10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DARPP-32 Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1076

Specification

DARPP-32 Antibody - Product Information

Application	**WB, IHC**
Primary Accession	Q6J4I0
Reactivity	**Rat**
Predicted	**Bovine, Chicken, Human, Mouse, Monkey, Xenopus**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**32 KDa**

DARPP-32 Antibody - Additional Information

Gene ID	**360616**
Gene Name	**PPP1R1B**

Other Names
Protein phosphatase 1 regulatory subunit 1B, DARPP-32, Dopamine- and cAMP-regulated neuronal phosphoprotein, Ppp1r1b

Target/Specificity
Synthetic peptide corresponding to amino acid residues from the N-terminal region conjugated to KLH.

Dilution
WB~~ 1:1000
IHC~~ 1:250

Format
Prepared from rabbit serum by affinity purification via chromatography on an affinity column prepared with the N-terminal peptide used as antigen.

Antibody Specificity
Specific for the ~32k DARPP-32 protein.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
DARPP-32 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

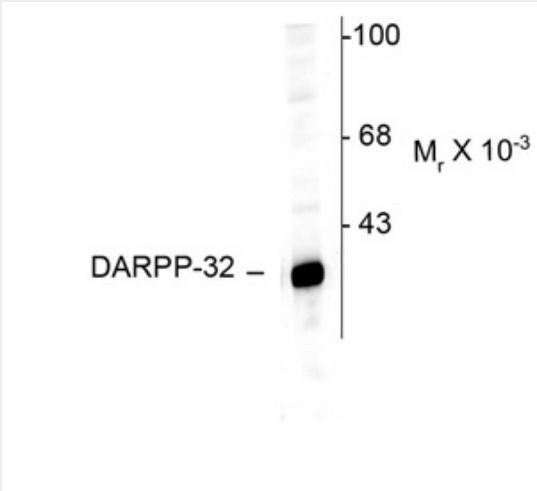
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DARPP-32 Antibody - Protocols

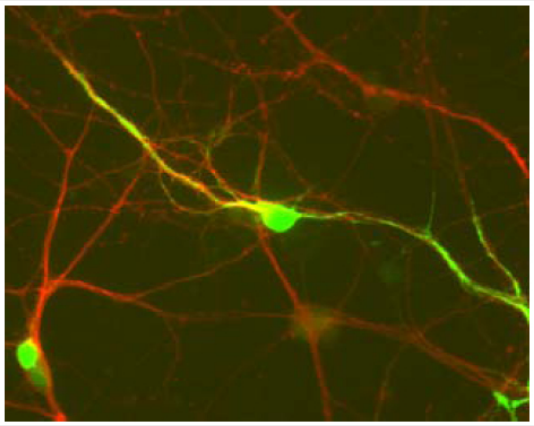
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

DARPP-32 Antibody - Images



Westernblot of rat hippocampal lysate showing specific immunolabeling of the ~32k DARPP protein.



Immunochemical staining of cultured CD1 mouse striatal cells showing specific labeling ofDARPP-32 in green and Tuj1 in red. Cells and photo courtesy of QBMCellScience.

DARPP-32 Antibody - Background

DARPP-32 is a dopamine (DA) and cAMP-regulated ~32k phosphoprotein that is associated with dopaminoceptive neurons (Fienberg et al., 1998). The protein inhibits protein phosphatase I when it is phosphorylated on Thr34. In contrast, when DARPP-32 is phosphorylated on Thr75 the protein acts as an inhibitor of PKA (Bibb et al., 1999). Phosphorylation of DARPP-32 is thought to play a

critical role in the regulation of dopaminergic neurotransmission. In addition, the activity of DARPP-32 is also thought to play important roles in the actions of alcohol, caffeine and Prozac® (Maldve et al., 2002; Lindskog et al., 2002; Svenningsson et al., 2002).

DARPP-32 Antibody - References

Bibb JA, Snyder GL, Nishi A, Yan Z, Meijer L, Fienberg AA, Tsai LH, Kwon YT, Girault JA, Czernik AJ, Huganir RL, Hemmings HC, Jr., Nairn AC, Greengard P (1999) Phosphorylation of DARPP-32 by cdk5 modulates dopamine signalling in neurons. Nature (London) 402:669-671.
Fienberg, A.A., Hiroi, N., Mermelstein, P.G., Song, W., Snyder, G.L., Nishi, A., Cheramy, A. O'Callaghan, J.P., Miller, D.B., Cole, D.G., Corbett, R., Haile, C.N., Cooper, D,C., Onn, S.P., Grace, A.A., Ouimet, C.C., White, F.G., Hyman, S.E., Surmeier, D.G., Girault, J., Nestler, E.J. and Greengard, P. (1998) DARPP-32: regulator of the efficacy of dopaminergic neurotransmission. Science 281:838-842.
Lindskog M, Svenningsson P, Pozzi L, Kim Y, Fienberg AA, Bibb JA, Fredholm BB, Nairn AC, Greengard P, Fisone G (2002) Involvement of DARPP-32 phosphorylation in the stimulant action of caffeine. Nature (London) 418:774-778.
Maldve RE, Zhang TA, Ferrani-Kile K, Schreiber SS, Lippmann MJ, Snyder GL, Feinberg AA, Leslie SW, Gonzales RA, Morrisett RA (2002) DARPP-32 and the regulation of the ethanol sensitivity of NMDA receptors in the nucleus accumbens. Nature Neurosci 5:641-648.
Svenningsson P, Tzavara ET, Witkin JM, Fienberg AA, Nomikos GG, Greengard P (2002) Involvement of striatal and extrastriatal DARPP-32 in biochemical and behavioral effects of fluoxetine (Prozac®). Proc Natl Acad Sci USA 99:3182-3187.
Michelle Niculescu, Shane A. Perrine, Jonathan S. Miller, Michelle E. Ehrlich, and Ellen M. Unterwald (2008) Trk: A Neuromodulator of Age-Specific Behavioral and Neurochemical Responses to Cocaine in Mice. J. Neurosci., Jan 2008; 28: 1198 - 1207.