

KD-Validated Anti-GSK3 alpha Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI2395**Specification****KD-Validated Anti-GSK3 alpha Rabbit Monoclonal Antibody - Product Information**

Application	WB, FC, ICC
Primary Accession	P49840
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Calculated MW	Predicted, 51 kDa; Observed, 51 kDa
Gene Name	KDa
Aliases	GSK3A Glycogen Synthase Kinase 3 Alpha; Serine/Threonine-Protein Kinase GSK3A; Glycogen Synthase Kinase-3 Alpha; EC 2.7.11.26; GSK-3 Alpha; EC 2.7.11.1; EC 2.7.11
Immunogen	A synthesized peptide derived from human GSK3A

KD-Validated Anti-GSK3 alpha Rabbit Monoclonal Antibody - Additional Information

Gene ID	2931
Other Names	
Glycogen synthase kinase-3 alpha, GSK-3 alpha, 2.7.11.26, Serine/threonine-protein kinase GSK3A, 2.7.11.1, GSK3A	

KD-Validated Anti-GSK3 alpha Rabbit Monoclonal Antibody - 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](http://www.uniprot.org/citations/11749387), PubMed: [17478001](http://www.uniprot.org/citations/17478001), PubMed: [19366350](http://www.uniprot.org/citations/19366350)). Requires primed phosphorylation of the majority of its substrates (PubMed: [11749387](http://www.uniprot.org/citations/11749387), PubMed: [17478001](http://www.uniprot.org/citations/17478001), PubMed: [19366350](http://www.uniprot.org/citations/19366350)). Contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis (PubMed: [11749387](http://www.uniprot.org/citations/11749387), PubMed: [17478001](http://www.uniprot.org/citations/17478001), PubMed: [19366350](http://www.uniprot.org/citations/19366350)). Regulates

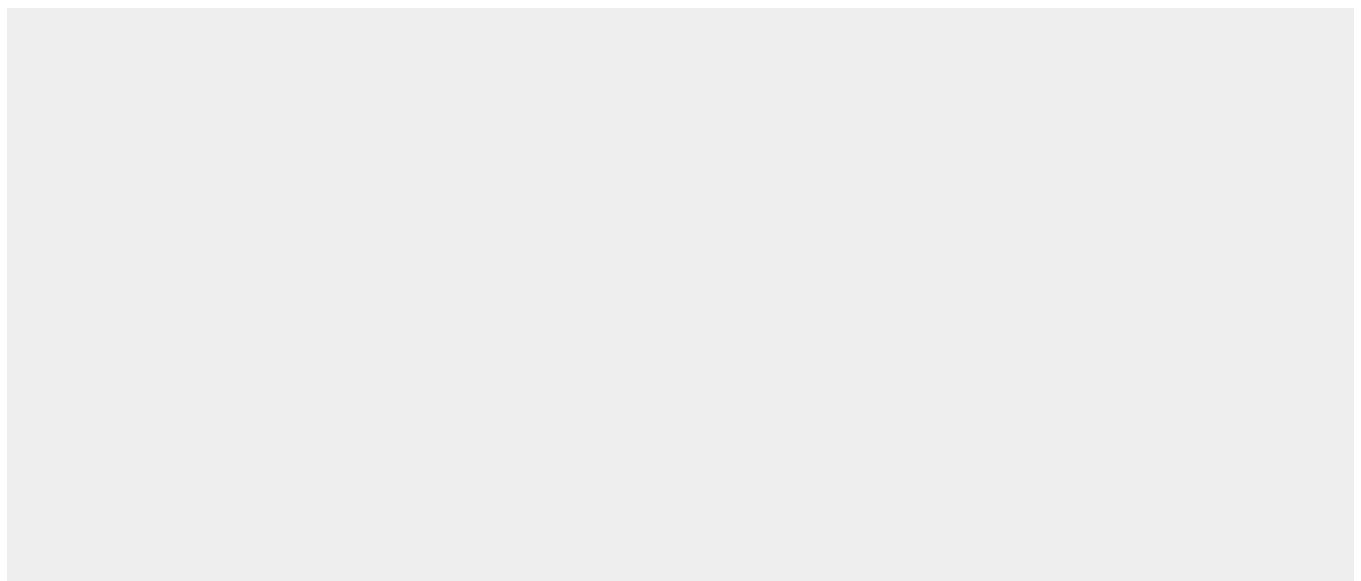
glycogen metabolism in liver, but not in muscle (By similarity). May also mediate the development of insulin resistance by regulating activation of transcription factors (PubMed:10868943, PubMed:17478001). In Wnt signaling, regulates the level and transcriptional activity of nuclear CTNNB1/beta-catenin (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).

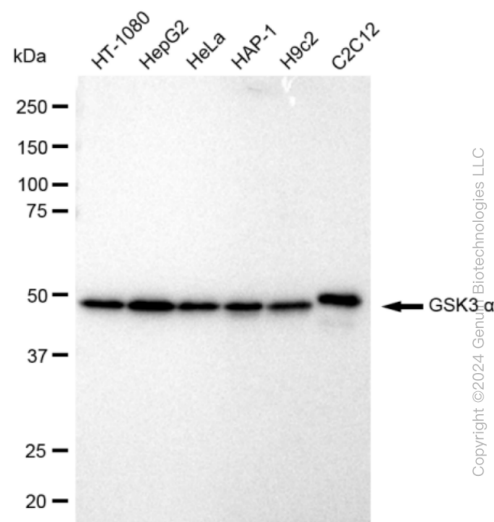
KD-Validated Anti-GSK3 alpha Rabbit Monoclonal Antibody - Protocols

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

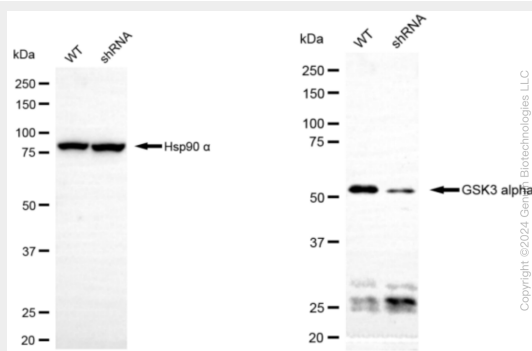
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-GSK3 alpha Rabbit Monoclonal Antibody - Images

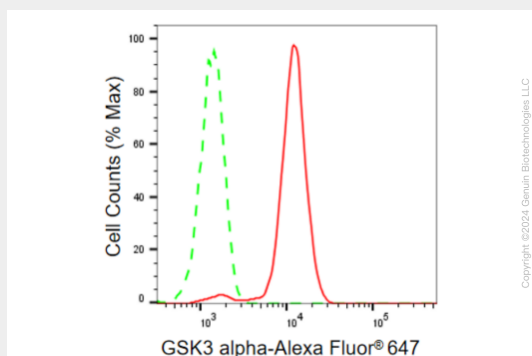




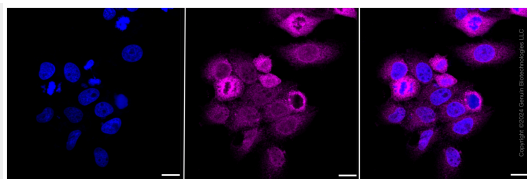
Western blotting analysis using anti-GSK3 α antibody (Cat#AGI2395). Total cell lysates (30 μ g) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-GSK3 α antibody (Cat#AGI2395, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-GSK3 alpha antibody (Cat#AGI2395). GSK3 alpha expression in wild type (WT) and GSK3 alpha shRNA knockdown (KD) HeLa cells with 30 μ g of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-GSK3 alpha antibody (Cat#AGI2395, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of GSK3 alpha expression in HepG2 cells using GSK3 alpha antibody (Cat#AGI2395, 1:2,000). Green, isotype control; red, GSK3 alpha.



Immunocytochemical staining of HepG2 cells with GSK3 alpha antibody (Cat#AGI2395, 1:1,000). Nuclei were stained blue with DAPI; GSK3 alpha was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 μ m.