

# GRB2 (C-6): sc-365619

## 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

1. 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.
2. Chardin, P., et al. 1993. Human Sos 1: a guanine nucleotide exchange factor for Ras that binds to GRB2. *Science* 260: 1338-1343.
3. Skolnik, E.Y., et al. 1993. The function of GRB2 in linking the Insulin receptor to Ras signaling pathways. *Science* 260: 1953-1955.
4. Simon, M.A., et al. 1993. An SH3-SH2-SH3 protein is required for p21 Ras 1 activation and binds to sevenless and Sos proteins *in vitro*. *Cell* 73: 169-177.
5. Buday, L. and Downward, J. 1993. Epidermal growth factor regulates p21 Ras through the formation of a complex of receptor, GRB2 adaptor protein, and Sos nucleotide exchange factor. *Cell* 73: 611-620.
6. Egan, S.E., et al. 1993. Association of Sos Ras exchange protein with GRB2 is implicated in tyrosine kinase signal transduction and transformation. *Nature* 363: 45-51.

## CHROMOSOMAL LOCATION

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

## SOURCE

GRB2 (C-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 189-217 at the C-terminus of GRB2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365619 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

GRB2 (C-6) is recommended for detection of GRB2 p25 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

GRB2 (C-6) is also recommended for detection of GRB2 p25 in additional species, including equine, canine, bovine and porcine.

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.

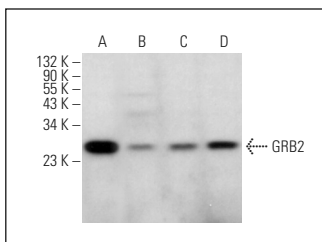
Molecular Weight of GRB2: 25-31 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, PC-12 cell lysate: sc-2250 or U-698-M whole cell lysate: sc-364799.

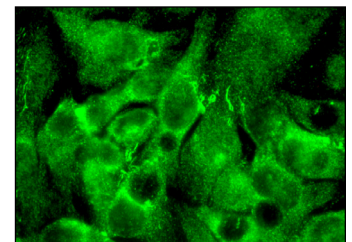
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



GRB2 (C-6): sc-365619. Western blot analysis of GRB2 expression in HL-60 (A), PC-12 (B), J774.A1 (C) and U-698-M (D) whole cell lysates.



GRB2 (C-6): sc-365619. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.

## RESEARCH USE

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



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.