

RRAGD Rabbit pAb

Catalog # AP99446

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9NQL2
Other Accession	Q9NQL2
Reactivity	Mouse
Predicted	Rat, Pig, Human, Rabbit, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	45588
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human RRAGD
Epitope Specificity	1-100/400
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the GTR/RAG GTP-binding protein family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	RRAGD is a monomeric guanine nucleotide-binding protein, or G protein. By binding GTP or GDP, small G proteins act as molecular switches in numerous cell processes and signaling pathways.[supplied by OMIM, Apr 2004]

Additional Information

Gene ID	58528
Other Names	HOMG7; RAGD; bA11D8.2.1; 5730543C08Rik; C030003H22Rik; D4Ertd174e; RRAGD_HUMAN; RRAGD; Rag D; 3.6.5.-; RRAGD_MOUSE; Ras related GTP binding D; Ras-related GTP binding D
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	RRAGD (HGNC:19903)
Function	Guanine nucleotide-binding protein that plays a crucial role in the cellular response to amino acid availability through regulation of the mTORC1

signaling cascade (PubMed:[20381137](#), PubMed:[24095279](#), PubMed:[34607910](#)). Forms heterodimeric Rag complexes with RagA/RRAGA or RagB/RRAGB and cycles between an inactive GTP-bound and an active GDP-bound form: RagD/RRAGD is in its active form when GDP-bound RagD/RRAGD forms a complex with GTP-bound RagA/RRAGA (or RagB/RRAGB) and in an inactive form when GTP-bound RagD/RRAGD heterodimerizes with GDP-bound RagA/RRAGA (or RagB/RRAGB) (PubMed:[24095279](#)). In its active form, promotes the recruitment of mTORC1 to the lysosomes and its subsequent activation by the GTPase RHEB (PubMed:[20381137](#), PubMed:[24095279](#)). This is a crucial step in the activation of the MTOR signaling cascade by amino acids (PubMed:[20381137](#), PubMed:[24095279](#)). Also plays a central role in the non-canonical mTORC1 complex, which acts independently of RHEB and specifically mediates phosphorylation of MiT/TFE factors TFEB and TFE3: GDP-bound RagD/RRAGD mediates recruitment of MiT/TFE factors TFEB and TFE3 (PubMed:[32612235](#)).

Cellular Location

Cytoplasm. Nucleus. Lysosome membrane. Note=Predominantly cytoplasmic (PubMed:11073942). Recruited to the lysosome surface by the Ragulator complex (PubMed:20381137). May shuttle between the cytoplasm and nucleus, depending on the bound nucleotide state of associated RRAGA (PubMed:11073942).

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