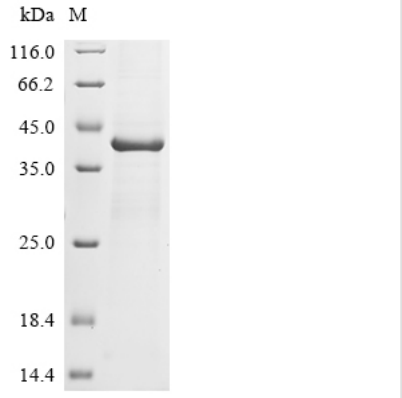
Recombinant Murine polyomavirus Major capsid protein VP1

Product Code	CSB-EP326154MKKc7
Abbreviation	Recombinant Murine polyomavirus Major capsid protein VP1 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.	P24595
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	Murine polyomavirus (strain Kilham) (MPyV) (Murine pneumotropic virus)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	APTVKKRTSQNQGLSPQKSQNSVVVGGIQVLDVRTGPDSITQIEAFLNPRMGK PVDSDFYGFSDNITVSADYTQDMPRIKELPCYSMAKISLPMLNEDMTCDTILM WEAISCKTEVVGVSSLTNCHSAVKRLYDNEGAGFPVQGLNFHFFSVGGEALD LQWLWKNYRCNYPAGVAALQAAPKAAQVLDPKLKAKLTADGKFPIEAWSPDP AKNENTRYFGTYTGGLQTPPVLQITNTTTTILLNENGVGPLCKGDGLYLASADI VGFRTQQNNKMHLRGLPRYFSIHLRKGCANPYPVSSLLNTFSSEMMPLNSWM LQVEEVRIYDGVERLPGDPDMIRYRIIWPGRLLSLIFPAMRHKHLYFFVMQAFIV L
Research Area	others
Source	E.coli
Target Names	N/A
Expression Region	2-373aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	42.4 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 Murine polyomavirus Major capsid protein VP1 is expressed in E. coli, covering the full length of the mature protein from amino acids 2 to 373. A C-terminal 6xHis tag is included to help with purification and detection. The protein reaches greater than 85% purity, as confirmed by SDS-PAGE, and works well for research applications. This product is designed for in vitro studies and maintains low endotoxin levels.

The Major capsid protein VP1 appears to be essential for viral capsid assembly in Murine polyomavirus. It likely plays a crucial role in protecting the viral genome, maintaining virus stability, and helping the virus interact with host cells. As a key structural component, VP1 proves valuable for studying viral assembly and pathogenesis, which makes it an important target in virology research.

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. Viral Capsid Assembly and Structure Studies

This recombinant VP1 protein can help investigate how murine polyomavirus capsids self-assemble in vitro. The full-length mature protein (2-373aa) retains all the structural domains needed for capsid formation. This makes it well-suited for electron microscopy studies and dynamic light scattering experiments. Researchers can explore what conditions are needed for VP1 pentamer formation and more complex capsid assembly. The C-terminal His-tag helps with purification and immobilization for structural analysis techniques.

2. Antibody Development and Immunological Studies

The recombinant VP1 protein works well as an antigen for creating polyclonal and monoclonal antibodies specific to murine polyomavirus. E. coli expression produces enough protein for immunization protocols and follow-up antibody screening assays. The His-tag allows efficient purification for ELISA-based antibody characterization and epitope mapping studies. These antibodies can

then be used in various research applications, including viral detection assays and capsid protein localization studies.

3. Protein-Protein Interaction Studies

The His-tagged VP1 protein works in pull-down assays to identify cellular proteins that interact with the viral capsid during infection. The tag allows immobilization on nickel-affinity matrices, which enables co-precipitation of binding partners from cell lysates. This approach may help reveal host-virus interactions and identify cellular receptors or co-factors involved in viral entry mechanisms. The full-length protein ensures that all potential interaction domains remain intact for comprehensive binding studies.

4. Biochemical Characterization and Functional Analysis

This recombinant protein provides a platform for detailed biochemical analysis of VP1 properties. These include thermal stability, pH sensitivity, and proteolytic susceptibility. Researchers can perform comparative studies between different polyomavirus VP1 proteins to understand species-specific differences in capsid stability and behavior. The purified protein can also help establish baseline biochemical parameters for the murine polyomavirus capsid protein under controlled in vitro conditions.

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.