - Bloco II  
05403-000 - São Paulo - SP Brazil

t + (b) (6)  
f + (b) (6)



**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 11 Apr 2020 12:47:55 +0000  
**To:** Cohen, Jeffrey (NIH/NIAID) [E]  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]  
**Subject:** Re: manuscript in which we PCR'd your spike plasmid

Thanks Jeff. That sounds fine. Please acknowledge me, Kizzmekia S. Corbett, and Jason S. McLellan (UT Austin). There are only restrictions for commercial use, otherwise we have been giving it away.

Barney

Sent from my iPhone

On Apr 10, 2020, at 7:30 PM, Cohen, Jeffrey (NIH/NIAID) [E] (b) (6) wrote:

Hi Barney

We are writing a paper in which we used the spike plasmid (from your Science paper) which you generously provided us as a template for PCR and fused a portion of the spike to luciferase and used it for our immunoprecipitation assays of human sera (some of which we gave to Adrian). Can we mention the plasmid, the Science paper and acknowledge receiving it from you and Kizzmekia? Any restrictions?

Thanks

Jeff

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)>  
**Sent:** Sunday, March 22, 2020 6:03 PM  
**To:** Cohen, Jeffrey (NIH/NIAID) [E] <(b) (6)>  
**Cc:** Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC) [C]  
(b) (6)>  
**Subject:** RE: spike construct

Hi Jeff,

Dr. Kizzmekia Corbett is leading the coronavirus team who produced this reagent. We have provided it to many labs and can send it to you without an SLA since we are all NIAID. Copying Judy Stein so she will know. I'll let you work it out with Kizzmekia about how to transfer the plasmid without contact. Maybe leave it in an envelope outside the back door of the VRC..

Barney



---

**From:** Cohen, Jeffrey (NIH/NIAID) [E] (b) (6)  
**Sent:** Sunday, March 22, 2020 5:04 PM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Subject:** spike construct

Hi Barney

We are setting up various COVID-19 antibody detection assays (some to S and some to other portions of the virus) and wondered if you could share the sequence of the construct(s) you are using for your vaccine. These might help us optimize the constructs for detection of antibodies. If we can help with antibody detection let us know,

Thanks  
Jeff

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Thu, 2 Apr 2020 15:56:41 +0000  
**To:** (b) (6); Corbett, Kizzmekia (NIH/VRC) [E]; Young, Monique (NIH/VRC) [E]  
**Subject:** RE: Start Date and Current Situation

Thanks (b) (6)

Sorry about the MCAT chaos. We will coordinate internally and see what we can do to bring you here sooner rather than later.

Barney

---

**From:** (b) (6)  
**Sent:** Thursday, April 2, 2020 11:53 AM  
**To:** Graham, Barney (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E]  
(b) (6); Young, Monique (NIH/VRC) [E] (b) (6)  
**Subject:** Re: Start Date and Current Situation

Hello all, I hope you this email finds you well, safe, and healthy!

As of yesterday, AAMC cancelled all April 2020 administrations of the MCAT exam— meaning mine too was cancelled and I had to subsequently reschedule. I am now scheduled to take the exam on Saturday, July 18th, 2020 in Bethesda, MD. With this new twist in my tentative timeline, I am willing to start work whenever I can possibly do the move to the DC area.

I still need to submit an official application to the IRTA portal, but other than that my schedule has freed up quite a bit. Once moving is more realistic (more specifically, once things have calmed down a bit back home so I can freely pack up my things and retrieve whatever else I need), I will be free to start. I am hoping that this happens sooner than later but I do understand that it is fully out of my control and most people are practicing social distancing and staying home.

I think all that I can do at this point, other than ensure my files are up and available on the portal, is wait for the current situation to change for the better so that relocating is more realistic. Let me know what you are thinking and if this seems to work for you as well.

All the best,

(b) (6)

(b) (6)

On Mar 25, 2020, at 10:51 AM, Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

Agree, we will try to help you as much as we can, but it is a fluid situation and we are learning more and adjusting to things on a daily basis. Two main goals are to keep you (and everyone else safe), secondly to get you here for the large amount of work ahead (and for your training).

Barney

---

**From:** Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>  
**Sent:** Wednesday, March 25, 2020 10:21 AM  
**To:** (b) (6) Graham, Barney (NIH/VRC) [E] (b) (6)  
**Cc:** Young, Monique (NIH/VRC) [E] (b) (6)>  
**Subject:** Re: Start Date and Current Situation

Thanks (b) (6), Per our understanding currently recruited IRTAs such as yourself will still be brought on. Albeit, under some fairly different work conditions (social distancing, etc.) Monique can provide the guidance you need about your appointment and mood.

--

**Kizzmekia S. Corbett, PhD**  
**Senior Research Fellow | Scientific Lead**  
**Coronavirus Vaccines & Immunopathogenesis (coVip) Team**  
Viral Pathogenesis Laboratory | Vaccine Research Center  
National Institutes of Allergy and Infectious Diseases  
National Institutes of Health

Building 40 Room 2608  
40 Convent Drive  
Bethesda MD 20892  
Laboratory: (b) (6)  
Personal: (b) (6)  
Fax: (301) 480-2771

---

**From:** (b) (6)  
**Date:** Wednesday, March 25, 2020 at 10:17 AM  
**To:** Kizzmekia Corbett (b) (6)>, Barney Graham (b) (6)>  
**Cc:** Monique Young (b) (6)  
**Subject:** Start Date and Current Situation

Hello all, I hope that everyone is in good health and keeping safe!

With regards to my timeline, I am still scheduled to take the MCAT on the 24th of April in Watertown, NY. As of today, 25 March 2020, my exam has **not** been cancelled. If this is to change at any time, I will notify you and we can adjust my timeline accordingly. I am hoping to be in the D.C. area by the beginning of May (sometime between May 1st and May 5th), and am thinking the most likely case would be to start on Monday, 11 May 2020.

Granted the current circumstances, my travel to-and-from home and the logistics of moving to a new city are a bit difficult. I am currently unaware if there are any restrictions on work at the NIH, specifically at the VRC. I am currently still in (b) (6). I have not been home in some time due to the prevalence of SARS-CoV-2 back home, and understand that this is likely to influence the timing of when I can realistically begin. Moving would require me to travel to and from (b) (6), which makes planning my move difficult as I would like to avoid the potential spread as much as possible.

I need to know what the situation is like at the NIH in order to develop a more comprehensive plan for my move and when I can ideally begin. I understand things are hectic at the VRC, so please whenever you have the time let me know a little bit more on what the situation is on your side. This way we together can develop a detailed timeline— including a specific start date!

I look forward to hearing back from you and am sending my best wishes of safety and health.

All the best,

(b) (6)

(b) (6)

**From:** Graham, Barney (NIH/VRC) [E]  
**Sent:** Sat, 21 Mar 2020 20:06:00 +0000  
**To:** Stephens, David (NIH)  
**Cc:** Michael Gale;Julie McElrath;Ahmed, Rafi;Kathleen Neuzil  
**Subject:** Re: Call  
**Attachments:** image001.png

Hi David et al.

Glad to talk. Would you want people like John Beigel on the line to say what is planned gor do you just want to talk ancillary studies and potential protocol amendments and additional blood draws?

Barney

Sent from my iPhone

On Mar 21, 2020, at 3:25 PM, Stephens, David S (b) (6) > wrote:

Barney,

Congratulations in getting this key study launched! As the IDCRC/VTEU network is actively supporting DMID, the 20-0003 study site at Kaiser Washington and preparing to launch the study at Emory, we want to be on the same page regarding how best the IDCRC LOU (Laboratory Operations) in particular can best help support these studies. It would be quite helpful if we can set up a call with you to discuss. Realize there was a discussion yesterday that included Mike Gale from the LOU about the (b) (4) are also questions. Thanks.

Best regards,

David and Kathy,

IDCRC Chair and Co-Chair

David S Stephens MD  
Vice President for Research  
Robert W Woodruff Health Sciences Center  
Stephen W Schwarzmans Distinguished Professor and  
Chair Department of Medicine  
Emory University  
1440 Clifton Road NE, #420  
Atlanta, Georgia, 30322



(b) (6)  
<image001.png>

---

**From:** Graham, Barney (NIH/VRC) [E] (b) (6)  
**Sent:** Monday, March 16, 2020 1:51 PM  
**To:** Routh, Jennifer (NIH/NIAID) [E] (b) (6); Kathleen Neuzil (b) (6); Lisa A. Jackson (b) (6); Joan Declaire (b) (6); Rebecca Hughes (b) (6); Colleen Hussey (b) (6); Rachel Grant (b) (6); Stephens, David S (b) (6); Thompson, Elizabeth Pittman (b) (6)  
**Cc:** Stover, Kathy (NIH/NIAID) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); NIAID BUGS <BUGS@niaid.nih.gov>; Beigel, John (NIH) [E] (b) (6); Erbeling, Emily (NIH/NIAID) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** [External] RE: close hold UPDATE to Monday press plans

Thanks Jen! Great work by the DMID and Moderna teams.

Barney

---

**From:** Routh, Jennifer (NIH/NIAID) [E] (b) (6)  
**Sent:** Monday, March 16, 2020 12:36 PM  
**To:** Kathleen Neuzil (b) (6); Lisa A. Jackson (b) (6); Joan Declaire (b) (6); Rebecca Hughes (b) (6); Colleen Hussey (b) (6); Rachel Grant (b) (6); Stephens, David (NIH) (b) (6); Thompson, Elizabeth Pittman (b) (6)  
**Cc:** Stover, Kathy (NIH/NIAID) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E] (b) (6); Erbeling, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** RE: close hold UPDATE to Monday press plans

Hello – the first participant has been vaccinated and we just hit send on NIAID’s release. All partners are free to share their releases. Thanks, all!!

Jennifer Routh [E]  
News and Science Writing Branch  
Office of Communications and Government Relations  
National Institute of Allergy and Infectious Diseases (NIAID)  
NIH/HHS  
31 Center Drive Room 7A17C



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---

**From:** Routh, Jennifer (NIH/NIAID) [E]

**Sent:** Monday, March 16, 2020 10:09 AM

**To:** Neuzil, Kathleen (b) (6); Lisa A. Jackson (b) (6); Joan

Declaire (b) (6); Rebecca Hughes (b) (6); Colleen Hussey

(b) (6); Rachel Grant (b) (6); Stephens, David (NIH)

(b) (6); Thompson, Elizabeth Pittman (b) (6)

**Cc:** Stover, Kathy (NIH/NIAID) [E] <(b) (6)>; Hiatt, Nissa (NIH/VRC) [C]

(b) (6) NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E]

(b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney

(NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6);

Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>

**Subject:** RE: close hold UPDATE to Monday press plans

OK despite a 3:30 press conference, NIAID will stick to original plan of issuing the release once we receive confirmation of first vaccination. Thanks!

Jennifer Routh [E]

News and Science Writing Branch

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**From:** Neuzil, Kathleen (b) (6)

**Sent:** Monday, March 16, 2020 9:56 AM

**To:** Routh, Jennifer (NIH/NIAID) [E] (b) (6) Lisa A. Jackson (b) (6)

Joan Declaire (b) (6); Rebecca Hughes (b) (6); Colleen Hussey

<(b) (6)>; Rachel Grant <(b) (6)>; Stephens, David (NIH)

(b) (6); Thompson, Elizabeth Pittman (b) (6)>

**Cc:** Stover, Kathy (NIH/NIAID) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C]

(b) (6); NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E]

(b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney

(NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6)

Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>

**Subject:** RE: close hold UPDATE to Monday press plans

We appreciate the proactive communication and will follow your lead.

---

**From:** Routh, Jennifer (NIH/NIAID) [E] (b) (6)  
**Sent:** Monday, March 16, 2020 9:24 AM  
**To:** Lisa A. Jackson (b) (6); Joan Declaire (b) (6); Rebecca Hughes (b) (6); Colleen Hussey (b) (6); Rachel Grant (b) (6); Stephens, David (NIH) <(b) (6)>; Neuzil, Kathleen (b) (6); Thompson, Elizabeth Pittman (b) (6)  
**Cc:** Stover, Kathy (NIH/NIAID) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E] (b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] <(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** RE: close hold UPDATE to Monday press plans

It looks like the WH briefing has now moved to 3:30. Please stay tuned for guidance but in general please hold until I confirm NIAID's release is out. Thanks for your patience.

Jennifer Routh [E]  
News and Science Writing Branch  
Office of Communications and Government Relations  
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---

**From:** Routh, Jennifer (NIH/NIAID) [E]  
**Sent:** Sunday, March 15, 2020 10:49 PM  
**To:** Lisa A. Jackson (b) (6); 'Joan Declaire' (b) (6); 'Rebecca Hughes' (b) (6); 'Colleen Hussey' (b) (6); 'Rachel Grant' (b) (6); Stephens, David (NIH) (b) (6); Kathleen Neuzil (b) (6); 'Thompson, Elizabeth Pittman' (b) (6)  
**Cc:** 'Stover, Kathy (NIH/NIAID) [E]' (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E] (b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** RE: close hold UPDATE to Monday press plans

Hi all – apologies for the late note.

The White House will be holding a task force press briefing at 10:30 a.m. ET tomorrow. During this briefing, Dr. Fauci will say something along the lines of "sometime in the next 24 hours we expect to begin the trial." NIAID will continue to hold on issuing its release until we receive confirmation that the first participant has been vaccinated, likely after noon ET. Once NIAID's release is on its way out, I will let this group know.

Thanks,  
Jen

Jennifer Routh [E]  
News and Science Writing Branch  
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**From:** Routh, Jennifer (NIH/NIAID) [E]  
**Sent:** Sunday, March 15, 2020 8:35 PM  
**To:** Lisa A. Jackson (b) (6); Joan Declaire <(b) (6)>; Rebecca Hughes (b) (6); Colleen Hussey (b) (6); Rachel Grant (b) (6); Stephens, David (NIH) (b) (6); Kathleen Neuzil (b) (6); Thompson, Elizabeth Pittman (b) (6)  
**Cc:** 'Stover, Kathy (NIH/NIAID) [E]' (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6) NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E] (b) (6); Erbeling, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** RE: close hold UPDATE to Monday press plans

Hi everyone –

You might have seen that a DC-based AP reporter has confirmed that the trial will begin tomorrow. It appears they received this information from someone at the White House. For now, NIAID will be responding to reporters by saying that NIAID will confirm that the trial has begun once a participant has been vaccinated as per our usual process.

<https://apnews.com/8089a3d0ec8f9fde971bddd7b3aa2ba1>.

Once I know more about the plan for tomorrow I will let this group know. I still do not know when a press conference might be or if the plan is still to make the announcement at a press conference given the leak.



Thanks,  
Jen

Jennifer Routh [E]  
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**From:** Routh, Jennifer (NIH/NIAID) [E]  
**Sent:** Saturday, March 14, 2020 9:18 PM  
**To:** Lisa A. Jackson (b) (6); Joan Declaire (b) (6); Rebecca Hughes (b) (6); Colleen Hussey (b) (6); Rachel Grant (b) (6); Stephens, David (NIH) (b) (6); Neuzil, Kathleen (b) (6); Thompson, Elizabeth Pittman (b) (6)  
**Cc:** 'Stover, Kathy (NIH/NIAID) [E]' (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); NIAID BUGS <[BUGS@niaid.nih.gov](mailto:BUGS@niaid.nih.gov)>; Beigel, John (NIH) [E] (b) (6); Erbeling, Emily (NIH/NIAID) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)  
**Subject:** close hold UPDATE to Monday press plans

Good evening KPWHRI, Emory, IDCRC, Moderna and CEPI (+NIAID folks) –

Apologies for the large group email—I am trying to work efficiently. As previously discussed, please hold on any press releases about the start of vaccinations in the Phase 1 clinical trial of mRNA-1273 until I have confirmed that NIAID's release has been distributed. I will make this confirmation via an email to this group on Monday.

We had originally discussed that NIAID would issue its release once I receive confirmation from Kaiser that the first participant has been vaccinated, which is expected around 9:30 a.m. PT/12:30 p.m. ET Monday. I have been informed that Dr. Fauci and/or other members of the White House Coronavirus Task Force will be making an announcement about the start of the study at Monday's Task Force press conference. I am trying to confirm the exact time of this press conference, and I will keep this group informed as I get more information. The current plan is to issue NIAID's release once the announcement is made. I will still plan to send a confirmation email to this group once releases can be issued.

I attached a final version of NIAID's press release. We will add in the latest #s from WHO and CDC on Monday morning.

Thanks,

Jen

Cell: (b) (6)

Jennifer Routh [E]

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