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Phospho-GSK3A(S21) Antibody Blocking peptide

Synthetic peptide
Catalog # BP3664a

Specification

Phospho-GSK3A(S21) Antibody Blocking peptide - Product Information

Primary Accession P49840

Phospho-GSK3A(S21) Antibody Blocking peptide - Additional Information

Gene ID 2931

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

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP3664a was selected from the region of human Phospho-GSK3A-S21. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Phospho-GSK3A(S21) Antibody Blocking peptide - 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:<a

href="http://www.uniprot.org/citations/11749387" target="_blank">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).

Phospho-GSK3A(S21) Antibody Blocking peptide - Protocols

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

- Blocking Peptides

Phospho-GSK3A(S21) Antibody Blocking peptide - Images

Phospho-GSK3A(S21) Antibody Blocking peptide - Background

Glycogen synthase kinase 3-alpha is a multifunctional protein serine kinase, homologous to Drosophila 'shaggy' (zeste-white3) and implicated in the control of several regulatory proteins including glycogen synthase and transcription factors . It also plays a role in the WNT and PI3K signaling pathways

Phospho-GSK3A(S21) Antibody Blocking peptide - References

Fang,X., Yu,S., et.al., Mol. Cell. Biol. 22 (7), 2099-2110 (2002)