

# Recombinant Human Glycogen Synthase Kinase 3 Beta, His-tagged

**Cat. No.** GSK3B-2649H    **Lot. No.** (See product label)

## SPECIFICATION

<b>Product Overview</b>	Recombinant human GSK-3 $\beta$ was fused at the N-terminus to a His•Tag sequence and expressed in E. coli. MW = 53-56 kDa.
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>Description</b>	Glycogen synthase kinase-3 (GSK-3) is a serine/threonine kinase that was first characterized by its role in intermediary metabolism. GSK-3 $\beta$ is a dual-specificity kinase that is important role in insulin- and Wnt-mediated cellular signaling events. In Alzheimer"s disease GSK-3 $\beta$ is reported to affect microtubule stability via the phosphorylation of microtubule associated protein, Tau. Other known substrates include glycogen synthase, p90rsk, c-Jun, and CREB.
<b>Purity</b>	$\geq$ 90% by SDS-PAGE.
<b>Form</b>	Solid. Lyophilized from 0.1 M NH <sub>4</sub> CO <sub>3</sub> .
<b>Specific Activity</b>	1 g GSK-3 $\beta$ maximally phosphorylates 100 ng Tau protein in 30 min in an in vitro kinase assay at 30°C, pH 7.5.
<b>Recommended Reaction Conditions</b>	25 mM Tris-HCl, pH 7.5, 5 mM $\beta$ -glycerophosphate, 12 mM MgCl <sub>2</sub> , 2 mM DTT, 100 $\mu$ M Na <sub>3</sub> VO <sub>4</sub> , 200 $\mu$ M ATP, 30°C.

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<b>Solubility</b>	Reconstitute in sterile PBS to a final concentration of 1 mg/ml.
<b>Toxicity</b>	Standard Handling (MSDS available upon request).
<b>Storage</b>	≤ -70°C. Avoid freeze/thaw. Following reconstitution, aliquot and freeze (-70°C).

## GENE INFORMATION

<b>Gene Name</b>	GSK3B glycogen synthase kinase 3 beta [ Homo sapiens ]
<b>Synonyms</b>	GSK3B; glycogen synthase kinase 3 beta; Glycogen synthase kinase-3 beta; GSK-3 beta; EC 2.7.11.26; glycogen synthase kinase -3 beta; GSK3beta isoform
<b>Gene ID</b>	2932
<b>mRNA Refseq</b>	NM_001146156
<b>Protein Refseq</b>	NP_001139628
<b>MIM</b>	605004
<b>UniProt ID</b>	P49841
<b>Chromosome Location</b>	3q13.3
<b>Pathway</b>	Chemokine signaling pathway; Alzheimer"s disease; Axon guidance; B cell receptor signaling pathway; Basal cell carcinoma; Cell cycle; Colorectal cancer; Endometrial cancer; ErbB signaling pathway; Focal adhesion; Hedgehog signaling pathway; Insulin signaling pathway; Melanogenesis; Neurotrophin signaling pathway; Prostate cancer; T cell receptor signaling pathway; Wnt signaling pathway; Axon guidance;

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Signaling by Wnt; Signalling by NGF

**Function**

ATP binding; nucleotide binding; transferase activity; glycogen synthase kinase 3 activity; protein kinase A catalytic subunit binding; tau-protein kinase activity; NF-kappaB binding; beta-catenin binding; p53 binding

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