

## RIC-8A (E-20): sc-79033

### BACKGROUND

The Ras superfamily of GTPases can be subdivided into the Ras, Rho/Rac, Sar, Rab, Arf, Rap and Ran subfamilies, all of which control multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. The Ras superfamily of GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). RIC-8A (resistance to inhibitors of cholinesterase 8 homolog A), also known as RIC8 or Synembryn-A, is a 530 amino acid cytoplasmic protein that can activate several  $G_{\alpha}$  proteins, including  $G_{\alpha i-1}$ ,  $G_{\alpha q}$  and  $G_{\alpha o}$ . Functioning as a guanine nucleotide exchange factor, RIC-8A binds to GDP-associated substrates and exchanges bound GDP for free GTP. Via its ability to stimulate protein function, RIC-8A plays a role in regulating mitotic movement and may be involved in receptor-mediated ERK activation. RIC-8A is expressed as three isoforms due to alternative splicing events.

### REFERENCES

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2. Tall, G.G., Krumins, A.M. and Gilman, A.G. 2003. Mammalian RIC-8A (synembryn) is a heterotrimeric  $G_{\alpha}$  protein guanine nucleotide exchange factor. *J. Biol. Chem.* 278: 8356-8362.
3. Klattenhoff, C., Montecino, M., Soto, X., Guzmán, L., Romo, X., García, M.A., Mellstrom, B., Naranjo, J.R., Hinrichs, M.V. and Olate, J. 2003. Human brain synembryn interacts with  $G_{\alpha s}$  and  $G_{\alpha q}$  and is translocated to the plasma membrane in response to isoproterenol and carbachol. *J. Cell Physiol.* 195: 151-157.
4. Malik, S., Ghosh, M., Bonacci, T.M., Tall, G.G. and Smrcka, A.V. 2005. RIC-8 enhances G protein  $\beta\gamma$ -dependent signaling in response to  $\beta\gamma$ -binding peptides in intact cells. *Mol. Pharmacol.* 68: 129-136.
5. Nishimura, A., Okamoto, M., Sugawara, Y., Mizuno, N., Yamauchi, J. and Itoh, H. 2006. RIC-8A potentiates  $G_q$ -mediated signal transduction by acting downstream of G protein-coupled receptor in intact cells. *Genes Cells* 11: 487-498.

### CHROMOSOMAL LOCATION

Genetic locus: RIC8A (human) mapping to 11p15.5; Ric8 (mouse) mapping to 7 F5.

### SOURCE

RIC-8A (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RIC-8A of human origin.

### 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.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79033 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

RIC-8A (E-20) is recommended for detection of RIC-8A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for RIC-8A siRNA (h): sc-76402, RIC-8A siRNA (m): sc-76403, RIC-8A shRNA Plasmid (h): sc-76402-SH, RIC-8A shRNA Plasmid (m): sc-76403-SH, RIC-8A shRNA (h) Lentiviral Particles: sc-76402-V and RIC-8A shRNA (m) Lentiviral Particles: sc-76403-V.

Molecular Weight of RIC-8A: 60 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.