**BACKGROUND**

Dopaminergic signaling pathways, which are essential for multiple brain functions, are abnormal in several neurological disorders, such as schizophrenia, Parkinson’s disease and drug abuse. DARPP-32 is abundant in neurons that receive dopaminergic input. Activation of PKA and the consequent phosphorylation of DARPP-32 on Thr 34 occurs in response to dopamine acting upon D1-like receptors. Dopamine interaction with D2-like receptors results in the inhibition of PKA activation, the activation of protein phosphatase 2B and the consequent dephosphorylation of DARPP-32 at Thr 34. Phosphorylated DARPP-32 at Thr 34 is a potent inhibitor of PKA, and the consequent dephosphorylation of Thr 34 by calcineurin. Phosphorylation of DARPP-32 on Thr 75 by Cdk5 inhibits PKA by a competitive mechanism in vitro. Decreasing the phosphorylation of DARPP-32 Thr 75 increases the dopamine-induced phosphorylation of PKA substrates.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: PPP1R1B (human) mapping to 17q12; Ppp1r1b (mouse) mapping to 11 D.

**SOURCE**

p-DARPP-32 (Thr 75) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Thr 75 of DARPP-32 of rat origin.

**PRODUCT**

Each vial contains IgG in 100 µl of 10 mM HEPES with 150 mM NaCl, 50% glycerol and < 0.1% BSA.

**APPLICATIONS**

p-DARPP-32 (Thr 75) is recommended for detection of Thr 75 phosphorylated DARPP-32 of mouse, rat and human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:100-1:500) and immunoprecipitation [1-2 µl per 100-500 µg of total protein (1 ml of cell lysate)].


Molecular Weight of p-DARPP-32: 32 kDa.

Positive Controls: rat caudate nucleus tissue extract.

**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), Western Blotting Luminol Reagent: sc-2048 and Lamb Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

**DATA**

**STORAGE**

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

**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.