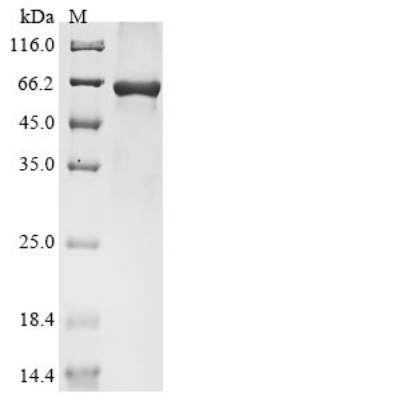
Recombinant Influenza A virus Hemagglutinin (HA), partial

Product Code	CSB-EP3563GMC
Abbreviation	Recombinant Influenza A virus HA protein, partial
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.	A0A6G5V115
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Influenza A virus
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	DTICVGYHANNSTDTVDTILEKNVTVTHSVNLLENSHNGKLCSLNGKIPLQLGN CNVAGWILGNPKCDLLLTANSWSYIIETSNSKNGACYPGEFADYEELKEQLST VSSFERFEIFPKATSWPNHDTTRGTTVACSHSGANSFYRNLLWIVKKGNSYPK LSKSYTNNKGKEVLVIWGVHHPPTESDQQTLYQNNHTYVSVGSSKYYKRFTP EIVARPKVREQAGRMNYYWTLLDQGDTITFEATGNLIAPWHAFALKKGSSSGI MRSDAQVHNCTTKCQTPHGALKGNLPFQNVHPVTIGKCPKYVKSTQLRMATG LRNIPSIQSRGLFGAIAGFIEGGWTGMVDGWYGYHHRNEQGSGYAADQKSTQ IAIDGISNKVNSVIEKMNIQFTSVGKEFNSLEKRMENLNKKVDDGFLDVWTYNA ELLILLENERTLDFHDLNVKNLYEKVKSQLRNNAKEIGNGCFEFYHKCDNECME SVKNGTYNYPKYSEESKLNREEIDGVKLESMGIHQ
Research Area	Immunology
Source	E.coli
Target Names	HA
Expression Region	18-529aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged
Mol. Weight	63.6kDa
Protein Length	Partial
Image	



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

Description

This Recombinant Influenza A virus Hemagglutinin (HA) comes from E. coli expression and covers amino acid region 18-529, representing a partial protein construct. The design includes an N-terminal 10xHis-tag that simplifies purification and detection. SDS-PAGE analysis confirms the product achieves greater than 85% purity, which appears adequate for most research applications with minimal contamination concerns.

Hemagglutinin functions as a surface glycoprotein that's central to Influenza A virus biology. The protein enables viral entry into host cells through binding to sialic acid receptors. This makes it a prime target for vaccine development and antiviral research, given its role in virus-host interactions and capacity to trigger immune responses. Researchers generally consider understanding HA's structure and function essential for moving influenza research and therapeutic strategies forward.

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 Studies

This recombinant HA protein works well as an immunogen or screening antigen when developing monoclonal or polyclonal antibodies against influenza A virus hemagglutinin. The N-terminal His-tag makes purification straightforward and allows immobilization on different surfaces for antibody screening assays. ELISA-based assays can incorporate this protein to evaluate antibody binding specificity and affinity. The partial HA construct spanning amino acids 18-529 may include key antigenic regions that matter for antibody recognition studies.

2. Protein-Protein Interaction Studies

Pull-down assays can make good use of the His-tagged HA protein to identify and characterize host cell proteins that interact with influenza hemagglutinin during viral infection. The 10xHis tag allows efficient immobilization on nickel-

based affinity matrices, which helps capture potential binding partners from cell lysates. This strategy might help clarify molecular mechanisms of viral entry and host-pathogen interactions under controlled in vitro conditions. The recombinant protein's consistency enables reproducible interaction studies while avoiding the complications that come with whole virus preparations.

3. Structural and Biochemical Analysis

Biophysical characterization studies appear well-suited for this recombinant HA protein. These include circular dichroism spectroscopy, dynamic light scattering, and analytical ultracentrifugation to assess protein folding and stability. The His-tag streamlines protein purification to the high homogeneity levels that structural studies typically require. Scientists can examine how pH, temperature, and ionic strength affect HA protein conformation and stability. The defined amino acid boundaries (18-529) make it possible to conduct systematic structure-function relationship studies of specific HA domains.

4. Vaccine Research and Immunogenicity Studies

Preclinical vaccine development studies may benefit from this recombinant HA protein when evaluating immune responses in animal models. The immunogenicity of this HA construct can be assessed by measuring antibody titers and cellular immune responses after immunization. The protein might serve as a reference standard for comparing different vaccine formulations or adjuvant effects. E. coli expression offers a cost-effective approach for producing the research quantities needed for immunization studies and vaccine optimization experiments.

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.