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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

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.: PODTC2

Amino Acids: 6,799-7,096

Molecular Weight: 33.5 kDa

Storage: -20°C (as supplied)

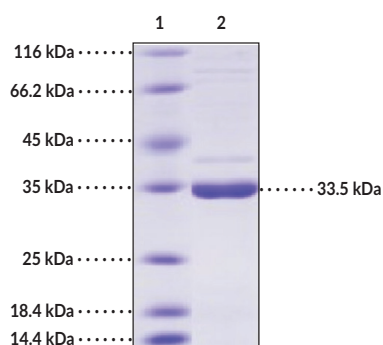
Stability: ≥1 year

Purity: ≥85% estimated by SDS-PAGE

Supplied in: Sterile 10 mM Tris, pH 7.4, with 250 mM sodium chloride and 50% glycerol

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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



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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CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM