CDC42 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

Product Name	CDC42, Polyclonal Antibody
Full Product Name	CDC42, ID (CDC42, Cell division control protein 42 homolog, G25K GTP-binding protein) (MaxLight 405)
Product Gene Name	anti-CDC42 antibody
Product Synonym Names	CDC42; Cell division control protein 42 homolog; G25K GTP-binding protein
Clonality	Polyclonal
Isotype	IgG
Host	Rabbit
Species Reactivity	Human
Form/Format	Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight405.
Purity/Purification	Purified by Protein A Affinity Chromatography.
Specificity	Recognizes human CDC42.
Preparation and Storage	Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight405 conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap.
Molecular Weight	21,259 Da
OMIM	116952
3D Structure	ModBase 3D Structure for P60953
Immunogen	KLH-conjugated synthetic peptide mapping to a fragment of residues within amino acids 106-134 in the central region of human CDC42, UniProt Accession #P60953. Species sequence homology: mouse, rat, bovine, chicken, porcine, monkey
Conjugate	MaxLight405
Note	Preservative Free
Product Categories/Family for anti-CDC42 antibody	Antibodies; Cell Division Cycle (CDC)
Applications Tested/Suitable for anti-CDC42 antibody	Flow Cytometry (FC/FACS), Western Blot (WB), FLISA
Application Notes for anti-CDC42 antibody	FC/FACS: 1:10-1:50 WB: 1:1000 Applications are based on unconjugated antibody.
Related Product Information for anti-CDC42 antibody	MBS6283912 is an antibody targeting CDC42. Also known as CDC42, ID (CDC42, Cell division control protein 42 homolog, G25K GTP-binding protein) (MaxLight 405). Reactive in Human. Host: Rabbit.
Product References and Citations for anti-CDC42 antibody	Landry, M.C., et.al., Mol. Biol. Cell 20 (18), 4091-4106 (2009).
Other Notes	Small volumes of anti-CDC42 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CDC42. It may not necessarily be applicable to this product.

NCBI GI #	4757952
NCBI GeneID	998
NCBI Accession #	NP_001782.1
UniProt Primary Accession #	P60953
UniProt Secondary Accession #	P21181; P25763; Q7L8R5; Q9UDI2
UniProt Related Accession #	P60953
GenBank Nucleotide #	NM_001791.3
NCBI Official Full Name	cell division control protein 42 homolog isoform 1
NCBI Official Synonym Full Names	cell division cycle 42
NCBI Official Symbol	CDC42
NCBI Official Synonym Symbols	G25K; CDC42Hs
UniProt Protein Name	Cell division control protein 42 homolog
UniProt Synonym Protein Names	G25K GTP-binding protein
Protein Family	Cdc42
UniProt Gene Name	CDC42
UniProt Entry Name	CDC42_HUMAN
NCBI Protein Information	cell division control protein 42 homolog; G25K GTP-binding protein; GTP-binding protein, 25kD; growth-regulating protein; GTP binding protein, 25kDa; small GTP binding protein CDC42; dJ224A6.1.1 (cell division cycle 42 (GTP-binding protein, 25kD)); dJ224A
NCBI Summary for CDC42	The protein encoded by this gene is a small GTPase of the Rho-subfamily, which regulates signaling pathways that control diverse cellular functions including cell morphology, migration, endocytosis and cell cycle progression. This protein is highly similar to Saccharomyces cerevisiae Cdc 42, and is able to complement the yeast cdc42-1 mutant. The product of oncogene Dbl was reported to specifically catalyze the dissociation of GDP from this protein. This protein could regulate actin polymerization through its direct binding to Neural Wiskott-Aldrich syndrome protein (N-WASP), which subsequently activates Arp2/3 complex. Alternative splicing of this gene results in multiple transcript variants. Pseudogenes of this gene have been identified on chromosomes 3, 4, 5, 7, 8 and 20. [provided by RefSeq, Apr 2013]

UniProt Comments for CDC42	Function: Plasma membrane-associated small GTPase which cycles between an active GTP-bound and an inactive GDP-bound state. In active state binds to a variety of effector proteins to regulate cellular responses. Involved in epithelial cell polarization processes. Regulates the bipolar attachment of spindle microtubules to kinetochores before chromosome congression in metaphase. Plays a role in the extension and maintenance of the formation of thin, actin-rich surface projections called filopodia. Mediates CDC42-dependent cell migration. Ref.21 Ref.22 Ref.23 Enzyme regulation: Regulated by guanine nucleotide exchange factors (GEFs) which promote the exchange of bound GDP for free GTP, GTPase activating proteins (GAPs) which increase the GTP hydrolysis activity, and GDP dissociation inhibitors which inhibit the dissociation of the nucleotide from the GTPase. Subunit structure: The GTP-bound form interacts with CCPG1 By similarity. Interacts with CDC42EP1, CDC42EP2, CDC42EP3, CDC42EP4, CDC42EP5, CDC42SE1, CDC42SE2, PARD6A, PARD6B and PARD6G (in a GTP-dependent manner). Interacts with activated CSPG4 and with BAIAP2. Interacts with Zizimin1/DOCK9 and Zizimin2/DOCK11, which activate it by exchanging GDP for GTP. Interacts with NET1 and ARHGAP33/TCGAP. Part of a complex with PARD3, PARD6A or PARD6B and PRKCI or PRKCZ. Interacts with USP6. May interact with ARHGEF16; responsible for the activation of CDC42 by the viral protein HPV16 E6. Interacts with NEK6. Part of a collagen stimulated complex involved in cell migration composed of CDC42, CRK, TNK2 and BCAR1/p130cas. Interacts with ITGB1BP1. Interacts with ARHGDIA; this interaction inactivates and stabilizes CDC42. Ref.11 Ref.12 Ref.13 Ref.14 Ref.15 Ref.16 Ref.17 Ref.18 Ref.20 Ref.23 Ref.27 Ref.29 Ref.30 Subcellular location: Cell membrane; Lipid-anchor; Cytoplasmic side Potential. Cytoplasm › cytoskeleton › microtubule organizing center › centrosome. Cytoplasm › cytoskeleton › spindle. Midbody. Note: Localizes to spindle during prometaphase cells. Moves to the central spindle as cells progressed through anaphase to telophase. Localizes at the end of cytokinesis in the intercellular bridge formed between two daughter cells. Its localization is regulated by the activities of guanine nucleotide exchange factor ECT2 and GTPase activating protein RACGAP1. Colocalizes with NEK6 in the centrosome. Ref.22 Ref.27 Post-translational modification: AMPylation at Tyr-32 and Thr-35 are mediated by bacterial enzymes in case of infection by H.somnus and V.parahaemolyticus, respectively. AMPylation occurs in the effector region and leads to inactivation of the GTPase activity by preventing the interaction with downstream effectors, thereby inhibiting actin assembly in infected cells. It is unclear whether some human enzyme mediates AMPylation; FICD has such ability in vitro but additional experiments remain to be done to confirm results in vivo.Phosphorylated by SRC in an EGF-dependent manner, this stimulates the binding of the Rho-GDP dissociation inhibitor RhoGDI. Ref.19 Sequence similarities: Belongs to the small GTPase superfamily. Rho family. CDC42 subfamily.
Research Articles on CDC42	**1.** These results indicate that Wnt5b is involved in the migration ability of OSCC cells through active Cdc42 and RhoA.
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