Data Sheet (Cat.No.TMPY-06124)

TargetMol

SARS-CoV-2 Nucleocapsid Protein (T205I, His)

General Information

Protein Construction:	A DNA sequence encoding the SARS-CoV-2 (2019-nCoV) Nucleocapsid (YP_009724397.2, with mutation T205I) (Met1-Ala419) was expressed with a polyhistidine tag at the N-terminus. The mutation were identified in the SARS-CoV-2 variant (known as 20C/501Y.V2 or B.1.351 lineage) which emerged in South Africa. Predicted N terminal: Met
Species:	SARS-CoV-2
Expression Host:	E. coli
Accession:	P0DTC9
Molecular Weight:	46.6 kDa (predicted)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 50 mM PB, 500 mM NaCl, pH 7.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Coronaviruses are enveloped viruses with a positive-sense RNA genome and with a nucleocapsid of helical symmetry. Coronavirus nucleoproteins localize to the cytoplasm and the nucleolus, a subnuclear structure, in both virus-infected primary cells and in cells transfected with plasmids that express N protein. The coronavirus N protein is required for coronavirus RNA synthesis and has RNA chaperone activity that may be involved in template

switch. Nucleocapsid protein is the most abundant protein of coronavirus. During virion assembly, N protein binds to viral RNA and leads to the formation of the helical nucleocapsid. Nucleocapsid protein is a highly immunogenic phosphoprotein also implicated in viral genome replication and in modulating cell signaling pathways. Because of the conservation of the N protein sequence and its strong immunogenicity, the N protein of coronavirus is chosen as a diagnostic tool.

Reference

Van Boheemen S, et al. (2012), MBio. 3(6):e00473-12.Bisht H. et al., 2004, Proc Natl Acad Sci. 101 (17): 6641-6.Li W. et al., 2005, Science. 309 (5742): 1864-8.

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