



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™



COVID-19

IF YOU ARE FULLY VACCINATED

Find [new guidance for fully vaccinated people](#). If you are not vaccinated, [find a vaccine](#).

About Variants of the Virus that Causes COVID-19

Updated May 20, 2021

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Information about the characteristics of these variants is rapidly emerging. Scientists are working to learn more about how easily they spread, whether they could cause more severe illness, and whether currently authorized vaccines will protect people against them.

Find [data and technical information](#) about variants circulating in the United States.

What We know

Viruses constantly change through mutation, and new variants of a virus are expected to occur. Sometimes new variants emerge and disappear. Other times, new variants persist. Multiple variants of the virus that causes COVID-19 have been documented in the United States and globally during this pandemic.

Viruses constantly change and become more diverse. Scientists monitor these changes, including changes to the spikes on the surface of the virus. By carefully studying viruses, scientists can learn how changes to the virus might affect how it spreads and how sick people will get from it.



If you think about a virus like a tree growing and branching out; each branch on the tree is slightly different than the others. By comparing the branches, scientists can label them according to the differences. These small differences, or variants, have been studied and identified since the beginning of the pandemic.

Some variations allow the virus to spread more easily or make it resistant to treatments or vaccines. Those variants must be monitored more carefully.

Learn more about [how scientists monitor viruses](https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html)

Variants in the United States

We are monitoring multiple variants; currently there are five notable variants in the United States:

B.1.1.7: This variant was first detected in the United States in December 2020. It was initially detected in the United Kingdom.

B.1.351: This variant was first detected in the United States at the end of January 2021. It was initially detected in South Africa in December 2020.

P.1: This variant was first detected in the United States in January 2021. P.1 was initially identified in travelers from Brazil, who were tested during routine screening at an airport in Japan, in early January.

B.1.427 and B.1.429: These two variants were first identified in California in February 2021.

These variants seem to spread more easily and quickly than other variants, which may lead to more cases of COVID-19. An increase in the number of cases will put more strain on healthcare resources, lead to more hospitalizations, and potentially more deaths.

So far, studies suggest that the current authorized vaccines work on the circulating variants. Scientists will continue to study these and other variants.

Learn more about [SARS-CoV-2 Variant Classifications and Definitions](#)

How common are these variants

CDC tracks multiple variants circulating in the United States and provides an estimate of how common they are in the nation and at the regional level. This data can change over time as more information is available.

Based on current data, variant B.1.1.7 is the most common variant across the country.

Learn more about [Variant Proportions in the United States](#)

What we are doing to learn more

Scientists are studying these variants to learn more about them and to quickly detect new variants. They want to understand whether the current and new variants

- Spread more easily from person-to-person
- Cause milder or more severe disease in people
- Are detected by currently available viral tests
- Respond to medicines currently being used to treat COVID-19
- Change the effectiveness of COVID-19 vaccines

Learn more about [what CDC is doing to track variants](#)

Protect yourself from COVID-19

COVID-19 continues to spread in the United States and variants are circulating. Take steps to protect yourself from the virus.

- Get a [COVID-19 vaccine](#) when it is available to you.
- Wear [a mask that covers your nose and mouth](#) to help protect yourself and others.
- [Stay 6 feet apart from others](#) who don't live with you.
- Avoid crowds and poorly ventilated indoor spaces.
- [Wash your hands often](#) with soap and water. Use hand sanitizer if soap and water aren't available.

More Information

[SARS-CoV-2 Variant Classifications and Definitions](#)

[Published COVID-19 Sequences](#)

[Variant Proportions in the United States](#)

[What is CDC doing to track SARS-CoV-2 variants?](#)

[Global Variants Report Map](#)

[National Genomic Surveillance Dashboard](#)

[Requirement for Proof of Negative COVID-19 Test for All Air Passengers Arriving from the United Kingdom to the United States](#)

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Content source: [National Center for Immunization and Respiratory Diseases \(NCIRD\), Division of Viral Diseases](#)