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The Next Generation of mRNA Vaccines is Coming

An interview with **Anna Blakney**, Assistant Professor, University of British Columbia
UBC School of Biomedical Engineering

As many people have known from the past two years now with the COVID-19 pandemic, mRNA vaccines have had a great year with two vaccines being approved. So what my laboratory does is think about, where is this going? How do we make RNA vaccines even better? Apply it to different disease indications and think about different applications that RNA can fulfill a niche for.

As well, the point of a vaccine is to train your immune system to recognize a foreign pathogen — a virus or bacteria — without ever having seen that pathogen. The way we normally train your immune system is so that it recognizes a protein on the surface of that virus. So for COVID it's the spike protein on the surface of the virus. We can give it the protein itself, we could give it the inactivated virus, or we could use mRNA technology.

The way that mRNA technology works is that instead of producing the protein in large-scale bioreactors, which requires a lot of time and resources, we're able to give your cells the code to make the protein themselves. And so what this means is that it's a lot easier to manufacture these vaccines and we can scale them up for, you know, the billions of people around the world that need vaccines right now in a much more timely fashion.

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