

#2301 Store at -20°C

Phospho-DARPP-32 (Thr75) Antibody

100 µl
 (10 western blots)



Orders ■ 877-616-CELL (2355)
 orders@cellsignal.com
Support ■ 877-678-TECH (8324)
 info@cellsignal.com
Web ■ www.cellsignal.com

rev. 03/10/10

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications W Endogenous	Species Cross-Reactivity* M, R	Molecular Wt. 32 kDa	Source Rabbit**
---------------------------------	-----------------------------------	-------------------------	--------------------

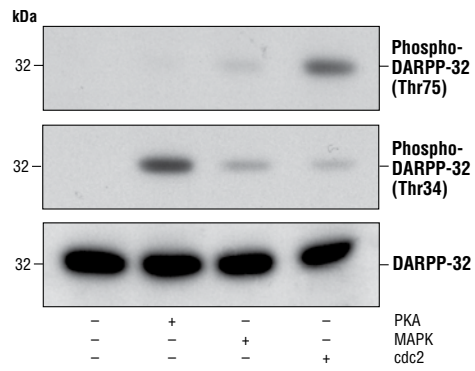
Background: DARPP-32 (dopamine and cyclic AMP-regulated phosphoprotein, relative molecular mass 32,000) is a cytosolic protein highly enriched in medium-sized spiny neurons of the neostriatum (1). It is a bifunctional signaling molecule that controls serine/threonine kinase and serine/threonine phosphatase activity (2). Dopamine stimulates phosphorylation of DARPP-32 through D1 receptors and activation of PKA. PKA phosphorylation of DARPP-32 at threonine 34 converts it into an inhibitor of protein phosphatase 1 (1). DARPP-32 is converted into an inhibitor of PKA when phosphorylated at threonine 75 by cyclin-dependent kinase 5 (CDK5) (2). Mice containing a targeted deletion of the DARPP-32 gene exhibit an altered biochemical, electrophysiological and behavioral phenotype (3).

Specificity/Sensitivity: Phospho-DARPP-32 (Thr75) Antibody detects endogenous levels of DARPP-32 only when phosphorylated at threonine 75. The antibody does not cross-react with DARPP-32 phosphorylated at Thr34.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr75 of human DARPP-32. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Nishi, A. et al. (1997) *J. Neurosci.* 17, 8147–8155.
- (2) Bibb, J.A. et al. (1999) *Nature* 402, 669–671.
- (3) Fienberg, A.A. et al. (1998) *Science* 281, 838–842.



Western blot analysis of extracts from rat brain cortex, untreated or phosphorylated in vitro by PKA, MAP kinase or cdc2 kinase, using Phospho-DARPP-32 (Thr75) Antibody #2301 (top), Phospho-DARPP-32 (Thr34) Antibody (middle) or DARPP-32 Antibody #2302 (bottom).

Entrez-Gene ID #84152
Swiss-Prot Acc. #Q9UD71

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.