SANTA CRUZ BIOTECHNOLOGY, INC.

cytochrome c (H-104): sc-7159

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 (H-104) is a rabbit polyclonal antibody raised against amino acids 1-104 representing full length cytochrome c of equine origin.

PRODUCT

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

Available as agarose conjugate for immunoprecipitation, sc-7159 AC, 500 µg/ 0.25 ml agarose in 1 ml.

APPLICATIONS

cytochrome c (H-104) is recommended for detection of cytochrome c of mouse, rat, human and *Drosophila melanogaster* 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

cytochrome c (H-104) is also recommended for detection of cytochrome c in additional species, including equine, canine, bovine, porcine and avian.

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 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.

Positive Controls: HL-60 whole cell lysate: sc-2209, K-562 whole cell lysate: sc-2203 or PC-3 cell lysate: sc-2220.

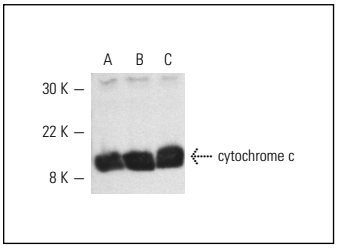
RESEARCH USE

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

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 (H-104): sc-7159. Western blot analysis of cytochrome c expression in HL-60 (**A**), K-562 (**B**) and PC-3 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Malek, N.P., et al. 2001. A mouse knock-in model exposes sequential proteolytic pathways that regulate $p27^{Kip1}$ in G_1 and S phase. Nature 413: 323-327.
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4. Ballot, C., et al. 2012. Regulation by survivin of cancer cell death induced by F14512, a polyamine-containing inhibitor of DNA topoisomerase II. Apoptosis 17: 364-376.
5. Ramachandiran, S., et al. 2012. The Smac mimetic RMT5265.2HCL induces apoptosis in EBV and HTLV-I associated lymphoma cells by inhibiting XIAP and promoting the mitochondrial release of cytochrome C and Smac. Leuk. Res. 36: 784-790.
6. Olivier-Van Stichelen, S., et al. 2012. The hexosamine biosynthetic pathway and O-GlcNAcylation drive the expression of β-catenin and cell proliferation. Am. J. Physiol. Endocrinol. Metab. 302: E417-E424.
7. Smeding, L., et al. 2012. Early myocardial dysfunction is not caused by mitochondrial abnormalities in a rat model of peritonitis. J. Surg. Res. 176: 178-184.
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9. Seal, S., et al. 2012. Vapor of volatile oils from Litsea cubeba seed induces apoptosis and causes cell cycle arrest in lung cancer cells. PLoS ONE 7: e47014.
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