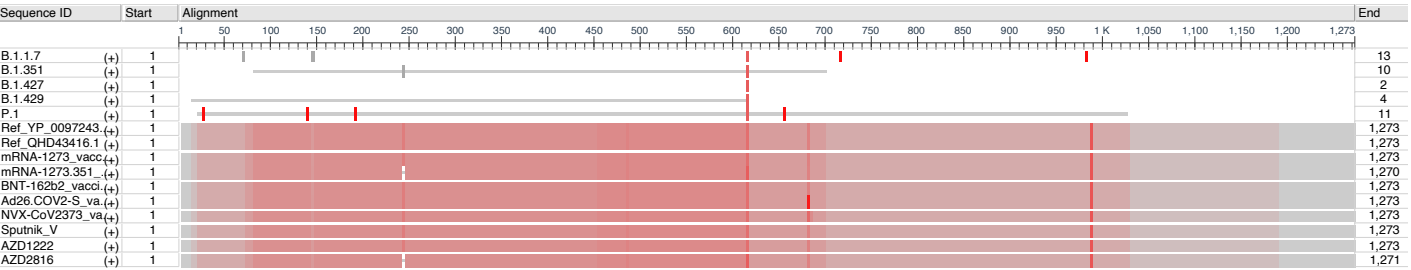
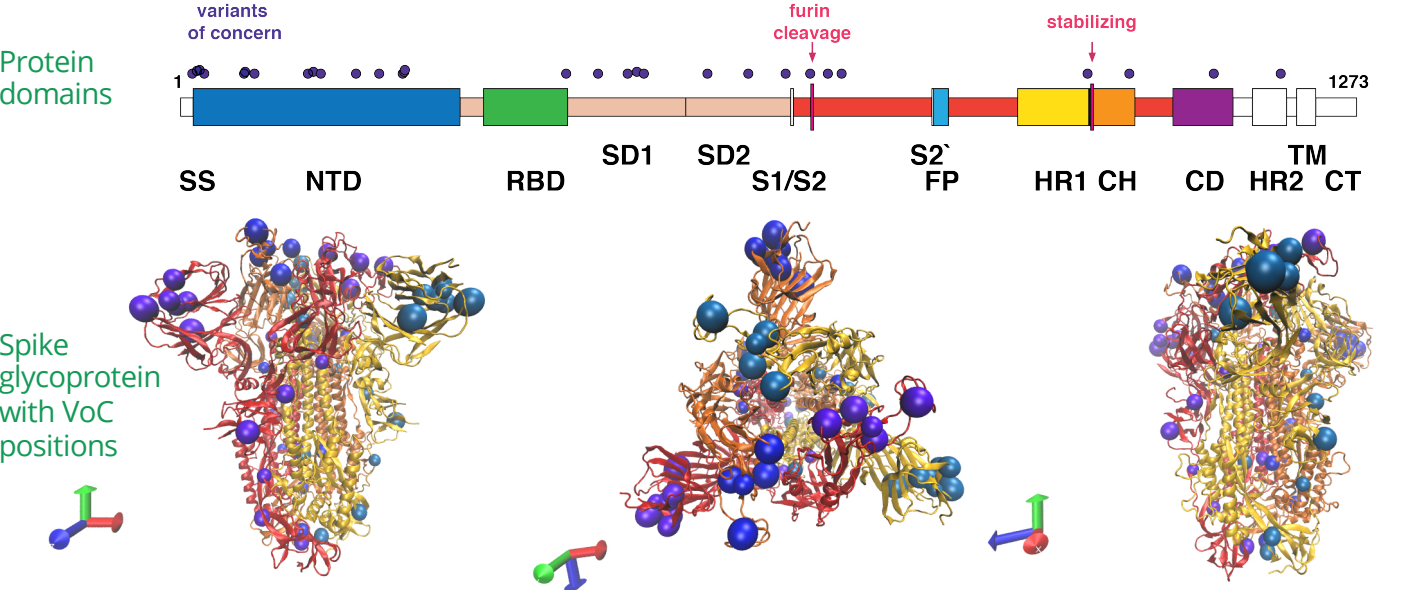


Alignment of vaccine genetic sequences & SARS-CoV-2 variants-of-concern (VoC)



Protein domains



Spike glycoprotein with VoC positions

Vaccine genetics and delivery summarized

mRNA-1273

- Genetics: p.(Lys986_Val987delinsProPro) - stabilizing x2 (PP)
- Delivery: Lipid-nanoparticle

Moderna

mRNA-1273.351

- Genetics: p.(Lys986_Val987delinsProPro) - stabilizing x2 (PP)
- Genetics: Variants from strain B.1.351; L18F, D80A, D215G, 242-244del, R246I, K417N, E484K, N501Y, D614G, A701V
- Delivery: Lipid-nanoparticle

Moderna

mRNA-1273.211

- A 1:1 mix of mRNA-1273 and mRNA-1273.351

Moderna

BNT162b2

- Genetics: p.(Lys986_Val987delinsProPro) - stabilizing x2 (PP)
- Delivery: Lipid-nanoparticle

Pfizer/BioNTech

Ad26.COVS-2

- Genetics: p.[Arg682Ser;p.Arg685Gln] - furin cleavage x2 (SRAG)
- Genetics: p.(Lys986_Val987delinsProPro) - stabilizing x2 (PP)
- Delivery: Adenovirus vector (Ad26)

Janssen/Johnson & Johnson

NVX-CoV2373

- Genetics: p.[Arg682_Arg683delinsGlnGln;Arg685Gln] - furin cleavage x3 (GGAG)
- Genetics: p.(Lys986_Val987delinsProPro) - stabilizing x2 (PP)
- Delivery: Lipid-nanoparticle, baculovirus expression cultured in Sf9

Novavax

Sputnik V

- Genetics: "unmodified" full-length S-protein
- Genetics: No reference sequence found
- Delivery: Adenovirus vectors (Ad26 dose 1) and (Ad5 dose 2)

Gamaleya Research Inst

CVnCoV

- Genetics: p.(Lys986_Val987delinsProPro) - stabilizing x2 (PP)
- Delivery: Lipid nanoparticle-encapsulated mRNA.

Curevac

AZD1222

- Genetics: Unmodified S protein, ref MN908947
- Delivery: Adenovirus vector (ChAdOx1).

AstraZeneca

AZD2816 modified MN908947 with variants from B.1.351

- Genetics: Unmodified S protein, ref MN908947
- Genetics: Variants from strain B.1.351; 18F, D80A, D215G, 242-243del, K417N, E484K, N501Y, D614G, A701V.
- Delivery: Adenovirus vector (ChAdOx1).

AstraZeneca