

MIPOL1 (N-12): sc-107747

BACKGROUND

MIPOL1 (mirror-image polydactyly gene 1 protein) is a 442 amino acid protein that is expressed very weakly in skeletal muscle, heart, pancreas, kidney, liver and fetal kidney. Defects in the gene encoding MIPOL1 cause mirror-image polydactyly of hands and feet, a congenital anomaly that is characterized by mirror image duplication of digits. The MIPOL gene has also been implicated in a translocation event in which it rearranges with the PITX2 gene, resulting in a phenotype of mild craniofacial and acallosal central nervous system mid-line defects. Downregulation of MIPOL1 expression is observed in a high percentage of nasopharyngeal carcinomas, suggesting that MIPOL1 is a tumor suppressor. There are three isoforms of MIPOL1 that are expressed as a result of alternative splicing events.

REFERENCES

1. Kondoh, S., Sugawara, H., Harada, N., Matsumoto, N., Ohashi, H., Sato, M., Kantaputra, P.N., Ogino, T., Tomita, H., Ohta, T., Kishino, T., Fukushima, Y., Niikawa, N. and Yoshiura, K. 2002. A novel gene is disrupted at a 14q13 breakpoint of t(2;14) in a patient with mirror-image polydactyly of hands and feet. *J. Hum. Genet.* 47: 136-139.
2. Kamnasaran, D., O'Brien, P.C., Zackai, E.H., Muenke, M., Ferguson-Smith, M.A. and Cox, D.W. 2003. Rearrangement in the PITX2 and MIPOL1 genes in a patient with a t(4;14) chromosome. *Eur. J. Hum. Genet.* 11: 315-324.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 606850. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Omi, M., Fisher, M., Mailhe, N.J. and Dealy, C.N. 2005. Studies on epidermal growth factor receptor signaling in vertebrate limb patterning. *Dev. Dyn.* 233: 288-300.
5. Cheung, A.K., Lung, H.L., Ko, J.M., Cheng, Y., Stanbridge, E.J., Zabarovsky, E.R., Nicholls, J.M., Chua, D., Tsao, S.W., Guan, X.Y. and Lung, M.L. 2009. Chromosome 14 transfer and functional studies identify a candidate tumor suppressor gene, mirror image polydactyly 1, in nasopharyngeal carcinoma. *Proc. Natl. Acad. Sci. USA* 106: 14478-14483.

CHROMOSOMAL LOCATION

Genetic locus: MIPOL1 (human) mapping to 14q13.3.

SOURCE

MIPOL1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of MIPOL1 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-107747 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

MIPOL1 (N-12) is recommended for detection of MIPOL1 of 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).

Suitable for use as control antibody for MIPOL1 siRNA (h): sc-92320, MIPOL1 shRNA Plasmid (h): sc-92320-SH and MIPOL1 shRNA (h) Lentiviral Particles: sc-92320-V.

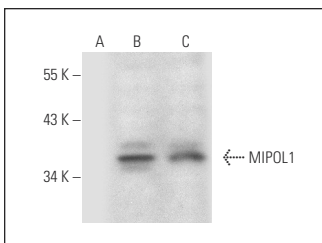
Molecular Weight of MIPOL1: 52 kDa.

Positive Controls: MIPOL1 (h): 293T Lysate: sc-115705 or PC-3 cell lysate: sc-2220.

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



MIPOL1 (N-12): sc-107747. Western blot analysis of MIPOL1 expression in non-transfected 293T: sc-117752 (A), human MIPOL1 transfected 293T: sc-115705 (B) and PC-3 (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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.