SANTA CRUZ BIOTECHNOLOGY, INC.

STOP (175): sc-53513

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 five 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.

CHROMOSOMAL LOCATION

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

SOURCE

STOP (175) is a mouse monoclonal antibody raised against STOP purified from brain microtubules of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STOP (175) is available conjugated to agarose (sc-53513 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53513 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53513 PE), fluorescein (sc-53513 FITC), Alexa Fluor® 488 (sc-53513 AF488), Alexa Fluor® 546 (sc-53513 AF546), Alexa Fluor® 594 (sc-53513 AF594) or Alexa Fluor® 647 (sc-53513 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53513 AF680) or Alexa Fluor® 790 (sc-53513 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

STOP (175) is recommended for detection of STOP 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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.

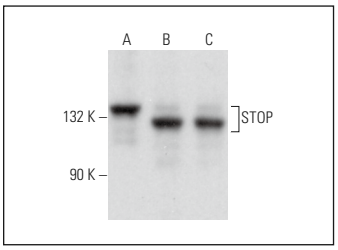
Molecular Weight of STOP: 145 kDa.

Positive Controls: mouse brain extract: sc-2253, rat brain extract: sc-2392 or rat hippocampus tissue extract.

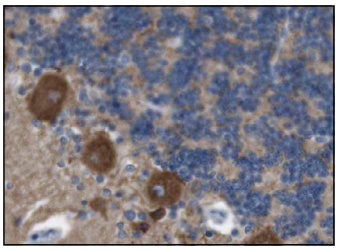
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



STOP (175): sc-53513. Western blot analysis of STOP expression in rat brain (**A**), mouse brain (**B**) and rat hippocampus (**C**) tissue extracts.



STOP (175): sc-53513. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum showing cytoplasmic staining of Cells in molecular and granular layers and Purkinje cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Ma, L., et al. 2019. Role of microtubule-associated protein 6 glycosylated with Gal-(β-1,3)-GalNAc in Parkinson's disease. Aging 11: 4597-4610.

RESEARCH USE

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