

# MAP-6D1 (G-14): sc-100032

## BACKGROUND

MAP-6D1 (MAP6 domain-containing protein 1, STOP-like protein 21) is a 199 amino acid mammalian neuronal protein belonging to the STOP family. Found primarily as a part of the Golgi apparatus membrane, MAP-6D1 interacts with calmodulin and localizes to microtubules in the cytoskeleton. Calmodulin is involved in the genetic pathway that has a key role in efficient mitosis. This process is believed to be mediated and enhanced by the palmitoylation of cysteine residues near the N-terminus. Palmitoylation helps increase the hydrophobicity of proteins and enhances their membrane association. Palmitoylation also has a significant role in the subcellular trafficking of proteins between membrane compartments, as well as in modulating protein-protein interactions. These processes indicate that MAP-6D1 is highly involved with Golgi and microtubule stabilizing activity.

## REFERENCES

1. Bosc, C., Cronk, J.D., Pirolet, F., Watterson, D.M., Haiech, J., Job, D. and Margolis, R.L. 1996. Cloning, expression, and properties of the microtubule-stabilizing protein STOP. *Proc. Natl. Acad. Sci. USA* 93: 2125-2130.
2. Baratier, J., Peris, L., Brocard, J., Gory-Faure, S., Dufour, F., Bosc, C., Fourest-Lieuvin, A., Blanchoin, L., Salin, P., Job, D. and Andrieux, A. 2006. Phosphorylation of microtubule-associated protein STOP by calmodulin kinase II. *J. Biol. Chem.* 281: 19561-19569.
3. Gory-Faure, S., Windscheid, V., Bosc, C., Peris, L., Proietto, D., Franck, R., Denarier, E., Job, D. and Andrieux, A. 2006. STOP-like protein 21 is a novel member of the STOP family, revealing a Golgi localization of STOP proteins. *J. Biol. Chem.* 281: 28387-28396.
4. Galiano, M.R., Andrieux, A., Deloulme, J.C., Bosc, C., Schweitzer, A., Job, D. and Hallak, M.E. 2006. Myelin basic protein functions as a microtubule stabilizing protein in differentiated oligodendrocytes. *J. Neurosci. Res.* 84: 534-541.
5. Makarov, A.A., Tsvetkov, P.O., Villard, C., Esquieu, D., Pourroy, B., Fahy, J., Braguer, D., Peyrot, V. and Lafitte, D. 2007. Vinflunine, a novel microtubule inhibitor, suppresses calmodulin interaction with the microtubule-associated protein STOP. *Biochemistry* 46: 14899-14906.
6. Bouvrais-Veret, C., Weiss, S., Hanoun, N., Andrieux, A., Schweitzer, A., Job, D., Hamon, M., Giros, B. and Martres, M.P. 2008. Microtubule-associated STOP protein deletion triggers restricted changes in dopaminergic neurotransmission. *J. Neurochem.* 104: 745-756.
7. Hanaya, R., Koning, E., Ferrandon, A., Schweitzer, A., Andrieux, A. and Nehlig, A. 2008. Deletion of the STOP gene, a microtubule stabilizing factor, leads only to discrete cerebral metabolic changes in mice. *J. Neurosci. Res.* 86: 813-820.

## CHROMOSOMAL LOCATION

Genetic locus: MAP6D1 (human) mapping to 3q27.1.

## STORAGE

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

## SOURCE

MAP-6D1 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MAP-6D1 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-100032 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MAP-6D1 (G-14) is recommended for detection of MAP-6D1 of 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); non cross-reactive with other MAP family members.

Suitable for use as control antibody for MAP-6D1 siRNA (h): sc-78086, MAP-6D1 shRNA Plasmid (h): sc-78086-SH and MAP-6D1 shRNA (h) Lentiviral Particles: sc-78086-V.

Molecular Weight of MAP-6D1: 21 kDa.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.