

FOI 23/243 – whether Graphene oxide is used in Pfizer Covid-19 vaccines

REQUEST

3 April 2023

I would like to ask again under the freedom of information is graphene oxide used in the manufacture of Mrna vaccines (specifically Pfizer vaccines)

Link here from the Pfizer documents dated 7th April 2020 to 19th August
https://phmpt.org/wp-content/uploads/2023/02/125742_S1_M4_4.2.1-vr-vtr-10741.pdf

MHRA RESPONSE

5 May 2023

Dear

Thank you for your email.

The text to that you refer in your request, relates to sample preparation for cryo-EM (electron microscopy), and does not relate to components of the vaccine. This is described in the conclusion section which mentions.

*“Protein expressed from DNA with the BNT162b2-encoded P2 S amino acid sequence was confirmed to be in the prefusion conformation by **cryo-EM**. This analysis showed that the antigenically important RBD can assume the ‘up’ conformation, with the receptor binding site, rich in neutralizing epitopes, accessible in a proportion of the molecules (Zost et al, 2020).”*

The graphene is not associated with the vaccine product in anyway, rather graphene is a material used to support the biological sample to aid with imaging 3-D structures using electron microscopy. In a similar manner to how a glass slide on a microscope is separate from the sample being studied.

There is no graphene oxide in any of the authorised vaccines, a list of excipients in each vaccine is available in the Information for Healthcare Professionals for that vaccine. These documents can be found at the following link: [Regulatory approval of Pfizer/BioNTech vaccine for COVID-19 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/91222/Regulatory_approval_of_Pfizer_BioNTech_vaccine_for_COVID-19_-_GOV.UK.pdf)
[Regulatory approval of Vaxzevria \(previously COVID-19 Vaccine AstraZeneca\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/91222/Regulatory_approval_of_Vaxzevria_(previously_COVID-19_Vaccine_AstraZeneca)_-_GOV.UK.pdf)
[Regulatory approval of COVID-19 Vaccine Moderna - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/91222/Regulatory_approval_of_COVID-19_Vaccine_Moderna_-_GOV.UK.pdf)

Companies must disclose the active substance/s and all excipients as is detailed in the Human Medicines Regulations 2012.