

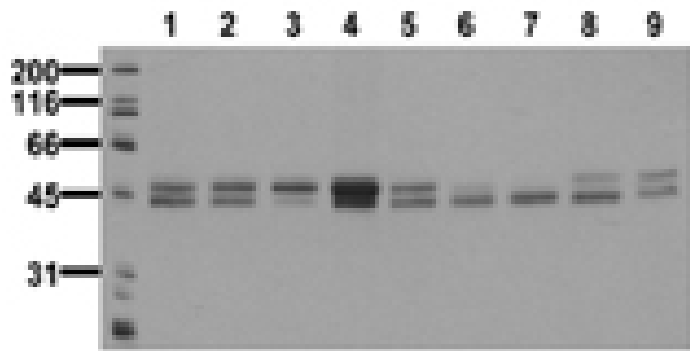
# [pTyr279]GSK-3 $\alpha$ and [pTyr216]GSK-3 $\beta$ monoclonal antibody (6D3)

Glycogen Synthase Kinase 3 $\beta$  (GSK-3 $\beta$ ) is a unique serine/threonine kinase that is inactivated by phosphorylation. In response to insulin binding, PKB/AKT phosphorylates GSK-3 $\beta$  on serine 9, which prevents GSK-3 $\beta$  from phosphorylating glycogen synthase. Unphosphorylated glycogen synthase is active and able to synthesize glycogen. GSK-3 $\beta$  is also unique in that it requires a substrate that has been phosphorylated by a distinct kinase before it can phosphorylate the substrate. This phosphate priming mechanism explains why phosphorylation of serine 9 inactivates GSK-3 $\beta$ . The phosphorylated serine binds to the GSK-3 $\beta$  priming phosphate position and prevents binding of alternative substrates. In addition to insulin signaling, GSK-3 $\beta$  participates in the Wnt signaling pathway, where it forms a complex with axin, beta-catenin and adenomatous polyposis coli (APC) protein. In the presence of Wnts, GSK-3 $\beta$  is unable to phosphorylate beta-catenin, which leads to stabilization of beta-catenin. The Wnt pathway inactivates GSK-3 $\beta$  via the proteins, Dishevelled and FRAT, which disrupt the interaction of GSK-3 $\beta$  with axin, beta-catenin, and APC. Clinically, there is considerable interest in GSK-3 $\beta$  inhibitors because they may mimic the effect of insulin or reduce the hyperphosphorylation of Tau that is observed in Alzheimer's Disease.

This antibody is covered by our [Worry-Free Guarantee](#).

Manuals, SDS & CofA

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Western blot analysis of serum starved cancer cells:  
HeLa (1), HepG2 (2), HEK293 (3), SH-SY5Y (4), MDCK  
(5), PC12 (6), CMT 93 (7), Neuro 2A (8), and NIH-3T3  
(9), with GSK3  $\alpha/\beta$  (phospho-Tyr215/278) mAb (6D3).

## Handling & Storage

<b>Use/Stability</b>	Stable at -80°C up to 1 year, at 4°C up to 3 months.
<b>Handling</b>	Avoid freeze/thaw cycles. After reconstitution, prepare aliquots and store at -80°C.
<b>Long Term Storage</b>	-20°C
<b>Shipping</b>	Blue Ice

**Regulatory Status** RUO - Research Use Only

## Product Details

<b>Alternative Name</b>	Glycogen synthase kinase-3 $\alpha/\beta$
<b>Application</b>	WB
<b>Clone</b>	6D3
<b>Formulation</b>	Lyophilized from 1ml of 2x PBS containing 0.09% sodium azide, PEG, and sucrose.
<b>Host</b>	Mouse
<b>Immunogen</b>	Synthetic peptide corresponding to a portion of mouse GSK phosphorylated at Tyr216/279.
<b>Isotype</b>	IgG1
<b>Purity Detail</b>	Thiophilic adsorption and size exclusion chromatography purified.
<b>Reconstitution</b>	Reconstitute with 1ml water (15 minutes at room temperature).
<b>Species Reactivity</b>	Human, Mouse
<b>UniProt ID</b>	Q2NL51 (GSK3A), Q9WV60 (GSK3B)
<b>Worry-free Guarantee</b>	This antibody is covered by our <a href="#">Worry-Free Guarantee</a>

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