

# DARPP-32 (m2): 293T Lysate: sc-125227

## 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 (for dopamine and adenosine 3',5'-monophosphate-regulated phosphoprotein) is abundant in neurons that receive dopaminergic input. Activation of PKA and the consequent phosphorylation of DARPP-32 on threonine 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. Neurotransmitters other than dopamine may also be able to stimulate the phosphorylation or dephosphorylation of DARPP-32. Phosphorylated DARPP-32 is a potent inhibitor of PP-1.

## REFERENCES

1. Walaas, S.I., et al. 1984. DARPP-32, a dopamine- and adenosine 3':5'-monophosphate-regulated phosphoprotein enriched in dopamine-innervated brain regions. I. Regional and cellular distribution in the rat brain. *J. Neurosci.* 4: 84-98.
2. Hemmings, H.C., Jr., et al. 1984. DARPP-32, a dopamine- and adenosine 3':5'-monophosphate-regulated neuronal phosphoprotein. I. Amino acid sequence around the phosphorylated threonine. *J. Biol. Chem.* 259: 14486-14490.
3. Hemmings, H.C., Jr., et al. 1984. DARPP-32, a dopamine-regulated neuronal phosphoprotein, is a potent inhibitor of protein phosphatase-1. *Nature* 310: 503-505.
4. Nishi, A., et al. 1997. Bidirectional regulation of DARPP-32 phosphorylation by dopamine. *J. Neurosci.* 17: 8147-8155.
5. Fienberg, A.A., et al. 1998. DARPP-32: regulator of the efficacy of dopaminergic neuro-transmission. *Science* 281: 838-842.
6. Greengard, P., et al. 1998. The DARPP-32/protein phosphatase-1 cascade: a model for signal integration. *Brain Res. Rev.* 26: 274-284.

## CHROMOSOMAL LOCATION

Genetic locus: Ppp1r1b (mouse) mapping to 11 D.

## PRODUCT

DARPP-32 (m2): 293T Lysate represents a lysate of mouse DARPP-32 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

## STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## PROTOCOLS

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

## APPLICATIONS

DARPP-32 (m2): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive DARPP-32 antibodies. Recommended use: 10-20 µl per lane.

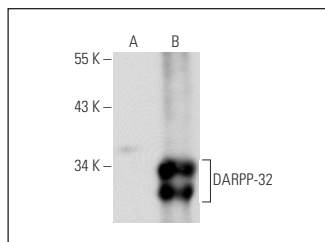
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

DARPP-32 (H-3): sc-271111 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse DARPP-32 expression in DARPP-32 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



DARPP-32 (H-3): sc-271111. Western blot analysis of DARPP-32 expression in non-transfected: sc-117752 (A) and mouse DARPP-32 transfected: sc-125227 (B) 293T whole cell lysates.

## RESEARCH USE

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