

cytochrome c (C-20): sc-8385

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, Cyt (mouse) mapping to 2 C3.

SOURCE

cytochrome c (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of cytochrome c of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8385 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

cytochrome c (C-20) is recommended for detection 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), 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).

cytochrome c (C-20) is also recommended for detection of cytochrome c in additional species, including equine, canine, bovine and porcine.

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

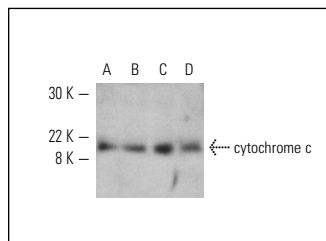
Molecular Weight of cytochrome c: 15 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, PC-12 cell lysate: sc-2250 or SK-N-MC cell lysate: sc-2237.

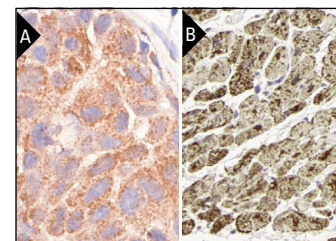
STORAGE

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

DATA



cytochrome c (C-20): sc-8385. Western blot analysis of cytochrome c expression in K-562 (A), SK-N-MC (B), RAW 264.7 (C) and PC-12 (D) whole cell lysates.



cytochrome c (C-20): sc-8385. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart tissue showing cytoplasmic staining of myocytes. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

- Del Bello, B., et al. 2004. Role of caspases-3 and -7 in Apaf-1 proteolytic cleavage and degradation events during cisplatin-induced apoptosis in melanoma cells. *Exp. Cell Res.* 293: 302-310.
- Sawtell, N.M. 2004. Comparison of herpes simplex virus reactivation in ganglia *in vivo* and in explants demonstrates quantitative and qualitative differences. *J. Virol.* 78: 7784-7794.
- Lee, S.H., et al. 2004. Effects of hsp70.1 gene knockout on the mitochondrial apoptotic pathway after focal cerebral ischemia. *Stroke* 35: 2195-2199.
- Viscomi, M.T., et al. 2012. Stimulation of autophagy by rapamycin protects neurons from remote degeneration after acute focal brain damage. *Autophagy* 8: 222-235.
- Lian, G., et al. 2012. Filamin A regulates neural progenitor proliferation and cortical size through Wee1-dependent Cdk1 phosphorylation. *J. Neurosci.* 32: 7672-7684.
- Bisicchia E., et al. 2013. Activation of type-2 cannabinoid receptor inhibits neuroprotective and antiinflammatory actions of glucocorticoid receptor α : when one is better than two. *Cell. Mol. Life Sci.* 70: 2191-2204.
- Joseph, A.M., et al. 2013. Short-term caloric restriction, resveratrol, or combined treatment regimens initiated in late-life alter mitochondrial protein expression profiles in a fiber-type specific manner in aged animals. *Exp. Gerontol.* 48: 858-868.
- Gutiérrez, A.G., et al. 2013. Copper(II) mixed chelate compounds induce apoptosis through reactive oxygen species in neuroblastoma cell line CHP-212. *J. Inorg. Biochem.* 126: 17-25.

RESEARCH USE

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