Recombinant Human GSK3A Protein (S2-S483), GST tagged

Cat. No. GSK3A-0316H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human GST-TEV-GG-GSK3α(S2-S483 end) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	S2-S483
Description	Constitutively active protein kinase that acts as a negative regulator in the hormonal control of glucose homeostasis, Wnt signaling and regulation of transcription factors and microtubules, by phosphorylating and inactivating glycogen synthase (GYS1 or GYS2), CTNNB1/beta-catenin, APC and AXIN1. Requires primed phosphorylation of the majority of its substrates. Contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis. Regulates glycogen metabolism in liver, but not in muscle. May also mediate the development of insulin resistance by regulating activation of transcription factors. In Wnt signaling, regulates the level and transcriptional activity of nuclear CTNNB1/beta-catenin. Facilitates amyloid precursor protein (APP) processing and the generation of APP-derived amyloid plaques found in Alzheimer disease. May be involved in the regulation of replication in pancreatic beta-cells. Is necessary for the establishment of neuronal polarity and axon outgrowth. Through phosphorylation of the anti-apoptotic protein MCL1, may control cell apoptosis in response to growth factors deprivation. Acts as a regulator of autophagy by mediating phosphorylation of KAT5/TIP60 under

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	starvation conditions, leading to activate KAT5/TIP60 acetyltransferase activity and promote acetylation of key autophagy regulators, such as ULK1 and RUBCNL/Pacer. Negatively regulates extrinsic apoptotic signaling pathway via death domain receptors. Promotes the formation of an anti-apoptotic complex, made of DDX3X, BRIC2 and GSK3B, at death receptors, including TNFRSF10B. The anti-apoptotic function is most effective with weak apoptotic signals and can be overcome by stronger stimulation.
Form	Liquid
Endotoxin	< 0.01 EU per μg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.

GENE INFORMATION

Gene Name	GSK3A glycogen synthase kinase 3 alpha [Homo sapiens (human)]
Official Symbol	GSK3A
Synonyms	GSK3A; glycogen synthase kinase 3 alpha; glycogen synthase kinase-3 alpha; GSK-

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	3 alpha; serine/threonine-protein kinase GSK3A; DKFZp686D0638;
Gene ID	2931
mRNA Refseq	NM_019884
Protein Refseq	NP_063937
MIM	606784
UniProt ID	P49840

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