

# GRB14 (H-80): sc-20755

## 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 phospho-tyrosine-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. A related SH2 domain-containing protein, GRB10, exhibits a high degree of homology with GRB7. GRB10 undergoes serine but not tyrosine phosphorylation in response to EGF treatment, but appears to bind to the EGF receptor poorly. An additional member of the GRB7 family, designated GRB14, contains a pleckstrin homology domain in its central region and a carboxy terminal SH2 domain. GRB14 mRNA is expressed at high levels in a broad range of tissues including liver, kidney, pancreas, testis, ovary, heart and skeletal muscle. Expression of the GRB14 protein in breast carcinomas is strongly correlated with estrogen receptor positivity.

## REFERENCES

- Schlessinger, J. and Ullrich, A. 1992. Growth factor signalling by receptor tyrosine kinases. *Neuron* 9: 383-391.
- Margolis, B. 1992. Proteins with SH2 domains: transducers in the tyrosine kinase signalling pathway. *Cell Growth and Diff.* 3: 73-80.
- Fanti, W.J., Johnson, D.E. and Williams, L.T. 1993. Signalling by receptor tyrosine kinases. *Ann. Rev. Biochem.* 62: 453-481.
- Stein, D., Wu, J., Fuqua, S.A.W., Roonprapunt, C., Yajnik, V., D'Eustachio, P., Moskow, J.J., Buchberg, A.M., Osbourne, C.K. and Margolis, B. 1994. The SH2 domain protein GRB-7 is co-amplified, overexpressed and in a tight complex with HER2 in breast cancer. *EMBO J.* 13: 1331-1340.
- Ooi, J., Yajnik, V., Immanuel, D., Gordon, M., Moskow, J.J., Buchberg, A.M. and Margolis, B. 1995. The cloning of GRB10 reveals a new family of SH2 domain proteins. *Oncogene* 10: 1621-1630.
- Wandless, T.J. 1996. SH2 domains: a question of independence. *Curr. Biol.* 6: 125-127.
- Feng, G.S., Ouyang, Y.B., Hu, D.P., Shi, Z.Q., Gentz, R. and Ni, J. 1996. Grap is a novel SH3-SH2-SH3 adaptor protein that couples tyrosine kinases to the Ras pathway. *J. Biol. Chem.* 271: 12129-12132.

## CHROMOSOMAL LOCATION

Genetic locus: GRB14 (human) mapping to 2q24.

## SOURCE

GRB14 (H-80) is a rabbit polyclonal antibody raised against amino acids 1-80 of GRB14 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.

## APPLICATIONS

GRB14 (H-80) is recommended for detection of GRB14 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GRB14 (H-80) is also recommended for detection of GRB14 in additional species, including bovine.

Suitable for use as control antibody for GRB14 siRNA (h): sc-40963, GRB14 shRNA Plasmid (h): sc-40963-SH and GRB14 shRNA (h) Lentiviral Particles: sc-40963-V.

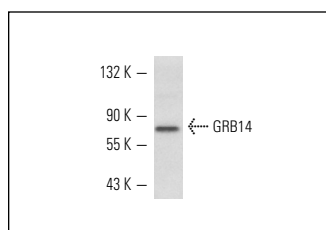
Molecular Weight of GRB14: 58 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

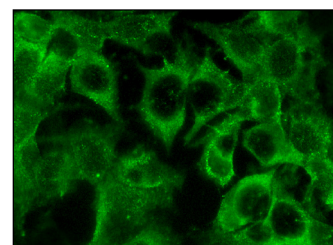
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



GRB14 (H-80): sc-20755. Western blot analysis of GRB14 expression in Hep G2 whole cell lysate.



GRB14 (H-80): sc-20755. Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoplasmic localization.

## RESEARCH USE

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

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.