SANTA CRUZ BIOTECHNOLOGY, INC.

COX6c (H-9): sc-390414

BACKGROUND

Cytochrome c oxidase subunit VIc (COX6c), also designated oxidative phosphorylation (OxPhos) complex IV, subunit VIc, is one of the structural subunits of the mitochondrial respiratory chain encoded by nuclear genes. Cytochrome c oxidase is a hetero-oligomeric enzyme composed of 13 subunits localized to the mitochondrial inner membrane and is the terminal enzyme complex of the electron transport chain. Complex IV catalyzes the reduction of molecular oxygen to water. The energy released is used to transport protons across the mitochondrial inner membrane. The resulting electrochemical gradient is necessary for the synthesis of ATP. Complex IV contains 13 polypeptides; COX1, COX2 and COX3 (MTCO1-3) make up the catalytic core and are encoded by mtDNA while subunits IV, Va, Vb, VIa, VIb, VIc, VIIa, VIIb, VIIc and VIII are nuclear-encoded. The nuclear-encoded subunits function in the regulation and assembly of the complex. The human COX6c protein shares 77% sequence identity with mouse COX6c. Studies indicate that the COX6c gene is upregulated in prostate cancer cells. The human COX6c gene maps to chromosome 8q22.2; a pseudogene, COX6CP1 has been found on chromosome 16p12.

REFERENCES

1. Kadenbach, B., et al. 1983. Separation of mammalian cytochrome c oxidase into 13 polypeptides by a sodium dodecyl sulfate-gel electrophoretic procedure. Anal. Biochem. 129: 517-521.
2. Capaldi, R.A., et al. 1983. Structure of cytochrome c oxidase. Biochim. Biophys. Acta 726: 135-148.
3. Shoffner, J.M. and Wallace, D.C. 1995. Oxidative Phosphorylation Diseases. In Scriver, C.R., Beaudet, A.L., Sly, W.S., Valle, D., eds., The Metabolic and Molecular Basis of Inherited Disease. New York: McGraw-Hill, 1535-609.

CHROMOSOMAL LOCATION

Genetic locus: COX6C (human) mapping to 8q22.2; Cox6c (mouse) mapping to 15 B3.1.

SOURCE

COX6c (H-9) is a mouse monoclonal antibody raised against amino acids 1-75 representing full length COX6c of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

COX6c (H-9) is available conjugated to agarose (sc-390414 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390414 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390414 PE), fluorescein (sc-390414 FITC), Alexa Fluor® 488 (sc-390414 AF488), Alexa Fluor® 546 (sc-390414 AF546), Alexa Fluor® 594 (sc-390414 AF594) or Alexa Fluor® 647 (sc-390414 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390414 AF680) or Alexa Fluor® 790 (sc-390414 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

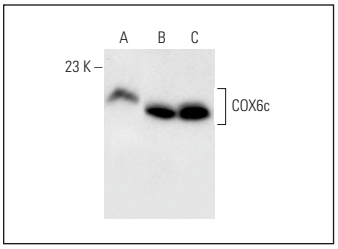
COX6c (H-9) is recommended for detection of COX6c of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 COX6c siRNA (h): sc-72172, COX6c siRNA (m): sc-142529, COX6c shRNA Plasmid (h): sc-72172-SH, COX6c shRNA Plasmid (m): sc-142529-SH, COX6c shRNA (h) Lentiviral Particles: sc-72172-V and COX6c shRNA (m) Lentiviral Particles: sc-142529-V.

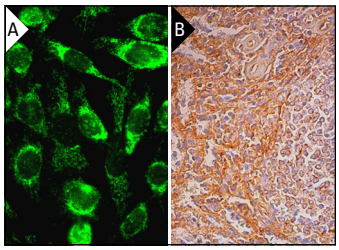
Molecular Weight of COX6c: 9 kDa.

Positive Controls: human heart extract: sc-363763, mouse heart extract: sc-2254 or rat heart extract: sc-2393.

DATA



COX6c (H-9): sc-390414. Western blot analysis of COX6c expression in human heart (**A**), mouse heart (**B**) and rat heart (**C**) tissue extracts.



COX6c (H-9): sc-390414. Immunofluorescence staining of formalin-fixed SW480 cells showing mitochondrial localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing cytoplasmic staining of cells in white pulp and cytoplasmic and membrane staining of cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Poidatz, D., et al. 2015. Involvement of estrogen-related receptor-γ and mitochondrial content in intrauterine growth restriction and preeclampsia. Fertil. Steril. 104: 483-490.
2. Jang, S.C., et al. 2019. Mitochondrial protein enriched extracellular vesicles discovered in human melanoma tissues can be detected in patient plasma. J. Extracell. Vesicles 8: 1635420.

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 for detailed protocols and support products.