SANTA CRUZ BIOTECHNOLOGY, INC.

GRB7 (C-20): sc-606

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 the phosphotyrosine-containing receptor sequences. GRB7, a SH2 domain protein, has a single SH2 domain at its C-terminal, a central region with similarity to Ras GAP and a proline-rich N-terminus. GRB7 maps to the region on mouse chromosome 11 containing the Neu gene. This region of mouse chromosome 11 is syntenic to an area of human chromosome 17q12 that is frequently amplified in breast cancer. Moreover, GRB7 is amplified and overexpressed in breast cancer and is found in a complex with Neu gp185.

REFERENCES

1. Slamon, D.J., et al. 1987. Human breast cancer: a correlation of relapse and survival with amplification of the HER-2/neu oncogene. Science 235: 177-182.
2. Margolis, B. 1992. Proteins with SH2 domains: transducers in the tyrosine kinase signalling pathway. Cell Growth Differ. 3: 73-80.

CHROMOSOMAL LOCATION

Genetic locus: GRB7 (human) mapping to 17q12, GRB10 (human) mapping to 7p12.1; Grb7 (mouse) mapping to 11 D, Grb10 (mouse) mapping to 11 A1.

SOURCE

GRB7 (C-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of GRB7 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-606 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GRB7 (C-20) is recommended for detection of GRB7 and, to a lesser extent, GRB10 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).

GRB7 (C-20) is also recommended for detection of GRB7 and, to a lesser extent, GRB10 in additional species, including equine, canine, bovine and porcine.

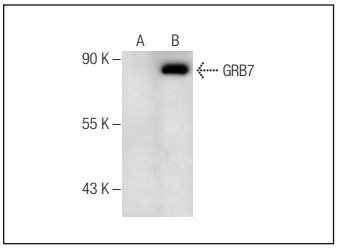
Molecular Weight of GRB7: 65 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202, A-431 whole cell lysate: sc-2201 or F9 cell lysate: sc-2245.

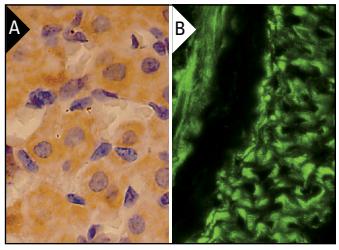
STORAGE

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

DATA



GRB7 (C-20): sc-606. Western blot analysis of GRB7 expression in A-431 (**A**) and EGF treated A-431 (**B**) whole cell lysates.



GRB7 (C-20): sc-606. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse ovary tissue showing membrane and cytoplasmic localization (**A**). Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Tanaka, S., et al. 1998. A novel variant of human GRB7 is associated with invasive esophageal carcinoma. J. Clin. Invest. 102: 821-827.
2. Lee, H., et al. 2000. Constitutive and growth factor-regulated phosphorylation of caveolin-1 occurs at the same site (Tyr 14) *in vivo:* identification of a c-Src/Cav-1/GRB7 signaling cassette. Mol. Endocrinol. 14: 1750-1775.
3. Vayssière, B., et al. 2000. Interaction of the GRB7 adapter protein with Rnd1, a new member of the Rho family. FEBS Lett. 467: 91-96.
4. Tanaka, S., et al. 2000. GRB7 signal transduction protein mediates metastatic progression of esophageal carcinoma. J. Cell. Physiol. 183: 411-415.
5. Tanaka, S., et al. 2006. Specific peptide ligand for GRB7 signal transduction protein and pancreatic cancer metastasis. J. Natl. Cancer Inst. 98: 491-498.
6. Desbuquois, B., et al. 2008. Compartmentalization and *in vivo Insulin*-induced translocation of the Insulin-signaling inhibitor Grb14 in rat liver. FEBS J. 275: 4363-4377.
7. Chu, P.Y., et al. 2010. EGF-induced Grb7 recruits and promotes Ras activity essential for the tumorigenicity of Sk-Br3 breast cancer cells. J. Biol. Chem. 285: 29279-29285.

RESEARCH USE

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