

GTPBP1 (G-19): sc-86479

BACKGROUND

The gene encoding GTPBP1 (GTP-binding protein 1), a 669 amino acid cytoplasmic protein, is highly conserved among species with 97% sequence similarity between the human and mouse homologs. While mainly expressed in smooth muscle, brain, thymus, kidney and lung, expression of GTPBP1 in monocytes can be induced by IFN- γ , a finding which is similar with other members of the G protein superfamily. The primary structure of GTPBP1 seems to indicate that it is related to EF-1 α and EF-Tu, G proteins that are important components of protein synthesis machinery. Since mutation of the gene encoding GTPBP1 does not lead to any phenotypic abnormalities, it is thought that there may be a genetic redundancy to make up for GTPBP1 lack-of-function. GTPBP2 shares 44% sequence similarity with GTPBP1 and also overlaps in expression pattern, suggesting that the GTPBP2 gene may compensate for GTPBP1 genetic abnormalities.

REFERENCES

1. Gaffney, E.V., Lingenfelter, S.E., Koch, G.A., Lisi, P.J., Chu, C.W. and Tsai, S.C. 1988. Regulation by interferon γ of function in the acute monocytic leukemia cell line, THP-1. *J. Leukoc. Biol.* 43: 248-255.
2. Lafuse, W.P., Brown, D., Castle, L. and Zwilling, B.S. 1995. Cloning and characterization of a novel cDNA that is IFN- γ -induced in mouse peritoneal macrophages and encodes a putative GTP-binding protein. *J. Leukoc. Biol.* 57: 477-483.
3. Senju, S. and Nishimura, Y. 1997. Identification of human and mouse GP-1, a putative member of a novel G-protein family. *Biochem. Biophys. Res. Commun.* 231: 360-364.
4. Kudo, H., Senju, S., Mitsuya, H. and Nishimura, Y. 2000. Mouse and human GTPBP2, newly identified members of the GP-1 family of GTPase. *Biochem. Biophys. Res. Commun.* 272: 456-465.
5. Watanabe, M., Yoshida, K., Hida, M., Kato, H., Uchida, K., Yamaguchi, R., Tateyama, S. and Sugano, S. 2000. Cloning, expression analysis, and chromosomal mapping of GTPBP2, a novel member of the G protein family. *Gene* 256: 51-58.
6. Senju, S., Iyama, K., Kudo, H., Aizawa, S. and Nishimura, Y. 2000. Immunocytochemical analyses and targeted gene disruption of GTPBP1. *Mol. Cell. Biol.* 20: 6195-6200.
7. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602245. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: GTPBP1 (human) mapping to 22q13.1; Gtpbp1 (mouse) mapping to 15 E1.

SOURCE

GTPBP1 (G-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of GTPBP1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-86479 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GTPBP1 (G-19) is recommended for detection of GTPBP1 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).

GTPBP1 (G-19) is also recommended for detection of GTPBP1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GTPBP1 siRNA (h): sc-75213, GTPBP1 siRNA (m): sc-145825, GTPBP1 shRNA Plasmid (h): sc-75213-SH, GTPBP1 shRNA Plasmid (m): sc-145825-SH, GTPBP1 shRNA (h) Lentiviral Particles: sc-75213-V and GTPBP1 shRNA (m) Lentiviral Particles: sc-145825-V.

Molecular Weight of GTPBP1: 72 kDa.

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 Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) 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.

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.



Try **GTPBP1 (TR-L4): sc-134354**, our highly recommended monoclonal alternative to GTPBP1 (G-19).