Scientific Update by CureVac Representatives to Member State Experts

Nominated by the Steering Board

17 November 2020

15:00 – 16:00 CET

Subject: CureVac's mRNA based vaccine candidate CVnCoV against SARS-CoV2 – Pre-Clinical and Clinical Development Data Update

The Chair opened the meeting and welcomed all participants, the representatives of CureVac and the experts nominated by the Steering Board +

CureVac provided the update as per the pre-read slides, highlighting that the selected dose of

The Chair opened the Q&A session.

asked whether the Th1 response indicates TNF (Tumour Necrosis Factor) and interferon gamma presence. CureVac replied that measurement of Th1 and Th17 responses is currently established (data forthcoming).

further enquired about the meaning of in the immunogenicity analysis. CureVac replied that they refer to .

asked, with reference to whether the lower reactogenicity in the cohort aged 60+ was due to less immune activity by T and B cells in the elderly or owing to another factor. CureVac confirmed, replying that subjects in the 18-60 years of age group also have a lower reactogenicity, possibly due to their geographical

location. It should be borne in mind that the results originate in a Phase I study, where the requirement to report events in a stringent manner prevails.

[redacted] enquired about the start of the trial with prophylactic paracetamol. CureVac replied that they [redacted].

[redacted] asked whether the elderly would be divided into groups based on the threshold of 60 or 70 years of age. CureVac replied that they are running presently two groups: 18-60 years of age and 61+. In the HERALD Phase IIb/III study (six countries in Latin America, Germany, France, Netherlands, Spain and Belgium) also older participants are enrolled.

A further question concerned data in vulnerable, immune-suppressed individuals. CureVac explained that subjects with comorbidities are indeed included.

[redacted] enquired whether the trials are overlapping with the administration of the flu vaccines (i.e. whether roll-out is concomitant). CureVac replied that this data would come later.

[redacted] asked about specific requirements for syringes and whether polycarbonate syringes could be used. CureVac explained that polycarbonate is a very rough material, which does not slip so easily. Manufacturers often include silicon oil, which might interfere with the lipid. Therefore, such syringes would need to be avoided. [redacted].

[redacted] enquired about paediatric studies. CureVac replied that the protocol is under validation and the start date [redacted].

[redacted] asked about the underlying reasons for the cold chain management being different in the case of CureVac compared to the other mRNA vaccine candidates. CureVac replied that this is indeed a striking difference compared to the other vaccines. [redacted].

[redacted] enquired what percentage of participants with comorbidities would be enrolled in Phase III trials. CureVac replied that the latter are included and a specific study is also targeted for patients with diabetes, for obese patients and for subjects with severe cardiac disease who might not be recruited so easily.

[redacted] asked whether anything is known on the "stability" or persistence of vaccine mRNA *in vivo* and whether this has been studied in animals. [redacted] further enquired for how long the antigen is being produced, and by which cell types. CureVac replied that they have been studying the stability very carefully. [redacted]

[redacted] enquired whether CureVac plan studies concerning the booster effects for subjects that already received another vaccine dose, since other vaccines entered Phase III clinical trials by now. The company replied that it is hard to have such data but that they could make the vaccine work on boosters as well.

[redacted] asked whether CureVac plan to test for antibodies before administering the vaccine in some or in all the subjects in the trial. [redacted] asked whether there was any relationship to be found between seropositive vaccinees and reactogenicity. CureVac explained that they proactively included subjects known to be seropositives to ensure that the reactogenicity profile would be similar. These showed lower reactogenicity than other vaccinees; a boost effect was observed. A further question was asked regarding the duration of the cellular or humoral immunity. [redacted]

[redacted] enquired whether CureVac already had the regulatory approvals to start Phase III CTs and whether they could be more specific in terms of potential approval for the vaccine, [redacted]. CureVac replied that they would be applying in [redacted] for conditional marketing authorisation.

[redacted] asked whether CureVac could comment on the interpretation of the findings that a tendency to a reduction in Upper Respiratory tract Infections (URI) was found after the viral challenge. [redacted] enquired whether the implication was that transmission would not be blocked after vaccination. In terms of prevention of viral transmission, [redacted] asked whether the viral load in nose and throat is being evaluated during follow-up in a subgroup of participants in the Phase III study. [redacted] remarked that it seems that the preclinical study did not prevent virus in nose and throat. CureVac replied that PCR tests are being performed and that the impact of transmission cannot be predicted. If a level of vaccination of [redacted]% is reached, there is widespread agreement amongst epidemiologists that this coverage should be sufficient for the vaccination campaign. [redacted]

[redacted] enquired about studies in pregnant women and vaccination in CoV2 positive individuals. CureVac replied affirmatively – it is envisaged.

[redacted] asked how advanced CureVac was regarding the 16µg and 20µg groups. These studies were still ongoing but the selected dose for Phase III was 12µg.

[redacted] thanked CureVac for explaining the *in vivo* mRNA fate and protein expression. Upon request, CureVac provided the reference[1]. The full study published in the peer-reviewed journal *Nature Partner Journals Vaccines* can be found here.

The Chair thanked CureVac and all experts for their independent views and expertise and highlighted the usefulness of this informative meeting as a platform for exchange. The Chair thanked all for their participation and active involvement and closed the meeting.

Participants

CureVac:

[redacted] Managing [redacted]

[redacted] Technology Officer

[redacted] Infectious Diseases

[redacted] COVID-19 Programme Lead

[redacted] Area Head Infectious Diseases

[redacted] Supervisory Board

Member States:

[redacted] (AT)

[redacted] (AT)

[redacted] (AT)

[redacted] (AT)

[redacted] (AT)

[redacted] (BE)

[redacted] (BG)

[redacted] (CZ)

[1] https://www.biospace.com/article/releases/publication-in-npj-vaccines-demonstrates-curevac-s-rnactive-vaccine-is-superior-to-licensed-vaccines/


(CZ)


(CY)


(CY)


(DE)


(DE)


(DK)


(DK)


(DK)


(EL)


(EL)


(ES)


(ES)


(FR)


(HR)


(HR)


(HU)


(HU)


(HU)


(IE)


(IE)


(IE)


(IE)


(IE)


(IT)


(IC)


(LT)


(LT)


(LU)


(LU)

[redacted] (LV)

[redacted] (NL)

[redacted] (NL)

[redacted] (PT)

[redacted] (PT)

[redacted] (PT)

[redacted] (NO)

[redacted] (NO)

[redacted] (RO)

[redacted] (SE)

[redacted] (SK)

[redacted] (SI)

[redacted] (SI)

[redacted] (SI)

European Commission:

[redacted] (EC, Chair)

[redacted] (EC)

[redacted] (EC)

[redacted] (EC)

[redacted] (EC)

[redacted] (EC)

[redacted] (EC)

[redacted] (EC, Minutes)