

Ebola virus VP40/Matrix VP40 Protein (YP_138522, His-MBP)

Cat. No.:	HY-P75719
Synonyms:	Ebola virus EBOV (subtype Sudan, strain Gulu) VP40 / Matrix protein VP40 Protein (His-MBP)
Species:	Virus
Source:	E. coli
Accession:	YP_138522 (M1-K326)
Gene ID:	3160775
Molecular Weight:	Approximately 79.1 kDa

PROPERTIES

Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μ m filtered solution of 50 mM Tris, 500 mM NaCl. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ μ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 μ g/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	<p>The Ebola virus VP40, also known as Matrix VP40 protein, plays a central role in virus particle assembly and budding, orchestrating intricate interactions with both viral and host components. It functions by interacting with the viral ribonucleocapsid and members of the host ESCRT system, including VPS4, PDCD6IP/ALIX, NEDD4, or TGS101, essential for efficient budding. Additionally, its association with the host E3 ubiquitin ligase SMURF2 facilitates virus budding. Notably, VP40 may contribute to immune cell dysfunction by being packaged into exosomes, diminishing the viability of recipient cells through RNAi suppression and exosome-bystander apoptosis. Existing in various oligomeric forms, such as homodimers, homoheptamers critical for budding, and homooctamers involved in genome replication and RNA binding, VP40 undergoes dynamic structural transitions upon reorganization at the plasma membrane into a hexameric form using phosphatidylinositol 4,5-bisphosphate (PI(4,5)P₂). These hexamers are crucial for the budding process, while octamers play a role in genome replication and RNA binding. VP40 further interacts with host factors including TSG101, NEDD4, PDCD6IP/ALIX, SMURF2, ITCH, and nucleoprotein/NP, highlighting its pivotal role in governing virus assembly and egress.</p>
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Caution: Product has not been fully validated for medical applications. For research use only.

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