#2304 Store at –20°C

Phospho-DARPP-32 (Thr34) Antibody

☑ 100 µl
(10 western blots)

Cell Signaling TECHNOLOGY®

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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.

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

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	M, R, (H)	32 kDa	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 s 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 (Thr34) Antibody detects endogenous levels of DARPP-32 only when phosphorylated at threonine 34. The antibody does not cross-react with DARPP-32 phosphorylated at Thr75.

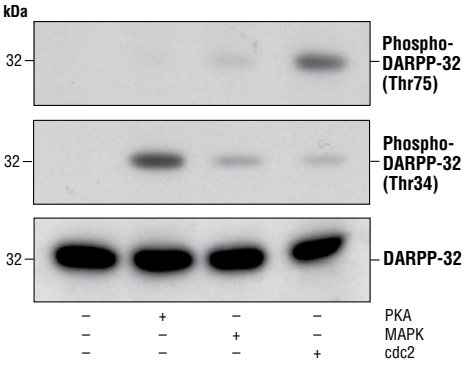
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr34 of human DARPP-32. Antibodies are purified by protein A and peptide affinity chromatography.

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).

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.

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