

p-GSK-3 β (Ser 21): sc-130601

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.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GSK3B (human) mapping to 3q13.33.

SOURCE

p-GSK-3 β (Ser 21) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 21 of GSK-3 β of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

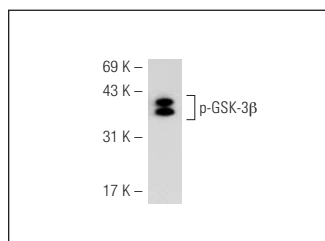
p-GSK-3 β (Ser 21) is recommended for detection of Ser 21 phosphorylated GSK-3 β of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

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

Positive Controls: A-431 whole cell lysate: sc-2201 or PDGF-treated A-431 whole cell lysate.

DATA



p-GSK-3 β (Ser 21): sc-130601. Western blot analysis of GSK-3 β phosphorylation in A-431 whole cell lysate.

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.

PROTOCOLS

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