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G21 protein/NPR2L Rabbit pAb

Catalog # AP98532

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q8WTW4
Other Accession	Q8WTW4
Reactivity	Rat, Human
Predicted	Pig, Mouse, Rabbit, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	43658
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human NPR2L
Epitope Specificity	221-320/380
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 NPR2 family.
SUBUNIT	Forms a heterodimer with NPRL3. Interacts with PDPK1.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	NPR2L is homologous to yeast nitrogen permease and is a candidate tumor suppressor, being a negative regulator of cell cycle. Most abundant in skeletal muscle, followed by brain, liver, and pancreas, with lower amounts in lung, kidney, placenta, and heart. Expressed in most lung cancer cell lines tested. There are two isoforms, produced by alternative splicing.

Additional Information

Gene ID	10641
Other Names	TUSC4; FFEVF2; NPR2; NPR2L; 2810446G01Rik; G21; NPRL2_BOVIN; NPRL2; Nitrogen permease regulator 2-like protein (NPR2-like protein); NPRL2_HUMAN; Gene 21 protein (G21 protein); Tumor suppressor candidate 4; NPRL2_MOUSE; NPR2 like, GATOR1 complex subunit; nitrogen permease regulator-like 2 (S. cerevisiae)
Dilution	WB=1:500-2000,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	NPRL2 {ECO:0000303|PubMed:18616680, ECO:0000312|HGNC:HGNC:24969}
Function	Catalytic component of the GATOR1 complex, a multiprotein complex that functions as an inhibitor of the amino acid-sensing branch of the mTORC1 pathway (PubMed:23723238, PubMed:29590090, PubMed:35338845, PubMed:38006878). In response to amino acid depletion, the GATOR1 complex has GTPase activating protein (GAP) activity and strongly increases GTP hydrolysis by RagA/RRAGA (or RagB/RRAGB) within heterodimeric Rag complexes, thereby turning them into their inactive GDP-bound form, releasing mTORC1 from lysosomal surface and inhibiting mTORC1 signaling (PubMed:23723238, PubMed:29590090, PubMed:35338845). In the presence of abundant amino acids, the GATOR1 complex is ubiquitinated and inhibited by GATOR2 (PubMed:23723238, PubMed:36528027). Within the GATOR1 complex, NPRL2 constitutes the catalytic subunit that mediates the GTPase activator activity and under methionine-sufficient conditions, the GTPase activator activity is inhibited by PRMT1 through methylation and consequently inducing timely mTORC1 activation (PubMed:27173016, PubMed:30651352, PubMed:35338845).
Cellular Location	Lysosome membrane. Note=Localization to lysosomes is mediated by the KICSTOR complex and is amino acid-independent.
Tissue Location	Most abundant in skeletal muscle, followed by brain, liver and pancreas, with lower amounts in lung, kidney, placenta and heart. Expressed in the frontal lobe cortex as well as in the temporal, parietal, and occipital lobes (PubMed:26505888, PubMed:27173016). Expressed in most lung cancer cell lines tested

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