

GSK-3 β (L-17): sc-8257

BACKGROUND

Glycogen synthase kinase 3, or GSK-3, is a serine/threonine, proline-directed kinase involved in a diverse array of signaling pathways, including glycogen synthesis and cellular adhesion, and has been implicated in Alzheimer's disease. Two forms of GSK-3, designated GSK-3 α and GSK-3 β , have been identified and differ in their subcellular localization. Tau, a microtubule-binding protein which serves to stabilize microtubules in growing axons, is found to be hyperphosphorylated in paired helical filaments (PHF), the major fibrous component of neurofibrillary lesions associated with Alzheimer's disease. Hyperphosphorylation of Tau is thought to be the critical event leading to the assembly of PHF. Six Tau protein isoforms have been identified, all of which are phosphorylated by GSK-3. This presents the possibility that miscues in GSK-3 signaling contribute to the onset of Alzheimer's disease.

CHROMOSOMAL LOCATION

Genetic locus: GSK3B (human) mapping to 3q13.33; Gsk3b (mouse) mapping to 16 B3.

SOURCE

GSK-3 β (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GSK-3 β of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8257 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GSK-3 β (L-17) is recommended for detection of GSK-3 β of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GSK-3 β (L-17) is also recommended for detection of GSK-3 β in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GSK-3 β siRNA (h): sc-35527, GSK-3 β siRNA (m): sc-35525, GSK-3 β shRNA Plasmid (h): sc-35527-SH, GSK-3 β shRNA Plasmid (m): sc-35525-SH, GSK-3 β shRNA (h) Lentiviral Particles: sc-35527-V and GSK-3 β shRNA (m) Lentiviral Particles: sc-35525-V.

Molecular Weight of GSK-3 β : 47 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, GSK-3 β (m): 293T Lysate: sc-120654 or GSK-3 β (h): 293T Lysate: sc-176265.

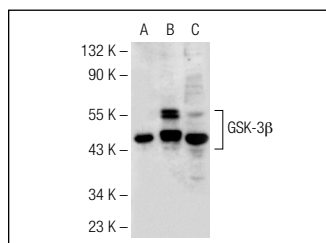
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

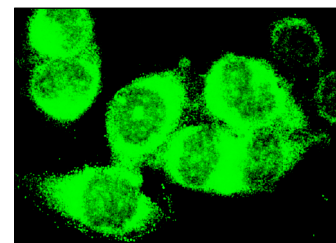
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



GSK-3 β (L-17): sc-8257. Western blot analysis of GSK-3 β expression in non-transfected 293T: sc-117752 (A), human GSK-3 β transfected 293T: sc-176265 (B) and Jurkat (C) whole cell lysates.



GSK-3 β (L-17): sc-8257. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Hetman, M., et al. 2000. Role of glycogen synthase kinase-3 β in neuronal apoptosis induced by trophic withdrawal. *J. Neurosci.* 20: 2567-2574.
- Hetman, M., et al. 2002. ERK 1/2 antagonizes glycogen synthase kinase-3 β -induced apoptosis in cortical neurons. *J. Biol. Chem.* 277: 49577-49584.
- Choi, J.H., et al. 2004. Augmentation of therapeutic angiogenesis using genetically modified human endothelial progenitor cells with altered glycogen synthase kinase-3 β activity. *J. Biol. Chem.* 279: 49430-49438.
- Ge, L., et al. 2004. Involvement of c-Myc in growth inhibition of Hep 3B human hepatoma cells by a vitamin K analog. *J. Hepatol.* 41: 823-829.
- Jordà, E.G., et al. 2005. Implication of cyclin-dependent kinase 5 in the neuroprotective properties of lithium. *Neuroscience* 134: 1001-1011.
- Lee, S.J., et al. 2006. Age-related changes in glycogen synthase kinase 3 β (GSK-3 β) immunoreactivity in the central nervous system of rats. *Neurosci. Lett.* 409: 134-139.
- Koivisto, L., et al. 2006. HaCaT keratinocyte migration is dependent on epidermal growth factor receptor signaling and glycogen synthase kinase-3 α . *Exp. Cell Res.* 312: 2791-2805.
- Mingxin, Z., et al. 2008. The antitumor activity of meisoindigo against human colorectal cancer HT-29 cells *in vitro* and *in vivo*. *J. Chemother.* 20: 728-733.
- Sato, S., et al. 2008. Spatial learning impairment, enhanced CDK5/p35 activity, and downregulation of NMDA receptor expression in transgenic mice expressing t-tubulin kinase 1. *J. Neurosci.* 28: 14511-14521.

MONOS
Satisfaction
Guaranteed

Try **GSK-3 α / β (0011-A): sc-7291** or **GSK-3 β (E-11): sc-377213**, our highly recommended monoclonal alternatives to GSK-3 β (L-17). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **GSK-3 α / β (0011-A): sc-7291**.