Datasheet for ABIN4986817

Cytochrome C ELISA Kit

1 Image

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Overview

Quantity:	96 tests
Target:	Cytochrome C (CYCS)
Reactivity:	Human
Method Type:	Sandwich ELISA
Detection Range:	39-2500 pg/mL
Minimum Detection Limit:	39 pg/mL
Application:	ELISA

Product Details

Sample Type:	Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (citrate), Plasma (EDTA)
Analytical Method:	Quantitative
Detection Method:	Colorimetric
Specificity:	Natural and recombinant Human Cytochrome C Ligand
Sensitivity:	10 pg/mL
Material not included:	• Microplate reader. • Pipettes and pipette tips. • EP tube Deionized or distilled water.

Target Details

Target:	Cytochrome C (CYCS)

Target Details

Alternative Name:	Cytochrome C (CYCS Products)
Background:	Human somatic cytochrome c is a 15 kDa, 104 amino acid (aa) polypeptide that participates in both oxidative phosphorylation and apoptosis (1). It exhibits 91 % aa identity with mouse/rat cytochrome c (1-3). The molecule is initially synthesized in the cytoplasm as an extended, 12 kDa apoprotein. This molecule is subsequently transported across the outer mitochondrial membrane into the intermitochondrial space via a receptor-independent process. Here, it associates with an inner mitochondrial membrane enzyme called CCHL (cytochrome c heme lyase) which covalently attaches one heme molecule to the N-terminus, forming functional cytochrome c (4-6). This covalent attachment causes cytochrome c to undergo a conformational change to a globular molecule effectively trapping cytochrome c in the intermitochrondrial space.Within the intermitochondrial space, cytochrome c is actively involved in the oxidative phosphorylation pathway. It transports electrons from the cytochrome c reductase complex to the cytochrome c oxidase complex (7-9). This transports excess electrons along the respiratory pathway and generates ATP for energy-dependent processes. Alternatively, and in response to apoptotic signals, cytochrome c can be released from mitochondria into the cytosol. Here, it activates an apoptotic program via one of many possible caspase-driven cascades (8, 10-12). The events which trigger an apoptotic signal (such as growth factor withdrawal) are not well understood. The result of such a signal, however, has been suggested to be a translocation of cytosolic Bax and/or Bad to the outer mitochondrial membrane where they overcome a Bcl-2-mediated stabilization (13-15). Bax-mediated destabilization may take the form of channel creation or mitochondrial swelling, resulting in cytochrome c release (15-18). Whatever the mechanism, released cytochrome c participates in the formation of a cytosolic complex which is composed of 15 kDa cytochrome c, 130 kDa Apaf-1 (apoptotic protease activating factor-1), dATP, and 46 kDa Apaf-3/caspase-9 (15, 18, 19). Within this complex, Apaf-3/caspase-9 is activated, leading to the downstream activation of caspases-3,-7 and -9, followed by additional caspases that ultimately lead to cellular apoptosis (10, 18, 20,21).
Pathways:	Apoptosis, Caspase Cascade in Apoptosis, Positive Regulation of Endopeptidase Activity

Application Details

Application Notes:	Detection Wavelength: 450 nm
Sample Volume:	20 µL
Assay Time:	3 h

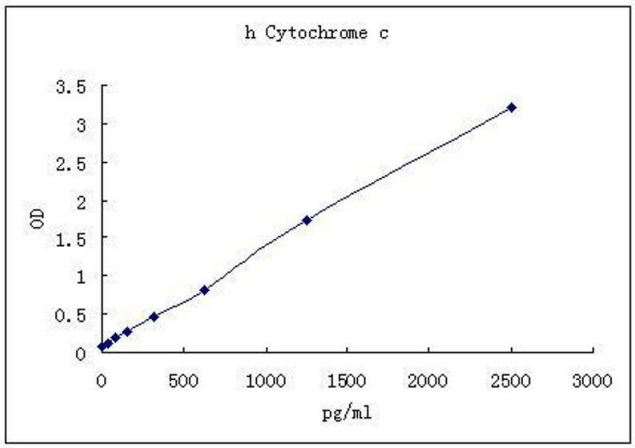
Application Details

Plate:	Pre-coated
Restrictions:	For Research Use only

Handling

Storage:	4 °C

Images



ELISA

Image 1.