

**Phospho-GSK-3α (Ser21) (46H12) Mouse mAb**

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk Z	Endogenous	51	Mouse IgG2b	#P49840	2931

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:2000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

Phospho-GSK-3α (Ser21) (46H12) Mouse mAb detects endogenous levels of GSK-3α only when phosphorylated at serine 21.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser21 of human GSK-3α.

**Background**

Glycogen synthase kinase-3 (GSK-3) was initially identified as an enzyme that regulates glycogen synthesis in response to insulin (1). GSK-3 is a ubiquitously expressed serine/threonine protein kinase that phosphorylates and inactivates glycogen synthase. GSK-3 is a critical downstream element of the PI3K/Akt cell survival pathway whose activity can be inhibited by Akt-mediated phosphorylation at Ser21 of GSK-3α and Ser9 of GSK-3β (2,3). GSK-3 has been implicated in the regulation of cell fate in *Dictyostelium* and is a component of the Wnt signaling pathway required for *Drosophila*, *Xenopus*, and mammalian development (4). GSK-3 has been shown to regulate cyclin D1 proteolysis and subcellular localization (5).

**Background References**

1. Welsh, G.I. et al. (1996) *Trends Cell Biol* 6, 274-9.
2. Srivastava, A.K. and Pandey, S.K. (1998) *Mol Cell Biochem* 182, 135-41.
3. Cross, D.A. et al. (1995) *Nature* 378, 785-9.
4. Nusse, R. (1997) *Cell* 89, 321-3.
5. Diehl, J.A. et al. (1998) *Genes Dev* 12, 3499-511.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey **Z:** Zebrafish

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