

Mouse Gsk3b Antibody (N-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14847a

Specification

Mouse Gsk3b Antibody (N-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	O9WV60
Other Accession	P18266 , P49841 , NP_062801.1
Reactivity	Mouse
Predicted	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	46710
Antigen Region	30-59

Mouse Gsk3b Antibody (N-term) - Additional Information

Gene ID 56637

Other Names

Glycogen synthase kinase-3 beta, GSK-3 beta, Serine/threonine-protein kinase GSK3B, Gsk3b

Target/Specificity

This Mouse Gsk3b antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 30-59 amino acids from the N-terminal region of mouse Gsk3b.

Dilution

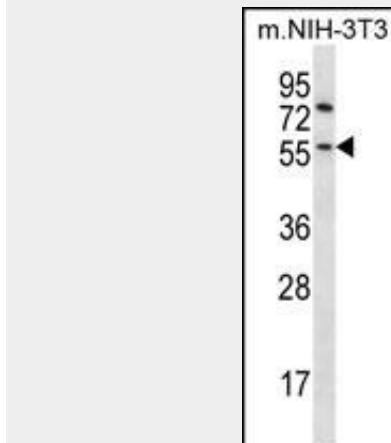
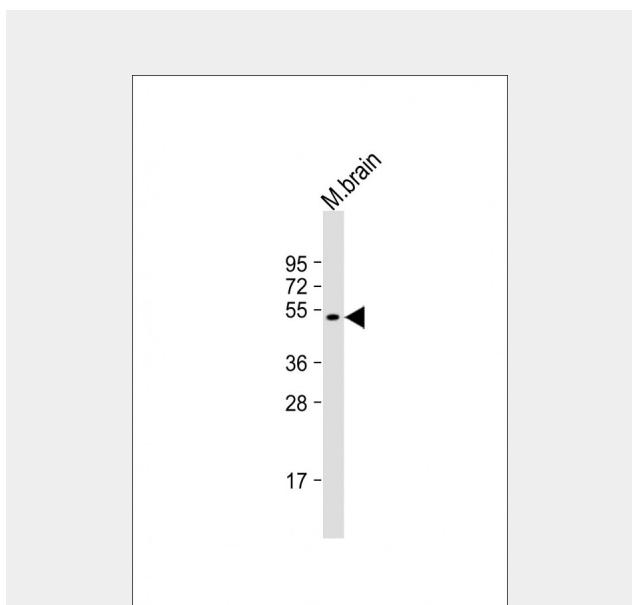
WB~~1:1000
IHC-P~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw



Mouse Gsk3b Antibody (N-term) (Cat. #AP14847a) western blot analysis in mouse NIH-3T3 cell line lysates (35ug/lane). This demonstrates the Gsk3b antibody detected the Gsk3b protein (arrow).

cycles.

Precautions

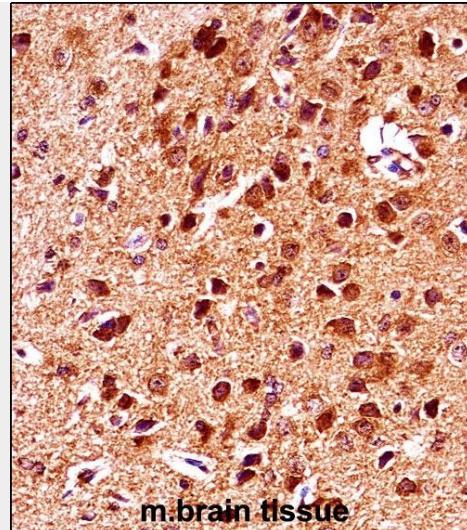
Mouse Gsk3b Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Mouse Gsk3b Antibody (N-term) - Protein Information

Name Gsk3b

Function

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. 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-



Mouse Gsk3b Antibody (N-term) (AP14847a) immunohistochemistry analysis in formalin fixed and paraffin embedded mouse brain tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of Mouse Gsk3b Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Mouse Gsk3b Antibody (N-term) - Background

Participates in the Wnt signaling pathway. 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. May phosphorylate MUC1 and decrease the interaction of MUC1 with CTNNB1/beta-catenin. Phosphorylates CTNNB1/beta-catenin. Phosphorylates SNAI1 (By similarity).

Mouse Gsk3b Antibody (N-term) - References

Liu, Y., et al. Diabetologia 53(12):2600-2610(2010)
Graham, J.A., et al. J. Biol. Chem. 285(43):32852-32859(2010)
Ahmad, I., et al. Oncogene (2010) In press :
Asada, N., et al. J. Neurosci. 30(26):8852-8865(2010)
Carew, R.M., et al. BMC Dev. Biol. 10, 73 (2010) :

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. 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 SFPQ at 'Thr-679' upon T-cell activation. Phosphorylates SNAI1, leading to its BTRC-triggered ubiquitination and proteasomal degradation. Phosphorylates NR1D1 at '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 (PubMed:20049328, PubMed:28903391). Phosphorylates CLOCK AT 'Ser-427' and targets it for proteasomal degradation (By similarity). Phosphorylates ARNTL/BMAL1 at 'Ser-17' and 'Ser-21' and primes it for ubiquitination and proteasomal degradation (PubMed:20049328, PubMed:28903391). Phosphorylates OGT at 'Ser-3' or 'Ser-4' which positively regulates its activity. Regulates the circadian rhythmicity of hippocampal long-term potentiation and ARNTL/BMAL1 and PER2 expression (PubMed:28556462). Acts as a regulator of autophagy by mediating phosphorylation of KAT5/TIP60 under starvation conditions, leading to activate KAT5/TIP60 acetyltransferase activity and

promote acetylation of key autophagy regulators, such as ULK1 and RUBCNL/Pacer (PubMed:22539723). 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 (By similarity).

Cellular Location

Cytoplasm. Nucleus. Cell membrane. Note=The phosphorylated form shows localization to cytoplasm and cell membrane. The MEMO1-RHOA-DIAPH1 signaling pathway controls localization of the phosphorylated form to the cell membrane (By similarity).

Mouse Gsk3b Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)