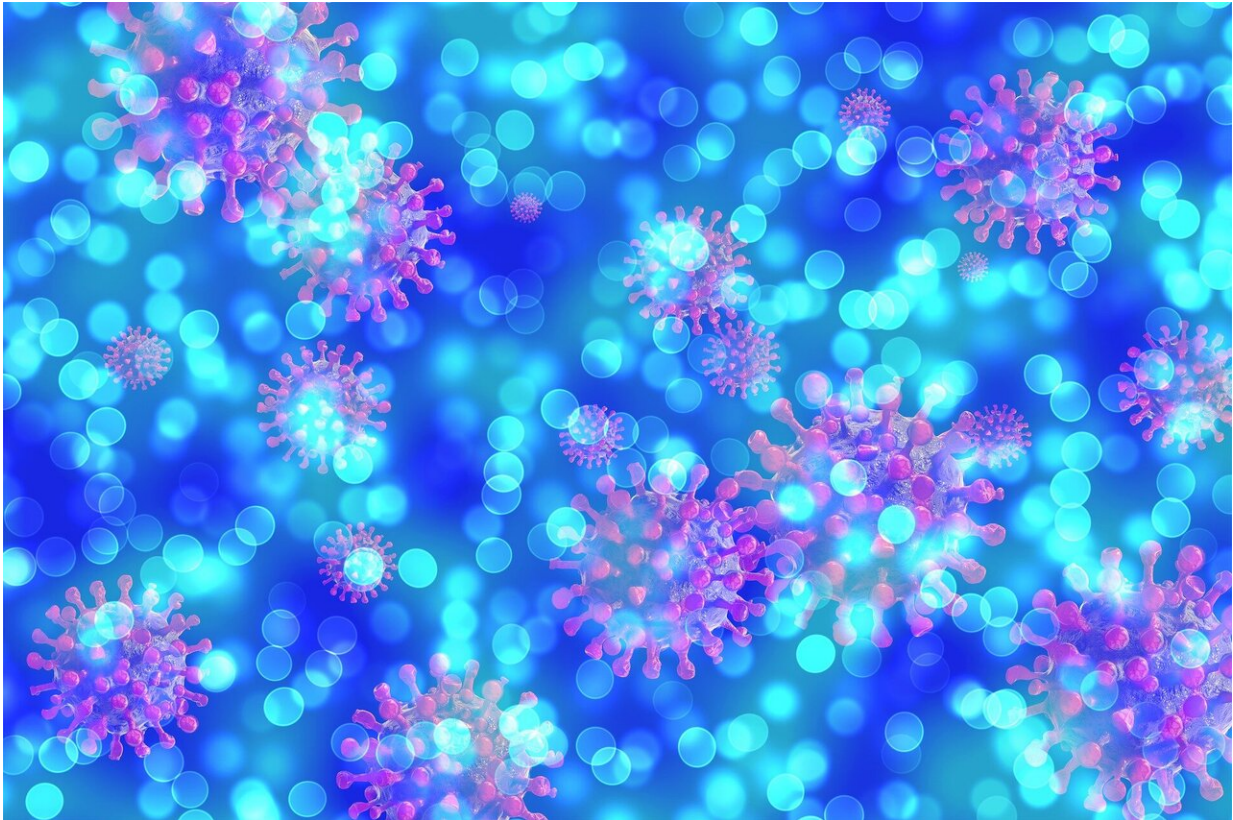


Understanding coronavirus variants

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With the emergence of new SARS-CoV-2 variants such as beta and delta, people are not only getting a refresher course on the Greek alphabet, but also experiencing confusion and anxiety about what the variants mean for public health. A new article in *Chemical & Engineering News (C&EN)*, the weekly newsmagazine of the American Chemical

Society, asks scientists to weigh in on the changing coronavirus landscape.

Only a few months ago, many people in countries with sufficient supplies of COVID-19 vaccines felt that the worst of the pandemic was behind them, write *C&EN* staff Laura Howes and Ryan Cross. However, emerging variants have made SARS-CoV-2 a [moving target](#), and scientists are scrambling to characterize the new viruses to determine whether natural or vaccine immunity can still offer protection. The public is often confused by conflicting [news stories](#) about the latest coronavirus discoveries. And some of these stories are based on papers that have been shared on preprint servers and have thus not yet undergone [peer review](#), meaning that their findings have not been as thoroughly vetted as those published in [scientific journals](#). To help clarify the situation, *C&EN* consulted a dozen scientists to learn how they study new variants in the lab, how to evaluate the latest research and whether the vaccines are still working.

To determine whether a new variant is better able to evade the immune system, researchers rely on multiple types of lab tests, which usually involve taking antibodies from fully vaccinated people or those who have recovered from COVID-19 and seeing how well they fight the virus. Epidemiologists gauge a variant's infectiousness by calculating how many people on average each infected person will get sick: For the original SARS-CoV-2, this number was 2–3; for delta, it's 6–7. For now, mRNA vaccines appear to be preventing hospitalization and death from the delta variant, but mild, breakthrough infections are occurring. For immunocompromised people and older adults who don't produce a lot of antibodies, booster shots will be important to prevent severe illness, experts say. Meanwhile, vaccine makers are hard at work on new versions tailored to beta and delta variants. Although SARS-CoV-2 is likely here to stay, widespread vaccination could help COVID-19 morph into a seasonal nuisance rather than a [public health](#) emergency, scientists

say.

More information: The article, "How to interpret new studies on coronavirus variants," is freely available [here](#).

Provided by American Chemical Society

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