

COX4 (D-20): sc-69359

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]. Prim 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.

CHROMOSOMAL LOCATION

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

SOURCE

COX4 (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of COX4 of human origin.

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-69359 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

COX4 (D-20) is recommended for detection of cytochrome c oxidase IV of human and rat 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).

COX4 (D-20) is also recommended for detection of cytochrome c oxidase IV in additional species, including equine, canine, bovine and porcine.

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.

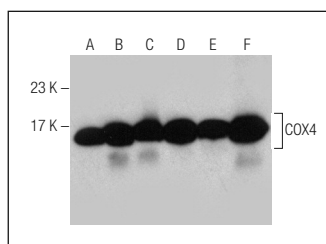
Molecular Weight of COX4: 17 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A-673 cell lysate: sc-2414 or MOLT-4 cell lysate: sc-2233.

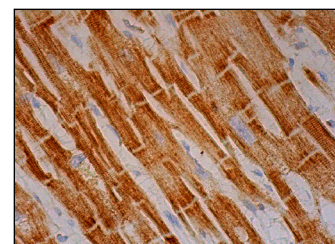
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



COX4 (D-20): sc-69359. Western blot analysis of COX4 expression in A-431 (A), MOLT-4 (B), Raji (C), MCF7 (D) and A-673 (E) whole cell lysates and human skeletal muscle tissue extract (F).



COX4 (D-20): sc-69359. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Vila-Bedmar, R., et al. 2012. GRK2 contribution to the regulation of energy expenditure and brown fat function. *FASEB J.* 26: 3503-3514.
2. Koltai, E., et al. 2012. Age-associated declines in mitochondrial biogenesis and protein quality control factors are minimized by exercise training. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 303: R127-R134.

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.



Try **COX4 (F-8): sc-376731**, our highly recommended monoclonal alternative to COX4 (D-20). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **COX4 (F-8): sc-376731**.