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Explain It: mRNA

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See *Explain It*

mRNA

'em-är-en-ā

Anna Zinovyeva, assistant professor of biology in the College of Arts and Sciences, studies gene expression and RNA biology. Zinovyeva explains, in fewer than 100 words, what mRNA is and why revolutionary mRNA vaccines are so important during the COVID-19 pandemic.

mRNA, short for messenger RNA, is a molecule produced based on the instructions encoded by DNA, or genes. mRNA molecules serve as templates for making final gene products, or proteins. The proteins then go on to perform various functions inside our cells. mRNA vaccines take advantage of the fact that cells can rapidly produce the protein encoded by the mRNA sequence, bypassing the need for pharmaceutical protein production. An mRNA-based vaccine delivers mRNA “instructions” into our cells, triggering production of a portion of a viral protein, such as the spike protein of SARS-CoV-2. That activates an immune response.

See page 8 to read more about research related to COVID-19.

