



## p-Tau (Thr 534): sc-16933

### 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 beta (TPKI/GSK-3 $\beta$ ) to disrupt neuronal metabolism in anatomical areas vulnerable to Alzheimer's disease. TPKI/GSK-3 $\beta$  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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- Michel, G., Mercken, M., Murayama, M., Noguchi, K., Ishiguro, K., Imahori, K. and Takashima, A. 1998. Characterization of Tau phosphorylation in glycogen synthase kinase-3 $\beta$  and cyclin dependent kinase-5 activator (p23) transfected cells. *Biochim. Biophys. Acta* 1380: 177-182.
- Evans, D.B., Rank, K.B., Bhattacharya, K., Thomsen, D.R., Gurney, M.E. and Sharma, S.K. 2000. Tau phosphorylation at Serine 396 and Serine 404 by human recombinant Tau protein kinase II inhibits Tau's ability to promote microtubule assembly. *J. Biol. Chem.* 275: 24977-24983.

### CHROMOSOMAL LOCATION

Genetic locus: MAPT (human) mapping to 17q21.1; Mapt (mouse) mapping to 11 E1.

### STORAGE

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

### SOURCE

p-Tau (Thr 534) is available as either goat (sc-16933) or rabbit (sc-16933-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing phosphorylated Thr 534 of Tau of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16933 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

p-Tau (Thr 534) is recommended for detection of Thr 534 phosphorylated Tau of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Tau siRNA (h): sc-36614 and Tau siRNA (m): sc-36615.

Molecular Weight of p-Tau: 46-68 kDa.

Positive Controls: mouse brain extract: sc-2253 or human brain extract.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### RESEARCH USE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.