



DEPARTMENT OF HEALTH & HUMAN SERVICES

National Institutes of Health
Freedom of Information Office
Building 31, Room 5B-35
31 Center Drive, MSC 2107
Bethesda, Maryland 20892-2107
phone: (301) 496-5633
fax: (301) 402-4541

via Email: foia@sirillp.com

March 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 302 pages responsive to your request 54107. Attached to this letter are 290 pages; NIH has sent the remaining 12 pages to the Centers for Disease Control 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.

Sincerely,

for Gorka Garcia-Malene
Freedom of Information Officer, NIH

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 30 Apr 2020 22:08:51 +0000
To: Levine, Myron
Cc: Rasko, Dave; Sikorski, Michael; Frieman, Matthew
Subject: Re: Can the [REDACTED] (b) (4)

[REDACTED] (b) (4)

Barney

Sent from my iPhone

On Apr 30, 2020, at 5:17 PM, Levine, Myron [REDACTED] (b) (6) wrote:

Dear Barney:

Many thanks. Your evaluation coincides with that of Dave Rasko.

[REDACTED] (b) (4)

All the best,

Mike

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Thursday, April 30, 2020 3:32 PM
To: Levine, Myron (b) (6); Rasko, Dave (b) (6)
Sikorski, Michael (b) (6); Frieman, Matthew
(b) (6)
Subject: RE: (b) (4)

In my opinion, (b) (4)

(b) (4)

Barney

From: Levine, Myron <(b) (6)>
Sent: Wednesday, April 29, 2020 12:03 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Rasko, Dave
<(b) (6)>; Sikorski, Michael (b) (6); Frieman,
Matthew (b) (6)
Subject: (b) (4)

Dear Barney, David, Michael and Matt:

It was brought to my attention that (b) (4)

(b) (4)

Many thanks,

Mike

Myron M. Levine, M.D., D.T.P.H.

Simon & Bessie Grollman Distinguished Professor

Associate Dean for Global Health, Vaccinology & Infectious Diseases

Founder & Former Director, Center for Vaccine Development (1974)

University of Maryland School of Medicine

685 W. Baltimore Street

Baltimore, Maryland 21201, USA

Tel: (b) (6); Fax: +1 (410) 706-6207

Email: (b) (6)

From: (b) (6)
Sent: Tue, 26 Nov 2019 09:36:49 -0500
To: Andrea Carfi
Subject: Fwd: Moderna - VRC

FYI. Email I mentioned in my earlier email.

BG

Sent from my iPhone

Begin forwarded message:

From: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Date: November 25, 2019 at 9:52:00 AM EST
To: Stephane Bancel (b) (6)>, "Mascola, John (NIH/VRC) [E]" (b) (6)>
Cc: "Koup, Richard (NIH/VRC) [E]" (b) (6)>, "Ledgerwood, Julie (NIH/NIAID) [E]" (b) (6)>, "Gall, Jason (NIH/VRC) [C]" (b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6)>
Subject: RE: Moderna - VRC

Thanks Stephane,

John and I very much enjoyed the visit to your (b) (4) facility and appreciate how (b) (4)
(b) (4)

(b) (4)
(b) (4)

We have worked together well on projects (b) (4)
(b) (4)
(b) (4)

(b) (4)
(b) (4) We are in touch with Moderna scientists on many of these projects including Adrea Carfi and Guillaume Stewart-Jones. We are also coordinating with Hamilton Bennet and Sunny Himansu and now some of your clinical team.

We will discuss internally and perhaps Andrea and I could work through email and make a proposal for an additional brainstorming meeting.

Best wishes,

Barney

From: Stephane Bancel <[REDACTED] (b) (6)>

Sent: Friday, November 22, 2019 6:33 PM

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

Subject: Moderna - VRC

John and Barney,

Greetings. I hope you are well. As I was reflecting, I was wondering if we should meet and discuss with a couple of my key scientific leaders, how do we do more together?

As you have seen, we have invested tremendously [REDACTED] (b) (4)

[REDACTED] (b) (4)

[REDACTED] (b) (4)

Let me know if you are up for it. I would be happy to come down for a couple of hours working meeting with a small group so we can work, brainstorm, and by the time we are done, [REDACTED] (b) (4)

Cheers,

Stephane

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From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 11 Mar 2020 21:03:58 +0000
To: Oplinger, Anne (NIH/NIAID) [E]
Subject: Fwd: Interview for The New Yorker Video

FYI.

BG

Sent from my iPhone

Begin forwarded message:

From: "Hessert, Dominique" <(b) (6)>
Date: March 11, 2020 at 11:36:16 AM EDT
To: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Subject: Interview for The New Yorker Video

Hi Barney,

My name is Dominique Hessert and I'm a video producer over at The New Yorker magazine. I'm currently looking to create a video illustrating the progression of the coronavirus vaccine, and Carolyn Kormann gave your contact information as someone to reach out to. I'd love to conduct a skype interview with you to talk about this subject - would you be open to this?

If so, just let me know when would be best. Thank you in advance! I look forward to speaking.

Best,
Dominique

--
DOMINIQUE HESSERT
Video Producer

1 World Trade Center, New York NY 10007
O: 212.286.6618
M: (b) (6)
@dominiquehessert

CONDÉ NAST
THE NEW YORKER

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Apr 2020 17:32:30 +0000
To: Stein, Judy (NIH/VRC) [C]
Cc: Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Gall, Jason (NIH/VRC) [C]; Petrik, Amy (NIH/NIAID) [E]

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

Barney

Sent from my iPhone

On Apr 14, 2020, at 12:47 PM, Stein, Judy (NIH/VRC) [C] (b) (6) > wrote:

Got it – thanks, we will wait.

Barney and Kizzmekia – (b) (4)

Thanks,
Judy

From: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>
Sent: Tuesday, April 14, 2020 12:45 PM
To: Stein, Judy (NIH/VRC) [C] (b) (6) >; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Gall, Jason (NIH/VRC) [C] (b) (6)
Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: (b) (4)

Hi Judy,

Would be good if Kizzmekia or Barney could review.

Thanks,
Kaitlyn

From: Judy Stein (b) (6)
Date: Tuesday, April 14, 2020 at 12:44 PM

To: Kaitlyn Morabito (b) (6)>, Kizzmekia Corbett
(b) (6), Jason Gall (b) (6)>
Cc: "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, Barney Graham
(b) (6)
Subject: (b) (4)

Thanks Kaitlyn!
Amy or I will (b) (4)
Judy

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Sent: Tuesday, April 14, 2020 12:41 PM
To: Stein, Judy (NIH/VRC) [C] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6); Gall, Jason (NIH/VRC) [C] (b) (6)>
Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E]
(b) (6)
Subject: (b) (4)

Hi All,

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

Best,
Kaitlyn

From: Judy Stein (b) (6)>
Date: Monday, April 13, 2020 at 11:34 AM
To: Kaitlyn Morabito (b) (6)>, Kizzmekia Corbett
<(b) (6), Jason Gall (b) (6)
Cc: "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>
Subject: (b) (4)

Thanks Kaitlyn.
(b) (4).
Judy

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Sent: Monday, April 13, 2020 11:00 AM
To: Stein, Judy (NIH/VRC) [C] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6)>; Gall, Jason (NIH/VRC) [C] (b) (6)>
Cc: Petrik, Amy (NIH/NIAID) [E] (b) (6)
Subject: (b) (4)

Hi Judy,

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

Kaitlyn

From: Judy Stein (b) (6)

Date: Saturday, April 11, 2020 at 12:19 PM

To: "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>, Kizzmekia Corbett
(b) (6), Jason Gall (b) (6)

Cc: "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>

Subject: (b) (4)

Hi Kaitlyn, Kizzmekia and Jason,

Would you be able to review this (b) (4) provided by Moderna and let me know if you have any comments.

Thanks,

Judy

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

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 18 Mar 2020 22:25:10 +0000
To: Jon Cohen
Cc: Routh, Jennifer (NIH/NIAID) [E]; Hiatt, Nissa (NIH/VRC) [C]; Oplinger, Anne (NIH/NIAID) [E]
Subject: RE: Few questions

Let's do it now, but just know that I'm a little distracted trying to keep up with email and write something myself.

(b) (6)

From: Jon Cohen <jcohen@aaas.org>
Sent: Wednesday, March 18, 2020 6:17 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Cc: Routh, Jennifer (NIH/NIAID) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); Oplinger, Anne (NIH/NIAID) [E] (b) (6)
Subject: Re: Few questions

It can wait until Saturday if that's easier for you. Or I can speak now. What works best for you?

My only worry is that we live in Coronavirus Standard Time, which means each day equals one week. Saturday is, in CST, 3 weeks from now—and who knows whether the phones will work.

Thanks Barney.

Jon

On Mar 18, 2020, at 3:11 PM, Graham, Barney (NIH/VRC) [E] (b) (6) wrote:

Hi Jon,

We can set it up. Do you want to talk now or wait until Saturday. The next two days are brutal.

BG

From: Jon Cohen <jcohen@aaas.org>
Sent: Wednesday, March 18, 2020 2:36 PM
To: Routh, Jennifer (NIH/NIAID) [E] <(b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); Oplinger, Anne (NIH/NIAID) [E] (b) (6)
Subject: Re: Few questions

Jennifer,

Can we set a time for me to speak with Barney?

Thanks,

Jon

On Mar 18, 2020, at 6:33 AM, Routh, Jennifer (NIH/NIAID) [E] (b) (6) wrote:

Hi Jon - we can get you connected with Dr. Graham. However, we have a number of requests to film on campus right now and we cannot accommodate at this time. Hao - please feel free to send us the details of the project you're working on so that we can keep it in mind in the future, but I can't make any guarantees.

Thanks,
Jen

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
Bethesda, MD 20892
Direct: (b) (6)
(b) (6)

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

From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Wednesday, March 18, 2020 9:29 AM
To: Jon Cohen <jcohen@aaas.org>
Cc: Hao Wu <(b) (6)>; Hiatt, Nissa (NIH/VRC) [C] (b) (6); Routh, Jennifer (NIH/NIAID) [E] (b) (6)>; Oplinger, Anne (NIH/NIAID) [E] (b) (6)>
Subject: RE: Few questions

Hi Jon,

I'm copying you to VRC and NIAID communications office.

Hi Nissa, Jon Cohen writes for Science and is working on a story about COVID-19 vaccines. He wrote about the original RSV F backstory from the VRC that was the basis of the current vaccine.

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

Bldg 40, Room 2502

Bethesda, MD 20892-3017

Phone: (b) (6)

URL: <https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.niaid.nih.gov%2Fresearch%2Fbarney-graham-md-phd&data=01%7C01%7Cjcohen%40aaas.org%7C80c92d338fb949ad593708d7cb40fffd%7C2ecbd8ff9ed140f0a15638e5dfb3bc56%7C0&data=upRDei50laXorK3tdpWRHZw%2BHsdSjCFkKrX%2FfD0GU7o%3D&am;p:reserved=0>

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

From: Jon Cohen <jcohen@aaas.org>

Sent: Wednesday, March 18, 2020 9:24 AM

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

Cc: Hao Wu (b) (6)>

Subject: Few questions

Hi Barney,

I'm wondering whether we can set up a time to talk. I'm finally getting around to the vaccine story. Crazy times.

I'm ccing Hao Wu, a documentary film maker I'm helping, who is interested in possibly shooting you and VRC. Can you put him in touch with the right permission to seek permission?

Hope you and yours are well.

All the best,

Jon

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 21 Mar 2020 13:44:26 +0000
To: Lieberman, Marc E.
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Routh, Jennifer (NIH/NIAID) [E]; Hiatt, Nissa (NIH/VRC) [C]; Stover, Kathy (NIH/NIAID) [E]; Billet, Courtney (NIH/NIAID) [E]
Subject: Re: 60 mins this Sunday - qs for VRC

Can we do it now. My number is + (b) (6) and I can add Dr Corbett.

Barney

Sent from my iPhone

On Mar 21, 2020, at 9:40 AM, Lieberman, Marc E. <MLP@cbsnews.com> wrote:

Great, thank you all. We want to make sure we characterize the relationship between NIAID/VRC and Moderna accurately. We are looking to understand the goal of your collaboration (to accelerate the development of a coronavirus vaccine?). Also trying to understand what the NIAID has done for Moderna that has enabled it to move faster? Would you prefer to do a phone call to discuss?

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >
Sent: Saturday, March 21, 2020 9:37 AM
To: Routh, Jennifer (NIH/NIAID) [E] <(b) (6) >; Lieberman, Marc E. <MLP@cbsnews.com>; Graham, Barney (NIH/VRC) [E] (b) (6) >
Cc: Hiatt, Nissa (NIH/VRC) [C] (b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6); Billet, Courtney (NIH/NIAID) [E] (b) (6) >
Subject: Re: 60 mins this Sunday - qs for VRC

External Email

Thanks Jennifer, Happy to answer any questions.

Cheers to a good weekend.

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

From: "Routh, Jennifer (NIH/NIAID) [E]" (b) (6) >

Date: Saturday, March 21, 2020 at 9:33:27 AM

To: "Marc Lieberman" <mlp@cbsnews.com>, "Graham, Barney (NIH/VRC) [E]"

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

Cc: "Hiatt, Nissa (NIH/VRC) [C]" (b) (6) >, "Stover, Kathy (NIH/NIAID) [E]"

(b) (6) >, "Billet, Courtney (NIH/NIAID) [E]" (b) (6)

Subject: 60 mins this Sunday - qs for VRC

Hi Dr. Graham and Dr. Corbett -

Included on this note is Marc Lieberman, a producer from 60 Mins. They are highlighting mRNA-1273 in a story this Sunday (they spoke with Moderna and might use prior CBS footage filmed at NIAID when Dr. LaPook & crew were here). Marc has a few fact checking type questions about vaccine development so I wanted to connect you directly. I know you both are extremely busy, but I figured best for him to go directly to the source if you had time.

Thanks,
Jen

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 6 Mar 2020 17:22:39 +0000
To: Mike Bray; Ledgerwood, Julie (NIH/NIAID) [E]
Subject: RE: Volunteering for coronavirus vaccine trials

Hi Mike,

Thanks. (b) (6) told me the same thing.

The initial DMID trial will be at the Seattle VTEU site. Interesting that Seattle was the choice well before the Seattle outbreak was apparent.

Barney

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

From: Mike Bray (b) (6) >
Sent: Friday, March 6, 2020 10:48 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E]
(b) (6)
Subject: (b) (6) coronavirus vaccine trials

Barney and Julie,

Just a quick note to let you know that (b) (6)
(b) (6)

Best,

Mike

Mike Bray, MD MPH
Editor-in-chief
Antiviral Research

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 8 Apr 2020 22:36:11 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]
Subject: (b) (4) Update_V4
Attachments: Update_V4.docx

Cleaned up a few typos

BG

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 28 Mar 2020 19:07:53 +0000
To: Dong Yu; Pierson, Theodore (NIH/NIAID) [E]
Subject: RE: Your submission to Science Advances (aba5068)

Yes, you've been a lot more patient than I would have been. I start calling between 6-8 weeks, and definitely by 60 days.

I think the COVID-19 crisis has made it hard for everyone.

Barney

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

From: Dong Yu (b) (6) >
Sent: Saturday, March 28, 2020 3:01 PM
To: Pierson, Theodore (NIH/NIAID) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E]
(b) (6) >
Subject: RE: Your submission to Science Advances (aba5068)

Dear Barney and Ted,

I hope that this email finds you safe and healthy!

As you can see, we have not heard back from Science Advance on our (b) (4) manuscript since the submission on December 13, 2019. I plan to send an inquiry to the journal and editor for an update. Please let me know if you agree or think otherwise.

Thanks,
Dong

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

From: Science Advances Editorial <scienceadvanceseditorial@aaas.org>
Sent: Friday, December 13, 2019 3:21 PM
To: Dong Yu (b) (6)
Subject: RE: Your submission to Science Advances (aba5068)

EXTERNAL

Dear Dr. Yu,

Thank you for your response. Your manuscript has now been assigned to an editor. Please feel free to reach out should you have any future questions.

We look forward to reading your submission.

Best regards,

Chris Logan
Editorial Coordinator
Science Advances

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

From: Dong Yu (b) (6) >

Sent: Friday, December 13, 2019 9:27 AM
To: Science Advances Editorial <scienceadvanceseditorial@aaas.org>; (b) (6)
(b) (6)
Subject: RE: Your submission to Science Advances (aba5068)

Dear Chris,

Thanks for the email. I have revised and submitted the revision as instructed:

- 1) revised figure file (changed Figure 5 to Figure 4)
- 2) revised manuscript text file (added 125 character summary)
- 3) combined file of revised text and figures

Please let me know if you have any other questions.

Thanks,
Dong

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

From: Chris Logan <scienceadvanceseditorial@aaas.org>
Sent: Thursday, December 12, 2019 5:24 PM
To: (b) (6); Dong Yu (b) (6)
Subject: Your submission to Science Advances (aba5068)

EXTERNAL

Ref.: Ms. No. aba5068
Title: (b) (4)

Dear Dr. Pierson, Dr. Yu, and Dr. Graham,

We have received your submission referenced above. We are returning it to you now because of the reasons listed below:

1. The figures skip from Figure 3 to Figure 5. Please include Figure 4, or relabel the figures so that they are in order. Once you have made this change, please upload a new combined PDF.

Please address these issue/s and then resubmit your manuscript under the same manuscript number through logging on to the submission system: <https://cts.sciencemag.org>. Please upload the updated files over the previous version.

Note that we require a 125-character sentence summarizing manuscripts at submission so if you have not already submitted one please be sure to include this on the first page of your manuscript.

If you have any technical problems, please contact the Help Desk at submit_help@aaas.org. For other questions contact the Editorial Office at ScienceAdvancesEditorial@aaas.org. Please include the manuscript number in the subject of your message.

Thank you for submitting your work to Science Advances.

Best regards,

The Science Advances Editorial Team

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suppliers and business partners, from cyber threats and loss of GSK Information. GSK monitoring is conducted with appropriate confidentiality controls and in accordance with local laws and after appropriate consultation.

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 7 Apr 2020 02:54:02 +0000
To: Sallie Permar, M.D., Ph.D.
Cc: Stein, Judy (NIH/VRC) [C]; (b) (6) David Kordys, Ph.D.; Petrik, Amy (NIH/NIAID) [E]; Barton Haynes, M.D.; Gall, Jason (NIH/VRC) [C]
Subject: Re: Working with VRC

That's reasonable. Might include the (b) (4)

BG

Sent from my iPhone

On Apr 6, 2020, at 10:50 PM, Sallie Permar, M.D., Ph.D. (b) (6) wrote:

Hi Barney – we were previously able to do (b) (4)
(b) (4)

What do you think?

From: Barney Graham <(b) (6)>
Date: Monday, April 6, 2020 at 1:21 PM
To: Sallie Permar (b) (6)>
Cc: (b) (6)
(b) (6), "David Kordys, Ph.D." (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, Barton Haynes (b) (6)>, Jason Gall (b) (6)
Subject: Re: Working with VRC

Hi Sallie,

Might be useful to [REDACTED] (b) (4)
[REDACTED].

BG

Sent from my iPhone

On Apr 6, 2020, at 1:17 PM, Sallie Permar, M.D., Ph.D. [REDACTED] (b) (6) wrote:

Thanks Judy - yes [REDACTED] (b) (4)
[REDACTED] (b) (4)

We are open to suggestions for [REDACTED] (b) (4)
[REDACTED] (b) (4)

Thanks again for your input and work to see if this is possible

Sallie

Sent from my iPhone

On Apr 6, 2020, at 12:52 PM, Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6) wrote:

Hi everybody,
I received this email from [REDACTED] (b) (4)
[REDACTED] (b) (4)

To go forward with this work, I think that we would need:

(b) (4)

Would you like me to set up a call with everybody here and (b) (4) to discuss this?

Thanks,
Judy

From: (b) (4)
Sent: Monday, April 6, 2020 11:48 AM
To: Stein, Judy (NIH/VRC) [C] <jstein@mail.nih.gov>
Subject: Working with VRC

Hi Judy,

I hope and your family are doing well in these difficult times. I would very much like to have (b) (4)
(b) (4)

Would there be interest in talking to us about how we could potentially moving forward.

Best,

(b) (4)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 23 Feb 2020 00:33:42 +0000
To: Austin, Sarah (NIH/NIAID) [E]
Cc: Young, Monique (NIH/VRC) [E]
Subject: new collaboration letter
Attachments: Boonyaratanakornkit collaboration letter 2020.docx

Hi Sarah,

Another collaboration letter.

Thanks,

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: Fri, 14 Feb 2020 17:02:41 +0000
To: Conrad, Patricia (NIH/NIAID) [E]; Young, Monique (NIH/VRC) [E]
Subject: RE: COVID-19 vaccine development

I could make any of those times work.

Barney

From: Conrad, Patricia (NIH/NIAID) [E] (b) (6) >
Sent: Friday, February 14, 2020 11:54 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Young, Monique (NIH/VRC) [E]
(b) (6)
Subject: FW: COVID-19 vaccine development

Most can make the times below for a call – pls let me know your availability

Thx

Feb 24 8:00 am – 9:00 am ET
 12:00 pm – 2:00 pm ET
Feb 25 7:30 am – 8:30 am ET

Patricia L. Conrad
Public Health Analyst and
Special Assistant to the Director
National Institute of Allergy and Infectious Diseases
The National Institutes of Health
31 Center Drive, MSC 2520 - Room 7A03
Bethesda, Maryland 20892
(b) (6)
301-496-4409 fax

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From: Suhana, Tina (NIH/VRC) [E] (b) (6) >
Sent: Friday, February 14, 2020 11:43 AM
To: Conrad, Patricia (NIH/NIAID) [E] (b) (6)
Subject: RE: COVID-19 vaccine development

Good morning Patty,

Unfortunately – Dr. Mascola will be on travel Friday, February 21st.

Also, below is his availability for a call:

Feb 24 8:00 am – 9:00 am ET
 12:00 pm – 2:00 pm ET
Feb 25 7:30 am – 8:30 am ET

Thanks,
Tina

From: Conrad, Patricia (NIH/NIAID) [E] (b) (6)
Sent: Friday, February 14, 2020 8:55 AM
To: Mascola, John (NIH/VRC) [E] (b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Cassetti, Cristina (NIH/NIAID) [E] (b) (6)
Cc: Suhana, Tina (NIH/VRC) [E] <(b) (6)>; Treadwell-Hyde, Roshawn (NIH/NIAID) [C] (b) (6); Young, Monique (NIH/VRC) [E] (b) (6)
Subject: FW: COVID-19 vaccine development

Please let me know your availability for Friday Feb 21 2:30 pm – 6:00 pm for this in person meeting.

Please note the best time for Dr. Fauci given his corona virus WH and HHS commitments is to have this meeting at 5:00 pm – 6:00 pm – we appreciate your ability to meet that late.

Please also let me know your availability for a call on:

Feb 24 8 am – 9 am ET
 10:00 am – 3 pm ET

Feb 25 7:30 am – 8:30 am
Feb 27 8 am – 11 am ET
Feb 28 8 am – 9 am ET
 12 noon – 4 pm ET

Thank you.

Patricia L. Conrad
Public Health Analyst and
Special Assistant to the Director
National Institute of Allergy and Infectious Diseases
The National Institutes of Health
31 Center Drive, MSC 2520 - Room 7A03
Bethesda, Maryland 20892
(b) (6)
301-496-4409 fax

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From: Fauci, Anthony (NIH/NIAID) [E] <(b) (6)>
Sent: Thursday, February 13, 2020 5:44 PM
To: Stoffels, Paul [JJCUS] <(b) (6)>
Cc: Riccobene, Kim [JJCUS] <(b) (6)> Van Hoof, Johan [JRDBE] <(b) (6)>
Conrad, Patricia (NIH/NIAID) [E] (b) (6)>; Barasch, Kimberly (NIH/NIAID) [C]
(b) (6)>; Eisinger, Robert (NIH/NIAID) [E] (b) (6); Marston,
Hilary (NIH/NIAID) [E] (b) (6)>; Lerner, Andrea (NIH/NIAID) [E]
(b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; Erbelding, Emily
(NIH/NIAID) [E] (b) (6)
Subject: RE: COVID-19 vaccine development

Paul:

Thanks for the note. I will have Patty Conrad (copied here) try to work something out for Feb. 21st. My schedule is at the mercy of the White House and the Congress and so I cannot guarantee anything right now.

Best Regards,

Tony

Anthony S. Fauci, MD
Director

National Institute of Allergy and Infectious Diseases
Building 31, Room 7A-03
31 Center Drive, MSC 2520
National Institutes of Health
Bethesda, MD 20892-2520

Phone: (b) (6)

FAX: (301) 496-4409

E-mail: (b) (6)

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From: Stoffels, Paul [JJCUS] (b) (6) >

Sent: Thursday, February 13, 2020 9:42 AM

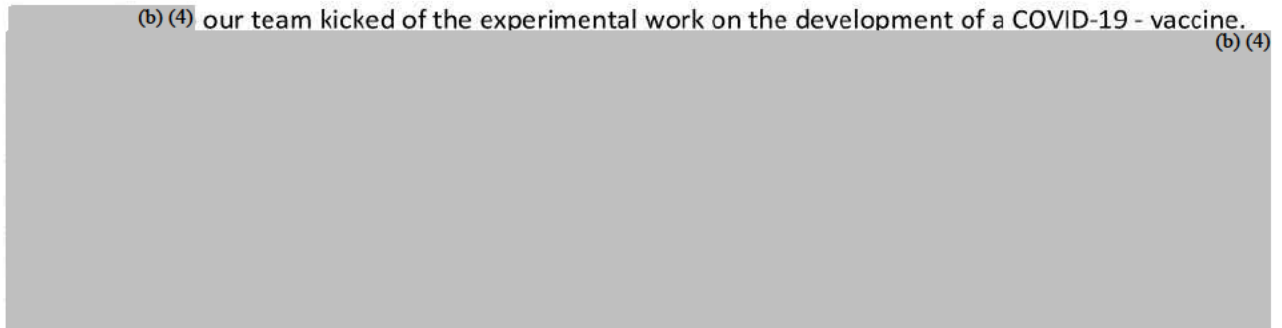
To: Fauci, Anthony (NIH/NIAID) [E] (b) (6)

Cc: Riccobene, Kim [JJCUS] (b) (6) >; Van Hoof, Johan [JRDBE] (b) (6)

Subject: COVID-19 vaccine development

Dear Tony,

(b) (4) our team kicked off the experimental work on the development of a COVID-19 - vaccine. (b) (4)



Johan and I would very much appreciate a discussion with you (and your team) on how we can collaborate for maximum success. Next week Friday, February 21, we will travel to DC to meet with the BARDA team for discussions.

If you have time for a meeting on the 21st in the afternoon or a call in the course of the next 10 days, I would much very appreciate.

Feel free to call me or have you assistant connect with my assistant Kim Riccobene to set up a call. I will be in Europe till the 19th.

Best regards,

Paul

Paul Stoffels, MD
Vice Chairman & CSO

Johnson & Johnson

(b) (6)
(Mobile Europe)
(Office US)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 23 Mar 2020 15:43:12 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Re: [REDACTED] (b) (4)

Fantastic. Thanks for getting that arranged.

BG

Sent from my iPhone

On Mar 23, 2020, at 10:53 AM, Corbett, Kizzmekia (NIH/VRC) [E]
[REDACTED] (b) (6) wrote:

Morning all,
[REDACTED] (b) (4) in red were shipped to UNC today.

Thanks.

--

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: [REDACTED] (b) (6)
Personal: [REDACTED] (b) (6)
Fax: (301) 480-2771

From: Kizzmekia Corbett [REDACTED] (b) (6)>
Date: Sunday, March 15, 2020 at 11:43 AM
To: Barney Graham [REDACTED] (b) (6), Kaitlyn Morabito [REDACTED] (b) (6)
[REDACTED] (b) (6)

(b) (6)>, Ralph Baric (b) (6)

(b) (6) Alexandra Schaefer (b) (6)

(b) (6)

Subject: (b) (4)

Good morning all,

Here is the spreadsheet (b) (4)

(b) (4)

Ralph, et. al, I will coordinate with you in a separate thread about transfer paperwork.

--

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: Kizzmekia Corbett (b) (6)>

Date: Friday, March 13, 2020 at 11:18 AM

To: Barney Graham (b) (6)>, Kaitlyn Morabito (b) (6),

Kizzmekia Corbett (b) (6) "Ruckwardt, Tracy (NIH/VRC) [E]"

(b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6)

" (b) (6)

(b) (6) Bennett Hamilton

(b) (6), Guillaume Stewart-Jones (b) (6)

(b) (6)>, Ralph Baric (b) (6)

(b) (6) Alexandra Schaefer (b) (6)

(b) (6) "Baric, Toni C"

(b) (6)

Subject: Action Items Re: VRC/Moderna/UNC SARS-CoV-2 (b) (4) Discussion

Good morning all,

I am just summarizing yesterday's call with key action items, per institution:

VRC

(b) (4)

UNC

(b) (4)

Moderna

(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: (b) (6)

When: 3:30 PM - 4:30 PM March 12, 2020

Subject: VRC/Moderna/UNC SARS-CoV-2 (b) (4) Discussion

Location: 40/3rd Floor Conference Room

****CONFIRMATION****

Title of Meeting: VRC/Moderna/UNC SARS-CoV-2 (b) (4) Discussion

Principal Meeting Organizer: Kaitlyn Morabito

Goal of Meeting: To discuss testing of the SARS-CoV-2 mRNA vaccine (b) (4)

Date: Thur Mar 12th 2020

Time: 3:30 pm

Allotted Time: 1 Hour

Location: 40/3rd Floor Conference Room (Goto Meeting)

VRC Participants: Barney Graham, Kaitlyn Morabito, Kizzmekia Corbett, Tracy Ruckwardt, and Karin Bok

Moderna Participants: Sunny Himansu, Andrea Carfi, Hamilton Bennett, and Guillaume Stewart-Jones

UNC Participants: Ralph Baric, Sarah Leist, Alexandra Schaefer, and David Martinez

Agenda:

1. Introductions
2. Data
3. Next steps

Thanks...Monique

(b) (6)

Meeting Anytime

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: (b) (6)

Access Code: (b) (6)

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(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 30 Mar 2020 16:15:13 +0000
To: Tom Evans
Cc: Lee, Marina (NIH/NIAID) [E]; Sarah Sebastian; Carlton, Kevin (NIH/VRC) [E]; McDermott, Adrian (NIH/VRC) [E]
Subject: Re: Assays for COVID trial

Hi Tom,

This is not going to be investigator to investigator. Needs to be institution to institution. Kevin Carlton is program manager and will bring this up for discussion at our next meeting.

Barney

Sent from my iPhone

> On Mar 30, 2020, at 11:14 AM, Tom Evans (b) (6) > wrote:

>

> Thanks Barney

>

(b) (4)

>

> Best

> Tom

>

> -----Original Message-----

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

> Sent: 30 March 2020 13:49

> To: Tom Evans (b) (6) >

> Cc: Lee, Marina (NIH/NIAID) [E] (b) (6); Sarah Sebastian (b) (6)

> Subject: Re: Assays for COVID trial

>

> Hi Tom. I guess you know that (b) (4)

(b) (4)

>

(b) (4)

>

> Barney

>

>

>

>

> Sent from my iPhone

>

>> On Mar 27, 2020, at 4:09 AM, Tom Evans (b) (6)> wrote:

>>

>> Hi Barney

>>

>> Oxford will be starting a COVID-19 Phase 1 study here in the UK using

(b) (4)

>>

>> Best

>> Tom Evans MD

>>

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 27 Jan 2020 14:14:36 +0000
To: (b) (3) (A); Mascola, John (NIH/VRC) [E]
Subject: RE: Corona virus

Not that I know of. We are also waiting.

BG

From: (b) (6), (b) (3) (A) >
Sent: Monday, January 27, 2020 8:44 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >; Mascola, John (NIH/VRC) [E]
(b) (6) >
Subject: RE: Corona virus

We are planning to (b) (4)

(b) (3) (A)

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Friday, January 24, 2020 11:32 AM
To: (b) (6), (b) (3) (A) Mascola, John (NIH/VRC) [E] (b) (6)
Subject: RE: Corona virus

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

It will have to be handled at BL3. The overall plan from CDC is to put it in the BEI repository. If you are approved for SARS, then this should be same process.

(b) (4)

Barney

From: (b) (6), (b) (3) (A)

Sent: Friday, January 24, 2020 11:21 AM

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

(b) (6)>

Subject: RE: Corona virus

(b) (4) I was wondering how CDC would handle it, would it be classified as a select agent? I am assuming yes, since SARS is one. This would cause issues of getting it approved for use. We have approval for SARS, which should get us over most of the hurdles. Have you asked CDC about this?

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

Sent: Wednesday, January 22, 2020 12:06 PM

To: (b) (6), (b) (3) (A) Mascola, John (NIH/VRC) [E] (b) (6)>

Subject: RE: Corona virus

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

CDC is working to isolate the virus (b) (6), (b) (4) In prior reports from Asia, the virus is not easy to grow in cell culture. (b) (4)

Barney

From: (b) (6), (b) (3) (A)

Sent: Wednesday, January 22, 2020 11:50 AM

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

Cc: Graham, Barney (NIH/VRC) [E] <(b) (6)>

Subject: RE: Corona virus

(b) (4)

From: Mascola, John (NIH/VRC) [E] (b) (6)>

Sent: Wednesday, January 22, 2020 11:45 AM

To: (b) (6), (b) (3) (A)

Cc: Graham, Barney (NIH/VRC) [E] (b) (6)>

Subject: RE: Corona virus

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

(b) (3) (A)

We are. Barney is leading the effort; which among other things, may involve mRNA vaccine candidates. Thanks for letting us know – we will stay in touch as this progresses.

Best,
John

From: (b) (6), (b) (3) (A)
Sent: Wednesday, January 22, 2020 9:21 AM
To: Mascola, John (NIH/VRC) [E] (b) (6)>
Subject: Corona virus

John

Are you getting involved with the new corona virus? We are prepared to help. (b) (6), (b) (4)

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

(b) (3) (A)

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

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 26 Mar 2020 15:03:49 +0000
To: Carlton, Kevin (NIH/VRC) [E]
Cc: Mascola, John (NIH/VRC) [E]
Subject: Re: Phase 1 ELISA execution

I will add that [REDACTED] (b) (4), (b) (5)

I think we also need to [REDACTED] (b) (4), (b) (5)

[REDACTED] (b) (4), (b) (5)

Barney

Sent from my iPhone

On Mar 26, 2020, at 10:44 AM, Carlton, Kevin (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

Hi Barney,

[REDACTED] (b) (5)

[REDACTED] I do not want to get ahead of your communication in this matter.

Kevin

From: Mascola, John (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Thursday, March 26, 2020 9:12 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6); Koup, Richard (NIH/VRC) [E]
[REDACTED] (b) (6); Ledgerwood, Julie (NIH/NIAD) [E] [REDACTED] (b) (6); McDermott,
Adrian (NIH/VRC) [E] [REDACTED] (b) (6)
Cc: Gall, Jason (NIH/VRC) [C] <[REDACTED] (b) (6)>; Carlton, Kevin (NIH/VRC) [E]
[REDACTED] (b) (6)
Subject: Phase 1 ELISA execution

All,

I've talked to all of you and given this some thought – and to me, this is quite straight forward.

(b) (5)

We don't need any discussion per email here – just a professional plan for execution. Please relay the plan to your staff – and useful to explain in a way that they appreciate the rationale and necessity of this approach.

Thanks,
John

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

Sent: Thursday, March 26, 2020 4:30 AM

To: Mascola, John (NIH/VRC) [E] (b) (6) >; Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)

Subject: Phase 1 ELISA Validation

Good morning,

(b) (5)

Have a good day.

--

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: Tue, 17 Mar 2020 19:32:44 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Structural biologist who wants to help...

Wow! (b) (5)

As frustrated as I am, it must be doubly frustrating for people working on other things to be shut down.

Barney

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, March 17, 2020 3:26 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: Structural biologist who wants to help...

Thoughts?

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

From: "Samara, Nadine (NIH/NIDCR) [E]" (b) (6) >
Date: Tuesday, March 17, 2020 at 10:47:14 AM
To: "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>
Subject: Re: Twitter Follow up

Structural biology (X-ray) and biochemistry, CV attached.
Lab website for current research program: <https://www.nidcr.nih.gov/research/research-conducted-at-nidcr/investigators/nadine-samara-phd>

From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >
Date: Tuesday, March 17, 2020 at 10:29 AM
To: Nadine Samara <(b) (6)>
Subject: Re: Twitter Follow up

What is your expertise? CV?

--

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: "Samara, Nadine (NIH/NIDCR) [E]" (b) (6) >

Date: Tuesday, March 17, 2020 at 10:18 AM

To: Kizzmekia Corbett (b) (6)

Subject: Twitter Follow up

Hi Kizzmekia,

Following up on Twitter-

My lab is now temporarily closed. What capacity do you need help?

Nadine

Nadine L. Samara, Ph.D.

Stadtman Investigator

Chief, Structural Biochemistry Unit

NIDCR | NIH

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 21 Apr 2020 12:57:56 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]; Hutchinson, Geoffrey (NIH/VRC) [F]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]
Cc: Ruckwardt, Tracy (NIH/VRC) [E]; Bok, Karin (NIH/VRC) [E]; Salata, Carol (NIH/NIAID) [E]
Subject: RE: Covid-19

I don't know of [REDACTED] (b) (5)

Barney

From: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Tuesday, April 21, 2020 8:20 AM
To: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>; Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6); Hutchinson, Geoffrey (NIH/VRC) [F] [REDACTED] (b) (6)
Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] [REDACTED] (b) (6)
Cc: Ruckwardt, Tracy (NIH/VRC) [E] [REDACTED] (b) (6); Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6); Salata, Carol (NIH/NIAID) [E] [REDACTED] (b) (6)>
Subject: Re: Covid-19

I don't even know [REDACTED] (b) (5) so deferring to Dr. Graham.

--

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: [REDACTED] (b) (6)

Personal: [REDACTED] (b) (6)

Fax: (301) 480-2771

From: "Stein, Judy (NIH/VRC) [C]" [REDACTED] (b) (6)>
Date: Tuesday, April 21, 2020 at 8:12 AM
To: Kizzmekia Corbett <[REDACTED] (b) (6)>, Barney Graham [REDACTED] (b) (6)

"Hutchinson, Geoffrey (NIH/VRC) [F]" <[REDACTED] (b) (6)>, Kaitlyn Morabito
[REDACTED] (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" <[REDACTED] (b) (6)>
Cc: "Ruckwardt, Tracy (NIH/VRC) [E]" [REDACTED] (b) (6)>, "Bok, Karin (NIH/VRC) [E]"
[REDACTED] (b) (6)>, "Salata, Carol (NIH/NIAID) [E]" [REDACTED] (b) (6)>
Subject: RE: Covid-19

Yes – [REDACTED] (b) (5)
FYI, [REDACTED] (b) (5), (b) (4)
[REDACTED] (b) (5), (b) (4)

Thanks,
Judy

From: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Tuesday, April 21, 2020 7:27 AM
To: Graham, Barney (NIH/VRC) [E] <[REDACTED] (b) (6)> Hutchinson, Geoffrey (NIH/VRC) [F]
<[REDACTED] (b) (6)>, Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6)>, Alvarado,
Gabriela (NIH/VRC) [C] [REDACTED] (b) (6)>
Cc: Ruckwardt, Tracy (NIH/VRC) [E] <[REDACTED] (b) (6)>, Bok, Karin (NIH/VRC) [E]
[REDACTED] (b) (6)>, Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)>
Subject: Re: Covid-19

Judy, Could you reply in line to [REDACTED] (b) (4), (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: [REDACTED] (b) (6)
Personal: [REDACTED] (b) (6)
Fax: (301) 480-2771

From: Barney Graham [REDACTED] (b) (6)
Date: Saturday, April 18, 2020 at 7:49 AM
To: Kizzmekia Corbett [REDACTED] (b) (6), "Hutchinson, Geoffrey (NIH/VRC) [F]"

(b) (6), Kaitlyn Morabito (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)>
Cc: "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6)>
Subject: FW: Covid-19

FYI. Looks like Dr. Lusso needs the (b) (4), (b) (5) If we want XJ to do this for us, we will need to spend some time educating him.

Barney

From: Lusso, Paolo (NIH/NIAID) [E] (b) (6)>
Sent: Thursday, April 16, 2020 4:03 PM
To: Chen, Xuejun (NIH/VRC) [E] (b) (6)>; Mascola, John (NIH/VRC) [E] (b) (6)>; Wei, Chih-Jen /US (b) (6)>
Cc: Graham, Barney (NIH/VRC) [E] (b) (6)>; Zhang, Peng (NIH/NIAID) [E] (b) (6)
Subject: Re: Covid-19

Dear Xuejun:

Thank you again for your help in getting the (b) (4), (b) (5). From the sequence that Peng received, however, it looks like we received (b) (4), (b) (5)

Please, let us know.

All the best,

Paolo

Paolo Lusso, M.D., Ph.D.
Chief, Section of Viral Pathogenesis
Laboratory of Immunoregulation
Bldg. 10, Rm. 6A11
NIAID, NIH
Bethesda, MD 20892

Phone: (b) (6) (personal)
(b) (6) (lab)
Fax: (301) 480-5291
E-mail: (b) (6)

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From: "Chen, Xuejun (NIH/VRC) [E]" <(b) (6)>
Date: Sunday, April 12, 2020 at 12:45 AM
To: "Mascola, John (NIH/VRC) [E]" <(b) (6)>, "Lusso, Paolo (NIH/NIAID) [E]" <(b) (6)>, "Chen, Xuejun (NIH/VRC) [E]" <(b) (6)>, "Wei, Chih-Jen /US" <(b) (6)>
Cc: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Subject: Re: Covid-19

Hi John and Paola,

The <(b) (4), (b) (5)> but I will coordinate to have them and <(b) (4), (b) (5)> transferred to Paola.

Thanks
XJ

From: "Mascola, John (NIH/VRC) [E]" <(b) (6)>
Date: Friday, April 10, 2020 at 19:16:12
To: "Lusso, Paolo (NIH/NIAID) [E]" <(b) (6)>, "Chen, Xuejun (NIH/VRC) [E]" <(b) (6)>, "Wei, Chih-Jen /US" <(b) (6)>
Cc: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Subject: RE: Covid-19

Hello Paolo,

Sure, Barney's lab <(b) (4), (b) (5)> Our virology group can provide.

XJ – can you please arrange for Paolo's lab to get the <(b) (4), (b) (5)>
<(b) (4), (b) (5)>

Thanks,
John

From: Lusso, Paolo (NIH/NIAID) [E] (b) (6)>
Sent: Wednesday, April 8, 2020 10:29 PM
To: Mascola, John (NIH/VRC) [E] (b) (6)
Subject: Covid-19

Dear John:

I hope you are well and safe during this crazy period. We are planning to set up some experiments on Covid-19 and I was wondering if you have, or know who could provide, (b) (4), (b) (5)
(b) (6) I greatly appreciate your help, as always.

All the best,

Paolo

Paolo Lusso, M.D., Ph.D.
Chief, Section of Viral Pathogenesis
Laboratory of Immunoregulation
Bldg. 10, Rm. 6A11
NIAID, NIH
Bethesda, MD 20892

Phone: (b) (6) (personal)
(b) (6) (lab)
Fax: (301) 480-5291
E-mail: (b) (6)

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From: "Mascola, John (NIH/VRC) [E]" <(b) (6)>
Date: Wednesday, February 26, 2020 at 9:40 PM
To: "Lusso, Paolo (NIH/NIAID) [E]" (b) (6)

Cc: "Pegu, Amarendra (NIH/VRC) [F]" (b) (6)

Subject: RE: Measuring the PK of a (b) (5)

Hi Paolo,

Yes, we can test it in the (b) (5) I'm not sure of the exact timing but Amar is batching (b) (5) and we can try to fit it in the next set of experiments.

Amar can be POC and can let you know how much (b) (5)

At a later time, always happy to hear more about what you are doing and see interesting data!

Best,

John

From: Lusso, Paolo (NIH/NIAID) [E] <(b) (6)>

Sent: Wednesday, February 26, 2020 5:57 PM

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

Subject: Measuring the PK of a (b) (5)

Dear John:

I hope you are doing fine. I am writing to ask if you could help us measure the (b) (5)
(b) (5)

(b) (5) I am happy to provide you with additional details at any time. Thank you in advance for your help.

All the best,

Paolo

Paolo Lusso, M.D., Ph.D.
Chief, Section of Viral Pathogenesis
Laboratory of Immunoregulation
Bldg. 10, Rm. 6A11
NIAID, NIH
Bethesda, MD 20892

Phone: (b) (6) (personal)
(b) (6) (lab)

Fax: (301) 480-5291

E-mail: (b) (6)

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From: "Mascola, John (NIH/VRC) [E]" (b) (6)

Date: Monday, January 27, 2020 at 12:26 PM

To: "Lusso, Paolo (NIH/NIAID) [E]" (b) (6)

Cc: "Pegu, Amarendra (NIH/VRC) [F]" (b) (6)

Subject: RE: Advice on SHIV

Hi Paolo

Amar in our lab is working on several new SHIVs.

We have the standard (b) (5) (I believe its available – Amar can confirm)

(b) (5)

Amar – can you respond with list of options for SHIVs, those with avail stock and those forthcoming.

Thanks,
John

From: Lusso, Paolo (NIH/NIAID) [E] <(b) (6)>

Sent: Monday, January 27, 2020 12:05 PM

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

Subject: Advice on SHIV

Dear John:

I hope you had a good start of 2020. We are planning for a (b) (5)

(b) (5)

I know both you and George Shaw have

developed and tested in vivo new SHIVs (b) (5) and I want to ask for your advice before making a decision. We won't be able to (b) (5) and we want to go heterologous. (b) (5)

(b) (5) would you suggest (b) (5) How about (b) (5)

(b) (5) Please let me know your suggestions or who I could contact to get more insights. Thanks!

All the best,

Paolo

Paolo Lusso, M.D., Ph.D.
Chief, Section of Viral Pathogenesis
Laboratory of Immunoregulation
Bldg. 10, Rm. 6A11
NIAID, NIH
Bethesda, MD 20892

Phone: (b) (6) (personal)

(b) (6) (lab)

Fax: (301) 480-5291

E-mail: (b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 13 Mar 2020 19:44:00 +0000
To: James Mond
Subject: Re: covid 19
Attachments: image001.jpg

Hi James.

(b) (4)

You should ask (b) (4)

BG

Sent from my iPhone

On Mar 12, 2020, at 9:02 AM, James Mond (b) (6) wrote:

Hi Barney, I know these are very busy times for you. (b) (4)
(b) (4) Would it be possible to have a short discussion (b) (4)

Best wishes,

Jimmy

Jimmy Mond M.D. - Ph.D.
Chief Scientific Officer/Chief Medical Officer
<image001.jpg>

Corporate Headquarters

465 Route 17 S
Ramsey, NJ 07446

Florida Campus

5800 Park of Commerce Blvd. NW
Boca Raton, FL 33487

Direct (b) (6)

Tel: 201 478-5552

Fax: 201 478-5553

(b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Jan 2020 23:06:02 +0000
To: (b) (6)
Subject: RE: Summer Internship Program Opportunity

Dear (b) (6)

Thank you for your interest in our laboratory. Unfortunately, we have limited space and have already committed the available slots for this summer. I wish you the best in your future research and hope you maintain an interest in vaccines.

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: Sunday, January 12, 2020 10:15 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Summer Internship Program Opportunity

Dear Dr. Graham,

Hello, my name is (b) (6) I am extremely interested in getting involved with your research in developing a coronavirus vaccine. Especially given the novel coronavirus outbreak in China for the past couple days, it is more important than ever to develop a pan-coronavirus platform vaccine. I would absolutely love to contribute toward developing such a vital medical tool. Therefore, I was wondering if there are any spots available in your lab?

I am dedicated to becoming a microbiological researcher, particularly in virology, so this research position sounds like an ideal opportunity for me to learn more about viral pathogenesis, as well as launch my future as a researcher, and I am willing to work as hard as possible to prove a useful investment.

Thanks,

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 25 Feb 2020 13:14:59 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Subject: Re: Written Interview Request: SARS-CoV-2 mAb Discovery
Attachments: image003.png, image004.png, image005.png

I think the [REDACTED] (b) (5)

I think we need to focus on [REDACTED] (b) (5)
[REDACTED]
money.

Barney

Sent from my iPhone

On Feb 25, 2020, at 8:04 AM, Hiatt, Nissa (NIH/VRC) [C] [REDACTED] (b) (6) wrote:

That makes sense. [REDACTED] (b) (5)

(b) (5)

[REDACTED] (b) (5) I know you have a lot going on so [REDACTED] (b) (5)

[REDACTED] have a great week!

Thank you for everyone's support with requests last week!

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)

<image003.png>

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

Sent: Saturday, February 22, 2020 1:21 PM

To: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C]

(b) (6)

Cc: VRC_CoV (b) (6) Prince, Tasheema (NIH/VRC) [C] <(b) (6)>

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

(b) (6)>

Subject: RE: Written Interview Request: SARS-CoV-2 mAb Discovery

I think we should (b) (5)

BG

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

Sent: Friday, February 21, 2020 12:26 PM

To: Hiatt, Nissa (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E]

(b) (6)

Cc: VRC_CoV (b) (6) Prince, Tasheema (NIH/VRC) [C] <(b) (6)>

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

(b) (6)

Subject: Re: Written Interview Request: SARS-CoV-2 mAb Discovery

(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: "Hiatt, Nissa (NIH/VRC) [C]" <(b) (6)>

Date: Friday, February 21, 2020 at 12:21 PM

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

Cc: VRC_CoV (b) (6), "Prince, Tasheema (NIH/VRC) [C]"

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

"Daucher, Marybeth (NIH/NIAID) [E]" (b) (6)>

Subject: RE: Written Interview Request: SARS-CoV-2 mAb Discovery

To close the loop, a few tweaks from DMID to the language are attached. If you have any must-change edits to the DMID version, please let me know by the extended deadline of 12:45 today.

Thank you for your help!

Nissa

Nissa Hiatt

Communications

Vaccine Research Center, NIAID, NIH

40 Convent Drive, Bldg 40, Room 1100

Bethesda, MD 20892

(b) (6)

(b) (6)

<image004.png>

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

Sent: Friday, February 21, 2020 10:21 AM

To: Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>; Graham, Barney (NIH/VRC) [E]

<(b) (6)>

Cc: VRC_CoV (b) (6) Prince, Tasheema (NIH/VRC) [C] (b) (6);

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

(b) (6)

Subject: Re: Written Interview Request: SARS-CoV-2 mAb Discovery

Confirmed.

--

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: "Hiatt, Nissa (NIH/VRC) [C]" (b) (6)

Date: Friday, February 21, 2020 at 10:09 AM

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

Cc: VRC_CoV <(b) (6)> "Prince, Tasheema (NIH/VRC) [C]"

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

"Daucher, Marybeth (NIH/NIAID) [E]" (b) (6)>

Subject: RE: Written Interview Request: SARS-CoV-2 mAb Discovery

Hi Barney,

Thanks for this information. To confirm, (b) (5)

I need to check if they are alright with the second option. I'll make it clear to Jen's team that #4 and #5 are not public information and can't be answered.

Thank you for your help. Please let me know if you have additional considerations.

Best,

Nissa

Nissa Hiatt

Communications

Vaccine Research Center, NIAID, NIH

40 Convent Drive, Bldg 40, Room 1100

Bethesda, MD 20892

(b) (6)

(b) (6)

<image005.png>

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Friday, February 21, 2020 9:59 AM
To: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Cc: Hiatt, Nissa (NIH/VRC) [C] (b) (6); VRC_CoV (b) (6); Prince, Tasheema (NIH/VRC) [C] <(b) (6)>; Harris, Christina (NIH/NIAID) [E] (b) (6); Daucher, Marybeth (NIH/NIAID) [E] (b) (6)
Subject: Re: Written Interview Request: SARS-CoV-2 mAb Discovery

(b) (5)

BG

Sent from my iPhone

On Feb 21, 2020, at 9:43 AM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

I'm not sure (b) (4), (b) (5)

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

We are trying to push an initial paper out by Friday so they can wait for that, I think.

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

From: "Hiatt, Nissa (NIH/VRC) [C]" (b) (6)
Date: Friday, February 21, 2020 at 9:32:29 AM
To: "Graham, Barney (NIH/VRC) [E]" (b) (6) "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>
Cc: "VRC_CoV" <(b) (6)> "Prince, Tasheema (NIH/VRC) [C]" (b) (6)>, "Harris, Christina (NIH/NIAID) [E]" (b) (6)>, "Daucher, Marybeth (NIH/NIAID) [E]" (b) (6)>
Subject: Written Interview Request: SARS-CoV-2 mAb Discovery

Hi Barney and Kizzy,

A different reporter from BioCentury is writing a story about SARS-CoV-2 mAb discovery. Someone on Jen's team drafted some partial replies to the reporter's question -attached. Are either of you interested in helping with the written Q&A attached and would you like it attributed to you? We do want to make sure that only public information is shared even if it is attributed to NIAID generally.

BioCentury is trade press so these replies would be for a layperson who is familiar with the industry.

Unfortunately, their deadline is tight and they have requested answers by **noon today**. I know you are in a meeting from 11-12 and have requested more time to help with the request.

Best,
Nissa

Nissa Hiatt
Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Room 1100
Bethesda, MD 20892
(b) (6)
(b) (6)

<image001.png>



From: [REDACTED] (b) (6)
Sent: Sun, 19 Jan 2020 12:16:48 -0500
To: William Dowling
Cc: Cassetti, Cristina (NIH/NIAID) [E]
Subject: Re: Question about Platform technologies for Coronaviruses

(b) (4)

Best wishes,

Barney

Sent from my iPhone

On Jan 19, 2020, at 9:22 AM, William Dowling [REDACTED] (b) (6) wrote:

Thank you Barney. this is very helpful. I had

(b) (4)

(b) (4)

Thanks again, and I will be happy to share all info that I can with you.

Bill

From: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Saturday, January 18, 2020 10:57 PM
To: William Dowling [REDACTED] (b) (6)
Cc: Cassetti, Cristina (NIH/NIAID) [E] [REDACTED] (b) (6)
Subject: Re: Question about Platform technologies for Coronaviruses

Hi Bill,

We have been working on this for coronaviruses since 2013 when MERS emerged. (b) (4)

(b) (4)

Best wishes,

Barney

Sent from my iPhone

On Jan 17, 2020, at 5:24 AM, William Dowling (b) (6) wrote:

Hello Cristina and Barney,

Nicki Laurie mentioned that as part of the NIAID Pandemic Preparedness efforts , you were assessing types of vaccine platform technologies that were most suitable for particular families of viruses. If you have done this for Coronaviruses, would it be possible to share your criteria and results? We are assessing platform technologies in relation to the Wuhan coronavirus outbreak.

Thank you,
Bill

William Dowling, PhD

Non-Clinical Vaccine Development Leader

[<image007.png>](#)

(b) (6) (o)

(b) (6) (m)

(b) (6)

1901 Pennsylvania Ave, NW, Suite 1003, Washington, DC 20006 USA

www.cepi.net

[<image008.png>](#) [<image009.png>](#)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 4 Feb 2020 22:48:29 +0000
To: J. Christopher Love;Lynda, Stuart
Cc: 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]
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.

The 2019-nCoV is a beta-coronavirus most closely related to SARS in clade 2b. (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)

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. (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) (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

E (b) (6)

Bill & Melinda Gates Foundation

www.gatesfoundation.org



Facebook



Twitter



Impatient Optimists

(b) (6)

Program Assistant
Discovery & Translational Sciences
Global Health

V (b) (6)

E (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 11 Feb 2020 12:20:55 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Slide(s) from Kizzmekia Re: VRC nCoV vaccine

I was thinking something like this.

BG

[REDACTED] (b) (5)

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

From: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6) >
Sent: Tuesday, February 11, 2020 7:17 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: Re: Slide(s) from Kizzmekia Re: VRC nCoV vaccine

I thought it was [REDACTED] (b) (5)
[REDACTED] (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: [REDACTED] (b) (6)
Personal: [REDACTED] (b) (6)
Fax: (301) 480-2771

On 2/11/20, 7:12 AM, "Graham, Barney (NIH/VRC) [E]" <[REDACTED] (b) (6)> wrote:

You might want to [REDACTED] (b) (5)

BG

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

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

Sent: Tuesday, February 11, 2020 6:51 AM

To: Embry, Alan (NIH/NIAID) [E] (b) (6)

Cc: Graham, Barney (NIH/VRC) [E] (b) (6); Jason McLellan

(b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6)

Subject: Slide(s) from Kizzmekia Re: VRC nCoV vaccine

Good morning Alan,

Attached you will find 3 slides that you are free to use for NVAC. It is my understanding that NVAC is a top-down view so slides 2 and 3 are best, but I couldn't resist including data so slide 1 is an option as well. I included verbatim how I would describe these slides to the audience at hand in the notes.

Let us know if you need anything else.

Cheers,

--

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 2/9/20, 6:18 PM, "Embry, Alan (NIH/NIAID) [E]" (b) (6) wrote:

Thursday. Im supposed to have them in by Wed at the latest.

Thank you!!

Sent from my iPhone

> On Feb 9, 2020, at 6:06 PM, Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) wrote:

>

> Alan, when is your meeting? Want to include something that is being submitted tomorrow.

>
> --
> 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 2/8/20, 12:33 PM, "Bok, Karin (NIH/VRC) [E]" (b) (6) wrote:
>
> Alan,
>
> I think Kaitlyn is preparing a talk as well. Either her or Kizzie might have a slide ready.
>
> 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>
>
>
>
>
> On 2/8/20, 7:01 AM, "Embry, Alan (NIH/NIAID) [E]" (b) (6) wrote:
>
> Hi Karin,
>
> I giving a universal flu talk at NVAC this week and they asked me to give a second
presentation on NIAID's nCoV vaccine activities. Do you (or anyone else) have a slide I can use to just
mention the VRC vaccine?
>
> Thanks
> Alan
>
> Sent from my iPhone

>
>
>

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 31 Mar 2020 13:55:44 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: Re: perspective for Science

That was the year I published the Th2 finding associated with FI-RSV.

BG

Sent from my iPhone

On Mar 31, 2020, at 9:52 AM, Mascola, John (NIH/VRC) [E] <(b) (6)> wrote:

Our ADE explanation for RSV were a bit rudimentary – but it was 1993 – and we were mostly HIV guys.

From: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Sent: Tuesday, March 31, 2020 9:22 AM
To: Mascola, John (NIH/VRC) [E] <(b) (6)>
Subject: RE: perspective for Science

Good to see your review from 1993. Still relevant. This is about the time David Montefiori moved from Vanderbilt to Duke, (b) (5).

BG

From: Mascola, John (NIH/VRC) [E] <(b) (6)>
Sent: Monday, March 30, 2020 2:51 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: RE: perspective for Science

Hi Barney,

The perspective makes some critical points. It will be important to get this into literature!

Some quick comments on attached file. Perhaps main suggestion is (b) (5)

Lastly, this brings me way back in time -see the Summary Report on ADE from 1993. .

John

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Sunday, March 29, 2020 10:31 PM
To: Mascola, John (NIH/VRC) [E] (b) (6)>
Subject: RE: perspective for Science

Here is first draft.

BG

From: Mascola, John (NIH/VRC) [E] (b) (6)>
Sent: Sunday, March 29, 2020 9:21 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: Re: perspective for Science

Hi Barney,
Good! (b) (5)
(b) (5)

Happy to read or help as needed.

Just let Tony know once ready to submit. That's all that he would want.

Thanks
John

Sent from my iPhone

On Mar 29, 2020, at 21:00, Graham, Barney (NIH/VRC) [E] (b) (6) wrote:

Hi John,

I was invited to write a ~1000 word perspective for Science that would be lightly edited and published fast (~1 week). I decided to write it about the Benefit/Risk calculation for rapid development of a COVID-19 vaccine. I'm using it as a place to discuss my thoughts on the risk of vaccine-enhanced illness and the way the various immune phenomena should be categorized and separated. This will not be easy in that short space because it could be a 5000-7000 word review with

>100 references. However, I think putting something out there that a larger audience would read could be helpful.

I wondered what you thought about how to handle this with Dr. Fauci. I know he doesn't have time for much right now, but I don't want him to be blindsided with something that may be hard to explain. I don't quite have a full draft yet, but could have something in a few more days.

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
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, 1 Feb 2020 07:01:08 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: Re: Seeking comment on Indian paper about new Coronavirus

(b) (5)

BG

Sent from my iPhone

On Feb 1, 2020, at 5:57 AM, Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

I looked through the paper.

(b) (5)

(b) (5)

Barney

Sent from my iPhone

On Feb 1, 2020, at 5:01 AM, Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

FYI.

(b) (5)

BG

Sent from my iPhone

Begin forwarded message:

From: Issam AHMED <Issam.AHMED@afp.com>

Date: January 31, 2020 at 11:28:05 PM GMT+1

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

Subject: Seeking comment on Indian paper about new Coronavirus

Dear Dr Graham,

I'm a science journalist with news agency Agence France-Presse writing with a request -- apologies for reaching out on a Friday evening! I was told by a contact you may be willing to give an opinion on this paper that has just gone live <https://www.biorxiv.org/content/10.1101/2020.01.30.927871v1.full.pdf> it suggests the new Coronavirus has four inserts similar to HIV-1 and this is not a coincidence.

Thanks you very much, if you are able.

Issam Ahmed

Issam AHMED

Health, Science and Environment Correspondent

1500 K St. NW - 20005 Washington

Tel: (202) 414-0521



October 6, 2020

Kyrgyzstan cancels election result after night of chaos

Join us on:



afp.com

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 4 Mar 2020 14:48:56 +0000
To: Austin, Sarah (NIH/NIAID) [E]
Cc: Young, Monique (NIH/VRC) [E]; Mascola, John (NIH/VRC) [E]; Suhana, Tina (NIH/VRC) [E]
Subject: RE: Interview with the New Yorker?

I spoke to her driving in this morning. (b) (5)
(b) (5)

Barney

From: Austin, Sarah (NIH/NIAID) [E] (b) (6)
Sent: Wednesday, March 4, 2020 9:36 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Cc: Young, Monique (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6)>; Suhana, Tina (NIH/VRC) [E] <(b) (6)>
Subject: RE: Interview with the New Yorker?

Good morning Barney – John has time today at 2-2:30 for this interview. Do you have overlapping availability and would you want to join him at that time, or were you planning to speak with the reporter separately (or have you already spoken to them)?

Thanks!
Sarah

From: Pekoc, Ken (NIH/NIAID) [E] (b) (6)>
Sent: Tuesday, March 3, 2020 8:56 PM
To: Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>
Cc: Mascola, John (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>; Routh, Jennifer (NIH/NIAID) [E] (b) (6); Prince, Tasheema (NIH/VRC) [C] (b) (6)>; Harris, Christina (NIH/NIAID) [E] (b) (6); Suhana, Tina (NIH/VRC) [E] <(b) (6)>; Austin, Sarah (NIH/NIAID) [E] (b) (6)>
Subject: Re: Interview with the New Yorker?

Will do in the morning; but this is fine for him to do given Dr. Graham already was Oked.

On Mar 3, 2020, at 5:38 PM, Hiatt, Nissa (NIH/VRC) [C] <(b) (6)> wrote:

Hi Ken,

Will y'all add Dr. Mascola to the list for clearance?

Thank you!

Nissa

Nissa Hiatt
Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Rm 1100
Bethesda, MD 20892
Office: (b) (6)
Mobile: (b) (6)
(b) (6)

On Mar 3, 2020, at 6:54 PM, Mascola, John (NIH/VRC) [E] <(b) (6)> wrote:

Ok. Thanks.

Sent from my iPhone

On Mar 3, 2020, at 18:48, Hiatt, Nissa (NIH/VRC) [C] <(b) (6)> wrote:

Hi John,

I'm looping you into Barney's similar request so we can coordinate. Looks like Ken was able to get Barney cleared tonight. She's asking for 4 pm tomorrow as a deadline but y'all might have more flexibility than that.

Best,
Nissa

Nissa Hiatt
Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Rm 1100
Bethesda, MD 20892
Office: (b) (6)
Mobile: (b) (6)
(b) (6)

Begin forwarded message:

From: "Pekoc, Ken (NIH/NIAID) [E]" <(b) (6)>
Date: March 3, 2020 at 6:06:29 PM EST
To: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Cc: "Routh, Jennifer (NIH/NIAID) [E]" <(b) (6)>, "Hiatt, Nissa (NIH/VRC) [C]" <(b) (6)>
Subject: RE: Interview with the New Yorker?

Will do, and will simultaneously get approval, and ask her to pin down her deadline time.

Thanks

From: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Sent: Tuesday, March 3, 2020 4:05 PM
To: Pekoc, Ken (NIH/NIAID) [E] <(b) (6)>
Cc: Routh, Jennifer (NIH/NIAID) [E] <(b) (6)>; Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>
Subject: Re: Interview with the New Yorker?

Why don't you let her know that I would be willing to talk but not by that deadline.

BG

Sent from my iPhone

On Mar 3, 2020, at 6:00 PM, Pekoc, Ken (NIH/NIAID) [E] <(b) (6)> wrote:

Can assist, will be here another 10 mins.

Dr. Graham, I can send this up for approval in the next few minutes, but do not know this reporter or her writing. If you'd like to proceed, I can make this happen, but if you are hesitant it's best to have me decline on your behalf (I can tell her you won't be able to make her deadline). If you want to proceed, you shouldn't feel rushed to do this tonight.

Here is a little [background](#) about her work at New Yorker.

From: Routh, Jennifer (NIH/NIAID) [E] <(b) (6)>
Sent: Tuesday, March 3, 2020 3:51 PM

To: Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>; Graham, Barney (NIH/VRC) [E]
(b) (6); Pekoc, Ken (NIH/NIAID) [E] <(b) (6)>

Subject: FW: Interview with the New Yorker?

Looping in Ken, who may be able to handle clearance for this this evening but I can't guarantee it. I am heading out now.

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
Bethesda, MD 20892
Direct: (b) (6)
(b) (6)

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From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Tuesday, March 3, 2020 5:45 PM
To: Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>; Routh, Jennifer (NIH/NIAID) [E]
(b) (6)>; Oplinger, Anne (NIH/NIAID) [E] (b) (6)>
Subject: Fwd: Interview with the New Yorker?

FYI. I don't mind talking about this if they can communicate the rationale.

Barney

Sent from my iPhone

Begin forwarded message:

From: "Kormann, Carolyn" <carolyn_kormann@newyorker.com>
Date: March 3, 2020 at 5:04:36 PM EST
To: "Graham, Barney (NIH/VRC) [E]" (b) (6)>
Subject: Interview with the New Yorker?

Dear Dr. Barney Graham,
I apologize for the email out of the blue. I'm working on a story about the race to develop a COVID-19 vaccine, and I was hoping I could speak with you about the vaccine technologies currently being pursued, and how this effort compares with vaccine R&D for other outbreaks. If

you have time this evening (sorry, I know it's late in the day), that'd be great. My deadline is tomorrow afternoon.

Thanks so much.

Best,
Carolyn

--

Carolyn Kormann
Staff Writer

The New Yorker
1 World Trade Center
New York, NY 10007
o: 212-286-7976
c: (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 10 Apr 2020 21:15:30 +0000
To: Lindsay, David (NIH/NCI) [C]
Subject: RE: Science question

Hi David,

Sorry for delayed response. RSV can sometimes be worse when it co-infects with hMPV or adenovirus, but I don't know of anything that would indicate RSV would predispose to another virus. There is one study that suggested by protecting against RSV might open up a niche for rhinovirus to fill, but not confirmed.

By the way, how do I get a couple of bottles of your hand sanitizer.

Best wishes,

Barney

From: Lindsay, David (NIH/NCI) [C] (b) (6)
Sent: Wednesday, April 8, 2020 10:42 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: Science question

Good morning Barney,

I trust you are staying healthy.

Given your background in RSV, are you aware of any clinical link between this infectious disease and SARS caused by Coronavirus?

Just curious if these respiratory diseases could co-exist, and whether having one infection pre-disposes (e.g. a child) for the other.

No urgency. Thank you,

David A. Lindsay. Ph.D. (contractor)
Director, Vaccine Clinical Materials Program

Frederick National Laboratory for Cancer Research

Leidos Biomedical Research, Inc.
7116 Geoffrey Way
Frederick, Maryland 21704

Ph: (b) (6)
M: (b) (6)
(b) (6)

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Page appears blank in original

[REDACTED]

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Apr 2020 19:01:34 +0000
To: Young, Monique (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]
Subject: RE: CORONAVIRUS UPDATE: 2nd NIH Virtual Town Hall on Friday, April 24 at 1:00 p.m. ET

I can miss joint HIV for VPL lab meeting.

BG

From: Young, Monique (NIH/VRC) [E] (b) (6)>
Sent: Thursday, April 23, 2020 2:16 PM
To: Ruckwardt, Tracy (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: FW: CORONAVIRUS UPDATE: 2nd NIH Virtual Town Hall on Friday, April 24 at 1:00 p.m. ET

Good Afternoon -

Looks like there will be a Town Hall Update tomorrow, which is the same time I rescheduled Lab Meeting – 1:00 pm – 2:30 pm.

Do you want to cancel Lab Meeting? Or we could have Lab Meeting at 10:00 am, but Barney would miss the Joint HIV-1 Meeting (Active) 10:00 am – 11:30 am.

Thanks...Monique

From: NIH Executive Secretariat <NIHExecSec@nih.gov>
Sent: Wednesday, April 15, 2020 1:31 PM
To: List NIH-ALL-STAFF <NIH-ALL-STAFF@LIST.NIH.GOV>
Subject: CORONAVIRUS UPDATE: 2nd NIH Virtual Town Hall on Friday, April 24 at 1:00 p.m. ET

NIH Director Francis Collins will host a second Virtual Town Hall to update the NIH Community on NIH's activities in response to the COVID-19 pandemic and answer your questions. All NIH employees, contractors, fellows, and trainees are invited to join.

The event is on Friday, April 24, 2020, from 1:00 p.m. – 1:45 p.m. Eastern Time.

Please **submit your questions in advance using the subject line: TOWN HALL QUESTION to CoronavirusStaffQuery@od.nih.gov by 5:00 p.m. ET on Monday, April 20.** We will sort the questions and responses to the top 40 most frequently asked questions will be provided during the live event.

We recommend that you join at least 10 minutes before the town hall begins. **PLEASE NOTE: You must disconnect from NIH VPN and close other running applications on your computer to watch the webcast.**

Virtual Town Hall Details:

WEBCAST LINK: (b) (5)

Moderated by Francis Collins, NIH Director

Additional participants available to answer questions:

- Alfred Johnson, NIH Deputy Director for Management
- Julie Berko, NIH Chief People Officer
- Colleen McGowan, NIH Associate Director for Research Services

Instructions on how to view the NIH Virtual Town Hall:

1. Disconnect from NIH VPN and close other running applications on your computer. You may also watch this webcast using your smartphone.
2. Click on Webcast link: (b) (5)
3. Enter your first and last name in "Display Name" field.
4. Enter your NIH email in "Email" field.
5. Check the consent/authorization box.
6. Sign in as guest.
7. When the event is visible, click "unmute" in the upper right corner of the event window to hear the streamed audio from your computer speakers. Use your computer to adjust the volume.
8. A question mark icon is available on the right side. To ask a question, click on the icon, enter your question in the box, and hit submit. You will only be able to see your questions, not all questions. Also please note, the chat function is not enabled for this event.
9. A recording of the virtual town hall will be available on the intranet page:

(b) (5)

To view the event on an iPhone/iPad or Android device, click on the webcast link and follow the sign in as guest steps.

If you have issues joining the virtual town hall, please contact the NIH Service Desk, <https://itservicedesk.nih.gov> or 301-496-4357 (HELP).

Additional Resources:

- NIH Intranet page for staff on coronavirus: <https://employees.nih.gov/pages/coronavirus/>
- Webpage: <https://www.nih.gov/health-information/coronavirus>

The webcast will include closed captioning and sign language interpreters. If you need other reasonable accommodations to participate in this event, please contact Amanda Fine (b) (6)

(b) (6) and/or the Federal Relay (b) (6).

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 2 Apr 2020 15:15:08 +0000
To: JPT Peptide Technologies
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]
Subject: RE: COVID-19: JPT receives status as Systemically Important Company

Thank you for the email. (b) (4)
(b) (4)

Barney Graham

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: JPT Peptide Technologies <news@jpt.com>
Sent: Thursday, April 2, 2020 10:34 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: COVID-19: JPT receives status as Systemically Important Company

Dear Dr. Graham,

The current COVID-19 outbreak and the associated lockdown have had a huge impact on our daily routines leading to uncertainties and concerns.

We are pleased to announce that German authorities have confirmed JPT's status as a **Systemically Important Institution**. Thus, JPT becomes part of relevant infrastructure, as we provide critical products to the global scientific community working on treatments, vaccines and diagnostic tests for SARS-CoV-2.

In order to maintain our current status JPT Peptide Technologies has implemented measures to minimize the impact and risks to current COVID-19 pandemic product manufacturing. For the safety of our staff, we

- Enabled as many employees as possible to work from home.
- Implemented working in shifts to ensure a secure distance can be maintained at all times for the operational staff.
- Created procedures in our facilities to minimize contact between team members from different departments and to external visitors.
- Installed additional hand sanitizers and implemented strict hygiene rules.

Please contact us at any time to receive an updated status of our manufacturing capacities or reserve a slot for your research or clinical grade COVID-19 peptide needs.

We hope you and your families stay safe and healthy!

Your JPT Team

Dr. Holger Wenschuh

Managing Director

T + (b) (6)

F +49-30-6392-5501

peptide@jpt.com

JPT Peptide Technologies GmbH - Volmerstrasse 5 - 12489 Berlin, Germany

Please visit us at www.jpt.com



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Geschäftsführer / Managing Directors: Dr. Holger Wenschuh, Sean Marett, Dr. Sierk Pötting
Gerichtsstand / Jurisdiction: Berlin HRB 92692
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From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 18 Apr 2020 02:12:56 +0000
To: Douek, Daniel (NIH/VRC) [E]
Subject: RE: Barney - can I have that slide that shows...
Attachments: slides for Danny.pptx

Hi Danny,

Here are some slides I showed to a men's group at our church. Many were borrowed from Dr. Fauci. I added a few slides at the end including the one you requested.

Best wishes,

Barney

From: Douek, Daniel (NIH/VRC) [E] (b) (6) >
Sent: Friday, April 17, 2020 6:32 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Barney - can I have that slide that shows...

VRC vaccine development timeline with SARS at the top, the others below and CoV2 at the bottom. The one with the arrows.

I am doing a Q and A with members of my synagogue on Sunday and want to show them some good news!

Thanks

danny

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 30 Apr 2020 22:28:27 +0000
To: Darin Edwards
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Andrea Carfi; Ruckwardt, Tracy (NIH/VRC) [E]
Subject: Re: Follow up topics from yesterday's meeting
Attachments: image002.jpg, image004.jpg, image006.jpg, image008.jpg, image010.jpg, image012.jpg, image014.jpg

We have a call with the Baric lab tomorrow.

BG

Sent from my iPhone

On Apr 30, 2020, at 6:17 PM, Darin Edwards (b) (6) wrote:

Hi,

Thanks for sending back the comments to our questions. I'll be updating the study plan document with specific answers and will also be including timelines for Moderna studies and dates for when results can be shared. In addition, for several studies we hope to (b) (4) as well if possible. It would help to further align the analysis.

I'll get you that updated study plan document tomorrow with comments and additional questions. In addition, we'll hope to further discuss some of the points in next week's meeting.

I did want to quickly answer two questions, however:

First, on (b) (4) (b) (4)

Second, for the (b) (4) (b) (4)

Thanks again, and like I said I'll send the study plan document tomorrow.

Darin

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Thursday, April 30, 2020 12:01 AM
To: Darin Edwards (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Cc: Andrea Carfi <(b) (6)>; Ruckwardt, Tracy (NIH/VRC) [E] (b) (6)
Subject: RE: Follow up topics from yesterday's meeting

See below. I've attached a working draft of the non-clinical experiments that Kizzmekia updated and I highlighted.

BG

From: Darin Edwards (b) (6)>
Sent: Wednesday, April 29, 2020 9:50 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>
Cc: Andrea Carfi (b) (6)
Subject: Follow up topics from yesterday's meeting

Hi Barney and Kizzy,

A few topics were left unresolved from yesterday's weekly VRC/Moderna meeting and a few others came to mind after the meeting. In addition, we're working on agenda topics for next week's meeting. We will forward that to you later in the week along with notes from yesterday meeting.

- Can we get the slides from yesterday, (b) (4)

We will send the (b) (4) within a few days. I think you have (b) (4). If you want the slides for documentation of the meeting then we will send.

(b) (4)

(b) (4)

I don't think

(b) (4)
(b) (4)

(b) (4)

See above comments

(b) (4)

See above

(b) (4)

<image002.jpg>

<image004.jpg>

Thanks,

Darin Edwards

Associate Director, Infectious Disease | Moderna

mobile [REDACTED] (b) (6)

modernatx.com

[<image006.jpg>](#)

[<image008.jpg>](#)

[<image010.jpg>](#)

[<image012.jpg>](#)

[<image014.jpg>](#)

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moderna



in

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 27 Nov 2019 23:04:44 +0000
To: Chappell, Jim; Wang, Lingshu (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Question about ICAR 2020 meeting. VRC attendance?
Attachments: ICAR 2020 Abstract_Ver. 1_BG.docx

Thanks Jim,

Well written. A few minor editing suggestions.

BG

From: Chappell, Jim (b) (6)
Sent: Wednesday, November 27, 2019 9:17 AM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>; Wang, Lingshu (NIH/VRC) [E] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Subject: RE: Question about ICAR 2020 meeting. VRC attendance?

Thanks Barney and all for your agreement and support. Please find attached draft abstract for editing. Add authors as appropriate.

Kizzy: the reference to (b) (4)
(b) (4)

Jim

From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Wednesday, November 27, 2019 7:35 AM
To: Chappell, Jim (b) (6)>; Wang, Lingshu (NIH/VRC) [E] <(b) (6)>;
Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Subject: RE: Question about ICAR 2020 meeting. VRC attendance?

Thanks Jim, I agree this would be a good venue to show our work.

BG

From: Chappell, Jim <(b) (6)>
Sent: Wednesday, November 27, 2019 8:32 AM
To: Wang, Lingshu (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E]
(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Subject: RE: Question about ICAR 2020 meeting. VRC attendance?

Thanks Lingshu. I will send a draft abstract shortly for review and comment.

Jim

From: Wang, Lingshu (NIH/VRC) [E] <(b) (6)>
Sent: Tuesday, November 26, 2019 8:32 PM
To: Chappell, Jim (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6);

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

Subject: Re: Question about ICAR 2020 meeting. VRC attendance?

Hi Jim,

It looks an interesting meeting. I do not have a plan to attend. But I agree to your plan to submit an abstract about (b) (4).

Thanks,
lingshu

From: "Chappell, Jim" (b) (6)>

Date: Tuesday, November 26, 2019 at 11:23 AM

To: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>, "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>, "Wang, Lingshu (NIH/VRC) [E]" (b) (6)>

Subject: Question about ICAR 2020 meeting. VRC attendance?

Hello All.

I am contemplating attendance of ICAR next spring. The conference looks interesting, with a notable emphasis on Ab-based therapeutics for emerging viral diseases. See plenary speaker roster (which includes Jason): (<https://www.isar-icar.com/2020-ICAR-Invited-Speakers>)

ICAR might be a (b) (4)

Does anyone from VRC plan to attend? Would you be agreeable to my submitting an abstract on the subject mentioned above? If yes, I will circulate an abstract for review. Abstract submission deadline is 12/5.

Much thanks.

Jim

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 11 Mar 2020 21:41:04 +0000
To: (b) (6); Kanekiyo, Masaru (NIH/VRC) [E]
Cc: Young, Monique (NIH/VRC) [E]
Subject: RE: Any update on the process?

Hi (b) (6)

Please check with Monique on the status of the process. Sorry it is going slow. We are all a little swamped with nCoV at the moment.

Barney

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

From: (b) (6) >
Sent: Tuesday, March 10, 2020 3:06 PM
To: Graham, Barney (NIH/VRC) [E]; (b) (6); Kanekiyo, Masaru (NIH/VRC) [E]
(b) (6) >
Subject: Re: Any update on the process?

Dear Dr. Graham, Dr. Kanekiyo,

Hope this e-mail finds you well.

I was wondering whether there is any progress regarding my start date. I can imagine how busy you must be during this Coronavirus outbreak. I am just worried that the background check takes a few months (a friend of mine waited 2 months, while another waited 3 months until their background checks were completed so that they could start working at NIH).

If it were possible to start the hiring process soon, we could ensure that the background check would be completed in the summer and I could start working afterwards.

Please advise me regarding how to proceed. Thank you.

Looking forward to hearing from you,

(b) (6)

> On Jan 21, 2020, at 12:19 AM, (b) (6) > wrote:

>

> Dear Dr. Graham and Dr. Kanekiyo,

>

> We finally moved to the area! May I ask for a brief update on the process? I would like to start arranging childcare based on the timeline.

>

> I am so excited to join Dr. Kanekiyo's group, collaborate with all the amazing people I met during my interview and contribute to the cutting-edge vaccine research & development efforts!

>

> Thank you and looking forward to hearing from you, (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 21 Mar 2020 14:13:12 +0000
To: t_dy
Cc: Cynthia Graham;Chen, Man (NIH/VRC) [E];Moin, Syed (NIH/VRC) [E];Kumar, Azad (NIH/VRC) [E];Ruckwardt, Tracy (NIH/VRC) [E];Jason S. McLellan;Joan Ngwuta;Morabito, Kaitlyn (NIH/VRC) [E]
Subject: Re: Greeting from Daiyin

Thanks Daiyin. Nice to see that things are settling down in China. Hopefully it won't come back or come back slowly or after we have a vaccine.

BG

Sent from my iPhone

On Mar 21, 2020, at 12:27 AM, (b) (6) wrote:

Dear Barney,

As the COVID-19 spread widens, I am concerned about the news of coronavirus emergency in US, and worried about you and my friends of VPL. Hope all of you are well and getting through the crisis.

Take care and be safe!

Best wishes

Daiyin

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 6 Mar 2020 17:30:23 +0000
To: Esper Kallas
Subject: RE: Trump's Calamitous Coronavirus Response

Hi Esper 😊

Those are my hands showing him a model of our mosaic full-length HA influenza vaccine. The day before he had asked manufacturers, why can't the flu vaccine protect against this new respiratory virus? It's actually not such a bad question. I was showing him the difference in shape between HA and CoV spike.

Hope you are well and that nCoV doesn't come to Sao Paulo during your winter.

Barney

From: Esper Kallas (b) (6) >
Sent: Friday, March 6, 2020 10:24 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Fwd: Trump's Calamitous Coronavirus Response

I know that model.

The New York Times

[Opinion](#)

Trump's Calamitous Coronavirus Response

A whole-of-government mobilization to protect the president's ego.



By [Michelle Goldberg](#)

Opinion Columnist

March 6, 2020, 5:01 a.m. ET



President Trump being shown a model of the coronavirus at the National Institutes of Health. Credit...Doug Mills/The New York Times [Note: The man with the white coat on the left is Dr. Anthony Fauci, the head of the National Institute of Allergy and Infectious Diseases].

Last month, after analyzing figures on epidemics since 1960, [The Economist concluded](#) that people die at a higher rate from such disease outbreaks in authoritarian countries than in democratic ones, even controlling for income levels.

This might seem counterintuitive. Autocratic societies have an easier time imposing strict behavioral limits than democratic ones; it's hard to imagine Italy locking down Milan the way China closed off Wuhan. Without the messy deliberations of democracy, certain kinds of infrastructure can be scaled up much more quickly. "In Norway, one of the most democratic countries in the world, lawmakers have been debating the location of a new 200-bed hospital for seven years," according to the article in *The Economist*. "In China, a new 1,000-bed hospital to treat coronavirus patients was recently built in just ten days."

But democratic countries are far better than authoritarian ones at fact-based policymaking and at sharing the truth with the public. "Non-democratic societies often restrict the flow of information and persecute perceived critics," *The Economist* piece noted. We've seen this in China. As [Li Yuan wrote](#) of coronavirus in *The Times* last month, "As the virus [spread](#), officials in Wuhan and around the country withheld critical information, played down the threat and rebuked doctors who tried to raise the alarm."

Unfortunately, you could substitute "Washington, D.C." for "Wuhan" in that sentence and it would be equally true. So far, Donald Trump's response to coronavirus combines the worst features of autocracy and of democracy, mixing opacity and propaganda with leaderless inefficiency.

From the beginning, Trump minimized the scale of the crisis, portraying it as a purely foreign threat that could be addressed by closing borders. At a Feb. 26 news conference, he claimed there were 15 cases in America, omitting those diagnosed overseas. “The 15 within a couple of days is going to be down to close to zero,” he said. As of this writing, there have been more than 210 cases confirmed across the country and 12 deaths.

Trump dismissed Democratic complaints about his handling of the crisis as “their new hoax.” Last week Mick Mulvaney, Trump’s acting chief of staff, [told the crowd at the Conservative Political Action Conference](#) that the media is paying so much attention to coronavirus “because they think this is what’s going to be what brings down the president.” Speaking to Sean Hannity on Wednesday night, Trump seemed to imply that it was OK for people with coronavirus to go to work: “So if, you know, we have thousands or hundreds of thousands of people that get better, just by, you know, sitting around and even going to work — some of them go to work but they get better.” (He later wrote an angry tweet saying he’d never said sick people *should* go to work, but he certainly didn’t instruct them to follow the Centers for Disease Control and Prevention advice and stay home.)

Within the administration, there’s strong pressure not to contradict Trump’s line. In February, when Dr. Nancy Messonnier, director of the National Center for Immunization and Respiratory Diseases, warned that community spread of coronavirus in America was inevitable, the president was reportedly furious, and the director of the C.D.C. [said she misspoke](#). Pro-Trump media figures like [Rush Limbaugh](#) suggested that she was part of an anti-Trump conspiracy because her brother is former Justice Department official Rod Rosenstein, often derided on the right as part of the Deep State.

The Times reported that Defense Secretary Mark Esper has warned the military not to make decisions related to Coronavirus that might “[run afoul of President Trump’s messaging](#),” even as leaders have to make quick judgments about protecting troops stationed in countries with outbreaks. A Pentagon spokesperson took issue with the Times story, calling it a “[dishonest misrepresentation](#).” Still, it seems as if in the midst of this burgeoning crisis, we’re seeing a coordinated, whole-of-government campaign to protect the president from being contradicted. Dr. Joshua Sharfstein, a vice dean at Johns Hopkins Bloomberg School of Public Health and author of “The Public Health Crisis Survival Guide,” told me that, reviewing the history of such crises, “One of the huge lessons is: Don’t politicize the communications. You really need credible communicators who people believe.” Trump is the opposite of that. At least half the country distrusts him, and he’s ensured that a good part of the other half distrusts actual experts. But if this administration is incapable of the basic honesty one expects from officials in a democracy, it also can’t pull off autocratic, top-down coordination. It has utterly failed to ramp up sufficient testing capacity; on Thursday, [Vice President Mike Pence admitted](#), “We don’t have enough tests today to meet what we anticipate will be the demand going forward.”

As I write this, the Grand Princess, a ship carrying thousands of people, is [stuck off the coast of San Francisco](#) after a former passenger who had disembarked died of Covid-19, the disease that this coronavirus causes. According to Gov. Gavin Newsom of California, 11 passengers and 10 crew members are showing signs of the illness, and Newsom said that number may “significantly understate” the severity of the outbreak onboard. This comes after last month’s disastrous attempt to quarantine people aboard another cruise ship owned by the same company, the Diamond Princess, off the coast of Japan. In the end, 705 people were infected on that boat. Researchers concluded that if people had been quickly taken off the Diamond Princess, the infection rate would have been [only one-eighth as high](#). Nevertheless, D.H.S. official Ken

Cuccinelli told a Senate committee on Thursday that the ship off California can't be evacuated because American health care facilities lack the capacity to quarantine its passengers. Therefore, at least for now, the Diamond Princess experiment is being run again.

Jeremy Konyndyk, a former director of the foreign disaster assistance program at USAID who helped manage the response to Ebola during Barack Obama's presidency, said a competent administration would have had a contingency plan for a repeat of the Diamond Princess debacle. "It's one thing to be the first one to make a mistake," he told me. "It's pretty different to be the second one to make the same mistake." He added, "To say we've got no way to bring these people off the cruise ship is extraordinary to me."

Extraordinary, but perhaps not surprising. "It's like a Xerox copy of Puerto Rico," Konyndyk said, comparing the administration's coronavirus response to its mismanagement of Hurricane Maria's aftermath. Trump's presidency has caused manifold catastrophes, but so far, most Americans have not seen them up close. That might be about to change. Trump spent much of Thursday afternoon congratulating himself on Twitter for his coronavirus response. If things get really bad, maybe he'll toss us a [few rolls of paper towels](#).

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 18 Feb 2020 20:25:21 +0000
To: Priscilla Kelly
Subject: RE: Coronavirus research for Science

Thanks for your help on this Priscilla. It was amazing to have reviews back so quickly. The only part that remains a little confusing is which name to use for the virus.

Best wishes,

Barney

From: Priscilla Kelly <pkelly@aaas.org>
Sent: Tuesday, February 18, 2020 2:12 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: RE: Coronavirus research for Science

Hi Barney,

I just returned from my trip to (b) (6) and I'm delighted to see that this paper will publish in *Science* on Wednesday! Thanks for sending it to us, it's very impressive.

Please keep us posted re: ongoing studies including human clinical trials that are likely a ways off. In terms of preclinical studies that may be on your shorter-term radar, we're particularly interested in work looking at immunogenicity, and animal vaccine/challenge and protection studies. We would of course expedite handling in competitive situations.

All the best,
Priscilla

Priscilla N. Kelly, Ph.D
Biomedicine Editor, *Science*

From: Priscilla Kelly <pkelly@aaas.org>
Sent: Thursday, February 6, 2020 4:41 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: (b) (6); Daniel P. Wrapp (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Subject: Re: Coronavirus research for Science

Thanks Barney.
All the best,

Priscilla

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Thursday, February 6, 2020 3:37 PM
To: Priscilla Kelly <pkelly@aaas.org>
Cc: (b) (6); Daniel P. Wrapp
(b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Subject: RE: Coronavirus research for Science

Dear Priscilla,

Thank you for your interest in this paper. I have appended the title, abstract, communicating authors, and reviewer suggestions below. Let me know if you need additional details and we will work toward having a polished draft by Monday, Feb 10th.

Best wishes,

Barney

Cryo-EM Structure of the 2019-nCoV Spike Glycoprotein

The outbreak of a novel beta-coronavirus (2019-nCoV) represents a pandemic threat that has been declared a public health emergency of international concern. CoV spike (S) glycoprotein is a key target for vaccines, therapeutic antibodies, and diagnostics (b) (4). To facilitate medical countermeasure (MCM) development we describe a 3.5 Å resolution cryo-EM structure of the 2019-nCoV spike (S) glycoprotein trimer in the prefusion conformation. The structure is similar to the SARS-CoV S, and the predominant conformation has one of the three receptor-binding domains (RBD) rotated up in a receptor-accessible conformation. We also show biophysical and structural evidence that the 2019-nCoV S binds ACE2 with higher affinity than SARS-CoV S, (b) (4). We also show several published SARS-CoV RBD-specific monoclonal antibodies do not have appreciable binding to nCoV-2019, indicating antibody cross-reactivity may be limited between the two virus RBDs. Atomic level structure of the 2019-nCoV S will enable rapid development and evaluation of MCMs to address the ongoing public health crisis.

Corresponding authors: Jason S. McLellan and Barney S. Graham

Suggested reviewers:

(b) (6) – coronavirus expert – (b) (6)

(b) (6) – coronavirus expert – (b) (6)

(b) (6) – Structural biologist – (b) (6)

(b) (6) – Structural biology (b) (6)

(b) (6)

From: Priscilla Kelly <pkelly@aaas.org>
Sent: Thursday, February 6, 2020 11:05 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: Re: Coronavirus research for Science

My cell is (b) (6)
-Priscilla

From: Priscilla Kelly <pkelly@aaas.org>
Sent: Thursday, February 6, 2020 11:05 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: Coronavirus research for Science

Hi Barney,

I'm actually in (b) (6) for a conference and have a dinner tonight.
But I can make myself available today between 11am - 12:30pm DC time, although then I need to leave for my function. Alternatively, I can speak on Friday between 11am - 2pm (tomorrow we go on a full day tour and I won't have phone access).

All the best,

Priscilla

From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Thursday, February 6, 2020 7:43 AM
To: Priscilla Kelly <pkelly@aaas.org>
Subject: Re: Coronavirus research for Science

Hi Priscilla,

Is there a time we could have a brief conversation today? We have a paper that I believe will be of interest.

Best regards,

Barney
(b) (6)

Sent from my iPhone

On Jan 30, 2020, at 8:51 AM, Priscilla Kelly <pkelly@aaas.org> wrote:

Hi Barney,

Thanks for the update - this sounds like great progress! Also, *Science* is very keen on clinical trials so we also strongly encourage these data when the time comes.

Cheers,
Priscilla

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: Thursday, January 30, 2020 12:17 AM
To: Priscilla Kelly <pkelly@aaas.org>
Cc: Mascola, John (NIH/VRC) [E] (b) (6)
Subject: Re: Coronavirus research for Science

Thanks Priscilla. We should have full length spike protein on Friday and that will rapidly lead to several key pieces of data. As John said our priority is to get a vaccine into the clinic, but will start writing as soon as we can.

Barney

Sent from my iPhone

On Jan 30, 2020, at 12:41 AM, Priscilla Kelly <pkelly@aaas.org> wrote:

Hi John,

Thanks for letting me know. This is really exciting research and we send out best for smooth sailing.

We look forward to learning updates and I hope to visit VRC again soon.

All the best,
Priscilla

From: Mascola, John (NIH/VRC) [E] (b) (6)
Sent: Wednesday, January 29, 2020 5:41 PM
To: Priscilla Kelly <pkelly@aaas.org>
Cc: Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: RE: Coronavirus research for Science

Hi Priscilla,

Thanks for letting us know. Barney has been worried about a new CoV outbreak for some time – so we were “somewhat” prepared.

As you have likely seen in news, we are responding on vaccine end – with intent to get mRNA vaccine into phase 1 as rapidly as we can. We’ll also do mAb isolation from patient PBMC and see what we learn there- virologically and structurally.

Re vaccines: We have learned from work on SARS and MERS and structural analysis of CoV spike proteins – that key mutations impart stability to the surface spike protein that improve vaccine immunogenicity. We’ve build this into mRNA constructs.

We won’t likely be aiming to be first to publish preclinical data, as we focus on some tangible issues of vaccine development and public heath response. But we will generate key immune protection data, animal model vaccine-challenge, so we will keep in touch.

Best,
John

From: Priscilla Kelly <pkelly@aaas.org>
Sent: Wednesday, January 29, 2020 1:54 PM
To: Mascola, John (NIH/VRC) [E] (b) (6)
Cc: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Coronavirus research for Science

Hi John and Barney,

Happy 2020 - I hope this email finds you well.

I suspect the VRC is busy now with coronavirus-related research. This is also high priority for us at *Science*, so I wanted to reach out and let you know that we are very interested in these studies and would expedite the handling of 2019-nCoV manuscripts.

Please feel free to reach out in due course.

All the best,
Priscilla

Priscilla N. Kelly, Ph.D
Biomedicine Editor, *Science*

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 9 Apr 2020 01:22:00 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Subject: Re: Preliminary Challenge Results from (b) (4)

Thanks Kaitlyn. I will send.

BG

Sent from my iPhone

On Apr 8, 2020, at 9:17 PM, Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)> wrote:

Hi Barney,

I drafted an email to send to Moderna with the data below, and requesting mRNA be shipped to UNC, so it's there for next week.

I'm signing off now, but wanted to share incase you wanted to send to Moderna tonight, since I didn't get a yes or no on sending to them.

Kaitlyn

From: "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>
Date: Wednesday, April 8, 2020 at 9:02 PM
To: Hamilton Bennett <(b) (6)>, Andrea Carfi <(b) (6)>, Sunny Himansu <(b) (6)>, Darin Edwards <(b) (6)>, Guillaume Stewart-Jones <(b) (6)>, <(b) (6)>
Cc: Barney Graham <(b) (6)>, Kizzmekia Corbett <(b) (6)>, "Carlton, Kevin (NIH/VRC) [E]" <(b) (6)>, Karin Bok <(b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" <(b) (6)>
Subject: Preliminary Challenge Results from (b) (4)

Hi All,

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) (4)

--
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)

<VRC mRNA vaccine[1][1].pptx>

(b) (4) Update_V5.docx>

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Apr 2020 18:38:07 +0000
To: Kanekiyo, Masaru (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Bok, Karin (NIH/VRC) [E]
Subject: VPL Functional Statement V1
Attachments: VPL Functional Statement V1.docx

Would you please look over this document and make comments and edits in your respective areas? I would like to submit this to Marybeth before end of week.

Thanks,

Barney

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 7 Apr 2020 03:00:26 +0000
To: Carlton, Kevin (NIH/VRC) [E]
Subject: Re: COVID-19 Weekly Update

Thanks Kevin. Probably need to [REDACTED] (b) (4), (b) (5)

BG

Sent from my iPhone

On Apr 6, 2020, at 9:47 PM, Carlton, Kevin (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:

All,

Here are the new updates for the beginning of this week:

[REDACTED] (b) (4), (b) (5)

Project Management

- Kevin and Kaitlyn meeting tomorrow to go over internal and external meetings to draft POCs for each meeting, along with initiate Communication plans. I will draft an internal VRC communications plan for COVID related items and send to this group for review.

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

Kevin

From: Carlton, Kevin (NIH/VRC) [E]

Sent: Friday, April 3, 2020 10:41 AM

To: Mascola, John (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E]
(b) (6); Koup, Richard (NIH/VRC) [E] (b) (6); Ledgerwood, Julie
(NIH/NIAID) [E] <(b) (6)>; Daucher, Marybeth (NIH/NIAID) [E]
(b) (6)>

Subject: COVID-19 Weekly Update

All,

Here is the end of the week update for COVID-19 activities. The Open Actions are those that I will be putting resources into resolving each week.

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

Kevin

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 29 Apr 2020 14:16:19 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]; Wang, Lingshu (NIH/VRC) [E]
Subject: FW: Request for [REDACTED] (b) (4)
antibodies

FYI. [REDACTED] (b) (4), (b) (5)

[REDACTED] (b) (4), (b) (5)

BG

From: Matthew Raybould <[REDACTED] (b) (6)>
Sent: Wednesday, April 29, 2020 10:11 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>
Cc: [REDACTED] (b) (6)
Subject: Request for [REDACTED] (b) (4)

Dear Professor Graham,

Please forgive the unexpected email. We are researchers in immunoinformatics from the [Oxford Protein Informatics Group](#) (University of Oxford, UK) and [REDACTED] (b) (4), (b) (4)

Many thanks in advance for your consideration, and for performing this highly valuable research.

Best wishes,

Matt

Matthew Raybould

Postgraduate Researcher on the Systems Approaches to Biomedical Sciences CDT (2016-2020)
Oxford Protein Informatics Group, Department of Statistics (PI: Professor Charlotte Deane)
New College, University of Oxford

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 23 Feb 2020 12:28:50 +0000
To: 이한샘
Cc: (b) (6); Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Bok, Karin (NIH/VRC) [E]; Stein, Judy (NIH/VRC) [C]; Wang, Lingshu (NIH/VRC) [E]
Subject: Re: About 2019-nCoV spike protein

Hansaem,

I'm very sorry to read about the increasing number of nCoV cases in South Korea. I'm sure you are exhausted and that a lot is expected of you. We will make arrangements to send you (b) (4)

Please forgive my delay in answering. I have not been able to keep up with email very well.

Judy, this is the group who visited VRC and has made their own (b) (4)
If possible we can facilitate sending because of prior agreements and urgency.

Barney

Sent from my iPhone

On Feb 20, 2020, at 8:35 AM, 이한샘 <(b) (6)> wrote:

Dear Dr. Barney

I have read your article about 2019-nCoV pre-fusion spike protein.

Dr. Sungsoon Kim let me ask you whether you can (b) (4)

She has been promoted to Director of the Center for Infectious Disease Research, KNIH, KCDC.

If you can do, we'll proceed a confidential agreement, a new collaboration research or MTA again for the (b) (4)

As you may know, the number of COVID-19 infected people exceeded 100 in Korea.

We are also generating a (b) (4) in Korea.

I look forward to your positive answer.

God bless you.

Sincerely,

Hansaem

HanSaem Lee

Staff Scientist, Division of Emerging Infectious Diseases & Vector Research

Korea National Institute of Health, Republic of Korea

Phone: (b) (6)

Fax: +82-43-719-8239

Email: (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 20 Mar 2020 10:31:43 +0000
To: Mascola, John (NIH/VRC) [E]; Duffy, Patrick (NIH/NIAID) [E]
Cc: Bok, Karin (NIH/VRC) [E]
Subject: RE: COVID 19 (b) (4), (b) (5)

Thanks Patrick,

We are currently (b) (4), (b) (5)
(b) (4), (b) (5)

Barney

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

From: Mascola, John (NIH/VRC) [E] (b) (6)>
Sent: Thursday, March 19, 2020 8:02 PM
To: Duffy, Patrick (NIH/NIAID) [E] (b) (6)
Cc: Graham, Barney (NIH/VRC) [E] (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6)
Subject: RE: COVID 19 (b) (4), (b) (5)

Hi Patrick,

Thanks for asking. Let me check with Barney Graham, copied here.

The (b) (4), (b) (5) is certainly of interest - thought our bandwidth and stretched pretty far.

Best,

John

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

From: Duffy, Patrick (NIH/NIAID) [E] <(b) (6)>
Sent: Wednesday, March 18, 2020 9:40 PM
To: Mascola, John (NIH/VRC) [E] <(b) (6)>
Subject: COVID 19 (b) (4), (b) (5)

Hi John--

Congratulations to your team at VRC for the great progress on COVID vaccine-- very exciting and vital!

I received the message below from Dr. Jian Han who has determined (b) (4), (b) (5) in

China-- sequence analyses are attached.

Jian is a Faculty Investigator at HudsonAlpha Institute of Biotechnology in Huntsville, Alabama and has founded a few companies based on technologies he developed. (b) (4), (b) (5)

[REDACTED]

[REDACTED] (b) (4), (b) (5)

Thanks for any feedback, Patrick

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

From: Jian Han [REDACTED] (b) (6)>
Sent: Wednesday, March 18, 2020 4:25 PM
To: Duffy, Patrick (NIH/NIAID) [E] [REDACTED] (b) (6)>
Subject: Back to the US?

Hi Patrick,

Hope you are back safely.

[REDACTED] (b) (4)

I have not heard back from the contact you sent to me while you were traveling. Do you think there is another lab that may help with [REDACTED] (b) (4)

Attached are some data [REDACTED] (b) (4)

[REDACTED] (b) (4)

Best wishes, stay safe and healthy!

Jian

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Apr 2020 15:58:47 +0000
To: Mauro Piacentini
Subject: RE: Covid-19 Vaccine project
Attachments: (b) (4) questions - GRAHAM.docx

Sorry for my delayed reply. My answers to the 5 questions are attached.

Take care,

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
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: Mauro Piacentini (b) (6)
Sent: Sunday, April 5, 2020 4:55 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Yufang Shi2 (b) (6);
(b) (6); Guido Kroemer (b) (6); Markus Maeurer
(b) (6)
Subject: Covid-19 Vaccine project

Dear Committee Members,

Attached find please the final version of the (b) (4) vaccine project workplan. You are kindly requested to send me a written official comment asap. Attached, also find a word file containing 5 questions to be answered about some key aspects of the proposal.

Thanking You in advance for your precious collaborations


Best regards

Mauro Piacentini

- Full Professor of Cellular and Developmental Biology
- Editor-inChief of Cell Death & Disease
- Founder and Senior Editor of Cell Death and Differentiation
- Director of the Laboratory of Cell Biology and EM of the National Institute for Infectious Diseases IRCCS "Lazzaro Spallanzani"
- President of the National Research Committee of the Ministry of Health

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 17 Mar 2020 19:34:49 +0000
To: Young, Monique (NIH/VRC) [E]; Durbin, Anna (NIH)
Cc: Jay Bream
Subject: RE: Lecture in Biological Basis of Vaccine Development

foreign language/machine code



foreign language/machine code




From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 21 Apr 2020 13:00:23 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]
Subject: RE: help with awards

Thanks. I was planning to add you to the other lists.

BG

From: Morabito, Kaitlyn (NIH/VRC) [E] <[REDACTED]> (b) (6)
Sent: Tuesday, April 21, 2020 8:30 AM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)
Subject: Re: help with awards

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



From: Barney Graham [REDACTED] (b) (6)
Date: Monday, April 20, 2020 at 5:18 PM
To: Kaitlyn Morabito [REDACTED] (b) (6) >
Subject: help with awards


Hi Kaitlyn,

I need to send an email like the following back to Sarah Austin. Could you look through and add other people where indicated?

Thanks,

Barney

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



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: Fri, 14 Feb 2020 17:07:03 +0000
To: Young, Monique (NIH/VRC) [E]
Subject: trip reports
Attachments: COVID-19 WHO meeting Feb 2020.docx, Barcelona Pneumonia forum January 2020.docx

Barcelona and Geneva attached.

BG

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: Fri, 13 Mar 2020 19:45:46 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: Fwd: COVID

FYI.

BG

Sent from my iPhone

Begin forwarded message:

From: "Roberts, Chris (NIH/NIAID) [E]" <(b) (6)>
Date: March 13, 2020 at 2:33:24 PM EDT
To: "Beigel, John (NIH) [E]" <(b) (6)>, "Embry, Alan (NIH/NIAID) [E]" <(b) (6)>, "Erbelding, Emily (NIH/NIAID) [E]" <(b) (6)>, "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Cc: "Post, Diane (NIH/NIAID) [E]" <(b) (6)>, "Cassetti, Cristina (NIH/NIAID) [E]" <(b) (6)>
Subject: FW: COVID

Good news!

From: "Lisa A. Jackson" <Lisa.A.Jackson@kp.org>
Date: Friday, March 13, 2020 at 2:23 PM
To: Kathleen Neuzil <(b) (6)>, "Roberts, Chris (NIH/NIAID) [E]" <(b) (6)>, "Makhene, Mamodikoe (NIH/NIAID) [E]" <(b) (6)>, "Nayak, Seema (NIH/NIAID) [E]" <(b) (6)>
Subject: COVID

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

Lisa

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Jan 2020 16:52:19 +0000
To: Seth Scanlon
Subject: Re: Manuscript Evaluation for Science

Ok. Will do.

BG

Sent from my iPhone

On Jan 14, 2020, at 11:45 AM, Seth Scanlon <sscanlon@science-int.co.uk> wrote:

Dear Barney,

Thanks so much for getting back to me and for your reviewer suggestions. Best of luck with the pandemic response! And if any interesting data comes from this, please let us know!

Best wishes,

Seth

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

Sent: 14 January 2020 11:34

To: Seth Scanlon <sscanlon@science-int.co.uk>

Subject: Re: Manuscript Evaluation for Science

Hi Seth,

Sorry for my delayed response. We have activated our pandemic response system for the Wuhan coronavirus since we got the sequences this weekend. I'm afraid I am going to be totally consumed with that for the next few months.

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

Best wishes,

Barney

Sent from my iPhone

> On Jan 14, 2020, at 11:12 AM, Seth Scanlon <science_editors@aaas.org> wrote:

>

> Dear Barney,

>

> We recently e-mailed to ask whether you would be able to review the paper (b) (6), (b) (4) for Science. [See abstract and author details below.]

>

> We hope that you have had a chance to consider this request and can let us know whether you accept or decline by clicking on a link below. If you accept, you will be directed to our log in page to download the manuscript. If you decline, you will be able to suggest other reviewers.

>

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

> To discuss any potential issues, for example if you would like to obtain input from a colleague on the manuscript, please contact me by responding to this email. We request review within 2 weeks (due date 27-Jan-2020).

>

> Cross Review: Once all reviews are in, we invite all reviewers to read the other reviews and make additional comments within 2 business days. Cross-review is encouraged, but not required. If we do not receive comments we will proceed based on the reviews in hand. In cases where the decision is clear, we may proceed without cross-review. In these cases, reviews will be shared for information only.

>

> Thanks very much in advance for your time and consideration.

>

> Best wishes,

>

> Seth

>

> Seth Thomas Scanlon, PhD

>

> Associate Editor, Science

> sscanlon@science-int.co.uk

>


> THE INFORMATION BELOW AND IN THE MANUSCRIPT IS CONFIDENTIAL AND SHOULD NOT BE SHARED OR DISSEMINATED

>

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

>

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



From: (b) (6)
Sent: Sun, 5 Apr 2020 11:33:05 -0400
To: Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Misasi, John (NIH/VRC) [E]; Fisher, Brian (NIH/VRC) [E]
Subject: Re: SARS-CoV-2 (b) (4), development

Or could put the (b) (4), (b) (5)

Barney

Sent from my iPhone

On Apr 5, 2020, at 10:48 AM, Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6) wrote:

Yes, John. Per the methods of the paper. Brian is a genius at this. We will get it right.

--

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: "Misasi, John (NIH/VRC) [E]" (b) (6) >
Date: Sunday, April 5, 2020 at 10:16 AM
To: Kizzmekia Corbett (b) (6) >
Cc: "Fisher, Brian (NIH/VRC) [E]" (b) (6), Barney Graham
(b) (6) >
Subject: Re: SARS-CoV-2 (b) (4) development

kizzy

you also may want to

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

John

John Misasi, M.D.

Staff Clinician

NIH/NIAID

Vaccine Research Center

Biodefense Research Section

Rm 2510

40 Convent Drive

Bethesda, MD 20892

(b) (6)

Sent from my iPhone

On Apr 5, 2020, at 02:54, Corbett, Kizzmekia (NIH/VRC) [E]

(b) (6) >

wrote:

Hey Brian,

Can you please

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

Sent from the mobile device of:

Kizzmekia S. Corbett, PhD

Senior Research Fellow

coVip Scientific Lead

VRC | NIAID | NIH

(b) (6)

From: "Misasi, John (NIH/VRC) [E]" <(b) (6)>

Date: Thursday, April 2, 2020 at 11:30:58 AM

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

Cc: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >, "Wang, Lingshu (NIH/VRC) [E]" (b) (6), "Shi, Wei (NIH/VRC) [E]" (b) (6) >, "Kong, Wing-Pui (NIH/VRC) [E]" (b) (6) >, "McDermott, Adrian (NIH/VRC) [E]" (b) (6)

"Sullivan, Nancy (NIH/VRC) [E]" <[REDACTED] (b) (6)>

Subject: Re: SARS-CoV-2 (b) (4) development

Here is the paper on the [REDACTED] (b) (4), (b) (5)

John Misasi, M.D.

Staff Clinician

NIH/NIAID

Vaccine Research Center

Biodefense Research Section

Rm 2510

40 Convent Drive

Bethesda, MD 20892

[REDACTED] (b) (6)

From: John Misasi [REDACTED] (b) (6) >

Date: Monday, March 30, 2020 at 11:10

To: "Corbett, Kizzmekia (NIH/VRC) [E]" <[REDACTED] (b) (6)>, "Ruckwardt, Tracy (NIH/VRC) [E]" <[REDACTED] (b) (6)>

Cc: "Morabito, Kaitlyn (NIH/VRC) [E]" [REDACTED] (b) (6), "Wang, Lingshu (NIH/VRC) [E]" <[REDACTED] (b) (6)>, "Shi, Wei (NIH/VRC) [E]" [REDACTED] (b) (6), "Kong, Wing-Pui (NIH/VRC) [E]" [REDACTED] (b) (6), "McDermott, Adrian (NIH/VRC) [E]" [REDACTED] (b) (6) >, "Sullivan, Nancy (NIH/VRC) [E]" [REDACTED] (b) (6) >

Subject: Re: SARS-CoV-2 (b) (4) development

Hi Kizzmekia and Tracy,

I think I mentioned this to Tracy and maybe both of you. In thinking [REDACTED] (b) (4), (b) (5)

[REDACTED] (b) (4), (b) (5)

John

John Misasi, M.D.

Staff Clinician

NIH/NIAID

Vaccine Research Center

Biodefense Research Section

Rm 2510

40 Convent Drive

Bethesda, MD 20892

(b) (6)

From: "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6)

Date: Sunday, March 29, 2020 at 19:34

To: "Doria-Rose, Nicole (NIH/NIAID) [E]" (b) (6) "Cale, Evan (NIH/NIAID) [E]" (b) (6), John Misasi (b) (6)

Cc: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6), "Wang, Lingshu (NIH/VRC) [E]" (b) (6), "Dipiazza, Anthony (NIH/VRC) [F]" (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Phung, Emily (NIH/VRC) [F]" (b) (6), "Shi, Wei (NIH/VRC) [E]" (b) (6)

Subject: SARS-CoV-2 probe development

Hi Nicole et. al,

I've attached an abbreviated slide deck that has a quick, and I hope intuitive, summary of our (b) (4), (b) (5) in case you are still interested in presenting an update at your HIV meeting tomorrow morning. If we have time, Emily Phung may be giving a more detailed presentation at the CoV meeting at 11, which it looks like you are a listed attendee of. Let me know if you have any questions; I think we do our (b) (4), (b) (5) in a somewhat different way than many in the building, because I much prefer (b) (4), (b) (5)

Best,

Tracy

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

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Jan 2020 20:56:55 +0000
To: Marston, Hilary (NIH/NIAID) [E]
Cc: NIAID Coronavirus Response SWAT 2020
Subject: Re: CIDRAP: New coronavirus infects health workers, spreads to Korea
<http://bit.ly/2RD7wBA>

Agree. I hope (b) (5)

BG

Sent from my iPhone

On Jan 20, 2020, at 3:48 PM, Marston, Hilary (NIH/NIAID) [E] (b) (6) wrote:

I think (b) (5)

On Jan 20, 2020, at 3:02 PM, Folkers, Greg (NIH/NIAID) [E] (b) (6) wrote:

New coronavirus infects health workers, spreads to Korea

[Lisa Schnirring](#) | [News Editor](#) | [CIDRAP News](#)

|

Jan 20, 2020

<image001.jpg>

sudok1 / iStock

A Chinese health official said today that 14 healthcare workers have been infected with the Wuhan-linked novel coronavirus (2019-nCoV), bolstering evidence of human-to-human spread and spurring new questions about virus circulation against a backdrop of other winter respiratory illnesses.

In addition, South Korea early this morning reported its first 2019-nCoV case, as the number of outbreak-related cases grew in other Chinese cities, including Beijing and Shanghai, pushing the nation's total to 218.

The quickly evolving outbreak prompted the World Health Organization (WHO) to announce that it will convene an emergency committee on Jan 22 to see if developments warrant a public health emergency of international concern under International Health Regulations.

First report of health worker infections

At a media briefing in China today, the head of the National Health Commission's (NHC's) expert group, Zhong Nanshan, said 2019-nCoV shows hallmarks of human-to-human spread and 14 infections have been reported in healthcare workers, according to a report from Sina, an online news outlet in China.

It's not clear if the 14 healthcare worker infection are from one or multiple facilities. Spread to healthcare workers has been a feature of other coronavirus outbreaks, such as SARS (severe acute respiratory syndrome) and MERS-CoV (Middle East respiratory syndrome coronavirus). Zhong, who is one of China's top respiratory disease experts, also said 95% of the cases have ties to Wuhan.

Korean patient's exposure a mystery

South Korea's patient is a 35-year-old Chinese woman traveling from Wuhan whose symptoms began when she arrived at Incheon International Airport in Seoul, Yonhap News Agency reported, citing the Korea Centers for Disease Control and Prevention. The case marks the third country to report an imported 2019-nCoV case, following reports from Thailand and Japan last week, all of which involved travelers from Wuhan.

Soon after the case was announced, the WHO's Western Pacific regional office (WHO WPRO) said on Twitter that Korean authorities said the woman didn't visit markets or have contact with animals or other confirmed cases.

The WHO said thermal scanning at the airport detected her symptoms and added that she is in isolation at an Incheon hospital, where her condition is listed as stable. WHO WPRO added that South Korea stepped up its surveillance for Wuhan-related cases on Jan 3, which included traveler screening.

More China cases outside of Wuhan

Following yesterday's announcement of China's first 2019-nCoV outside of Wuhan, in Shenzhen in Guangdong province, authorities reported more cases in more cities, including Beijing and Shanghai, plus more cases in Shenzhen, meaning three of China's four largest cities are now affected. Most infections have links to Wuhan travel, but a few were reportedly detected in contacts.

Last night, the WHO on Twitter, in noting yesterday's surge of cases in Wuhan, noted the first detections—those in Beijing and Shenzhen—and said the spike is the result of increased surveillance and testing in people sick with respiratory illnesses.

China's NHC today posted a state news report that said 217 confirmed cases have now been reported in China, including 198 in Wuhan, according to a report translated and posted by FluTrackers, an infectious disease news message board. Five are from Beijing and 14 are from Guangdong province, which is in southern China and includes Shenzhen.

The NHC noted that suspected cases have been reported in other provinces. A separate report from Hong Kong's Centre for Health Protection (CHP) today said that, based on information it received from the mainland's NHC, the Guangdong province cases include eight more in Shenzhen, three in Zhuhai, and one each in Huizhou and Zhanjiang. It said 11 of the new cases have travel links to Wuhan and 2 are close contacts of a sick patient.

The CHP also said the first case has been reported in Shanghai, a 56-year-old woman from Wuhan who is listed in stable condition. The center's update also covered the three latest patients in Beijing, one of whom is in critical condition; all have Wuhan travel connections, as did the two cases reported yesterday.

The cases come in the midst of heavy travel in advance of Lunar New Year celebrations.

Developments raise outbreak scenario questions

Infectious Disease expert Michael T. Osterholm, PhD, MPH, said a surge in cases—as health officials in and outside of China increase their surveillance and testing for 2019-nCoV—raises more questions about the outbreak scenario. One is whether the outbreak originated from a virus spillover from an animal in the Wuhan seafood market, which also sold other animals such as poultry, bats, marmots, and other wildlife.

Also, he said it's possible that the virus was circulating for a limited time in humans—perhaps weeks to months—before the Wuhan outbreak was recognized. Osterholm said another possibility is that Wuhan

might not be the center of the outbreak and that cases happened to be identified in a single place, with increased testing confirming additional cases.

Osterholm is director of the University of Minnesota's Center for Infectious Disease Research and Policy, which publishes CIDRAP News.

Given that that many of the illnesses are mild, circulation of 2019-nCoV might have been occurring under the surveillance radar, masked by seasonal rises in winter respiratory illnesses that have similar symptoms, Osterholm said.

However, identification of a "superspreading" element to the outbreak would be a game changer. "You don't miss that, even in a flu season," he said. "There are still a lot of questions that we don't have answers for."

See also:

Jan 20 Sina [story](#)

Jan 20 WHO tweet on [emergency committee meeting](#)

Jan 20 Yonhap News Agency [story](#)

Jan 20 WHO WPRO [Twitter thread](#)

Jan 19 WHO [Twitter thread on Wuhan, Beijing, Shenzhen cases](#)

Jan 20 FluTrackers [post on NHC information](#)

Jan 20 CHP [statement](#)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 15 Mar 2020 15:54:43 +0000
To: Cooke, John P.
Cc: Matre, Polina;Gall, Jason (NIH/VRC) [C];Sukhovshin, Roman;Mascola, John (NIH/VRC) [E];Stein, Judy (NIH/VRC) [C];Petrik, Amy (NIH/NIAID) [E];Salata, Carol (NIH/NIAID) [E]
Subject: RE: COVID19 vaccine

Thank you for your interest in collaborating with us and for noticing our paper. I'm sorry for my delayed response.

(b) (4)

Best wishes,

Barney

From: Cooke, John P. <(b) (6)>
Sent: Friday, March 6, 2020 6:57 AM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: Matre, Polina (b) (6); Sukhovshin, Roman (b) (6)
Subject: COVID19 vaccine

Dear Dr. Graham:
Congratulations on your Science paper!

(b) (4)

Thanks for your thoughtful consideration of this request, and your guidance.

With warmest regards,

John P. Cooke, M.D., Ph.D.

Joseph C. "Rusty" Walter and Carole Walter Looke Presidential Distinguished Chair
Professor and Chair, Department of Cardiovascular Sciences
Director, Center for Cardiovascular Regeneration
Medical Director, RNA Therapeutics Program
Houston Methodist Research Institute
6670 Bertner Ave., Mail Stop: R10-South Houston, Texas 77030
www.cardiovascularregeneration.com

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 4 Feb 2020 23:01:00 +0000
To: Events Registration
Cc: Young, Monique (NIH/VRC) [E]
Subject: RE: Action Required: Declaration of Interests Form Needed for the Global Research and Innovation Forum: Towards a Roadmap for the 2019 Novel Coronavirus in Geneva, Switzerland.
Attachments: WHO COI Declaration 2019-nCoV meeting - GRAHAM.pdf

I have attached the declaration of interests form.

Barney Graham

From: Events Registration <EventsRegistration@gatesfoundation.org>
Sent: Tuesday, February 4, 2020 1:47 PM
To: Events Registration <EventsRegistration@gatesfoundation.org>
Subject: Action Required: Declaration of Interests Form Needed for the Global Research and Innovation Forum: Towards a Roadmap for the 2019 Novel Coronavirus in Geneva, Switzerland.

Greetings,

Thank you for your registration for the upcoming **Global Research and Innovation Forum: Towards a Roadmap for the 2019 Novel Coronavirus** in Geneva, Switzerland.

ACTION REQUIRED

It is a World Health Organization requirement that all external experts complete the Declaration of Interests Form prior to attending the meeting. The applicable form is attached to this email.

Please email the completed form to EventsRegistration@gatesfoundation.org as soon as possible.

The World Health Organization also requires that you register directly for the meeting via the following link: <https://indico.un.org/event/33796/>

Please make sure that you are using Google Chrome, Firefox or Microsoft Edge, otherwise you will not be able to register

Valid form of identification is required to be granted access to the WHO. The WHO requires collection of identification for the duration of the meeting.

Should you have any changes to your registration, questions, or need to cancel your participation, please contact Events Registration by email at EventsRegistration@gatesfoundation.org. If you are planning on joining remotely, please let us know.

Thank you for registering. We look forward to your participation.

Warm regards,
Events Registration
Bill & Melinda Gates Foundation

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 31 Mar 2020 14:06:13 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]; Wang, Lingshu (NIH/VRC) [E]
Subject: RE: Analyzed ... Re: (b) (4) data

Looks good. I think (b) (4), (b) (5)
(b) (4), (b) (5)

I guess we will have to (b) (4), (b) (5)
(b) (4), (b) (5)

If you want me to edit the text, these are all pasted images and are not editable.

Barney

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Tuesday, March 31, 2020 9:53 AM
To: Wang, Lingshu (NIH/VRC) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E]
(b) (6)
Subject: Analyzed ... Re: (b) (4) data

Here are the prism file and layout that I made to send to Moderna.

Dr. Graham, per your request, I will not send anything to Moderna without vetting by you. Please be specific about what part of the PDF file you would like me to send vs. not.

--

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: "Wang, Lingshu (NIH/VRC) [E]" (b) (6)

Date: Tuesday, March 31, 2020 at 2:02 AM

To: Kizzmekia Corbett (b) (6), Barney Graham (b) (6)

Subject: (b) (4) data

Hi Kizzy,

Attached is the (b) (4), (b) (5) a few hours ago. Because our MicroBeta got an issue the PE technician was in the lab whole day. But the machine is still not fixed completely and was stuck during the reading. We were told that the machine is OK to use, but need to correct for the detector #4. To be safe we read the plates in both 5th floor and 4th floor machines. I just analyzed the data from 4th machine reading.

Summary data is shown in the columns BK-BQ.

This week we plan to run (b) (4), (b) (5) (b) (4), (b) (5) A list of prioritized samples we need to run in next 2-4 weeks would be really helpful.

Thanks,
lingshu

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 4 Mar 2020 22:08:19 +0000
To: Oplinger, Anne (NIH/NIAID) [E]
Cc: Folkers, Greg (NIH/NIAID) [E]; NIAID OCGR NSWB; Hiatt, Nissa (NIH/VRC) [C]
Subject: Re: link to new Vox piece FW: your requests to NIAID Drs. Fauci and Graham on coronavirus vax development
Attachments: ~WRD000.jpg

Thanks Anne. Agree, that was one of the better written articles.

Barney

Sent from my iPhone

On Mar 4, 2020, at 4:28 PM, Oplinger, Anne (NIH/NIAID) [E] (b) (6) wrote:

Greg,

For clips. Really comprehensive on both vax and drugs and they say it will continue to be updated. I plan to bookmark this for sure. Vaccine enhancement issue discussed pretty far down (by Hotez) in the vaccine section of the piece and looking back at RSV vax. <https://www.vox.com/science-and-health/2020/3/4/21154590/coronavirus-vaccine-treatment-covid-19-drug-cure>

Barney very kindly squeezed in an interview for Brian Resnick late Monday.

Anne A. Oplinger
NIAID Office of Communications
Media Line: 301-402-1663
General Line: 301-594-3961
(b) (6)

From: Brian Resnick <brian@vox.com>
Sent: Wednesday, March 4, 2020 4:15 PM
To: Young, Monique (NIH/VRC) [E] (b) (6)>
Cc: Oplinger, Anne (NIH/NIAID) [E] (b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: Re: your requests to NIAID Drs. Fauci and Graham on coronavirus vax development

Here's the article. Thanks again! <https://www.vox.com/science-and-health/2020/3/4/21154590/coronavirus-vaccine-treatment-covid-19-drug-cure>

Brian Resnick • Senior Reporter

[<~WRD000.jpg>](#)

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NIH-001766

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 7 Feb 2020 19:56:52 +0000
To: Hiatt, Nissa (NIH/VRC) [C]; Routh, Jennifer (NIH/NIAID) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Deatrck, Elizabeth (NIH/NIAID) [C]
Subject: RE: how realistic is the development of a coronavirus vaccine? short, live phone interview on CBS News Radio LA

I cannot do it. Perhaps Dr. Corbett can accommodate.

BG

From: Hiatt, Nissa (NIH/VRC) [C] (b) (6)>
Sent: Friday, February 7, 2020 2:25 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Routh, Jennifer (NIH/NIAID) [E] (b) (6)>
Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Deatrck, Elizabeth (NIH/NIAID) [C] (b) (6)>
Subject: RE: how realistic is the development of a coronavirus vaccine? short, live phone interview on CBS News Radio LA

Hi Barney,

Should Elizabeth decline on your behalf due to timing or should we help send this for clearance? I know this is a tight turnaround so it makes sense if it is not possible to accommodate their last minute request.

Best,
Nissa

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

(b) (6)
(b) (6)



From: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Sent: Friday, February 7, 2020 2:09 PM
To: Hiatt, Nissa (NIH/VRC) [C] <(b) (6)>; Routh, Jennifer (NIH/NIAID) [E] (b) (6)>

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

Subject: FW: how realistic is the development of a coronavirus vaccine? short, live phone interview on CBS News Radio LA

FYI.

BG

From: Jonathan Serviss <Jonathan.Serviss@entercom.com>

Sent: Friday, February 7, 2020 1:28 PM

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

Cc: NIAID NEWS (NIH/NIAID) <NIAIDNEWS@niaid.nih.gov>; Deatricks, Elizabeth (NIH/NIAID) [C]

(b) (6)>; Oplinger, Anne (NIH/NIAID) [E] (b) (6)>

Subject: how realistic is the development of a coronavirus vaccine? short, live phone interview on CBS News Radio LA

Good afternoon Dr. Graham,

I'm writing from CBS News Radio in Los Angeles with a request to talk with you for just a few minutes later this afternoon to ask about the realistic likelihood that scientists can create a coronavirus vaccine in time to slow down the spread of the disease, and whether older treatments of SARS might be effective against coronavirus. With all of the concerns and anxieties over coronavirus, not to mention the hysteria over the virus spreading far and wide outside of China, there have been a lot of questions about the development of a vaccine to stop coronavirus dead. Is that a realistic hope; what goes into developing a new vaccine from scratch; and then how would such a vaccine be marketed and sold?

If you have a few minutes to talk with us live today at 3:45pm Central we'd be very grateful to have you on our "In Depth" newscast for a short, live phone interview. We'd only need you for about 6 minutes at 4:45pm ET, and you'd be in conversation with my two anchors--no other guests or callers involved.

Let me know what's possible for talking live at 4:45pm ET and thanks so much for your help and consideration.

Best,

Jonathan

Jonathan Serviss

producer/reporter--KNX **InDepth**--CBS News LA Affiliate

Entercom | Los Angeles

5670 Wilshire Blvd, Suite 200

Los Angeles, CA 90036

O: 323-900-2070 newsroom

C: (b) (6)



From: (b) (6)
Sent: Tue, 24 Mar 2020 13:15:38 -0400
To: Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Fwd: Strategic Planning Team

This is for tomorrow. I will work on standing invitation.

Barney

Sent from my iPhone

Begin forwarded message:

From: "Gall, Jason (NIH/VRC) [C]" (b) (6)>
Date: March 24, 2020 at 12:51:25 PM EDT
To: "Austin, Sarah (NIH/NIAID) [E]" (b) (6), "Boritz, Eli (NIH/NIAID) [E]" (b) (6)>, "Carlton, Kevin (NIH/VRC) [E]" (b) (6)>, "Chen, Grace (NIH/NIAID) [E]" (b) (6)>, "Daucher, Marybeth (NIH/NIAID) [E]" (b) (6)>, "Douek, Daniel (NIH/VRC) [E]" (b) (6)>, "Gama, Lucio (NIH/VRC) [C]" <(b) (6)>, "Graham, Barney (NIH/VRC) [E]" (b) (6)>, "Harris, Christina (NIH/NIAID) [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)>, "Stein, Judy (NIH/VRC) [C]" (b) (6)>, "Sullivan, Nancy (NIH/VRC) [E]" (b) (6), "Tramont, Ed (NIH/NIAID) [E]" <(b) (6)>, "Lindsay, David (NIH/NCI) [C]" (b) (6)>, "Abe, Ken (NIH/VRC) [C]" (b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6), "Vazquez, Sandra (NIH/VRC) [C]" (b) (6)>, "Prince, Tasheema (NIH/VRC) [C]" (b) (6), VRC Program Managers <(b) (6)>
Cc: "Esther, Marzjah (NIH/VRC) [C]" (b) (6)>
Subject: Strategic Planning Team

Purpose of meeting is to set the VRC's Strategic Plan for Coronavirus

Join Zoom Meeting

(b) (6)

Dial-in:

(b) (6) US

Meeting ID: (b) (6)

<Strategic Planning Team>

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 25 Apr 2020 00:42:36 +0000
To: Cornelia L. Dekker
Cc: Robert Chen
Subject: Re: Proposed manuscript: BC/CEPI Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines

Have you already added Kanta's changes to the new draft you sent me? Otherwise I will keep working from her version.

BG

Sent from my iPhone

On Apr 24, 2020, at 6:57 PM, Cornelia L. Dekker <(b) (6)> wrote:

Many thanks, I know you must be swamped. In your review, just want to explain that the consensus statement at the end is something that we painfully negotiated with regulators as they were loathe for it to sound like regulatory guidance. Kanta has suggested some clarifying changes that I will include as I don't think they will object, but I don't want you to spend a lot of time on that section only to later find out we couldn't make any changes. The reviews did add more references so we're up to 50 at this point.

Best regards, Corry

From: Barney Graham <(b) (6)>
Date: Friday, April 24, 2020 at 1:31 PM
To: Cornelia Dekker <(b) (6)>
Cc: Robert Chen <(b) (6)>
Subject: RE: Proposed manuscript: BC/CEPI Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines

I've started, but won't be able to finish until tomorrow. Too many calls during the week.

I think it is important to use the SARS-CoV-1 designation for the original SARS virus to avoid confusion. There is no policy on this, but I think everyone will understand.

BG

From: Cornelia L. Dekker <(b) (6)>
Sent: Friday, April 24, 2020 4:26 PM

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

Cc: Robert Chen (b) (6)

Subject: FW: Proposed manuscript: BC/CEPI Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines

Dear Dr. Graham, thank you again for your participation in the meeting last month. I'm collating the comments from this review and have received all but yours. I know Bob gave a deadline of Monday, but if you can get your comments back to me sooner, that would be much appreciated.

In the meantime, Kanta has raised the question of whether SARS-CoV has actually had its name changed to SARS-CoV-1 which we've used. Do you have a vote? I realize it's a small point but suspect NIH probably has a standard for this and we'd like to be correct.

Thanks again, Corry Dekker

From: Robert Chen (b) (6)>

Date: Thursday, April 16, 2020 at 1:03 PM

To: Chuan Qin (b) (6)>, "Subbarao, Kanta"

(b) (6), "Perlman, Stanley" (b) (6)

Ralph Baric (b) (6)>, Barney Graham (b) (6)>, "Arnaud

.Didierlaurent" <(b) (6)>, Paul Henri Lambert

(b) (6)>, Steve Black (b) (6)>, Cornelia Dekker

(b) (6), Andrew Pollard <(b) (6)>

Cc: Imanol Urcola Lecuona (b) (6)>, Ángel Honrado (b) (6)

(b) (6)>, Jakob Cramer (b) (6)>, Svein Rune Andersen

(b) (6)>, Donna Ambrosino (b) (6)>

Subject: Re: Proposed manuscript: BC/CEPI Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines

Dear colleagues,

Thanks to Donna Ambrosino and her writing team, here is the draft manuscript (attached and link: (b) (6)

Note the final consensus statement is unchanged from the meeting as the wording is already approved by WHO, CEPI, FDA and EMA and we don't wish to tinker with it now. Please provide your edits on the rest of the manuscript (directly on the link preferred, though email attachment also accepted) by NLT Monday Apr. 27 @5PM EDT (New York).

We'll work on the title page, key words, etc. in the meantime.

Best regards,

Robert (Bob) Chen MD MA

Scientific Director, Brighton Collaboration

Land: (b) (6) Cell: (b) (6)

email: (b) (6)

On Mon, Apr 6, 2020 at 11:07 PM Robert Chen (b) (6) wrote:

Dear Colleagues,

Thanks again for all your help in making the Mar. 11-12 CEPI/BC Consensus meeting on the assessment of the risk of disease enhancement with COVID-19 vaccines a success. Given how busy all of you are, to expedite converting our meeting products into a report for the journal Vaccine (example attached), I've recruited Dr. Donna Ambrosino, a longstanding student of this issue (CV attached). If you agree, she and her writing team have completed review the video and other meeting products and target to produce a first draft based on the attached outline in ~7 days for your review. Once you return your comments, we hope to arrive at a revised version during the following 7 days. Please reply only if you prefer NOT to be a coauthor. Otherwise you'll receive the draft manuscript for your review in ~7 days.

Best regards,

Robert (Bob) Chen MD MA

Scientific Director, Brighton Collaboration

Land: (b) (6) Cell: (b) (6)

email: (b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Apr 2020 19:07:45 +0000
To: Mascola, John (NIH/VRC) [E]; Sullivan, Nancy (NIH/VRC) [E]; Daucher, Marybeth (NIH/NIAID) [E]
Cc: Koup, Richard (NIH/VRC) [E]; Ledgerwood, Julie (NIH/NIAID) [E]
Subject: RE: Service to America Medals – Congratulations!

You could also clean up the first part of my quote in the last paragraph by shortening to, “She leads her group in doing rigorous work,”

Thanks,

Barney

From: Mascola, John (NIH/VRC) [E] (b) (6) >
Sent: Thursday, April 23, 2020 3:04 PM
To: Sullivan, Nancy (NIH/VRC) [E] <(b) (6)>; Daucher, Marybeth (NIH/NIAID) [E] (b) (6) >
Cc: Koup, Richard (NIH/VRC) [E] (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: RE: Service to America Medals – Congratulations!

Some quick edits. Don't have time to do first round edits – don't we have a comms group to help?

From: Sullivan, Nancy (NIH/VRC) [E] (b) (6) >
Sent: Thursday, April 23, 2020 2:23 PM
To: Daucher, Marybeth (NIH/NIAID) [E] (b) (6) >
Cc: Mascola, John (NIH/VRC) [E] (b) (6) >; Koup, Richard (NIH/VRC) [E] (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: RE: Service to America Medals – Congratulations!

All,

Thanks again for your support for this award. Assuming no further response means approval, the document will be submitted today.

Best,
Nancy

From: Sullivan, Nancy (NIH/VRC) [E]
Sent: Tuesday, April 21, 2020 5:51 PM
To: Daucher, Marybeth (NIH/NIAID) [E] <(b) (6)>
Cc: Mascola, John (NIH/VRC) [E] (b) (6) >; Koup, Richard (NIH/VRC) [E]

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

Subject: Re: Service to America Medals – Congratulations!

Thanks Marybeth. Please feel free to edit as appropriate and/or pass along to NIAID. I will await edits and approval before sending back to them.

Nancy

On Apr 21, 2020, at 4:53 PM, Daucher, Marybeth (NIH/NIAID) [E] (b) (6)> wrote:

Congratulations Nancy – as you can see, this is well-deserved. My only concern is (b) (5)

From: Sullivan, Nancy (NIH/VRC) [E] (b) (6)>

Sent: Tuesday, April 21, 2020 4:41 PM

To: Mascola, John (NIH/VRC) [E] (b) (6)>; Koup, Richard (NIH/VRC) [E]

(b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>; Daucher, Marybeth (NIH/NIAID) [E] (b) (6)>

Subject: FW: Service to America Medals – Congratulations!

All,

The SAMMIES organizers plan to include the attached profile on finalists in their press package Thursday. Please let me know if you have suggested edits or if it needs to go to NIAID for pre-release review and approval.

Many thanks for nominating me and for your kind statements on my behalf.

Thanks,
Nancy

From: Nola Tolsma <NTolsma@ourpublicservice.org>

Sent: Tuesday, April 21, 2020 2:32 PM

To: Sullivan, Nancy (NIH/VRC) [E] <(b) (6)>

Cc: Bob Cohen <bcohen@ourpublicservice.org>; Paul Pietsch <PPietsch@ourpublicservice.org>

Subject: Re: Service to America Medals – Congratulations!

Nancy:

Congratulations again on your status as a finalist for this year's Sammies. Attached, please find your Service to America Medal finalist profile. This profile is prepared by our communications team to summarize your work and accomplishments—both for recognizing you as a Sammies finalist and for having the selection committee vote for the award recipients. Please review

and reply all to send Bob Cohen and me any corrections by COB Thursday, April 23. Please use track changes if you have specific edits to the article.

Please note that our profiles follow a set Partnership style and length in order to present the finalists' stories as group and keep them consistent. Generally, we are not able to incorporate style or format changes or add to the length. Any requested additions may result in other information being eliminated.

We want to be sure you have an opportunity to **correct or clarify** the details of your accomplishment or address any sensitive issues we've included. The purpose of this **review is for accuracy**. For example, we follow Associated Press style, which means we do not capitalize the words government, federal or veterans. When an individual's title follows their name, we use lower case. Changes like this will be reverted to AP style. The brief summaries at the top of the profile have been carefully crafted to capture your accomplishment as succinctly as possible.

If you need to request approval by your public affairs office, please forward our note that we are only seeking comments on content that may be inaccurate or inappropriate to share publicly. We wish to discourage any rewriting of the profile that is simply a matter of preference or style.

Please let us know if you have any questions or if you require additional time to review the profile.

Thank you very much for the time you've taken to speak with our team about your work. It's been a pleasure learning about your accomplishments on behalf of the government.

Sincerely,
Nola

Nola Tolsma
Point of Contact, Service to America Medals program
(202) 869-3084
ntolsma@ourpublicservice.org

From: Paul Pietsch <PPietsch@ourpublicservice.org>
Date: Wednesday, April 8, 2020 at 10:50 AM
To: "Sullivan, Nancy (NIH/VRC) [E]" <(b) (6)>
Cc: Sammies <Sammies@ourpublicservice.org>, Meredith Huddle <MHuddle@ourpublicservice.org>, Nola Tolsma <NTolsma@ourpublicservice.org>, Paul Pietsch <PPietsch@ourpublicservice.org>
Subject: Service to America Medals – Congratulations!

Dear Nancy,

Congratulations! I am pleased to announce that you have officially been **selected as a finalist for the 2020 Samuel J. Heyman Service to America Medals!** Your achievements, and those of your fellow finalists, are a powerful testimony to the many ways civil servants make a difference in our country every day.

Usually, we announce our Sammies finalists at a tribute breakfast on Capitol Hill. However, due to the present restrictions around in-person gatherings, we will be announcing this year's finalists virtually. To do so, we will be recording short audio clips of each of you to share and spotlight during [Public Service Recognition Week](#) (May 3-9).

The purpose of these clips is to introduce you as finalists and share your accomplishments with the Partnership's robust audience. These clips will be recorded via conference call with Meredith Huddle, our Associate Communications Manager (copied here). Please send her your earliest availability to MHuddle@ourpublicservice.org.

As previously requested, please keep your status as a finalist confidential until the public announcement in May. We will follow up with you shortly to review and approve the profile article that our communications team is writing about your accomplishments.

We will also be informing your nominator, agency leaders and members of Congress of your status as a finalist. We hope you and they will utilize the materials we send out later this month to promote your achievement and the Sammies program during Public Service Recognition Week.

Thank you for your outstanding service to our nation. If you have any questions or need additional information about the Partnership or the Service to America Medals program, please do not hesitate to contact me or our Sammies program manager, Nola Tolsma (who is CC'd).

On a personal note, I want to sincerely thank you and all your colleagues at NIAID for guiding the country through the COVID-19 pandemic. Your work is so critical and inspirational. I hope you are doing well in this challenging time.

Best,
Paul

Paul M. Pietsch

Senior Manager, Research & Analysis

Partnership for Public Service

ppietsch@ourpublicservice.org

(202) 843-0467

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 10 Apr 2020 21:36:45 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: COVID-19 vaccine landscape.pptx
Attachments: COVID-19 vaccine landscape.pptx

FYI. As I noted, the circles are mine, just placed to show big pharma involvement. There are now about twice this many.

BG

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 2 Apr 2020 15:27:52 +0000
To: Ruckwardt, Tracy (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]
Subject: FW: Peptide pools for SARS-CoV-2-specific T cell research

Fyi

bg

From: Henriette Zimmermann - Miltenyi Biotec <macs@miltenyibiotec-infocenter.com>
Sent: Thursday, April 2, 2020 9:22 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Peptide pools for SARS-CoV-2-specific T cell research

Assisting researchers in getting to the bottom of SARS-CoV-2



If you cannot read this email, [please click here](#).



Peptide pools for SARS-CoV-2-specific T cell research

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2 or 2019-nCoV) is rapidly spreading, causing high numbers of the respiratory illness COVID-19 around the globe.



**Henriette
Zimmermann**

Product Manager
Miltenyi Biotec

Based on our expertise in products for virus-specific T cell research, we at Miltenyi Biotec are keen to support our customers researching this novel coronavirus: Our new, and specially developed research-grade SARS-CoV-2 PepTivator® Peptide Pools can be used to stimulate SARS-CoV-2-specific T cells. Those T cells can then be detected and/or isolated for further research.

We have put together relevant product information for the SARS-CoV-2 PepTivators and references using virus-based PepTivator Peptide Pools for you:

GET MORE
INFORMATION

Feel free to forward this information to your colleagues researching T cell-mediated SARS-CoV-2 immune response.

Kind regards and stay safe,
Henriette Zimmermann

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From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 11 Mar 2020 21:49:52 +0000
To: Neil King; Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Hutchinson, Geoffrey (NIH/VRC) [F]
Subject: RE: (b) (5), (b) (4)?

(b) (5) I don't have time for another call.

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

You might be able to tell that I'm tired.

BG

From: Neil King (b) (6) >
Sent: Wednesday, March 11, 2020 4:32 PM
To: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >
Cc: Graham, Barney (NIH/VRC) [E] (b) (6) >; Hutchinson, Geoffrey (NIH/VRC) [F]
(b) (6)
Subject: Re: (b) (4), (b) (5)?

Agreed -- (b) (4), (b) (5)

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

Thanks again,
Neil

On Wed, Mar 11, 2020 at 1:29 PM Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)> wrote:

This is okay with me. (b) (4), (b) (5)

cc'ing Kaitlyn for that...

--

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: Neil King (b) (6) >

Date: Wednesday, March 11, 2020 at 2:46 PM

To: Kizzmekia Corbett (b) (6), Barney Graham (b) (6) >, "Hutchinson, Geoffrey (NIH/VRC) [F]" (b) (6)

Subject: (b) (5), (b) (4) ?

Hi Barney, Kizzmekia, and Geoff,

Thanks Kizzy and Geoff for getting on the phone this morning; it was very helpful to get an update and get your thoughts on (b) (4), (b) (5). If it is still alright with you, it would be great if you could send a slide deck summarizing the data on the (b) (4), (b) (5)
(b) (4), (b) (5)

Thanks so much,
and please let me know if you have any questions,
Neil

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 3 Dec 2019 20:57:01 +0000
To: Frontiers in Microbiology
Cc: Loomis, Rebecca (NIH/VRC) [E]; Jansen, Kathrin
Subject: RE: Your interest in the Frontiers in Microbiology Research Topic 'Old And New Challenges In The Development Of Vaccines To Protect Against Infectious'
Attachments: 19-11-04 NiV Supplemental Figures and Tables RJL.pptx, Figure 3a.tiff, Figure 4a.tiff, Figure 5a.tiff, Figure 6a.tiff, Figure 1a.tiff, Figure 2a.tiff, Structure-based Design of Nipah Virus Vaccine.vFinal4.pdf, Structure-based Design of Nipah Virus Vaccine.vFinal4.docx

Thank you for your note.

Yes, we submitted a paper for this issue a few weeks ago. Perhaps we used the wrong portal because Frontiers in Micro wanted to transfer it to Frontiers in Immunology. We have asked Dr. Jansen who invited us to contribute to this special issue to help straighten out the problem. She has a copy of our submission. I have also attached another copy of the submission here for your reference.

Best wishes,

Barney

From: Frontiers in Microbiology <microbiology@frontiersin.org>
Sent: Tuesday, December 3, 2019 10:03 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: Your interest in the Frontiers in Microbiology Research Topic 'Old And New Challenges In The Development Of Vaccines To Protect Against Infectious'

Dear Dr Graham,

I hope this message finds you well. It came to my attention that you had expressed interest in contributing to the [Research Topic 'Old And New Challenges In The Development Of Vaccines To Protect Against Infectious'](#), but you have not submitted a manuscript.

The Research Topic is now closed and the accepted manuscripts will be compiled into a free eBook. May I ask if you would still like to contribute to this Research Topic before the eBook preparation begins?

Please do not hesitate to contact me if you have any questions

Kind Regards

Lydia Nurse
Journal Development Specialist

Frontiers | Editorial Office - Journal Development Team
Journal Manager: Dorina Seitaj

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From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 6 Mar 2020 17:42:08 +0000
To: (b) (4)
Cc: Narpala, Sandeep (NIH/VRC) [C]; Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; McDermott, Adrian (NIH/VRC) [E]; Bok, Karin (NIH/VRC) [E]
Subject: RE: Discussions with (b) (4) re COVID-19

Thank you for your email. Dr. McDermott's group here at VRC (b) (4)
(b) (4) I am forwarding your message to them (b) (4)
(b) (4)

Barney

From: (b) (6), (b) (4)
Sent: Friday, March 6, 2020 9:51 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: RE: Discussions with (b) (4) re COVID-19

Dear Dr. Graham,

Have you had a chance to consider my email below?

Thanks.

Best regards,

(b) (4)

From: (b) (4)
Sent: Tuesday, March 3, 2020 11:43 AM
To: (b) (6)
Subject: Discussions with (b) (4) re COVID-19

Dear Dr. Graham,

(b) (4)

Thank you.

Best regards,

(b) (4)

=====

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 1 May 2020 00:41:15 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Cc: Freeman Hrabowski
Subject: Re: Nomination? FW: Excellence in Inclusivity Award Nomination
Attachments: image001.png

I can write a letter if needed.

Barney

Sent from my iPhone

On Apr 30, 2020, at 8:33 PM, Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6) wrote:

Good evening,

I was requested to give a couple of names of individuals who would be apt for nominating me for the below-mentioned award. If you are willing and get an email from the committee, please respond as you see fit.

Cheers to you both.

--

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: CHEN_THOMAS <CHEN_THOMAS@smc.edu>
Date: Thursday, April 30, 2020 at 2:21 PM
To: Kizzmekia Corbett (b) (6)>

Cc: CHEN_THOMAS <CHEN_THOMAS@smc.edu>
Subject: Excellence in Inclusivity Award Nomination

April 30, 2020

Dear Dr. Corbett:

My name is Thomas Chen. I am writing as an Associate member of the Minority Affairs Committee of the American Society of Cell Biologists (ASCB). I have been communicating with Dr. Ishmail Abdus Saboor of U Penn about nominating you for an award to be recognized at this year's ASCB meeting the first week of December in Philadelphia. He informed me that you so kind and willing to be considered for the Excellence in Inclusivity Award.

We are very excited that we can nominate you for this competitive award for your exemplary accomplishments and strong advocacy for minorities and inclusion. The nomination process involves submitting a CV, a nomination letter which I will prepare, and a letter of support. I am including the information below for your reference. The deadline for submission is Friday, May 15th. All nominations will be considered by a Select Committee shortly after that.

I know you are extremely busy. But if you will be able to send me a copy of your recent CV, and the name of someone who can write a letter over the next two weeks, I will be very grateful. I can identify someone in our committee to write a support letter if this is too short of a notice for you. We feel strongly that you will be an extraordinary inspiration to our trainees, minority scientists, and all members of our society and if selected, the impact will go far beyond the annual meeting.

Please do not hesitate to drop me a note if you have questions. I look forward to hear back from you.

With kindest regards,

<image001.png>

Thomas Chen, Professor of Cellular and Molecular Endocrinology

Department of Life Sciences

Santa Monica College

Santa Monica CA 90405

310-434-3515 (o)

(b) (6) (cell or text)

chen_thomas@smc.edu

ASCB Prize for Excellence in Inclusivity

ASCB's Prize for Excellence in Inclusivity is an annual award recognizing one scientist who has a strong track record in research or serves a critical role in fostering cell biology research, and has demonstrated the importance of inclusion and diversity in science through mentoring, cultural change, outreach, or community service.

The award is made possible by a grant from the Howard Hughes Medical Institute

2019 Jorge Torres Video

2018 Ahna Skop Video

Award Details

The winner will receive a cash award of \$5,000 to be used at awardee discretion to further inclusion activities; be featured in a video at the Cell Bio 2020-an ASCB|EMBO Meeting Keynote; receive up to \$1,300 to attend the meeting; be featured in an article in the ASCB Newsletter; and contribute an essay in MBoC.

Who is Eligible?

A scientist who has a strong track record in research or a professional who serves a critical role in fostering cell biology and related life sciences research who has made an impact by encouraging a diverse workforce and creating an inclusive environment through mentoring, cultural change, outreach, or community service. The nominees do not have to be members of ASCB.

Nominees for and recipients of ASCB honorific awards and prizes are expected to exemplify and to continue to exemplify the highest standards of professional conduct. Letters of support should explicitly address whether a nominee's professional conduct over their career embodies the principles and expectations noted in ASCB's [Mission Statement](#), the [Anti-Harassment Policy](#) and the [Workforce Diversity Statement](#).

As a founder of the Declaration on Research Assessment (DORA <https://sfedora.org/>) , the ASCB does not use journal impact factors or other journal-based metrics in the

evaluation process for its award candidates. The ASCB looks at an individual's research contributions and impact on the field, rather than the prestige of the journals where work is published.

How to Apply

Provide a nomination package that includes a letter of nomination or self-nomination; one letter of reference (if a nomination) or two letters of reference (if self-nomination) that describes the nominee's contributions to inclusion that have increased diversity; and a CV, resume, or brief bio that highlights career accomplishments. Candidates may be nominated more than once.

Deadline: May 15, 2020



From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 28 Mar 2020 19:31:14 +0000
To: Hadi Mohamad Yassine
Subject: RE: hyper immune sera

Hi Hadi,

This is something several groups and companies are pursuing, and is a reasonable thing to try. Human plasma is already a licensed product, so it would mainly require a way to select people with high-titers.

Barney

From: Hadi Mohamad Yassine (b) (6) >
Sent: Saturday, March 21, 2020 2:06 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: hyper immune sera

Hi Barney

I hope all is well around you.

My colleagues at the medical sector in Qatar were inquiring about protocols for hyperimmune sera collection and use against COVID 19.

We would appreciate your recommendation in this regard.

Sorry for the bother.

Hadi M. Yassine, M.Sc., Ph.D.

Research Projects Manager

Associate Professor of Infectious Diseases

Work phone: (b) (6)

Mobile Phone: (b) (6)

E-mails: (b) (6), (skype), (b) (6)

Qatar University Biomedical Research Center
QU-NRC, Building H10, Zone 5, Room D101
P.O.Box: 2713- Doha-Qatar



"The vision of the eye is limited, but the vision of the heart transcends all barriers of time and space"

NIH-001798



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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Apr 2020 18:51:19 +0000
To: Mascola, John (NIH/VRC) [E]; Nabel, Gary /US; Kanekiyo, Masaru (NIH/VRC) [E]
Cc: Darricarrere, Nicole /US; Wei, Chih-Jen /US
Subject: RE: panH1 H3 vaccine paper

Sorry for delay. The paper is in very good shape. I have two comments:

1. Do you want to specifically send to or recommend Priscilla Kelly as an editor.
2. Considering John's comment, I wonder if the following title may work better to distinguish from Palese's work. (b) (4)

Barney

From: Mascola, John (NIH/VRC) [E] (b) (6) >
Sent: Saturday, April 4, 2020 5:31 PM
To: Nabel, Gary /US <(b) (6)>; Kanekiyo, Masaru (NIH/VRC) [E]
(b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6)
Cc: Darricarrere, Nicole /US <(b) (6)>; Wei, Chih-Jen /US <(b) (6)>
(b) (6)
Subject: RE: panH1 H3 vaccine paper

Hi All,

I agree with Masaru – the manuscript reads well. A few minor suggested edits and comments for cover letter and main text – attached. Figs look good to me.

Of note, it looks like the (b) (4) If not for COVID-19, we'd likely be aiming for (b) (4) I thus edited the final text a bit to reflect this.

Best,
John

From: Nabel, Gary /US (b) (6)
Sent: Friday, April 3, 2020 9:28 PM
To: Kanekiyo, Masaru (NIH/VRC) [E] (b) (6) >; Mascola, John (NIH/VRC) [E]
(b) (6); Graham, Barney (NIH/VRC) [E] (b) (6) >
Cc: Darricarrere, Nicole /US <(b) (6)>; Wei, Chih-Jen /US (b) (6)
(b) (6) >
Subject: RE: panH1 H3 vaccine paper

Nice comments, Masaru-thank you! Good idea about the COVID lesson.

Once we hear from John and Barney, we'll finalize and submit

(b) (4)
(b) (4)

Then we can submit.

Best

Gary

From: Kanekiyo, Masaru (NIH/VRC) [E] <(b) (6)>

Sent: Thursday, April 2, 2020 11:27 AM

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

Cc: Darricarrere, Nicole /US <(b) (6)> Wei, Chih-Jen /US (b) (6)

Subject: [EXTERNAL] Re: panH1 H3 vaccine paper

EXTERNAL : Real sender is (b) (6)

Gary, Nicole, and CJ,

The manuscript reads very well. I only made a couple of cosmetic changes. My final comment is whether it's worth adding a sentence or two on the current coronavirus pandemic to highlight the importance of "pandemic preparedness" for next influenza pandemic. It might fit well in the discussion. That's just my two cents.

Stay well,
Masaru

From: "Nabel, Gary /US" <(b) (6)>

Date: Monday, March 30, 2020 at 5:57 PM

To: "Mascola, John (NIH/VRC) [E]" (b) (6)>, Barney Graham
(b) (6)>, "Kanekiyo, Masaru (NIH/VRC) [E]" <(b) (6)>

Cc: "Darricarrere, Nicole /US" (b) (6)>, "Wei, Chih-Jen /US" <(b) (6)>

Subject: panH1 H3 vaccine paper

Hi All,

Please find attached the revised version of the H1H3 stem paper. We'd appreciate any final comments you may have recognizing that we have tried to address the previous questions/concerns as completely as we can. Might we ask for your comments within one week.

Hope you're not too busy and are staying safe.

Best

Gary

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 7 Apr 2020 05:25:16 +0000
To: Mascola, John (NIH/VRC) [E]
Subject: Re: SARS-CoV-2 (b) (4) designs

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

Barney

Sent from my iPhone

On Apr 6, 2020, at 11:10 PM, Mascola, John (NIH/VRC) [E] (b) (6) > wrote:

(b) (5)

From: Boyington, Jeffrey (NIH/VRC) [E] (b) (6) >
Sent: Monday, April 6, 2020 4:33 PM
To: Mascola, John (NIH/VRC) [E] (b) (6); Cheng, Cheng (NIH/VRC) [E] (b) (6) >
Cc: Kong, Wing-Pui (NIH/VRC) [E] (b) (6)
Subject: Re: SARS-CoV-2 (b) (4) designs

Hi Cheng and John,

I've come up with (b) (4), (b) (5)
(b) (4), (b) (5)

Best, Jeffrey

From: Boyington, Jeffrey (NIH/VRC) [E] (b) (6) >
Sent: Sunday, April 5, 2020 9:16 PM
To: Cheng, Cheng (NIH/VRC) [E] (b) (6)
Cc: Mascola, John (NIH/VRC) [E]
Subject: Re: SARS-CoV-2 (b) (4) designs

Hi Cheng,

That's an interesting idea. I'll look at it [REDACTED] (b) (4), (b) (5)

Best, Jeffrey

From: "Cheng, Cheng (NIH/VRC) [E]"

Date: Sun, Apr 5, 2020, 08:51

To: "Boyington, Jeffrey (NIH/VRC) [E]"

CC: "Mascola, John (NIH/VRC) [E]"

Subject: FW: SARS-CoV-2 [REDACTED] (b) (4) designs

Hi Jeff:

Do you think that you can [REDACTED] (b) (4), (b) (5)

[REDACTED] (b) (4), (b) (5)

Best
Cheng

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

Date: Saturday, April 4, 2020 at 11:27 PM

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

Cc: "Boyington, Jeffrey (NIH/VRC) [E]" [REDACTED] (b) (6) >, "Cheng, Cheng (NIH/VRC) [E]" [REDACTED] (b) (6) >, "Wang, Lingshu (NIH/VRC) [E]" <[REDACTED] (b) (6)>

Subject: Re: SARS-CoV-2 [REDACTED] (b) (4) designs

We do have some [REDACTED] (b) (4), (b) (5)

Barney

Sent from my iPhone

On Apr 4, 2020, at 4:07 PM, Mascola, John (NIH/VRC) [E] <(b) (6)> wrote:

Barney,

Jeffrey finds that (b) (4), (b) (5)

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

Best,
John

From: Boyington, Jeffrey (NIH/VRC) [E] <(b) (6)>

Sent: Saturday, April 4, 2020 12:16 PM

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

Cc: Cheng, Cheng (NIH/VRC) [E] (b) (6)>; Wang, Lingshu (NIH/VRC) [E]

(b) (6)

Subject: SARS-CoV-2 (b) (4) designs

Hi John,

Here is a brief summary of the (b) (4), (b) (5)

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

I have a couple of very rough presentation slides attached to give you a better sense of what these look like. I'll polish these slides later and provide measurements for presenting lab meetings, etc.

Best, Jeffrey

<SARS-CoV-2 (b) (4)_01.pptx>

<SARS-CoV-2_LS_Apr3-2020.docx>

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 29 Apr 2020 14:19:56 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Help with FOIA Request

Yes. (b) (5)

BG

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: Wednesday, April 29, 2020 10:16 AM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: Re: Help with FOIA Request

(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: Barney Graham (b) (6)
Date: Wednesday, April 29, 2020 at 10:14 AM
To: Kizzmekia Corbett <(b) (6)>
Subject: RE: Help with FOIA Request

(b) (5)

BG

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

Sent: Wednesday, April 29, 2020 10:13 AM

To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>

Subject: Re: Help with FOIA Request

[REDACTED] (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: [REDACTED] (b) (6)

Personal: [REDACTED] (b) (6)

Fax: (301) 480-2771

From: Barney Graham [REDACTED] (b) (6)>

Date: Wednesday, April 29, 2020 at 10:13 AM

To: Kizzmekia Corbett <[REDACTED] (b) (6)>

Subject: RE: Help with FOIA Request

[REDACTED] (b) (5)

BG

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

Sent: Wednesday, April 29, 2020 8:36 AM

To: Prince, Tasheema (NIH/VRC) [C] <[REDACTED] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E]

[REDACTED] (b) (6); Hiatt, Nissa (NIH/VRC) [C] [REDACTED] (b) (6)>; Stein, Judy (NIH/VRC) [C]

[REDACTED] (b) (6)>; Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)>

Subject: Re: Help with FOIA Request

Good morning, On March 16th. The names highlighted 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

From: "Prince, Tasheema (NIH/VRC) [C]" (b) (6)

Date: Tuesday, April 28, 2020 at 7:06 AM

To: Kaitlyn Morabito (b) (6)>, "Hiatt, Nissa (NIH/VRC) [C]"

(b) (6)>, "Stein, Judy (NIH/VRC) [C]" (b) (6), Barney Graham

(b) (6)>

Cc: Kizzmekia Corbett (b) (6)>

Subject: RE: Help with FOIA Request

The requestor references the NIAID [news release](#) dated Mar. 16th (b) (5)
(b) (5)

Thanks in advance,
Tasheema

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>

Sent: Monday, April 27, 2020 2:30 PM

To: Prince, Tasheema (NIH/VRC) [C] <(b) (6)>; Hiatt, Nissa (NIH/VRC) [C]

(b) (6); Stein, Judy (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E]

(b) (6)

Cc: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>

Subject: Re: Help with FOIA Request

Hi Nissa,

(b) (5)

From: "Prince, Tasheema (NIH/VRC) [C]" <(b) (6)>
Date: Monday, April 27, 2020 at 2:23 PM
To: "Hiatt, Nissa (NIH/VRC) [C]" (b) (6)>, Judy Stein (b) (6),
Barney Graham (b) (6)>, Kaitlyn Morabito (b) (6)>
Cc: Kizzmekia Corbett (b) (6)>
Subject: RE: Help with FOIA Request

Hi Everyone,

Just circling back on this request –

It looks like we can fulfill this request by simply submitting a high level org chart of VRC staff members who worked on the development of mRNA-1273 – showing Barney Graham, Kizzmekia Corbett, Kaitlyn Morabito, Cynthia Ziwawo, Geoffrey Hutchinson, and Olubukola Abiona as the team.

Does such a chart exist? (b) (5)

Thanks in advance,
Tasheema

From: Hiatt, Nissa (NIH/VRC) [C] (b) (6)>
Sent: Saturday, April 18, 2020 11:55 AM
To: Stein, Judy (NIH/VRC) [C] (b) (6); Graham, Barney (NIH/VRC) [E]
(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>

Cc: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Prince, Tasheema (NIH/VRC) [C]
<(b) (6)>

Subject: RE: Help with FOIA Request

Hi,

We'd like to hold on this request until Tasheema and I are able to talk to the FOIA office for further clarification next week. You all have been very helpful with all of these requests and it is appreciated! Apologies for any confusion.

We will be in touch next week with more information.

Best,
Nissa

Nissa Hiatt

Communications

Vaccine Research Center, NIAID, NIH

40 Convent Drive, Bldg 40, Room 1100

Bethesda, MD 20892

Cell: (b) (6)

Office: (b) (6)

(b) (6)



From: Stein, Judy (NIH/VRC) [C] (b) (6)>

Sent: Saturday, April 18, 2020 11:25 AM

To: Graham, Barney (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E]
(b) (6)

Cc: Hiatt, Nissa (NIH/VRC) [C] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E]
(b) (6)>

Subject: RE: Help with FOIA Request

Hi Barney,

Nissa and I discussed this yesterday so I think we now know what is being requested.

TTIPO was asked for the names of the inventors. (b) (4)
(b) (4)

The FOIA request received by Nissa was for the names of all people who worked on the mRNA SARS CoV 2, and we confirmed with both TTIPO and the FOIA office that the VRC should provide this information. This list is not restricted to inventorship.

I hope this helps.
Thanks

Judy

From: Graham, Barney (NIH/VRC) [E] (b) (6)>
Sent: Friday, April 17, 2020 6:34 PM
To: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)
Cc: Hiatt, Nissa (NIH/VRC) [C] (b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)
Subject: Re: Help with FOIA Request

(b) (5)

Barney

Sent from my iPhone

On Apr 17, 2020, at 3:32 PM, Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)> wrote:

Hi Nissa,

I can confirm that this is the list of people that we submitted to Barney and John (b) (4)
(b) (4).

Thanks,
Kaitlyn

From: "Hiatt, Nissa (NIH/VRC) [C]" <(b) (6)>
Date: Friday, April 17, 2020 at 3:18 PM
To: Kizzmekia Corbett (b) (6), Kaitlyn Morabito (b) (6)>
Subject: RE: Help with FOIA Request

Hi Kaitlyn and Kizzmekia,

This is the same request as before. Could one of you confirm that the names are correct for VRC staff to fulfill the request?

John Mascola
Barney Graham
Kizzmekia Corbett
Kaitlyn Morabito

Cynthia Ziwawo
Geoffrey Hutchinson
Olubukola Abiona

Thank you for your help,
Nissa

Nissa Hiatt

Communications
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg 40, Room 1100
Bethesda, MD 20892
Cell: (b) (6)
Office: (b) (6)
(b) (6)

<image001.png>

From: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Sent: Friday, April 17, 2020 12:08 PM
To: Hiatt, Nissa (NIH/VRC) [C] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E]
(b) (6)
Subject: Re: Help with FOIA Request

Is this the same request as before??? Because Kevin replied and you have names.

--

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: "Hiatt, Nissa (NIH/VRC) [C]" (b) (6)>
Date: Friday, April 17, 2020 at 11:57 AM
To: Kaitlyn Morabito (b) (6)>, Kizzmekia Corbett
(b) (6)>
Subject: Help with FOIA Request

Hi Kaitlyn and Kizzmekia,

The VRC needs to ID the VRC staff members who worked on the development of mRNA-1273 to fulfill a FOIA request. Could you send me a list of the appropriate names?

Thanks in advance for your help!
Nissa

Nissa Hiatt

Communications

Vaccine Research Center, NIAID, NIH

40 Convent Drive, Bldg 40, Room 1100

Bethesda, MD 20892

Cell: (b) (6)

Office (b) (6)

(b) (6)

<image002.png>

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 23 Mar 2020 16:00:21 +0000
To: Marston, Hilary (NIH/NIAID) [E]
Cc: Bok, Karin (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]
Subject: Re: Help with SARS-CoV-2 mAbs?

☺. No worries. This is one of the easiest decisions I've made for several days.

BG

Sent from my iPhone

On Mar 23, 2020, at 11:59 AM, Marston, Hilary (NIH/NIAID) [E] (b) (6) wrote:

(b) (5)

From: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Date: Monday, March 23, 2020 at 11:49 AM
To: Karin Bok (b) (6)>
Cc: Hilary Marston (b) (6), "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)>
Subject: Re: Help with SARS-CoV-2 (b) (4)

Answer is hard no for VRC.

BG

Sent from my iPhone

On Mar 23, 2020, at 11:19 AM, Bok, Karin (NIH/VRC) [E] <(b) (6)> wrote:

Hilary,

Thank you for sharing this. (b) (5)

Thanks,

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>

From: "Marston, Hilary (NIH/NIAID) [E]" (b) (6)

Date: Monday, March 23, 2020 at 11:11 AM

To: Karin Bok (b) (6) >

Subject: FW: Help with SARS-CoV-2 (b) (4)

(b) (5)

From: "Hensley, Lisa (NIH/NIAID) [E]" (b) (6) >

Date: Sunday, March 22, 2020 at 11:10 PM

To: Larry Zeitlin (b) (6) >, "Schmaljohn, Connie (NIH/NIAID) [E]"

(b) (6) >, Hilary Marston (b) (6) >

Subject: RE: Help with SARS-CoV-2 (b) (4)

Larry

Thank you. Linking you with Connie (our director) as well as Hilary who is coordinating corona efforts.

Hilary can also link you w/ the extramural program.

Glad you all (b) (6)

Lisa

From: Larry Zeitlin (b) (6) >
Sent: Saturday, March 21, 2020 11:03 AM
To: Hensley, Lisa (NIH/NIAID) [E] (b) (6) >
Subject: Help with SARS-CoV-2 (b) (4)
Importance: High

Hi Lisa,

Hope you and your family are all doing ok! (b) (6)

Anyway, (b) (4)

(b) (4)

Thanks and take good care!

Larry

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 23 Feb 2020 14:29:11 +0000
To: Bok, Karin (NIH/VRC) [E]
Cc: Mascola, John (NIH/VRC) [E]; Ledgerwood, Julie (NIH/NIAID) [E]; Gall, Jason (NIH/VRC) [C]; Ruckwardt, Tracy (NIH/VRC) [E]; Kanekiyo, Masaru (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Chen, Grace (NIH/NIAID) [E]; Daucher, Marybeth (NIH/NIAID) [E]; Harris, Christina (NIH/NIAID) [E]; Hiatt, Nissa (NIH/VRC) [C]; Alvarado, Gabriela (NIH/VRC) [C]
Subject: Re: VRC (NIAID)-BMGF

I think [REDACTED] (b) (5), (b) (4)
[REDACTED] This has come up repeatedly.

Barney

Sent from my iPhone

On Feb 23, 2020, at 9:02 AM, Bok, Karin (NIH/VRC) [E] <[REDACTED] (b) (6)> wrote:

Barney,

Thanks for this. I talked to Harry on Friday and the agenda will be more concise. [REDACTED] (b) (5), (b) (4)
[REDACTED] (b) (5), (b) (4)
[REDACTED] (b) (5), (b) (4) Just FYI.

We will send another agenda version soon.

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: [REDACTED] (b) (6) | mobile: [REDACTED] (b) (6) | email: [REDACTED] (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: "Graham, Barney (NIH/VRC) [E]" (b) (6)
Date: Saturday, February 22, 2020 at 2:34 PM
To: Karin Bok (b) (6); "Mascola, John (NIH/VRC) [E]" (b) (6),
"Ledgerwood, Julie (NIH/NIAID) [E]" (b) (6), "Gall, Jason (NIH/VRC) [C]"
(b) (6)>
Cc: "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6), "Kanekiyo, Masaru
(NIH/VRC) [E]" (b) (6)>, "Corbett, Kizzmekia (NIH/VRC) [E]"
(b) (6), "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)
"Chen, Grace (NIH/NIAID) [E]" (b) (6)>, "Daucher, Marybeth (NIH/NIAID) [E]"
(b) (6)>, "Harris, Christina (NIH/NIAID) [E]" (b) (6)>,
"Hiatt, Nissa (NIH/VRC) [C]" (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]"
(b) (6)>
Subject: RE: VRC (NIAID)-BMGF

See some comments in the tracked Word document. I'm not sure we should take the time to review all this in detail. We just did this with Gates about 2 months ago.

Barney

From: Bok, Karin (NIH/VRC) [E] <(b) (6)>
Sent: Thursday, February 20, 2020 12:17 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>; Mascola, John (NIH/VRC) [E]
(b) (6); Ledgerwood, Julie (NIH/NIAID) [E] (b) (6)>; Gall, Jason
(NIH/VRC) [C] <(b) (6)
Cc: Ruckwardt, Tracy (NIH/VRC) [E] (b) (6)>; Kanekiyo, Masaru (NIH/VRC) [E]
(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Morabito,
Kaitlyn (NIH/VRC) [E] <(b) (6); Chen, Grace (NIH/NIAID) [E] <(b) (6);
Daucher, Marybeth (NIH/NIAID) [E] (b) (6) Harris, Christina (NIH/NIAID) [E]
(b) (6); Hiatt, Nissa (NIH/VRC) [C] (b) (6) Alvarado, Gabriela
(NIH/VRC) [C] (b) (6)>
Subject: VRC (NIAID)-BMGF

Good Morning,

In preparation for this in person meeting next week (Friday February 28, 1.30-5 PM), I wanted to give you a couple of updates:

-This meeting might be much larger than anticipated. BMGF just invited DMID to participate as well (during their call).

Because of this, I will also try to include OD (Hilary). Anybody else?

-The topics will include:

Coronavirus
Influenza
RSV

BMGF has proposed the agenda below. **Please let me know what you are interested in hearing from BMGF**

(b) (4)



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>

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 27 Jan 2020 18:48:44 +0000
To: Sheikh, Knvul
Cc: Hiatt, Nissa (NIH/VRC) [C]; Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: INTERVIEW: Regarding Wuhan coronavirus
Attachments: MERS environment contamination CID 2017.pdf

This has been extensively studied for enveloped viruses. For MERS I have attached a carefully done study by Sunghan Kim in the Korean outbreak. The virus can be detected on environmental surfaces for several hours. This is why washing hands is so important.

I don't think we know enough yet about this new virus to understand its properties and whether it is in large or small particle aerosols, but overall its best to avoid crowded spaces. This is also influenza season so that advice applies anyway.

Barney

From: Sheikh, Knvul <knvul.sheikh@nytimes.com>
Sent: Monday, January 27, 2020 12:38 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: Re: INTERVIEW: Regarding Wuhan coronavirus

Hi Barney,

Do researchers know how long and in what kind of conditions the new coronavirus may stay active outside the human body? In other words, if someone coughs or sneezes, how long will the virus stay alive on a nearby surface? I understand it can only stay airborne in respiratory droplets for a few feet.

Do we have an estimate of this information for SARS, or influenza or other viruses?

I can hop on a quick call if it would be easier to explain this over the phone rather than email.

Thanks,
Knvul

Knvul Sheikh
(Pronunciation: kah-vl shake)
Science & Health Reporter



620 Eighth Avenue

New York, NY 10018
212-556-2092
knvul.sheikh@nytimes.com

On Sun, Jan 26, 2020 at 9:32 AM Sheikh, Knvul <knvul.sheikh@nytimes.com> wrote:
Got it! Thank you.

On Sun, Jan 26, 2020, 8:30 AM Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6)> wrote:
The Point person at CDC is Nancy Messonnier.

Barney

Sent from my iPhone

On Jan 25, 2020, at 2:58 PM, Sheikh, Knvul <knvul.sheikh@nytimes.com> wrote:

Dear Dr. Graham,

My name is Knvul Sheikh and I'm a science reporter at The New York Times. I'm interested in understanding the human backstory of how U.S. scientists got involved in ID'ing the new coronavirus out of Wuhan and/or developing a test to diagnose the virus. I just got off a call with Dr. Anthony Fauci and he recommended I speak with you about the process.

Please let me know if you might have time to speak over the phone later this tomorrow. I'm on a tight deadline, trying to get some context for a story by Monday morning, Jan. 27.

Thanks and best regards,
Knvul

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 26 Mar 2020 15:51:04 +0000
To: Tal Zaks
Cc: x-Robert Langer (Board);Priscilla Kelly;Stephane Bancel;Stephen Hoge;Melissa Moore;Andrea Carfi
Subject: Re:
Attachments: image001.png, image002.jpg, image003.jpg, image004.jpg, image005.jpg, image006.jpg

Thanks Tal,

I am in touch with Priscilla Kelly.

Best wishes,

Barney

Sent from my iPhone

On Mar 26, 2020, at 11:22 AM, Tal Zaks <(b) (6)> wrote:

Dear Bob – thanks for forwarding.

Dear Pricilla – we very much appreciate the interest. I am forwarding your note to Barney Graham at the NIH whose team is leading the non-clinical work, and copying in Andrea Carfi our head of ID research.

Thanks again,

<image001.png>

Tal Zaks, MD, PhD

Chief Medical Officer | Moderna

mobile (b) (6) | modernatx.com

<image002.jpg>

<image003.jpg>

<image004.jpg>

[<image005.jpg>](#)

[<image006.jpg>](#)

From: Robert Langer (b) (6) >
Date: Thursday, March 26, 2020 at 6:47 AM
To: Priscilla Kelly <pkelly@aaas.org>
Cc: Tal Zaks <(b) (6)>, Stephane Bancel
(b) (6), Stephen Hoge (b) (6),
Melissa Moore (b) (6)
Subject: Re:

Thank you very much . Let me cc some of the key people at Moderna

Sent from my iPad

On Mar 25, 2020, at 11:06 PM, Priscilla Kelly <pkelly@aaas.org> wrote:

Dear Bob,

I hope this email finds you well. I'm the editor at *SCIENCE* handling papers in translational immunology, preclinical development and clinical trials. We've been following with great interest Moderna's research to develop a vaccine for SARS-CoV-2.

I am reaching out to see when Moderna may be in the process of analyzing any of the early data and might be interested in writing/submitting a paper to *SCIENCE* on the results. Given that *SCIENCE* has the largest circulation of any top-tier journal, we feel it would be an excellent venue for these studies of profound public health impact. We have been expediting the review process for SARS-CoV-2 papers; we recently published the cryo-EM structure of the SARS-CoV-2 spike glycoprotein and processed this paper in 7-days from submission to acceptance.

Please do let me know if you or other members of Moderna's Board would like to schedule a phone call to discuss results to date.

Take care and stay well.

All the best,
Priscilla Kelly

Priscilla N. Kelly, Ph.D
Biomedicine Editor, *SCIENCE*

 **Please consider the environment before printing this email**

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Tal

moderna[®]



From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 20 Mar 2020 10:39:15 +0000
To: Mascola, John (NIH/VRC) [E]; Salim Abdool Karim; Ledgerwood, Julie (NIH/NIAID) [E]
Subject: RE: Sorry, I have a question...

Hi Slim,

(b) (4)

Take care,

Barney

From: Mascola, John (NIH/VRC) [E] (b) (6)
Sent: Thursday, March 19, 2020 7:44 PM
To: Salim Abdool Karim (b) (6); Ledgerwood, Julie (NIH/NIAID) [E]
(b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: RE: Sorry, I have a question...

Hi Slim,

I can comment that (b) (4)
Julie is leading this.
Barney has (b) (4)

Best,
John

From: Salim Abdool Karim (b) (6) >
Sent: Thursday, March 19, 2020 6:07 PM
To: Mascola, John (NIH/VRC) [E] (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E]

< (b) (6) Graham, Barney (NIH/VRC) [E] (b) (6) > 7

Subject: RE: Sorry, I have a question...

Thanks, John. Appreciate the quick reply. Amazed that the vaccine went into trials so quickly. If you are planning on getting other candidates into trials quickly, I am here to help, if needed.

Barney, (b) (4)
(b) (4)

Yours

Slim

Professor Salim S. Abdool Karim, FRS

Director: CAPRISA

CAPRISA Professor of Global Health: Department of Epidemiology,

Mailman School of Public Health, Columbia University

Pro Vice-Chancellor (Research): University of KwaZulu-Natal

Director: DST-NRF Centre of Excellence in HIV Prevention

Adjunct Professor in Immunology and Infectious Diseases, Harvard University

Adjunct Professor of Medicine: Cornell University

Associate: Ragon Institute of MGH, MIT and Harvard University

Tel: (b) (6)

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

Sent: Thursday, 19 March 2020 23:58

To: Salim Abdool Karim < (b) (6) >; Ledgerwood, Julie (NIH/NIAID) [E]

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

Subject: RE: Sorry, I have a question...

Hi Slim,

I'm adding Barney here – as our respiratory and CoV expert. We asked him this very question today – and his response was (b) (4)

(b) (4)

Best,

John

From: Salim Abdool Karim (b) (6)

Sent: Thursday, March 19, 2020 5:45 AM

To: Mascola, John (NIH/VRC) [E] (b) (6)>; Ledgerwood, Julie (NIH/NIAID) [E]

(b) (6)

Subject: Sorry, I have a question...

Sorry to bother you again, John and Julie.

The SA government has asked me to chair their Scientific Advisory Group on COVID-19 and we are meeting by conference call next week. I have a question for you that is likely to come up at the meeting

(b) (4)

(b) (4)

Regards

Slim

Professor Salim S. Abdool Karim, FRS

Director: CAPRISA

CAPRISA Professor of Global Health: Department of Epidemiology,

Mailman School of Public Health, Columbia University

Pro Vice-Chancellor (Research): University of KwaZulu-Natal

Director: DST-NRF Centre of Excellence in HIV Prevention

Adjunct Professor in Immunology and Infectious Diseases, Harvard University

Adjunct Professor of Medicine: Cornell University

Associate: Ragon Institute of MGH, MIT and Harvard University

Tel: (b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Apr 2020 16:08:19 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Young, Monique (NIH/VRC) [E]; Routh, Jennifer (NIH/NIAID) [E]; Oplinger, Anne (NIH/NIAID) [E]
Subject: FW: PBS NewsHour piece on vaccine research in progress

FYI.

They want to talk today for airing tomorrow. I could spend a few minutes at 4PM, but defer to your judgement.

Barney

From: Fedor Kossakovski <fedor@milesobrien.com>
Sent: Monday, April 20, 2020 10:47 AM
To: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6)>
Cc: Neil King (b) (6)>; Deatrick, Elizabeth (NIH/NIAID) [C] (b) (6)
Subject: Re: PBS NewsHour piece on vaccine research in progress

Neil, great chatting again, really appreciate the introduction. Will take you off further communication here so as not to clog your inbox!

Drs. Graham and Corbett – would love to explore possibility of getting you on a recorded Skype interview with Miles today if possible, to do a Q&A about coronavirus vaccines landscape for air tomorrow on the PBS NewsHour. Would love to do a half hour or more, but understand the immense time constraints y'all are working under and willing to work with shorter timeframe.

Also, adding Elizabeth Deatrick, who mentioned she could help facilitate.

Please feel free to reach out to me via this email or my cell: (b) (6)

Best,
Fedor

On Apr 20, 2020, at 8:37 AM, Neil King (b) (6)> wrote:

Hi Fedor,

Apologies for the delayed response. I am connecting you here to Barney Graham and Kizzmekia Corbett from the NIAID Vaccine Research Center -- I hope it's still useful given that you are now airing tomorrow.

Barney and Kizzmekia probably know more about Coronavirus vaccines than anyone else in the world (no pressure, you two!). I am sure they could answer any questions you might have, if they have a moment -- they have both been working around the clock for quite a while now.

Barney and Kizzmekia, Fedor has been working with Miles O'Brien on an [in-depth piece on COVID-19](#).

Fedor, I'm around this morning until 8am Pacific time -- feel free to reach me at (b) (6).

Neil

On Sat, Apr 18, 2020 at 7:44 AM Fedor Kossakovski <fedor@milesobrien.com> wrote:
Hey Neil!

Hope you're doing well. Wanted to let you know that we are planning on featuring your visit/conversation with Miles this Tuesday, 4/21, on the PBS NewsHour. This will be for a segment about coronavirus vaccines -- basics of the science and where we are now.

Would love to hop on phone briefly today if possible, get your thoughts. A lot has changed in the ~month since Miles interviewed you, I'm sure! Also, would be helpful if you could connect us with someone who's already entered trials, like the Moderna/NIH team (put in request for Drs. Corbett or Graham).

Let me know if you're available! You can call me on my cell: (b) (6). Thanks!

Best,
Fedor

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 21 Apr 2020 13:21:55 +0000
To: Austin, Sarah (NIH/NIAID) [E]; Douek, Daniel (NIH/VRC) [E]
Cc: Mascola, John (NIH/VRC) [E]
Subject: RE: COVID-19 Awards

Thanks Sarah,

If possible could you (b) (6), (b) (5)
(b) (6), (b) (5)

Thanks,

Barney

From: Austin, Sarah (NIH/NIAID) [E] (b) (6) >
Sent: Monday, April 20, 2020 4:48 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >; Douek, Daniel (NIH/VRC) [E]
(b) (6) >
Cc: Mascola, John (NIH/VRC) [E] <(b) (6)>
Subject: COVID-19 Awards

Barney, Danny – Marie alerted us last week that there is some award money available to put towards nominations for COVID19-specific achievements. To that end, we drafted the attached (b) (6),
(b) (6)

Thank you,
Sarah

Sarah Austin, M.S.
*VRC Training Coordinator and
Special Assistant to the Director*
Office of the Scientific Director
Vaccine Research Center

NIAID/NIH
40 Convent Drive
Building 40, Room 4504
Bethesda, MD 20892

(b) (6)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 30 Mar 2020 16:36:40 +0000
To: Welles, Hugh (NIH/VRC) [F]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Lim, Ai Ing (NIH/NIAID) [F]; Belkaid, Yasmine (NIH/NIAID) [E]; Krishnamurthy, Siddharth (NIH/NIAID) [F]; Vujkovic-Cvijin, Ivan (NIH/NIAID) [F]
Subject: Re: Mouse Hepatitis Virus (a mouse CoV)

(b) (5)

Barney

Sent from my iPhone

> On Mar 30, 2020, at 11:46 AM, Welles, Hugh (NIH/VRC) [F] <(b) (6)> wrote:

>

> Hi Kizzy,

>

> I hope fame is treating you well. I imagine you're completely swamped at the moment, but hope you're hanging in there!

>

(b) (5)

> Many thanks,

>

> Hugh

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 14 Feb 2020 17:46:41 +0000
To: Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Slides for Presentation tomorrow

Great slides.

Slide 18 – “formerly”

Slide 30 – incomplete

Slide 31 – The acknowledgement here seems awkward to me. I think if we used an author list that included the first 3 authors and the last 3 authors on the 2017 PNAS paper and the newly submitted paper. This shows Jason is senior author and that is enough acknowledgement. Same for slides 22-24.

Slide 36 – [REDACTED] (b) (5)

[REDACTED] (b) (5)

Slide 36 – ‘ [REDACTED] (b) (5)

[REDACTED] (b) (5)”

Barney

From: Morabito, Kaitlyn (NIH/VRC) [E] [REDACTED] (b) (6) >
Sent: Thursday, February 13, 2020 4:02 PM
To: Corbett, Kizzmekia (NIH/VRC) [E] [REDACTED] (b) (6) >; Graham, Barney (NIH/VRC) [E]
[REDACTED] (b) (6)
Subject: Slides for Presentation tomorrow

Hi Barney and Kizzmekia,

This is still a work in progress, but I wanted to share my draft for slides for my SARS-CoV-2 Presentation on the Zika conference tomorrow.

Kizzmekia/Barney, are you okay with me including Slide 28 with [REDACTED] (b) (4), (b) (5) If so, how do you want me to acknowledge it? No worries if you prefer I don't include it.

I'm still working out how I want to introduce CoV, so slides 11-16 include options, I won't present them all. And obviously am still working on Slide 30.

Please let me know if you have any comments.

Thanks!
Kaitlyn

--

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, 13 Mar 2020 20:40:14 +0000
To: Stein, Judy (NIH/VRC) [C]; Petrik, Amy (NIH/NIAID) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: EIR_ (b) (4), (b) (5) 20200226_LW_KC_KMM_BG
Attachments: EIR_ 20200226_LW_KC_KMM_BG.docx

Hi Judy/Amy,

I meant to send this in to you earlier this week. Let us know if you need additional information.

Barney

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Jan 2020 23:29:53 +0000
To: Bok, Karin (NIH/VRC) [E]
Cc: Stein, Judy (NIH/VRC) [C]
Subject: RE: Flu mAb MEDI8852 follow-up

I think [REDACTED] (b) (5),
so in my opinion, [REDACTED] (b) (5)

BG

From: Bok, Karin (NIH/VRC) [E] [REDACTED] (b) (6)
Sent: Thursday, January 23, 2020 3:08 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) >
Cc: Stein, Judy (NIH/VRC) [C] [REDACTED] (b) (6)
Subject: Re: Flu mAb MEDI8852 follow-up

Barney,

[REDACTED] (b) (5), (b) (4)

Thank you!

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: [REDACTED] (b) (6) | mobile: 301.642.7506 | email: [REDACTED] (b) (6)
<https://www.niaid.nih.gov/about/vrc>

From: "Stein, Judy (NIH/VRC) [C]" [REDACTED] (b) (6) >
Date: Thursday, January 23, 2020 at 11:41 AM
To: Karin Bok [REDACTED] (b) (6) >
Subject: RE: Flu mAb MEDI8852 follow-up

Hi Karin,

(b) (5).

(b) (5)

I will talk to Amy and Aishu.

Thanks,

Judy

From: Bok, Karin (NIH/VRC) [E] (b) (6)>

Sent: Thursday, January 23, 2020 10:54 AM

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

Cc: Kanekiyo, Masaru (NIH/VRC) [E] (b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E]

(b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6)

Subject: Re: Flu mAb MEDI8852 follow-up

One more thing- (b) (4), (b) (5)

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

Let me know, thanks!

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>

Sent from my iPhone

On Jan 22, 2020, at 7:09 PM, Kanekiyo, Masaru (NIH/VRC) [E] <(b) (6)> wrote:

Barney,

I need some (b) (5)

Masaru

** Sent from [Outlook](#) mobile app

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

Sent: Wednesday, January 22, 2020 6:22:36 PM

To: Kallewaard-LeLay, Nicole (b) (6)

(b) (6)

Cc: Price, Jessica (b) (6) Morabito, Kaitlyn (NIH/VRC) [E]
(b) (6) Kanekiyo, Masaru (NIH/VRC) [E] (b) (6)>
Subject: RE: Flu mAb MEDI8852 follow-up

Thank you on both counts. We will communicate and connect you to (b) (4)
(b) (4)

We are very busy with the new Wuhan CoV, but don't have many reagents yet. We might have protein by next week, so by Feb 4th we might know whether we already have cross-reactive mAbs and a better idea of timeline for when Wuhan samples would be available for screening.

Best wishes,

Barney

From: Kallewaard-LeLay, Nicole (b) (6)>
Sent: Wednesday, January 22, 2020 6:12 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: Price, Jessica (b) (6)
Subject: Flu mAb MEDI8852 follow-up

Hi Barney and Karen- Hope all is well with you. I wanted to follow-up with you about the MEDI8852 (flu antibody) (b) (4). We will have the opportunity to talk in more detail on the upcoming meeting here at AZ (Feb 4th), but as sometimes the paperwork here is a bit slow I thought it would be a good thing to get a jump on it and (b) (4)
(b) (4)

(b) (4) Looking forward to talking more at the upcoming meeting

On a separate note, I was thinking you and your lab are probably quite busy working with this new coronavirus trying to find cross-reactive mAbs and vaccine constructs. (b) (4)
(b) (4)

Thanks
Nicole

Nicole Kallewaard-LeLay
Associate Director
Astrazeneca
One MedImmune Way

Gaithersburg, MD 20878

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Mon, 20 Jan 2020 21:01:24 +0000
To: Marston, Hilary (NIH/NIAID) [E]
Subject: Re: CIDRAP: New coronavirus infects health workers, spreads to Korea
<http://bit.ly/2RD7wBA>

Hi Hilary,

Do you think it is best to coordinate through your office?

Typically I would say the sponsor/IND-holder, but in this case with so many international interests it feels more appropriate to go through you. This would mean you will have to coordinate with DMID (and others) almost everyday. Both Kaitlyn and Karin (and me) can provide you with support.

What do you think?

BG

Sent from my iPhone

On Jan 20, 2020, at 3:48 PM, Marston, Hilary (NIH/NIAID) [E] <(b) (6)> wrote:

(b) (5)

On Jan 20, 2020, at 3:02 PM, Folkers, Greg (NIH/NIAID) [E] <(b) (6)> wrote:

New coronavirus infects health workers, spreads to Korea

[Lisa Schnirring](#) | [News Editor](#) | [CIDRAP News](#)

|

Jan 20, 2020

<image001.jpg>

sudok1 / iStock

A Chinese health official said today that 14 healthcare workers have been infected with the Wuhan-linked novel coronavirus (2019-nCoV), bolstering evidence of human-to-human spread and spurring new questions about virus circulation against a backdrop of other winter respiratory illnesses.

In addition, South Korea early this morning reported its first 2019-nCoV case, as the number of outbreak-related cases grew in other Chinese cities, including Beijing and Shanghai, pushing the nation's total to 218.

The quickly evolving outbreak prompted the World Health Organization (WHO) to announce that it will convene an emergency committee on Jan 22 to see if developments warrant a public health emergency of international concern under International Health Regulations.

First report of health worker infections

At a media briefing in China today, the head of the National Health Commission's (NHC's) expert group, Zhong Nanshan, said 2019-nCoV shows hallmarks of human-to-human spread and 14 infections have been reported in healthcare workers, according to a report from Sina, an online news outlet in China.

It's not clear if the 14 healthcare worker infection are from one or multiple facilities. Spread to healthcare workers has been a feature of other coronavirus outbreaks, such as SARS (severe acute respiratory syndrome) and MERS-CoV (Middle East respiratory syndrome coronavirus).

Zhong, who is one of China's top respiratory disease experts, also said 95% of the cases have ties to Wuhan.

Korean patient's exposure a mystery

South Korea's patient is a 35-year-old Chinese woman traveling from Wuhan whose symptoms began when she arrived at Incheon International Airport in Seoul, Yonhap News Agency reported, citing the Korea Centers for Disease Control and Prevention. The case marks the third country to report an imported 2019-nCoV case, following reports from Thailand and Japan last week, all of which involved travelers from Wuhan.

Soon after the case was announced, the WHO's Western Pacific regional office (WHO WPRO) said on Twitter that Korean authorities said the woman didn't visit markets or have contact with animals or other confirmed cases.

The WHO said thermal scanning at the airport detected her symptoms and added that she is in isolation at an Incheon hospital, where her condition is listed as stable. WHO WPRO added that South Korea stepped up its surveillance for Wuhan-related cases on Jan 3, which included traveler screening.

More China cases outside of Wuhan

Following yesterday's announcement of China's first 2019-nCoV outside of Wuhan, in Shenzhen in Guangdong province, authorities reported more cases in more cities, including Beijing and Shanghai, plus more cases in Shenzhen, meaning three of China's four largest cities are now affected. Most infections have links to Wuhan travel, but a few were reportedly detected in contacts.

Last night, the WHO on Twitter, in noting yesterday's surge of cases in Wuhan, noted the first detections—those in Beijing and Shenzhen—and said the spike is the result of increased surveillance and testing in people sick with respiratory illnesses.

China's NHC today posted a state news report that said 217 confirmed cases have now been reported in China, including 198 in Wuhan, according to a report translated and posted by FluTrackers, an infectious disease news message board. Five are from Beijing and 14 are from Guangdong province, which is in southern China and includes Shenzhen.

The NHC noted that suspected cases have been reported in other provinces. A separate report from Hong Kong's Centre for Health Protection (CHP) today said that, based on information it received from the mainland's NHC, the Guangdong province cases include eight more in Shenzhen, three in Zhuhai, and one each in Huizhou and Zhanjiang. It said 11 of the new cases have travel links to Wuhan and 2 are close contacts of a sick patient.

The CHP also said the first case has been reported in Shanghai, a 56-year-old woman from Wuhan who is listed in stable condition. The center's update also covered the three latest patients in Beijing, one of

whom is in critical condition; all have Wuhan travel connections, as did the two cases reported yesterday.

The cases come in the midst of heavy travel in advance of Lunar New Year celebrations.

Developments raise outbreak scenario questions

Infectious Disease expert Michael T. Osterholm, PhD, MPH, said a surge in cases—as health officials in and outside of China increase their surveillance and testing for 2019-nCoV—raises more questions about the outbreak scenario. One is whether the outbreak originated from a virus spillover from an animal in the Wuhan seafood market, which also sold other animals such as poultry, bats, marmots, and other wildlife.

Also, he said it's possible that the virus was circulating for a limited time in humans—perhaps weeks to months—before the Wuhan outbreak was recognized. Osterholm said another possibility is that Wuhan might not be the center of the outbreak and that cases happened to be identified in a single place, with increased testing confirming additional cases.

Osterholm is director of the University of Minnesota's Center for Infectious Disease Research and Policy, which publishes CIDRAP News.

Given that that many of the illnesses are mild, circulation of 2019-nCoV might have been occurring under the surveillance radar, masked by seasonal rises in winter respiratory illnesses that have similar symptoms, Osterholm said.

However, identification of a "superspreading" element to the outbreak would be a game changer. "You don't miss that, even in a flu season," he said. "There are still a lot of questions that we don't have answers for."

See also:

Jan 20 Sina [story](#)

Jan 20 WHO tweet on [emergency committee meeting](#)

Jan 20 Yonhap News Agency [story](#)

Jan 20 WHO WPRO [Twitter thread](#)

Jan 19 WHO [Twitter thread on Wuhan, Beijing, Shenzhen cases](#)

Jan 20 FluTrackers [post on NHC information](#)

Jan 20 CHP [statement](#)

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From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 5 Apr 2020 15:38:11 +0000
To: ALHSR
Subject: Re: Presentation
Attachments: Mt Calvary Men CoV 4Apr2020 HO.pdf, ATT00001.htm

Hi Allen, here are the slides. Glad it seemed useful.
BG

Sent from my iPhone

On Apr 5, 2020, at 9:21 AM, ALHSR <[REDACTED]> wrote:

Barney,

Thank you. I learned a lot.

If you have time and it's not too much trouble, I would appreciate a copy of the slides.

Regards ... ALH
Allen L. Hankinson

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 31 Mar 2020 14:09:43 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]; Wang, Lingshu (NIH/VRC) [E]
Subject: RE: (b) (4) data

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

Barney

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: Tuesday, March 31, 2020 9:57 AM
To: Wang, Lingshu (NIH/VRC) [E] (b) (6); Graham, Barney (NIH/VRC) [E]
(b) (6)
Subject: Re: (b) (4) data

I will let Dr Graham reply with what he considers to be the priorities. My thoughts are that. We should
(b) (4), (b) (5)

With that, I, personally, feel as though (b) (4), (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: "Wang, Lingshu (NIH/VRC) [E]" (b) (6) >
Date: Tuesday, March 31, 2020 at 9:52 AM
To: Barney Graham (b) (6) >, Kizzmekia Corbett <(b) (6)>
Subject: Re: (b) (4) data

Hi Barney,
I am glad to be helpful to the team efforts. We will try our best (b) (5)
(b) (5)
Thanks for your advice and take care,
Lingshu

From: "Graham, Barney (NIH/VRC) [E]" (b) (6) >
Date: Tuesday, March 31, 2020 at 5:24 AM
To: "Wang, Lingshu (NIH/VRC) [E]" (b) (6) >, "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)
Subject: RE: (b) (4) data

Hi Lingshu,

Sorry to hear you had so much trouble getting the reading. It is extremely important data, so we are very grateful for your efforts.

Barney

From: Wang, Lingshu (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, March 31, 2020 2:03 AM
To: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >; Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: (b) (4) data

Hi Kizzy,
Attached is the (b) (4), (b) (5) a few hours ago. Because our MicroBeta got an issue the PE technician was in the lab whole day. But the machine is still not fixed completely and was stuck during the reading. We were told that the machine is OK to use, but need to correct for the detector #4. To be safe we read the plates in both 5th floor and 4th floor machines. I just analyzed the data from 4th machine reading.
Summary data is shown in the columns BK-BQ.

This week we plan to (b) (4), (b) (5)
(b) (5) A list of prioritized samples we need to run in next 2-4 weeks would be really helpful.

Thanks,

lingshu

From: Graham, Barney (NIH/VRC) [E]
Sent: Wed, 4 Mar 2020 22:10:03 +0000
To: Prince, Tasheema (NIH/VRC) [C]
Cc: VRC_CoV
Subject: Re: Input: Public inquiry (Biotech/COVID-19 Treatment)
Attachments: image003.png

This type of inquiry needs to go to DMID extramural group. Alan Embry and Eric Stemmy are channeling those inquiries.

Barney

Sent from my iPhone

On Mar 4, 2020, at 4:03 PM, Prince, Tasheema (NIH/VRC) [C] (b) (6) > wrote:

Good Afternoon CoV Team,

Peter's lab received an email from a biotech company, Innovation Pharmaceuticals, stating that they have a potential COVID-19 vaccine and would like to discuss with NIH, including a potential Material Transfer Agreement.

We can defer to Public Inquires to respond using the usual language about not being able to evaluate outside of peer review.

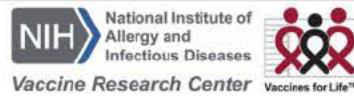
Do you concur with this approach or is a different response preferred?

Many thanks,
Tasheema

Tasheema Prince
Communications Team
Vaccine Research Center, NIAID, NIH
40 Convent Drive, Bldg. 40/110
Bethesda, MD 20892
office: (b) (6)
mobile (b) (6)
(b) (6)

<image003.png>

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From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 25 Feb 2020 14:42:35 +0000
To: Folkers, Greg (NIH/NIAID) [E]
Cc: Ledgerwood, Julie (NIH/NIAID) [E]; Mascola, John (NIH/VRC) [E]; Sitar, Sandra (NIH/VRC) [C]; Morabito, Kaitlyn (NIH/VRC) [E]
Subject: Re: Barney, John tick-tock slide for Tony COVID-2019
Attachments: image002.jpg, image008.jpg, image009.jpg, image010.jpg

Thanks Greg. Great slides.



Barney

Sent from my iPhone

On Feb 25, 2020, at 9:32 AM, Folkers, Greg (NIH/NIAID) [E] <(b) (6)> wrote:

Thanks, very much

We are starting to make some storytelling slides eg

<image002.jpg>

<image008.jpg>

<image009.jpg>

Question:

Did WSJ get this one right yesterday?

<image010.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

Disclaimer: Any third-party material in this email has been shared for internal use under fair use provisions of U.S. copyright law, without further verification of its accuracy/veracity. It does not necessarily represent my views nor those of NIAID, NIH, HHS, or the U.S. government.

(b) (5)

(b) (5)



From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 7 Feb 2020 19:57:56 +0000
To: Hiatt, Nissa (NIH/VRC) [C]
Cc: Prince, Tasheema (NIH/VRC) [C]; Harris, Christina (NIH/NIAID) [E]
Subject: RE: Another media request: Science

I think this should be referred to Dr. Fauci and Hilary Marston.

BG

From: Hiatt, Nissa (NIH/VRC) [C] (b) (6)>
Sent: Friday, February 7, 2020 2:56 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: Prince, Tasheema (NIH/VRC) [C] (b) (6); Harris, Christina (NIH/NIAID) [E]
(b) (6)>
Subject: FW: Another media request: Science

Hi Barney,

Jon Cohen from Science is working on another coronavirus story and would like to discuss antibody efforts for 2019-nCoV. I know you recently spoke to him for a story on the vaccine development effort.

Are you interested and available in talking to Jon about VRC antibody efforts? Elizabeth suggested the weekend but timing is always at your discretion. Whatever is best for you!

Best,
Nissa

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

(b) (6)
(b) (6)



From: Deatricks, Elizabeth (NIH/NIAID) [C] (b) (6)>
Sent: Friday, February 7, 2020 2:48 PM

To: Hiatt, Nissa (NIH/VRC) [C] (b) (6)

Subject: Another media request: Science

Hi Nissa,

Good afternoon! As Judy mentioned, I'm handling the CBC request you got in... but we also received another request you might want to pass on to a VRC expert:

Jon Cohen

Science

jcohen@aaas.org

Topic: coronavirus diagnostics

Deadline: This weekend

Jon is working on a story about coronavirus diagnostics, and is looking for someone to do an interview today—or possibly over the weekend. He's especially interested in the development of antibody or point-of-care viral tests. If Dr. Graham or somebody else would like to call on the weekend, he'd want to set up a time range for them to call in.

Best,

Elizabeth Deatrick

Scientific Communications Editor

Employee of Cape Fox Shared Services

Contracted to work for the National Institute of Allergy and Infectious Diseases (NIAID)

(b) (6)

Please note that I am not a spokesperson for NIAID and should not be quoted as such.

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 18 Apr 2020 11:46:07 +0000
To: Loomis, Rebecca (NIH/VRC) [E]
Cc: Ruckwardt, Tracy (NIH/VRC) [E]
Subject: RE: Meeting today at 1pm

(b) (5)

Barney

From: Loomis, Rebecca (NIH/VRC) [E] (b) (6)>
Sent: Thursday, April 16, 2020 4:23 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Cc: Ruckwardt, Tracy (NIH/VRC) [E] (b) (6)>
Subject: Re: Meeting today at 1pm

Barney,

I touched base with Dr. Eun-Chung Park (Karin's suggested reaching out to DMID). Dr. Park directed me to two groups – (b) (6), (b) (5)

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

(b) (6), (b) (5), if you have any ideas.

Rebecca

From: "Graham, Barney (NIH/VRC) [E]" (b) (6)>
Date: Tuesday, April 14, 2020 at 5:59 PM
To: "Loomis, Rebecca (NIH/VRC) [E]" <(b) (6)>
Cc: "Ruckwardt, Tracy (NIH/VRC) [E]" <(b) (6)>
Subject: Re: Meeting today at 1pm

Thanks.

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

BG

Sent from my iPhone

On Apr 14, 2020, at 5:55 PM, Loomis, Rebecca (NIH/VRC) [E] [REDACTED] (b) (6) wrote:

Barney,

Items from last meeting;

1. [REDACTED] (b) (5)
[REDACTED] (b) (5) Everything else will have to wait based on CSIRO limiting staff on-site and focusing all their resources on COVID-19 related work.
2. [REDACTED] (b) (5)
3. Submitted reference letter for [REDACTED] (b) (6) Thank you for sending an example – it really helped me to tailor the letter and address key elements.
4. Brandon and I discussed [REDACTED] (b) (5)
[REDACTED] (b) (5)
5. Submitted and will present [REDACTED] (b) (5) this week at ACUC meeting.
6. Working on [REDACTED] (b) (5)
[REDACTED] (b) (5)
7. I have outlined all manuscripts - [REDACTED] (b) (5) I am working on finalizing the figures for the [REDACTED] (b) (5) manuscript and will have that done by end of this week for you to review. I will start working on manuscript text at the end of this week/next week.
8. Olu, Cynthia and I talked with CDC about [REDACTED] (b) (5)
[REDACTED]
9. I also talked with Olu afterwards about some of the issues she is having with [REDACTED] (b) (5)
[REDACTED]

Thank you,

Rebecca

From: "Graham, Barney (NIH/VRC) [E]" (b) (6)
Date: Tuesday, April 14, 2020 at 1:21 PM
To: "Loomis, Rebecca (NIH/VRC) [E]" (b) (6) >
Subject: Re: Meeting today at 1pm

I have calls that go through 7:30 the next 2 days. Good to have the paper coming out and will be good to see the others. Why the delay on (b) (5)

Getting (b) (5) would be important sooner rather than later if possible.

I trust you are keeping Tracy fully in the loop on all your activities. I need her to know what you are doing.

Take care,

Barney

Sent from my iPhone

On Apr 14, 2020, at 1:01 PM, Loomis, Rebecca (NIH/VRC) [E] (b) (6) > wrote:

Hi Barney,

I am running late today – (b) (6) (rescheduled many times) and we are just getting settled at home.

I would like to touch base – can we schedule a call for later today or sometime this week? I can send you an update on my activities beforehand.

Thank you,
Rebecca

From: "Loomis, Rebecca (NIH/VRC) [E]" (b) (6) >
Date: Tuesday, March 31, 2020 at 1:07 PM
To: "Graham, Barney (NIH/VRC) [E]" <(b) (6)>
Subject: Re: Meeting today at 1pm

Thank you. I appreciate it.

R.

From: "Graham, Barney (NIH/VRC) [E]" (b) (6) >
Date: Tuesday, March 31, 2020 at 1:06 PM
To: "Loomis, Rebecca (NIH/VRC) [E]" (b) (6)
Subject: RE: Meeting today at 1pm

Here is a quad review letter I wrote for (b) (6) a couple of years ago.

Barney

From: Loomis, Rebecca (NIH/VRC) [E] <(b) (6)>
Sent: Tuesday, March 31, 2020 12:26 PM
To: Graham, Barney (NIH/VRC) [E] <(b) (6)>
Subject: Meeting today at 1pm
Importance: High

Hi Barney,

I am scheduled to have a meeting with you today at 1pm – which I am happy to keep if you have the time.

If not, would you be willing to send me a reference letter or two to use as templates? (b) (6)
(b) (6) It is due TODAY. I don't have a lot of experience writing letters and want to use the right language, format, etc.

Other items;

1. I talked with (b) (5)
(b) (5)
(b) (5)
2. The results from the (b) (5) We have a call this afternoon to go over what was collected, how it is stored and things to be completed at a later date.
3. I will follow up with (b) (5)
(b) (5)
4. I am working on the 3-year renewal for the (b) (5)
5. I will start on the (b) (5)
(b) (5)
6. Working on manuscripts in the following order;
 - a. (b) (5)
 - b. (b) (5)
 - c. (b) (5)
7. I talked with (b) (5).

8. Will have a teleconference soon (this week or next) with Olu, Cynthia, Kizzmekia and CDC about
[REDACTED] (b) (5)
9. Lastly, organizing my data files, general upkeep and reading literature.

Thank you and I hope you and family are staying safe,
Rebecca

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Jan 2020 17:10:41 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: Fwd: Manuscript Evaluation for Science

Note this is a Science editor who wants to know about our Wuhan response.

BG

Sent from my iPhone

Begin forwarded message:

From: Seth Scanlon <sscanlon@science-int.co.uk>
Date: January 14, 2020 at 11:45:23 AM EST
To: "Graham, Barney (NIH/VRC) [E]" (b) (6)
Subject: Re: Manuscript Evaluation for Science

Dear Barney,

Thanks so much for getting back to me and for your reviewer suggestions. Best of luck with the pandemic response! And if any interesting data comes from this, please let us know!

Best wishes,

Seth

From: Graham, Barney (NIH/VRC) [E] (b) (6)
Sent: 14 January 2020 11:34
To: Seth Scanlon <sscanlon@science-int.co.uk>
Subject: Re: Manuscript Evaluation for Science

Hi Seth,

Sorry for my delayed response. We have activated our pandemic response system for the Wuhan coronavirus since we got the sequences this weekend. I'm afraid I am going to be totally consumed with that for the next few months.

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

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

Best wishes,

Barney

Sent from my iPhone

> On Jan 14, 2020, at 11:12 AM, Seth Scanlon <science_editors@aaas.org> wrote:

>

> Dear Barney,

>

> We recently e-mailed to ask whether you would be able to review the paper (b) (6), (b) (4)
> [See abstract and author details below.]

>

> We hope that you have had a chance to consider this request and can let us know whether you accept or decline by clicking on a link below. If you accept, you will be directed to our log in page to download the manuscript. If you decline, you will be able to suggest other reviewers.

>

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

>

> To discuss any potential issues, for example if you would like to obtain input from a colleague on the manuscript, please contact me by responding to this email. We request review within 2 weeks (due date 27-Jan-2020).

>

> Cross Review: Once all reviews are in, we invite all reviewers to read the other reviews and make additional comments within 2 business days. Cross-review is encouraged, but not required. If we do not receive comments we will proceed based on the reviews in hand. In cases where the decision is clear, we may proceed without cross-review. In these cases, reviews will be shared for information only.

>

> Thanks very much in advance for your time and consideration.

>

> Best wishes,

>

> Seth

>

> Seth Thomas Scanlon, PhD

>


> Associate Editor, Science

> sscanlon@science-int.co.uk

>

> THE INFORMATION BELOW AND IN THE MANUSCRIPT IS CONFIDENTIAL AND SHOULD
> NOT BE SHARED OR DISSEMINATED

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



From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 1 Feb 2020 10:36:47 +0000
To: Bushar, Nicholas (NIH/NIAID) [E]
Subject: Accepted: NIAID Coronavirus SWAT Weekly Meeting

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 23 Apr 2020 20:28:54 +0000
To: Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: For your Transfer to Moderna - Moderna (b) (4) Data

Could you just change the (b) (5), (b) (4)

BG

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: Thursday, April 23, 2020 4:27 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: For your Transfer to Moderna - Moderna (b) (4) Data

Here are the final files for transfer to Moderna.

--

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: "Ruckwardt, Tracy (NIH/VRC) [E]" (b) (6) >
Date: Thursday, April 23, 2020 at 3:50 PM
To: Kizzmekia Corbett (b) (6) Barney Graham (b) (6) >
Cc: VRC_CoV_NonClin (b) (6)
Subject: Re: For your Review - Moderna (b) (4) Data

Hi Barney and Kizzmekia,

This (b) (4) is looking good! Made a couple of small edits/comment on the attached.

Best,
Tracy

From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >
Date: Thursday, April 23, 2020 at 7:38 AM
To: "Graham, Barney (NIH/VRC) [E]" (b) (6)
Cc: VRC_CoV_NonClin <(b) (6)>
Subject: For your Review - Moderna (b) (4) Data

If there are no edits you can, make it a PDF, send it, cc'ing VRC_CoV_NonClin (b) (6) & Emily, Lauren, and Catherine.

--

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: Tue, 24 Mar 2020 17:21:27 +0000
To: Embry, Alan (NIH/NIAID) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Stemmy, Erik (NIH/NIAID) [E]
Subject: Re: seasonal coronaviruses

(b) (5)

BG

Sent from my iPhone

On Mar 24, 2020, at 1:02 PM, Embry, Alan (NIH/NIAID) [E] <(b) (6)> wrote:

Thank you so much. Are you ok if I suggest that Julie and Matt talk with you about collaboration?

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Sent: Tuesday, March 24, 2020 10:50 AM
To: Embry, Alan (NIH/NIAID) [E] (b) (6)>
Cc: Stemmy, Erik (NIH/NIAID) [E] <(b) (6)>; Graham, Barney (NIH/VRC) [E]
<(b) (6)>
Subject: Re: seasonal coronaviruses

Good morning Alan,

We can provide the following, in a proper collaborative agreement, with the aforementioned investigators.

(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: "Embry, Alan (NIH/NIAID) [E]" (b) (6) >

Date: Tuesday, March 24, 2020 at 9:59 AM

To: Kizzmekia Corbett (b) (6) >

Cc: "Stemmy, Erik (NIH/NIAID) [E]" (b) (6) >, Barney Graham

<(b) (6)>

Subject: RE: seasonal coronaviruses

Thanks Kizzmekia. Julie Overbaugh at the Hutch is interested in talking with someone with access to

(b) (4), (b) (5) Here is what she is planning:

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

No pressure from me at all. It appears that these reagents are pretty rare.

Thanks,
Alan

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

Sent: Tuesday, March 24, 2020 9:49 AM

To: Embry, Alan (NIH/NIAID) [E] (b) (6) >
Cc: Stemmy, Erik (NIH/NIAID) [E] (b) (6); Graham, Barney (NIH/VRC) [E]
(b) (6)
Subject: Re: seasonal coronaviruses

We have everything (just about). ☺ How they are to be shared is in Dr. Graham's paygrade though.
Cc'ing him 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
40 Convent Drive
Bethesda MD 20892
Laboratory: (b) (6)
Personal: (b) (6)
Fax: (301) 480-2771

From: "Embry, Alan (NIH/NIAID) [E]" (b) (6) >
Date: Tuesday, March 24, 2020 at 9:47 AM
To: Kizzmekia Corbett <(b) (6)>
Cc: "Stemmy, Erik (NIH/NIAID) [E]" (b) (6) >
Subject: seasonal coronaviruses

Hi Kizzmekia,

We have had a number of people asking if anyone has access to (b) (5)

I can give you more info if helpful.

Thanks,
Alan

Alan Embry, Ph.D.
Chief, Respiratory Diseases Branch
Division of Microbiology and Infectious Diseases, NIAID, NIH
5601 Fishers Lane, Room 8E31

Rockville, MD 20892

(b) (6)

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Sat, 25 Apr 2020 12:42:05 +0000
To: Jon Cohen
Subject: RE: RSV monoclonal

Yes, I agree with what you said. It is both. Making the right protein with the right conformation is the basis for both vaccination and antibody discovery.

BG

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

From: Jon Cohen <jcohen@aaas.org>
Sent: Friday, April 24, 2020 9:41 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: Re: RSV monoclonal

Does that yin/yang analogy work? I'm thinking of using it in my story (my words, not yours).

> On Apr 24, 2020, at 5:38 PM, Graham, Barney (NIH/VRC) [E] (b) (6)> wrote:

>

> We haven't developed an RSV mAb for therapy yet, but we are working on discovering SARS-CoV-2 mAbs for therapy and prevention. A protein with the right confirmation used as a vaccine in vivo will activate and expand the right B cells to make the right antibodies. The same protein can be used in vitro to sort and select B cells making good mAbs.

>

> Barney

>

>

>

> Sent from my iPhone

>

>> On Apr 24, 2020, at 5:38 PM, Jon Cohen <jcohen@aaas.org> wrote:

>>

>> It strikes me that there's a yin/yang in how AbCellera uses your prefusion protein: It's the basis for Moderna vaccine, and it's also the bait for mAbs from a recovered person.

>>

>>> On Apr 24, 2020, at 2:30 PM, Graham, Barney (NIH/VRC) [E] (b) (6)> wrote:

>>>

>>> I only have a vaccine. We have a lot of mAbs for basic research and to characterize vaccine antigens, but have not developed one for commercial use. We may try something like that for LMICs.

>>>

>>> Barney

>>>

>>>

>>>

>>> -----Original Message-----

>>> From: Jon Cohen <jcohen@aaas.org>

>>> Sent: Friday, April 24, 2020 5:19 PM

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

>>> Subject: Re: RSV monoclonal

>>>

>>> Thanks Barney. Which RSV mAb is yours?

>>>>

>>>>> On Apr 24, 2020, at 1:46 PM, Graham, Barney (NIH/VRC) [E] <(b) (6)> wrote:

>>>>

>>>> Sorry, I'm catching up going backwards.

>>>>

>>>> In addition to the Nirsevimab from Astrazeneca and Sanofi, Merck has an RSV monoclonal antibody in clinical development (MK-1654).

>>>>

>>>> There are others at earlier stages.

>>>>

>>>> Barney

>>>>

>>>>

>>>>

>>>> -----Original Message-----

>>>> From: Jon Cohen <jcohen@aaas.org>

>>>> Sent: Tuesday, April 21, 2020 6:59 PM

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

>>>> Subject: RSV monoclonal

>>>>

>>>> Barney,

>>>>

>>>> I'm working on a story about monoclonals for COVID-19 and spoke with John Mascola.

>>>>

>>>> I'd like to quote you on a simple detail. RSV and anthrax are the only infectious diseases that I'm aware of with licensed MABs.

>>>>

>>>> You have had success with MABs against RSV that look better than Palivizumab, which has limits. Where are those in clinical development?

>>>>

>>>> Has your work with RSV MABs influenced your enthusiasm—and the enthusiasm of the field at large—about the prospect for effective COVID-19 MABs?

>>>>

>>>> Thanks,

>>>>

>>>> Jon

>>>>

>>

From: Graham, Barney (NIH/VRC) [E]
Sent: Sun, 15 Mar 2020 15:57:49 +0000
To: Munster, Vincent (NIH/NIAID) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Vincent, When can your Animal Study Start?

You don't what old feels like, yet.

BG

From: Munster, Vincent (NIH/NIAID) [E] <(b) (6)>
Sent: Sunday, March 15, 2020 11:30 AM
To: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] (b) (6)>
Subject: Re: Vincent, When can your Animal Study Start?

Pfff, must be getting old

Vincent Munster, PhD
Chief, Virus Ecology Section
Laboratory of Virology
Rocky Mountain Laboratories
NIAID/NIH

From: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>
Date: Sunday, March 15, 2020 at 9:09 AM
To: (b) (6)>, Barney Graham
(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6),
"Bok, Karin (NIH/VRC) [E]" (b) (6)
(b) (6)
(b) (6), Bennett Hamilton <(b) (6)>
Subject: Re: Vincent, When can your Animal Study Start?

It was 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

From: "Munster, Vincent (NIH/NIAID) [E]" (b) (6) >

Date: Sunday, March 15, 2020 at 11:05 AM

To: Kizzmekia Corbett (b) (6), Barney Graham (b) (6),
Kaitlyn Morabito <(b) (6)>, "Bok, Karin (NIH/VRC) [E]" (b) (6),
" (b) (6)
>, Bennett Hamilton
(b) (6) >

Subject: Re: Vincent, When can your Animal Study Start?

Hi Kizzmekia,

Can you send me the SAP, it will likely need approval at RML as well. I'll feed it in our system so that we are covered.

For logistic purposes, (b) (4)
(b) (4)

Let's get this done asap.

Cheers,

Vincent Munster, PhD
Chief, Virus Ecology Section
Laboratory of Virology
Rocky Mountain Laboratories
NIAID/NIH

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

Date: Sunday, March 15, 2020 at 6:10 AM

To: Barney Graham (b) (6)
"Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>,
"Bok, Karin (NIH/VRC) [E]" (b) (6)
"

(b) (6), Bennett Hamilton

(b) (6) >

Subject: Re: Vincent, When can your Animal Study Start?

Good morning all,

As we discussed before there are two arms of this experiment, that are to happen simultaneously.

(b) (4)

Let me know if you have any questions.

--

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: Saturday, March 14, 2020 at 4:49 PM

To: "Munster, Vincent (NIH/NIAID) [E]" (b) (6) Kizzmekia Corbett

(b) (6) >, Kaitlyn Morabito <(b) (6)>, "Bok, Karin
(NIH/VRC) [E]" (b) (6)

Bennett Hamilton

(b) (6)

Subject: RE: Vincent, When can your Animal Study Start?

We may be able to (b) (4) here and send them to you.

BG

From: Munster, Vincent (NIH/NIAID) [E] (b) (6)
Sent: Thursday, March 12, 2020 1:59 PM
To: 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); Bennett Hamilton (b) (6)
Subject: Re: Vincent, When can your Animal Study Start?

I would say (b) (4)
(b) (4)

Vincent Munster, PhD
Chief, Virus Ecology Section
Laboratory of Virology
Rocky Mountain Laboratories
NIAID/NIH

From: "Corbett, Kizzmekia (NIH/VRC) [E]" <(b) (6)>
Date: Thursday, March 12, 2020 at 10:08 AM
To: Barney Graham <(b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6),
(b) (6), "Bok, Karin (NIH/VRC) [E]" (b) (6),
(b) (6)
(b) (6)
(b) (6), Bennett Hamilton (b) (6) >
Subject: Vincent, When can your Animal Study Start?

Hi Vincent, We are trying to get a sense of (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: (b) (6)

When: 10:00 AM - 11:00 AM March 5, 2020

Subject: VRC/RML/Moderna Sars-CoV-2 (b) (4) Discussion **Time Change **

Location: 40/2rd Floor Conference Room

****PLEASE NOTE THE TIME CHANGE ****

**** CONFIRMATION ****

Meeting Title: VRC/RML/Moderna SARS-CoV-2 mRNA (b) (4) Discussion

Purpose: To discuss plan for evaluation of the SARS-CoV-2 mRNA (b) (4)

Date: March 5, 2020

Time: 10:00 AM

Location: 40/2rd Floor Conference Room

Length of meeting: 1 hour

Principal meeting organizer: Kaitlyn Morabito

VRC Participants: Barney Graham, Kizzmekia Corbett, Kaitlyn Morabito, Tracy Ruckwardt and Karin Bok

RML Participant: Vincent Munster

Moderna Participants: Sunny Himansu, Andrea Carfi, Hamilton Bennett and Guillaume Stewart-Jones

Agenda items:

1. Review SARS-CoV-2 (b) (4) (Vincent).
2. Develop Plan for testing of mRNA (b) (4) (all).

Thank you,

LaTanya

(b) (6)

Meeting Anytime

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: (b) (6)

Access Code: (b) (6)

New to GoToMeeting? Get the app now and be ready when your first meeting starts:

(b) (6)

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 4 Feb 2020 23:12:07 +0000
To: Bok, Karin (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: mAbs collaborations coronavirus

Duke just entered the competition (they are the 4th and last P3 group). Check email. (b) (5)

. I need to speak with her to followup the meeting today.

(b) (5)

BG

From: Bok, Karin (NIH/VRC) [E] (b) (6)
Sent: Tuesday, February 4, 2020 5:32 PM
To: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Cc: Graham, Barney (NIH/VRC) [E] (b) (6)
Subject: mAbs collaborations coronavirus

Just getting this straight because it keeps coming up, let me know if you have changes:

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

Anything else missing?

Thanks!

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>

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 16 Apr 2020 17:01:28 +0000
To: Daucher, Marybeth (NIH/NIAID) [E]; Harris, Christina (NIH/NIAID) [E]; Hirsch, Marie (NIH/VRC) [E]; Royal, Thomas (NIH/NIAID) [E]
Cc: Young, Monique (NIH/VRC) [E]; Ledgerwood, Julie (NIH/NIAID) [E]; Mascola, John (NIH/VRC) [E]; Koup, Richard (NIH/VRC) [E]
Subject: VPL Functional Statement 16 April 2020
Attachments: VPL Functional Statement 16 April 2020.docx

FYI. This is what you asked for.

Barney

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 10 Apr 2020 21:42:45 +0000
To: Nick Jackson
Cc: William Dowling;Andrea Carfi
Subject: RE: Protection_mRNA

Hi Nick,

Thanks for reaching out. Since the data are proprietary to Moderna, I think it is better for Andrea Carfi to answer (copied here). He is head of their research group including the preclinical data. We are trying to keep everything moving in a positive direction one small step at a time.

Take care,

Barney

From: Nick Jackson [REDACTED] (b) (6) >
Sent: Friday, April 10, 2020 3:06 PM
To: Graham, Barney (NIH/VRC) [E] [REDACTED] (b) (6) >
Cc: William Dowling [REDACTED] (b) (6) >
Subject: Protection_mRNA

Dear Barney

We were just on a call with Moderna's CEO Stephane, who spoke [REDACTED] (b) (4)

He gave his blessing for us to reach out to know more

Would it be possible for you to share any findings ?

Many congratulations – another amazing step in the extraordinary story of COVID-19 / mRNA !!

My very best wishes

Nick

Nicholas Jackson, MSc., DLSHTM., PhD.
Head of Programs and Technology
Vaccine R&D

CEPI New vaccines
for a safer world

Gibbs building, 215 Euston Rd, Bloomsbury, London NW1 2BE, UK.

Cell: [REDACTED] (b) (6)

[REDACTED]

Page appears blank in original

From: Graham, Barney (NIH/VRC) [E]
Sent: Thu, 2 Apr 2020 15:32:12 +0000
To: Rotrosen, Daniel (NIH/NIAID) [E]
Cc: Corbett, Kizzmekia (NIH/VRC) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Ruckwardt, Tracy (NIH/VRC) [E]; Alvarado, Gabriela (NIH/VRC) [C]; Bok, Karin (NIH/VRC) [E]
Subject: RE: Automated, digital lung histopathology imaging platforms

Thanks Dan. That is very helpful.

Take care,

Barney

From: Rotrosen, Daniel (NIH/NIAID) [E] (b) (6)
Sent: Thursday, April 2, 2020 10:36 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Subject: Automated, digital lung histopathology imaging platforms

Barney,

You asked on yesterday's call about experience with automated/digital lung multiparameter histopathology and platforms for sharing images. Expertise and tools to accomplish this are widely used in our solid organ transplant networks, especially kidney and liver. Lung is not as advanced, and the field is farther along in oncology with a focus on the tumor more so than surrounding lung tissue, but that is changing quickly and COVID-19 will accelerate progress.

You might want to have someone connect with Zoltan Laszik at The Alliance for Digital Pathology (ADP) (<https://digitalpathologyalliance.org/>) or Tushar Desai (<https://profiles.stanford.edu/tushar-desai?tab=publications>). There's detail below than I imagine you have time; if you have specific questions and you'd like us to connect we could do so.

Best, Dan

From: Nancy Bridges <(b) (6)>
Date: Thursday, April 2, 2020 at 9:22 AM
To: Rotrosen Daniel (b) (6)
Cc: "Shaw, Julia (NIH/NIAID) [E]" (b) (6) >
Subject: FW: Global COVID-19 Data Repository Efforts

Dan,

I communicated with several CTOT investigators last night and this morning, and am forwarding what I consider to be the most useful information (see below). In general, use of advanced immunohistological techniques is not as advanced in lung as it is in kidney and liver, as Zoltan describes below. The people

with the most experience are those working in lung cancer, but their focus is tumor tissue rather than lung tissue. It looks like the emergence of COVID will actually push the field forward.

If I hear anything else this morning I will let you know.

Nancy

From: Laszik, Zoltan (b) (6)
Sent: Thursday, April 2, 2020 2:43 AM
To: Bridges, Nancy D (NIH/NIAID) [E] (b) (6)>
Cc: Pierson, Richard N. <(b) (6)>; Sweet, Stuart <(b) (6)>;
(b) (6)
Subject: FW: Global COVID-19 Data Repository Efforts

Dear Nancy,

The Alliance for Digital Pathology (ADP) (<https://digitalpathologyalliance.org/>) was founded last November under the leadership of Jochen (Joe) Lennerz from Harvard with the main goal to tackle digital pathology related regulatory issues; however, with the COVID-19 pandemic many project proposals were initiated under the umbrella of ADP at a rapid pace including establishing a worldwide digital pathology repository of COVID-19 lung samples (mostly from autopsies) (please see email below); image analysis toolsets will be developed that will help to better understand the biology of the disease; this is already in the planning although I am afraid this will take some time to materialize. I believe this is, at least in part, relevant to your question so please check out their website. As far as the in situ multiplexing goes, the lung is a bit more challenging than other organs including kidney or liver primarily due to the high elastic fiber content that creates lots of autofluorescence and that is one of the reasons why development of really advanced (i.e., high plexity) in situ tissue interrogation assays, the kind of what we already developed for the kidney, lags behind for the lung.

I hope this helps. Please let me know if you have any question.

Thanks,

zoltan

From: Alliance for Digital Pathology (b) (6)
Sent: Tuesday, March 31, 2020 7:23 AM
Subject: Global COVID-19 Data Repository Efforts

Dear Alliance Members,

Over the past year the Alliance for Digital Pathology has worked in the pre-competitive space to align the efforts of scientists, physicians, professional societies, patient advocacy groups, industry and public institutions, to define technical and ethical standards in the practice of digital pathology. Currently, there is significant enthusiasm and support for creating a public, global international data repository of COVID-19 cases that will include Whole Slide Images (WSI)

and relevant clinical metadata. The recently issued WHO Global Research Roadmap prioritizes research projects elucidating the pathophysiology of the COVID-19-related disease, through histopathologic studies*. A major bottleneck for achieving this goal is the current lack of tissue samples of patients infected with the SARS-CoV-2 virus. Recognizing this WHO initiative as an important application of Alliance-developed standards, we encourage pathologists and institutions who are positioned in areas of the world affected by Covid-19 to use our expertise to further understanding of COVID-19 related mortality by performing autopsies, sharing digital images of these specimens with the global repository.

This is an unprecedented international initiative. A community of people, representing over 12 countries, came together this week to demonstrate their commitment to make this happen. We have support from two well-known companies from the Tech-Against-COVID movement who have already stepped forward with offers of computational resources and funding. As the first step, we ask for institutions and individual pathologists from around the world to contribute anonymized WSI of COVID-19 lung (and if possible, liver and kidney, heart and more) tissue samples. The Alliance for Digital Pathology created a COVID-19 Data Repository committee to streamline and coordinate this effort and ensure we collectively succeed in creating a valuable resource for this pandemic and beyond.

The leadership team of this committee includes Matt Leavitt^[1], Markus Herrmann^[2] and Amanda Lowe^[3]. It is further supported by a review committee of key participants including Roberto Salgado^[4], Jochen Lennerz^[5], Stephen Hewitt^[6], Ian Cree^[7], Alain Borczuk^[8], Brandon Gallas^[9], Sarah Dudgeon^[10], Rajendra Singh^[11], and Matthew Hanna^[12].

This entire committee is then supported by you – our collaborators. All collaborators and committee members are governed by the Alliance for Digital Pathology’s [Code of Conduct](#), which creates an environment for effective communication that is built on a foundation of respect for each other, our views and our contributions to this effort.

I WANT TO HELP. WHAT CAN I DO RIGHT NOW?

Thank you! This is a rapidly evolving environment and your patience and support as a collaborator are greatly appreciated. To get started please,

1. Answer this short Questionnaire >> [CLICK HERE](#). It will take less than 2-minutes.
2. If you have access to COVID-19 tissue samples, and the ability to digitize samples in form of WSI, please contact us immediately at data-repository@digitalpathologyalliance.org.
3. Spread the word! Forward this email, engage others on social media, and let your colleagues around the world know about this effort.

While you and other Alliance members are helping to spread the word by sharing the questionnaire, the Alliance will be working on ways to advocate for the safe and ethical

collection of necropsy tissue specimens from SARS-CoV-2 positive patients. We will support these efforts by developing standard operating procedure (SOP) documents and summarizing existing guidelines for performing autopsies on COVID-19 affected patients. In addition, we will work with organizations (such as WHO, NIH and NHS) who can act as trusted stewards of this data, to establish the technical and ethical organizational framework to comply with international standards as well as local rules and regulations. These standard practices include resources for specimen collection, image acquisition, data protocols as well as critical material and/or data transfer agreements. Harnessing our shared interest to overcome the current pandemic, we hope to establish a useful framework that will aid in advancing our understanding of all types of disease and thereby benefit all humanity for generations to come.

On behalf of the Alliance for Digital Pathology and pathologists everywhere – thank you! If you have any other feedback or ideas of how to help the COVID-19 Data Repository committee, please reach out to us at feedback@digitalpathologyalliance.org

Sincerely,
The Alliance

[1] Matt Leavitt, Pathologist and Chief Medical Officer, Lumea, USA

[2] Markus Hermann, Computational Pathology, Department of Pathology, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA.

[3] Amanda Lowe, Visiopharm Corporation, Westminster, CO, USA.

[4] Roberto Salgado, Department of Pathology, Antwerp, Belgium; Division of Research, Peter Mac Callum Cancer Center, Melbourne, Australia.

[5] Jochen Lennerz, Center for Integrated Diagnostics, Department of Pathology, Massachusetts General Hospital/Harvard Medical School, Boston, MA, USA.

[6] Stephen Hewitt, CAPT, USPHS, Head, Experimental Pathology Laboratory, Laboratory of Pathology, Center for Cancer Research, National Cancer Institute, National Institute of Health, USA.

[7] Ian Cree, International Agency for Research on Cancer, World Health Organization, Lyon, France.

[8] Alain Boczuk, Department of Pathology, Weill Cornell Medicine-Cornell University, NY, USA

[9] Brandon Gallas, Division of Imaging, Diagnostics, and Software Reliability, Office of Science and Engineering Laboratories, Center for Devices and Radiological Health, Food and Drug Administration, Silver Spring, MD, USA.

[10] Sarah Dudgeon, Division of Imaging, Diagnostics, and Software Reliability, Office of Science and Engineering Laboratories, Center for Devices and Radiological Health, Food and Drug Administration, Silver Spring, MD, USA

[11] Rajendra Singh, Icahn School Of Medicine at Mt. Sinai, New York, NY, USA.

[12] Matthew G. Hanna, Department of Pathology, Memorial Sloan Kettering Cancer Center, New York, NY, USA

References:

* A Coordinated Global Research Roadmap: 2019 Novel Coronavirus, March 2020 R&D Blueprint, pp27-40. https://www.who.int/blueprint/priority-diseases/key-action/Coronavirus_Roadmap_V9.pdf

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 28 Feb 2020 14:49:58 +0000
To: William Dowling; Marston, Hilary (NIH/NIAID) [E]
Subject: RE: WHO Ad hoc Expert Group on preclinical models of COVID-19 disease
Attachments: Confidentiality Undertaking_animal_models_covid19-GRAHAM.pdf

CDA attached.

BG

From: William Dowling <(b) (6)>
Sent: Friday, February 28, 2020 9:37 AM
To: Graham, Barney (NIH/VRC) [E] (b) (6); Marston, Hilary (NIH/NIAID) [E]
(b) (6)
Subject: FW: WHO Ad hoc Expert Group on preclinical models of COVID-19 disease

Dear Colleague,

The WHO is setting up an ad hoc Expert Group on the development of preclinical models of COVID-19 disease in order to both prevent unnecessary duplication of effort and to reduce the time for the development of vaccines and therapeutics. This effort is in alignment with the ethical principles of refinement, reduction and replacement in animal scientific research. The membership will be led by scientists and experts in this field (you) and will include the participation of regulators and funding institutions. Another objective of the group will be the production of a guidance for industry relating to the development of new medicines to help protect the human population from COVID-19.

We intend to share confidential data with all participants and attach documentation requesting your acceptance of WHO confidentiality terms relating to the work of the focus group. We cordially invite you (or a representative) to participate in this effort and request that you sign and return the attached documentation. On receipt of this documentation, we will forward to you details of how to join the first of the proposed weekly updates (this Friday) and a link to a shared drive resource of collated information to assist the international effort.

With the goal of tracking current and future progress of SARS-CoV-2 infection studies, we are attaching a simple summary which will be available outside of the call from the WHO shared drive resource. If you have data available, please fill this in and return via email.

Your data will be treated with the respect that unpublished data demands and any breach of the WHO approved terms will result in exclusion of a member if found to be substantiated. Your valued participation is requested to ensure that the group is kept up-to-date with the most relevant information in this essential field of global health.

Best regards,
César Muñoz-Fontela, William Dowling and Simon Funnell (Seconded to WHO)

From: Graham, Barney (NIH/VRC) [E]
Sent: Fri, 6 Mar 2020 17:43:45 +0000
To: Murray McCutcheon; Carl Hansen
Cc: Mascola, John (NIH/VRC) [E]; Ester Falconer
Subject: RE: Visit to DC?

I think John has already answered this, but we agree.

Barney

From: Murray McCutcheon (b) (6) >
Sent: Friday, March 6, 2020 9:43 AM
To: Carl Hansen (b) (6)
Cc: Graham, Barney (NIH/VRC) [E] (b) (6); Mascola, John (NIH/VRC) [E] (b) (6); Ester Falconer (b) (6) >
Subject: Re: Visit to DC?

Hi Barney,

As per my message from Monday, (b) (4)
(b) (4)
(b) (4) I will be reaching out to Amy this morning
to explore options.

Best,
Murray

On Fri, Mar 6, 2020 at 5:58 AM Carl Hansen (b) (6) > wrote:
Thanks Barney.

Murray can chime in when he gets to the office, but I believe a (b) (4)
(b) (4)

Best,

C

Sent from my iPhone

> On Mar 6, 2020, at 8:47 AM, Graham, Barney (NIH/VRC) [E] (b) (6) > wrote:
>
> Thanks Carl. I'm glad to hear that (b) (4) (b) (4)
(b) (4)
(b) (4).
>

> [REDACTED] (b) (4)

>

> We will talk internally today [REDACTED] (b) (4)

>

> Barney

>

>

>

>

> Sent from my iPhone

>

>> On Mar 6, 2020, at 8:32 AM, Carl Hansen [REDACTED] (b) (6) > wrote:

>>

>> Hi Barney and John,

>>

>> Sharing with you an update that I trust you will keep this strictly confidential.

>>

(b) (4)

>>

>> Also, if I am in town I would love to meet and compare notes.

>>

>> Best,

>>

>> C

>>

>>

>>

>> Sent from my iPhone

--
Murray McCutcheon, Ph.D.
Head of Corporate Development
AbCellera Biologics Inc.
2215 Yukon St.
Vancouver, B.C. V5Y 0A1
M: (b) (6)
www.abcellera.com

From: Graham, Barney (NIH/VRC) [E]
Sent: Tue, 14 Apr 2020 18:55:43 +0000
To: Fisher, Brian (NIH/VRC) [E]
Cc: Alvarado, Gabriela (NIH/VRC) [C]; Stein, Judy (NIH/VRC) [C]; Petrik, Amy (NIH/NIAID) [E]; Morabito, Kaitlyn (NIH/VRC) [E]; Corbett, Kizzmekia (NIH/VRC) [E]
Subject: RE: Plasmid spike protein deposit into BEI
Attachments: BEI Resources Deposit Form - BEI Part 1 of 211 (003) BF_BG.pdf

Signed.

BG

From: Fisher, Brian (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, April 14, 2020 12:57 PM
To: Graham, Barney (NIH/VRC) [E] (b) (6) >
Cc: Alvarado, Gabriela (NIH/VRC) [C] (b) (6) >; Stein, Judy (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)
Subject: RE: Plasmid spike protein deposit into BEI

Hey Barney,

Can you please e-sign the attached form for depositing plasmids to BEI?

Section needed signed is shown below.

IN WITNESS WHEREOF, the parties, individually or by their duly authorized representatives, have caused this AGREEMENT to be executed in duplicate and effective as of the date of the last signature to the AGREEMENT, below.

READ AND UNDERSTOOD BY DEPOSITOR:

Signature: _____ Date: _____
Signature
Printed Name: _____ Position Description: _____

Thanks

B.

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) >
Sent: Tuesday, April 14, 2020 10:13 AM
To: Fisher, Brian (NIH/VRC) [E] (b) (6) >; Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >; Petrik, Amy (NIH/NIAID) [E] (b) (6) >; Stein, Judy (NIH/VRC) [C] (b) (6) >; Alvarado, Gabriela (NIH/VRC) [C] (b) (6) >
Subject: Re: Plasmid spike protein deposit into BEI

All,

I'm not hearing any objections to adding the (b) (5). Brian, can you add this to the forms and get Barney's signature. I will return to BEI with the note on the the (b) (5) not being proprietary and cc, everyone here.

Kaitlyn

From: Brian Fisher <(b) (6)>
Date: Monday, April 13, 2020 at 2:39 PM
To: Kaitlyn Morabito (b) (6); Kizzmekia Corbett (b) (6); "Petrik, Amy (NIH/NIAID) [E]" (b) (6); Judy Stein (b) (6); "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)
Subject: RE: Plasmid spike protein deposit into BEI

Thanks Kaitlyn,

Attached are the updated docs to include (b) (5). If BEI is already past this step let me know and we can submit (b) (5) later.

B.

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>
Sent: Monday, April 13, 2020 1:38 PM
To: Fisher, Brian (NIH/VRC) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Petrik, Amy (NIH/NIAID) [E] <(b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)
Subject: Re: Plasmid spike protein deposit into BEI

Hi Brian,

BEI will reach out and tell us when to ship. They have to approve the paperwork first.

Kaitlyn

From: Brian Fisher <(b) (6)>
Date: Monday, April 13, 2020 at 1:22 PM
To: Kizzmekia Corbett (b) (6); "Petrik, Amy (NIH/NIAID) [E]" (b) (6); Kaitlyn Morabito <(b) (6)>; Judy Stein (b) (6); "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)
Subject: RE: Plasmid spike protein deposit into BEI

The only shipping address I can find is below from the submission doc.

BEI Resources 10801 University Blvd. Manassas, VA 20110-2209 USA

Anyone have any other shipping/deposit procedures from BEI?

B.

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6) >
Sent: Friday, April 10, 2020 8:35 AM
To: Petrik, Amy (NIH/NIAID) [E] (b) (6) >; Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Stein, Judy (NIH/VRC) [C] (b) (6) >; Alvarado, Gabriela (NIH/VRC) [C] (b) (6) >; Fisher, Brian (NIH/VRC) [E] (b) (6) >
Subject: Re: Plasmid spike protein deposit into BEI

(b) (5) is a go Brian.

--

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: "Petrik, Amy (NIH/NIAID) [E]" <(b) (6)>
Date: Friday, April 10, 2020 at 8:34 AM
To: Kizzmekia Corbett (b) (6), Kaitlyn Morabito (b) (6) >, "Stein, Judy (NIH/VRC) [C]" (b) (6) >, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6), "Fisher, Brian (NIH/VRC) [E]" (b) (6) >
Subject: RE: Plasmid spike protein deposit into BEI

Oh, deposit now, anything that we are free to distribute to nonprofits can be done by BEI.
They will refer any commercial requests to us for licensing.

From: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>
Sent: Friday, April 10, 2020 8:33 AM
To: Petrik, Amy (NIH/NIAID) [E] (b) (6) >; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) >; Stein, Judy (NIH/VRC) [C] (b) (6); Alvarado, Gabriela

(NIH/VRC) [C] (b) (6); Fisher, Brian (NIH/VRC) [E] (b) (6)

Subject: Re: Plasmid spike protein deposit into BEI

SO deposit now? or after the liscense?

--

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

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Laboratory: (b) (6)

Personal (b) (6)

Fax: (301) 480-2771

From: "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>

Date: Friday, April 10, 2020 at 8:32 AM

To: Kaitlyn Morabito (b) (6), "Stein, Judy (NIH/VRC) [C]" (b) (6)>, Kizzmekia Corbett (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)>, "Fisher, Brian (NIH/VRC) [E]" (b) (6), Barney Graham (b) (6)>, Monique Young (b) (6)>

Subject: RE: Plasmid spike protein deposit into BEI

Conferred with Judy, we can deposit (and license as unpatented research material). Just think (b) (5).

From: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>

Sent: Friday, April 10, 2020 8:16 AM

To: Stein, Judy (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Fisher, Brian (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>; Young, Monique (NIH/VRC) [E] (b) (6)>

Subject: Re: Plasmid spike protein deposit into BEI

The sequence is public, but (b) (5)

People have still been asking us for it for (b) (5). (b) (5)

From: Judy Stein (b) (6)
Date: Friday, April 10, 2020 at 8:14 AM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, Kizzmekia Corbett (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6), Brian Fisher (b) (6)>, Barney Graham (b) (6)>, Monique Young (b) (6)>
Subject: RE: Plasmid spike protein deposit into BEI

(b) (5)

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>
Sent: Friday, April 10, 2020 8:13 AM
To: Stein, Judy (NIH/VRC) [C] <(b) (6)>; Petrik, Amy (NIH/NIAID) [E] (b) (6)
Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6)>; Fisher, Brian (NIH/VRC) [E] (b) (6)>; Graham, Barney (NIH/VRC) [E] <(b) (6)>; Young, Monique (NIH/VRC) [E] (b) (6)>
Subject: Re: Plasmid spike protein deposit into BEI

Hi All,

I think we want (b) (5)

Kaitlyn

From: Judy Stein (b) (6)
Date: Friday, April 10, 2020 at 7:40 AM
To: "Petrik, Amy (NIH/NIAID) [E]" (b) (6)>, Kizzmekia Corbett (b) (6)>, "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6), Brian Fisher (b) (6), Barney Graham (b) (6)>, Monique Young (b) (6)>
Subject: FW: Plasmid spike protein deposit into BEI

Thanks Amy.
Barney, can you please sign this BEI deposit form.
Thanks,
Judy

From: Petrik, Amy (NIH/NIAID) [E] (b) (6)
Sent: Friday, April 10, 2020 7:24 AM
To: Stein, Judy (NIH/VRC) [C] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)>; Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>; Alvarado,

Gabriela (NIH/VRC) [C] <(b) (6)>; Fisher, Brian (NIH/VRC) [E] (b) (6)>
Subject: RE: Plasmid spike protein deposit

Thanks, Judy.

I only updated the section about co-owners and signed the attached.
Amy

From: Stein, Judy (NIH/VRC) [C] (b) (6)
Sent: Thursday, April 9, 2020 7:08 PM
To: Petrik, Amy (NIH/NIAID) [E] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Fisher, Brian (NIH/VRC) [E] (b) (6)
Subject: FW: Plasmid spike protein deposit

Hi everyone,

I filled in the rest of the information about 3rd party rights and the NIH reference numbers to the patent filing.
Amy, if you have no edits, I think this can start through signature.
Thanks,
Judy

From: Fisher, Brian (NIH/VRC) [E] (b) (6)
Sent: Thursday, April 9, 2020 3:29 PM
To: Corbett, Kizzmekia (NIH/VRC) [E] <(b) (6)> Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6)
Cc: Stein, Judy (NIH/VRC) [C] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6)
Subject: RE: Plasmid spike protein deposit

Hi All,

See attached. I filled in everything I could but there are some references to "third party rights" and "patent" stuff I have no idea about.

Let me know if I can help further or when all is complete and ready to be shipped.

B.

From: Corbett, Kizzmekia (NIH/VRC) [E] (b) (6)>
Sent: Thursday, April 9, 2020 2:27 PM
To: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)> Petrik, Amy (NIH/NIAID) [E] (b) (6)
Cc: Stein, Judy (NIH/VRC) [C] <(b) (6)> Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Fisher, Brian (NIH/VRC) [E] (b) (6)>
Subject: Re: Plasmid spike protein deposit

Hi Brian, Do you mind assisting with this, since the plasmids are organized now? Let me know if you need anything.

--

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: Kaitlyn Morabito (b) (6) >

Date: Thursday, April 9, 2020 at 9:50 AM

To: Kizzmekia Corbett (b) (6), "Petrík, Amy (NIH/NIAID) [E]"

(b) (6)

Cc: "Stein, Judy (NIH/VRC) [C]" (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]"

(b) (6), "Fisher, Brian (NIH/VRC) [E]" (b) (6)

Subject: Re: Plasmid spike protein deposit

Hi Kizzmekia,

Just following up to see if you've had a chance to fill in the forms. If not, maybe Gabriela or Brian can assist.

The sooner we get this into BEI, the less shipping we have to do.

Kaitlyn

From: "Morabito, Kaitlyn (NIH/VRC) [E]" <(b) (6)>

Date: Monday, April 6, 2020 at 4:22 PM

To: Kizzmekia Corbett (b) (6), "Petrík, Amy (NIH/NIAID) [E]"

(b) (6)

Cc: Judy Stein (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]"

(b) (6) >

Subject: Re: Plasmid spike protein deposit

You need to fill out the BEI Deposit form, and attach the plasmid maps. The excel file looks really complicated, and we didn't have to fill it out for the MERS mABs, I would send the BEI deposit form, and plasmid maps and let them fill out the excel sheet.

From: Kizzmekia Corbett (b) (6) >
Date: Monday, April 6, 2020 at 4:17 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >, "Petrik, Amy (NIH/NIAID) [E]" (b) (6) >
Cc: Judy Stein (b) (6) >, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6) >
Subject: Re: Plasmid spike protein deposit

Let's do it!!! This is okay to send now?

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

From: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Date: Monday, April 6, 2020 at 3:28:45 PM
To: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6) >, "Petrik, Amy (NIH/NIAID) [E]" (b) (6) >
Cc: "Stein, Judy (NIH/VRC) [C]" (b) (6) >, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6) >
Subject: Re: Plasmid spike protein deposit

They said they only need a few vials. I'd say like 3 vials of (b) (5) of plasmid, and then BEI would grow it up. If we have this on hand, I think we should just send.

From: Kizzmekia Corbett (b) (6)
Date: Monday, April 6, 2020 at 3:22 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >, "Petrik, Amy (NIH/NIAID) [E]" (b) (6) >
Cc: Judy Stein (b) (6) >, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6) >
Subject: Re: Plasmid spike protein deposit

Because this would reload us of about 20 hours a week of shipping Requests, I'm happy to order plasmid preps of whatever quantity to fill BEI.

Sent from the mobile device of:
Kizzmekia S. Corbett, PhD

Senior Research Fellow
coVip Scientific Lead
VRC | NIAID | NIH
(b) (6)

From: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)>
Date: Monday, April 6, 2020 at 9:05:59 AM
To: "Corbett, Kizzmekia (NIH/VRC) [E]" (b) (6)>, "Petrik, Amy (NIH/NIAID) [E]" (b) (6)
Cc: "Stein, Judy (NIH/VRC) [C]" <(b) (6)>, "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6)
Subject: Re: Plasmid spike protein deposit

Hi Amy and Kizzmekia,

Amy, can you please let us know if this is sufficient or if we need an alternative?

Kizzmekia, how much of the plasmids do we have now, that we'd be willing to send?

Thanks,
Kaitlyn

From: "McClung, Crystal" <cmccclung@atcc.org>
Date: Friday, April 3, 2020 at 4:59 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6)
Cc: "Bradford, Rebecca" <RBradford@atcc.org>, "Rashid, Sujatha" <srashid@atcc.org>, "Stemple, Kimberly (NIH/NIAID) [E]" (b) (6)>, Judy Stein (b) (6), Kizzmekia Corbett (b) (6), "Alvarado, Gabriela (NIH/VRC) [C]" (b) (6), "Petrik, Amy (NIH/NIAID) [E]" (b) (6)
Subject: RE: Plasmid spike protein deposit

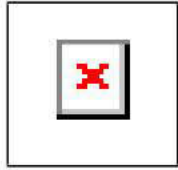
Hello Kaitlyn.

Thank you for the update and additional details. I have attached our deposit form part 1 and part 2 (DF1 and DF2) for your review. Yes, you may make a note about commercialization on the DF1. Our MTA restricts users from commercializing without discussing with the depositor; this document can be found on our website (click [here](#)). If this doesn't meet your needs, let us know what you prefer and we can provide alternative options.

Regarding your question about our preference for µg/vial and number of vials, a small number of vials will do. We will do transformation in suitable bacteria (e.g. DH5Alpha) and then make glycerol stocks for all future replenishments per our SOP.

We look forward to hearing from you soon.

Sincerely,



Crystal McClung
PROJECT MANAGER, PMP®
BEI Resources

10801 University Boulevard
Manassas, VA 20110-2209
Tel: (703) 365-2700 ext. 2135
Fax: (703) 365-2701
Email: cmcclung@atcc.org

From: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)>
Sent: Friday, April 03, 2020 4:03 PM
To: McClung, Crystal <cmcclung@atcc.org>
Cc: Bradford, Rebecca <RBradford@atcc.org>; Rashid, Sujatha <srashid@atcc.org>; Stemple, Kimberly (NIH/NIAID) [E] (b) (6); Stein, Judy (NIH/VRC) [C] (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Alvarado, Gabriela (NIH/VRC) [C] (b) (6); Petrik, Amy (NIH/NIAID) [E] (b) (6)
Subject: Re: Plasmid spike protein deposit

Hi Crystal,

Thank you for your patience. I'm also including our tech transfer liaison, and scientific lead. We've discussed and would also like to deposit our pseudovirus plasmids which include a transmembrane wild-type spike protein. We would need the paperwork for all of our plasmids to include that they cannot be used for commercialization. In the past, I think we've been able to indicate this on the deposit forms.

- Will you deposit expression plasmid DNA or proteins after it has been expressed? **We only have plasmid DNA to share at this point.**
- Contact name and address of shipper?

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

-
- Quantity of vials you are prepared to ship? Do you have a preference for µg/vial and number of vials, if needed we can sent the plasmid out to be grown up before sending, or could send you a smaller number of vials quicker that you could than grow up. Please let us know what you prefer.
- Recommended storage temp of the material, if it is protein? **It will be plasmids.**

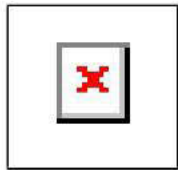
Thanks,
Kaitlyn

From: "McClung, Crystal" <cmcclung@atcc.org>
Date: Thursday, April 2, 2020 at 9:14 PM
To: "Morabito, Kaitlyn (NIH/VRC) [E]" (b) (6) >
Cc: "Bradford, Rebecca" <RBradford@atcc.org>, "Rashid, Sujatha" <srashid@atcc.org>, "Stemple, Kimberly (NIH/NIAID) [E]" (b) (6) >
Subject: RE: Plasmid spike protein deposit

Hello Kaitlyn.

Just checking in with you. We hope you're doing well. It would be great to get some additional details from you on this deposit. Let us know when would be a good time to touch base with you about this. We look forward to your reply.

Sincerely,



Crystal McClung
PROJECT MANAGER, PMP®
BEI Resources

10801 University Boulevard
Manassas, VA 20110-2209
Tel: (703) 365-2700 ext. 2135
Fax: (703) 365-2701
Email: cmcclung@atcc.org

From: McClung, Crystal
Sent: Saturday, March 21, 2020 3:57 PM
To: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6) >
Cc: Bradford, Rebecca <RBradford@atcc.org>; Rashid, Sujatha <srashid@atcc.org>; Stemple, Kimberly (NIH/NIAID) [E] (b) (6) >
Subject: RE: Plasmid spike protein deposit

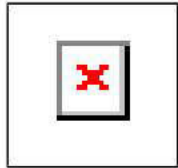
Hello Kaitlyn.

I wanted to follow up with you to see if you receive my below email. We are very interested in discussing the deposit of the plasmid spike protein into BEI Resources. To proceed, it would be helpful if we had a few more details from you.

- Will you deposit expression plasmid DNA or proteins after it has been expressed?
- Contact name and address of shipper
- Quantity of vials you are prepared to ship
- Recommended storage temp of the material, if it is protein

We look forward to hearing from you soon.

Sincerely,



Crystal McClung
PROJECT MANAGER, PMP®
BEI Resources

10801 University Boulevard
Manassas, VA 20110-2209
Tel: (703) 365-2700 ext. 2135
Fax: (703) 365-2701
Email: cmcclung@atcc.org

From: McClung, Crystal

Sent: Wednesday, March 11, 2020 3:41 PM

To: Morabito, Kaitlyn (NIH/VRC) [E] (b) (6)

Cc: Bradford, Rebecca <RBradford@atcc.org>; Stemple, Kimberly (NIH/NIAID) [E] (b) (6)>

Subject: RE: Plasmid spike protein deposit

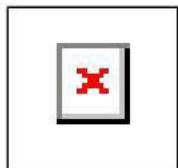
Hi Kaitlyn.

Thank you for helping to coordinate a deposit of the plasmid spike protein to BEI Resources. I am happy to help with the logistics and just have a couple of questions to get us started.

- Do have any additional details on the material so we can determine if import permits would be needed?
- Contact name and address of shipper
- Quantity of vials you are prepared to ship
- Recommended storage temp of the material

Please let me know if you have any questions for us. I look forward to your reply.

Sincerely,



Crystal McClung
PROJECT MANAGER I

10801 University Boulevard
Manassas, VA 20110-2209
Tel: (703) 365-2700 ext. 2135
Fax: (703) 365-2701
Email: cmcclung@atcc.org

From: Bradford, Rebecca <RBradford@atcc.org>

Sent: Wednesday, March 11, 2020 1:52 PM

To: Stemple, Kimberly (NIH/NIAID) [E] <(b) (6)>

Cc: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>; McClung, Crystal <cmclung@atcc.org>
Subject: RE: Plasmid spike protein deposit

Great news. I've cc'd Crystal McClung. Her team will work with you on the deposit.

Kindly,

Rebecca Bradford, M.B.A, M.S., PMP®

SR DIRECTOR, GOVERNMENT PROGRAMS

BEI RESOURCES PROGRAM MANAGER

ATCC FEDERAL SOLUTIONS

10801 University Boulevard
Manassas, VA 20110-2209
Tel: (703) 365-2700 ext. 2846
Fax: (703) 365-2701

Email: RBradford@atcc.org

From: Stemple, Kimberly (NIH/NIAID) [E] <(b) (6)>
Sent: Wednesday, March 11, 2020 1:38 PM
To: Bradford, Rebecca <RBradford@atcc.org>
Cc: Morabito, Kaitlyn (NIH/VRC) [E] <(b) (6)>
Subject: Plasmid spike protein deposit

Hi Becky,

We've got an opportunity for a deposit from Jason McLellan who made plasmid spike protein that our VRC's are using. The VRC's were told they could deposit this into BEI. I've CC'd Kaitlyn to help streamline this deposit. Can you please work with her to bring this into BEI?

Kind wishes,

JoJo

Kimberly J. Stemple, MPH

Program Officer, BEI Repository COR III



tel: (b) (6)
(b) (6)

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[REDACTED]

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