

Aciculin (N-15): sc-79831

BACKGROUND

Aciculin, also known as PGM5 (phosphoglucomutase 5) or PGMRP, is a 567 amino acid protein that belongs to the phosphoglucomutase family of phosphotransferases, which play an important role in the interconversion of glucose-1-phosphate and glucose-6-phosphate. Localized to the cell junction and expressed at high levels in smooth and cardiac muscle, Aciculin binds magnesium as a cofactor and interacts with dystrophin and utrophin, possibly playing a role in cytoskeletal organization and function. Aciculin exists as two alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome.

REFERENCES

1. Belkin, A.M. and Burridge, K. 1994. Expression and localization of the phosphoglucomutase-related cytoskeletal protein, aciculin, in skeletal muscle. *J. Cell Sci.* 107: 1993-2003.
2. Belkin, A.M. and Burridge, K. 1995. Localization of utrophin and Aciculin at sites of cell-matrix and cell-cell adhesion in cultured cells. *Exp. Cell Res.* 221: 132-140.
3. Belkin, A.M. and Burridge, K. 1995. Association of aciculin with dystrophin and utrophin. *J. Biol. Chem.* 270: 6328-6337.
4. Belkin, A.M. and Smalheiser, N.R. 1996. Localization of cranin (dystroglycan) at sites of cell-matrix and cell-cell contact: recruitment to focal adhesions is dependent upon extracellular ligands. *Cell Adhes. Commun.* 4: 281-296.
5. Moiseeva, E.P., et al. 1996. A novel dystrophin/utrophin-associated protein is an enzymatically inactive member of the phosphoglucomutase superfamily. *Eur. J. Biochem.* 235: 103-113.
6. Rezvani, M., et al. 1996. Dystrophin, vinculin and aciculin in skeletal muscle subject to chronic use and disuse. *Med. Sci. Sports Exerc.* 28: 79-84.
7. Moiseeva, E.P. and Critchley, D.R. 1997. Characterisation of the promoter which regulates expression of a phosphoglucomutase-related protein, a component of the dystrophin/utrophin cytoskeleton predominantly expressed in smooth muscle. *Eur. J. Biochem.* 248: 634-643.

CHROMOSOMAL LOCATION

Genetic locus: PGM5 (human) mapping to 9q21.11; Pgm5 (mouse) mapping to 19 B.

SOURCE

Aciculin (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Aciculin of human origin.

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.

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-79831 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Aciculin (N-15) is recommended for detection of Aciculin 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Aciculin (N-15) is also recommended for detection of Aciculin in additional species, including bovine.

Suitable for use as control antibody for Aciculin siRNA (h): sc-72431, Aciculin siRNA (m): sc-72432, Aciculin shRNA Plasmid (h): sc-72431-SH, Aciculin shRNA Plasmid (m): sc-72432-SH, Aciculin shRNA (h) Lentiviral Particles: sc-72431-V and Aciculin shRNA (m) Lentiviral Particles: sc-72432-V.

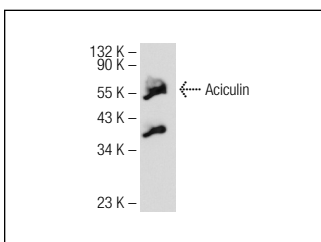
Molecular Weight of Aciculin: 56 kDa.

Positive Controls: A-10 cell lysate: sc-3806.

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



Aciculin (N-15): sc-79831. Western blot analysis of Aciculin expression in A-10 whole cell lysate.

RESEARCH USE

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