ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Human anti COVID-19 positive control serum

Cat # NCOVPC-S | Human anti SARS-CoV-2 positive control serum (neutralizing) | **SIZE**: 100 µl

SARS-CoV-2 virus (SARS-CoV-2), is a novel coronavirus emerged as a human respiratory pathogen and causing the 2020 pandemic named COVID-19. The SARS-CoV-2 genome is closely related to 2 bat-derived severe acute respiratory syndrome (SARS)-like coronaviruses (88% identity) and more distantly from 2 other human pathogenic coronaviruses, SARS-CoV (~79% identity) and MERS-CoV (~50% identity).

The genome of the coronavirus encodes 23 putative proteins including 4 major structural proteins: nucleocapsid [N protein], spike [S protein], membrane [M] and small envelope proteins [E].

The S protein is a glycoprotein essential for viral attachment to the host cell surface receptors and translocation into the infected cells; trimers of the S protein make up the spikes of the virus. The S protein is cleaved in host cells into S1 and S2 subunits; S1 protein binds the host receptor, while S2 mediates membrane fusion. A minimal receptor-binding domain [RBD] located in the S1 protein (aa. 318-510) can combine with the ACE2 receptor on host epithelial cells. While the S1 subunit of SARS-CoV-2 shares around 70% identity to that of the 2 bat SARS-like CoVs and human SARS-CoV, the core domains of RBD (excluding the external subdomain) are highly conserved.

Source of Serum

Serum was collected from a patient 17 days after testing PCR-positive for SARS-CoV-2. The titer (defined as the reciprocal of the dilution which produces an $A450_{nm}$ of 1.0) was determined on ADI ELISA kits (Cat# RV-405400 & 405100) for anti-COVID-19 nucleocapsid and Spike 1. Neutralizing antibody (Cat#RV-405000) as well as IgM were confirmed as well.

RBD: 168,000

Nucleocapsid: 46,800

Neutralizing antibody: Produced ~80% inhibition at a 50-fold dilution

Form & Storage of Serum

Human serum

Human serum is provided at a 100-fold dilution in a proprietary stabilization buffer

Storage:

Short-term: 4°C for <1 year

Long-term: at –20°C or below in suitable aliquots after reconstitution for 1 year. Do not expose to multiple free/thaw cycles.

This product is for In vitro research use only.

Related materials available from ADI

Catalog#	Description
NCOV15-R-1	Recombinant COVID-19 Nucleocapsid
NCOVS-1	Synthetic COVID-19 antigen (For Lateral Flow & ELISA serology assays)
RV-405000	SARS-COV-2 Neutralizing antibody/Inhibitor Compound screening ELISA Kit
RV-404120	Recombivirus Mouse anti COVID-19/2019-nCoV Nucleocapsid IgG ELISA Kit
RV-404140	Recombivirus Rabbit anti COVID-19/2019-nCoV Nucleocapsid IgG ELISA Kit
RV-404150	Recombivirus Monkey anti COVID-19/2019-nCoV Nucleocapsid IgG ELISA Kit
RV-404240	Recombivirus Rabbit anti COVID-19/2019-nCoV Spike protein 1(S1) IgG ELISA Kit
RV-404250	Recombivirus Monkey anti COVID-19/2019-nCoV Spike protein 1(S1) IgG ELISA Kit
RV-405200	Recombivirus Human Anti SARS-CoV-2 (COVID-19) Spike protein 1(S1) IgG ELISA Kit
NCOVPC-S	050820IA

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