

Anti-GSK-3 α/β (Tyr-279/Tyr-216), phospho-specific

Cat. # **GM1321**
Host **Mouse Monoclonal IgG1**
Size **100 μ l**

Background:

Glycogen synthase kinase-3 (GSK-3) has been implicated in fundamental cell processes such as cell fate determination, metabolism, transcriptional control, and oncogenesis. Two GSK-3 genes (α and β) have been cloned in mammals and these kinase homologues show strong sequence conservation within their catalytic domain. GSK-3 β plays a critical role in cell survival by phosphorylating nuclear factor- κ B (NF- κ B) p65 subunit, leading to NF- κ B transactivation in hepatocytes. Phosphorylation regulates the activity of both GSK-3 genes. MEK1/2 can phosphorylate tyrosine 216 (tyrosine 279 in GSK-3 α), which stimulates GSK-3 kinase activity. Tyr-216 phosphorylation is required for GSK-mediated down-regulation of β -catenin activity. Also, TRAIL stimulation can increase Tyr-216 phosphorylation, and GSK-3 β activity may suppress TRAIL-induced apoptosis. Inactivation of GSK-3 occurs through Akt phosphorylation of serine 9 of GSK-3 β (Serine 21 in GSK-3 α). This phosphorylation may be involved in later phases of neuronal apoptosis.

References:

Hagen, T. et al. (2002) J Biol Chem. 277(26):23330.
Takahashi-Yanaga, F. et al. (2004) Biochem Biophys Res Commun. 316(2):411.
Xinbo, L. et al. (2003) Mol Cancer Ther. 2:1215.

Immunogen:

Clone M132 was generated from a phospho-GSK-3 β (Tyr-216) synthetic peptide (coupled to KLH) corresponding to amino acid residues around tyrosine 216 of human GSK-3 β . This peptide sequence is also found in GSK-3 α (Tyr-279) and is highly conserved in GSK-3 genes in rat and mouse.

Buffer and Storage:

Mouse monoclonal purified with protein A chromatography is supplied in 100 μ l phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20 $^{\circ}$ C. Do not aliquot. Stable for 1 year.

Applications:

Western blotting 1:1000 dilution[†]
ELISA 1:2000 dilution

End user should determine optimal dilution for their particular applications and experiments.

[†]Membrane was incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

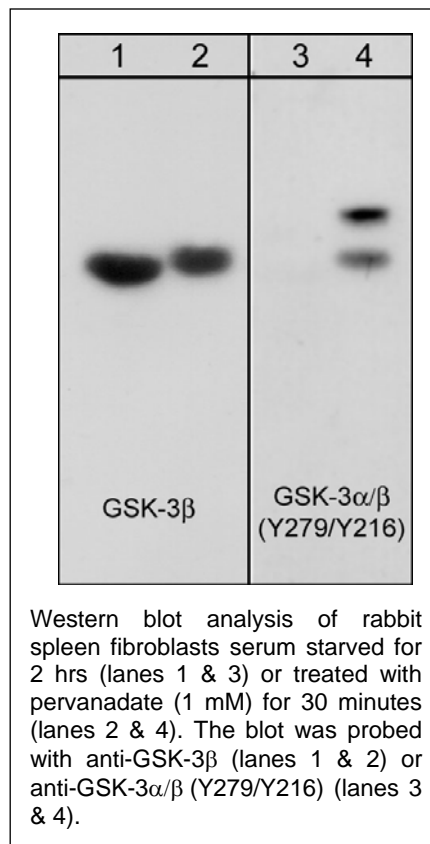
Specificity:

This antibody detects 46/50 kDa* proteins corresponding to the apparent molecular mass of GSK-3 β and GSK-3 α on SDS-PAGE immunoblots of pervanadate treated rabbit fibroblasts, as well as treated human SKN-SH and A431 cells.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Related Products:

GM1311 GSK-3 β Mouse Monoclonal
AL9401 A431 Pervanadate Control Lysate AL9501 A431 + Pervanadate Lysate



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