

GSK-3 β (11B9): sc-81462

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 (11B9) is a mouse monoclonal antibody raised against the N-terminus of GSK-3 β of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, PEG and sucrose.

APPLICATIONS

GSK-3 β (11B9) 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) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

GSK-3 β (11B9) is also recommended for detection of GSK-3 β in additional species, including canine.

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: GSK-3 β (m): 293T Lysate: sc-120654, A549 cell lysate: sc-2413 or Jurkat whole cell lysate: sc-2204.

STORAGE

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

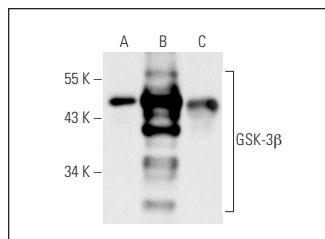
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

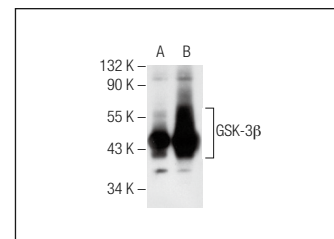
RESEARCH USE

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

DATA



GSK-3 β (11B9): sc-81462. Western blot analysis of GSK-3 β expression in non-transfected 293T: sc-117752 (A), mouse GSK-3 β transfected 293T: sc-120654 (B) and Jurkat (C) whole cell lysates.



GSK-3 β (11B9): sc-81462. Western blot analysis of GSK-3 β expression in non-transfected 293T: sc-117752 (A) and mouse GSK-3 β transfected: sc-110362 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Mariappan, M.M., et al. 2008. Glycogen synthase kinase 3 β is a novel regulator of high glucose- and high Insulin-induced extracellular matrix protein synthesis in renal proximal tubular epithelial cells. *J. Biol. Chem.* 283: 30566-30575.
- Perri, A., et al. 2013. T3 enhances thyroid cancer cell proliferation through TRP1/Oct-1-mediated cyclin D1 activation. *Mol. Cell. Endocrinol.* 382: 205-217.
- Meng, X., et al. 2014. Attenuation of A β ₂₅₋₃₅-induced parallel autophagic and apoptotic cell death by gypenoside XVII through the estrogen receptor-dependent activation of Nrf2/ARE pathways. *Toxicol. Appl. Pharmacol.* 279: 63-75.
- Yu, J., et al. 2015. Aplasia Ras homolog member I expression induces apoptosis in renal cancer cells via the β -catenin signaling pathway. *Mol. Med. Rep.* 11: 475-481.
- Zhao, Z.H., et al. 2017. SOX2-mediated inhibition of miR-223 contributes to STIM1 activation in phenylephrine-induced hypertrophic cardiomyocytes. *Mol. Cell. Biochem.* 443: 47-56.
- Kim, S.A., et al. 2018. Cryptotanshinone induces cell cycle arrest and apoptosis of NSCLC cells through the PI3K/Akt/GSK-3 β pathway. *Int. J. Mol. Sci.* 19: 2739.
- Liu, X., et al. 2019. Silencing RRM2 inhibits multiple myeloma by targeting the Wnt/ β -catenin signaling pathway. *Mol. Med. Rep.* 20: 2159-2166.
- Kavinda, M.H.D., et al. 2024. 2,4'-dihydroxybenzophenone exerts bone formation and antiosteoporotic activity by stimulating the β -catenin signaling pathway. *ACS Pharmacol. Transl. Sci.* 7: 395-405.



See **GSK-3 α / β (0011-A): sc-7291** for **GSK-3 α / β** antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.