

# GSK-3 $\beta$ polyclonal antibody

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](#).

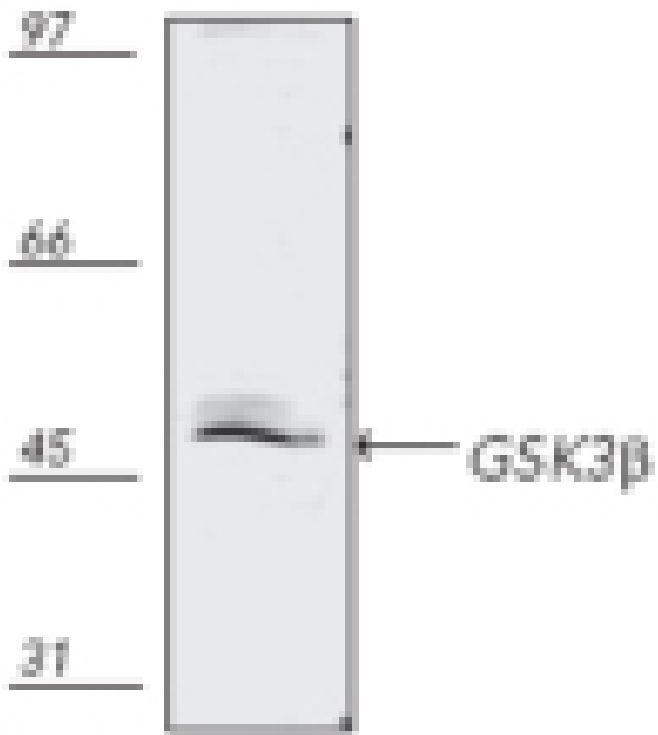
## Ordering Information

[Order Online »](#)

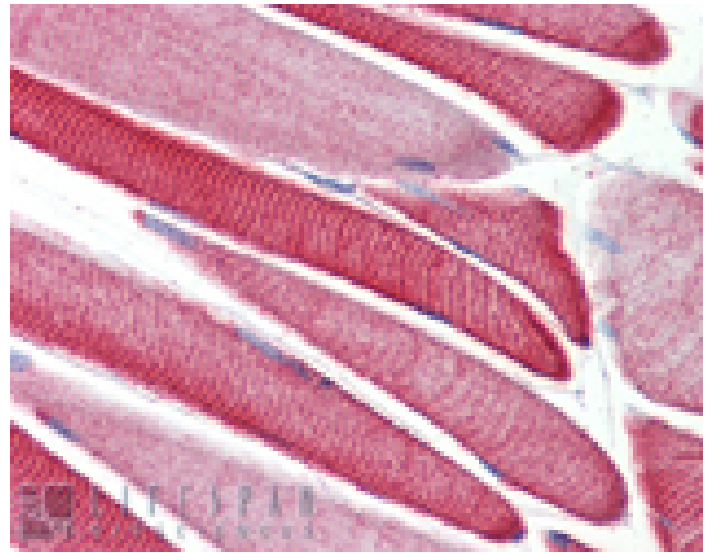
ADI-KAP-ST002-C	25 $\mu$ g
ADI-KAP-ST002-E	100 $\mu$ g

## Manuals, SDS & CofA

[View Online »](#)



Western blot analysis of human HeLa (heat shocked) cell lysate, probed with GSK3- $\beta$  pAb



Immunohistochemistry analysis of human skeletal muscle tissue stained with GSK-3 $\beta$ , pAb at 10  $\mu$ g/ml.

## Handling & Storage

**Handling** Avoid freeze/thaw cycles.

**Long Term Storage** -20°C

**Shipping** Blue Ice

**Regulatory Status** RUO - Research Use Only

## Product Details

**Alternative Name** Glycogen synthase kinase-3 $\beta$

**Application** ICC, IHC (PS), WB

**Application Notes** Detects a band of ~47kDa by Western blot.

**Formulation** Liquid. In PBS, pH 7.2, containing 50% glycerol and 0.09% sodium azide.

**GenBank ID** X53428

**Host** Rabbit

**Immunogen** Synthetic peptide corresponding to a portion of rat GSK-3 $\beta$ . The sequence is completely conserved in human.

**Purity Detail** Protein A affinity purified.

**Recommendation** Western Blot (1:1,000, colorimetric) Suggested dilutions/conditions may not be available  
**Dilutions/Conditions** for all applications. Optimal conditions must be determined individually for each application.

**Source** Purified from rabbit serum.

**Species Reactivity** Bovine, Human, Mouse, Rat

**UniProt ID** P18266

### Worry-free Guarantee

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



ENZO LIFE SCIENCES,  
INC.  
Phone: 800.942.0430  
[info-  
usa@enzolifesciences.com](mailto:info-usa@enzolifesciences.com)

European Sales Office  
ENZO LIFE SCIENCES  
(ELS) AG  
Phone: +41 61 926 8989  
[info-  
eu@enzolifesciences.com](mailto:info-eu@enzolifesciences.com)

Belgium, The Netherlands  
& Luxembourg  
Phone: +32 3 466 0420  
[info-  
be@enzolifesciences.com](mailto:info-be@enzolifesciences.com)

France  
Phone: +33 472 440 655  
[info-  
fr@enzolifesciences.com](mailto:info-fr@enzolifesciences.com)

Germany  
Phone: +49 7621 5500 526  
[info-  
de@enzolifesciences.com](mailto:info-de@enzolifesciences.com)

UK & Ireland  
Phone (UK customers):  
0845 601 1488  
Phone: +44 1392 825900  
[info-  
uk@enzolifesciences.com](mailto:info-uk@enzolifesciences.com)