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KD-Validated Anti-RACK1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1104

Product Information

Application	WB, FC, ICC
Primary Accession	P63244
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Names	23GB 2355
Calculated MW	35077
Gene Name	RACK1
Aliases	RACK1; Receptor For Activated C Kinase 1; GNB2L1; H12.3; Guanine Nucleotide Binding Protein (G Protein), Beta Polypeptide 2-Like 1; Guanine Nucleotide-Binding Protein Subunit Beta-Like Protein 12.3; Guanine Nucleotide-Binding Protein Subunit Beta-2-Like 1; Cell Proliferation-Inducing Gene 21 Protein ; Receptor Of Activated Protein C Kinase 1; Small Ribosomal Subunit Protein RACK1; Human Lung Cancer Oncogene 7 Protein ; Gnb2-Rs1; HLC-7; Protein Homologous To Chicken B Complex Protein, Guanine Nucleotide Binding; Guanine Nucleotide Binding Protein Beta Polypeptide 2-Like 1; Receptor Of Activated Protein Kinase C 1; Receptor For Activated C Kinase; Proliferation-Inducing Gene 21; Lung Cancer Oncogene 7; GNB2-RS1; PIG21
Immunogen	A synthesized peptide derived from human RACK1

Additional Information

Gene ID	10399
Other Names	Small ribosomal subunit protein RACK1, Cell proliferation-inducing gene 21 protein, Guanine nucleotide-binding protein subunit beta-2-like 1, Guanine nucleotide-binding protein subunit beta-like protein 12.3, Human lung cancer oncogene 7 protein, HLC-7, Receptor for activated C kinase, Receptor of activated protein C kinase 1, Small ribosomal subunit protein RACK1, N-terminally processed, Guanine nucleotide-binding protein subunit beta-2-like 1, N-terminally processed, Receptor of activated protein C kinase 1, N-terminally processed, RACK1 (HGNC:4399), GNB2L1

Protein Information

Name	RACK1 (HGNC:4399)
Synonyms	GNB2L1
Function	Scaffolding protein involved in the recruitment, assembly and/or regulation of a variety of signaling molecules. Interacts with a wide variety of proteins

and plays a role in many cellular processes. Component of the 40S ribosomal subunit involved in translational repression (PubMed:23636399). Involved in the initiation of the ribosome quality control (RQC), a pathway that takes place when a ribosome has stalled during translation, by promoting ubiquitination of a subset of 40S ribosomal subunits (PubMed:28132843). Binds to and stabilizes activated protein kinase C (PKC), increasing PKC-mediated phosphorylation. May recruit activated PKC to the ribosome, leading to phosphorylation of EIF6. Inhibits the activity of SRC kinases including SRC, LCK and YES1. Inhibits cell growth by prolonging the G0/G1 phase of the cell cycle. Enhances phosphorylation of BMAL1 by PRKCA and inhibits transcriptional activity of the BMAL1-CLOCK heterodimer. Facilitates ligand-independent nuclear translocation of AR following PKC activation, represses AR transactivation activity and is required for phosphorylation of AR by SRC. Modulates IGF1R-dependent integrin signaling and promotes cell spreading and contact with the extracellular matrix. Involved in PKC-dependent translocation of ADAM12 to the cell membrane. Promotes the ubiquitination and proteasome- mediated degradation of proteins such as CLEC1B and HIF1A. Required for VANGL2 membrane localization, inhibits Wnt signaling, and regulates cellular polarization and oriented cell division during gastrulation. Required for PTK2/FAK1 phosphorylation and dephosphorylation. Regulates internalization of the muscarinic receptor CHRM2. Promotes apoptosis by increasing oligomerization of BAX and disrupting the interaction of BAX with the anti-apoptotic factor BCL2L. Inhibits TRPM6 channel activity. Regulates cell surface expression of some GPCRs such as TBXA2R. Plays a role in regulation of FLT1-mediated cell migration. Involved in the transport of ABCB4 from the Golgi to the apical bile canalicular membrane (PubMed:19674157). Promotes migration of breast carcinoma cells by binding to and activating RHOA (PubMed:20499158). Acts as an adapter for the dephosphorylation and inactivation of AKT1 by promoting recruitment of PP2A phosphatase to AKT1 (By similarity).

Cellular Location

Cell membrane; Peripheral membrane protein. Cytoplasm. Cytoplasm, perinuclear region. Nucleus. Perikaryon {ECO:0000250|UniProtKB:P68040}. Cell projection, dendrite {ECO:0000250|UniProtKB:P68040}. Cell projection, phagocytic cup. Note=Recruited to the plasma membrane through interaction with KRT1 which binds to membrane-bound ITGB1 (PubMed:17956333). Also associated with the membrane in oncogene- transformed cells (PubMed:11884618). PKC activation induces translocation from the perinuclear region to the cell periphery (PubMed:11279199). In the brain, detected mainly in cell bodies and dendrites with little expression in axonal fibers or nuclei (By similarity). Localized to phagocytic cups following infection by Y.pestis (PubMed:21347310). {ECO:0000250|UniProtKB:P68040, ECO:0000269|PubMed:11279199, ECO:0000269|PubMed:11884618, ECO:0000269|PubMed:17956333, ECO:0000269|PubMed:21347310}

Tissue Location

In the liver, expressed at higher levels in activated hepatic stellate cells than in hepatocytes or Kupffer cells Up-regulated in hepatocellular carcinomas and in the adjacent non-tumor liver tissue.

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