

Two-strain booster vaccine

Moderna's bivalent coronavirus vaccine contains two components which attack both the original strain of the virus and the Omicron variant with antibodies and immune response cells

SARS-CoV-2 virus

Spike protein:

Binds to ACE2* receptor to enable virus to enter cells and initiate infection

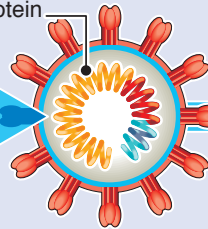
Omicron:

Variants harbour mutations in spike protein which increase infectivity

Synthetic mRNA†: Includes code to produce virus spike protein for original virus and Omicron variant

Human cell

Viral genome: Contains instructions for making protein



ACE2 receptor

mRNA†: Packed in lipid nanoparticles

Microscopic oily droplets stop body's enzymes from breaking mRNA down

Human cell

Antibodies

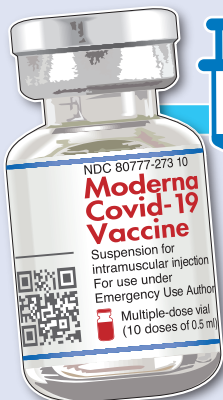
Protein

T cells

Synthetic RNA

Response in human cell:

mRNA temporarily produces spike proteins of both original virus and Omicron variant. **Body will then recognise these proteins as foreign, produce antibodies and activate T cells to attack**



*angiotensin-converting enzyme 2 †messenger ribonucleic acid

Sources: Bloomberg, European Medicines Agency, Financial Times, Nature

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