SANTA CRUZ BIOTECHNOLOGY, INC.

KY peptidase siRNA (h): sc-78084

BACKGROUND

Filamins are actin-binding proteins which contain an N-terminal Actin-binding domain, a membrane glycoprotein domain and a C-terminal self-association domain. Filamins help reshape the cytoskeleton by forming flexible cross-links between two actin filaments, which maintain membrane integrity during force application. Filamin 2, also designated Filamin C, is a skeletal- and cardiac-muscle specific form of Filamin, which binds γ-sarcoglycan and δ-sarcoglycan, but not α-sarcoglycan or β-sarcoglycan. KY peptidase (Kyphoscoliosis peptidase) is a 561 amino acid cytoskeleton protease that interacts with several sarcomeric cytoskeletal proteins, including Filamin 2. KY peptidase probably plays a role in the maturation, function and stabilization of the neuromuscular junction. KY-null mouse mutants exhibit distinct irregular subceullular Filamin 2 localization, suggesting that KY peptidase deficiency may be the cause of several types of limb-girdle muscular dystrophies.

REFERENCES

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3. Thompson, T.G., et al. 2000. Filamin 2 (FLN2): A muscle-specific sarcoglycan interacting protein. J. Cell Biol. 148: 115-126.
4. Blanco, G., et al. 2001. The kyphoscoliosis (ky) mouse is deficient in hypertrophic responses and is caused by a mutation in a novel muscle-specific protein. Hum. Mol. Genet. 10: 9-16.
5. Murray, J.T., et al. 2004. Identification of filamin C as a new physiological substrate of PKBα using KESTREL. Biochem. J. 384: 489-494.
6. Beatham, J., et al. 2004. Filamin C interacts with the muscular dystrophy KY protein and is abnormally distributed in mouse KY deficient muscle fibres. Hum. Mol. Genet. 13: 2863-2874.
7. Anastasi, G., et al. 2004. Evaluation of sarcoglycans, vinculin-talin-integrin system and filamin2 in α- and γ-sarcoglycanopathy: an immunohistochemical study. Int. J. Mol. Med. 14: 989-999.

CHROMOSOMAL LOCATION

Genetic locus: KY (human) mapping to 3q22.2.

PRODUCT

KY peptidase 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 KY peptidase shRNA Plasmid (h): sc-78084-SH and KY peptidase shRNA (h) Lentiviral Particles: sc-78084-V as alternate gene silencing products.

For independent verification of KY peptidase (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-78084A, sc-78084B and sc-78084C.

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

KY peptidase siRNA (h) is recommended for the inhibition of KY peptidase 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KY peptidase gene expression knockdown using RT-PCR Primer: KY peptidase (h)-PR: sc-78084-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.

PROTOCOLS

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