SANTA CRUZ BIOTECHNOLOGY, INC.

COX6b2 (P-15): sc-79412

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. 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. Localized to the intermembrane space, COX6b2 (cytochrome c oxidase subunit 6B2), also known as Cytochrome c oxidase subunit VIb isoform 2 and cancer/testis antigen 59, is a 88 amino acid mitochondrial protein that is responsible for joining the 2 COX monomers to form the COX dimer. COX6b2 is specifically expressed in testis and is found to be upregulated in certain cancer cell lines.

REFERENCES

1. Taanman, J.W., et al. 1989. Nucleotide sequence of cDNA encoding subunit VIb of human cytochrome c oxidase. Nucleic Acids Res. 17: 1766-1766.
2. Carrero-Valenzuela, R.D., et al. 1991. Human cytochrome c oxidase subunit VIb: characterization and mapping of a multigene family. Gene 102: 229-236.
3. Taanman, J.W., et al. 1991. Identification of three human pseudogenes for subunit VIb of cytochrome c oxidase: a molecular record of gene evolution. Gene 102: 237-244.
4. Grossman, L.I., et al. 1997. Nuclear genes for cytochrome c oxidase. Biochim. Biophys. Acta 1352: 174-192.
5. Ohtsu, K., et al. 2001. Characterization and expression of the genes for cytochrome c oxidase subunit VIb (COX6b) from rice and *Arabidopsis thaliana*. Gene 264: 233-239.
6. Da Cruz, S., et al. 2003. Proteomic analysis of the mouse liver mitochondrial inner membrane. J. Biol. Chem. 278: 41566-41571.
7. Hüttemann, M., et al. 2003. Cytochrome c oxidase of mammals contains a testes-specific isoform of subunit VIb—the counterpart to testes-specific cytochrome c? Mol. Reprod. Dev. 66: 8-16.
8. Chen, Y.T., et al. 2005. Identification of cancer/testis-antigen genes by massively parallel signature sequencing. Proc. Natl. Acad. Sci. USA 102: 7940-7945.

CHROMOSOMAL LOCATION

Genetic locus: Cox6b2 (mouse) mapping to 7 A1.

SOURCE

COX6b2 (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of COX6b2 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-79412 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COX6b2 (P-15) is recommended for detection of COX6b2 of mouse and rat 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).

Suitable for use as control antibody for COX6b2 siRNA (m): sc-72985, COX6b2 shRNA Plasmid (m): sc-72985-SH and COX6b2 shRNA (m) Lentiviral Particles: sc-72985-V.

Molecular Weight of COX6b2: 11 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.

SELECT PRODUCT CITATIONS

1. Esakky, P., et al. 2013. Molecular analysis of cell type-specific gene expression profile during mouse spermatogenesis by laser microdissection and qRT-PCR. Reprod. Sci. 20: 238-252.

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.