

What are viral pseudotyped particles?

“**Viral pseudotyped particles (PP)** are enveloped virus particles that harbor heterologous envelope glycoproteins on their surface and a genome lacking essential gene. ...They have proven to be very useful tools used in research with many applications, such as enabling the study of entry pathways of enveloped viruses ...” [Jean Kaoru Millet, *etc. Bio Protoc.* 2016 Dec 5;6(23): e2035]

We have viral pseudotyped particles for SARS-CoV-2 variants

We have generated replication-deficient **MLV-based Coronavirus Spike-pseudotyped particles** for critically important SARS-CoV-2 spike variants. With **our SARS-CoV-2 spike PP items and stable cell lines** (*i.e.* HEK293-ACE2, vero, CHO), researchers could do a lot:

- 1) **study the interactions** between Spike and the host cell receptor(s) in specific conditions;
- 2) **validate** the candidates that blocks the interaction between Spike and the host cell receptor(s);
- 3) **screen** convalescent serum samples for neutralizing antibodies, *etc.*

Our current pseudoviral particles cover the spike proteins of variants of concerns and mutations:

***the Wuhan strain PP**

***the Alpha/UK variant (B.1.1.7) PP** - key mutations: 69-70del, N501Y, D614G, P681H

***the Beta/South Africa variant (B.1.351) PP** - key mutations: K417N, E484K, N501Y, D614G

***the Gamma/Brazil variant (P.1) PP** - key mutations: K417T, E484K, N501Y, D614G

***the Indian strain (B.1.617) PP** - key mutations: L452R, E484Q, D614G, P681R

***the Delta/Indian strain (B.1.617.2) PP** - key mutations: L452R, T478K, D614G, P681R

***the D614G mutation PP** - mutation: D614G

***the A222V mutation PP** - mutations: A222V, D614G

***the Y453F mutation PP** - mutations: Y453F, D5614G

***the N501Y mutation PP** - mutations: N501Y, D614G

We have neutralizing antibodies verified by pseudovirus neutralization assays

With these pseudoviral particles and our **recombinant SARS-CoV-2 spike proteins (full length or RBD domain; of different variants or mutations)**, we have identified a few **SARS-CoV-2 neutralizing antibodies**:

***SCV2-SA-11m**: excellent for the South Africa variant; also tested and worked against the Wuhan strain PP and the D614G mutation PP.

***SCV2-RBD-200m**: tested and worked against the Wuhan strain PP and the D614G mutation PP.

***SCV2-RBD-h26**: tested and worked against the Wuhan strain PP and the South Africa variant PP.

We provide **Pseudovirus Neutralization Assay Service**. Please contact us at info@eEnzyme.com.