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KD-Validated Anti-ARHGEF2 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1217

Product Information

Application	WB, FC
Primary Accession	Q92974
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB3675
Calculated MW	111543
Gene Name	ARHGEF2
Aliases	ARHGEF2; Rho/Rac Guanine Nucleotide Exchange Factor 2; GEF-H1; LFP40; Rho/Rac Guanine Nucleotide Exchange Factor (GEF); KIAA0651; GEFH1; P40; Rho Guanine Nucleotide Exchange Factor; Proliferating Cell Nucleolar Antigen P40; Guanine Nucleotide Exchange Factor H1; Microtubule-Regulated Rho-GEF; Lfc; NEDMHM; GEF; LFC
Immunogen	A synthesized peptide derived from human GEF H1

Additional Information

Gene ID	9181
Other Names	Rho guanine nucleotide exchange factor 2, Guanine nucleotide exchange factor H1, GEF-H1, Microtubule-regulated Rho-GEF, Proliferating cell nucleolar antigen p40, ARHGEF2, KIAA0651, LFP40

Protein Information

Name	ARHGEF2
Synonyms	KIAA0651, LFP40
Function	Activates Rho-GTPases by promoting the exchange of GDP for GTP. May be involved in epithelial barrier permeability, cell motility and polarization, dendritic spine morphology, antigen presentation, leukemic cell differentiation, cell cycle regulation, innate immune response, and cancer. Binds Rac-GTPases, but does not seem to promote nucleotide exchange activity toward Rac-GTPases, which was uniquely reported in PubMed:9857026. May stimulate instead the cortical activity of Rac. Inactive toward CDC42, TC10, or Ras-GTPases. Forms an intracellular sensing system along with NOD1 for the detection of microbial effectors during cell invasion by pathogens. Required for RHOA and RIP2 dependent NF-kappaB signaling pathways activation upon S.flexneri cell invasion. Involved not only in sensing peptidoglycan (PGN)-derived muropeptides through NOD1 that is independent of its GEF activity, but also in the activation of NF-kappaB by

Shigella effector proteins (IpgB2 and OspB) which requires its GEF activity and the activation of RhoA. Involved in innate immune signaling transduction pathway promoting cytokine IL6/interleukin-6 and TNF secretion in macrophage upon stimulation by bacterial peptidoglycans; acts as a signaling intermediate between NOD2 receptor and RIPK2 kinase. Contributes to the tyrosine phosphorylation of RIPK2 through Src tyrosine kinase leading to NF-kappaB activation by NOD2. Overexpression activates Rho-, but not Rac-GTPases, and increases paracellular permeability (By similarity). Involved in neuronal progenitor cell division and differentiation (PubMed:28453519). Involved in the migration of precerebellar neurons (By similarity).

Cellular Location

Cytoplasm, cytoskeleton. Cytoplasm. Cell junction, tight junction. Golgi apparatus. Cytoplasm, cytoskeleton, spindle. Cell projection, ruffle membrane. Cytoplasmic vesicle. Note=Localizes to the tips of cortical microtubules of the mitotic spindle during cell division, and is further released upon microtubule depolymerization (PubMed:15827085) Recruited into membrane ruffles induced by S.flexneri at tight junctions of polarized epithelial cells (PubMed:19043560). Colocalized with NOD2 and RIPK2 in vesicles and with the cytoskeleton (PubMed:21887730).

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