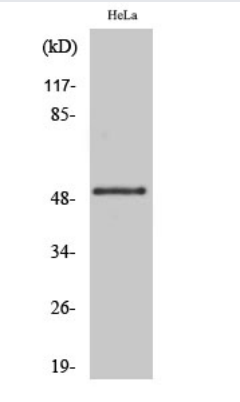
GSK3alpha Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	GSK3alpha, Polyclonal Antibody
Full Product Name	GSK3alpha (phospho Ser21) Polyclonal Antibody
Product Gene Name	anti-GSK3alpha antibody
Product Synonym Gene Name	GSK3A
Product Synonym Names	GSK3A; Glycogen synthase kinase-3 alpha; GSK-3 alpha; Serine/threonine-protein kinase GSK3A
Clonality	Polyclonal
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.
Molecular Weight	50,981 Da
Chromosome Location	Chromosome: 19; NC_000019.9 (42734338..42746736, complement). Location: 19q13.2
OMIM	606784
3D Structure	ModBase 3D Structure for P49840
Applications Tested/Suitable for anti-GSK3alpha antibody	Western Blot (WB), Immunohistochemistry-Paraffin (IHC-P), Immunoprecipitation (IP)
Related Product Information for anti-GSK3alpha antibody	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.
Other Notes	Small volumes of anti-GSK3alpha antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for GSK3alpha purchase	MBS9241986 is an antibody targeting GSK3alpha. Also known as GSK3alpha (phospho Ser21) Polyclonal Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.



Wester Blot (WB) of anti-GSK3alpha antibody
Dilution: Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300.
Immunoprecipitation: 2-5 ug/mg lysate. ELISA: 1/20000. Not yet tested in other applications.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GSK3alpha. It may not necessarily be applicable to this product.

NCBI GI #	49574532
NCBI GeneID	2931
NCBI Accession #	NP_063937.2
UniProt Primary Accession #	P49840
UniProt Secondary Accession #	O14959
UniProt Related Accession #	P49840
GenBank Nucleotide #	NM_019884.2
NCBI Official Full Name	glycogen synthase kinase-3 alpha
NCBI Official Synonym Full Names	glycogen synthase kinase 3 alpha
NCBI Official Symbol	GSK3A
UniProt Protein Name	Glycogen synthase kinase-3 alpha
UniProt Synonym Protein Names	Serine/threonine-protein kinase GSK3A
UniProt Gene Name	GSK3A
UniProt Synonym Gene Names	GSK-3 alpha
UniProt Entry Name	GSK3A_HUMAN
NCBI Protein Information	glycogen synthase kinase-3 alpha; GSK-3 alpha; serine/threonine-protein kinase GSK3A
NCBI Summary for GSK3alpha	This gene encodes a multifunctional Ser/Thr protein kinase that is implicated in the control of several regulatory proteins including glycogen synthase, and transcription factors, such as JUN. It also plays a role in the WNT and PI3K signaling pathways, as well as regulates the production of beta-amyloid peptides associated with Alzheimer's disease. [provided by RefSeq, Oct 2011]

UniProt Comments for GSK3alpha	GSK3A: a proline-directed protein kinase of the GSK family. Implicated in the control of several regulatory proteins including glycogen synthase, Myb, and c-Jun. GSK3 and GSK3 have similar functions. GSK3 phophorylates tau, the principal component of neurofibrillary tangles in Alzheimer disease and is required for maximal production of amyloid plaque peptides by secretase. A GSK3 promoter SNP effects progression of bipolar disorder. The GSK3 inhibitor, lithium, is used to treat bipolar disorder and is seen to block plaque formation. GSK3 generally opposes the action of insulin, and GSK3 hyperactivity is thought to contribute to insulin resistant (type II) diabetes. GSK3 also negatively regulates cardiac hypertrophy. A tumor suppressor role is indicated by the oncogenic potential of stabilized -catenin mutants that lack GSK3 phosphorylation sites. Inhibitor: AR-A014418 Protein type: EC 2.7.11.1; EC 2.7.11.26; Protein kinase, CMGC; Kinase, protein; Protein kinase, Ser/Thr (non-receptor); CMGC group; GSK family; GSK subfamily Chromosomal Location of Human Ortholog: 19q13.2 Cellular Component: beta-catenin destruction complex; cytosol Molecular Function: protein serine/threonine kinase activity; protein binding; tau-protein kinase activity; ATP binding Biological Process: glycogen metabolic process; proteasomal ubiquitin-dependent protein catabolic process; genetic imprinting; nerve growth factor receptor signaling pathway; negative regulation of insulin receptor signaling pathway; protein amino acid phosphorylation; negative regulation of transferase activity; positive regulation of cAMP biosynthetic process; negative regulation of glycogen biosynthetic process; epidermal growth factor receptor signaling pathway; nervous system development; negative regulation of TOR signaling pathway; cell migration; phosphoinositide-mediated signaling; Wnt receptor signaling pathway; fibroblast growth factor receptor signaling pathway; unfolded protein response; positive regulation of peptidyl-serine phosphorylation; negative regulation of glucose import; cellular protein metabolic process; unfolded protein response, activation of signaling protein activity; cellular response to insulin stimulus; regulation of systemic arterial blood pressure; insulin receptor signaling pathway; positive regulation of protein catabolic process; innate immune response; positive regulation of transcription from RNA polymerase II promoter; positive regulation of heart contraction
Research Articles on GSK3alpha	**1.** Activation of GABA(B) receptors significantly inhibits Akt/GSK-3 signaling in a beta-arrestin-dependent pathway.
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