SANTA CRUZ BIOTECHNOLOGY, INC.

Aciculin siRNA (h): sc-72431

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., et al. 1994. Expression and localization of the phosphoglucomutase-related cytoskeletal protein, Aciculin, in skeletal muscle. J. Cell Sci. 107: 1993-2003.
2. Belkin, A.M., et al. 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., et al. 1995. Association of Aciculin with dystrophin and utrophin. J. Biol. Chem. 270: 6328-6337.
4. Belkin, A.M., et al. 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.

CHROMOSOMAL LOCATION

Genetic locus: PGM5 (human) mapping to 9q21.11.

PRODUCT

Aciculin siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Aciculin shRNA Plasmid (h): sc-72431-SH and Aciculin shRNA (h) Lentiviral Particles: sc-72431-V as alternate gene silencing products.

For independent verification of Aciculin (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-72431A, sc-72431B and sc-72431C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Aciculin siRNA (h) is recommended for the inhibition of Aciculin expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

Aciculin (14F8): sc-73613 is recommended as a control antibody for monitoring of Aciculin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Aciculin gene expression knockdown using RT-PCR Primer: Aciculin (h)-PR: sc-72431-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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