SANTA CRUZ BIOTECHNOLOGY, INC.

GTPBP4 (Q-14): sc-160425

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Small G proteins act as molecular switches for regulation of variety of cellular processes, such as nuclear transport, signal transduction, membrane trafficking and protein synthesis. GTPBP4 (GTP binding protein 4), also designated nucleolar GTP-binding protein 1, chronic renal failure gene protein (CRFG), NOG1 or NGB, is a 634 amino acid novel GTP-binding protein that plays a role in 60S ribosomal subunit biogenesis and belongs to the GTP1/OBG family and NOG subfamily. Localizing to nucleolus, GTPBP4 has been observed to inhibit cell aggregation and growth when ectopically expressed in tumorigenic schwanomma cells, and is believed to act as a tumor supressor when working in conjunction with NF2 (merlin). GTPBP4 contains multiple phosphorylated amino acid residues and is encoded by a gene located on human chromosome 10p15.3.

REFERENCES

1. Laping, N.J., et al. 2001. Identification of a novel nuclear guanosine triphosphate-binding protein differentially expressed in renal disease. J. Am. Soc. Nephrol. 12: 883-890.
2. Scherl, A., et al. 2002. Functional proteomic analysis of human nucleolus. Mol. Biol. Cell 13: 4100-4109.
3. Jin, J., et al. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. Curr. Biol. 14: 1436-1450.
4. Grupe, A., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. Am. J. Hum. Genet. 78: 78-88.
5. Ye, K. 2007. Phosphorylation of merlin regulates its stability and tumor suppressive activity. Cell Adh. Migr. 1: 196-198.
6. Lee, H., et al. 2007. Identification and characterization of putative tumor suppressor NGB, a GTP-binding protein that interacts with the neurofibromatosis 2 protein. Mol. Cell. Biol. 27: 2103-2119.
7. Scoles, D.R. 2008. The merlin interacting proteins reveal multiple targets for NF2 therapy. Biochim. Biophys. Acta 1785: 32-54.

CHROMOSOMAL LOCATION

Genetic locus: GTPBP4 (human) mapping to 10p15.3; Gtpbp4 (mouse) mapping to 13 A1.

SOURCE

GTPBP4 (Q-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GTPBP4 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-160425 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GTPBP4 (Q-14) is recommended for detection of GTPBP4 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); non cross-reactive with other GTPBP family members.

GTPBP4 (Q-14) is also recommended for detection of GTPBP4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for GTPBP4 siRNA (h): sc-90817, GTPBP4 siRNA (m): sc-145829, GTPBP4 shRNA Plasmid (h): sc-90817-SH, GTPBP4 shRNA Plasmid (m): sc-145829-SH, GTPBP4 shRNA (h) Lentiviral Particles: sc-90817-V and GTPBP4 shRNA (m) Lentiviral Particles: sc-145829-V.

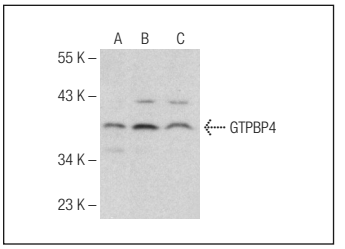
Molecular Weight of GTPBP4: 74 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, K-562 whole cell lysate: sc-2203 or DU 145 cell lysate: sc-2268.

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



GTPBP4 (Q-14): sc-160425. Western blot analysis of GTPBP4 expression in HeLa (**A**), K-562 (**B**) and DU 145 (**C**) 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.

RESEARCH USE

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