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Anti-CDC42 Rabbit Monoclonal Antibody

Catalog # ABO13712

Product Information

Application	WB, IHC, IP, FC
Primary Accession	P60953
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-CDC42 Rabbit Monoclonal Antibody . Tested in WB, IHC, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	998
Other Names	Cell division control protein 42 homolog, 3.6.5.2, G25K GTP-binding protein, CDC42 (HGNC:1736)
Calculated MW	21259
Application Details	WB 1:1000-1:2000 IHC 1:50-1:200 IP 1:30 FC 1:50
Subcellular Localization	Cell membrane ; Lipid-anchor ; Cytoplasmic side. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle. Midbody. 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.
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: IAE-3
Immunogen	A synthesized peptide derived from human CDC42
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at

4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name

CDC42 (HGNC:1736)

Function

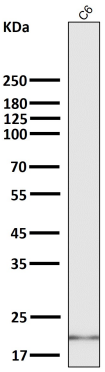
Plasma membrane-associated small GTPase which cycles between an active GTP-bound and an inactive GDP-bound state. In active state binds to a variety of effector proteins to regulate cellular responses. Involved in epithelial cell polarization processes. Regulates the bipolar attachment of spindle microtubules to kinetochores before chromosome congression in metaphase (PubMed:15642749). Regulates cell migration (PubMed:17038317, PubMed:22843693). In neurons, plays a role in the extension and maintenance of the formation of filopodia, thin and actin-rich surface projections (PubMed: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). 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). Upon activation by PLEKHG4B, involved in actin cytoskeletal remodeling during epithelial cell-cell junction formation (PubMed:33310911). Negatively regulates polymerization of SEPTIN12, as a result may be involved in spermatogenesis (PubMed:30189608).

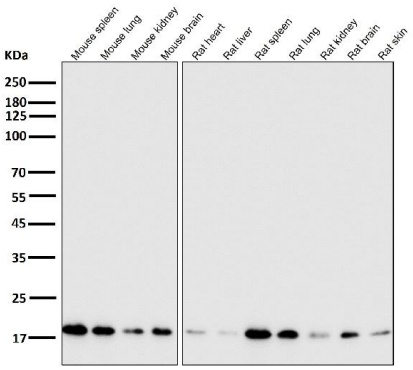
Cellular Location

Cell membrane; Lipid-anchor; Cytoplasmic side. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Cytoplasm, cytoskeleton, spindle. Midbody Cell projection, dendrite {ECO:0000250|UniProtKB:P60766}. Cytoplasmic vesicle, secretory vesicle, acrosome {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) During sperm head formation in elongating spermatids, expressed at the acrosome, perinuclear mantle of the manchette structure and the sperm neck (By similarity). Expressed at the neck and mitochondrial materials in elongated spermatids (By similarity). Expressed at the midpiece in mature spermatozoa (By similarity). {ECO:0000250|UniProtKB:P60766, ECO:0000269|PubMed:15642749, ECO:0000269|PubMed:20873783}

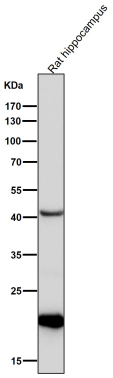
Images

All lanes use the Antibody at 1:2W dilution for 1 hour at room temperature.

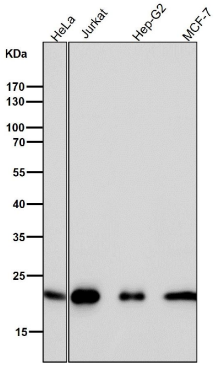




All lanes use the Antibody at 1:2W dilution for 1 hour at room temperature.

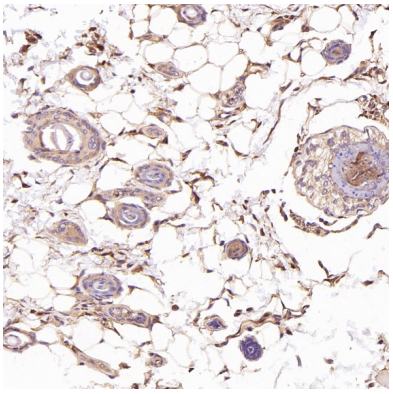


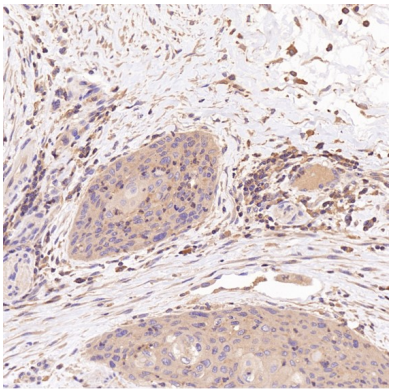
All lanes use the Antibody at 1:1W dilution for 1 hour at room temperature.



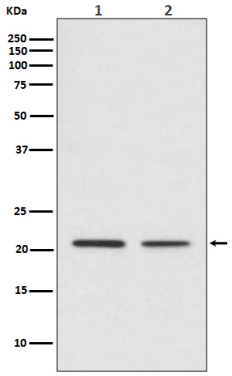
All lanes use the Antibody at 1:1W dilution for 1 hour at room temperature.

Immunohistochemical analysis of paraffin-embedded Rat skin, using the Antibody at 1:200 dilution.

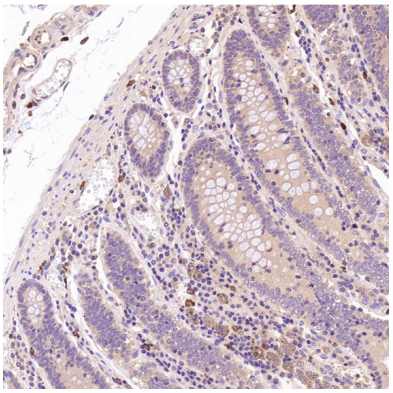




Immunohistochemical analysis of paraffin-embedded Human esophageal carcinoma, using the Antibody at 1:100 dilution.

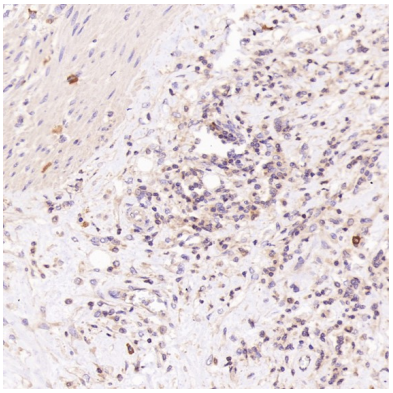


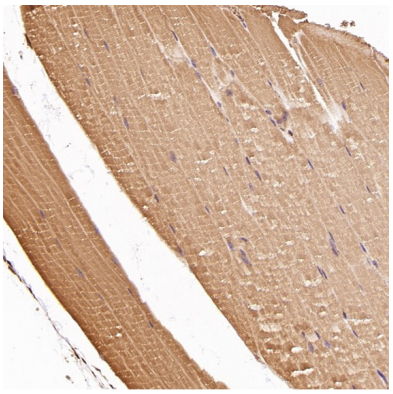
Western blot analysis of CDC42 expression in (1) Jurkat cell lysate; (2) Mouse spleen lysate.



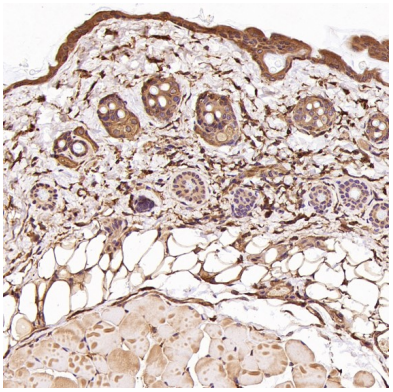
Immunohistochemical analysis of paraffin-embedded Human colon, using the Antibody at 1:100 dilution.

Immunohistochemical analysis of paraffin-embedded Human Hodgkin's lymphoma, using the Antibody at 1:400 dilution.





Immunohistochemical analysis of paraffin-embedded Mouse skeletal muscle - gastrocnemius , using the Antibody at 1:200 dilution.



Immunohistochemical analysis of paraffin-embedded Mouse skin, using the Antibody at 1:200 dilution.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.