Revision 1

#14087 Store at -20C

CdGAP (D6J9G) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H M R Mk	Endogenous	250	Rabbit IgG	#Q2M1Z3	57514

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity / Sensitivity

CdGAP (D6J9G) Rabbit mAb recognizes endogenous levels of total CdGAP protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser520 of human CdGAP protein.

Background

The Rho family of small GTPases, including Rho, Rac, and Cdc42, act as molecular switches that regulate processes such as cell migration, adhesion, proliferation, and differentiation. They are activated by guanine nucleotide exchange factors (GEFs), which catalyze the exchange of bound GDP for GTP, and inhibited by GTPase activating proteins (GAPs), which catalyze the hydrolysis of GTP to GDP (1). The serine- and proline-rich GAP protein, Cdc42 GAP (CdGAP), has been shown to be a negative regulator of both Cdc42 and Rac1, but not RhoA (2,3). This protein contains three domains: an amino-terminal GAP domain, a central domain, and a carboxy-terminal proline-rich domain containing five Src homology 3 (SH3)-binding sites. It is suggested that threonine and serine phosphorylation within the proline-rich domain likely alters protein-protein interactions and determines the localization of CdGAP (4). Phosphorylation of CdGAP on threonine 776 by both ERK-1 and GSK-3 has been shown to negatively regulate protein activity, possibly by inducing a conformational change within the protein disrupting its ability to bind SH3 domains (4,5). Upregulation of CdGAP has been shown to increase cell proliferation and it has been suggested that this protein may play a role in TGF-β-induced cell growth, motility, and invasion in some breast cancer cells (6).

Background References

1. Takai, Y. et al. (2001) *Physiol Rev* 81, 153-208.
2. Tcherkezian, J. et al. (2006) *Biol Cell* 98, 445-56.
3. Lamarche-Vane, N. and Hall, A. (1998) *J Biol Chem* 273, 29172-7.
4. Tcherkezian, J. et al. (2005) *Mol Cell Biol* 25, 6314-29.
5. Danek, E.I. et al. (2007) *J Biol Chem* 282, 3624-31.
6. He, Y. et al. (2011) *Oncogene* 30, 1032-45.

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

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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