Data Sheet (Cat.No.TMPJ-01450)

TargetMol

SARS-CoV-2 Helicase Protein (His & MBP)

General Information

Synonyms:	SARS-CoV 2 nsp13;SARS-CoV 2 Helicase
Protein Construction:	Ala5325-Gln5925
Species:	SARS-CoV-2
Expression Host:	E. coli
Accession:	P0DTD1
Molecular Weight:	120 KDa (reducing condition)
AA Sequence:	Ala5325-Gln5925

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 80% as determined by reducing SDS-PAGE. (QC verified)
Formulation:	Supplied as a 0.2 μm filtered solution of PBS, pH 7.4.

Preparation and Storage

Stability & Storage:

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:

Proteins are shipped with blue ice.

Protein Background

The non−structural protein 13 (nsp13) of SARS−CoV 2 is a helicase that separates double−stranded RNA or DNA with a 5'−3' polarity, using the energy of nucleotide hydrolysis. A basic biochemical characterization of nsp13 demonstrated that it can unwind both doublestranded DNA and RNA in a 5’-3’ direction, and it can hydrolyze all deoxyribonucleotide and ribonucleotide triphosphates. Helicases are motor proteins that utilize the energy derived from nucleotide hydrolysisto unwind double-stranded nucleic acids into two single-stranded nucleic acids. Initially, helicases were only thought to be molecular engines that unwind nucleic acids during replication, recombination, and DNA repair. Recent studies have shown that they are also involved in other biological processes, including displacement of proteins from nucleic acid, movement of Holliday junctions, chromatin remodeling, catalysis of nucleic acid conformational changes, several aspects of RNA metabolism, including transcription, mRNA splicing, mRNA export, translation, RNA stability and mitochondrial gene expression. Some human diseases, including Bloom’s syndrome, Werner’s syndrome, and Xeroderma Pigmentosum have been associated with defects in helicase function.

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