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UVRAG Antibody

Catalog # ASC11845

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9P2Y5
Other Accession	NP_003360, 21687212
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	78151
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	UVRAG antibody can be used for detection of UVRAG by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	7405
Other Names	UV radiation resistance-associated gene protein, p63, UVRAG
Target/Specificity	UVRAG; UVRAG antibody is human and mouse reactive.
Reconstitution & Storage	UVRAG antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	UVRAG Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	UVRAG
Function	Versatile protein that is involved in regulation of different cellular pathways implicated in membrane trafficking. Involved in regulation of the COPI-dependent retrograde transport from Golgi and the endoplasmic reticulum by associating with the NRZ complex; the function is dependent on its binding to phosphatidylinositol 3- phosphate (PtdIns(3)P) (PubMed:16799551, PubMed:18552835, PubMed:20643123, PubMed:24056303, PubMed:28306502). During autophagy acts as a regulatory subunit of the alternative PI3K complex II (PI3KC3-C2) that mediates formation of phosphatidylinositol 3-phosphate and is believed to be involved in maturation of autophagosomes and endocytosis. Activates lipid kinase activity of PIK3C3 (PubMed:16799551, PubMed:20643123, PubMed:24056303, PubMed:28306502). Involved in the regulation of

	degradative endocytic trafficking and cytokinesis, and in regulation of ATG9A transport from the Golgi to the autophagosome; the functions seems to implicate its association with PI3KC3-C2 (PubMed:16799551, PubMed:20643123, PubMed:24056303). Involved in maturation of autophagosomes and degradative endocytic trafficking independently of BECN1 but depending on its association with a class C Vps complex (possibly the HOPS complex); the association is also proposed to promote autophagosome recruitment and activation of Rab7 and endosome-endosome fusion events (PubMed:18552835, PubMed:28306502). Enhances class C Vps complex (possibly HOPS complex) association with a SNARE complex and promotes fusogenic SNARE complex formation during late endocytic membrane fusion (PubMed:24550300). In case of negative-strand RNA virus infection is required for efficient virus entry, promotes endocytic transport of virions and is implicated in a VAMP8- specific fusogenic SNARE complex assembly (PubMed:24550300).
Cellular Location	Late endosome. Lysosome. Cytoplasmic vesicle, autophagosome. Early endosome. Endoplasmic reticulum. Midbody. Chromosome, centromere. Note=Colocalizes with RAB9-positive compartments involved in retrograde transport from late endosomes to trans-Golgi network. Colocalization with early endosomes is only partial (PubMed:24056303). Recruited to autophagosome following interaction with RUBCNL/PACER (PubMed:28306502)
Tissue Location	Highly expressed in brain, lung, kidney and liver.

Background

The class III type phosphoinositide 3-kinase (PI3KC3) / Vps34 regulates vacuolar trafficking as well as autophagy (1). UVRAG (UV radiation resistance-associated gene) is associated with the Beclin-1/PI3KC3 complex and promotes PI3KC3 enzymatic activity and autophagy, while suppressing proliferation (2). UVRAG is highly expressed in brain, lung, kidney and liver and contains one C2 domain, which is involved in calcium-dependent phospholipid binding. Beclin-1 binding to UVRAG promotes both autophagosome maturation and endocytic trafficking (3). UVRAG is also a potential tumor suppressor protein with frameshift mutations observed in colon and gastric carcinomas (4,5).

References

Stack JH, DeWald DB, Takegawa K, et al. Vesicle-mediated protein transport: regulatory interactions between the Vps15 protein kinase and the Vps34 PtdIns 3-kinase essential for protein sorting to the vacuole in yeast. J. Cell Biol. 1995; 129:321-34.

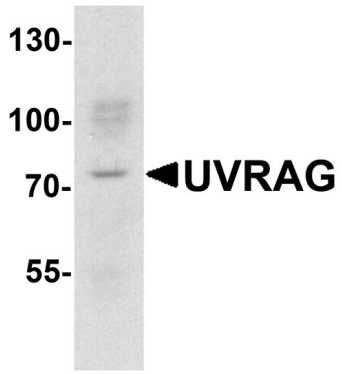
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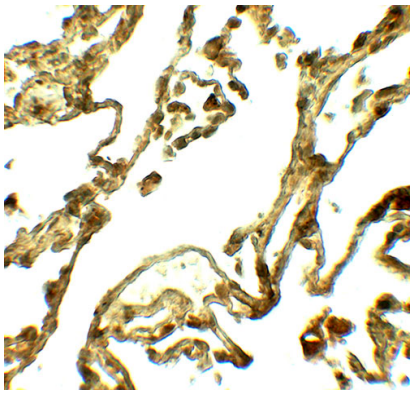
Liang C, Lee JS, Inn KS, et al. Beclin1-binding UVRAG targets the class C Vps complex to coordinate autophagosome maturation and endocytic trafficking. Nat. Cell Biol. 2008; 10:776-87.

Ionov Y, Nowak N, Perucho M, et al. Manipulation of nonsense mediated decay identifies gene mutations in colon cancer Cells with microsatellite instability. Oncogene 2004; 23:639-45.

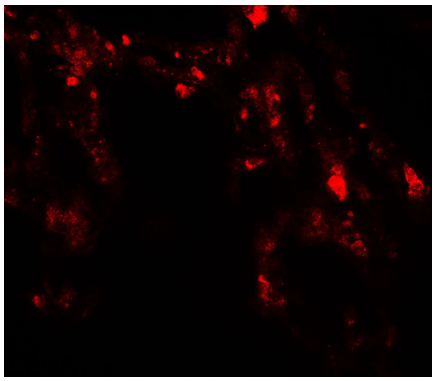
Images

Western blot analysis of UVRAG in mouse lung tissue lysate with UVRAG antibody at 1 µg/ml.





Immunohistochemistry of UVRAG in human lung tissue with UVRAG antibody at 5 µg/ml.



Immunofluorescence of UVRAG in human lung tissue with UVRAG antibody at 20 µg/ml.

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