GSK3beta Antibody – Mouse Monoclonal

PRODUCT OVERVIEW

Product Name	GSK3beta, Monoclonal Antibody
Full Product Name	GSK3beta Mouse Monoclonal Antibody (2C6)
Product Gene Name	anti-GSK3beta antibody
Product Synonym Names	GSK3B
Clonality	Monoclonal
Host	Mouse
Species Reactivity	Human, Rat, Mouse
Form/Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Purity/Purification	Affinity-purified from mouse ascites by affinity-chromatography using specific immunogen.
Preparation and Storage	Store at-20 degree C for 1 year.
Molecular Weight	46
OMIM	605004
3D Structure	ModBase 3D Structure for P49841
Immunogen	Synthetic Peptide of GSK3beta at AA range of 1-80
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-GSK3beta antibody	Western Blot (WB), Immunohistochemistry (IHC)
Application Notes for anti-GSK3beta antibody	WB: 1:1000-2000 IHC: 1:100-200
Related Product Information for anti-GSK3beta antibody	MBS8528811 is an antibody targeting GSK3beta. Also known as GSK3beta Mouse Monoclonal Antibody (2C6). Reactive in Human, Rat, Mouse. Host: Mouse.
Other Notes	Small volumes of anti-GSK3beta 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.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for GSK3beta. It may not necessarily be applicable to this product.

NCBI GI #	225903437
NCBI GeneID	2932
NCBI Accession #	NP_001139628.1
UniProt Primary Accession #	P49841
UniProt Secondary Accession #	Q9BWH3; Q9UL47; D3DN89
UniProt Related Accession #	P49841
GenBank Nucleotide #	NM_001146156.1

NCBI Official Full Name	glycogen synthase kinase-3 beta isoform 2
NCBI Official Synonym Full Names	glycogen synthase kinase 3 beta
NCBI Official Symbol	GSK3B
UniProt Protein Name	Glycogen synthase kinase-3 beta
UniProt Synonym Protein Names	Serine/threonine-protein kinase GSK3B (EC:2.7.11.1)
UniProt Gene Name	GSK3B
UniProt Synonym Gene Names	GSK-3 beta
NCBI Protein Information	glycogen synthase kinase-3 beta
NCBI Summary for GSK3beta	The protein encoded by this gene is a serine-threonine kinase belonging to the glycogen synthase kinase subfamily. It is a negative regulator of glucose homeostasis and is involved in energy metabolism, inflammation, ER-stress, mitochondrial dysfunction, and apoptotic pathways. Defects in this gene have been associated with Parkinson disease and Alzheimer disease. [provided by RefSeq, Aug 2017]
UniProt Comments for GSK3beta	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), EIF2B, CTNNB1/beta-catenin, APC, AXIN1, DPYSL2/CRMP2, JUN, NFATC1/NFATC, MAPT/TAU and MACF1. Requires primed phosphorylation of the majority of its substrates. In skeletal muscle, contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis. May also mediate the development of insulin resistance by regulating activation of transcription factors. Regulates protein synthesis by controlling the activity of initiation factor 2B (EIF2BE/EIF2B5) in the same manner as glycogen synthase. In Wnt signaling, GSK3B forms a multimeric complex with APC, AXIN1 and CTNNB1/beta-catenin and phosphorylates the N-terminus of CTNNB1 leading to its degradation mediated by ubiquitin/proteasomes. Phosphorylates JUN at sites proximal to its DNA-binding domain, thereby reducing its affinity for DNA. Phosphorylates NFATC1/NFATC on conserved serine residues promoting NFATC1/NFATC nuclear export, shutting off NFATC1/NFATC gene regulation, and thereby opposing the action of calcineurin. Phosphorylates MAPT/TAU on 'Thr-548', decreasing significantly MAPT/TAU ability to bind and stabilize microtubules. MAPT/TAU is the principal component of neurofibrillary tangles in Alzheimer disease. Plays an important role in ERBB2-dependent stabilization of microtubules at the cell cortex. Phosphorylates MACF1, inhibiting its binding to microtubules which is critical for its role in bulge stem cell migration and skin wound repair. Probably regulates NF-kappa-B (NFKB1) at the transcriptional level and is required for the NF-kappa-B-mediated anti-apoptotic response to TNF-alpha (TNF/TNFA). Negatively regulates replication in pancreatic beta-cells, resulting in apoptosis, loss of beta-cells and diabetes. Through phosphorylation of the anti-apoptotic protein MCL1, may control cell apoptosis in response to growth factors deprivation. Phosphorylates MUC1 in breast cancer cells, decreasing the interaction of MUC1 with CTNNB1/beta-catenin. Is necessary for the establishment of neuronal polarity and axon outgrowth. Phosphorylates MARK2, leading to inhibit its activity. Phosphorylates SIK1 at 'Thr-182', leading to sustain its activity. Phosphorylates ZC3HAV1 which enhances its antiviral activity. Phosphorylates SNAI1, leading to its BTRC-triggered ubiquitination and proteasomal degradation. Phosphorylates SFPQ at 'Thr-687' upon T-cell activation. Phosphorylates NR1D1 st 'Ser-55' and 'Ser-59' and stabilizes it by protecting it from proteasomal degradation. Regulates the circadian clock via phosphorylation of the major clock components including ARNTL/BMAL1, CLOCK and PER2. Phosphorylates CLOCK AT 'Ser-427' and targets it for proteasomal degradation. Phosphorylates ARNTL/BMAL1 at 'Ser-17' and 'Ser-21' and primes it for ubiquitination and proteasomal degradation. Phosphorylates OGT at 'Ser-3' or 'Ser-4' which positively regulates its activity. Phosphorylates MYCN in neuroblastoma cells which may promote its degradation (PubMed:24391509).
Research Articles on GSK3beta	**1.** In conclusion, the authors demonstrated that AKT activation prevents apoptosis, partly through inhibition of GSK3beta, resulting in pluripotent stem cells survival.
Precautions	All of MyBioSource's Products are for scientific laboratory research purposes and are not for diagnostic, therapeutics, prophylactic or in vivo use. Through your purchase, you expressly represent and warrant to MyBioSource that you will properly test and use any Products purchased from MyBioSource in accordance with industry standards. MyBioSource and its authorized distributors reserve the right to refuse to process any order where we reasonably believe that the intended use will fall outside of our acceptable guidelines.

Disclaimer	While every efforts were made to ensure the accuracy of the information provided in this datasheet, MyBioSource will not be liable for any omissions or errors contained herein. MyBioSource reserves the right to make changes to this datasheet at any time without prior notice. It is the responsibility of the customer to report product performance issues to MyBioSource within 30 days of receipt of the product. Please visit our Terms & Conditions page for more information.
Product Note	Select online data sheet information is drawn from bioinformatics databases, occasionally resulting in ambiguous or non-relevant product information. It is the responsibility of the customer to review, verify, and evaluate the information to make sure it matches their requirements before purchasing the kit. Our ELISA Kit assays are dynamic research tools and sometimes they may be updated and improved. If the format of this assay is important to you then please request the current manual or contact our technical support team with a presales inquiry before placing an order. We will confirm the current details of the assay. We cannot guarantee the sample manual posted online is the most current manual, it is intended to serve as an example only. Please refer to the instructions For Use provided with the assay kit for precise details.

For Research Use Only. Not for use in diagnostic or therapeutic procedures.

MyBioSource | Tel: +1.858.633.0165 | Fax: +1.858.633.0166 | mybiosource.com/contact-us
Online datasheet: https://www.mybiosource.com/monoclonal-human-mouse-rat-antibody/gsk3beta/8528811