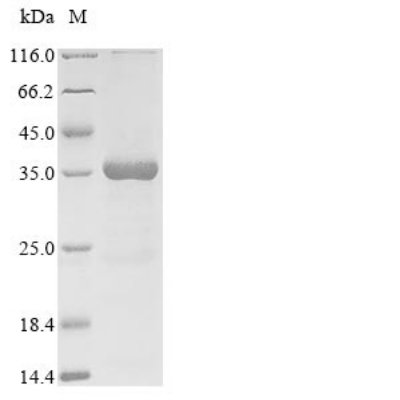
Recombinant Vaccinia virus IMV heparin binding surface protein (H3L), partial

Product Code	CSB-EP3210GKL1
Abbreviation	Recombinant Vaccinia virus H3L 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.	Q1M2A5
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	Vaccinia virus
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	TFPNVHEHINDQKFDDVKDNEVMPEKRNVVVVKDDPDHYKDYAFIQWTGGNI RNDDKYTHFFSGFCNTMCTEETKRNIARHLALWDSNFFTELENKKVEYVVIVE NDNVIEDITFLRPVLKAMHDKKIDILQMREIITGNKVKTELVMDKNHAIFTYTGGY DVSLSAYIIRVTTALNIVDEIIKSGGLSSGFYFEIARIENEMKINRQILDNAAKYVE HDPRLVAEHRFENMKPNFWSRIGTAAAKRYPG
Research Area	others
Source	E.coli
Target Names	H3L
Expression Region	21-270aa
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 and C-terminal Myc-tagged
Mol. Weight	36.6 kDa
Protein Length	Partial
Image	



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

Description

Recombinant Vaccinia virus IMV heparin binding surface protein (H3L) is expressed in E. coli and includes the amino acid region 21-270. This partial-length protein is engineered with an N-terminal 10xHis-tag and a C-terminal Myc-tag for easier purification and detection. The protein achieves a purity greater than 85%, as confirmed by SDS-PAGE analysis, which appears sufficient for most research applications.

The Vaccinia virus IMV heparin binding surface protein (H3L) plays a critical role in how the virus interacts with host cells, particularly through its binding affinity to heparin. This interaction seems vital for understanding viral entry and pathogenesis. H3L has become an important focus in virology research, likely providing insights into viral mechanisms and potential therapeutic targets.

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 Immunoassay Research

This recombinant H3L protein can serve as an immunogen for generating polyclonal or monoclonal antibodies specific to vaccinia virus surface proteins. The dual-tagged construct with N-terminal His-tag and C-terminal Myc-tag allows for versatile detection and purification strategies during antibody screening processes. Researchers can apply this protein in ELISA-based assays to characterize antibody binding specificity and affinity. The 85% purity level appears sufficient for immunization protocols and subsequent antibody validation experiments.

2. Protein-Protein Interaction Studies

The His-tagged H3L protein can be immobilized on nickel-affinity matrices for pull-down experiments to identify potential cellular binding partners or viral protein interactions. The heparin-binding nature suggested by the protein name makes it suitable for investigating interactions with heparan sulfate

proteoglycans or other glycosaminoglycan-containing molecules. Co-immunoprecipitation experiments may be performed using anti-Myc antibodies to capture H3L-containing protein complexes from cell lysates or viral preparations.

3. Biochemical Characterization and Binding Assays

This recombinant protein enables direct biochemical analysis of H3L properties, including molecular weight confirmation, thermal stability studies, and buffer optimization experiments. Surface plasmon resonance or bio-layer interferometry experiments can be conducted to quantify binding kinetics with potential ligands, particularly heparin or heparan sulfate molecules. The protein can also be used in competitive binding assays to screen for small molecule inhibitors or to characterize the binding specificity of the H3L domain.

4. Tag-Assisted Purification Method Development

The dual-tagged nature of this H3L construct makes it valuable for developing and optimizing protein purification protocols for vaccinia virus research. Researchers can compare the efficiency of His-tag versus Myc-tag purification strategies and develop sequential purification methods to achieve higher purity levels. This protein may serve as a model system for establishing purification workflows that could be applied to other vaccinia virus proteins or related poxvirus surface proteins.

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.