

Major capsid protein VP1 Protein, Murine polyomavirus (Sf9, His)

Cat. No.:	HY-P72307
Synonyms:	Major structural protein VP1
Species:	Virus
Source:	Sf9 insect cells
Accession:	P24595 (A2-L373)
Gene ID:	29031028
Molecular Weight:	Approximately 42.5 kDa

PROPERTIES

AA Sequence	<pre> A P T V K K R T S Q N Q G L S P Q K S Q N S V V V G G I Q V L D V R T G P D S I T Q I E A F L N P R M G K P V D S D F Y G F S D N I T V S A D Y T Q D M P R I K E L P C Y S M A K I S L P M L N E D M T C D T I L M W E A I S C K T E V V G V S S L T N C H S A V K R L Y D N E G A G F P V Q G L N F H F F S V G G E A L D L Q W L W K N Y R C N Y P A G V A A L Q A A P K A A Q V L D P K L K A K L T A D G K F P I E A W S P D P A K N E N T R Y F G T Y T G G L Q T P P V L Q I T N T T T T I L L N E N G V G P L C K G D G L Y L A S A D I V G F R T Q Q N N K M H L R G L P R Y F S I H L R K G C A N P Y P V S S L L N T F S S E M M P L N S W M L Q V E E V R I Y D G V E R L P G D P D M I R Y R I I W P G R L L S L I F P A M R H K H L Y F F V M Q A F I V L </pre>
Appearance	Lyophilized powder.
Formulation	Lyophilized from 0.22 µm filtered solution in PBS, pH 7.4.
Endotoxin Level	<40 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The major capsid protein VP1 forms a 40 nm diameter icosahedral capsid with T=7 symmetry, comprising 72 pentamers linked by disulfide bonds and associated with VP2 or VP3 proteins. VP1 interacts with terminal alpha(2,3)-linked sialic acids on the cell surface, facilitating virion attachment to target cells and inducing caveolin-mediated endocytosis. During
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internalization, the virion traffics to the endoplasmic reticulum, where VP1 undergoes isomerization of interpentamer disulfide bonds, triggering initial uncoating. Subsequently, the endoplasmic reticulum-associated degradation machinery likely aids translocation to the cytosol before nuclear entry. Nuclear entry involves selective exposure and importin recognition of the VP2/VP3 nuclear localization signal. In the late phase of infection, newly synthesized VP1 encapsulates replicated genomic DNA in the nucleus and contributes to rearranging nucleosomes around viral DNA. VP1 forms homomultimers through disulfide linkage, constituting the virus capsid composed of 72 icosahedral units, each comprising five disulfide-linked copies of VP1. VP1 also interacts with minor capsid proteins VP2 and VP3.

Caution: Product has not been fully validated for medical applications. For research use only.

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