SANTA CRUZ BIOTECHNOLOGY, INC.

cytochrome c1 (A-5): sc-514435

BACKGROUND

Cytochrome c1 is a component of the ubiquinol-cytochrome c reductase complex, which is a respiratory chain that generates an electrochemical potential, coupled to ATP synthesis. Specifically, cytochrome c transfers electrons from the cytochrome bc1 complex to cytochrome c oxidase by transiently binding to the complex. The bc1 complex contains 11 subunits: 3 respiratory subunits (cytochrome b, cytochrome c1 and Rieske/UQCRFS1), 2 core proteins (UQCRC1/QCR1 and UQCRC2/QCR2) and 6 low-molecular weight proteins (UQCRH/QCR6, UQCRB/QCR7, UQCRQ/QCR8, UQCR10/QCR9, UQCR11/QCR10 and a cleavage product of Rieske/UQCRFS1). Cytochrome c1 binds one heme per subunit as a result of a mutation-induced collapse of the diheme cytochrome structure. The cytochrome c1 gene is thought to be regulated by E2F and Sp1 transcription factors.

REFERENCES

1. Nishikimi, M., et al. 1987. Isolation of a cDNA clone for human cytochrome c1 from a λ gt11 expression library. Biochem. Biophys. Res. Commun. 145: 34-39.
2. Suzuki, H., et al. 1990. Common protein-binding sites in the 5'-flanking regions of human genes for cytochrome c1 and ubiquinone-binding protein. J. Biol. Chem. 265: 8159-8163.

CHROMOSOMAL LOCATION

Genetic locus: CYC1 (human) mapping to 8q24.3; Cyc1 (mouse) mapping to 15 D3.

SOURCE

cytochrome c1 (A-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 150-170 within an internal region of cytochrome c1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cytochrome c1 (A-5) is available conjugated to agarose (sc-514435 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514435 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514435 PE), fluorescein (sc-514435 FITC), Alexa Fluor® 488 (sc-514435 AF488), Alexa Fluor® 546 (sc-514435 AF546), Alexa Fluor® 594 (sc-514435 AF594) or Alexa Fluor® 647 (sc-514435 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514435 AF680) or Alexa Fluor® 790 (sc-514435 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514435 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

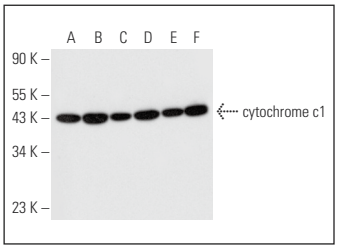
cytochrome c1 (A-5) is recommended for detection of cytochrome c1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, 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 cytochrome c1 siRNA (h): sc-77573, cytochrome c1 siRNA (m): sc-142761, cytochrome c1 shRNA Plasmid (h): sc-77573-SH, cytochrome c1 shRNA Plasmid (m): sc-142761-SH, cytochrome c1 shRNA (h) Lentiviral Particles: sc-77573-V and cytochrome c1 shRNA (m) Lentiviral Particles: sc-142761-V.

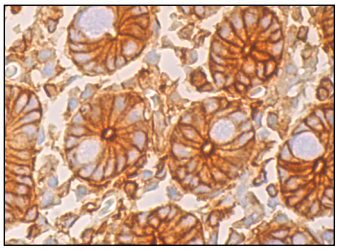
Molecular Weight of cytochrome c1: 35 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HeLa whole cell lysate: sc-2200 or A-431 whole cell lysate: sc-2201.

DATA



cytochrome c1 (A-5): sc-514435. Western blot analysis of cytochrome c1 expression in A-431 (**A**), HUV-EC-C (**B**), Jurkat (**C**), MCF7 (**D**), HeLa (**E**) and U-251-MG (**F**) whole cell lysates.



C11orf24 (E-11): sc-514397. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic and membrane staining of glandular cells. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

SELECT PRODUCT CITATIONS

1. Wang, S., et al. 2016. Propofol protects against the neurotoxicity of 1-methyl-4-phenylpyridinium. Mol. Med. Rep. 13: 309-314.
2. Kuramoto, K., et al. 2020. Verteporfin inhibits oxidative phosphorylation and induces cell death specifically in glioma stem cells. FEBS J. 287: 2023-2036.
3. Shakova, F.M., et al. 2021. Protective effects of PGC-1α activators on ischemic stroke in a rat model of photochemically induced thrombosis. Brain Sci. 11: 325.
4. Carrillo Sanchez, B., et al. 2022. GFP-tagging of extracellular vesicles for rapid process development. Biotechnol. J. 17: e2100583.
5. Alonso-Crisostomo, L., et al. 2024. Testicular germ cell tumour cells release microRNA-containing extracellular vesicles that induce phenotypic and genotypic changes in cells of the tumour microenvironment. Int. J. Cancer 154: 372-388.

RESEARCH USE

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