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Rabbit Anti-GSK3 alpha/Cy5.5 Conjugated antibody

SL20134R-Cy5.5

Product Name	Anti-GSK3 alpha/Cy5.5
Chinese Name	Cy5.5 标记的糖原合酶激酶 3α 抗体
Alias	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.
Research Area	Cell biology Signal transduction Cyclin Kinases and Phosphatases
Immunogen Species	Rabbit
Clonality	Polyclonal
React Species	Human,Mouse,Rat(predicted:Pig,Cow,Rabbit,Sheep)
Applications	IF=1:100-500not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Molecular weight	54kDa
Form	Lyophilized or Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human GSK3 alpha
Lsotype	IgG
Purification	affinity purified by Protein A
Storage Buffer	1M TBS(pH7.4) with 1% BSA, 3% 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 1M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.
Product Detail	**background:** 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 transctiption 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.

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.

Database links:

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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.