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GSK3A Antibody (Center)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21095a

Specification

GSK3A Antibody (Center) - Product Information

Application	**WB,E**
Primary Accession	P49840
Other Accession	Q91757, P18266, Q9WV60, P49841, P18265, Q2NL51
Reactivity	**Mouse, Rat**
Predicted	**Human, Xenopus**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**50981**

GSK3A Antibody (Center) - Additional Information

Gene ID 2931

Other Names
Glycogen synthase kinase-3 alpha, GSK-3 alpha, Serine/threonine-protein kinase GSK3A, GSK3A

Target/Specificity
This GSK3A antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 348-382 amino acids from the Central region of human GSK3A.

Dilution
WB~~1:1000

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 cycles.

Precautions
GSK3A Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

GSK3A Antibody (Center) - Protein Information

Name GSK3A

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), CTNNB1/beta-catenin, APC and AXIN1 (PubMed:11749387, PubMed:17478001, PubMed:19366350). Requires primed phosphorylation of the majority of its substrates (PubMed:11749387, PubMed:17478001, PubMed:19366350). Contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis (PubMed:11749387, PubMed:17478001, PubMed:19366350). Regulates glycogen metabolism in liver, but not in muscle (By similarity). May also mediate the development of insulin resistance by regulating activation of transcription factors (PubMed:10868943, PubMed:17478001). In Wnt signaling, regulates the level and transcriptional activity of nuclear CTNNB1/beta-catenin (PubMed:17229088). Facilitates amyloid precursor protein (APP) processing and the generation of APP-derived amyloid plaques found in Alzheimer disease (PubMed:12761548). May be involved in the regulation of replication in pancreatic beta-cells (By similarity). Is necessary for the establishment of neuronal polarity and axon outgrowth (By similarity). Through phosphorylation of the anti-apoptotic protein MCL1, may control cell apoptosis in response to growth factors deprivation (By similarity). Acts as a regulator of autophagy by mediating phosphorylation of KAT5/TIP60 under starvation conditions which activates KAT5/TIP60 acetyltransferase activity and promotes acetylation of key autophagy regulators, such as ULK1 and RUBCNL/Pacer (PubMed:30704899). 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). Phosphorylates mTORC2 complex component RICTOR at 'Thr- 1695' which facilitates FBXW7-mediated ubiquitination and subsequent degradation of RICTOR (PubMed:25897075).

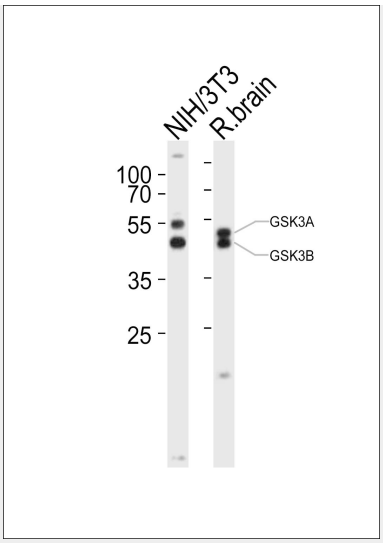
GSK3A Antibody (Center) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GSK3A Antibody (Center) - Images

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Western blot analysis of lysates from mouse NIH/3T3 cell line, rat brain tissue lysate(from left to right), using GSK3A Antibody (Center)(Cat. #AP21095a). AP21095a was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysates at 20ug per lane.

GSK3A Antibody (Center) - Background

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.

GSK3A Antibody (Center) - References

He X.,et al.Submitted (MAR-1995) to the EMBL/GenBank/DDBJ databases.
Hoshino T.,et al.Submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases.
Grimwood J.,et al.Nature 428:529-535(2004).
Nikoulina S.E.,et al.Diabetes 49:263-271(2000).
Phiel C.J.,et al.Nature 423:435-439(2003).

GSK3A Antibody (Center) - Citations

- Involvement of Protein Acyltransferase ZDHHC3 in Maintaining Oocyte Meiotic Arrest in Xenopus laevis.