

Recombinant Human GSK3B Protein(Sumo Tag)

Catalog Number: PDEH100632

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

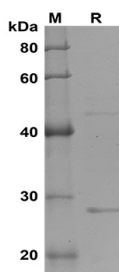
Description

Species	Human
Source	E.coli-derived Human GSK3B protein Glu355-Thr433, with an N-terminal Sumo
Mol_Mass	21.5 kDa
Accession	P49841-2
Bio-activity	Not validated for activity

Properties

Purity	> 90% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg 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 a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human GSK3B proteins, 2µg/lane of
Recombinant Human GSK3B proteins was resolved with
SDS-PAGE under reducing conditions, showing bands at 28
KD

Background

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GSK3B is a serine-threonine kinase, belonging to the glycogen synthase kinase subfamily. It contains 1 protein kinase domain, and is expressed in the testis, thymus, prostate, and ovary and weakly expressed in the lung, brain, and kidney. GSK3B is involved in energy metabolism, neuronal cell development, and body pattern formation. Polymorphisms in the GSK3B gene have been implicated in modifying the risk of Parkinson's disease, and studies in mice show that overexpression of this gene may be relevant to the pathogenesis of Alzheimer's disease. GSK3B participates in the Wnt signaling pathway. It is implicated in the hormonal control of several regulatory proteins including glycogen synthase, MYB, and the transcription factor JUN. Phosphorylates JUN at sites proximal to its DNA-binding domain, thereby reducing its affinity for DNA. Phosphorylates MUC1 in breast cancer cells, and decreases the interaction of MUC1 with CTNNB1/beta-catenin. GSK3B also plays an important role in ERBB2-dependent stabilization of microtubules at the cell cortex. It prevents the phosphorylation of APC and CLASP2, allowing its association with the cell membrane. In turn, membrane-bound APC allows the localization of MACF1 to the cell membrane, which is required for microtubule capture and stabilization. GSK3B phosphorylates MACF1 and this phosphorylation inhibits the binding of MACF1 to microtubules which are critical for its role in bulge stem cell migration and skin wound repair. It may be required for early embryo development and neuron differentiation.

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