

Store at -20C  
#3548

## Phospho-GSK-3 $\beta$ (Thr390) Antibody



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	46	Rabbit	#P49841	2932

<b>Product Usage Information</b>	<b>Application</b> Western Blotting	<b>Dilution</b> 1:1000
<b>Storage</b>	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 $\mu$ g/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
<b>Specificity / Sensitivity</b>	Phospho-GSK-3 $\beta$ (Thr390) Antibody detects endogenous levels of human GSK-3 $\beta$ protein only when phosphorylated at Thr390.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr390 of human GSK-3 $\beta$ . Antibodies are purified by peptide affinity chromatography.	
<b>Background</b>	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-3 $\alpha$ and Ser9 of GSK-3 $\beta$ (2,3). GSK-3 has been implicated in the regulation of cell fate in <i>Dictyostelium</i> and is a component of the Wnt signaling pathway required for <i>Drosophila</i> , <i>Xenopus</i> , and mammalian development (4). GSK-3 has been shown to regulate cyclin D1 proteolysis and subcellular localization (5). The phosphorylation of GSK-3 $\beta$ at Thr390 was found to be a possible substrate of p38 MAPK and was reported by several labs using phosphoproteomic analysis on mitotic cell extracts (6-10). Phosphorylation of this site was also identified at Cell Signaling Technology (CST) using PhosphoScan®, CST's LC-MS/MS platform for modification site discovery (11). Please visit PhosphoSitePlus®, CST's modification site knowledgebase, at <a href="http://www.phosphosite.org">www.phosphosite.org</a> for more information.	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Welsh, G.I. et al. (1996) <i>Trends Cell Biol</i> 6, 274-9.</li> <li>2. Srivastava, A.K. and Pandey, S.K. (1998) <i>Mol Cell Biochem</i> 182, 135-41.</li> <li>3. Cross, D.A. et al. (1995) <i>Nature</i> 378, 785-9.</li> <li>4. Nusse, R. (1997) <i>Cell</i> 89, 321-3.</li> <li>5. Diehl, J.A. et al. (1998) <i>Genes Dev</i> 12, 3499-511.</li> <li>6. Thornton, T.M. et al. (2008) <i>Science</i> 320, 667-70.</li> <li>7. Daub, H. et al. (2008) <i>Mol Cell</i> 31, 438-48.</li> <li>8. Dephoure, N. et al. (2008) <i>Proc Natl Acad Sci USA</i> 105, 10762-7.</li> <li>9. Lowery, D.M. et al. (2007) <i>EMBO J</i> 26, 2262-73.</li> <li>10. Beausoleil, S.A. et al. (2004) <i>Proc Natl Acad Sci USA</i> 101, 12130-5.</li> <li>11. Rush, J. et al. (2005) <i>Nat Biotechnol</i> 23, 94-101.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Western Blot Buffer</b>	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.
<b>Applications Key</b>	<b>WB:</b> Western Blotting
<b>Cross-Reactivity Key</b>	<b>H:</b> human <b>M:</b> mouse <b>R:</b> rat <b>Hm:</b> hamster <b>Mk:</b> monkey <b>Vir:</b> virus <b>Mi:</b> mink <b>C:</b> chicken <b>Dm:</b> D. melanogaster <b>X:</b> Xenopus <b>Z:</b> zebrafish <b>B:</b> bovine <b>Dg:</b> dog <b>Pg:</b> pig <b>Sc:</b> S. cerevisiae <b>Ce:</b> C. elegans <b>Hr:</b> horse <b>GP:</b> Guinea Pig <b>Rab:</b> rabbit <b>All:</b> all species expected

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