

# DARPP-32 (F-2): sc-398144

## 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 (F-2) is a mouse monoclonal 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<sub>1</sub> kappa light chain in 1.0 ml of 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.

## RESEARCH USE

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

## APPLICATIONS

DARPP-32 (F-2) is recommended for detection of DARPP-32 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DARPP-32 (F-2) is also recommended for detection of DARPP-32 in additional species, including bovine.

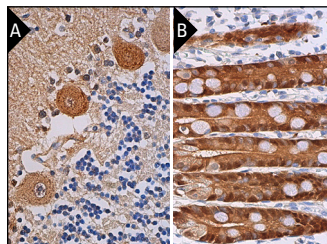
Suitable for use as control antibody for DARPP-32 siRNA (h): sc-35173, DARPP-32 siRNA (m): sc-35174, DARPP-32 siRNA (r): sc-156003, DARPP-32 shRNA Plasmid (h): sc-35173-SH, DARPP-32 shRNA Plasmid (m): sc-35174-SH, DARPP-32 shRNA Plasmid (r): sc-156003-SH, DARPP-32 shRNA (h) Lentiviral Particles: sc-35173-V,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

## 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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



DARPP-32 (F-2): sc-398144. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic and nuclear staining of purkinje cells and nuclear staining of cells in molecular layer (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic and nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Zhu, S., et al. 2019. Activation of IGF1R by DARPP-32 promotes Stat3 signaling in gastric cancer cells. *Oncogene* 38: 5805-5816.
- Zhu, S., et al. 2020. Silencing of miR490-3p by *H. pylori* activates DARPP-32 and induces resistance to gefitinib. *Cancer Lett.* 491: 87-96.

## PROTOCOLS

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



See **DARPP-32 (H-3): sc-271111** for DARPP-32 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.