

**cdc42/Rac Antibody**  
**Rabbit Polyclonal Antibody**  
**Catalog # ABV10059****Specification**

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**cdc42/Rac Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P60953</a>
Other Accession	<a href="#">NP_426359.1</a>
Reactivity	Human, Mouse, Rat, Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	21259

**cdc42/Rac Antibody - Additional Information****Gene ID 998**

Application & Usage	Western blotting (0.5-4 µg/ml) and in Immunohistochemistry (10-20 µg/ml). However, the optimal conditions should be determined individually. The antibody detects cdc42 of human, mouse, rat, and bovine origins.
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**Other Names**

CDC42Hs , G25K

**Target/Specificity**

cdc42/Rac

**Antibody Form**

Liquid

**Appearance**

Colorless liquid

**Formulation**

100 µg (0.2 mg/ml) affinity purified rabbit anti-cdc42 polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal.

**Handling**

The antibody solution should be gently mixed before use.

**Reconstitution & Storage**

-20 °C

## Background Descriptions

### Precautions

cdc42/Rac Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## cdc42/Rac Antibody - Protein Information

**Name** CDC42 ([HGNC:1736](#))

### 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 (PubMed:[15642749](http://www.uniprot.org/citations/15642749)). Regulates cell migration (PubMed:[17038317](http://www.uniprot.org/citations/17038317)), PubMed:[22843693](http://www.uniprot.org/citations/22843693)). In neurons, plays a role in the extension and maintenance of the formation of filopodia, thin and actin-rich surface projections (PubMed:[14978216](http://www.uniprot.org/citations/14978216)). Required for DOCK10-mediated spine formation in Purkinje cells and hippocampal neurons. In podocytes, facilitates filopodia and podosomes formation upon DOCK11-activation (PubMed:[33523862](http://www.uniprot.org/citations/33523862)). Upon activation by CaMKII, modulates dendritic spine structural plasticity by relaying CaMKII transient activation to synapse-specific, long-term signaling (By similarity). Also plays a role in phagocytosis through organization of the F-actin cytoskeleton associated with forming phagocytic cups (PubMed:[26465210](http://www.uniprot.org/citations/26465210)). Upon activation by PLEKHG4B, involved in actin cytoskeletal remodeling during epithelial cell-cell junction formation (PubMed:[33310911](http://www.uniprot.org/citations/33310911)).

### Cellular Location

Cell membrane; Lipid-anchor; Cytoplasmic side. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle. Midbody Cell projection, dendrite {ECO:0000250|UniProtKB:P60766} Note=Localizes to spindle during prometaphase cells. Moves to the central spindle as cells progressed through anaphase to telophase (PubMed:15642749). Localizes at the end of cytokinesis in the intercellular bridge formed between two daughter cells (PubMed:15642749). Its localization is regulated by the activities of guanine nucleotide exchange factor ECT2 and GTPase activating protein RACGAP1 (PubMed:15642749). Colocalizes with NEK6 in the centrosome (PubMed:20873783). In its active GTP-bound form localizes to the leading edge membrane of migrating dendritic cells (By similarity) {ECO:0000250|UniProtKB:P60766, ECO:0000269|PubMed:15642749, ECO:0000269|PubMed:20873783}

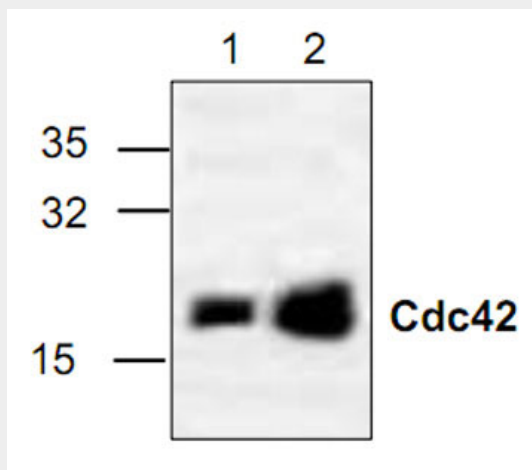
## cdc42/Rac Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)

- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **cdc42/Rac Antibody - Images**



Western blot analysis of cdc42 in 3T3 (Lane 1) and Jurkat (Lane 2) cell lysate.

#### **cdc42/Rac Antibody - Background**

cdc42/Rac belongs to the superfamily of small GTPases that are structurally linked to the proto-oncogene product p21ras and are important for the control of cell growth and differentiation as well as for intracellular organization. Cdc42/Rac is an important upstream regulator of the protein kinase cascade that controls the SAPK/JNK and p38 activity. Recent data also suggest that constitutive active forms of cdc42 can induce apoptosis through a mechanism requiring signaling through SAPK/JNK.