Data Sheet (Cat.No.TMPH-00803)

TargetMol

HBV-A subtype adw2 (strain Rutter 1979) Capsid protein (His)

General Information

Synonyms:	Core protein;Core antigen;p21.5;Capsid protein;HBcAg
Protein Construction:	1-185 aa
Species:	HBV-A
Expression Host:	E. coli
Accession:	P03148
Molecular Weight:	25.4 kDa (predicted)
AA Sequence:	MDIDPYKEFGATVELLSFLPSDFFPSVRDLLDTASALYREALESPEHCSPHHTALRQAILCWGELMTLATWVG NNLEDPASRDLVVNYVNTNVGLKIRQLLWFHISCLTFGRETVLEYLVSFGVWIRTPPAYRPPNAPILSTLPETTV VRRRDRGRSPRRRTPSPRRRRSPSPRRRRSQSRESQC

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	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, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Self assembles to form an icosahedral capsid. Most capsids appear to be large particles with an icosahedral symmetry of T=4 and consist of 240 copies of capsid protein, though a fraction forms smaller T=3 particles

consisting of 180 capsid proteins. Entering capsids are transported along microtubules to the nucleus. Phosphorylation of the capsid is thought to induce exposure of nuclear localization signal in the C-terminal portion of the capsid protein that allows binding to the nuclear pore complex via the importin (karyopherin-) alpha and beta. Capsids are imported in intact form through the nuclear pore into the nuclear basket, where it probably binds NUP153. Only capsids that contain the mature viral genome can release the viral DNA and capsid protein into the nucleoplasm. Immature capsids get stuck in the basket. Capsids encapsulate the pre-genomic RNA and the P protein. Pre-genomic RNA is reverse-transcribed into DNA while the capsid is still in the cytoplasm. The capsid can then either be directed to the nucleus, providing more genomes for transcription, or bud through the endoplasmic reticulum to provide new virions.

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