

Product Specification Sheet

Monoclonal Cytochrome-C (Cyt-C) Antibody

Cat. # CYTC13-M

Mouse Monoclonal Anti-Horse Cyt-C ascites # 3

SIZE: 100 ul

Cytochrome-C enzyme is a nuclear encoded protein located in the mitochondria of all aerobic cells. It is involved in the electron transport system that functions in oxidative phosphorylation. It accepts electrons from cytochrome b and transfers them to cytochrome oxidase. In the process the iron of the heme group (which is identical to that of hemoglobin and myoglobin) shifts from the ferrous to the ferric state. Human cytochrome-c has 105-aa (~12 kDa).

Mitochondria play a pivotal role in the regulation of programmed cell death or apoptosis. Apoptosis is driven by two classes of specialized proteases known as caspases (Cysteine aspartase). The initiator caspases can be activated by self-cleavage. The effector caspases are then activated in an amplification cascade. Several key participants are released from the mitochondria that regulate apoptosis. The first such factor (Cytochrome-C) to be described binds to a cytoplasmic scaffolding protein called Apaf-1. Binding of the mitochondria factor allows Apaf-1 to form a ternary complex with, and activate, the initiator pro-caspase-9. Active caspase-9 then turns on downstream effector caspases, initiating apoptosis. Murine embryos devoid of cytochrome c died in utero by mid-gestation. In contrast, cells lacking cytochrome c demonstrated increased sensitivity to cell death signals triggered by TNF.

Source of Antigen and Antibodies

Antigen	Horse Cyt-C protein-KLH conjugate
Ab Host/type	Mouse, Monoclonal IgG1 Unpurified ascites (cat # CYT13-M)
2ab	Cat # 40320, goat anti-mouse IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20008-1, Mouse (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Ascites (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:500:1K for ascites). Human Cyt-C is ~14 Kda.

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:11k-1:10K for ascites).

Histochemistry & Immunofluorescence: Not tested. We recommend a dilution 1:250-1:1000 and paraformaldehyde fixed sections of tissues.

Recommended dilution and concn of antibody must be optimized for all techniques.

Specificity & Cross-reactivity

Anti-horse Cyt-C reacts with horse and human Cyt-C by western blotting and ELISA. Antibody cross-reactivity in various other species has not been studied.

General References: (1) Matubara H et al (1962) JBC 237, 3575-3576; Evans MJ et al (1988) PNAS 85, 9625-9629; Skulachev VP et al (1998) FEBS Lett. 423, 275-280; Nijhawan D et al (1997) Cell 91, 479-489; Liu X et al (1996) Cell 86, 147-157

*This product is for In vitro research use only.

Related material available from ADI

Antibodies AIF, Apaf-1, Cytochrome-C, Caspases, IAPs, Survivin, EPR-1, CARD, and other Apoptosis related proteins

Pre-made BrainBlot (study distribution of proteins in 12-distinct regions of rat/mouse brain)

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