

GRB2 (C-7): sc-8034

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 (C-7) is a mouse monoclonal antibody raised against amino acids 54-164 mapping to a central domain of GRB2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRB2 (C-7) is available conjugated to agarose (sc-8034 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-8034 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-8034 PE), fluorescein (sc-8034 FITC), Alexa Fluor® 488 (sc-8034 AF488), Alexa Fluor® 546 (sc-8034 AF546), Alexa Fluor® 594 (sc-8034 AF594) or Alexa Fluor® 647 (sc-8034 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-8034 AF680) or Alexa Fluor® 790 (sc-8034 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

GRB2 (C-7) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 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.

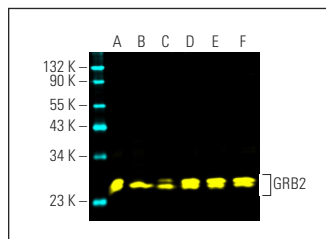
Molecular Weight of GRB2: 25-31 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, HL-60 whole cell lysate: sc-2209 or MOLT-4 cell lysate: sc-2233.

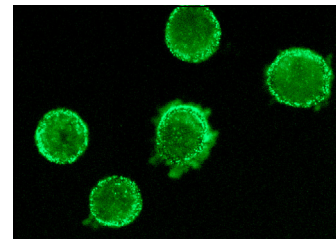
STORAGE

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

DATA



GRB2 (C-7) Alexa Fluor® 488: sc-8034 AF488. Direct fluorescent western blot analysis of GRB2 expression in Jurkat (A), KNRK (B), PC-12 (C), Ramos (D), HL-60 (E) and MOLT-4 (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Cruz Marker™ Molecular Weight Standards detected with Cruz Marker MW Tag-Alexa Fluor® 647: sc-516791.



GRB2 (C-7): sc-8034. Immunofluorescence staining of methanol-fixed KNRK cells showing membrane staining.

SELECT PRODUCT CITATIONS

- Colledge, M. and Froehner, S.C. 1997. Tyrosine phosphorylation of nicotinic acetylcholine receptor mediates GRB2 binding. *J Neurosci.* 17: 5038-5045.
- Bassat, E., et al. 2017. The extracellular matrix protein agrin promotes heart regeneration in mice. *Nature* 547: 179-184.
- Li, Q., et al. 2018. Pharmacologically targeting the myristoylation of the scaffold protein FRS2α inhibits FGF/FGFR-mediated oncogenic signaling and tumor progression. *J. Biol. Chem.* 293: 6434-6448.
- Nakatani, K., et al. 2019. KRAS and EGFR amplifications mediate resistance to rociletinib and osimertinib in acquired afatinib-resistant NSCLC harboring exon 19 deletion/T790M in EGFR. *Mol. Cancer Ther.* 18: 112-126.
- Thuault, S., et al. 2020. A proximity-labeling proteomic approach to investigate invadopodia molecular landscape in breast cancer cells. *Sci. Rep.* 10: 6787.
- Vásquez-Trincado, C., et al. 2021. Adaptation of the heart to Frataxin depletion: evidence that integrated stress response can predominate over mTORC1 activation. *Hum. Mol. Genet.* 33: 637-654.
- Hou, B., et al. 2022. Grb2 interacts with necrosome components and is involved in rasfonin-induced necroptosis. *Cell Death Discov.* 8: 319.
- Luo, Q., et al. 2023. An autonomous activation of interleukin-17 receptor signaling sustains inflammation and promotes disease progression. *Immunity* 56: 2006-2020.e6.
- Li, Z., et al. 2024. DUS4L suppresses invasion and metastasis in LUAD via modulation of PI3K/AKT and ERK/MAPK signaling through GRB2. *Int. Immunopharmacol.* 142: 113043.

RESEARCH USE

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