Revision 1

Store at -20C

#6954

CdGAP Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M	Endogenous	250	Rabbit	#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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

CdGAP Antibody detects endogenous levels of total CdGAP protein. In certain cell lines, CdGAP Antibody recognizes a 125 kDa band of unknown origin.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the central region of human CdGAP protein. Antibodies are purified by protein A and peptide affinity chromatography.

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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse

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