SANTA CRUZ BIOTECHNOLOGY, INC.

Grap (N-19): sc-6101

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Many growth factors function by binding receptors with intrinsic tyrosine kinase activity. Signaling by such receptors involves a series of intermediates characterized by SH2 domains that bind tyrosine phosphorylated receptors by a direct interaction between the SH2 domain and specific receptor sequences. For instance, the GRB family of proteins lack a defined catalytic activity and are entirely composed of SH2 and SH3 domains. Members include GRB2, GRB7, GRB10 (also referred to as GRB-IR), GRB14 and Grap (for GRB2-related adapter protein). While GRB10 and GRB14 are most closely related to GRB7, Grap shares the highest degree of homology with GRB2 exhibiting 59% sequence identity with GRB2. The Grap SH2 domain is capable of binding to the activated stem cell factor receptor, c-Kit and the erythropoietin receptor (EpoR). Grap also associates with the Ras guanine nucleotide exchange factor Sos 1 via its amino-terminal SH3 domain.

REFERENCES

1. Schlessinger, J. and Ullrich, A. 1992. Growth factor signalling by receptor tyrosine kinases. Neuron 9: 383-391.
2. Margolis, B., et al. 1992. High-efficiency expression/cloning of epidermal growth factor-receptor-binding proteins with Src homology 2 domains. Proc. Natl. Acad. Sci. USA 89: 8894-8898.
3. Fanti, W.J., et al. 1993. Signalling by receptor tyrosine kinases. Annu. Rev. Biochem. 62: 453-481.
4. Stein, D., et al. 1994. The SH2 domain protein GRB7 is co-amplified, over-expressed and in a tight complex with HER2 in breast cancer. EMBO J. 13: 1331-1340.
5. Ooi, J., et al. 1995. The cloning of GRB10 reveals a new family of SH2 domain proteins. Oncogene 10: 1621-1630.
6. Feng, G.S., et al. 1996. Grap is a novel SH3-SH2-SH3 adaptor protein that couples tyrosine kinases to the Ras pathway. J. Biol. Chem. 271: 12129-12132.
7. Daly, R.J., et al. 1996. Cloning and characterization of GRB14, a novel member of the GRB7 gene family. J. Biol. Chem. 271: 12502-12510.

CHROMOSOMAL LOCATION

Genetic locus: GRAP (human) mapping to 17p11.2; Grap (mouse) mapping to 11 B2.

SOURCE

Grap (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Grap of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6101 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Grap (N-19) is recommended for detection of Grap and GrapL 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 Grap siRNA (h): sc-40960, Grap siRNA (m): sc-40961, Grap shRNA Plasmid (h): sc-40960-SH, Grap shRNA Plasmid (m): sc-40961-SH, Grap shRNA (h) Lentiviral Particles: sc-40960-V and Grap shRNA (m) Lentiviral Particles: sc-40961-V.

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.

SELECT PRODUCT CITATIONS

1. Sakkab, D., et al. 2000. Signaling of hepatocyte growth factor/scatter factor (HGF) to the small GTPAase Rap 1 via the large docking protein Gab 1 and the adapter protein CRKL. J. Biol. Chem. 275: 10772-10778.
2. Shen, R., et al. 2002. Grap negatively regulates T-cell receptor-elicited lymphocyte proliferation and interleukin-2 induction. Mol. Cell. Biol. 22: 3230-3236.
3. Harashima, N., et al. 2014. Transfection of poly(I:C) can induce reactive oxygen species-triggered apoptosis and interferon-β-mediated growth arrest in human renal cell carcinoma cells via innate adjuvant receptors and the 2-5A system. Mol. Cancer 13: 217.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.