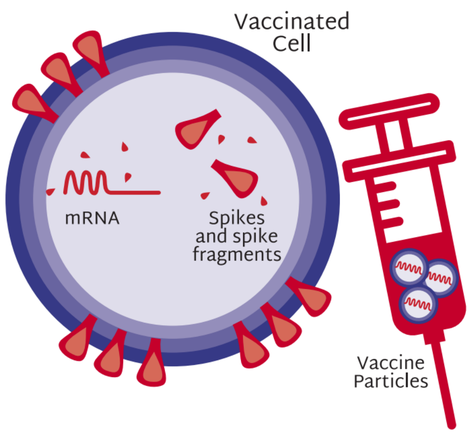
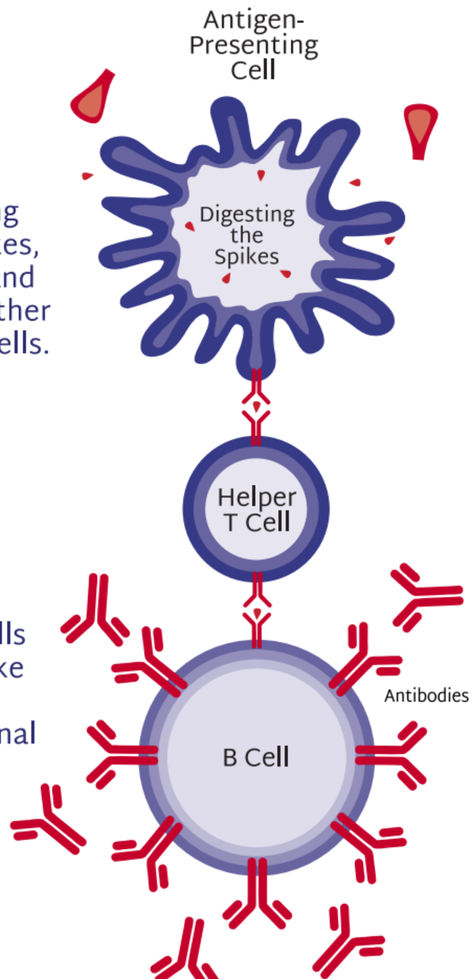
How Do mRNA-Based COVID-19 Vaccines Work?

mRNA-based COVID-19 vaccines deliver instructions for making SARS-CoV-2 spike proteins into cells. The spikes that cells make drift to the cell's surface.

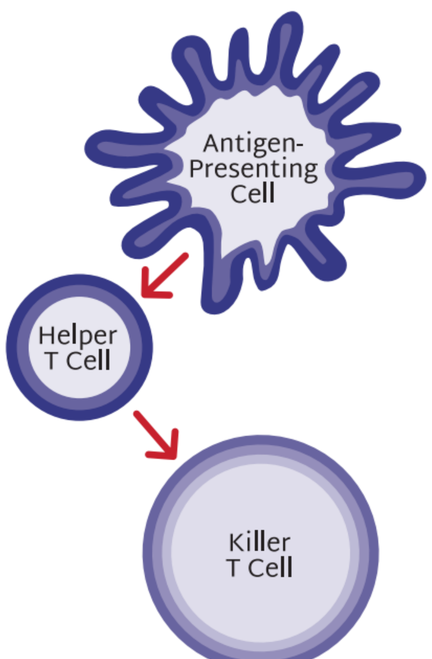


Antigen-presenting cells spot the spikes, gobble them up, and display them to other immune system cells.

When helper T cells recognize the spike fragments, they switch on and signal B cells to make antibodies.



Helper T cells also signal killer T cells to destroy SARS-CoV-2 infected cells.



Adapted from: https://www.nytimes.com/interactive/2020/health/moderna-covid-19-vaccine.html

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