ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Cytochrome-C (Cyt-C) Antibodies

Cat. # CYTC12-S	Rabbit Anti-bovine Cyt-C antiserum # 2	**SIZE**: 100 ul
Cat. # CYTC11-C	Rat Cyt-C purified protein for WB +ve control	**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 midgestation. In contrast, cells lacking cytochrome c demonstrated increased sensitivity to cell death signals triggered by TNF.

Source of Antigen and Antibodies

Antigen	bovine Cyt-C protein-KLH conjugate
Ab Host/type	Rabbit, Polyclonal Unpurified antiserum (cat # CYTC12-S)
2ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Purified rat Cyt-c protein for **western blot +ve control (Cat # CYTC11-C)**, it is supplied in SDS-PAGE sample buffer (reduced). Load ~10 ul/lane to visualize with appropriate antibodies. Store at –20oC in suitable aliquots. Avoid repeated thawing or heating.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified, undiluted)

100 ul/vial solution contains 0.05% sodium azide

50 ul/vial lyophilized powder

Reconstitute powder in the original vol. of water

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

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

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1:500:3K for antiserum

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: No 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-bovine Cyt-C reacts with mouse, rat, and bovine 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-disntict regions of rat/mouse brain)

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