

COX4 (20E8): sc-58348

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

- Steffens, G.J., et al. 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.
- 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; Cox4i1 (mouse) mapping to 8 E1.

SOURCE

COX4 (20E8) is a mouse monoclonal antibody raised against purified mitochondrial complex IV of bovine origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

COX4 (20E8) is recommended for detection of cytochrome c oxidase IV of mouse, rat and 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

COX4 (20E8) is also recommended for detection of cytochrome c oxidase IV in additional species, including bovine.

Suitable for use as control antibody for COX4 siRNA (h): sc-72074, COX4 siRNA (m): sc-72075, COX4 shRNA Plasmid (h): sc-72074-SH, COX4 shRNA Plasmid (m): sc-72075-SH, COX4 shRNA (h) Lentiviral Particles: sc-72074-V and COX4 shRNA (m) Lentiviral Particles: sc-72075-V.

Molecular Weight of COX4: 17 kDa.

Positive Controls: Human heart extract or mouse brain extract: sc-2253.

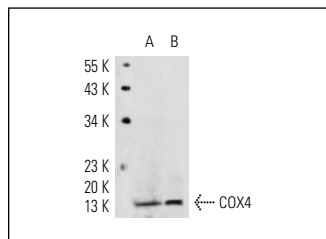
RESEARCH USE

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

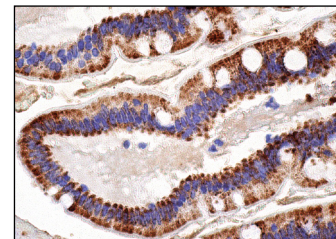
STORAGE

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

DATA



COX4 (20E8): sc-58348. Western blot analysis of COX4 expression in human heart (A) and mouse brain (B) tissue extracts.



COX4 (20E8): sc-58348. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Petrovic, N., et al. 2008. Thermogenically competent nonadrenergic recruitment in brown preadipocytes by a PPAR γ agonist. Am. J. Physiol. Endocrinol. Metab. 295: 287-296.
- Sano, E., et al. 2008. Novel tyrosine phosphorylated and cardiolipin-binding protein CLPABP functions as mitochondrial RNA granule. Biochim. Biophys. Acta 1783: 1036-1047.
- Pfister, J.A., et al. 2008. Opposing effects of sirtuins on neuronal survival: SIRT1-mediated neuroprotection is independent of its deacetylase activity. PLoS ONE 3: e4090.
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- Amendola, D., et al. 2009. Myc down-regulation affects cyclin D1/Cdk4 activity and induces apoptosis via Smac/Diablo pathway in an astrocytoma cell line. Cell Prolif. 42: 94-109.
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- Landriscina, M., et al. 2010. Mitochondrial chaperone Trap1 and the calcium binding protein Sorcin interact and protect cells against apoptosis induced by antiproliferative agents. Cancer Res. 70: 6577-6586.
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- Miller B.F., et al. 2011. A comprehensive assessment of mitochondrial protein synthesis and cellular proliferation with age and caloric restriction. Aging Cell 11: 150-161.
- Amoroso, M.R., et al. 2011. TRAP1 and the proteasome regulatory particle TBP7/Rpt3 interact in the endoplasmic reticulum and control cellular ubiquitination of specific mitochondrial proteins. Cell Death Differ. 19: 592-604.