

## cytochrome c (7H8): sc-13560



The Power to Question

**BACKGROUND**

Cytochrome c is a well characterized mobile electron transport protein 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 identified 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 (7H8) is a mouse monoclonal antibody raised against full length denatured cytochrome c of human origin.

**PRODUCT**

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

cytochrome c (7H8) is available conjugated to agarose (sc-13560 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to either phycoerythrin (sc-13560 PE), fluorescein (sc-13560 FITC), Alexa Fluor® 488 (sc-13560 AF488), Alexa Fluor® 546 (sc-13560 AF546), Alexa Fluor® 594 (sc-13560 AF594) or Alexa Fluor® 647 (sc-13560 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13560 AF680) or Alexa Fluor® 790 (sc-13560 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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**APPLICATIONS**

cytochrome c (7H8) is recommended for detection of cytochrome c of mouse, rat, human, equine and avian 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).

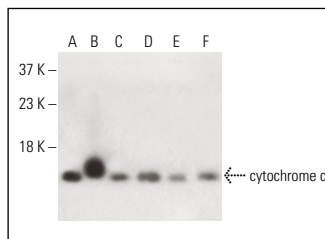
Suitable for use as control antibody for cytochrome c siRNA (h): sc-29292, cytochrome c shRNA Plasmid (h): sc-29292-SH and cytochrome c shRNA (h) Lentiviral Particles: sc-29292-V.

Molecular Weight of cytochrome c: 15 kDa.

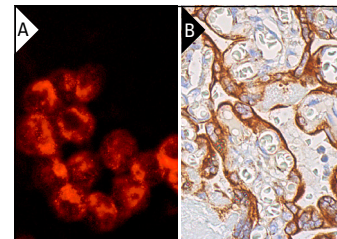
Positive Controls: HL-60 whole cell lysate: sc-2209, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

**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 (7H8): sc-13560. Western blot analysis of cytochrome c expression in HL-60 (A), K-562 (B), HeLa (C), SK-BR-3 (D), SH-SY5Y (E) and Ca Ski (F) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



cytochrome c (7H8): sc-13560. Immunofluorescence staining of methanol-fixed K-562 cells showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and membrane staining of trophoblastic cells (B).

**SELECT PRODUCT CITATIONS**

- Varga, E., et al. 2004. Inhibition of ischemia/reperfusion-induced damage by dexamethasone in isolated working rat hearts: the role of cytochrome c release. *Life Sci.* 75: 2411-2423.
- Lee, J.E., et al. 2016. Multiple dynamin family members collaborate to drive mitochondrial division. *Nature* 540: 139-143.
- Sun, G., et al. 2017. A molecular signature for anastasis, recovery from the brink of apoptotic cell death. *J. Cell Biol.* 216: 3355-3368.
- Sheikh, T., et al. 2018. Hexokinase 2 and nuclear factor erythroid 2-related factor 2 transcriptionally coactivate xanthine oxidoreductase expression in stressed glioma cells. *J. Biol. Chem.* 293: 4767-4777.
- Elkholi, R., et al. 2019. MDM2 integrates cellular respiration and apoptotic signaling through NDUFS1 and the mitochondrial network. *Mol. Cell* 74: 452-465.e7.
- Jinendiran, S., et al. 2020. Induction of mitochondria-mediated apoptosis and suppression of tumor growth in zebrafish xenograft model by cyclic dipeptides identified from *Exiguobacterium acetylicum*. *Sci. Rep.* 10: 13721.
- Park, S.K., et al. 2021. *Ecklonia cava* attenuates PM2.5-induced cognitive decline through mitochondrial activation and anti-inflammatory effect. *Mar. Drugs* 19: 131.
- Candito, M., et al. 2022. Neuron compatibility and antioxidant activity of barium titanate and lithium niobate nanoparticles. *Int. J. Mol. Sci.* 23: 1761.
- Tsai, M.C., et al. 2023. *Hibiscus* anthocyanins extracts induce apoptosis by activating AMP-activated protein kinase in human colorectal cancer cells. *Nutrients* 15: 3972.

**RESEARCH USE**

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