SANTA CRUZ BIOTECHNOLOGY, INC.

COLQ siRNA (m): sc-72965

BACKGROUND

COLQ (collagen-like tail subunit (single strand of homotrimer) of asymmetric acetylcholinesterase), also known as EAD, is a 455 amino acid protein that localizes to the end plate of skeletal muscle. COLQ anchors the catalytic subunits of asymmetric AChE (acetylcholinesterase) to the basal lamina at the neuromuscular junctions of vertebrates. Mutations of COLQ lead to congenital myasthenic syndromes which are rare autosomal recessive diseases characterized by general weakness increased by exertion, ophthalmoplegia and refractoriness to anticholinesterase drugs. Eight isoforms exist due to alternative splicing events.

REFERENCES

1. Shapira, Y.A., et al. 2002. Three novel COLQ mutations and variation of phenotypic expressivity due to G240X. Neurology 58: 603-609.
2. Ishigaki, K., et al. 2003. Two novel mutations in the COLQ gene cause endplate acetylcholinesterase deficiency. Neuromuscul. Disord. 13: 236-244.
3. Lee, H.H., et al. 2004. Transcriptional regulation of acetylcholinesterase-associated collagen COIQ: differential expression in fast and slow twitch muscle fibers is driven by distinct promoters. J. Biol. Chem. 279: 27098-27107.
4. Ting, A.K., et al. 2005. Transcriptional regulation of acetylcholinesterase-associated collagen COIQ in fast- and slow-twitch muscle fibers. Chem. Biol. Interact. 157-158: 63-70.
5. Girard, E., et al. 2006. Remodeling of the neuromuscular junction in mice with deleted exons 5 and 6 of acetylcholinesterase. J. Mol. Neurosci. 30: 99-100.
6. Tsim, K.W., et al. 2006. Transcriptional control of different acetylcholinesterase subunits in formation and maintenance of vertebrate neuromuscular junctions. J. Mol. Neurosci. 30: 189-192.
7. Schreiner, F., et al. 2007. Novel COLQ mutation 950delC in synaptic congenital myasthenic syndrome and symptomatic heterozygous relatives. Neuromuscul. Disord. 17: 262-265.

CHROMOSOMAL LOCATION

Genetic locus: Colq (mouse) mapping to 14 B.

PRODUCT

COLQ 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see COLQ shRNA Plasmid (m): sc-72965-SH and COLQ shRNA (m) Lentiviral Particles: sc-72965-V as alternate gene silencing products.

For independent verification of COLQ (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-72965A, sc-72965B and sc-72965C.

RESEARCH USE

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

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

COLQ siRNA (m) is recommended for the inhibition of COLQ 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 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 COLQ gene expression knockdown using RT-PCR Primer: COLQ (m)-PR: sc-72965-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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