

p-GSK-3 β (3A8): sc-81495

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 (3A8) is a mouse monoclonal antibody raised against a phosphopeptide corresponding to amino acid residues surrounding Ser 9 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

p-GSK-3 β (3A8) is recommended for detection of Ser 9 phosphorylated GSK-3 β of mouse, rat, human and canine 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)].

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.

Positive Controls: GSK-3 β (m): 293T Lysate: sc-120654, NIH/3T3 whole cell lysate: sc-2210 or A-431 whole cell lysate: sc-2201.

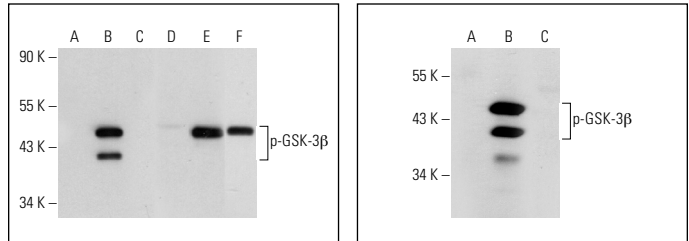
STORAGE

Store at 4 $^{\circ}$ 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



Western blot analysis of GSK-3 β phosphorylation in non-transfected: sc-117752 (A, D), untreated mouse GSK-3 β transfected: sc-120654 (B, E) and lambda protein phosphatase treated mouse GSK-3 β transfected: sc-120654 (C, F) 293T whole cell lysates. Antibodies tested include p-GSK-3 β (3A8): sc-81495 (A, B, C) and GSK-3 β (1F7): sc-53931 (D, E, F).

p-GSK-3 β (3A8): sc-81495. Western blot analysis of GSK-3 β phosphorylation in non-transfected: sc-117752 (A), untreated mouse GSK-3 β transfected: sc-120654 (B) and lambda protein phosphatase treated mouse GSK-3 β transfected: sc-120654 (C) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

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- Chang, B., et al. 2018. *Tripterygium wilfordii* mitigates hyperglycemia-induced upregulated Wnt/ β -catenin expression and kidney injury in diabetic rats. *Exp. Ther. Med.* 15: 3874-3882.
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- Liao, Y.J., et al. 2019. PRC1 gene silencing inhibits proliferation, invasion, and angiogenesis of retinoblastoma cells through the inhibition of the Wnt/ β -catenin signaling pathway. *J. Cell. Biochem.* 120: 16840-16852.
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PROTOCOLS

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