SANTA CRUZ BIOTECHNOLOGY, INC.

COLQ (N-15): sc-69155

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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2. Ishigaki, K., et al. 2003. Two novel mutations in the COLQ gene cause end-plate acetylcholinesterase deficiency. Neuromuscul. Disord. 13: 236-244.
3. Lee, H.H., et al. 2004. Transcriptional regulation of acetylcholinesterase-associated collagen ColQ: 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 ColQ in fast- and slow-twitch muscle fibers. Chem. Biol. Interact. 157-158: 63-70.
6. 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.
5. 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.
8. Mihaylova, V., et al. 2008. Clinical and molecular genetic findings in COLQ-mutant congenital myasthenic syndromes. Brain 131: 747-759.
9. Lau, F.T., et al. 2008. Myocyte enhancer factor 2 mediates acetylcholine-induced expression of acetylcholinesterase-associated collagen ColQ in cultured myotubes. Mol. Cell. Neurosci. 39: 429-438.

CHROMOSOMAL LOCATION

Genetic locus: COLQ (human) mapping to 3p25.1; Colq (mouse) mapping to 14 B.

SOURCE

COLQ (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of COLQ of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-69155 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COLQ (N-15) is recommended for detection of COLQ of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

COLQ (N-15) is also recommended for detection of COLQ in additional species, including equine.

Suitable for use as control antibody for COLQ siRNA (h): sc-72964, COLQ siRNA (m): sc-72965, COLQ shRNA Plasmid (h): sc-72964-SH, COLQ shRNA Plasmid (m): sc-72965-SH, COLQ shRNA (h) Lentiviral Particles: sc-72964-V and COLQ shRNA (m) Lentiviral Particles: sc-72965-V.

Molecular Weight of COLQ isoforms I-VIII: 28-48 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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