

# [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](#).

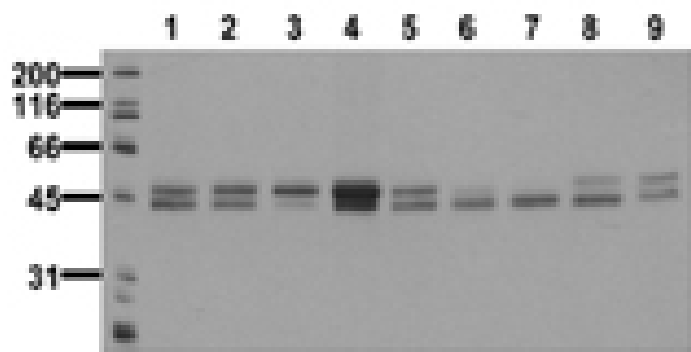
## Ordering Information

[Order Online »](#)

ADI-905-762-100	100 $\mu$ g
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## Manuals, SDS & CofA

[View Online »](#)



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

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

## Regulatory Status

RUO - Research Use Only

## Product Details

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



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