

# Anti-GSK-3 $\beta$ (N-terminal region) Antibody

Catalog # AN1806

## Product Information

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<b>Application</b>	WB, IHC, ICC
<b>Primary Accession</b>	<a href="#">P49841</a>
<b>Host</b>	Mouse
<b>Clonality</b>	Mouse Monoclonal
<b>Isotype</b>	IgG1
<b>Clone Names</b>	M131
<b>Calculated MW</b>	46744

## Additional Information

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<b>Gene ID</b>	2932
<b>Other Names</b>	Glycogen synthase kinase beta3

<b>Target/Specificity</b>	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 ( $\alpha$ and $\beta$ ) have been cloned in mammals and these kinase homologues show strong sequence conservation within their catalytic domain. GSK-3 $\beta$ plays a critical role in cell survival by phosphorylating nuclear factor- $\kappa$ B (NF- $\kappa$ B) p65 subunit, leading to NF- $\kappa$ B transactivation in hepatocytes. Phosphorylation regulates the activity of both GSK-3 genes. MEK1/2 can phosphorylate tyrosine 216 (tyrosine 279 in GSK-3 $\alpha$ ), which stimulates GSK-3 kinase activity. Tyr-216 phosphorylation is required for GSK-mediated down-regulation of $\beta$ -catenin activity. Also, TRAIL stimulation can increase Tyr-216 phosphorylation, and GSK-3 $\beta$ activity may suppress TRAIL-induced apoptosis. Inactivation of GSK-3 occurs through Akt phosphorylation of serine 9 of GSK-3 $\beta$ (Serine 21 in GSK-3 $\alpha$ ). This phosphorylation may be involved in later phases of neuronal apoptosis.
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<b>Dilution</b>	WB~~1:1000 IHC~~1:100~500 ICC~~N/A
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<b>Storage</b>	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
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<b>Precautions</b>	Anti-GSK-3 $\beta$ (N-terminal region) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.
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<b>Shipping</b>	Blue Ice
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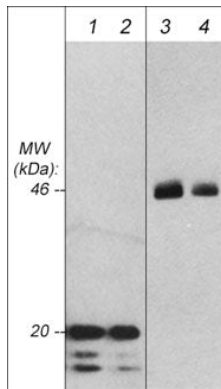
## Background

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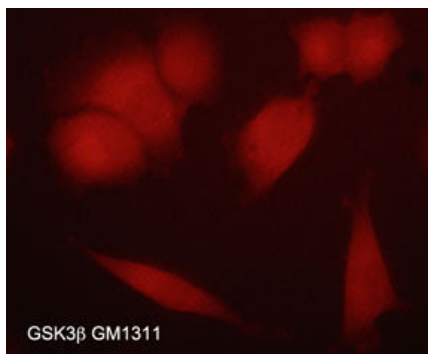
Glycogen synthase kinase-3 (GSK-3) has been implicated in fundamental cell processes such as cell fate determination, metabolism, transcriptional control, and oncogenesis. Two GSK-3 genes ( $\alpha$  and  $\beta$ ) have been cloned in mammals and these kinase homologues show strong sequence conservation within their catalytic

domain. GSK-3 $\beta$  plays a critical role in cell survival by phosphorylating nuclear factor- $\kappa$ B (NF- $\kappa$ B) p65 subunit, leading to NF- $\kappa$ B transactivation in hepatocytes. Phosphorylation regulates the activity of both GSK-3 genes. MEK1/2 can phosphorylate tyrosine 216 (tyrosine 279 in GSK-3 $\alpha$ ), which stimulates GSK-3 kinase activity. Tyr-216 phosphorylation is required for GSK-mediated down-regulation of  $\beta$ -catenin activity. Also, TRAIL stimulation can increase Tyr-216 phosphorylation, and GSK-3 $\beta$  activity may suppress TRAIL-induced apoptosis. Inactivation of GSK-3 occurs through Akt phosphorylation of serine 9 of GSK-3 $\beta$  (Serine 21 in GSK-3 $\alpha$ ). This phosphorylation may be involved in later phases of neuronal apoptosis.

## Images



Western blot analysis of a human recombinant GSK3 $\beta$  N-terminal fragment (lanes 1 & 2) and endogenous GSK3 $\beta$  expressed in mouse brain (lanes 3 & 4). The blot was probed with mouse monoclonal anti-GSK-3 $\beta$  at 1:500 (lanes 1 & 3) and 1:2000 (lanes 2 & 4).



Immunocytochemical labeling of GSK3 $\beta$  in aldehyde-fixed and NP-40 permeabilized human NCI-H1915 lung carcinoma cells. The cells were labeled with mouse monoclonal anti-GSK3 $\beta$  (AN1806) antibody. The antibody was detected using appropriate secondary antibody conjugated to DyLight® 594.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.