

COX8c (E-11): sc-131463

BACKGROUND

The cytochrome c oxidase (COX) family of proteins function as the final electron donor in the respiratory chain to drive a proton gradient across the inner mitochondrial membrane, ultimately resulting in the production of water and ATP. The mammalian COX apoenzyme is a dimer, with each monomer consisting of 13 subunits, some of which are mitochondrial and some of which are nuclear. The COX8 (cytochrome c oxidase subunit VIII) subunits are nuclear and have muscle and non-muscle-specific isoforms. COX8 exists as three isoforms: COX8a, a liver and heart isoform, Cox8b, a heart-specific isoform, and Cox8c, whose expression pattern has yet to be elucidated. All three Cox8 isoforms exist as components of the COX complex and play an important role in electron transport.

REFERENCES

- Patterson, T.E., et al. 1986. COX8, the structural gene for yeast cytochrome c oxidase subunit VIII. DNA sequence and gene disruption indicate that subunit VIII is required for maximal levels of cellular respiration and is derived from a precursor which is extended at both its NH₂ and COOH termini. *J. Biol. Chem.* 261: 17192-17197.
- Rizzuto, R., et al. 1989. A gene specifying subunit VIII of human cytochrome c oxidase is localized to chromosome 11 and is expressed in both muscle and non-muscle tissues. *J. Biol. Chem.* 264: 10595-10600.
- Bonne, G., et al. 1995. The COX8 gene is not the disease gene of the CMH4 locus in familial hypertrophic cardiomyopathy. *J. Med. Genet.* 32: 670-671.
- Lomax, M.I., et al. 1995. Structure and chromosomal location of the bovine gene for the heart muscle isoform of cytochrome c oxidase subunit VIII. *Mamm. Genome* 6: 118-122.
- Hüttemann, M., et al. 2003. A third isoform of cytochrome c oxidase subunit VIII is present in mammals. *Gene* 312: 95-102.
- Khalimonchuk, O., et al. 2005. Biogenesis of cytochrome c oxidase. *Mitochondrion* 5: 363-388.
- Fontanesi, F., et al. 2008. Cytochrome c oxidase biogenesis: new levels of regulation. *IUBMB Life* 60: 557-568.
- Barrientos, A., et al. 2009. Suppression mechanisms of COX assembly defects in yeast and human: insights into the COX assembly process. *Biochim. Biophys. Acta* 1793: 97-107.

CHROMOSOMAL LOCATION

Genetic locus: Cox8c (mouse) mapping to 12 E.

SOURCE

COX8c (E-11) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of COX8c of mouse origin.

STORAGE

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

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-131463 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COX8c (E-11) is recommended for detection of COX8c of mouse 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); non cross-reactive with other COX family members.

Suitable for use as control antibody for COX8c siRNA (m): sc-142535, COX8c shRNA Plasmid (m): sc-142535-SH and COX8c shRNA (m) Lentiviral Particles: sc-142535-V.

Molecular Weight of COX8c: 8 kDa.

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.

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.