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2019-nCoV Spike RBD-N Protein Chimera

Catalog Number: C19NSD-G242H

Comparison of SARS-CoV-2 proteins for Accurate Antibody Detection

SignalChem's 2019-nCov Spike RBD-N Protein Chimera has been engineered for results that provide:

- **High binding affinity to both the anti-S and anti-N antibodies.**
- **Only one test is enough to capture both anti-S and anti-N antibodies.**
- **Stronger binding affinity than that of the individual S or N proteins.**
- **Perfect to conduct research and develop SARS-CoV-2 antibody detection tests with higher sensitivity.**

Assay Data comparing SARS-CoV-2 proteins suggests RBD-N chimera has **higher binding potential** than the individual Spike (S) or (N) proteins against respective antibodies.

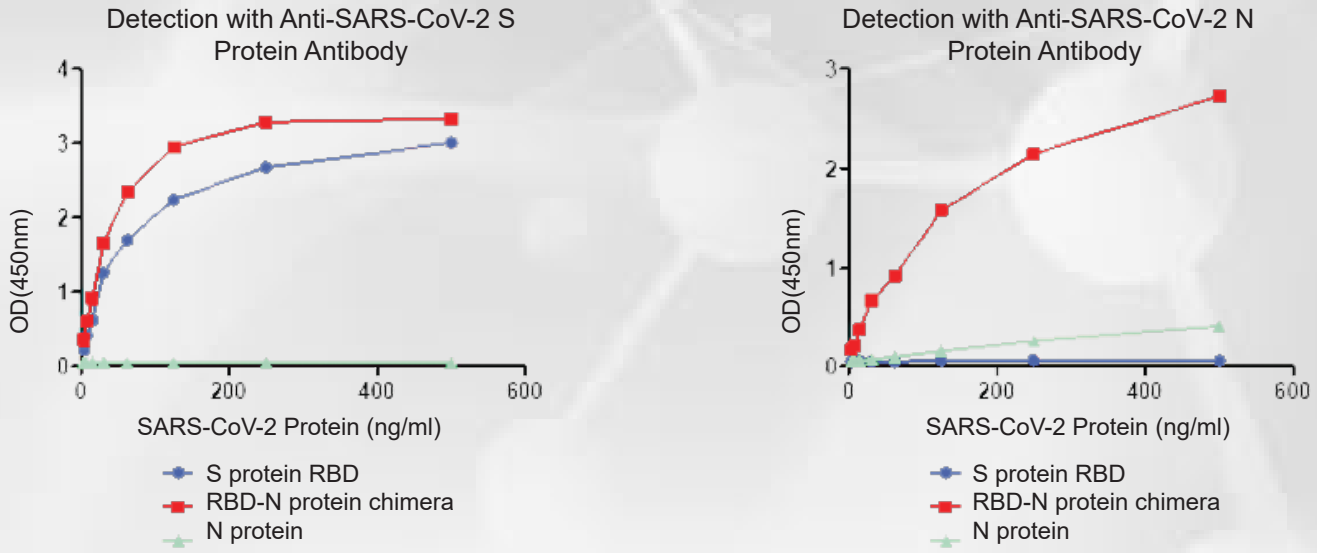
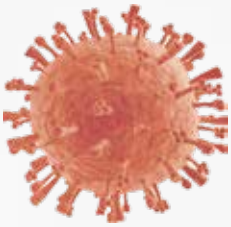
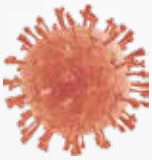
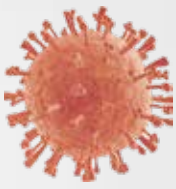


Figure 2: Binding potential was quantified by running ELISA plates, which were coated with recombinant SARS-CoV-2 proteins. HRP-conjugated specific antibodies were added to detect the binding. RBD-N chimera protein demonstrated specific binding to anti-S and anti-N antibody with higher affinity comparing to individual S or N protein.







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For accurate detection of antibodies generated against the novel SARS-CoV-2

The severe acute respiratory syndrome-related novel coronavirus SARS-CoV-2 has caused the pandemic of respiratory diseases (COVID-19) around the world in 2020. Two SARS-CoV-2 antigens the Spike (S) protein and the Nucleocapsid (N) protein are highly immunogenic, making these two antigens perfect candidates for viral detection, disease diagnosis and development of safe therapeutic interventions against the disease. The spike glycoprotein (S) of coronavirus belongs to the type I trans-membrane protein containing two subunits, S1 and S2, which are the key components utilized by the virus to bind with the host cell's angiotensin-converting enzyme 2 (ACE2). N-protein is a potent viral protein important for viral replication and translation. Targeting these two proteins provides the basis for future vaccine and diagnostic kit development.

SignalChem's Recombinant 2019-nCoV's N-terminal Spike S1 RBD (319-541) has been fused to Nucleocapsid (237-419) protein with a linker HSA (human serum albumin) and was expressed in CHO cells using a C-terminal His tag.

Assay Data shows superior biding:

The binding potential of SignalChem's 2019-NCoV Spike Protein (RBD) – N (N) Protein chimera (C19NSD-G242H) was measured by using an ELISA assay. The Spike 2019-NCoV Spike Protein (RBD) – N (N) Protein chimera (C19NSD-G242H) was added into the wells coated with immobilized anti 2019-nCoV N-Protein hIgG antibody (C19NP-60H). The Binding was detected by incubating the wells with HRP – conjugated anti 2019-nCoV Spike Protein hIgG antibody (C19S1-60 DH)

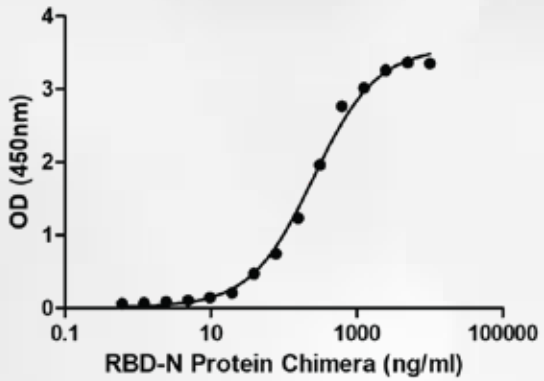

Figure 1. 2019-NCoV Spike Protein (RBD) – N (N) Protein chimera (C19NSD-G242H) binds to anti-S and anti-N protein antibodies with high affinity providing accurate detection.