

#70174 Store at -20°C

 α -Adducin (D7T7R) Rabbit mAb**Cell Signaling**
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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H Mk	Endogenous	120	Rabbit IgG	#P35611	118

Product Usage Information**Application**Western Blotting
Immunoprecipitation**Dilution**1:1000
1:50**Storage**Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C . Do not aliquot the antibody.**Specificity / Sensitivity** α -Adducin (D7T7R) Rabbit mAb recognizes endogenous levels of total α -adducin protein.**Source / Purification**Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asp643 of human α -adducin protein.**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 α -adducin, β -adducin, and γ -adducin proteins (1). Research studies indicate that β -adducin is found at high levels in brain and hematopoietic tissues, whereas both α -adducin and γ -adducin are ubiquitously expressed (2). Adducin protein function is regulated by phosphorylation at a number of sites. Both PKA and PKC can phosphorylate α -adducin at Ser726 and β -adducin at Ser713, which inhibits calmodulin binding and adducin activity (3-5). Additionally, PKA (but not PKC) can phosphorylate β -adducin at Ser408, Ser436, and Ser481, which negatively affects spectrin-actin interactions (3). Phosphorylation of α -adducin at Thr445 and Thr480 by Rho-kinase regulates cell motility and membrane ruffling (6). Finally, CDK-1 phosphorylation of α -adducin at Ser12 and Ser355 during mitosis leads to association of α -adducin with the mitotic spindle, suggesting that α -adducin may play a role in mitotic regulation (7). Because α -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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key**WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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