

MYBPC2 siRNA (m): sc-149731

BACKGROUND

MYBPC2, also known as MYBPCF or MYBPC, is a 1,142 amino acid protein that contains 3 fibronectin type-III domains and 7 Ig-like C2-type domains. Existing as a member of the immunoglobulin superfamily, MYBPC2 functions as a thick filament-associated protein that localizes to striated muscle bands in vertebrae and is thought to modify the activity of select ATPases. Additionally, MYBPC2 may play a role in the modulation of muscle contraction and in the overall structural integrity of the cell. The gene encoding MYBPC2 maps to human chromosome 19, which is the genetic home for a number of immunoglobulin superfamily members, including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family and Fc receptors (FcRs).

REFERENCES

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2. Alyonycheva, T.N., et al. 1997. Isoform-specific interaction of the myosin-binding proteins (MyBPs) with skeletal and cardiac myosin is a property of the C-terminal immunoglobulin domain. *J. Biol. Chem.* 272: 20866-20872.
3. Moolman-Smook, J., et al. 2002. Identification of novel interactions between domains of Myosin binding protein-C that are modulated by hypertrophic cardiomyopathy missense mutations. *Circ. Res.* 91: 704-711.
4. Welikson, R.E., et al. 2002. The C-terminal Ig1 domains of myosin-binding proteins C and H (MyBP-C and MyBP-H) are both necessary and sufficient for the intracellular crosslinking of sarcomeric myosin in transfected non-muscle cells. *J. Cell Sci.* 115: 3517-3526.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 160793. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Flashman, E., et al. 2008. Support for a trimeric collar of myosin binding protein C in cardiac and fast skeletal muscle, but not in slow skeletal muscle. *FEBS Lett.* 582: 434-438.

CHROMOSOMAL LOCATION

Genetic locus: Mybpc2 (mouse) mapping to 7 B4.

PRODUCT

MYBPC2 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MYBPC2 shRNA Plasmid (m): sc-149731-SH and MYBPC2 shRNA (m) Lentiviral Particles: sc-149731-V as alternate gene silencing products.

For independent verification of MYBPC2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149731A, sc-149731B and sc-149731C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MYBPC2 siRNA (m) is recommended for the inhibition of MYBPC2 expression in mouse 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 μ M in 66 μ l. 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MYBPC2 gene expression knockdown using RT-PCR Primer: MYBPC2 (m)-PR: sc-149731-PR (20 μ l). 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.

PROTOCOLS

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