

**Anti-GSK3 alpha (RABBIT) Antibody**  
**GSK3 Alpha Antibody**  
**Catalog # ASR5227****Specification**

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**Anti-GSK3 alpha (RABBIT) Antibody - Product Information**

|                  |  |
|------------------|--|
| Host             | Rabbit   |
| Conjugate        | Unconjugated   |
| Target Species   | Human  |
| Reactivity       | Human  |
| Clonality        | Polyclonal   |
| Application      | WB, E, I, LCI  |
| Application Note | This affinity-purified antibody has been tested for use in ELISA and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 52 kDa in size corresponding to GSK3A by western blotting in the appropriate cell lysate or extract. |
| Physical State   | Liquid (sterile filtered)  |
| Buffer           | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2   |
| Immunogen        | This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to the N-Terminal region near aa 1-25 of human GSK3 alpha.  |
| Preservative     | 0.01% (w/v) Sodium Azide   |

**Anti-GSK3 alpha (RABBIT) Antibody - Additional Information****Gene ID** 2931**Other Names**  
2931**Purity**

This affinity-purified antibody is directed against human GSK3A. The product was affinity purified from monospecific antiserum by immunoaffinity purification. This antibody will react with both the phosphorylated and non-phosphorylated form of the protein at the S21 residue. A BLAST analysis was used to suggest reactivity with this protein from human, chimpanzee and rat based on 100% homology for the immunogen sequence. Cross reactivity with GSK3A homologues from other sources has not been determined. No cross reactivity is expected against GSK3B.

**Storage Condition**

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted

liquid. Dilute only prior to immediate use.

### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-GSK3 alpha (RABBIT) Antibody - Protein Information

**Name** GSK3A

### Function

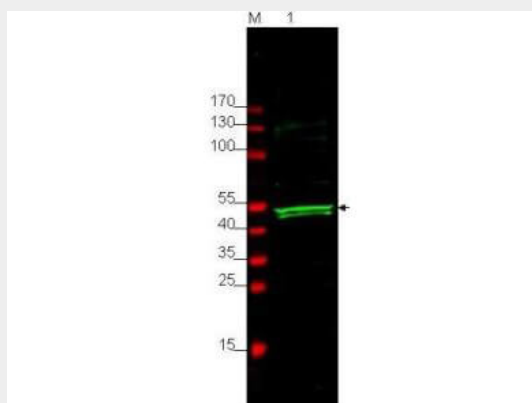
Constitutively active protein kinase that acts as a negative regulator in the hormonal control of glucose homeostasis, Wnt signaling and regulation of transcription factors and microtubules, by phosphorylating and inactivating glycogen synthase (GYS1 or GYS2), CTNNB1/beta-catenin, APC and AXIN1 (PubMed: <a href="http://www.uniprot.org/citations/11749387" target="\_blank">11749387</a>, PubMed: <a href="http://www.uniprot.org/citations/17478001" target="\_blank">17478001</a>, PubMed: <a href="http://www.uniprot.org/citations/19366350" target="\_blank">19366350</a>). Requires primed phosphorylation of the majority of its substrates (PubMed: <a href="http://www.uniprot.org/citations/11749387" target="\_blank">11749387</a>, PubMed: <a href="http://www.uniprot.org/citations/17478001" target="\_blank">17478001</a>, PubMed: <a href="http://www.uniprot.org/citations/19366350" target="\_blank">19366350</a>). Contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis (PubMed: <a href="http://www.uniprot.org/citations/11749387" target="\_blank">11749387</a>, PubMed: <a href="http://www.uniprot.org/citations/17478001" target="\_blank">17478001</a>, PubMed: <a href="http://www.uniprot.org/citations/19366350" target="\_blank">19366350</a>). 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: <a href="http://www.uniprot.org/citations/10868943" target="\_blank">10868943</a>, PubMed: <a href="http://www.uniprot.org/citations/17478001" target="\_blank">17478001</a>). In Wnt signaling, regulates the level and transcriptional activity of nuclear CTNNB1/beta-catenin (PubMed: <a href="http://www.uniprot.org/citations/17229088" target="\_blank">17229088</a>). Facilitates amyloid precursor protein (APP) processing and the generation of APP-derived amyloid plaques found in Alzheimer disease (PubMed: <a href="http://www.uniprot.org/citations/12761548" target="\_blank">12761548</a>). 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: <a href="http://www.uniprot.org/citations/30704899" target="\_blank">30704899</a>). 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: <a href="http://www.uniprot.org/citations/25897075" target="\_blank">25897075</a>).

## Anti-GSK3 alpha (RABBIT) 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](#)

#### Anti-GSK3 alpha (RABBIT) Antibody - Images



Western blot using Rockland's Affinity Purified anti-GSK3A antibody shows detection of a 52 kDa band corresponding to human GSK3A present in ~ 35  $\mu$ g of HEK293 whole cell lysate (p/n W09-000-365). A 4-20% Tris Glycine gel was used for separation followed by blocking with 5% BLOTTO (p/n B501-0500) in PBS. Primary antibody was used at a 1:1,000 dilution in blocking buffer and reacted overnight at 4°C. The membrane was washed and reacted with a 1:10,000 dilution of IRDye800™ conjugated Gt-a-Rabbit IgG [H&L] MX (p/n 611-132-122) for 45 min at room temperature (800 nm channel, green). Molecular weight estimation was made by comparison to prestained MW markers in lane M (700 nm channel, red). IRDye™ 800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

#### Anti-GSK3 alpha (RABBIT) Antibody - Background

Glycogen synthase kinase 3 alpha (GSK3A) belongs to the ser/thr family of protein kinases, Cdc2/cdkx subfamily; gsk-3 subsubfamily. It is implicated in the hormonal control of several regulatory proteins including glycogen synthase, myb, and the transcription factor c-jun. GSK3A is a proline-directed serine-threonine kinase that was initially identified as a phosphorylating and inactivating glycogen synthase. Two isoforms, alpha (GSK3A) and beta (GSK3B), show a high degree of amino acid homology. GSK3B is involved in energy metabolism, neuronal cell development, and body pattern formation.