

Datasheet for ABIN392711

anti-GSK3 alpha antibody (C-Term)[Go to Product page](#)**1** Image**1** Publication

Overview

Quantity:	400 µL
Target:	GSK3 alpha (GSK3a)
Binding Specificity:	AA 448-478, C-Term
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This GSK3 alpha antibody is un-conjugated
Application:	Western Blotting (WB)

Product Details

Immunogen:	This GSK3 alpha (GSK3A) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 448-478 amino acids from the C-terminal region of human GSK3 alpha (GSK3A).
Clone:	RB3819-3820
Isotype:	Ig Fraction
Purification:	This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Target Details

Target:	GSK3 alpha (GSK3a)
Alternative Name:	GSK3 alpha (GSK3A) (GSK3a Products)

Target Details

Background: Glycogen synthase kinase 3-alpha (GSK3A) is a multifunctional protein serine kinase 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.¹ Under resting conditions GSK3A and its homologs are highly phosphorylated at tyr279 in the phosphorylation loop.² Constitutive phosphorylation of this tyrosine is important for kinase activity. Dephosphorylation of tyr279 after mitogen activation is accompanied by kinase inactivation. PKA as well as PI3K-activated PKB inactivate GSK3A by phosphorylation at ser21.³ Lysophosphatidic acid primarily utilizes a PKC-dependent pathway to modulate GSK3 and certain growth factors (e.g., PDGFB), which control GSK3 mainly through PI3K-PKB, are able to regulate GSK3 through an alternative, redundant phospholipase-C-gamma-PKC pathway.⁴ Alzheimer disease (AD) is associated with increased production and aggregation of amyloid-beta-40 and -42 peptides into plaques. GSK3A is required for maximal production of the beta-amyloid-40 and -42 peptides generated from the amyloid precursor protein (APP) by presenilin (PSEN1)-dependent gamma-secretase cleavage.⁵ In vitro, lithium, a GSK3A inhibitor, blocked the production of the beta-amyloid peptides by interfering with the gamma-secretase step. In mice expressing familial AD-associated mutations in APP and PSEN1, lithium reduced the levels of beta-amyloid peptides. GSK3A also phosphorylates the tau protein (MAPT), the principal component of neurofibrillary tangles in AD, and suggested that inhibition of GSK3A may offer a new therapeutic approach to AD.

Molecular Weight:	50981
NCBI Accession:	NP_063937
UniProt:	P49840
Pathways:	PI3K-Akt Signaling , WNT Signaling , Fc-epsilon Receptor Signaling Pathway , EGFR Signaling Pathway , Neurotrophin Signaling Pathway , cAMP Metabolic Process , Cellular Glucan Metabolic Process , Regulation of Muscle Cell Differentiation , Regulation of G-Protein Coupled Receptor Protein Signaling , ER-Nucleus Signaling , Regulation of Carbohydrate Metabolic Process , BCR Signaling , Warburg Effect

Application Details

Application Notes:	WB: 1:1000
Restrictions:	For Research Use only

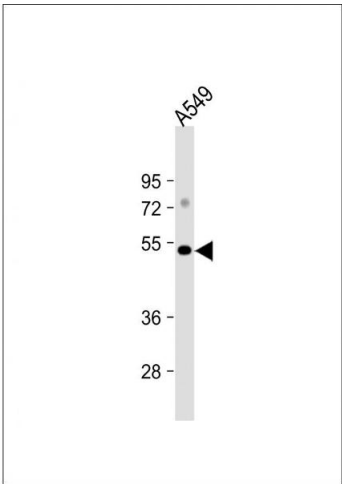
Handling

Format:	Liquid
Buffer:	Purified polyclonal antibody supplied in PBS with 0.09 % (W/V) sodium azide.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	Maintain refrigerated at 2-8 °C for up to 6 months. For long term storage store at -20 °C.
Expiry Date:	6 months

Publications

Product cited in:	Chang, Nam, Kook, Kim, Liu, Yao, Jung, Lemos, Seo, Park, Gim, Hong, Huh, Kim, Tan, Liu, Powis, Park, Liang, Kim: "HNF4? is a therapeutic target that links AMPK to WNT signalling in early-stage gastric cancer." in: Gut , (2014) (PubMed).
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Images



Western Blotting

Image 1. Anti-GSK3A Antibody at 1:1000 dilution + A549 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 51 kDa Blocking/Dilution buffer: 5 % NFDM/TBST.