

Myotrophin (49): sc-136377

BACKGROUND

Myotrophin (V-1 protein) is a ubiquitously expressed cytoplasmic protein that can translocate to the nucleus during sustained NF κ B activation. The gene encoding for this protein localizes to chromosome 7q33. Myotrophin may be involved in cerebellar morphogenesis and contains an acetylated N-terminus and 2.5 internal 33 amino acid Ankyrin repeats. It is important in the differentiation of cerebellar neurons, particularly of granule cells. The 117 amino acid protein has been associated with, and able to induce, cardiac hypertrophy. Myotrophin increases proto-oncogene, ANF and β -Myosin heavy chain transcript levels. Myotrophin is upregulated when myocytes undergo cyclic stretch or are treated with tumor necrosis factor α (TNF α) or interleukin-1 β . Highest levels of Myotrophin are detected in brain and lowest levels in skeletal muscle.

REFERENCES

- Horita, A. and Carino, M.A. 1990. Centrally administered Vasopressin antagonizes pentobarbital-induced narcosis and depression of hippocampal cholinergic activity. *Peptides* 11: 1021-1025.
- Sen, S., et al. 1990. Myotrophin: purification of a novel peptide from spontaneously hypertensive rat heart that influences myocardial growth. *J. Biol. Chem.* 265: 16635-16643.
- Sil, P., et al. 1993. Myotrophin in human cardiomyopathic heart. *Circ. Res.* 73: 98-108.
- Mukherjee, D.P., et al. 1993. Myotrophin induces early response genes and enhances cardiac gene expression. *Hypertension* 21: 142-148.
- Sivasubramanian, N., et al. 1996. Cardiac Myotrophin exhibits Rel/NF κ B interacting activity *in vitro*. *J. Biol. Chem.* 271: 2812-2816.
- Anderson, K.M., et al. 1999. cDNA sequence and characterization of the gene that encodes human Myotrophin/V-1 protein, a mediator of cardiac hypertrophy. *J. Mol. Cell. Cardiol.* 31: 705-719.
- Gupta, S. and Sen, S. 2002. Myotrophin- κ B DNA interaction in the initiation process of cardiac hypertrophy. *Biochim. Biophys. Acta* 1589: 247-260.
- Knuefermann, P., et al. 2002. Myotrophin/V-1, a protein upregulated in the failing human heart and in postnatal cerebellum, converts NF κ B p50-p65 heterodimers to p50-p50 and p65-p65 homodimers. *J. Biol. Chem.* 277: 23888-23897.

CHROMOSOMAL LOCATION

Genetic locus: MTPN (human) mapping to 7q33; Mtpn (mouse) mapping to 6 B1.

SOURCE

Myotrophin (49) is a mouse monoclonal antibody raised against amino acids 9-117 of Myotrophin of rat origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Myotrophin (49) is recommended for detection of Myotrophin 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Myotrophin siRNA (h): sc-45700, Myotrophin siRNA (m): sc-45701, Myotrophin shRNA Plasmid (h): sc-45700-SH, Myotrophin shRNA Plasmid (m): sc-45701-SH, Myotrophin shRNA (h) Lentiviral Particles: sc-45700-V and Myotrophin shRNA (m) Lentiviral Particles: sc-45701-V.

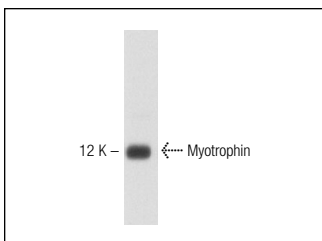
Molecular Weight of Myotrophin: 12 kDa.

Positive Controls: A-10 cell lysate: sc-3806, HCT-8 cell lysate: sc-24675 or SK-BR-3 cell lysate: sc-2218.

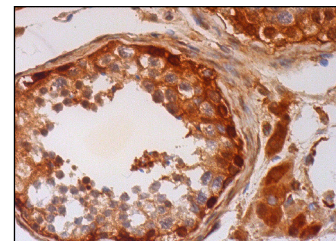
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Myotrophin (49): sc-136377. Western blot analysis of Myotrophin expression in HCT-8 whole cell lysate.



Myotrophin (49): sc-136377. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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