

# MSAP (D-19): sc-243537

## BACKGROUND

MSAP (MIR-interacting saposin-like protein), also known as CNPY2 (canopy 2 homolog), TMEM4 or ZSIG9, is a 182 amino acid protein of the endoplasmic reticulum that functions in the positive regulation of neurite outgrowth. Expressed at highest levels in pancreas, placenta and liver, MSAP belongs to the canopy family and prevents MYL9 ubiquitination and proteasomal degradation. Existing as two alternatively spliced isoforms, MSAP is encoded by a gene that maps to human chromosome 12q13.3 and mouse chromosome 10 D3. Human chromosome 12 encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and trisomy 12p, which causes facial developmental defects and seizure disorders.

## REFERENCES

1. Yokoyama-Kobayashi, M., Sugano, S., Kato, T. and Kato, S. 1995. A signal sequence detection system using secreted protease activity as an indicator. *Gene* 163: 193-196.
2. Allen, T.L., Brothman, A.R., Carey, J.C. and Chance, P.F. 1996. Cytogenetic and molecular analysis in trisomy 12p. *Am. J. Med. Genet.* 63: 250-256.
3. Delgado Carrasco, J., Casanova Morcillo, A., Zabalza Alvillos, M. and Ayala Garces, A. 2001. Achondrogenesis type II-hypochondrogenesis: radiological features. Case report. *An. Esp. Pediatr.* 55: 553-557.
4. Yokoyama, T., Nakatani, S. and Murakami, A. 2003. A case of Kniest dysplasia with retinal detachment and the mutation analysis. *Am. J. Ophthalmol.* 136: 1186-1188.
5. Bornhauser, B.C., Olsson, P.A. and Lindholm, D. 2003. MSAP is a novel MIR-interacting protein that enhances neurite outgrowth and increases myosin regulatory light chain. *J. Biol. Chem.* 278: 35412-35420.
6. Forzano, F., Lituania, M., Viassolo, A., Superti-Furga, V., Wildhardt, G., Zabel, B. and Faravelli, F. 2007. A familial case of achondrogenesis type II caused by a dominant COL2A1 mutation and "patchy" expression in the mosaic father. *Am. J. Med. Genet. A* 143A: 2815-2820.
7. Wainwright, H. and Beighton, P. 2008. Visceral manifestations of hypochondrogenesis. *Virchows Arch.* 453: 203-207.
8. Lo, F.S., Luo, J.D., Lee, Y.J., Shu, S.G., Kuo, M.T. and Chiou, C.C. 2009. High resolution melting analysis for mutation detection for PTPN11 gene: applications of this method for diagnosis of Noonan syndrome. *Clin. Chim. Acta* 409: 75-77.
9. Benussi, D.G., Costa, P., Zollino, M., Murdolo, M., Petix, V., Carrozzini, M. and Pecile, V. 2009. Trisomy 12p and monosomy 4p: phenotype-genotype correlation. *Genet. Test. Mol. Biomarkers* 13: 199-204.

## CHROMOSOMAL LOCATION

Genetic locus: CNPY2 (human) mapping to 12q13.3; Cnpy2 (mouse) mapping to 10 D3.

## RESEARCH USE

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

## SOURCE

MSAP (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MSAP 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-243537 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MSAP (D-19) is recommended for detection of MSAP 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).

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

Suitable for use as control antibody for MSAP siRNA (h): sc-95707, MSAP siRNA (m): sc-149658, MSAP shRNA Plasmid (h): sc-95707-SH, MSAP shRNA Plasmid (m): sc-149658-SH, MSAP shRNA (h) Lentiviral Particles: sc-95707-V and MSAP shRNA (m) Lentiviral Particles: sc-149658-V.

Molecular Weight of MSAP isoforms: 21/9 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.

## STORAGE

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

## PROTOCOLS

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