SANTA CRUZ BIOTECHNOLOGY, INC.

GRP1 (N-17): sc-9730

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GRP1 (general receptor for phosphoinositides-1) contains a pleckstrin homology (PH) domain as well as a Sec7 domain. The PH domain has high binding affinity for phosphatidylinositol 3,4,5-trisphosphate (PtdIns(3,4,5)P3), while the Sec7 homology domain is responsible for catalyzing guanine nucleotide exchange of ADP-ribosylation factor (ARF) proteins. GRP1 co-localizes with ARF6 and catalyzes GTP/GDP exchange on ARF6. GRP1 interacts with PtdIns (3,4,5)P3 localized to the plasma membrane *in vitro* and may be a PtdIns(3,4,5) P3 receptor. Additionally, GRP1 may regulate protein sorting and membrane trafficking through interaction with the guanosine triphosphate ARF. GRP1 may control cell adhesion through interaction with integrins.

REFERENCES

1. Szuromi, P. 1997. Getting a GRP. Science 275: 1853.
2. Klarlund, J.K., Guilherme, A., Holik, J.J., Virbasius, J.V., Chawla, A. and Czech, M.P. 1997. Signaling by phosphoinositide-3,4,5-trisphosphate through proteins containing Pleckstrin and Sec7 homology domains. Science 275: 1927-1930.
3. Klarlund, J.K., Rameh, L.E., Cantley, L.C., Buxton, J.M., Holik, J.J., Sakelis, C., Patki, V., Corvera, S. and Czech, M.P. 1998. Regulation of GRP1-catalyzed ADP ribosylation factor guanine nucleotide exchange by phosphatidylinositol 3,4,5-trisphosphate. J. Biol. Chem. 273: 1859-1862.
4. Venkateswarlu. K., Gunn-Moore, F., Oatey, P.B., Tavare, J.M. and Cullen, P.J. 1998. Nerve growth factor- and epidermal growth factor-stimulated translocation of the ADP-ribosylation factor-exchange factor GRP1 to the plasma membrane of PC12 cells requires activation of phosphatidylinositol 3-kinase and the GRP1 pleckstrin homology domain. Biochem. J. 335: 139-146.
5. Langille, S.E., Patki, V., Klarlund, J.K., Buxton, J.M., Holik, J.J., Chawla, A., Corvera, S. and Czech, M.P. 1999. ADP-ribosylation factor 6 as a target of guanine nucleotide exchange factor GRP1. J. Biol. Chem. 274: 27099-27104.

CHROMOSOMAL LOCATION

Genetic locus: CYTH3 (human) mapping to 7p22.1; Cyth3 (mouse) mapping to 5 G2.

SOURCE

GRP1 (N-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of GRP1 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-9730 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

GRP1 (N-17) is recommended for detection of GRP1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GRP1 siRNA (h): sc-40472, GRP1 siRNA (m): sc-40473, GRP1 shRNA Plasmid (h): sc-40472-SH, GRP1 shRNA Plasmid (m): sc-40473-SH, GRP1 shRNA (h) Lentiviral Particles: sc-40472-V and GRP1 shRNA (m) Lentiviral Particles: sc-40473-V.

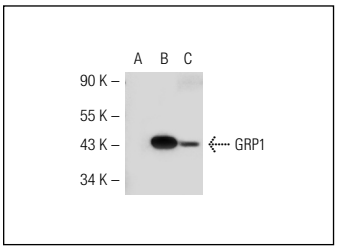
Molecular Weight of GRP1: 46 kDa.

Positive Controls: GRP1 (h): 293T Lysate: sc-171294, GRP1 (m): 293T Lysate: sc-120646 or PC-12 cell lysate: sc-2250.

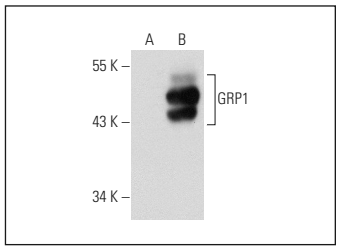
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



GRP1 (N-17): sc-9730. Western blot analysis of GRP1 expression in non-transfected 293T: sc-117752 (**A**), mouse GRP1 transfected 293T: sc-120646 (**B**) and PC-12 (**C**) whole cell lysates.



GRP1 (N-17): sc-9730. Western blot analysis of GRP1 expression in non-transfected: sc-117752 (**A**) and human GRP1 transfected: sc-171294 (**B**) 293T whole cell lysates.

STORAGE

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