



GeneMedi COVID-19 neutralizing antibodies assay system

--Nab discovery and vaccines evaluation through SARS-CoV-2 wildtype/mutant variants pseudovirus based neutralizing assay(PBNA) and Spike-ACE2 competition binding assay

GeneMedi-SARS-CoV-2 WT and Spike Mutation Variants Pseudovirus (PSV) Based Cell Entry

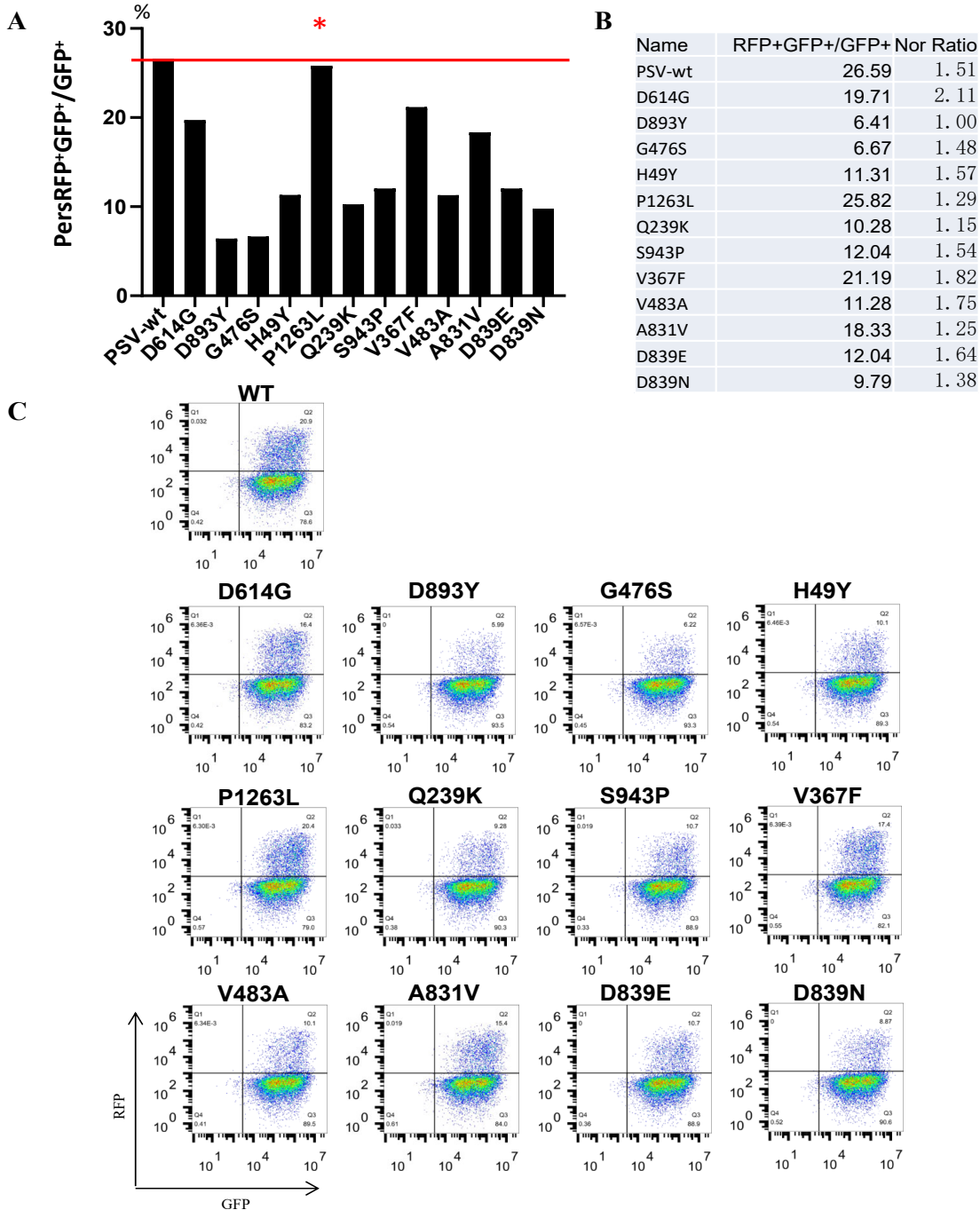
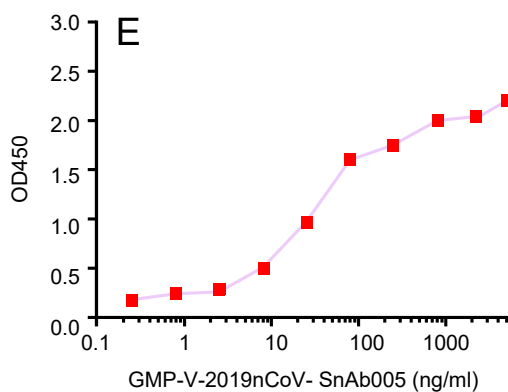
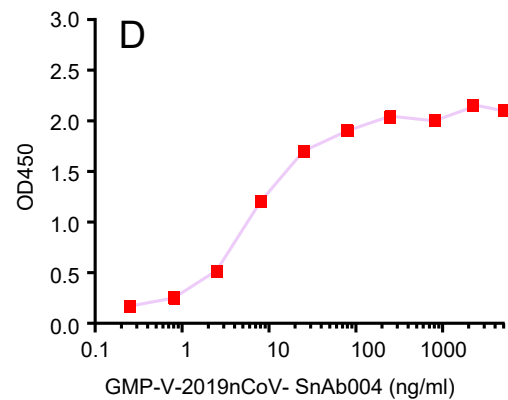
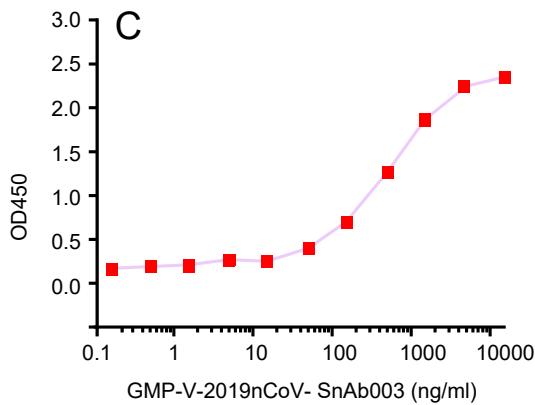
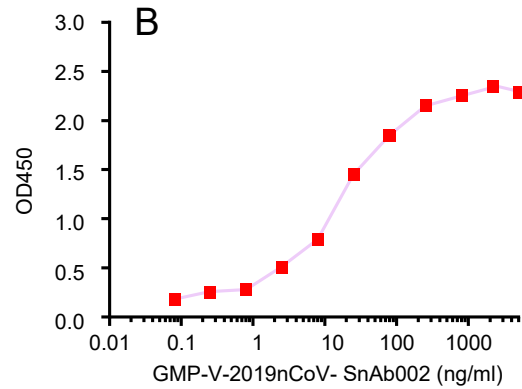
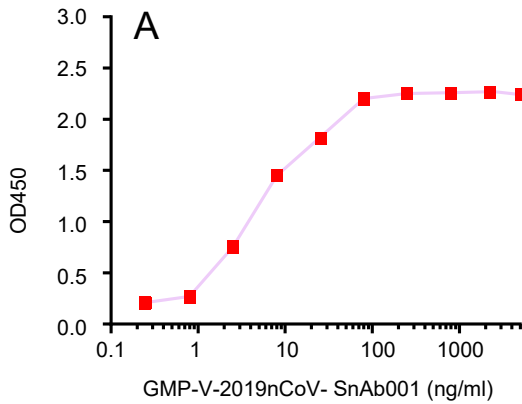


Figure. The Pseudovirus (PSV) Based Cell Entry assay was performed on 293T-hACE2 cells infected with [GeneMedi-SARS-CoV-2 WT and Spike Mutation Variants \(D614G, S943P, V367F, G476S, V483A, H49Y, Q239K, A831V, P1263L, D839Y/N/E:D839Y,D839N,D839E\) Pseudovirus \(PSV\)](#) Infection rate was determined by RFP+GFP+/GFP+ with FACS validation.



GeneMedi's anti-2019-nCoV Spike Neutralizing antibodies (Nabs) and Spike RBD protein binding validation



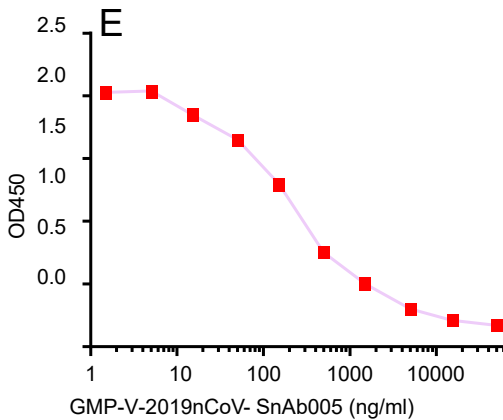
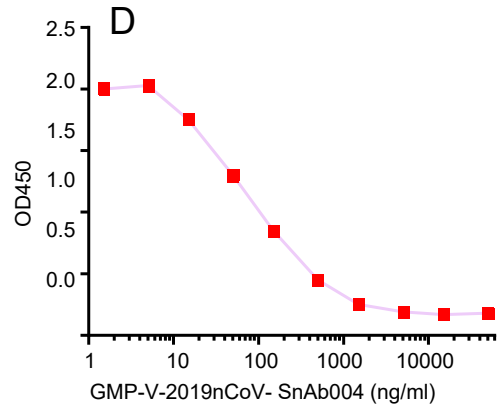
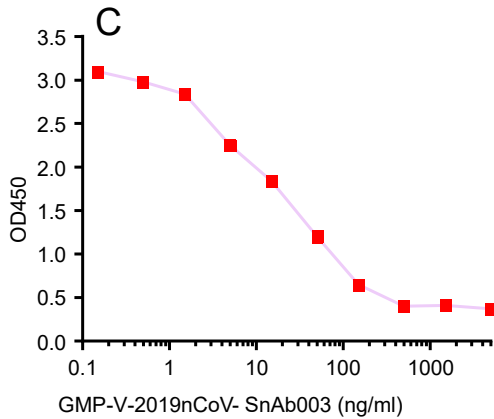
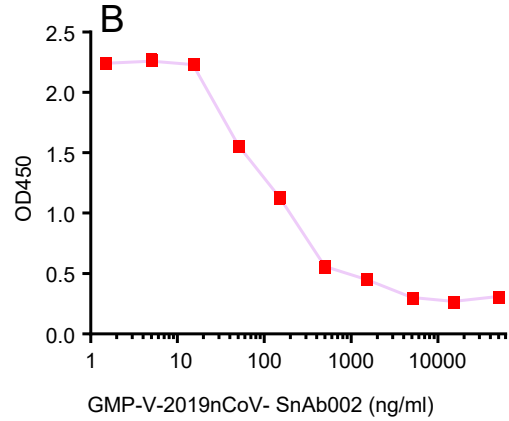
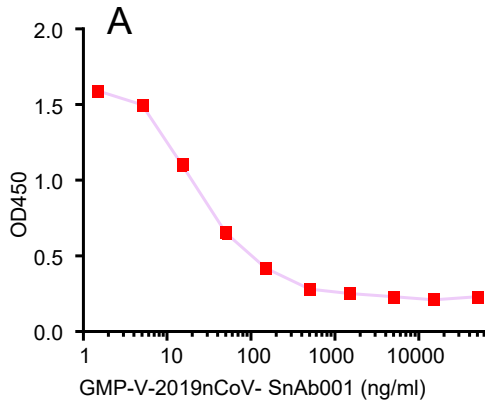
Cat No.	Product	E C 5 0 (ng/ml)
GMP-V-2019nCoV-SnAb001	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgG1)	5
GMP-V-2019nCoV-SnAb002	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgM)	18
GMP-V-2019nCoV-SnAb003	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgA)	410
GMP-V-2019nCoV-SnAb004	Anti-2019-nCoV Spike (Spike RBD domain) mouse monoclonal neutralizing antibody (IgG1)	6.8
GMP-V-2019nCoV-SnAb005	Anti-2019-nCoV Spike (Spike RBD domain) Cynomolgus monoclonal neutralizing antibody (IgG1)	28

Figure. The binding of GeneMedi's anti-2019-nCoV Spike Neutralizing antibodies (Nabs) to Recombinant 2019-nCoV(SARS-CoV-2) Spike RBD protein ([GMP-V-2019nCoV-SRBD001](#)) at 5.0ug/ml (100uL/well) was measured by ELISA.

- A. [GMP-V-2019nCoV-SnAb001](#): Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgG1)
 B. [GMP-V-2019nCoV-SnAb002](#): Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgM)
 C. [GMP-V-2019nCoV-SnAb003](#): Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgA)
 D. [GMP-V-2019nCoV-SnAb004](#): Anti-2019-nCoV Spike (Spike RBD domain) mouse monoclonal neutralizing antibody (IgG1)
 E. [GMP-V-2019nCoV-SnAb005](#): Anti-2019-nCoV Spike (Spike RBD domain) Cynomolgus monoclonal neutralizing antibody (IgG1)



GeneMedi's anti-2019-nCoV Spike Neutralizing antibodies (Nabs) competitive binding assay validation



Cat No.	Product	I C 5 0 (ng/ml)
GMP-V-2019nCoV-SnAb001	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgG1)	26.3
GMP-V-2019nCoV-SnAb002	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgM)	84.2
GMP-V-2019nCoV-SnAb003	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgA)	20.5
GMP-V-2019nCoV-SnAb004	Anti-2019-nCoV Spike (Spike RBD domain) mouse monoclonal neutralizing antibody (IgG1)	81.9
GMP-V-2019nCoV-SnAb005	Anti-2019-nCoV Spike (Spike RBD domain) Cynomolgus monoclonal neutralizing antibody (IgG1)	243

Figure. GeneMedi's anti-2019-nCoV Spike Neutralizing antibodies (Nabs) block Recombinant 2019-nCoV(SARS-CoV-2) Spike RBD protein ([GMP-V-2019nCoV-SRBD001](#)) and hACE2 ([GMP-H-ACE2002](#)) binding.

- A. [GMP-V-2019nCoV-SnAb001](#): Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgG1)
- B. [GMP-V-2019nCoV-SnAb002](#): Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgM)
- C. [GMP-V-2019nCoV-SnAb003](#): Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgA)
- D. [GMP-V-2019nCoV-SnAb004](#): Anti-2019-nCoV Spike (Spike RBD domain) mouse monoclonal neutralizing antibody (IgG1)
- E. [GMP-V-2019nCoV-SnAb005](#): Anti-2019-nCoV Spike (Spike RBD domain) Cynomolgus monoclonal neutralizing antibody (IgG1)



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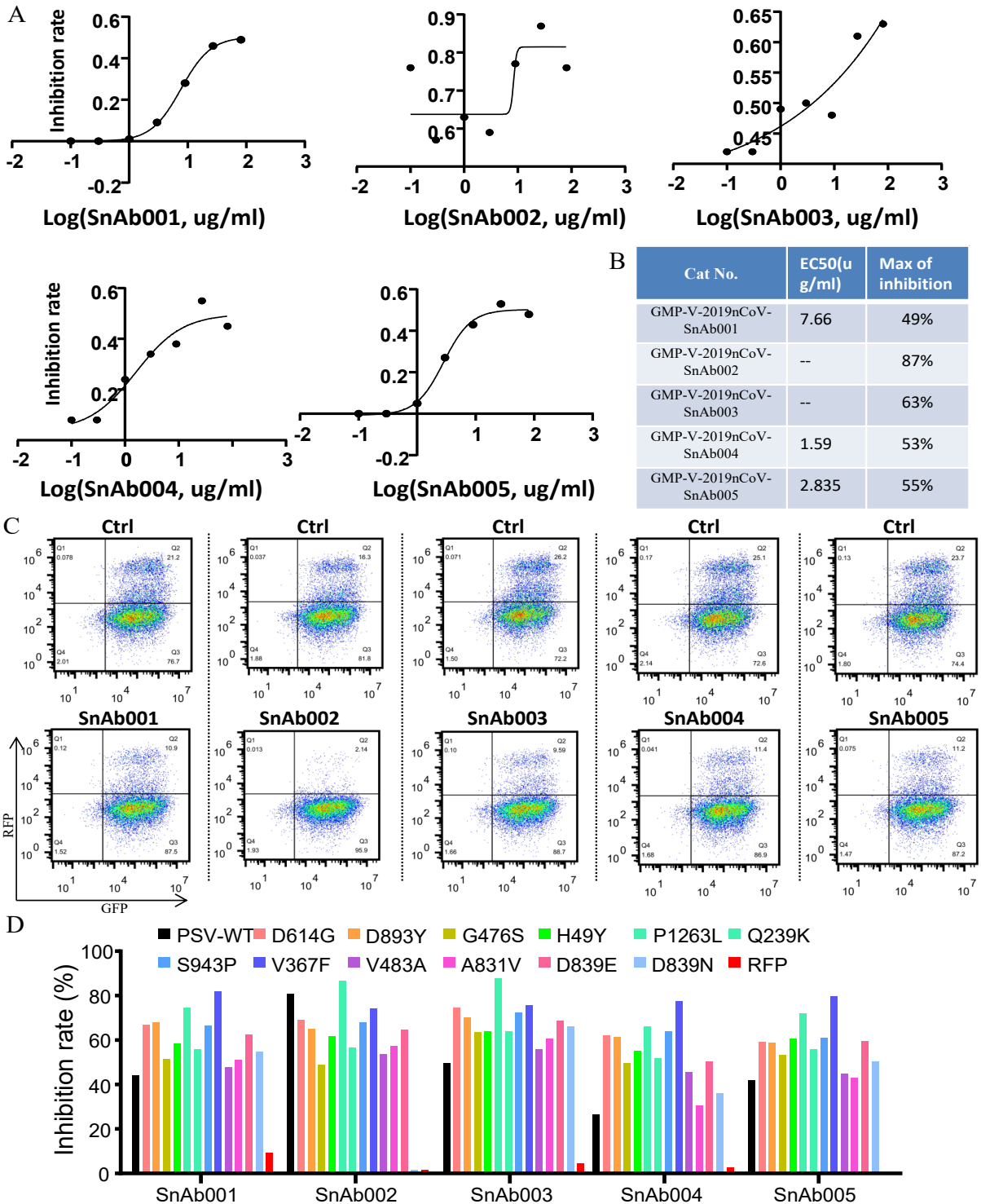


Figure. The Pseudovirus (PSV) Based Neutralizing Assay was performed on 293T-hACE2 cells infected with [GeneMedi-SARS-CoV-2 WT and Spike Mutation Variants \(D614G, S943P, V367F, G476S, V483A, H49Y, Q239K, A831V, P1263L, D839Y/N/E:D839Y,D839N,D839E\) Pseudovirus \(PSV\)](#) under treatment of GeneMedi's anti-2019-nCoV Spike Neutralizing antibodies (Nabs). Inhibition rate was determined by comparing the relative RFP+GFP+/GFP+ rate.



RELATED PRODUCTS

Potency Validated COVID-19 SARS-CoV-2 neutralizing antibody

Cat No.	Antigen Name of 2019-nCoV(SARS-CoV-2)	Source (Expression Host)	Isotypes	Bioactivity validation
GMP-V-2019n CoV-SnAb001	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgG1)	Mammalian (human cell)	human IgG1	Validated in COVID-19 Spike protein and Spike-RBD protein binding affinity. COVID-19 related neutralizing potency is validated by 1. 2019nCoV pseudotyped virus based neutralization assay in 293T-ACE2 effector cell. 2. competitively blocking the binding of ACE-2 receptor with SARS-CoV-2 Spike protein.
GMP-V-2019n CoV-SnAb002	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgM)	Mammalian (human cell)	human IgM	Validated in COVID-19 Spike protein and Spike-RBD protein binding affinity. COVID-19 related neutralizing potency is validated by 1.2019nCoV pseudotyped virus based neutralization assay in 293T-ACE2 effector cell. 2. competitively blocking the binding of ACE-2 receptor with SARS-CoV-2 Spike protein.
GMP-V-2019n CoV-SnAb003	Anti-2019-nCoV Spike (Spike RBD domain) human monoclonal neutralizing antibody (IgA)	Mammalian (human cell)	human IgA	Validated in COVID-19 Spike protein and Spike-RBD protein binding affinity. COVID-19 related neutralizing potency is validated by 1.2019nCoV pseudotyped virus based neutralization assay in 293T-ACE2 effector cell. 2. competitively blocking the binding of ACE-2 receptor with SARS-CoV-2 Spike protein.
GMP-V-2019n CoV-SnAb004	Anti-2019-nCoV Spike (Spike RBD domain) mouse monoclonal neutralizing antibody (IgG1)	Mammalian (human cell)	mouse IgG1	Validated in COVID-19 Spike protein and Spike-RBD protein binding affinity. COVID-19 related neutralizing potency is validated by 1.2019nCoV pseudotyped virus based neutralization assay in 293T-ACE2 effector cell. 2. competitively blocking the binding of ACE-2 receptor with SARS-CoV-2 Spike protein.
GMP-V-2019n CoV-SnAb005	Anti-2019-nCoV Spike (Spike RBD domain) Cynomolgus monoclonal neutralizing antibody (IgG1)	Mammalian (human cell)	Cynomolgus (Non human primate, NHP) IgG1	Validated in COVID-19 Spike protein and Spike-RBD protein binding affinity. COVID-19 related neutralizing potency is validated by 1.2019nCoV pseudotyped virus based neutralization assay in 293T-ACE2 effector cell. 2. competitively blocking the binding of ACE-2 receptor with SARS-CoV-2 Spike protein.

SARS-CoV-2(2019nCoV) Pseudotyped Virus Based Neutralization Assay

GeneMedi offers:

1. SARS-CoV-2 Pseudovirus-RFP-fLuciferase ([GM-2019nCoV-PSV01](#))
 2. Effector cell: Alternative
- A. hACE2-HEK293T stable cell line ([GM-SC-293T-hACE2-01](#))
- B. Wildtype HEK293T cell line, hACE2 vector for transfection ([GMV-V-2019nCoV-041](#))

Pseudotyped virus of SARS-CoV-2 Spike Mutation Variants (D614G, S943P, V367F, G476S, V483A, H49Y, Q239K, A831V, P1263L, D839Y/N/E:D839Y, D839N, D839E)

Catalog No.	Pseudotyped virus of SARS-CoV-2 Spike Mutation Variants
GM-2019nCoV-PSV02	Spike D614G mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV03	Spike S943P mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV04	Spike V367F mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV05	Spike G476S mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV06	Spike V483A mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV07	Spike H49Y mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV08	Spike Q239K mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV09	Spike A831V mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV10	Spike P1263L mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV11	Spike D839Y/N/E-D839Y mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV12	Spike D839Y/N/E-D839N mutation SARS-CoV-2(2019nCoV) Pseudotyped virus
GM-2019nCoV-PSV13	Spike D839Y/N/E-D839E mutation SARS-CoV-2(2019nCoV) Pseudotyped virus

2019 nCoV (SARS2 coronavirus) Antibodies for COVID-19

Cat No.	Antigen Name of 2019-nCoV(SARS-CoV-2)	Isotype	Source	Bioactivity validation
GMP-V-2019nCoV-NAb001	Anti-2019-nCoV NP human monoclonal antibody	Human IgG1	Mammalian (human cell)	N protein binding, ELISA validated as capture antibody and detection antibody. Pair recommendation with GMP-V-2019nCoV-NAb002 , GMP-V-2019nCoV-NAb003 , GMP-V-2019nCoV-NAb004.
GMP-V-2019nCoV-NAb002	Anti-2019-nCoV NP humanscFv-Fc antibody	Scfv	Mammalian (human cell)	N protein binding, ELISA validated as capture antibody and detection antibody. Pair recommendation with GMP-V-2019nCoV-NAb001, GMP-V-2019nCoV-NAb003 , GMP-V-2019nCoV-NAb004.
GMP-V-2019nCoV-NAb003	Anti-2019-nCoV NP mouse monoclonal antibody(mAb)	Mouse IgG	Hybridoma	N protein binding, ELISA validated as capture antibody and detection antibody. Pair recommendation with GMP-V-2019nCoV-NAb001, GMP-V-2019nCoV-NAb002, GMP-V-2019nCoV-NAb004.
GMP-V-2019nCoV-NAb004	Anti-2019-nCoV NP mouse monoclonal antibody(mAb)	Mouse IgG	Hybridoma	N protein binding, ELISA validated as capture antibody and detection antibody. Pair recommendation with GMP-V-2019nCoV-NAb001, GMP-V-2019nCoV-NAb002 , GMP-V-2019nCoV-NAb003.
GMP-V-2019nCoV-S1Ab001	Anti-2019-nCoV Spike (S1 protein) monoclonal antibody	Human IgG1	Mammalian (human cell)	S-RBD protein binding, ELISA validated
GMP-V-2019nCoV-S1Ab002	Anti-2019-nCoV Spike (S1 protein) monoclonal antibody	Human IgG1	Mammalian (human cell)	S-RBD protein binding, ELISA validated, Western Blot validated
GMP-V-2019nCoV-S1Ab003	Anti-2019-nCoV Spike (S1 protein) mouse monoclonal antibody (mAb)	Mouse IgG1	Hybridoma	S-RBD protein binding, ELISA validated
GMP-V-2019nCoV-S1Ab004	Anti-2019-nCoV Spike (S1 protein) mouse monoclonal antibody (mAb)	Mouse IgG1	Hybridoma	S-RBD protein binding, ELISA validated