SANTA CRUZ BIOTECHNOLOGY, INC.

GRB2 (E-1): sc-17813

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

GRB2 (E-1) is a mouse monoclonal antibody raised against amino acids 148-217 mapping at the C-terminus of GRB2 of human 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.

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.

APPLICATIONS

GRB2 (E-1) is recommended for detection of GRB2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:500), 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 (E-1) is also recommended for detection of GRB2 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.

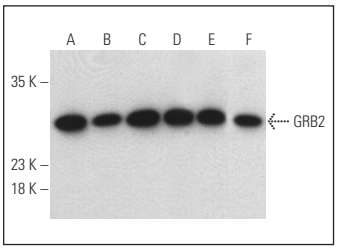
Molecular Weight of GRB2: 25-31 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HEK293 whole cell lysate: sc-45136 or C6 whole cell lysate: sc-364373.

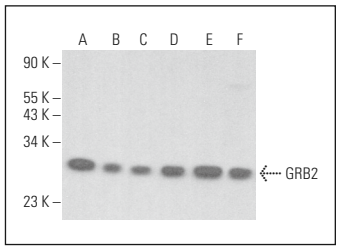
RECOMMENDED SUPPORT REAGENTS

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 (E-1): sc-17813. Western blot analysis of GRB2 expression in Jurkat (**A**), HEK293 (**B**), Ramos (**C**), HL-60 (**D**), MOLT-4 (**E**) and C6 (**F**) whole cell lysates. Detection reagent used: m-IgG_{2b} BP-HRP: sc-542741.



GRB2 (E-1): sc-17813. Western blot analysis of GRB2 expression in Jurkat (**A**), HEK293 (**B**), C6 (**C**), Ramos (**D**), HL-60 (**E**) and CCRF-HSB-2 (**F**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Nizzari, M., et al. 2007. Amyloid precursor protein and Presenilin 1 interact with the adaptor GRB2 and modulate ERK 1,2 signaling. J. Biol. Chem. 282: 13833-13844.
2. Bouilloux, F., et al. 2008. EKLF restricts megakaryocytic differentiation at the benefit of erythrocytic differentiation. Blood 112: 576-584.
3. Rieke, C., et al. 2010. Non-T cell activation linker regulates ERK activation in *Helicobacter pylori*-infected epithelial cells. Cell. Signal. 22: 395-403.
4. Pandini, G., et al. 2016. The inorganic side of NGF: copper(II) and zinc(II) affect the NGF mimicking signaling of the N-terminus peptides encompassing the recognition domain of TrkA receptor. Front. Neurosci. 10: 569.
5. Naletova, I., et al. 2019. The copper(II)-assisted connection between NGF and BDNF by means of nerve growth factor-mimicking short peptides. Cells 8: 301.
6. Naletova, I., et al. 2021. Ionophore ability of carnosine and its trehalose conjugate assists copper signal in triggering brain-derived neurotrophic factor and vascular endothelial growth factor activation *in vitro*. Int. J. Mol. Sci. 22: 13504.