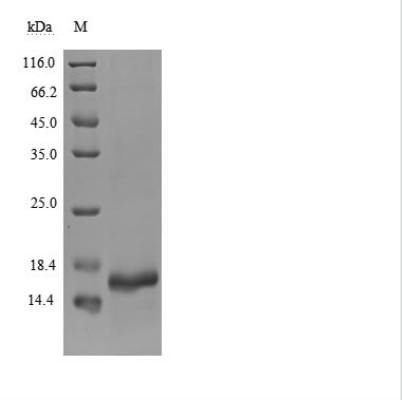
Recombinant Severe acute respiratory syndrome coronavirus 2 ORF8 protein

Product Code	CSB-EP3366GND
Abbreviation	Recombinant SARS-CoV-2 ORF8 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P0DTC8
Form	Lyophilized powder
Product Type	Recombinant Proteins
Immunogen Species	Severe acute respiratory syndrome coronavirus 2 (2019-nCoV) (SARS-CoV-2)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	FHQECSLQSCTQHQPYVVDDPCPIHFYSKWYIRVGARKSAPLIELCVDEAGSK SPIQYIDIGNYTVSCLPFTINCQEPKLGSLVVRCSFYEDFLEYHDVRVVLDFI
Source	E.coli
Target Names	ns8
Protein Names	Non-structural protein 8
Expression Region	16-121aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	16.3 kDa
Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Novel Coronavirus Non-structural protein 8 (ns8) is

expressed in E. coli, covering the full length of the mature protein from amino acids 16 to 121. This protein is N-terminally 6xHis-tagged and achieves a purity level greater than 90% as confirmed by SDS-PAGE. The product is designed for research use only and is not intended for diagnostic or therapeutic applications.

Non-structural protein 8 (ns8) of the SARS-CoV-2 virus appears to play a crucial role in viral replication and transcription processes. It forms part of the replication-transcription complex that seems essential for viral RNA synthesis. Understanding ns8's function and structure may prove important for coronavirus biology research and the development of potential antiviral strategies.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Antibody Development and Characterization

This recombinant NSP8 protein can work as an immunogen for generating polyclonal or monoclonal antibodies specific to SARS-CoV-2 NSP8. The N-terminal 6xHis tag helps with purification and immobilization during immunization protocols and antibody screening assays. While the >90% purity level should be sufficient for antibody production, it likely minimizes cross-reactivity with contaminants. These antibodies might become valuable research tools for detecting NSP8 in infected cell lysates or studying viral replication complexes.

2. Protein-Protein Interaction Studies

Researchers can use the purified NSP8 protein in pull-down assays to identify and characterize interactions with other viral non-structural proteins or host cell factors. The 6xHis tag allows efficient immobilization on nickel-based resins for affinity purification experiments. Co-immunoprecipitation studies using cell lysates from infected or transfected cells may help map the NSP8 interactome. Such interaction studies appear crucial for understanding how the viral replication-transcription complex assembles and functions.

3. Biochemical and Biophysical Characterization

This recombinant protein works well for basic biochemical analyses. These include size exclusion chromatography, dynamic light scattering, and thermal stability studies to characterize NSP8's oligomerization state and stability properties. Researchers can use the protein in analytical ultracentrifugation experiments to determine its molecular weight and assembly behavior in solution. Cross-linking mass spectrometry experiments might provide insights into NSP8's structural organization and potential conformational changes under different buffer conditions.

4. ELISA-Based Binding Assays

The 6xHis-tagged NSP8 protein can be immobilized in ELISA plates for screening potential binding partners—including other viral proteins, host factors, or small molecule compounds. The tag makes oriented immobilization possible using anti-His antibodies or nickel-coated plates, which should ensure consistent protein presentation. These assays may be useful for studying binding kinetics and affinities with purified interaction partners or for screening compound libraries to find molecules that disrupt NSP8 interactions.

Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.