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Rubicon Antibody

Catalog # ASC11843

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q92622
Other Accession	XP_005269431, 530375960
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	108622
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	Rubicon body can be used for detection of Rubicon 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	9711
Other Names	Run domain Beclin-1 interacting and cysteine-rich containing protein, Rubicon, Beclin-1 associated RUN domain containing protein, Baron, KIAA0226
Target/Specificity	KIAA0226; Rubicon antibody is human, mouse and rat reactive. Multiple isoforms of Rubicon are known to exist.
Reconstitution & Storage	Rubicon antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	Rubicon Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RUBCN (HGNC:28991)
Synonyms	KIAA0226
Function	Inhibits PIK3C3 activity; under basal conditions negatively regulates PI3K complex II (PI3KC3-C2) function in autophagy. Negatively regulates endosome maturation and degradative endocytic trafficking and impairs autophagosome maturation process. Can sequester UVRAG from association with a class C Vps complex (possibly the HOPS complex) and negatively regulates Rab7 activation (PubMed:20974968, PubMed:21062745).

Cellular Location	Late endosome. Lysosome. Early endosome Note=Predominantly located in late endosomes/lysosomes, only partially detected in early endosome and not at all in the Golgi apparatus

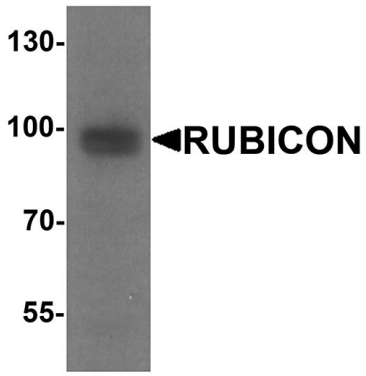
Background

Two Beclin-1-interacting proteins, the run domain Beclin-1 interacting and cysteine-rich containing protein (Rubicon) and ATG14L, reciprocally regulate autophagy at different stages. Knockdown of Rubicon caused enhancement of autophagy while that of ATG14L caused a defect in autophagosome formation (1). Rubicon functions as part of a Beclin-1-PIK3C3-containing autophagy complex and is also an essential, positive regulator of the NAPDH oxidase complex (2). Upon microbial infection or TLR2 activation, Rubicon interacts with the CYBA subunit of the NAPDH oxidase complex, leading to a burst of reactive oxygen species and inflammatory cytokines (2).

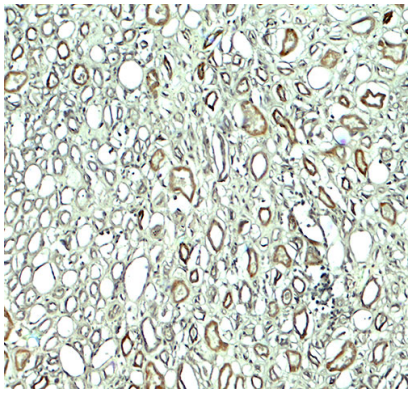
References

Matsunaga K, Saitoh T, Tabata K, et al. Two Beclin 1-binding proteins, Atg14L and Rubicon, reciprocally regulate autophagy at different stages. Nat. Cell Biol. 2009; 11:385-96.
Yang CS, Lee JS, Rodgers M, et al. Autophagy protein Rubicon mediates phagocytic NAPDH oxidase activation in response to microbial infection of TLR stimulation. Cell Host and Microbe 2012; 11:264-76.

Images

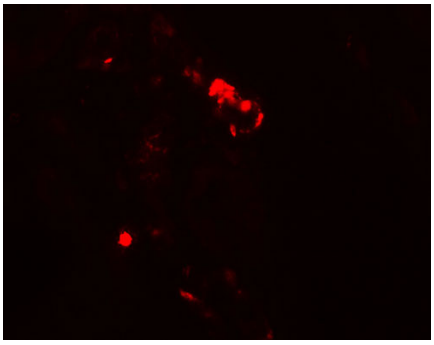


Western blot analysis of Rubicon in 293 cell lysate with Rubicon antibody at 1 µg/ml.



Immunohistochemistry of RUBICON in human kidney tissue with RUBICON antibody at 5 µg/ml.

Immunofluorescence of RUBICON in human kidney tissue with RUBICON antibody at 20 µg/ml.



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