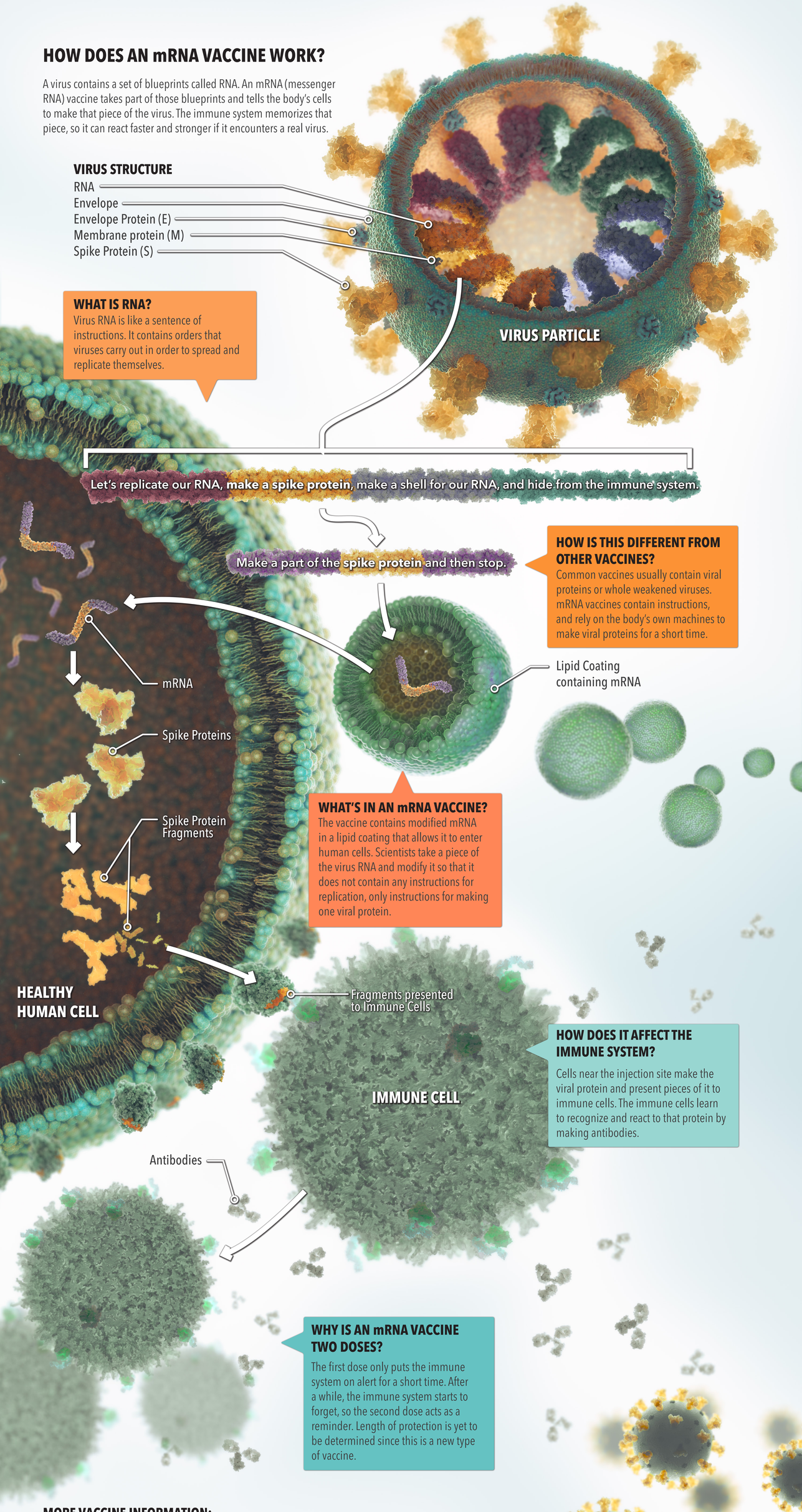
HOW DOES AN mRNA VACCINE WORK?

A virus contains a set of blueprints called RNA. An mRNA (messenger RNA) vaccine takes part of those blueprints and tells the body's cells to make that piece of the virus. The immune system memorizes that piece, so it can react faster and stronger if it encounters a real virus.



WHAT IS RNA?

Virus RNA is like a sentence of instructions. It contains orders that viruses carry out in order to spread and replicate themselves.

HOW IS THIS DIFFERENT FROM OTHER VACCINES?

Common vaccines usually contain viral proteins or whole weakened viruses. mRNA vaccines contain instructions, and rely on the body's own machines to make viral proteins for a short time.

WHAT'S IN AN mRNA VACCINE?

The vaccine contains modified mRNA in a lipid coating that allows it to enter human cells. Scientists take a piece of the virus RNA and modify it so that it does not contain any instructions for replication, only instructions for making one viral protein.

HOW DOES IT AFFECT THE IMMUNE SYSTEM?

Cells near the injection site make the viral protein and present pieces of it to immune cells. The immune cells learn to recognize and react to that protein by making antibodies.

WHY IS AN mRNA VACCINE TWO DOSES?

The first dose only puts the immune system on alert for a short time. After a while, the immune system starts to forget, so the second dose acts as a reminder. Length of protection is yet to be determined since this is a new type of vaccine.

MORE VACCINE INFORMATION:

cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html
fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines

High Impact® Visual Media Redefined™ highimpact.com