

STOP (H-230): sc-68869

BACKGROUND

Microtubules in the cytoplasm of mammalian cells usually depolarize rapidly when exposed to cold temperature or to assembly-inhibiting drugs. Some cell types, however, contain sub-populations of microtubules called "cold-stable microtubules" that resist these depolymerizing conditions. This stabilization is due mainly to polymer association with a 952 amino acid neuronal protein designated STOP (stable tubule only polypeptide). The central region of STOP contains 5 tandem repeats of 46 amino acids. STOP also contains a SH3-binding motif near its N-terminus. It is present in the cell body and throughout the axon. The STOP protein action can be extreme, inducing resistance at temperatures as low as -80° C.

REFERENCES

1. Job, D., et al. 1987. High concentrations of STOP protein induce a microtubule super-stable state. *Biochem. Biophys. Res. Commun.* 148: 429-434.
2. Margolis, R.L., et al. 1987. Purification and assay of cold-stable microtubules and STOP protein. *Methods Enzymol.* 134: 160-170.
3. Pirollet, F., et al. 1989. Monoclonal antibody to microtubule-associated STOP protein: affinity purification of neuronal STOP activity and comparison of antigen with activity in neuronal and nonneuronal cell extracts. *Biochemistry* 28: 835-842.
4. Margolis, R.L., et al. 1991. Specific association of STOP protein with microtubules *in vitro* and with stable microtubules in mitotic spindles of cultured cells. *EMBO J.* 9: 4095-4102.
5. Bongiovanni, G., et al. 1994. Some common properties between a brain protein that is modified by posttranslational arginylation and the microtubule-associated STOP protein. *J. Neurochem.* 63: 2295-2299.
6. Denarier, E., et al. 1998. Nonneuronal isoforms of STOP protein are responsible for microtubule cold stability in mammalian fibroblasts. *Proc. Natl. Acad. Sci. USA* 95: 6055-6060.
7. Guillaud, L., et al. 1998. STOP proteins are responsible for the high degree of microtubule stabilization observed in neuronal cells. *J. Cell Biol.* 142: 167-179.

CHROMOSOMAL LOCATION

Genetic locus: MAP6 (human) mapping to 11q13.5; Mtap6 (mouse) mapping to 7 E2.

SOURCE

STOP (H-230) is a rabbit polyclonal antibody raised against amino acids 61-290 mapping near the N-terminus of STOP 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.

STORAGE

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

APPLICATIONS

STOP (H-230) is recommended for detection of STOP of human and, to a lesser extent, mouse and rat 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).

STOP (H-230) is also recommended for detection of STOP in additional species, including bovine.

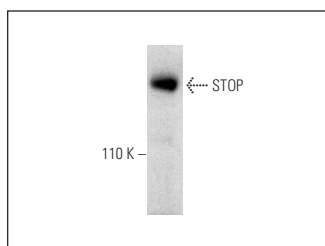
Suitable for use as control antibody for STOP siRNA (h): sc-63359, STOP siRNA (m): sc-63360, STOP shRNA Plasmid (h): sc-63359-SH, STOP shRNA Plasmid (m): sc-63360-SH, STOP shRNA (h) Lentiviral Particles: sc-63359-V and STOP shRNA (m) Lentiviral Particles: sc-63360-V.

Molecular Weight of STOP: 145 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) 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



STOP (H-230): sc-68869. Western blot analysis of STOP expression in rat brain tissue extract.

RESEARCH USE

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



Try **STOP (175): sc-53513** or **STOP (H-8): sc-137036**, our highly recommended monoclonal alternatives to STOP (H-230).