From: s22
To: s22
Cc: s22 KERR, Lisa
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL:Sensitive]
Date: Friday, 22 September 2023 10:58:56 AM
Attachments: image006.png
image012.png
image013.png
image014.png
image016.png
image017.png
image019.png
image020.png
Importance: High

Dear

Hope all is well.

In regard to planning and time frames, my team is currently in the final stages of evaluation for the NUVAXOVID (Novavax) full registration. There are currently a number of post-approval commitments that Novavax have not fulfilled and once the report has been completed it will be sent to Novavax for review and we will be awaiting their responses. Therefore, the timeframe for full registration will depend on Novavax providing acceptable responses to our questions and previous post-approval commitments, and hence the full registration decision for NUVAXOVID is very tentative for mid-October.

As explained in our meeting on Monday, the evaluation for the NUVAXOVID XBB.1.5 application, when submitted, will be more complex than an mRNA vaccine, as NUVAXOVID is a protein-based vaccine with previous issues, such as a batch going out of specification at 6 months prior to the approved shelf life of 9 months which resulted in a recall i s47 Therefore, even if Novavax submitted an application for their XBB.1.5 strain update in end October/early November there is not enough time to evaluate the data comprehensively to present a report for a mid-December ACV.

Therefore, it is **NOT** safe to assume that the NUVAXOVID XBB.1.5 application:

1. delegate approval s47
2. Supply, including for batch testing samples, in s47
3. Batch testing and release by s47 (noting first time testing of new vaccine)

The most optimistic timeframes, assuming no data issues, would be as follows:

1. NUVAXOVID full registration decision s47 assuming Novavax satisfactorily respond to the previous post-approval commitment and questions;
2. NUVAXOVID XBB.1.5 submission s47
3. Assuming the NUVAXOVID XBB.1.5 dossier is complete with no data issues, reports completed s47
4. Tentative ACV s47
5. Supply, including for batch testing samples, in s47 or s47
6. Batch testing and release by late s47

Overall, the schedule should be Pfizer and Moderna XBB.1.5 first, with only the priority

presentations you had indicated in previous correspondence, and Novavax XBB.1.5 later.

-
Please let me know if more information is needed.

Kind regards

s22

---

s22
s22 – Biomedicines Evaluation Section
Laboratories Branch

Medical Devices and Product Quality Division
Therapeutic Goods Administration
Australian Government, Department of Health and Aged Care

Phone: s22
Email: s22 @health.gov.au
Postal: PO Box 100, Woden ACT 2606, Australia

www.tga.gov.au

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From: @Health.gov.au>
Sent: Friday, 22 September 2023 9:21 AM
To: s22 @health.gov.au>; s22 @health.gov.au>; s22 s22 @health.gov.au>; s22 s22 @health.gov.au>
Cc: s22 @Health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 eliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL:Sensitive]
Importance: High

Hi s22 and s22

Happy Friday!

For planning purposes**, and to make sure we/Novavax are not getting to optimistic**, we are just wanting to re-confirm estimated timing of approval/release of their XBB vaccine. We are trying to determine if we roll out all XBB's (Pfizer, Moderna and Novavax) together or Pfizer/Moderna first and Novavax a month or two later.

Assuming full rego decision s47 nd s47 ACV scheduled for their strain update, is it safe to assume:

1. delegate approval s47
2. Supply, including for batch testing samples, in early s47 or late s47
3. Batch testing and release by enc s47 or s47 ? (noting first time testing of new vaccine)

Happy for you to edit my bullet points with your expected timing or discuss if easier.

If you could let me know by noon today that would be appreciated.

Thanks, s22

s22
s22 – Commercial
Vaccine Procurement Branch
National COVID-19 Vaccine Program Division | Health Resourcing Group
Australian Government Department of Health and Aged Care
T: s22 | M: s22 | E s22 @health.gov.au
Location: Scarborough House, Level 1.124 | MDP: 125
PO Box 9848, Canberra ACT 2601, Australia

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From: s22
Sent: Thursday, 7 September 2023 10:09 AM
To: s22 @health.gov.au>; s22 @health.gov.au>; s22 s22 @health.gov.au>
Cc: s22 @Health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

Hey s22 , No worries at all.

Agree pity there isn't any more supplies with a bit more shelf life.

Given DoM is only an extra week we won't seek to have that additional week utilised. The comms involved for only one week isn't worth the benefit.

Keep in touch.

Cheers, s22

From: s22 @health.gov.au>
Sent: Thursday, 7 September 2023 9:42 AM
To: s22 @Health.gov.au>; s22 <s22 @health.gov.au>; s22 @health.gov.au>
Cc: s22 @Health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

Hi s22 and s22

Thanks for keeping us in the loop with this.

It is a shame that there is none anywhere else.
Unfortunately the latest released batch will probably only get you a week of extra shelf life. The DoM was already close to the shelf life start date.

Thanks again,
s22

From: s22 @Health.gov.au>
Sent: Wednesday, 6 September 2023 3:38 PM
To: s22 @health.gov.au>; s22
<s22 @health.gov.au>
Cc: s22 @Health.gov.au>; s22
s22 @health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

Hi s22 ,

For your information only - Novavax has confirmed they have no other supplies of their original Wuhan formulation remaining with shelf life longer than s47

Our last option to buy some time to minimise a break in continuity of Novavax supply is to operate on date of manufacture (DoM). Novavax will advise DoM and we'll consider if worthwhile based on how much additional time this approach provides, if any.

We'll keep you updated.

Reach out anytime if any questions.

Cheers, s22

From: s22
Sent: Friday, 25 August 2023 2:54 PM
To: s22 @health.gov.au>; s22
s22 @health.gov.au>
Cc s.22 @Health.gov.au>; s22
@health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 eliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

H

Sounds good. Let me know when free for 30 mins, shouldn't take that long and I'll get something in the diary

There are no more deliveries of Wuhan coming – they've stopped manufacturing. The next delivery will be s47 n Q s47 of the XBB if regulatory approval. If there is no regulatory approval, we'll amend the Supply Agreement to move that delivery to late Q1 s47 (assuming regulatory approval by then).

s22 we are not asking TGA to also expedite Novavax, rather, would like to explain the implications of a delay in regulatory approval of their XBB submission as a result of their decisions a manufacturer to cease manufacturing their ancestral formulation.

s47 [redacted]

Cheers, s22

From: s22 @health.gov.au>
Sent: Friday, 25 August 2023 2:45 PM
To: s22 @Health.gov.au>
Cc: s22 @Health.gov.au>; s22 s22 @health.gov.au>; s22 @health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

Thanks s22, probably need to have this discussion with evaluation team. I've cc'd her into the loop.

For batch release we are probably OK depending upon the number of changes to the analytical methods (which are likely to be slightly more than for mRNA vaccines but not massively different).

Also noting that our planning suggests there is another batch of Nuvaxovid (Wuhan flavour) coming i s47 s that your understanding?

Kind regards,

s22
s22 **– Biotherapeutics Section**

Medical Devices and Product Quality Division | Health Products Regulation Group
Laboratories Branch
Australian Government Department of Health and Aged Care
T: s22 | E: s22 @health.gov.au
Location: Location: TGA – Yarwan Gawar
Tindal Lane, Canberra Airport

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From: s22 @Health.gov.au>
Sent: Friday, 25 August 2023 2:28 PM
To: s22 @health.gov.au>
Cc: s22 @Health.gov.au>
Subject: RE: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

Hi

Beat me to the email. Here is what I was about to send..

When are you both available next week to discuss? 30 minutes should suffice.

From our perspective, Novavax advised us on s47 that they are no longer manufacturing their ancestral formulation. Our current stock on hand of their ancestral formulation s47

While Novavax has advised they will seek regulatory approval of their new XBB formulation for use as a primary and booster, if it is not approved by early s47 we will not have a protein subunit vaccine in the Program from thereon.

Based on earlier discussions with the TGA, we were anticipating regulatory approval of their new XBB formulation in late calendar quarter s47 early quarter 2 s47

We acknowledge and greatly appreciate that TGA is prioritising evaluation of Pfizer and Moderna's XBB applications, given the stronger business cases for those products with respect to the National COVID-19 Vaccine Program, compared to expediting evaluation of the Novavax XBB vaccine (I note evaluation cannot commence until the type S application has been approved).

We are not asking TGA to also expedite Novavax, rather, would like to explain the implications of a delay in regulatory approval of their XBB submission as a result of their decisions a manufacturer to cease manufacturing their ancestral formulation.

Let me know when free and I'll send a Webex invitation.

Cheers, s22

s22
s22 – **Commercial**
Vaccine Procurement Branch
National COVID-19 Vaccine Program Division | Health Resourcing Group
Australian Government Department of Health and Aged Care
T: s22 | M: s22 | E: s22 @health.gov.au
Location: Scarborough House, Level 1.124 | MDP: 125
PO Box 9848, Canberra ACT 2601, Australia

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From: s22 @health.gov.au>
Sent: Friday, 25 August 2023 2:27 PM
To: s22 @Health.gov.au>
Subject: FW: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL [SEC=OFFICIAL]

H s22
It would be great to get an understanding of the Dept's priorities around Nuvaxovid supply following on from the discussion the other day.

Kind regards,

s22
s22 – **Biotherapeutics Section**

Medical Devices and Product Quality Division | Health Products Regulation Group
Laboratories Branch
Australian Government Department of Health and Aged Care
T: s22 | E: s22 @health.gov.au
Location: Location: TGA – Yarwan Gawar
Tindal Lane, Canberra Airport

The Department of Health and Aged Care acknowledges First Nations peoples as the Traditional Owners of Country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to all Elders both past and present.

From: s22 @biointelect.com>
Sent: Friday, 25 August 2023 1:37 PM
To: s22 @health.gov.au>; s22 @health.gov.au>
Cc: s22 @Health.gov.au>; s22 s22 @Health.gov.au>; s22 @biocelect.com>; s22 s22 @biocelect.com>; s22 @biocelect.com>
Subject: Heads up regarding Nuvaxovid XBB.1.5 planning for Q4 s47 deliveries - Test Methods and Reagents for TGAL

Hi s22 & s22 ,

I am writing to you ahead of our Regulatory team formal communications to let you know the plans we have discussed with the AUS COVID-19 Vaccine Taskforce at our regular fortnightly meetings (s22 & s22 copied for transparency), regarding the next planned AUS deliveries of Nuvaxovid (scheduled for Q4 s47). The slide below was shared with TGA as part of a request for a pre-submission meeting and TGA provided a written response in lieu of a meeting, including some feedback on batch release aspects, noted below.

Biointelect

s47

We have a Type S submission s47 *(the Type S for Novavax monovalent Original)*) currently under TGA evaluation and anticipate the data package for the Nuvaxovid XBB.1.5 variant vaccine to be available for submission to TGA as a strain change application in the second half of s47 pending finalisation of the Type S. TGA have provided a written response to Biocelect regarding Batch Release expectations related to XBB.1.5 as follows:

s47

s47

s47 [redacted]

We are in the process of seeking import permits for the new XBB.1.5 specific reagents (SARS-CoV-2 rS XBB.1.5 assay controls and XBB.1.5 antibodies) associated with the above test methods. As soon as the new Biocelect import permit is available for the XBB.1.5 reagents, Novavax will be ready to ship reagents to TGAL. Would it be helpful to send the test method SOPs as noted above (ahead of the application) for your determination of TGAL requirements / quantity of reagents required etc?

We are hoping that the TGAL activities can proceed in parallel to TGA submission evaluation to align for seamless delivery of Nuvaxovid XBB.1.5 in s47 [redacted]

Looking forward to your response in how Biocelect can assist TGAL for a smooth batch release process as outlined above.

Kind Regards,

s22 [redacted]

Project Management Consultant

Biointelect

Office 3, Level 17, 31 Queen Street, Melbourne, VIC 3000

M s22 [redacted] **T** s.22 [redacted] @biointelect.com

biointelect.com Sydney | Melbourne

I acknowledge and pay my respects to the traditional owners and custodians on whose land I walk, work & live

s22

Document 2

s22

Document 2

s22 [redacted]

From: GARRETT, Trish <Trish.Garrett@health.gov.au>
Sent: Monday, 10 January 2022 5:23 PM
To: SKERRITT, John <John.Skerritt@health.gov.au>
Subject: request re media release: Novavax [SEC=OFFICIAL]

Hi John

s22 in MO is looking for whomever in your team is writing the talking points or media release for the approval. Can you let me know who – and I will connect with them?

I've had an approach from Novavax about the words they might use:
Currently proposed wording is:

Novavax and the Commonwealth of Australia announced an advance purchase agreement (APA) for 51 million doses of Novavax' COVID-19 vaccine in January 2021. The first shipment to Australia is expected in the coming month.

Happy to discuss
Trish

From: s22 [redacted] @health.gov.au>
Sent: Monday, 10 January 2022 5:17 PM
To: s22 [redacted] @nexusapac.com.au>; GARRETT, Trish <Trish.Garrett@health.gov.au>
Cc: s22 [redacted] @Health.gov.au>; s22 [redacted] @health.gov.au>
Subject: Novavax [SEC=OFFICIAL]

Hi Trish

Can you please add the relevant people from TGA to discuss alignment of messaging if the TGA approval is provided this week. Including wording for the media release.

s22 - please add the relevant people from your side.

Thanks
s22 [redacted]

Sent from Workspace ONE Boxer

[SEC=OFFICIAL]

From: s22
To: s22
Cc: ATAGI COVID19 WG; s22 ; s22
Subject: RE: ATAGI exec seeking additional information from Novavax [SEC=OFFICIAL]
Date: Tuesday, 18 January 2022 9:45:27 AM
Attachments: image001.png

Good morning s22

The following two documents to the Novavax Vaccine Data folder on GovTeams:

- excerpt - Response to EMA's Rolling Review 3 Assessment Report - Clinical Comments
- Novavax vaccine - myocarditis AE

Please let me know if you have any issues accessing these.

Kind regards,

s22

s22 – Applications & Advisory Management

Medicines Regulation Division | Health Products Regulation Group
Australian Government Department of Health
T: s22 | E: s22 @health.gov.au
Location: Symonston ACT
PO Box 100, Woden ACT 2606, Australia

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From: s22 @health.gov.au>
Sent: Monday, 17 January 2022 5:49 PM
To: s22 @health.gov.au>
Cc: s22 @health.gov.au>
Subject: RE: ATAGI exec seeking additional information from Novavax [SEC=OFFICIAL]

Hi s22

Just following up on the below

Thanks,

s22
ATAGI COVID-19 Working Group Secretariat
Medical Policy and ATAGI Branch
National COVID Vaccine Taskforce

T: s22 | E s22 @health.gov.au |
Location: Scarborough House Lvl 8

GPO Box 9848, Canberra ACT 2601, Australia
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---

From: s22
Sent: Friday, 14 January 2022 9:21 AM
To: s22 @health.gov.au>
Cc: ATAGI COVID19 WG s22 @health.gov.au>; s22 s22 @Health.gov.au>;s22 @health.gov.au>
Subject: RE: ATAGI exec seeking additional information from Novavax [SEC=OFFICIAL]

Many thanks s22 for following this up.

Please note s22 so please contact s22 and s22 (and the group mailbox – all copied here) in relation this.

Kind regards
s22

s22

From: s22 @health.gov.au>
Sent: Thursday, 13 January 2022 5:46 PM
To: s22 @Health.gov.au>
Cc: ATAGI COVID19 WG <s22 @health.gov.au>; s22 s22 @Health.gov.au>;s22 @health.gov.au>
Subject: RE: ATAGI exec seeking additional information from Novavax [SEC=OFFICIAL]

Hi s22

The information on myocarditis/pericarditis for Novavax is contained in the company's response to the EMA's review (a copy was provided to TGA).
I'm not clear if the sponsor agreement to share data with ATAGI extends to this particular document - let me check and get back to you.

Thanks,
s22

s22

s22 - COVID-19 vaccine and treatment regulation

Medicines Regulation Division | TGA
Prescription Medicines Authorisation Branch
Australian Government Department of Health
T: s22 | E: s22 @health.gov.au
Location: TGA, 136 Narrabundah Lane, Symonston ACT 2609

c/- PO Box 100, Woden ACT 2606, Australia

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From: s22 @Health.gov.au>
Sent: Thursday, 13 January 2022 5:13 PM
To: s22 @health.gov.au>
Cc: s22 @health.gov.au>; ATAGI COVID19 WG <s22 @health.gov.au>; s22 <s22 @Health.gov.au>; s22 @health.gov.au>
Subject: FW: ATAGI exec seeking additional information from Novavax [SEC=OFFICIAL]

Hi s22

Forwarding this to you in s22 absence.

Thank you
s22

s22

From: s22
Sent: Thursday, 13 January 2022 5:10 PM
To: s22 @health.gov.au>; s22 @health.gov.au>
Cc: ATAGI COVID19 WG s22 @health.gov.au>; s22 s22 @Health.gov.au>; s22 @health.gov.au>
Subject: ATAGI exec seeking additional information from Novavax [SEC=OFFICIAL]

Hi s22 and s22

s22 suggested I contact you for assistance.

The ATAGI COVID-19 Working Group Executive has asked that we chase additional information from Novavax about the handful of people who experienced myocarditis/pericarditis after the Novavax vaccine. They're after the details of these cases.

Are you able to assist? Do you have that information already? If not, are you able to reach out to Novavax to request this information?

Many thanks and happy to discuss.

s22

Ps. s22 , so have copied in the team mailbox and some colleagues here to progress in my absence.

s.22
s22 | ATAGI Section
Medical Policy and ATAGI Branch
National COVID Vaccine Taskforce

T: s22 | E: s22 @health.gov.au
Location: Scarborough House Lvl 8
GPO Box 9848, Canberra ACT 2601, Australia

s22

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RESPONSE TO EMA'S ROLLING REVIEW 3 ASSESSMENT REPORT

TABLE OF CONTENTS

Participant s.47F (2019nCoV-302 study)

Subject number:	s.47F
Subject demographics:	s.47F
Vaccine group:	NVX-CoV2373
Date of first dose of study vaccine:	s.47F + 47
Date of second dose of study vaccine:	
Adverse event (AE):	Systemic reaction
Relationship of AE to study vaccine:	s.47

Subject s.47F was a s.47F from the s.47F. He experienced an SAE of systemic reaction on s.47F + 47 after receiving both doses of NVX-CoV2373. On s.47F + 47, approximately s.47F + 47 after receiving the first dose of NVX-CoV2373 and s.47F + 47 after receiving the second dose, the subject experienced a systemic reaction. After the initial report, the AE was subsequently changed to an event of fatigue and myalgia. The investigator assessed the event of systemic reaction as mild in intensity and s.47 to NVX-CoV2373. The investigator was blinded at the time of the causality assessment. It is important to note the subject had no significant medical history of *systemic reaction*. The subject was on no concomitant medications.

7 OTHER CONCERNS

7.1 Risk management plan

7.1.1 Safety specification

82. With regards to the safety specifications, it is considered that myocarditis should be included as a safety concern (potential important risk). Further, it is considered that anaphylaxis should be removed from the list of potential important risks.

Applicant Response:

Anaphylaxis

The Applicant agrees and has removed anaphylaxis from the list of potential important risks.

Myocarditis

While myocarditis/pericarditis has been recognized as a rare complication of COVID-19 mRNA vaccinations, no other COVID-19 vaccines have been found to be associated with myocarditis. The current strength of evidence for NVX-CoV2373 also does not suggest that a causal association between NVX-CoV2373 and myocarditis exists. No evidence of myocarditis has been observed in NVX-CoV2373 nonclinical studies. In the pooled pre-crossover, placebo-controlled clinical data, the incidence of myocarditis between active vaccine and placebo arms are similar and the incidence of myocarditis cases that have occurred post-crossover when all participants have been exposed to NVX-CoV2373 occur

within the expected background rates that have been calculated from ACCESS data [Willame 2021]. A more detailed summary follows below.

Case Ascertainment

For the purposes of this current analysis through the data lock point (DLP) of s.47F + 47, the case definitions from the Brighton Collaboration (BC) have been adopted to confirm the diagnosis and properly identify such cases. The most recent version myocarditis case definition s.47F + 47 is available at: *https://brightoncollaboration.us/wp-content/uploads/2021/07/BC-Myocarditis-CD_7-15-2021_FINAL.xlsx* and the most recent version pericarditis case definition s.47F + 47 is available at: *https://brightoncollaboration.us/wp-content/uploads/2021/07/BC-Pericarditis-CD-7-15-2021_FINAL.xlsx*. s.47 (participants) with s.47 were identified using BC criteria, with s.47 occurring in Clinical Study 2019nCoV-301 and s.47 occurring in Clinical Study 2019nCoV-302. s.47 reported both myocarditis and pericarditis (Clinical Study 2019nCoV-301). s.47 received two doses of placebo (Clinical Study 2019nCoV-301). In addition, there was s.47 of viral myocarditis in Part 2 of Clinical Study 2019nCoV-101 that occurred s.47 after receipt of the second dose of NVX-CoV2373 but did not meet BC criteria and is not included as a case. Narrative summaries of these events are presented in below under Additional Information.

s.47 cases of myocarditis were included in the submission of Module 2.5 Clinical Overview s.47 utilizing the Integrated Safety Summary (ISS) tables with a data cut-off of the interim reports for the respective clinical studies; s.47 occurred in participants who received NVX-CoV2373 vaccine (s.47F and s.47F) and s.47 occurred in a participant who received placebo (s.47F) (reference Table 23 of Module 2.5 Clinical Overview).

Three additional cases were subsequently reported following submission as of the data cut-off date of s.47F + 47; all occurred during the post-crossover period. These cases included s.47 participants with s.47 s.47F + 47

Comparative Analysis Between Active Vaccine and Placebo Arms

Of the myocarditis cases that occurred in the placebo-controlled phases of the clinical development program, no imbalance in myocarditis was observed. In this placebo-controlled safety dataset, 30,058 participants received active vaccine and 19,892 participants received placebo. In this dataset, myocarditis occurred in 2 (0.007%) participants who received NVX-CoV2373 compared to 1 (0.003%) participant who received placebo. There was no RD when evaluated with an exposure-adjusted IR/100 PY: NVX-CoV2373 0.03 events/100 PY compared to placebo 0.02 events/100 PY with an RD of 0.00 (-0.06, 0.07).

Observed to Expected Analysis Post-Crossover

Three participants reported myocarditis in the post-crossover phase of Clinical Studies 2019nCoV-301 and 2019nCoV-302. Because a controlled comparison to placebo was not possible after crossover, a background rate of myocarditis was determined utilizing the ACCESS database. The incidence rate of myocarditis or pericarditis reported in inpatient and outpatient settings ranged from 11.01 to 31.61 per 10,000 patient years. The expected number of cases of myocarditis/pericarditis, as calculated based on these background rates, ranged from 1.6 to 4.6 cases/14,513 person years post-crossover, within range of the observed rate of 3 cases/14,513 person years.

Assessment of Individual Cases

Alternative causes were attributed in all of the 5 cases of myocarditis that occurred after NVX-CoV2373 administration, including reasonable infectious etiologies in all cases and additional non-infectious etiology in 1 case:

A tabular summary (Table 39) and narratives for each of the myocarditis cases is contained below under Additional Information.

Conclusion:

Based on the strength of evidence that includes an analysis of the comparison between arms in the placebo-controlled phases of the clinical development program, the observed and expected incidence in the post-crossover phase, and the evaluation of individual cases, myocarditis is not considered a potential risk with NVX-CoV2373.

Additional Information: Case Summaries and Narratives

Table 39: Myocarditis and/or Pericarditis Cases

Study	Participant ID	Age (years)	Gender	Serious Criteria	Preferred Term	Time to Onset Since Last Active Dose (Days)	Dose #	Alternative Etiology
301	s.47F + 47				Myocarditis	s.47F + 47		
302					Myocarditis			
301					Myocarditis			
301					Pericarditis and Myocarditis			
301					Myocarditis			
302					Pericarditis			

Abbreviations: CO = crossover; H = hospitalization; ID = identification; IME = important medical event; ISS = Integrated Summary of Safety; NA = not applicable (non-serious event).

*Included in the initial ISS tables.

- s.47F **(Myocarditis;** s.47F **; Clinical Study 2019nCoV-301; NVX-CoV2373):** This s.47F + 47 with a medical history of s.47F + 47, s.47F + 47 7 days after the first dose of NVX-CoV2373; s.47F + 47 28 days after the first dose of NVX-CoV2373. s.47F + 47 Repeat COVID PCR tests s.47F + 47 At this time, the event has not resolved. The investigator's causality assessment was not related. The Applicant assessed the event as not related to NVX-CoV2373 and attributable to COVID-19.

- s.47F **(Myocarditis;** s.47F **; Clinical Study 2019nCoV-302; NVX-CoV2373):** s.47F + 47 [redacted] after receiving the second dose of NVX-CoV2373; the symptoms resolved after treatment with paracetamol and ibuprofen. Two days after receiving the second study vaccine, during a follow-up visit, mild headache was still present and COVID test was negative. s.47F + 47 [redacted]

  The event was considered resolved with s.47 [redacted] 20 days since onset of chest pain. The investigator's causality assessment was s.47 [redacted].

  The Applicant assessed the event as not related to NVX-CoV2373. Although the event occurred in temporal relation to administration of NVX-CoV2373, myocarditis is an inflammatory reaction that often follows an infectious syndrome, which may have gone unrecognized in this s.47F + 47 [redacted]

- s.47F **(Myocarditis;** s.47F **; Clinical Study 2019nCoV-301; Placebo):** s.47F + 47 [redacted]

  The Applicant assessed the event of myocarditis as not related to the Placebo.
  s.47F + 47 [redacted]

- s.47F **(Myocarditis and Pericarditis;** s.47F **; Clinical Study 2019nCoV-301; Crossover with NVX-CoV2373):** s.47F + 47 [redacted]

The Applicant assessed the events as not related to the study vaccine. s.47F + 47 [redacted]

- s.47F [redacted] **(Myocarditis;** s.47F [redacted] **; Clinical Study 2019nCoV-301; Crossover with NVX-CoV2373):** s.47F + 47 [redacted]

The Applicant assessed the event of myocarditis as not related to NVX-CoV2373. Myocarditis is an inflammatory condition of the myocardium that often follows an infectious syndrome. s.47F + 47 [redacted]

- s.47F **(Pericarditis;** s.47F **; Clinical Study 2019nCoV-302; Crossover with NVX-CoV2373):** s.47F + 47

The Applicant assessed the event as not related to the NVX-CoV2373. s.47F + 47

- s.47F **(Viral pericarditis;** s.47F **; Part 2 of Clinical Study 2019nCoV-101; NVX-CoV2373):** s.47F + 47

s.47F + 47

The Applicant assessed the event of viral pericarditis as not related to NVX-CoV2373.

s.47F + 47

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Novavax COVID-19 vaccine

Following are the details of myocarditis cases reported during the trials.

Myocarditis and/or Pericarditis Cases

Study	Participant ID	Age (years)	Gender	Serious Criteria	Preferred Term	Time to Onset Since Last Active Dose (Days)	Dose #	Alternative Etiology
301	s.47F + 47				Myocarditis	s.47F + 47		
302					Myocarditis			
301					Myocarditis			
301					Pericarditis and Myocarditis			
301					Myocarditis			
302					Pericarditis			

Abbreviations: CO = crossover; H = hospitalization; ID = identification; IME = important medical event; ISS = Integrated Summary of Safety; NA = not applicable (non-serious event).

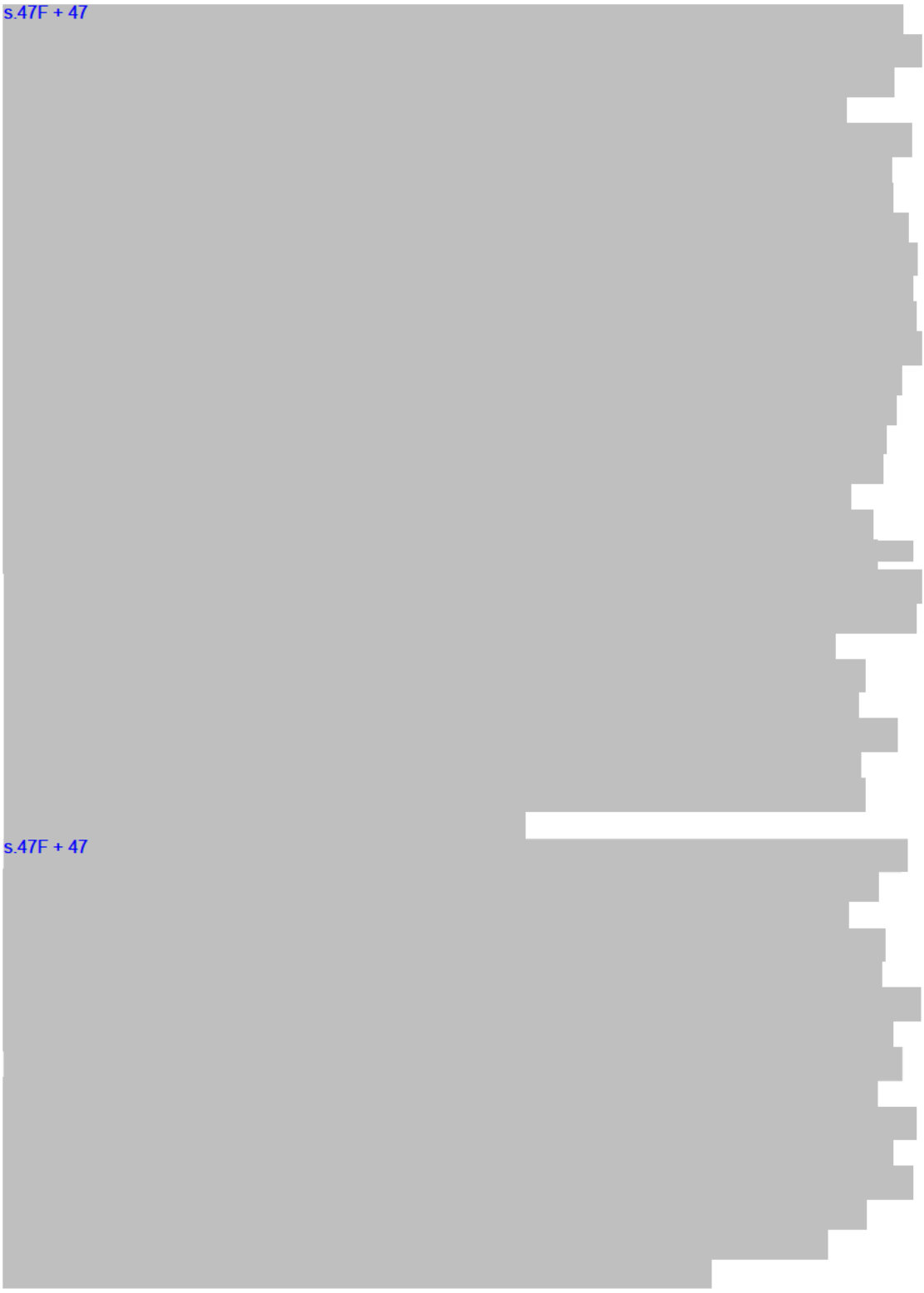
*Included in the initial ISS tables.

Source: Table 39 (Final responses to EMA Clinical Comments rolling review 3 in e005931 [0011] 1.11.4 -- excerpt provided separately).

Narrative summaries for the 5 participants summated in above table(5 vaccine group and 1 placebo) and the additional case from the Phase 1 study(**not** in the above table) are as following:

- s.47F + 47
- s.47F + 47

s.47F + 47



- s.47F + 47

[1] See https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002554/Weekly_COVID-19_and_Influenza_Surveillance_Graphs_w28.pdf (accessed 10/12/2021).
[2] See https://www.cdc.gov/vaccines/acip/work-groups-vast/report-2021-05-17.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fvaccines%2Facip%2Fwork-groups-vast%2Ftechnical-report-2021-05-17.html (accessed 10/12/2021).
[3] See https://www.who.int/news/item/26-05-2021-gacvs-myocarditis-reported-with-covid-19-mrna-vaccines (accessed 10/12/2021).

- s.47F + 47 [redacted]
- s.47F + 47 [redacted]
- s.47F + 47 [redacted]