

UNC45B siRNA (h): sc-94067

BACKGROUND

UNC45B (protein unc-45 homolog B), also known as SMUNC45 or CMYA4, is a 931 amino acid cytoplasmic protein that contains three ARM repeats and three N-terminal TPR repeats. Expressed primarily in heart and skeletal muscle, UNCA45B functions as a co-chaperone for HSP 90, effectively facilitating the association of HSP 90 with PR (progesterone receptor). Additionally, UNC45B is thought to be necessary for proper folding of Myosin and is required for sacromere formation during muscle cell development, thereby playing an important role in muscle formation. Existing as three alternatively spliced isoforms, the gene encoding UNC45B maps to human chromosome 17q12 and mouse chromosome 11 C. Inhibition or overexpression of the gene encoding UNC45B may lead to reduced myoblast fusion and altered sacromere formation, as well as defective myofibril organization.

REFERENCES

1. Price, M.G., et al. 2002. Two mammalian UNC-45 isoforms are related to distinct cytoskeletal and muscle-specific functions. *J. Cell Sci.* 115: 4013-4023.
2. Wohlgenuth, S.L., et al. 2007. The myosin co-chaperone UNC-45 is required for skeletal and cardiac muscle function in zebrafish. *Dev. Biol.* 303: 483-492.
3. Liu, L., et al. 2008. Unc45 activates Hsp90-dependent folding of the myosin motor domain. *J. Biol. Chem.* 283: 13185-13193.
4. Etard, C., et al. 2008. Shuttling of the chaperones Unc45b and Hsp90a between the A band and the Z line of the myofibril. *J. Cell Biol.* 180: 1163-1175.
5. Srikakulam, R., et al. 2008. Unc45b forms a cytosolic complex with Hsp90 and targets the unfolded myosin motor domain. *PLoS ONE* 3: e2137.
6. Bernick, E.P., et al. 2010. Knockdown and overexpression of Unc-45b result in defective myofibril organization in skeletal muscles of zebrafish embryos. *BMC Cell Biol.* 11: 70.
7. Geach, T.J. and Zimmerman, L.B. 2010. Paralysis and delayed Z-disc formation in the *Xenopus tropicalis* unc45b mutant dicky ticker. *BMC Dev. Biol.* 10: 75.

CHROMOSOMAL LOCATION

Genetic locus: UNC45B (human) mapping to 17q12.

PRODUCT

UNC45B 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see UNC45B shRNA Plasmid (h): sc-94067-SH and UNC45B shRNA (h) Lentiviral Particles: sc-94067-V as alternate gene silencing products.

For independent verification of UNC45B (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-94067A, sc-94067B and sc-94067C.

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

UNC45B siRNA (h) is recommended for the inhibition of UNC45B 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 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 UNC45B gene expression knockdown using RT-PCR Primer: UNC45B (h)-PR: sc-94067-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 for detailed protocols and support products.