



Rabbit Anti-Phospho-GSK3 alpha (Ser21) antibody

SL3161R

Product Name:	Phospho-GSK3 alpha (Ser21)
Chinese Name:	磷酸化糖原合酶激酶3 α 抗体
Alias:	GSK3 alpha (phospho S21); p-GSK3 alpha (phospho S21); GSK3a(Phospho-Ser21); P-GSK3 alpha(Ser21); Gsk3a; GSK 3 alpha; GSK-3 alpha; GSK3 alpha; Glycogen synthase kinase-3 alpha; GSK 3 alpha; DKFZp686D0638; GSK 3A; GSK3A; GSK3alpha; GSK3A_HUMAN; Glycogen synthase kinase 3 alpha; Serine/threonine-protein kinase GSK3A.
Organism Species:	Rabbit
Clonality:	Polyclonal
React Species:	Human,Mouse,Rat,Dog,Pig,Cow,
Applications:	WB=1:500-2000ELISA=1:500-1000IHC-P=1:400-800IHC-F=1:400-800IF=1:100-500 (Paraffin sections need antigen repair) not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight:	53kDa
Cellular localization:	cytoplasmic
Form:	Lyophilized or Liquid
Concentration:	1mg/ml
immunogen:	KLH conjugated synthesised phosphopeptide derived from human GSK3 alpha around the phosphorylation site of Ser21:RT(p-S)SF
Lsotype:	IgG
Purification:	affinity purified by Protein A
Storage Buffer:	0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.
Storage:	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

PubMed:

[PubMed](#)

Glycogen synthase kinase 3 alpha belongs to the Ser/Thr family of protein kinases, Cdc2/cdkx subfamily; GSK3 subsubfamily. It is implicated in the hormonal control of several regulatory proteins including glycogen synthase, myb, and the transcription factor c jun. GSK3 phosphorylates glycogen synthase and thereby inactivates it. Insulin stimulates the dephosphorylation of glycogen synthase at the sites phosphorylated by GSK3 and subsequently inhibits GSK3 acutely leading to the stimulation of glycogen synthesis. GSK3 signaling is performed by two isoforms, GSK3 alpha and GSK3 beta. The two isoforms share 97% sequence similarity within their catalytic domains. GSK3 has also been shown to play a role in protein synthesis, cell adhesion, cell proliferation, cell differentiation, microtubule dynamics and cell motility.

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. 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.

Product Detail:

Subunit:

Monomer. Interacts with ARRB2. Interacts with AXIN1 and CTNNB1/beta-catenin.

Post-translational modifications:

Phosphorylated by AKT1 at Ser-21: upon insulin-mediated signaling, the activated PKB/AKT1 protein kinase phosphorylates and desactivates GSK3A, resulting in the dephosphorylation and activation of GYS1. Activated by phosphorylation at Tyr-279.

Similarity:

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. GSK-3 subfamily.

Contains 1 protein kinase domain.

SWISS:

P49840

Gene ID:

2931

Database links:

[Entrez Gene: 2931](#) Human

[Entrez Gene: 606496](#) Mouse

[Entrez Gene: 50686](#) Rat

[Omim: 606784](#) Human

[SwissProt: P49840](#) Human

[SwissProt: Q2NL51](#) Mouse

[SwissProt: P18265](#) Rat

[Unigene: 466828](#) Human

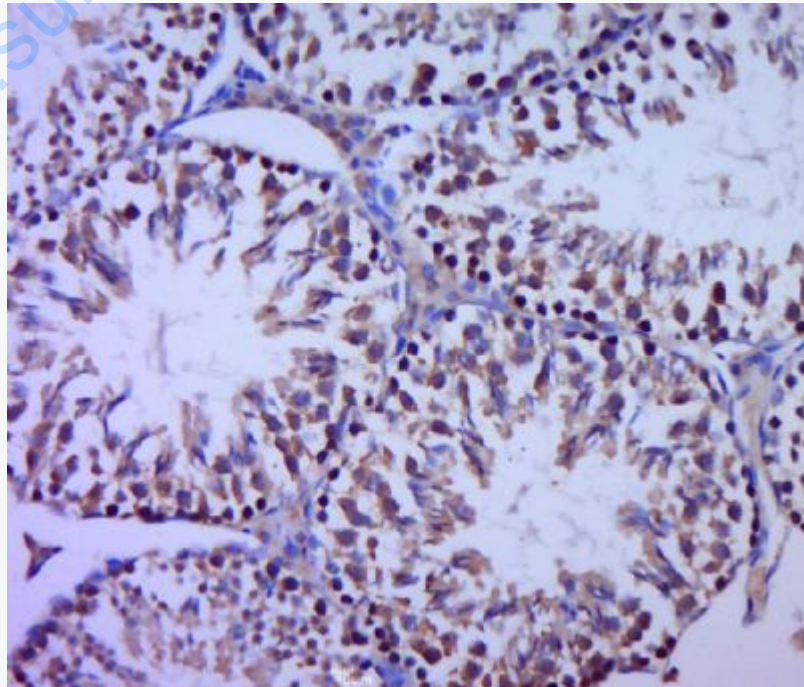
[Unigene: 294664](#) Mouse

[Unigene: 36807](#) Rat

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Picture:



Paraformaldehyde-fixed, paraffin embedded (mouse testis tissue); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (P-GSK3 alpha (Ser21)) Polyclonal Antibody, Unconjugated (SL3161R) at 1:400 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

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