

## Anti-RagA / RRAGA antibody, rabbit serum.

71-020 100  $\mu$ l

**Storage:** Shipped at 4°C and store at -20°C. Do not freeze.

**Reactivity:** Reacts with mammals (human, mouse, rat, hamster) and *Xenopus* Rag A proteins.

**Immunogen:** Purified full-length human RagA protein fused with GST

### Applications

- 1) Western blotting (1/1,000~1/2,000)
- 2) Immunofluorescent staining (1/100~1/1,000)

**Form:** Anti-Rag A rabbit serum added with 0.05% sodium azide.

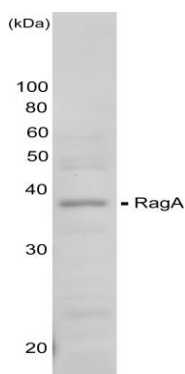
**Background:** RagA (313 aa, 36.6 kDa) is the human homologue of Gtr1 identified in yeast and classified as the Ras-like small G protein family. In cytoplasm, GTP-bound RagA usually forms a heterodimer with RagD, interacts with Nop132 to be transported to the nucleus. GTP of RagA is hydrolyzed to GDP by RCC, guanine nucleotide exchange factor for RanGTPase bound to chromatin. RagA-RCC signal pathway has a crucial role in cell growth and differentiation. RagA is also well known to be involved in mTOR signaling via binding with raptor, a component of mTORC1 complex, in an amino acid sensitive manner

**Cellular localization:** Predominantly in cytoplasm. May shuttle between the cytoplasm and nucleus, depending on the bound nucleotide state.

**Data Link:** UniProtKB/Swiss-Prot: [Q7L523](#) (human RRAGA)

**References:** This product was described and used in the following publications.

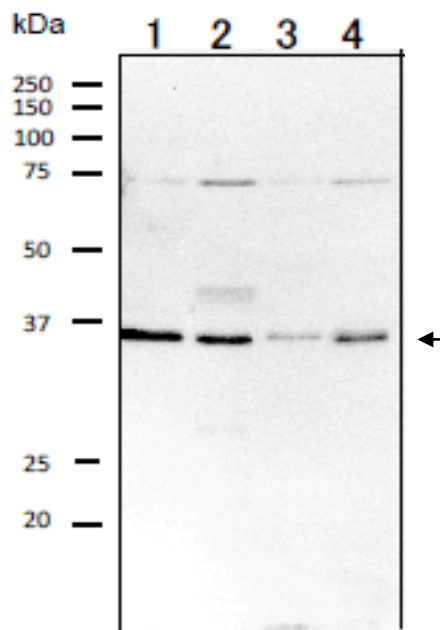
1. Sekiguchi T *et al* "A novel human nucleolar protein Nop132, binds to the G proteins, RRAG A/C/D" *J. Biol. Chem.* 279; 8343-8350 (2004) PMID: [14660641](#)
2. Yasemin S *et al* "The Rag GTPases bind raptor and mediate amino acid signaling to mTORC1" *Science.* 320(5882): 1496-1501 (2008) PMID: [18497260](#)



**Fig.1 Western blot analysis of RagA protein in the whole cell extracts**

Sample: HeLa cell lysate, 10  $\mu$ g.

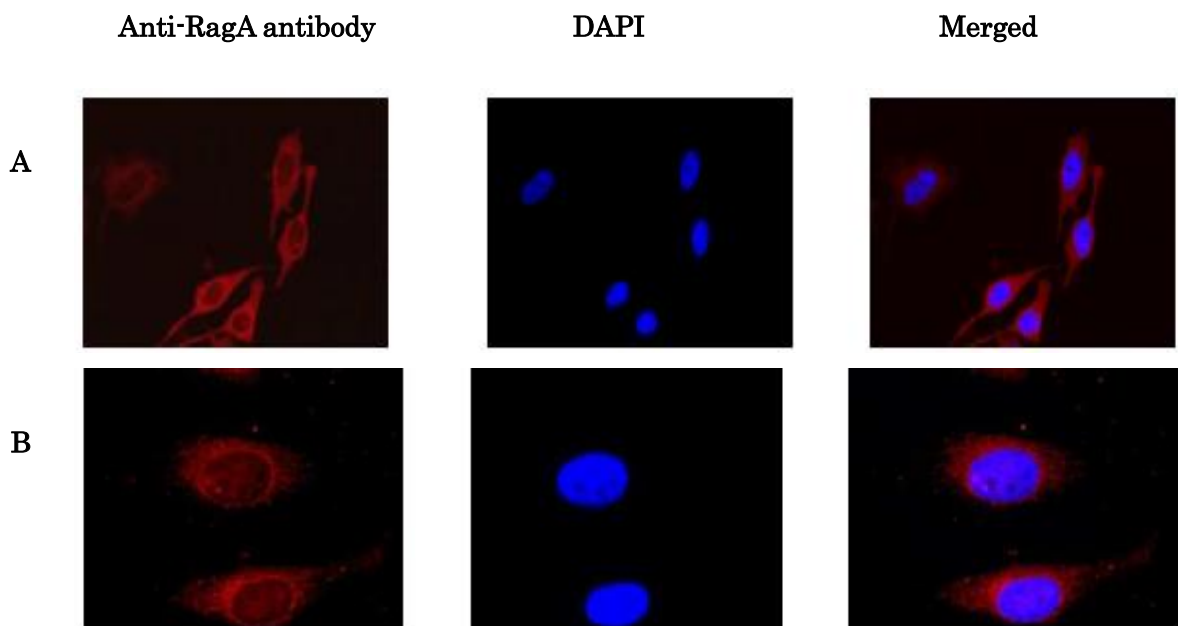
Anti-RagA antiserum was used at 1/1,000 dilution.



**Fig.2 Western blot analysis of RagA protein in the whole cell extracts.**

1. HeLa (humans)
2. MCF7 (human)
3. MOLT4 (human)
4. NIH3T3 (mouse)

Proteins in the extracts (20  $\mu$ g) were separated on 12.5% SDS-PAGE. Anti-RagA antibody was used at 1/1,000 dilution. Anti-rabbit IgG antibody conjugated with HRP (Abcam;ab97051) was used as the 2<sup>nd</sup> antibody at 1/10,000 dilution.



**Fig.3 Immunofluorescence staining of RagA protein in HeLa cells with anti-Rag antibody.**

HeLa cells were fixed with 4% paraformaldehyde and permeabilized with 0.5% TritonX 100 and reacted with anti-RagA antibody at 1/100 dilution (A) or at 1/1,000 dilution (B). As the 2<sup>nd</sup> antibody, anti-rabbit IgG antibody conjugated with Alexa Fluor 647 was used at 1/1,000 dilution.

DNA was stained with DAPI and the merged image was shown on right.