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DARPP-32 Blocking Peptide

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rev. 06/02/17

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Entrez Gene ID #84152
UniProt ID #Q9UD71

Description: This peptide is used to block DARPP-32 (19A3) Rabbit mAb #2306 reactivity in peptide dot blot protocols.

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 Thr34 converts it into an inhibitor of protein phosphatase 1 (1). DARPP-32 is converted into an inhibitor of PKA when phosphorylated at Thr75 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).

Quality Control: The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks DARPP-32 (19A3) Rabbit mAb #2306 signal in peptide dot blot.

Directions for Use: Use as a blocking reagent to evaluate the specificity of antibody reactivity in peptide dot blot protocols. Recommended antibody dilutions can be found on the relevant product data sheet.

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.

Storage: Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. 1% DMSO Store at –20°C.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **IC**—Immunocytochemistry **IF**—Immunofluorescence **F**—Flow cytometry **E**—ELISA **D**—DELFIA®

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **X**—Xenopus **Z**—zebra fish **B**—bovine **All**—all species expected

Species enclosed in parentheses are predicted to react based on 100% sequence homology.