

Phospho-Thr34 DARPP-32 Antibody
Affinity purified rabbit polyclonal antibody
Catalog # AN1005

Specification

Phospho-Thr34 DARPP-32 Antibody - Product Information

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

Phospho-Thr34 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 phospho-peptide corresponding to amino acid residues surrounding Thr34 conjugated to KLH.

Dilution

WB~~ 1:1000

Format

Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Antibody Specificity

Specific for the ~32k DARPP-32 protein phosphorylated at Thr34. Immunolabeling is blocked by λ -phosphatase treatment.

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

Phospho-Thr34 DARPP-32 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping

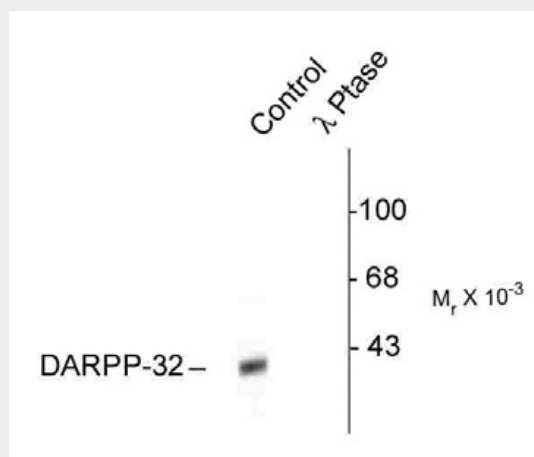
Blue Ice

Phospho-Thr34 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 Cytometry](#)
- [Cell Culture](#)

Phospho-Thr34 DARPP-32 Antibody - Images



Western blot of rat caudate lysate showing specific immunolabeling of the ~32k DARPP-32 phosphorylated at Thr34 (Control). The phosphospecificity of this labeling is shown in the second lane (lambda-phosphatase: λ-Ptase). The blot is identical to the control except that it was incubated in λ-Ptase (1200 units for 30 min) before being exposed to the Anti-Thr34 DARPP-32. The immunolabeling is completely eliminated by treatment with λ-Ptase.

Phospho-Thr34 DARPP-32 Antibody - Background

DARPP-32 is a dopamine (DA) and cAMP-regulated ~32k phosphoprotein that is associated with dopaminergic 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).

Phospho-Thr34 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, Fienberg 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.

Daniela Marazziti, Chiara Di Pietro, Silvia Mandillo, Elisabetta Golini, Raffaele Matteoni, and Glauco P. Tocchini-Valentini (2011) Absence of the GPR37/PAEL receptor impairs striatal Akt and ERK2 phosphorylation, FosB expression, and conditioned place preference to amphetamine and cocaine *FASEB J*, 25: 2071 - 2081.

Rajani Maiya, Yan Zhou, Erin H. Norris, Mary Jeanne Kreek, and Sidney Strickland (2009) Tissue plasminogen activator modulates the cellular and behavioral response to cocaine. *PNAS*, 106: 1983 - 1988.

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.

Jean-Martin Beaulieu, Tatyana D. Sotnikova, Raul R. Gainetdinov, and Marc G. Caron (2006) Paradoxical Striatal Cellular Signaling Responses to Psychostimulants in Hyperactive Mice . *J. Biol. Chem.*, Oct 2006; 281: 32072 - 32080.