

Recombinant Human Beta-Catenin/CTNNB1 Protein (His & GST Tag)

Catalog No. PKSH031171

Note: Centrifuge before opening to ensure complete recovery of vial contents.

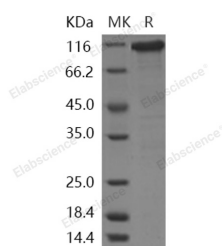
Description

| | |
|------------------------------------|----------------------------|
| Synonyms | armadillo;CTNNB;MRD19 |
| Species | Human |
| Expression Host | Baculovirus-Insect Cells |
| Sequence | Met 1-Leu 781 |
| Accession | P35222-1 |
| Calculated Molecular Weight | 113 kDa |
| Observed molecular weight | 116 kDa |
| Tag | N-His-GST |
| Bioactivity | Not validated for activity |

Properties

| | |
|-----------------------|--|
| Purity | > 85 % as determined by reducing SDS-PAGE. |
| Endotoxin | < 1.0 EU per µg of the protein as determined by the LAL method. |
| Storage | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months. |
| Shipping | This product is provided as lyophilized powder which is shipped with ice packs. |
| Formulation | Lyophilized from sterile 50mM Tris, 100mM NaCl, 2mM GSH, 10% glycerol, pH 8.0 Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual. |
| Reconstitution | Please refer to the printed manual for detailed information. |

Data



> 85 % as determined by reducing SDS-PAGE.

Background

beta-Catenin, also known as CTNNB1, is a member of the armadillo family of proteins. These proteins have multiple

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copies of the so-called armadillo repeat domain, which is specialized for protein-protein binding. It is part of a complex of proteins that constitute adherens junctions (AJs). AJs are necessary for the creation and maintenance of epithelial cell layers by regulating cell growth and adhesion between cells. CTNNB1 also anchors the actin cytoskeleton and may be responsible for transmitting the contact inhibition signal that causes cells to stop dividing once the epithelial sheet is complete. Finally, beta-Catenin binds to the product of the APC gene, which is mutated in adenomatous polyposis of the colon. Defects in beta-Catenin can cause colorectal cancer, pilomatrixoma (PTR), medulloblastoma, and ovarian cancer. CTNNB1 is a key downstream component of the canonical Wnt signaling pathway. In the absence of Wnt, it forms a complex with AXIN1, AXIN2, APC, CSNK1A1 and GSK3B that promotes phosphorylation on N-terminal Ser and Thr residues and ubiquitination of CTNNB1 via BTRC and its subsequent degradation by the proteasome. In the presence of Wnt ligand, beta-Catenin is not ubiquitinated and accumulates in the nucleus, where it acts as a coactivator for transcription factors of the TCF/LEF family, leading to activate Wnt responsive genes. CTNNB1 is involved in the regulation of cell adhesion. The majority of CTNNB1 is localized to the cell membrane and is part of E-cadherin/catenin adhesion complexes which are proposed to couple cadherins to the actin cytoskeleton.