10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

RRAGA + RRAGB Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54302

Product Information

Application	IHC-P, IHC-F, IF, ICC, E
Primary Accession	Q7L523
Reactivity	Rat, Pig, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	36566
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human RRAGA and RRAGB
Epitope Specificity	231-313/313
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Nucleus. Lysosome. Note=Predominantly cytoplasmic. May shuttle between the cytoplasm and nucleus, depending on the bound nucleotide state. Colocalizes in vivo with adenovirus E3-14.7K mainly to the cytoplasm especially near the nuclear membrane and in discrete foci on or near the plasma membrane.
SIMILARITY	Belongs to the GTR/RAG GTP-binding protein family.
SUBUNIT	Binds GTP. Can occur as a homodimer or as a heterodimer with RRAGC or RRAGD in a sequence-independent manner; heterodimerization stabilizes PPAG proteins. In complex with RRAGC, but not with RRAGB, interacts with RPTOR. The GTP-bound form of RRAGA interacts with NOL8. Interacts with adenovirus E3 14.7 kDa protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Involved in the RCC1/Ran-GTPase pathway. RRAGA may play a direct role in a TNF-alpha signaling pathway leading to induction of cell death. May alternatively act as a cellular target for adenovirus E3-14.7K, an inhibitor of TNF-alpha functions, thereby affecting cell death. Has guanine nucleotide-binding activity but undetectable intrinsic GTPase activity. biquitously expressed with highest levels of expression in skeletal muscle, heart, and brain.

Additional Information

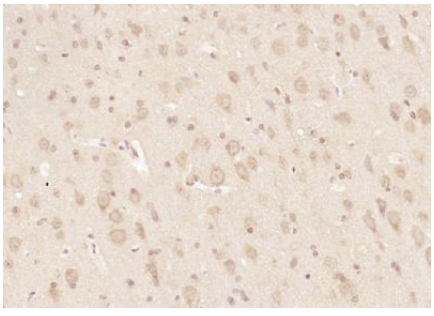
Gene ID	10670
Other Names	Ras-related GTP-binding protein A, Rag A, RagA, 3.6.5.-, Adenovirus E3 14.7 kDa-interacting protein 1, FIP-1, RRAGA (HGNC:16963)
Target/Specificity	Ubiquitously expressed with highest levels of expression in skeletal muscle,

	heart, and brain.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
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.

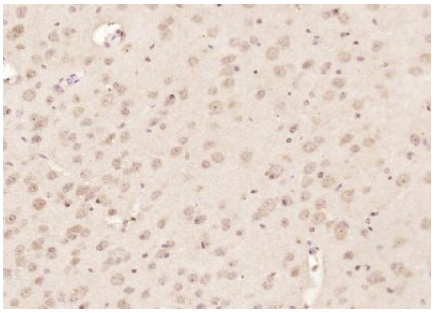
Protein Information

Name	RRAGA (HGNC:16963)
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:25936802, PubMed:31601708, PubMed:31601764, PubMed:38103557). Forms heterodimeric Rag complexes with RagC/RRAGC or RagD/RRAGD and cycles between an inactive GDP-bound and an active GTP-bound form: RagA/RRAGA is in its active form when GTP-bound RagA/RRAGA forms a complex with GDP-bound RagC/RRAGC (or RagD/RRAGD) and in an inactive form when GDP-bound RagA/RRAGA heterodimerizes with GTP-bound RagC/RRAGC (or RagD/RRAGD) (PubMed:20381137, PubMed:24095279, PubMed:25936802, PubMed:31601708, PubMed:31601764, PubMed:32868926). In its GTP-bound active form, promotes the recruitment of mTORC1 to the lysosomes and its subsequent activation by the GTPase RHEB (PubMed:20381137, PubMed:25936802, PubMed:31601708, PubMed:31601764). Involved in the RCC1/Ran-GTPase pathway (PubMed:9394008). May play a direct role in a TNF-alpha signaling pathway leading to induction of cell death (PubMed:8995684).
Cellular Location	Cytoplasm. Nucleus. Lysosome membrane Note=Predominantly cytoplasmic (PubMed:8995684, PubMed:9394008) Recruited to the lysosome surface by the Ragulator complex (PubMed:20381137, PubMed:28935770, PubMed:29158492). May shuttle between the cytoplasm and nucleus, depending on the bound nucleotide state (PubMed:8995684, PubMed:9394008). Colocalizes in vivo with adenovirus E3-14.7K mainly to the cytoplasm especially near the nuclear membrane and in discrete foci on or near the plasma membrane (PubMed:8995684).
Tissue Location	Ubiquitously expressed with highest levels of expression in skeletal muscle, heart, and brain

Images



Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (RRAGA + RRAGB) Polyclonal Antibody, Unconjugated (AP54302) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.



Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (RRAGA + RRAGB) Polyclonal Antibody, Unconjugated (AP54302) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.