SARS-CoV-2 Coronavirus Variant
OMICRON

Panodyne®

On 26th of November,

The Omicron variant was included as a fifth VOC (Variants of concern) by the World Health Organisation. Before this, the four known variants were Alpha, Beta, Gamma, Delta.

Variants of Concern (VOC)

Working definition:

A SARS-CoV-2 variant that meets the definition of a VOI (see below) and, through a comparative assessment, has been demonstrated to be associated with one or more of the following changes at a degree of global public health significance:

- Increase in transmissibility or detrimental change in COVID-19 epidemiology; or
- Increase in virulence or change in clinical disease presentation; or
- Decrease in effectiveness of public health and social measures or available diagnostics, vaccines, therapeutics.

WHO label	Pango lineage	GISAID clade/lineage	Nextstrain clade	Earliest documented samples	Date of designation
Alpha	B.1.1.7	GRY (formerly GR/501Y.V1)	20I/S:501Y.V1	United Kingdom, Sep-2020	18-Dec-2020
Beta	B.1.351	GH/501Y.V2	20H/S:501Y.V2	South Africa, May-2020	18-Dec-2020
Gamma	P.1	GR/501Y.V3	20J/S:501Y.V3	Brazil, Nov-2020	11-Jan-2021
Delta	B.1.617.2	G/452R.V3	21A/S:478K	India, Oct-2020	VOI: 4-Apr-2021 VOC: 11-May-2021
Omicron*	B.1.1.529	GR/484A	21K	Multiple countries. Nov-2021	VUM: 24-Nov-2021 VOC: 26-Nov-2021

- The Omicron B.1.1.529 variant may have a potent infectivity of 500 percent.
- It is currently the most dangerous novel Coronavirus variant in the world
- Worldwide, omicron has been reported in South Africa, Israel, Botswana, Belgium and Hong Kong.

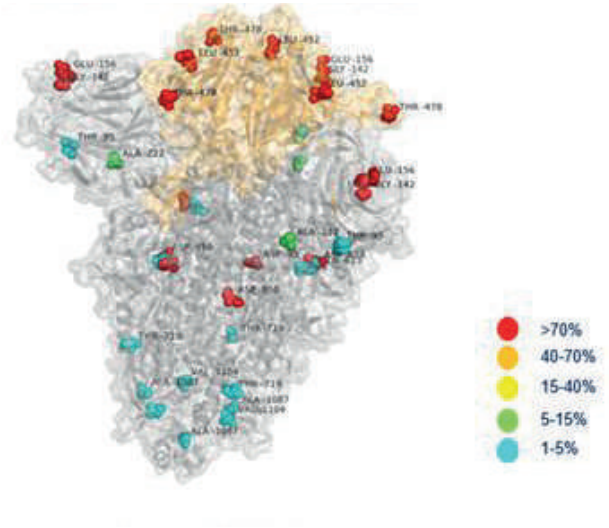
(Below is the first image for Omicron)

Delta

18 aa mutated residues in the Spike protein
8 residues in >60% of available sequences

Omicron

43 aa mutated residues in the Spike protein
34 residues in >60% of available sequences



The structure of SARS-CoV-2 spike protein showing the active site in orange and the residues coloured against different mutational rate.

In view of the validity of the detection of novel Coronavirus variants, **Panodyne®** has completed the detection of the latest mutations (including but not limited to Alpha (B.1.1.7), Beta (B.1.351), Gamma (p.1) and Delta) with antigen detection reagents (B.1.617.2), Lambda (C.37), Kappa (B.1.617.1), Eta (B.1525), Lota (B.1526), Mu (B.1.621), Zeta (P.2), Omicron (B.1.1.529), etc.), The testing and theoretical reasoning results confirm detection of Omicron was not missed, ensuring the accuracy and sensitivity of novel Coronavirus antigen detection reagents.

Panodyne® will continue to keep an eye on the variation of international novel coronavirus strains and will carry out verifications to ensure we continue to stay abreast of detecting this evolving virus.

Panodyne®

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V.001 11.2021