Recombinant SARS-CoV-2 NSP14 Methyltransferase, Active

Cat. No. HUM-360 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	SARS-CoV-2 NSP14 methyltransferase is an active recombinant protein expressed in E. coli using a C-terminal His tag. SARS-CoV-2, previously known as the 2019 Novel Coronavirus (2019-nCoV), causes the pandemic COVID-19 disease.
Tag	His
Background	In December 2019 a novel coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), formerly known as the 2019 novel coronavirus (2019-nCoV) was identified in Wuhan, China, causing a world-wide pandemic (Wu et al., 2020). Three coronaviruses, SARS-CoV, MERS-CoV, and SARS-CoV-2 have been identified as being a highly pathogenic for humans, and there is currently no effective antiviral treatment. Therefore, studies are focused on rapid development of vaccines and antiviral drugs to prevent and treat coronavirus infection. There are several potential strategies to pharmacologically fight against the disease (COVID-19), including vaccines, monoclonal antibodies, oligonucleotide-based therapies, peptides, interferon therapies, and small-molecule drugs (Dömling & Gao, 2020). Coronaviruses codes for a bifunctional non-structural protein 14 (NSP14) that is important for viral replication and transcription. NSP14 contains an N-terminal exo-ribonuclease (ExoN) domain for proof reading during viral replication and a C-terminal N-7 methyltransferase (N7-MTase) domain for mRNA capping. NSP14-ExoN is required for native recombination, and inactivation of ExoN results in decreased recombination frequency and altered recombination products (Gribble et al., 2021). NSP14 associates with several viral proteins (Ma et al., 2015). It can bind to NSP10 and the resulting complex exhibits enhanced ExoN activity in vitro (Bouvet et al.,

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	2012). It can also bind to the polymerase complex (NSP12/NSP8/NSP7) forming a complex that retains all associated enzymatic activities (Subissi et al., 2014). NSP14 is known to be a good target for potential small molecule inhibitors against SARS-CoV-2 (Umar et al., 2021).
Purity	>80% purity.
Formulation	50mM sodium phosphate, pH 7.0, 300mM NaCl, 150mM imidazole, 0.25mM DTT, 25% glycerol.
Notes	This product is intended for research and manufacturing uses only. It is not a diagnostic device. The user assumes all responsibility for care, custody and control of the material, including its disposal, in accordance with all regulations.
Type	Recombinant
ClassID 1	Infectious Disease

GENE INFORMATION

Synonyms	SARS-CoV-2 NSP14 Methyltransferase

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