German Research Products - GRP GmbH
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Product Datasheet

GSK3B (3A6) Monoclonal Antibody
GRP630

Description

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).

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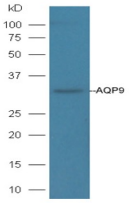
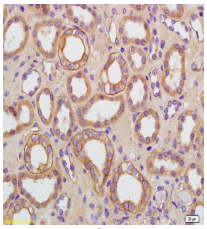
Species/Host	Mouse
Reactivity	Human, Mouse
Conjugation	Unconjugated
Tested Applications	IHC-P, WB
Immunogen	KLH conjugated synthetic peptide derived from human GSK-3 Beta (public_immunogen_range: 2-20/420)
Form/Appearance	Aqueous buffered solution containing 1% BSA, 50% glycerol and 0.09% sodium azide.
Concentration	1ug/ul
Storage	Store at -20°C for 12 months.
Note	For research use only.
Isotype	IgG
Clonality	Monoclonal
Purity	Purified by Protein G.
Clone ID	3A6
Uniprot ID	**P49841**
Entrez	**2932**
Dilution Range	WB: 1:300-1000, IHC-P: 1:200-400



WB of GRP630


IHC-P of GRP630