Data Sheet (Cat.No.TMPH-00200)

TargetMol

BK polyomavirus (BKPyV) VP1 Protein (His & Myc)

General Information

Synonyms: Major structural protein VP1;Major capsid protein VP1

Protein Construction: 1-362 aa

Species: BKPyV

Expression Host: E. coli

Accession: P03088

Molecular Weight: 45.1 kDa (predicted)

AA Sequence: MAPTKRKGECPGAAPKKPKEPVQVPKLLIKGGVEVLEVKTGVDAITEVECFLNPEMGDPDENLRGFSLKLSAE NDFSSDSPERKMLPCYSTARIPLPNLNEDLTCGNLLMWEAVTVQTEVIGITSMLNLHAGSQKVHEHGGGKPIQ GSNFHFFAVGGEPLEMQGVLMNYRSKYPDGTITPKNPTAQSQVMNTDHKAYLDKNNAYPVECWVPDPSRN ENARYFGTFTGGENVPPVLHVTNTATTVLLDEQGVGPLCKADSLYVSAADICGLFTNSSGTQQWRGLARYFKI RLRKRSVKNPYPISFLLSDLINRRTQRVDGQPMYGMESQVEEVRVFDGTERLPGDPDMIRYIDKQGQLQTKML

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: Tris-based buffer, 50% glycerol

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

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

Forms an icosahedral capsid with a T=7 symmetry and a 50 nm diameter. The capsid is composed of 72 pentamers linked to each other by disulfide bonds and associated with VP2 or VP3 proteins. Interacts with gangliosides GT1b and GD1b containing terminal alpha(2-8)-linked sialic acids on the cell surface to provide virion attachment to

target cell. This attachment induces virion internalization predominantly through caveolin-mediated endocytosis and traffics to the endoplasmic reticulum. Inside the endoplasmic reticulum, the protein folding machinery isomerizes VP1 interpentamer disulfide bonds, thereby triggering initial uncoating. Next, the virion uses the endoplasmic reticulum-associated degradation machinery to probably translocate in the cytosol before reaching the nucleus. Nuclear entry of the viral DNA involves the selective exposure and importin recognition of VP2/Vp3 nuclear localization signal. In late phase of infection, neo-synthesized VP1 encapsulates replicated genomic DNA in the nucleus, and participates in rearranging nucleosomes around the viral DNA.

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