

To: (10)(2e) (10)(2e) @nhsbt.nhs.uk; (10)(2e) (10)(2e) @sanquin.nl; (10)(2e) (10)(2e) @rivm.nl; (10)(2e) (10)(2e) (10)(2e) @sanquin.nl; (10)(2e) (10)(2e) (10)(2e) @phe.gov.uk; (10)(2e) (10)(2e) (10)(2e) @phe.gov.uk
Cc: (10)(2e) (10)(2e) (10)(2e) @ndcls.ox.ac.uk
From: (10)(2e)
Sent: Tue 9/15/2020 1:08:39 PM
Subject: RE: SCoV-2 virusneutralization in UK and in NL
Received: Tue 9/15/2020 1:08:40 PM

Hi,

Yes that looks amazingly similar! That gives confidence in what we are doing *. I'll send you our protocol. I think it is an excellent idea to write a short note. Also in the WHO COVID-19 ref lab meetings it has been repeatedly mentioned that comparison of neut techniques across labs is meaningfull. So we are happy to join forces on this aspect.

(10)(2e)

From: (10)(2e) < (10)(2e) @nhsbt.nhs.uk>
Sent: dinsdag 15 september 2020 14:41
To: (10)(2e) < (10)(2e) @rivm.nl>; (10)(2e) < (10)(2e) @sanquin.nl>; (10)(2e) < (10)(2e) @sanquin.nl>;
(10)(2e) < (10)(2e) @sanquin.nl>; (10)(2e) < (10)(2e) @rivm.nl>; (10)(2e) < (10)(2e) @rivm.nl>;
< (10)(2e) @phe.gov.uk>; (10)(2e) < (10)(2e) @phe.gov.uk>
Cc: (10)(2e) < (10)(2e) @ndcls.ox.ac.uk>
Subject: RE: SCoV-2 virusneutralization in UK and in NL

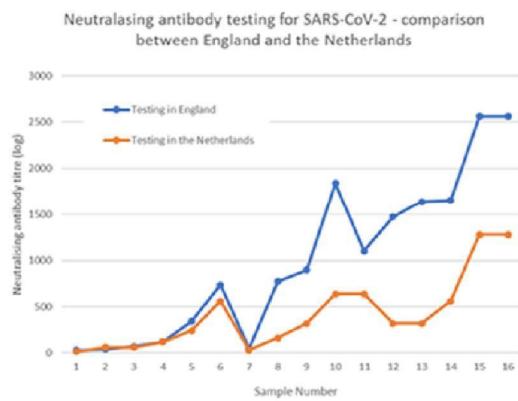
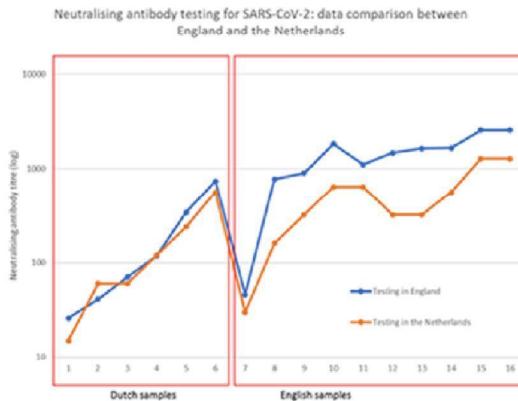
Dear All

Many thanks for you help with sending samples and testing them for neutralising antibodies. I am finally following up the comparison of neutralising antibody testing between UK and NL. First figure showing nAb titre as in log scale (as it should be) and the second without. Results are amazingly similar, although I think we are using rather different methods. I think it would be really useful to write this up as a very short note, perhaps including some data on nAb titres (with or without epi data) seen in CP donors in UK and NL as that was the reason why we started that (i.e. titres in NL donor lower). There will be more comparative data coming with the EBA/CP/HORIZON2020 project, but this would be a good start.

I am happy to start drafting but it would be useful if could provide the more notes on testing / or perhaps simply share your SOP? Only question I have is whether we should consider repeating the testing of UK panel (using aliquots from our bioarchive, not PHE sample) send to NL in UK – NL results are slightly lower (but always within 1log) and that would help to discuss the potential effect of storing and sending etc..

Let me know what do you think, or if you have any further thoughts on that.

Best wishes (10)(2e)



From: (10)(2e) < (10)(2e) @rivm.nl>
Sent: 21 August 2020 13:53
To: (10)(2e) < (10)(2e) @nhsbt.nhs.uk>; (10)(2e) < (10)(2e) @sanquin.nl>; (10)(2e) < (10)(2e) @sanquin.nl>; (10)(2e) < (10)(2e) @rivm.nl>
Cc: (10)(2e) < (10)(2e) @ndcls.ox.ac.uk>
Subject: Re: SCoV-2 virusneutralization in UK and in NL

Dear all,

We have tested the PHE samples. Looking forward to get the comparative PHE data so we know where we stand *. The comparison on the sera from the Netherlands showed similar results, hopefully these as well.

Best wishes (10)(2e)

PHE sample nr.	VNT50	VNT90
3000000428	>640	160
3000000429	320	30
3000000430	320	60
3000000431	320	80
3000000432	560	40
3000000433	160	20
3000000434	30	<10
3000000435	640	60
3000000436	>640	40
3000000437	640	40

From: (10)(2e) <(10)(2e)@nhsbt.nhs.uk>
Sent: Friday, 17 July 2020 16:54
To: (10)(2e); (10)(2e); (10)(2e); (10)(2e); (10)(2e)
Cc: (10)(2e)
Subject: RE: RE: SCoV-2 virusneutralization in UK and in NL

Dear All

Many thanks (10)(2e) Apologies for the delay from our end but our samples will be shortly ready for courier (10)(2e) is organising this and was asking for contact details/address where to send these samples?

Best wishes (10)(2e)

From: (10)(2e) <(10)(2e)@rivm.nl>
Sent: 15 May 2020 07:27
To: (10)(2e) <(10)(2e)@sanquin.nl>; (10)(2e) <(10)(2e)@sanquin.nl>; (10)(2e)

< (10)(2e) @nhsbt.nhs.uk>; (10)(2e) < (10)(2e) @sanquin.nl>; (10)(2e)
< (10)(2e) @phe.gov.uk>; (10)(2e) < (10)(2e) @rivm.nl>
Cc: (10)(2e) < (10)(2e) @ndcls.ox.ac.uk>
Subject: Re: SCoV-2 virusneutralization in UK and in NL

Hi,

I think it is as informative to exchange protocols. The explanation might be very simple f.i. how you read-out and call titres might be different.

What we see, and others as well, is that neut titres in general are not high especially in those mildly ill.

There are indeed a lot of factors that might, explain the differences, most likely visible when comparing protocols.

We are happy to test some UK plasmas as well.

Cheers (10)(2e)

From: (10)(2e) < (10)(2e) @sanquin.nl>
Sent: Friday, 15 May 2020 08:00
To: (10)(2e); (10)(2e); (10)(2e); (10)(2e); (10)(2e); (10)(2e)
Cc: (10)(2e)
Subject: SCoV-2 virusneutralization in UK and in NL

Dear colleagues,

I contacted (10)(2e) and (10)(2e), who at the RIVM performed the neutralisation of NL donors.

They are happy to join an effort to explain the differences of UK and NL donor titres.

But first let us exchange some samples?

with kind regards from (10)(2e)

Sanquin

Van: (10)(2e)
Verzonden: vrijdag 15 mei 2020 07:44
Aan: (10)(2e); (10)(2e); (10)(2e)
CC: (10)(2e); (10)(2e)

Onderwerp: RE: virusneutralization assay request

Dear (10)(2e)

Thanks for participating in this. It may indeed also be related to lag between onset and donation. The best way is to find out. How much plasma do you need for a neutralization assay? It would be ideal to test the samples that have already been tested at the RIVM because we already have the results from eight serological assays, but the amount of sample is rather limited.

With kind regards,

(10)(2e)

From: (10)(2e) [(10)(2e) [@nhsbt.nhs.uk](#)]
Sent: 14 May 2020 22:28
To: (10)(2e) < (10)(2e) [\[@sanquin.nl\]](#); (10)(2e) < (10)(2e) [\[@phe.gov.uk\]](#)
Cc: (10)(2e) < (10)(2e) [\[@ndels.ox.ac.uk\]](#); (10)(2e) < (10)(2e) [\[@sanquin.nl\]](#); (10)(2e) < (10)(2e) [\[@sanquin.nl\]](#)
Subject: RE: virusneutralization assay request

Thanks (10)(2e) and Hello (10)(2e) and (10)(2e)

This is really interesting, especially when you also have the EUROimmun data and that seems more similar to our data... Do I remember correctly that you collect 14 days from onset (or recovery) whereas we are collecting at least 28 days from recovery? If this is true, then in our case bigger proportion of antibodies could be neutralising/higher affinity? But agree, would be good to see that this is not an assay related issue...

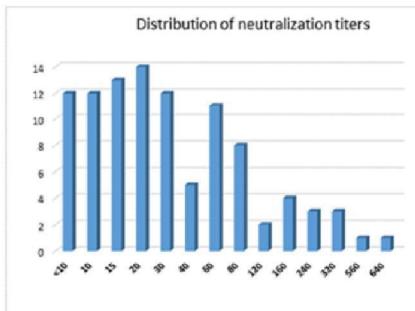
Best wishes, (10)(2e)

From: (10)(2e) < (10)(2e) [\[@sanquin.nl\]](#)
Sent: 14 May 2020 21:18
To: (10)(2e) < (10)(2e) [\[@nhsbt.nhs.uk\]](#); (10)(2e) < (10)(2e) [\[@phe.gov.uk\]](#)
Cc: (10)(2e) < (10)(2e) [\[@ndels.ox.ac.uk\]](#); (10)(2e) < (10)(2e) [\[@sanquin.nl\]](#); (10)(2e) < (10)(2e) [\[@sanquin.nl\]](#)
Subject: RE: virusneutralization assay request

Dear (10)(2e)

Thanks for the offer. I have copied (10)(2e) in, he works with (10)(2e) and (10)(2e). Maybe he can directly contact you and (10)(2e) on how to proceed.

Below are our neutralization titers, far lower than yours. (it is a classical plaque reduction test, and this is even the titer giving only 50% reduction) Whereas if we use your Euroimmune algorithm, about 1/3 of our samples would have satisfying titers. Of course, we need standards even when using the same Elisa. But there is no reason to believe that our donors would have lower titers than in the UK.



From: (10)(2e) <(10)(2e)@sanquin.nl>
Sent: 12 May 2020 13:58
To: (10)(2e) <(10)(2e)@nhsbt.nhs.uk>
Cc: (10)(2e) <(10)(2e)@ndels.ox.ac.uk>
Subject: virusneutralization assay request

Dear (10)(2e)

Congratulations with your nice paper on the comparison between antibody tests and virusneutralising titers.

We are doing similar comparisons, and one of the most striking differences are the virus neutralizing titers we get back from the virology lab (RIVM).

Only about 10% of our convalescent plasma's had titers > 1: 100, whereas the far majority showed very high OD's in the different ELISA's. Would it be possible to send you some of our sera, to get neutralizing titers in your microneutralisation test? I think only 3 would already be enough.

Another question: I thought all labs were using the same virus strain for the neutralization. But, I now see you are using SARS-CoV-2 isolate England/02/2020. Do you think that will make huge differences? We also should take that into account in our standardization QA rounds. I told the EQM in Strasbourg that everyone was using the same virus and VeroE6 cell-line. We have to discuss that later this week.

I hope you will find some time to answer my mail. We are all very busy...

Best wishes

(10)(2e)

(10)(2e) Dept. Experimental Immunohematology | Sanquin Research, and Landsteiner Laboratory | Academic
Medical Center, University of Amsterdam | Plesmanlaan 125 | 1066 CX Amsterdam | The Netherlands | Tel: (10)(2e) | Fax: (10)(2e)
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