



COVID-19

# SARS-CoV-2 Variant Classifications and Definitions

Updated Sept. 1, 2023

## What You Need to Know

- Viruses like SARS-CoV-2 continuously evolve as changes in the genetic code (caused by genetic mutations or viral recombination) occur during replication of the genome.
- SARS-CoV-2 has consistently mutated over the course of the pandemic, resulting in variants that are different from the original SARS-CoV-2 virus.
- Throughout the COVID-19 pandemic, many variants of SARS-CoV-2 have been found in the [United States](#) and [globally](#).
- Scientists use multiple [classification systems](#) to describe and communicate similarities and differences between SARS-CoV-2 viruses.

## Key Definitions

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- **Mutation:** A mutation refers to a single change in a virus's genome (genetic code). Mutations happen frequently, but only sometimes change the characteristics of the virus.
- **Lineage:** A lineage is a group of closely related viruses with a common ancestor. SARS-CoV-2 has many lineages; all cause COVID-19.
- **Sublineage:** A term used to define a lineage as it relates to being a direct descendent of a parent lineage. For example, BA.2.75 is a sublineage of BA.2.
- **Variant:** A variant is a viral genome (genetic code) that may contain one or more mutations. In some cases, a lineage or group of lineages with similar genetic changes, may be designated by the World Health Organization (WHO) or the U.S. SARS-CoV-2 Interagency Group (SIG) as a Variant of Interest (VOI), Variant of Concern (VOC), Variant of High Consequence (VOHC) or Variant Being Monitored (VBM) due to shared attributes and characteristics that may require public health action.
- **Recombination:** A process in which the genomes of two SARS-CoV-2 variants combine during the viral replication process to form a new variant that is different from both parent lineages. This may occur when a person is infected with two variants at the same time. The lineage that results from recombination is called a "recombinant."

BA.2.74

**Current Status**

VBM

**Date of Designation**

VBM: September 1, 2023

**WHO Label**

Alpha

**Pango Lineage**

B.1.1.7 and Q lineages

**Current Status**

VBM

**Date of Designation**

VOC: December 29, 2020

VBM: September 21, 2021

**WHO Label**

Beta

**Pango Lineage**

B.1.351 and descendent lineages

**Current Status**

VBM

**Date of Designation**

VOC: December 29, 2020

VBM: September 21, 2021

**WHO Label**

Gamma

## **Pango Lineage**

**P.1** and descendent lineages

## **Current Status**

VBM

## **Date of Designation**

**VOC: December 29, 2020**

VBM: September 21, 2021

## **WHO Label**

**Delta**

## **Pango Lineage**

**B.1.617.2** and descendant lineages

## **Current Status**

VBM

## **Date of Designation**

**VOC: June 15, 2021**

VBM: April 14, 2022

## **WHO Label**

Epsilon

## **Pango Lineage**

B.1.427 and  
B.1.429

## **Current Status**

VBM

## **Date of Designation**

**VOC: March 19, 2021**

**VOI: February 26, 2021**

**VOI: June 29, 2021**

**Date of Designation**

VOI: May 7, 2021

VBM: September 21, 2021

**WHO Label**

N/A

**Pango Lineage**

B.1.617.3

**Current Status**

VBM

**Date of Designation**

VOI: May 7, 2021

VBM: September 21, 2021

**WHO Label**

Omicron (parent lineages)\*\*

**Pango Lineage**

B.1.1.529 and descendant lineages

**Current Status**

VOC

**Date of Designation**

VOC: November 26, 2021

**WHO Label**

Zeta

**Pango Lineage**

P.2

**Current Status**