

Store at  
-20°C

#70174

# $\alpha$ -Adducin (D7T7R) Rabbit mAb

Support: +1-978-867-2388 (U.S.)  
www.cellsignal.com/supportOrders: 877-616-2355 (U.S.)  
orders@cellsignal.comEntrez-Gene ID #118  
UniProt ID #P35611

New 01/16

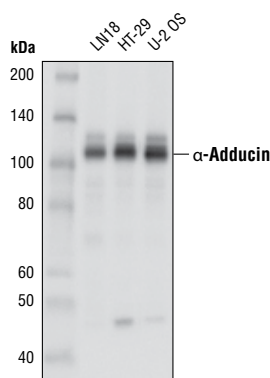
**For Research Use Only. Not For Use In Diagnostic Procedures.**

Applications W, IP Endogenous	Species Cross-Reactivity* H, Mk	Molecular Wt. 120 kDa	Isotype Rabbit IgG**
-------------------------------------	------------------------------------	--------------------------	-------------------------

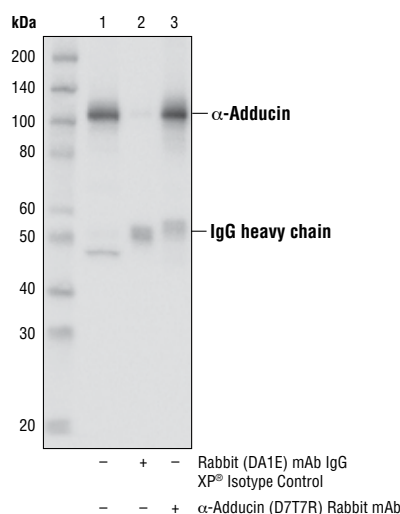
**Background:** The adducins (ADD) are cytoskeleton-associated proteins that help cap the ends of actin filaments, promote association between spectrin and actin, and participate in synapse assembly. The three closely related genes *ADD1*, *ADD2*, and *ADD3* encode the  $\alpha$ -adducin,  $\beta$ -adducin, and  $\gamma$ -adducin proteins (1). Research studies indicate that  $\beta$ -adducin is found at high levels in brain and hematopoietic tissues, whereas both  $\alpha$ -adducin and  $\gamma$ -adducin are ubiquitously expressed (2). Adducin protein function is regulated by phosphorylation at a number of sites. Both PKA and PKC can phosphorylate  $\alpha$ -adducin at Ser726 and  $\beta$ -adducin at Ser713, which inhibits calmodulin binding and adducin activity (3-5). Additionally, PKA (but not PKC) can phosphorylate  $\beta$ -adducin at Ser408, Ser436, and Ser481, which negatively affects spectrin-actin interactions (3). Phosphorylation of  $\alpha$ -adducin at Thr445 and Thr480 by Rho-kinase regulates cell motility and membrane ruffling (6). Finally, CDK-1 phosphorylation of  $\alpha$ -adducin at Ser12 and Ser355 during mitosis leads to association of  $\alpha$ -adducin with the mitotic spindle, suggesting that  $\alpha$ -adducin may play a role in mitotic regulation (7). Because  $\alpha$ -adducin plays a role in regulating renal sodium reabsorption, it is not surprising that a number of studies show a relationship between *ADD1* genetic polymorphisms and the development of hypertension (8-10).

**Specificity/Sensitivity:**  $\alpha$ -Adducin (D7T7R) Rabbit mAb recognizes endogenous levels of total  $\alpha$ -adducin protein.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp643 of human  $\alpha$ -adducin protein.



Western blot analysis of extracts from LN18, HT-29, and U-2 OS cells using  $\alpha$ -Adducin (D7T7R) Rabbit mAb.



Immunoprecipitation of  $\alpha$ -adducin from U-2 OS cell extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP<sup>®</sup> Isotype Control #3900, and lane 3 is  $\alpha$ -Adducin (D7T7R) Rabbit mAb. Western blot analysis was performed using  $\alpha$ -Adducin (D7T7R) Rabbit mAb.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at  $-20^{\circ}\text{C}$ . 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
Immunoprecipitation	1:50

For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com)

#### Background References:

- (1) Matsuoka, Y. et al. (2000) *Cell Mol Life Sci* 57, 884-95.
- (2) Joshi, R. et al. (1991) *J Cell Biol* 115, 665-75.
- (3) Matsuoka, Y. et al. (1996) *J Biol Chem* 271, 25157-66.
- (4) Chen, C.L. et al. (2007) *J Cell Sci* 120, 1157-67.
- (5) Naydenov, N.G. and Ivanov, A.I. (2010) *Mol Biol Cell* 21, 3506-17.
- (6) Fukata, Y. et al. (1999) *J Cell Biol* 145, 347-61.
- (7) Chan, P.C. et al. (2014) *J Cell Biol* 204, 19-28.
- (8) Kalita, J. et al. (2013) *Neurol Res* 35, 429-34.
- (9) Kundu, A. and Anand, A. (2013) *Cell Biochem Biophys* 65, 13-9.
- (10) Watanabe, Y. et al. (2010) *Hypertens Res* 33, 129-34.

Tween is a registered trademark of ICI Americas, Inc.

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

Thank you for your recent purchase. If you would like to provide a review visit [cellsignal.com/comments](http://cellsignal.com/comments).

[www.cellsignal.com](http://www.cellsignal.com)

© 2016 Cell Signaling Technology, Inc.

XP and Cell Signaling Technology are trademarks of Cell Signaling Technology, Inc.

Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: 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.