SANTA CRUZ BIOTECHNOLOGY, INC.

cytochrome c (6H2): sc-13561

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cytochrome c is a well characterized mobile electron transport protein that is essential to energy conversion in all aerobic organisms. In mammalian cells, this highly conserved protein is normally localized to the mitochondrial intermembrane space. More recent studies have identifed cytosolic cytochrome c as a factor necessary for activation of apoptosis. During apoptosis, cytochrome c is translocated from the mitochondrial membrane to the cytosol, where it is required for activation of caspase-3 (CPP32). Overexpression of Bcl-2 has been shown to prevent the translocation of cytochrome c, thereby blocking the apoptotic process. Overexpression of Bax has been shown to induce the release of cytochrome c and to induce cell death. The release of cytochrome c from the mitochondria is thought to trigger an apoptotic cascade, whereby Apaf-1 binds to Apaf-3 (caspase-9) in a cytochrome c-dependent manner, leading to caspase-9 cleavage of caspase-3.

CHROMOSOMAL LOCATION

Genetic locus: CYCS (human) mapping to 7p15.3; Cycs (mouse) mapping to 6 B2.3, Cyct (mouse) mapping to 2 C3.

SOURCE

cytochrome c (6H2) is a mouse monoclonal antibody raised against full length rat protein.

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 c (6H2) is available conjugated to agarose (sc-13561 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-13561 PE), fluorescein (sc-13561 FITC), Alexa Fluor® 488 (sc-13561 AF488), Alexa Fluor® 546 (sc-13561 AF546), Alexa Fluor® 594 (sc-13561 AF594) or Alexa Fluor® 647 (sc-13561 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13561 AF680) or Alexa Fluor® 790 (sc-13561 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, cytochrome c (6H2) is available conjugated to Alexa Fluor® 405 (sc-13561 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

cytochrome c (6H2) is recommended for detection of native form of cytochrome c 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), flow cytometry (1 µg per 1 x 10^6 cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

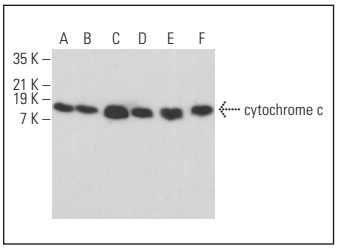
Suitable for use as control antibody for cytochrome c siRNA (h): sc-29292, cytochrome c-s siRNA (m): sc-29293, cytochrome c shRNA Plasmid (h): sc-29292-SH, cytochrome c-s shRNA Plasmid (m): sc-29293-SH, cytochrome c shRNA (h) Lentiviral Particles: sc-29292-V and cytochrome c-s shRNA (m) Lentiviral Particles: sc-29293-V.

Molecular Weight of cytochrome c: 15 kDa.

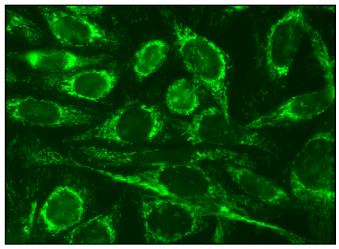
STORAGE

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

DATA



cytochrome c (6H2): sc-13561. Western blot analysis of cytochrome c expression in PC-12 (**A**), C6 (**B**), Neuro-2A (**C**), RAW 264.7 (**D**), SK-N-SH (**E**) and Hep G2 (**F**) whole cell lysates.



cytochrome c (6H2) Alexa Fluor® 488: sc-13561 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing mitochondrial localization. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Akay, C., et al. 2003. Arsenic trioxide selectively induces early and extensive apoptosis via the APO2/caspase-8 pathway engaging the mitochondrial pathway in myeloma cells with mutant p53. Cell Cycle 2: 358-368.
2. Vaughan, R.A., et al. 2013. Tumor necrosis factor alpha increases aerobic glycolysis and reduces oxidative metabolism in prostate epithelial cells. Prostate 73: 1538-1546.
3. Menon, S., et al. 2014. Spatial control of the TSC complex integrates Insulin and nutrient regulation of mTORC1 at the lysosome. Cell 156: 771-785.
4. Liu, J., et al. 2015. Tumor-targeting novel manganese complex induces Ros-mediated apoptotic and autophagic cancer cell death. Int. J. Mol. Med. 35: 607-616.
5. Bosch, R.V., et al. 2016. Hemolin triggers cell survival on fibroblasts in response to serum deprivation by inhibition of apoptosis. Biomed. Pharmacother. 82: 537-546.
6. Cabral, B.L.S., et al. 2017. A novel chalcone derivative, LQFM064, induces breast cancer cells death via p53, p21, KIT and PDGFRA. Eur. J. Pharm. Sci. 107: 1-15.
7. Biernacki, M., et al. 2018. The effect of long-term administration of fatty acid amide hydrolase inhibitor URB597 on oxidative metabolism in the heart of rats with primary and secondary hypertension. Molecules 23: 2350.
8. Oh, Y., et al. 2019. Sea squirt *(Halocynthia roretzi)* hydrolysates induce apoptosis in human colon cancer HT-29 cells through activation of reactive oxygen species. Nutr. Cancer 71: 118-127.
9. Li, T., et al. 2020. Overexpression of apoptosis inducing factor aggravates hypoxic-ischemic brain injury in neonatal mice. Cell Death Dis. 11: 77.

RESEARCH USE

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