SANTA CRUZ BIOTECHNOLOGY, INC.

Aciculin (F-2): sc-365419

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The Power to Question

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 (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-21 at the N-terminus of Aciculin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-365419 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Aciculin (F-2) is recommended for detection of Aciculin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (F-2) 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.

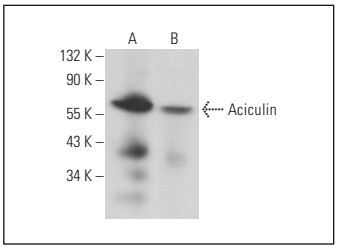
Molecular Weight of Aciculin: 56 kDa.

Positive Controls: human heart extract: sc-363763, human kidney extract: sc-363764 or mouse bladder extract: sc-364919.

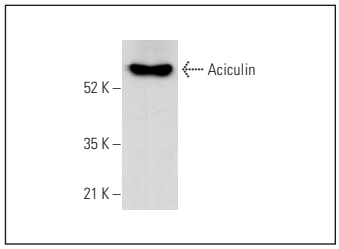
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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



Aciculin (F-2): sc-365419. Western blot analysis of Aciculin expression in human heart (**A**) and human kidney (**B**) tissue extracts.



Aciculin (F-2): sc-365419. Western blot analysis of Aciculin expression in mouse bladder tissue extract.

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.