Datasheet for ABIN7321432

Recombinant anti-GSK3 beta antibody (pSer9)

3 Images

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Overview

Quantity:	50 µL
Target:	GSK3 beta (GSK3b)
Binding Specificity:	pSer9
Reactivity:	Human
Host:	Rabbit
Antibody Type:	Recombinant Antibody
Clonality:	Monoclonal
Conjugate:	This GSK3 beta antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunofluorescence (IF)

Product Details

Immunogen:	A synthesized peptide derived from human Phospho-GSK3B (Ser9)
Clone:	3A6
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	Affinity-chromatography

Target Details

Target:	GSK3 beta (GSK3b)
Alternative Name:	GSK3B (GSK3b Products)

Target Details

Background:	Background: 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), EIF2B, CTNNB1/beta-catenin, APC, AXIN1, DPYSL2/CRMP2, JUN, NFATC1/NFATC, MAPT/TAU and MACF1. Requires primed phosphorylation of the majority of its substrates. In skeletal muscle, contributes to insulin regulation of glycogen synthesis by phosphorylating and inhibiting GYS1 activity and hence glycogen synthesis. May also mediate the development of insulin resistance by regulating activation of transcription factors. Regulates protein synthesis by controlling the activity of initiation factor 2B (EIF2BE/EIF2B5) in the same manner as glycogen synthase. In Wnt signaling, GSK3B forms a multimeric complex with APC, AXIN1 and CTNNB1/beta-catenin and phosphorylates the N-terminus of CTNNB1 leading to its degradation mediated by ubiquitin/proteasomes. Phosphorylates JUN at sites proximal to its DNA-binding domain, thereby reducing its affinity for DNA. Phosphorylates NFATC1/NFATC on conserved serine residues promoting NFATC1/NFATC nuclear export, shutting off NFATC1/NFATC gene regulation, and thereby opposing the action of calcineurin. Phosphorylates MAPT/TAU on 'Thr-548', decreasing significantly MAPT/TAU ability to bind and stabilize microtubules. MAPT/TAU is the principal component of neurofibrillary tangles in Alzheimer disease. Plays an important role in ERBB2-dependent stabilization of microtubules at the cell cortex. Phosphorylates MACF1, inhibiting its binding to microtubules which is critical for its role in bulge stem cell migration and skin wound repair. Probably regulates NF-kappa-B (NFKB1) at the transcriptional level and is required for the NF-kappa-B-mediated anti-apoptotic response to TNF-alpha (TNF/TNFA). Negatively regulates replication in pancreatic beta-cells, resulting in apoptosis, loss of beta-cells and diabetes. Through phosphorylation of the anti-apoptotic protein MCL1, may control cell apoptosis in response to growth factors deprivation. Phosphorylates MUC1 in breast cancer cells, decreasing the interaction of MUC1 with CTNNB1/beta-catenin. Is necessary for the establishment of neuronal polarity and axon outgrowth. Phosphorylates MARK2, leading to inhibit its activity. Phosphorylates SIK1 at 'Thr-182', leading to sustain its activity. Phosphorylates ZC3HAV1 which enhances its antiviral activity. Phosphorylates SNAI1, leading to its BTRC-triggered ubiquitination and proteasomal degradation. Phosphorylates SFPQ at 'Thr-687' upon T-cell activation. Phosphorylates NR1D1 st 'Ser-55' and 'Ser-59' and stabilizes it by protecting it from proteasomal degradation. Regulates the circadian clock via phosphorylation of the major clock components including ARNTL/BMAL1, CLOCK and PER2. Phosphorylates CLOCK AT 'Ser-427' and targets it for proteasomal degradation. Phosphorylates ARNTL/BMAL1 at 'Ser-17' and 'Ser-21' and primes it for ubiquitination and proteasomal degradation. Phosphorylates OGT at 'Ser-3' or 'Ser-4' which positively regulates its activity. Phosphorylates MYCN in neuroblastoma cells which may

Target Details

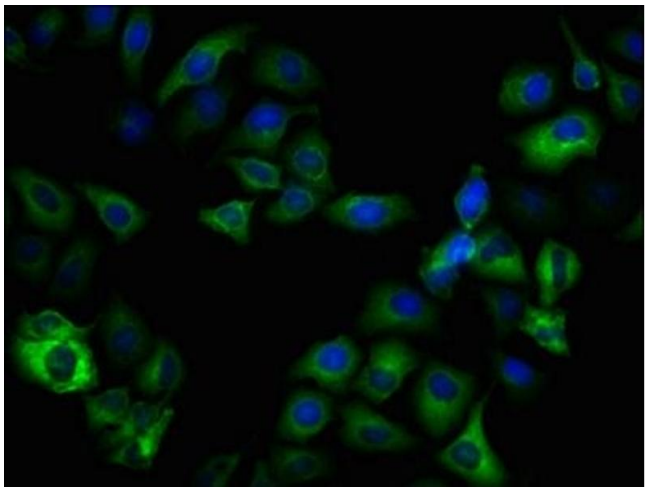
	promote its degradation (PubMed:24391509). Aliases: Glycogen synthase kinase-3 beta, GSK-3 beta, Serine/threonine-protein kinase GSK3B, GSK3B
UniProt:	P49841
Pathways:	WNT Signaling, Hedgehog Signaling, Fc-epsilon Receptor Signaling Pathway, Cellular Glucan Metabolic Process, ER-Nucleus Signaling, Regulation of Carbohydrate Metabolic Process, Hepatitis C, Autophagy, BCR Signaling, Warburg Effect

Application Details

Application Notes:	Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200, IF:1:20-1:200,
Restrictions:	For Research Use only

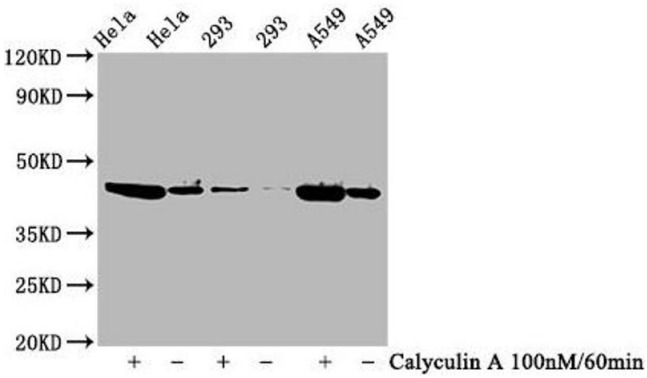
Handling

Format:	Liquid
Buffer:	Rabbit IgG in phosphate buffered saline , pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.
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:	-20 °C,-80 °C
Storage Comment:	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.



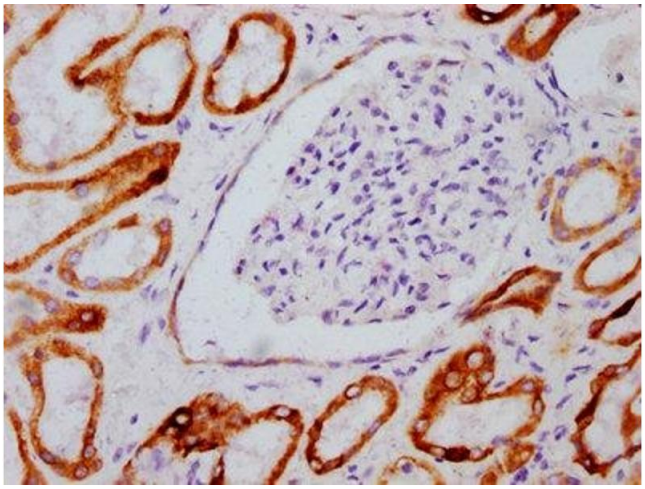
Immunofluorescence

Image 1. Immunofluorescence staining of Hela cells(treated with 50 mM Calyculin A for 30 min) with at 1:100,counter-stained with DAPI. The cells were fixed in 4 % formaldehyde, permeabilized using 0.2 % Triton X-100 and blocked in 10 % normal Goat Serum. The cells were then incubated with the antibody overnight at 4 °C. The secondary antibody was Alexa Fluor 488-congugated AffiniPure Goat Anti-Rabbit IgG (H+L).



Western Blotting

Image 2. Western Blot Positive WB detected in Hela whole cell lysate,293 whole cell lysate,A549 whole cell lysate(treated with Calyculin A or not) All lanes Phospho-GSK3B antibody at 0.77 µg/mL Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 46 KDa Observed band size: 46 KDa



Immunohistochemistry

Image 3. IHC image of diluted at 1:100 and staining in paraffin-embedded human kidney tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10 % normal goat serum 30 min at RT. Then primary antibody (1 % BSA) was incubated at 4 °C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.