

# Rubicon (N-17): sc-99955

## BACKGROUND

Rubicon, also known as KIAA0226 or Baron (Beclin-1 associated RUN domain containing protein), is a 972 amino acid protein that is responsible for negatively regulating endocytic trafficking. Rubicon impairs the maturation of the autophagosome and may compromise VPS34 activity. Rubicon is found in the early/late endosome and the lysosome. Rubicon forms a complex with BECN1, VPS34, p150 and UVRAG, which down-regulates autophagy. Mutation in the gene encoding Rubicon may lead to a new form of recessive ataxia called Salih ataxia, which is an early childhood-onset and may be characterized by epilepsy and mental retardation. Rubicon exists as three alternatively spliced isoforms and is post-translationally phosphorylated on multiple serine and threonine residues. The gene encoding Rubicon maps to chromosome 3, which consists of about 214 million bases encoding over 1,100 genes.

## REFERENCES

- Nagase, T., et al. 1996. Prediction of the coding sequences of unidentified human genes. VI. The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by analysis of cDNA clones from cell line KG-1 and brain. *DNA Res.* 3: 321-329, 341-354.
- Matsunaga, K., et al. 2009. Binding Rubicon to cross the Rubicon. *Autophagy* 5: 876-877.
- Matsunaga, K., et al. 2009. Two Beclin 1-binding proteins, Atg14L and Rubicon, reciprocally regulate autophagy at different stages. *Nat. Cell Biol.* 11: 385-396.
- Assoum, M., et al. 2010. Rundataxin, a novel protein with RUN and diacylglycerol binding domains, is mutant in a new recessive ataxia. *Brain* 133: 2439-2447.
- Tabata, K., et al. 2010. Rubicon and PLEKHM1 negatively regulate the endocytic/autophagic pathway via a novel Rab7-binding domain. *Mol. Biol. Cell* 21: 4162-4172.
- Sun, Q., et al. 2010. Rubicon controls endosome maturation as a Rab7 effector. *Proc. Natl. Acad. Sci. USA* 107: 19338-19343.
- Yang, C.S., et al. 2012. The autophagy regulator Rubicon is a feedback inhibitor of CARD9-mediated host innate immunity. *Cell Host Microbe* 11: 277-289.

## CHROMOSOMAL LOCATION

Genetic locus: KIAA0226 (human) mapping to 3q29; 1700021K19Rik (mouse) mapping to 16 B3.

## SOURCE

Rubicon (N-17) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the N-terminus of Rubicon of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-99955 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Rubicon (N-17) is recommended for detection of Rubicon of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Rubicon (N-17) is also recommended for detection of Rubicon in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for Rubicon siRNA (h): sc-78326, Rubicon siRNA (m): sc-146442, Rubicon shRNA Plasmid (h): sc-78326-SH, Rubicon shRNA Plasmid (m): sc-146442-SH, Rubicon shRNA (h) Lentiviral Particles: sc-78326-V and Rubicon shRNA (m) Lentiviral Particles: sc-146442-V.

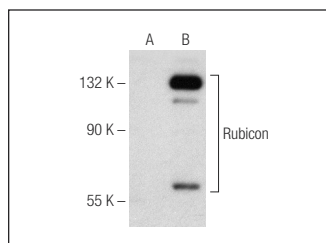
Molecular Weight of Rubicon: 130 kDa.

Positive Controls: KIAA0226 (m): 293T Lysate: sc-121210.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Rubicon (N-17): sc-99955. Western blot analysis of Rubicon expression in non-transfected: sc-117752 (A) and mouse Rubicon transfected: sc-121210 (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.