

p-Tau (Ser 739): sc-293119

BACKGROUND

Tau can be phosphorylated by several protein kinases. Phosphorylation by Tau protein kinase II at Serine 404 is primarily responsible for the functional loss of Tau-mediated tubulin polymerization. In addition, phosphorylation of microtubule-associated Tau results in the dissociation of Tau from the microtubules and tubulin depolymerization. Serine 412 of Tau is modified by Tau protein kinase I/glycogen synthase kinase-3 β (TPKI/GSK-3 β) to disrupt neuronal metabolism in anatomical areas vulnerable to Alzheimer's disease. TPKI/GSK-3 β is expressed primarily in neurons and especially in neurites early in development, whereafter the distribution is concentrated mostly in the cell soma and the proximal neurite region.

REFERENCES

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4. Hashiguchi, M., et al. 2000. 14-3-3 ζ is an effector of Tau protein phosphorylation. *J. Biol. Chem.* 275: 25247-25254.
5. Lesort, M., et al. 2000. Insulin-like growth factor-1 and Insulin mediate transient site-selective increases in Tau phosphorylation in primary cortical neurons. *Neuroscience* 99: 305-316.
6. Iqbal, K., et al. 2000. Mechanism of neurofibrillary degeneration and pharmacologic therapeutic approach. *J. Neural Transm. Suppl.* 59: 213-222.
7. Taniguchi, T., et al. 2001. Phosphorylation of Tau is regulated by PKN. *J. Biol. Chem.* 276: 10025-10031.
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CHROMOSOMAL LOCATION

Genetic locus: MAPT (human) mapping to 17q21.31; Mapt (mouse) mapping to 11 E1.

SOURCE

p-Tau (Ser 739) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 739 of Tau 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.

STORAGE

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

APPLICATIONS

p-Tau (Ser 739) is recommended for detection of Ser 739 phosphorylated Tau 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)].

Suitable for use as control antibody for Tau siRNA (h): sc-36614, Tau siRNA (m): sc-36615, Tau siRNA (h2): sc-43402, Tau siRNA (r): sc-61900 Tau shRNA Plasmid (h): sc-36614-SH, Tau shRNA Plasmid (m): sc-36615-SH, Tau shRNA Plasmid (h2): sc-43402-SH, Tau shRNA Plasmid (r): sc-61900-SHTau shRNA (h) Lentiviral Particles: sc-36614-V, Tau shRNA (m) Lentiviral Particles: sc-36615-V, Tau shRNA (h2) Lentiviral Particles: sc-43402-V and Tau shRNA (r) Lentiviral Particles: sc-61900-V.

Molecular Weight of p-Tau: 46-80 kDa.

Positive Controls: mouse brain extract: sc-2253, SK-N-SH cell lysate: sc-2410 or rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

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.