

PRODUCT INFORMATION



SARS-CoV-2 nsp16 Methyltransferase

Item No. 31816

Overview and Properties

Synonyms: 2019-nCoV nsp16, 2'-O-MTase, ME, nsp16, 2'-O-methyltransferase, SARS-CoV-2 nsp16, SARS-CoV-2 nsp16, Severe Acute Respiratory Syndrome Coronavirus 2 nsp16 Methyltransferase

Source: Recombinant SARS-CoV-2 C-terminal His-tagged nsp16 methyltransferase expressed in *E. coli*

Uniprot No.: P0DTC2

Amino Acids: 6,799-7,096

Molecular Weight: 33.5 kDa

Storage: -20°C (as supplied)

Stability: ≥1 year

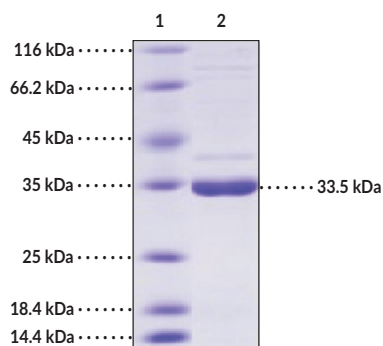
Purity: ≥85% estimated by SDS-PAGE

Supplied in: Lyophilized from sterile 20mM Tris 150mM sodium chloride, pH 8.3, with 5% trehalose, 5% mannitol, and 0.01% tween-80

Reconstitution: Add 670 µl of sterile water to the vial to prepare a stock solution of 0.15 mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: SARS-CoV-2 nsp16 Methyltransferase

SDS-PAGE Analysis of SARS-CoV-2 nsp16 Methyltransferase.
This protein has a calculated molecular weight of 33.5 kDa.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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Description

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is an enveloped positive-stranded RNA virus and the causative agent of COVID-19, a primarily respiratory illness characterized by fever, cough, and shortness of breath that can lead to life-threatening complications.¹⁻⁵ The SARS-CoV-2 genome contains approximately 30 kilobases and 14 open reading frames (ORFs) that encode four structural proteins: spike, envelope, membrane, and nucleocapsid, as well as 16 non-structural proteins and 9 accessory factors.⁶ SARS-CoV-2 nsp16 methyltransferase is a 2'-O-methyltransferase (2'-O-MTase) and has a role in 5'-end capping of viral mRNAs.^{7,8} In coronaviruses, nsp16 forms a complex with nsp10 to methylate nascent mRNAs at the ribose 2'-O position, creating a Cap-1 structure that facilitates increased translation of viral mRNAs and reduced innate immune recognition by the host cell.^{8,9} Deficiency of nsp16 in the related virus SARS-CoV reduces viral RNA synthesis by approximately 10-fold *in vitro*, and mutations in the nsp16 KDKE catalytic tetrad in mouse-adapted SARS-CoV attenuate the virus *in vivo*.^{8,10} An nsp10-derived peptide inhibitor of the nsp16/nsp10 complex increases survival in a mouse model of infection with the coronavirus mouse hepatitis virus (MHV).⁹ Cayman's SARS-CoV-2 nsp16 Methyltransferase protein consists of 299 amino acids and has a calculated molecular weight of 33.5 kDa.

References

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