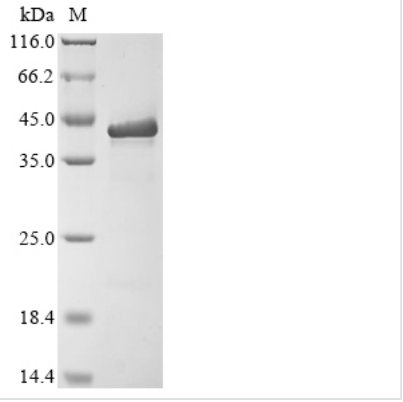
Recombinant Zaire ebolavirus Matrix protein VP40 (VP40)

Product Code	CSB-BP762349ZAT
Abbreviation	Recombinant Zaire ebolavirus VP40 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.	Q77DJ6
Product Type	Recombinant Proteins
Immunogen Species	Zaire ebolavirus (strain Kikwit-95) (ZEBOV) (Zaire Ebola virus)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MRRVILPTAPPEYMEAIYPVRSNSTIARGGNSNTGFLTPESVNGDTPSNPLRPI ADDTIDHASHTPGSVSSAFILEAMVNVISGPKVLMKQIPIWLPLGVADQKTYSF DSTTAAIMLASYTITHFGKATNPLVRVNRLGPGIPDHPLRLLRIGNQAFLQEFVL PPVQLPQYFTFDLTALKLITQPLPAATWTDDTPTGSNGALRPGISFHPKLRPILL PNKSGKKGNSADLTSPEKIQAIMTSLQDFKIVPIDPTKNIMGIEVPETLVHKLTG KKVTSKNGQPIIPVLLPKYIGLDPVAPGDLTMVITQDCDTCHSPASLPAVIEK
Research Area	Others
Source	Baculovirus
Target Names	VP40
Protein Names	Recommended name: Matrix protein VP40 Alternative name(s): Membrane-associated protein VP40
Expression Region	1-326aa
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	39.1
Protein Length	Full Length
Image	



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

Description

Producing recombinant Zaire ebolavirus Matrix protein VP40 in baculovirus involves co-cloning the gene encoding the full-length VP40 protein (1-326aa) into an expression vector with an N-terminal 10xHis-tag and C-terminal Myc-tag gene, followed by transformation into baculovirus cells. These cells are cultured under conditions that promote protein expression. After sufficient growth is achieved, the cells are lysed to release the recombinant Zaire ebolavirus Matrix protein VP40. Protein purification is performed by affinity chromatography. Its purity is assessed using SDS-PAGE, exceeding 85%.

Zaire ebolavirus Matrix protein VP40 is a crucial component involved in the assembly and budding of the Ebola virus. VP40 plays a central role in virion formation and egress from host cells [1]. It is essential for driving the final stage of Ebola virus replication, which involves the budding of new virus particles from infected cells [2]. VP40 is the most abundant protein in Ebola virus particles, contributing to their filamentous structure and variations in length [3]. The protein facilitates viral budding by interacting with the host cell plasma membrane and promoting the formation of filamentous virus particles [4].

Studies have shown that VP40 forms octamers vital for Ebola virus replication [5]. VP40 has been found to interact with other viral proteins and host factors to mediate specific virus-host interactions necessary for efficient virion release [6]. The protein has also been associated with acetylation modifications that impact its function in virus assembly and release [7].

Furthermore, VP40 has been linked to the organization of the Ebola virus structure, forming a lattice within the viral envelope and interacting with the nucleocapsid to facilitate the assembly of virus particles [8]. It possesses conserved motifs that enable interactions with ubiquitin ligases, further influencing the budding process of filoviruses.

References:
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Shelf Life

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