

p-GSK-3 β (Ser 9): sc-11757

BACKGROUND

Glycogen synthase kinase-3 α (GSK-3 α) and GSK-3 β are highly similar isoforms of serine/threonine kinases that regulate metabolic enzymes and transcription factors, which are responsible for coordinating processes such as glycogen synthesis and cell adhesion. GSK-3 β activity is also required for nuclear activity of Rel dimers, which mediate an anti-apoptotic response to TNF α in mice. GSK-3 catalytic kinase activity is controlled through differential phosphorylation of serine/threonine residues, which have an inhibitory effect, and tyrosine residues, which have an activating effect. Growth factor stimulation of mammalian cells expressing GSK-3 α and GSK-3 β induces phosphorylation of Ser 21 and Ser 9, respectively, through a phosphatidylinositol 3-kinase (PI 3-K)-protein kinase B (PKB)-dependent pathway, thereby enhancing proliferative signals. Additionally, GSK-3 physically associates with cAMP-dependent protein kinase A (PKA), which phosphorylates Ser 21 of GSK-3 α or Ser 9 of GSK-3 β and inactivates both forms. GSK-3 α/β is positively regulated by phosphorylation on Tyr 279 and Tyr 216, respectively. Activated GSK-3 α/β participates in energy metabolism, neuronal cell development, and body pattern formation. Tyrosine dephosphorylation of GSK-3 is involved in its extracellular signal-dependent inactivation.

CHROMOSOMAL LOCATION

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

SOURCE

p-GSK-3 β (Ser 9) is available as either goat (sc-11757) or rabbit (sc-11757-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 9 phosphorylated 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-11757 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-GSK-3 β (Ser 9) is recommended for detection of Ser 9 phosphorylated GSK-3 β of mouse, rat, human, *Xenopus laevis* and zebrafish 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). p-GSK-3 β (Ser 9) is also recommended for detection of correspondingly phosphorylated GSK-3 β in additional species, including equine, canine, bovine, porcine and avian.

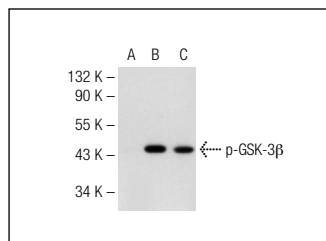
Suitable for use as control antibody for GSK-3 β siRNA (h): sc-35527, GSK-3 β siRNA (m): sc-35525, GSK-3 β shRNA Plasmid (h): sc-35527-SH, GSK-3 β shRNA Plasmid (m): sc-35525-SH, GSK-3 β shRNA (h) Lentiviral Particles: sc-35527-V and GSK-3 β shRNA (m) Lentiviral Particles: sc-35525-V.

Molecular Weight of p-GSK-3 β : 47 kDa.

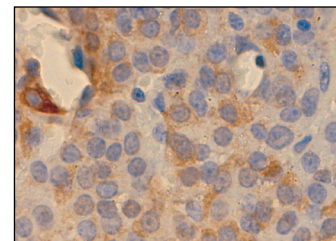
STORAGE

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

DATA



p-GSK-3 β (Ser 9): sc-11757. Western blot analysis of GSK-3 β phosphorylation in non-transfected 293T: sc-117572 (A), mouse GSK-3 β transfected 293T: sc-110362 (B) and HeLa (C) whole cell lysates.



p-GSK-3 β (Ser 9)-R: sc-11757-R. Immunoperoxidase staining of formalin-fixed, paraffin-embedded mouse ovary tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Rauch, C., et al. 2005. Static stretch promotes MEF-2A nuclear translocation and expression of neonatal myosin heavy chain in C2C12 myocytes in a calcineurin- and p38-dependent manner. *Am. J. Physiol., Cell Physiol.* 288: C593-C605.
2. Capozza, F., et al. 2005. Caveolin-3 knockout mice show increased adiposity and whole body Insulin resistance, with ligand-induced Insulin receptor instability in skeletal muscle. *Am. J. Physiol., Cell Physiol.* 288: C1317-C1331.
3. Gillio-Meina, C., et al. 2005. Expression of CCAAT/enhancer binding proteins α and β in the porcine ovary and regulation in primary cultures of granulosa cells. *Biol. Reprod.* 72: 1194-1204.
4. Jordá, E.G., et al. 2005. Implication of cyclin-dependent kinase 5 in the neuroprotective properties of lithium. *Neuroscience* 134: 1001-1011.
5. Liu, X., et al. 2005. Rapid, Wnt-induced changes in GSK3 β associations that regulate β -catenin stabilization are mediated by G α proteins. *Curr. Biol.* 15: 1989-1997.
6. Vergara, D., et al. 2012. Resveratrol downregulates Akt/GSK and ERK signalling pathways in OVCAR-3 ovarian cancer cells. *Mol. Biosyst.* 8: 1078-1087.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **p-GSK-3 β (F-2): sc-373800** or **p-GSK-3 β (3A8): sc-81495**, our highly recommended monoclonal alternatives to p-GSK-3 β (Ser 9).