

## Rabbit CDC42 Polyclonal Antibody | anti-CDC42 antibody

CDC42 Antibody

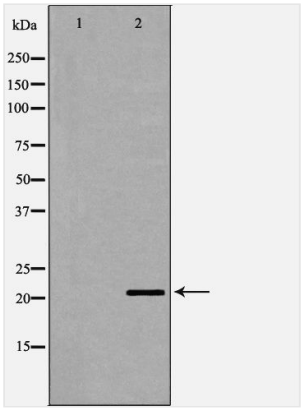
| CATALOG # | HOST   | REACTIVITY        | APPLICATIONS                              |
|-----------|--------|-------------------|-------------------------------------------|
| AAA326100 | Rabbit | Human, Mouse, Rat | ELISA, Immunohistochemistry, Western Blot |

### PRODUCT SYNONYMS

CDC42; Polyclonal Antibody; CDC42 Antibody; CDC42\_HUMAN; CDC42Hs; Cell division control protein 42 homolog; Cell division cycle 42 (GTP binding protein 25kDa); Cell division cycle 42; dJ224A6.1.1 (cell division cycle 42 (GTP-binding protein; 25kD)); dJ224A6.1.2 (cell division cycle 42 (GTP-binding protein; G25K; G25K GTP-binding protein; Growth regulating protein; GTP binding protein 25kDa; Small GTP binding protein CDC42; TKS; anti-CDC42 antibody

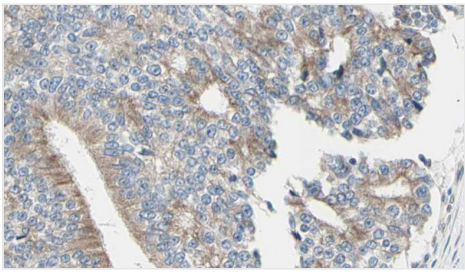
### PRODUCT SPECIFICATIONS

|                                                 |                                                                                               |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Host                                            | Rabbit                                                                                        |
| Reactivity                                      | Human, Mouse, Rat                                                                             |
| Clonality                                       | Polyclonal                                                                                    |
| Isotype                                         | IgG                                                                                           |
| Specificity                                     | CDC42 antibody detects endogenous levels of total CDC42                                       |
| Purity/Purification                             | The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin. |
| Form/Format                                     | Liquid<br>Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. |
| Concentration                                   | 1mg/ml (varies by lot)                                                                        |
| Sequence Length                                 | 191                                                                                           |
| Applicable Applications for anti-CDC42 antibody | ELISA, IHC (Immunohistochemistry), WB (Western Blot)                                          |
| Immunogen                                       | A synthesized peptide derived from human CDC42                                                |
| Subcellular Location                            | Cell Membrane                                                                                 |
| Conjugation                                     | Unconjugated                                                                                  |
| Preparation and Storage                         | Store at -20 degree C. Stable for 12 months from date of receipt.                             |



**WB (Western Blot)**

Western blot analysis of Hela whole cell lysates, using CDC42 Antibody. The lane on the left is treated with the antigen-specific peptide.



**IHC (Immunohistochemistry)**

AAA326100 at 1/100 staining Human prostate tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

|                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Related Product Information for anti-CDC42 antibody | <p>Description: Rac and Cdc42 are members of the Rho-GTPase family. In mammals, Rac exists as three isoforms, Rac1, Rac2 and Rac3, which are highly similar in sequence. Rac1 and Cdc42, the most widely studied of this group, are ubiquitously expressed. Rac2 is expressed in cells of hematopoietic origin, and Rac3, while highly expressed in brain, is also found in many other tissues. Rac and Cdc42 play key signaling roles in cytoskeletal reorganization, membrane trafficking, transcriptional regulation, cell growth and development (1). GTP binding stimulates the activity of Rac/Cdc42, and the hydrolysis of GTP to GDP through the protein's intrinsic GTPase activity, rendering it inactive. GTP hydrolysis is aided by GTPase activating proteins (GAPs), while exchange of GDP for GTP is facilitated by guanine nucleotide exchange factors (GEFs). Another level of regulation is achieved through the binding of RhoGDI, a guanine nucleotide dissociation inhibitor, which retains Rho family GTPases, including Rac and Cdc42, in their inactive GDP-bound state (2, 3).</p> <p>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. Required for DOCK10-mediated spine formation in Purkinje cells and hippocampal neurons. Facilitates filopodia formation upon DOCK11-activation (By similarity). Also plays a role in phagocytosis through organization of the F-actin cytoskeleton associated with forming phagocytic cups.</p> <p>Subunit Structure: Interacts with CDC42EP1, CDC42EP2, CDC42EP3, CDC42EP4, CDC42EP5, CDC42SE1, CDC42SE2, PARD6A, PARD6B and PARD6G (in a GTP-dependent manner) (PubMed:10490598, PubMed:10816584, PubMed:10954424, PubMed:11260256). Interacts with activated CSPG4 and with BAIAP2 (PubMed:10587647, PubMed:11130076). Interacts with activated CSPG4 and with BAIAP2 (By similarity). Interacts with DOCK11/Zizimin2; the interaction activates CDC42 by exchanging GDP for GTP (By similarity). Interacts with DOCK9; the interaction activates CDC42 by exchanging GDP for GTP (PubMed:12172552, PubMed:19745154). Interacts with DOCK8 (via DHR-2 domain); the interaction activates CDC42 by exchanging GDP for GTP (PubMed:12172552). Interacts with IQGAP1 (By similarity). Interacts with NET1 and ARHGAP33/TCGAP (By similarity). Part of a complex with PARD3, PARD6A or PARD6B and PRKCI or PRKCZ (PubMed:11260256). The GTP-bound form interacts with CCPG1 (By similarity). Interacts with USP6 (PubMed:12612085). Interacts with NEK6 (PubMed:20873783). Part of a collagen stimulated complex involved in cell migration composed of CDC42, CRK, TNK2 and BCAR1/p130cas (PubMed:17038317). Interacts with ITGB1BP1 (PubMed:11807099). Interacts with ARHGDIA; this interaction inactivates and stabilizes CDC42 (PubMed:23434736). Interacts with ARHGDIB; this maintains CDC42 in the inactive, GDP-bound form (PubMed:7512369). Interacts (in GTP-bound form) with FBNP1L and ABI1, but only in the presence of FBNP1L (PubMed:19798448). May interact with ARHGEF16; responsible for the activation of CDC42 by the viral protein HPV16 E6 (PubMed:21139582).</p> <p>Post-translational Modifications: (Microbial infection) 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.</p> <p>Phosphorylated by SRC in an EGF-dependent manner, this stimulates the binding of the Rho-GDP dissociation inhibitor RhoGDI. (Microbial infection) Glycosylated at Tyr-32 by Photorhabdus asymbiotica toxin PAU_02230. Mono-O-GlcNAcylation by PAU_02230 inhibits downstream signaling by an impaired interaction with diverse regulator and effector proteins of CDC42 and leads to actin disassembly.</p> <p>Similarity: Belongs to the small GTPase superfamily. Rho family. CDC42 subfamily.</p> |
| References                                          | <p>Li ZH, Xiong QY, Xu L, Duan P, Yang QO, Zhou P, Tu JH; Journal: Oncotarget. miR-29a regulated ER-positive breast cancer cell growth and invasion and is involved in the insulin signaling pathway.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

NCBI AND UNIPROT INFORMATION

|                           |                                        |
|---------------------------|----------------------------------------|
| NCBI GI #                 | 89903012                               |
| NCBI GeneID               | 998                                    |
| NCBI Accession #          | NP_001034891.1                         |
| NCBI GenBank Nucleotide # | NM_001039802.1                         |
| UniProt Accession #       | P60953; P21181; P25763; Q7L8R5; Q9UDI2 |
| Molecular Weight          | Observed: 21 kDa<br>Predicted: 22 kDa  |

|                                  |                                                    |
|----------------------------------|----------------------------------------------------|
| 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    | TKS; G25K; CDC42Hs                                 |
| NCBI Protein Information         | cell division control protein 42 homolog           |
| UniProt Protein Name             | Cell division control protein 42 homolog           |
| UniProt Gene Name                | CDC42                                              |

**For Research Use Only.** Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/cdc42-antibody-immunohistochemistry-western-blot-elisa/326100>