10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

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 KDa**
Gene Name	**GSK3A**
Aliases	**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, 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).

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 Cytomety
- Cell Culture

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

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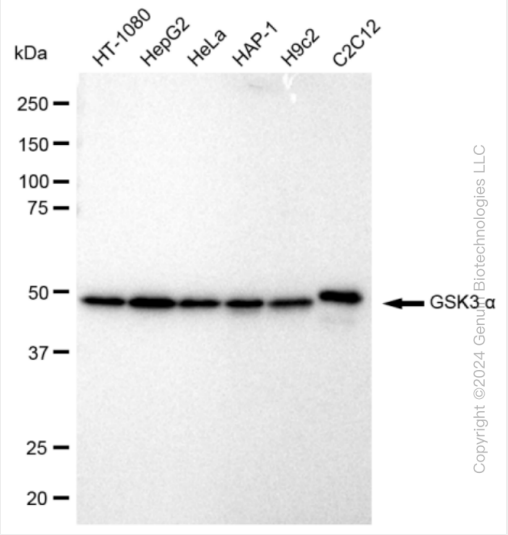
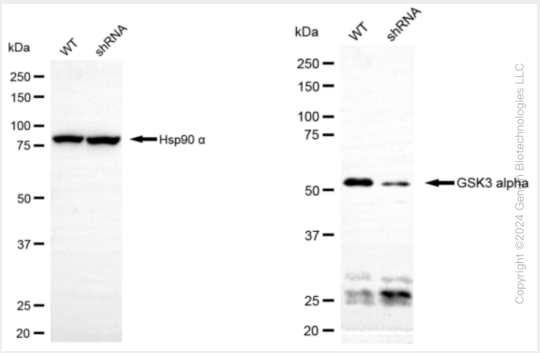
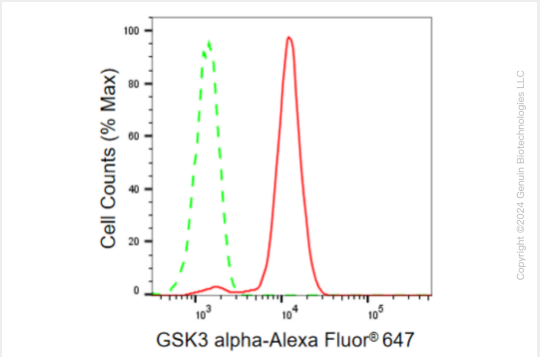


Western blotting analysis using anti-GSK3 α antibody (Cat#AGI2395). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-GSK3 α antibody (Cat#AGI2395, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



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 µg 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.

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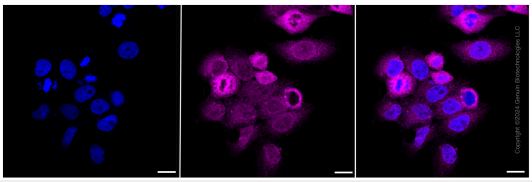

Immunocytochemical staining of HepG2 cells with GSK3 alpha antibody (Cat#AGI2395, 1:1,000). Nuclei were stained blue with DAPI; GSK3 alpha was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: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