

GRB2 (1-68): sc-503

BACKGROUND

The superfamily of GTP binding proteins, of which Ras proteins are prototypes, has been implicated in a broad range of biological activities. A family of guanine nucleotide releasing factors (GRFs) activate Ras in mammalian cells and growth factor receptor-bound protein 2 (GRB2), an adaptor protein (also referred to as Sem 5) that appears to mediate the interaction of GRFs with activated receptor molecules. GRB2 forms a complex with activated EGFR (epidermal growth factor receptor) and the Ras-specific guanine nucleotide exchange factor SOS1, and, together, they regulate the growth factor-induced activation of Ras. GRB2 exhibits both structural and functional homology to the *C. elegans* protein sem-5. GRB2 is necessary during embryogenesis for the differentiation of endodermal cells and formation of the epiblast.

REFERENCES

- Lowenstein, E.J., et al. 1992. The SH2 and SH3 domain-containing protein GRB2 links receptor tyrosine kinases to Ras signaling. *Cell* 40: 431-442.
- Chardin, P., et al. 1993. Human Sos 1: a guanine nucleotide exchange factor for Ras that binds to GRB2. *Science* 260: 1338-1343.
- Skolnik, E.Y., et al. 1993. The function of GRB2 in linking the Insulin receptor to Ras signaling pathways. *Science* 260: 1953-1955.

CHROMOSOMAL LOCATION

Genetic locus: GRB2 (human) mapping to 17q25.1; Grb2 (mouse) mapping to 11 E2.

SOURCE

GRB2 (1-68) is a mouse monoclonal antibody epitope mapping between amino acids 1-68 of GRB2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GRB2 (1-68) is recommended for detection of GRB2 p25 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for GRB2 siRNA (h): sc-29334, GRB2 siRNA (m): sc-29335, GRB2 shRNA Plasmid (h): sc-29334-SH, GRB2 shRNA Plasmid (m): sc-29335-SH, GRB2 shRNA (h) Lentiviral Particles: sc-29334-V and GRB2 shRNA (m) Lentiviral Particles: sc-29335-V.

Molecular Weight of GRB2: 25-31 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-431 whole cell lysate: sc-2201 or HEK293 whole cell lysate: sc-45136.

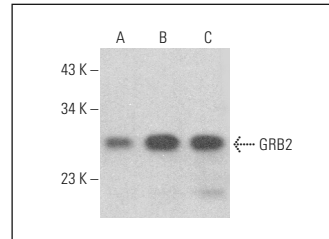
RESEARCH USE

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

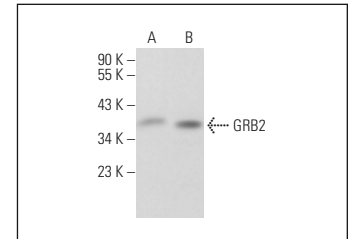
STORAGE

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

DATA



GRB2 (1-68): sc-503. Western blot analysis of GRB2 expression in NIH/3T3 (A), A-431 (B) and HEK293 (C) whole cell lysates.



GRB2 (1-68): sc-503. Western blot analysis of GRB2 expression in HEK293 (A) and PC-3 (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Nelson, J.W., et al. 1996. ATP and SH3 binding sites in the protein kinase of the large subunit of herpes simplex virus type 2 of ribonucleotide reductase (ICP10). *J. Biol. Chem.* 271: 17021-17027.
- Braunger, J., et al. 1997. Intracellular signaling of the Ufo/Axl receptor tyrosine kinase is mediated mainly by a multi-substrate docking site. *Oncogene* 14: 2619-2631.
- Ingham, R.J., et al. 1998. The Gab 1 protein is a docking site for multiple proteins involved in signaling by the B cell antigen receptor. *J. Biol. Chem.* 273: 30630-30637.
- Diwan, B.A., et al. 2000. Overexpression of GRB2 in inflammatory lesions and preneoplastic foci and tumors induced by N-nitrosodimethylamine in *Helicobacter hepaticus*-infected and -noninfected A/J mice. *Toxicol. Pathol.* 28: 548-554.
- Ghadimi, M.P., et al. 2002. Identification of interaction partners of the cytosolic polyproline region of CD95 ligand (CD178). *FEBS Lett.* 519: 50-58.
- Zhou, D., et al. 2004. A novel crosstalk mechanism between nuclear receptor-mediated and growth factor/Ras-mediated pathways through PNR-GRB2 interaction. *Oncogene* 23: 5394-5404.
- Dashwood, M.R., et al. 2005. Effect of vein graft harvesting on endothelial nitric oxide synthase and nitric oxide production. *Ann. Thorac. Surg.* 80: 939-944.
- Maus, M., et al. 2009. GRB2 associated binder 2 couples B-cell receptor to cell survival. *Cell. Signal.* 21: 220-227.



See **GRB2 (C-7): sc-8034** for GRB2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.