

Recombinant SARS-CoV-2 NSP10 protein

Catalog No: 81317, 81617

Expressed In: *E. coli*

Quantity: 50, 1000 µg

Concentration: 1 µg/µl

Source: SARS-CoV-2

Buffer Contents: Recombinant SARS-CoV-2 NSP10 protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol and 0.5 mM TCEP.

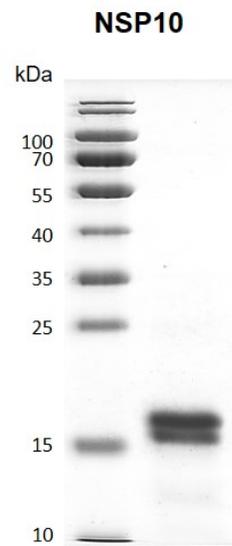
Background: SARS-CoV-2 NSP10 (Nonstructural Protein 10) is one of the nonstructural proteins encoded by SARSCoV-2 orf1ab. The polyproteins of CoVs are cleaved by virus-encoded cysteine proteinases comprise papain- and chymotrypsin-like proteases into 16 nonstructural proteins including the expression of NSP1 to NSP11 by orf1a and encoding NSP12 to NSP16 by orf1b. According to BLAST analysis, the sequence identity of ORF1ab protein between SARS-CoV-2 and SARS-CoV is more than 90% with the query cover of about 100%, while the sequence identity of NSP10 between these two viruses is about 98.5%.

The 5'-cap structure is a distinct feature of eukaryotic mRNAs, and eukaryotic viruses generally modify the 5'-end of viral RNAs to mimic cellular mRNA structure, which is important for RNA stability, protein translation and viral immune escape. SARS coronavirus (SARS-CoV) encodes two S-adenosyl-L-methionine (SAM)-dependent methyltransferases (MTase) which sequentially methylate the RNA cap at guanosine-N7 and ribose 2'-O positions, catalyzed by NSP14 N7-MTase and NSP16 2'-O-MTase, respectively. The structures revealed a new fold in which the Zn²⁺ ions are coordinated in a unique conformation and in which a cluster of basic residues on the protein's surface probably contributes to the RNA binding properties of NSP10. More recent biochemical studies revealed that NSP10 interacts with NSP14 and NSP16 and regulates their respective ExoN and ribose-20-O-MTase (20-O-MTase) activities.

Protein Details: Recombinant SARS-CoV-2 NSP10 protein was expressed in *E. coli* cells as the full length protein (accession number YP_009725306.1) with a C-terminal 6×His tag. The molecular weight of the protein is 16 kDa.

Application Notes: Recombinant SARS-CoV-2 NSP10 protein is suitable for use in the study of SARS-CoV-2. Where possible, Active Motif has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for this product is shown.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is guaranteed for 6 months from date of arrival.



Recombinant SARS-CoV-2 NSP10 protein gel

12.5% SDS-PAGE with Coomassie blue staining

MW: 16 kDa

Purity: >90%