SANTA CRUZ BIOTECHNOLOGY, INC.

COX4 (E-23): sc-133478

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Cytochrome c oxidase (COX) functions as the terminal oxidase of the respiratory chain that uses cytochrome c as an electron donor to drive a proton gradient across the inner mitochondrial membrane. The mammalian COX apoenzyme is a heteromer consisting of three mitochondrial encoded catalytic subunits and several nuclear gene encoded structural subunits. COX contains two iron-coordination sites and two copper-coordination sites. Cytochrome c oxidase IV (COX4) is a nuclear-encoded subunit of COX that may play a role in regulating COX activity. COX4 is expressed ubiquitously in adult human tissue with the strongest levels of expression in the pancreas and moderate expression levels in heart, skeletal muscle and placenta.

REFERENCES

1. Steffens, G.J. and Buse, G. 1979. Studies on cytochrome c oxidase, IV [1-3]. Primary structure and function of subunit II. Hoppe-Seyler's Z. Physiol. Chem. 360: 613-619.
2. Brown, W.M., et al. 1982. Mitochondrial DNA sequences of primates: tempo and mode of evolution. J. Mol. Evol. 18: 225-239.
3. Zeviani, M., et al. 1987. Isolation of a cDNA clone encoding subunit IV of human cytochrome c oxidase. Gene 55: 205-217.
4. Lomax, M.I., et al. 1992. Rapid evolution of the human gene for cytochrome c oxidase subunit IV. Proc. Natl. Acad. Sci. USA 89: 5266-5270.

CHROMOSOMAL LOCATION

Genetic locus: COX4I1 (human) mapping to 16q24.1.

SOURCE

COX4 (E-23) is a Protein A purified rabbit polyclonal antibody raised against synthetic COX4 peptide of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

COX4 (E-23) is recommended for detection of COX4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 COX4 siRNA (h): sc-72074, COX4 shRNA Plasmid (h): sc-72074-SH and COX4 shRNA (h) Lentiviral Particles: sc-72074-V.

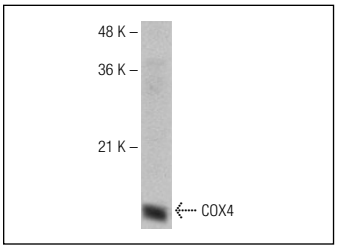
Molecular Weight of COX4: 17 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human heart extract: sc-363763 or human kidney extract: sc-363764.

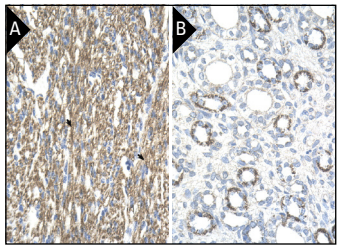
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



COX4 (E-23): sc-133478. Western blot analysis of COX4 expression in Hep G2 whole cell lysate.



COX4 (E-23): sc-133478. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human heart tissue (**A**) and human kidney tissue (**B**) showing cytoplasmic localization.

STORAGE

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

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.