

# DARPP-32 (H-62): sc-11365

## 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

DARPP-32 (H-62) is a rabbit polyclonal antibody raised against amino acids 134-195 mapping epitope corresponding to amino acids 134-195 of DARPP-32 of bovine origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-11365 AC, 500 µg/0.25 ml agarose in 1 ml.

## APPLICATIONS

DARPP-32 (H-62) is recommended for detection of DARPP-32 of human, bovine and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for DARPP-32 siRNA (h): sc-35173, DARPP-32 siRNA (m): sc-35174, DARPP-32 siRNA (r): sc-156003, DARPP-32 shRNA Plasmid (h): sc-35173-SH, DARPP-32 shRNA Plasmid (m): sc-35174-SH, DARPP-32 shRNA Plasmid (r): sc-156003-SH, DARPP-32 shRNA (h) Lentiviral Particles: sc-35173-V, DARPP-32 shRNA (m) Lentiviral Particles: sc-35174-V and DARPP-32 shRNA (r) Lentiviral Particles: sc-156003-V.

Molecular Weight of DARPP-32: 32 kDa.

## STORAGE

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

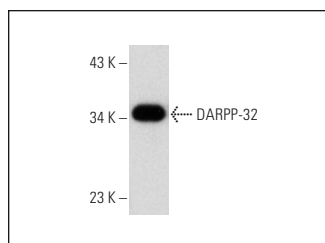
## PROTOCOLS

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

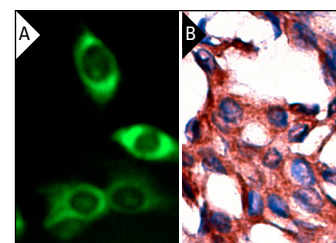
## RESEARCH USE

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

## DATA



DARPP-32 (H-62): sc-11365. Western blot analysis of rat recombinant DARPP-32.



DARPP-32 (H-62): sc-11365. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human brain tumor showing cytoplasmic localization (B).

## SELECT PRODUCT CITATIONS

1. El-Rifai, W., et al. 2002. Gastric cancers overexpress DARPP-32 and a novel isoform,  $\tau$ -DARPP. *Cancer Res.* 62: 4061-4064.
2. Kondo, Y., et al. 2010. Expression and role of the BDNF receptor-TrkB in rat adrenal gland under acute immobilization stress. *Acta Histochem. Cytochem.* 43: 139-147.
3. Mukherjee, K., et al. 2010. Dopamine and cAMP regulated phosphoprotein MW 32 kDa is overexpressed in early stages of gastric tumorigenesis. *Surgery* 148: 354-363.
4. Alvaro-Bartolome, M., et al. 2011. Molecular adaptations of apoptotic pathways and signaling partners in the cerebral cortex of human cocaine addicts and cocaine-treated rats. *Neuroscience* 196: 1-15.
5. Dong, G., et al. 2011. Modeling pathogenesis of Huntington's disease with inducible neuroprogenitor cells. *Cell. Mol. Neurobiol.* 31: 737-747.
6. Zhu, S., et al. 2011. DARPP-32 increases interactions between epidermal growth factor receptor and ERBB3 to promote tumor resistance to gefitinib. *Gastroenterology* 141: 1738-1748.e1-2.
7. Chien, C.C., et al. 2012. Naloxonazine, a specific  $\mu$ -opioid receptor antagonist, attenuates the increment of locomotor activity induced by acute methamphetamine in mice. *Toxicol. Lett.* 212: 61-65.
8. Hong, J., et al. 2012. Regulation of ERBB2 receptor by  $\tau$ -DARPP mediates trastuzumab resistance in human esophageal adenocarcinoma. *Cancer Res.* 72: 4504-4514.
9. Pauly, M.C., et al. 2013. Organization of the human fetal subpallium. *Fronti. Neuroanat.* 7: 54.



Try **DARPP-32 (H-3): sc-271111** or **DARPP-32 (G-5): sc-398360**, our highly recommended monoclonal alternatives to DARPP-32 (H-62). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **DARPP-32 (H-3): sc-271111**.