abcam

ab326168

Alexa Fluor® 488 Anti-Cytochrome C antibody [7H8.2C12]

Key facts

Isotype	IgG2b
Host species	Mouse
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogens	The exact immunogen used to generate this antibody is proprietary information.
Clone number	7H8.2C12
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human

Dilution info	1/2500
Notes	-

Target data

See full target information CYCS

Function	Electron carrier protein. The oxidized form of the cytochrome c heme group can accept an electron from the heme group of the cytochrome c1 subunit of cytochrome reductase. Cytochrome c then transfers this electron to the cytochrome oxidase complex, the final protein carrier in the mitochondrial electron-transport chain. Plays a role in apoptosis. Suppression of the anti-apoptotic members or activation of the pro-apoptotic members of the Bcl-2 family leads to altered mitochondrial membrane permeability resulting in release of cytochrome c into the cytosol. Binding of cytochrome c to Apaf-1 triggers the activation of caspase-9, which then accelerates apoptosis by activating other caspases.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Cytochrome C also referred to as "cytochrome c" or "Cyt C" is a small protein with a molecular weight of approximately 12 kDa. It is a component of the electron transport chain playing an essential mechanical role in cellular respiration. Cytochrome C is expressed in the mitochondria of eukaryotic cells where it functions as a heme protein. The mass of this protein allows efficient electron transfer between Complex III (cytochrome bc1 complex) and Complex IV (cytochrome c oxidase) contributing to ATP synthesis.
Biological function summary	Cytochrome c contributes to the process of oxidative phosphorylation within mitochondria. It is not only an important electron carrier but it also plays a significant role in apoptosis. In the event of cellular stress cytochrome c releases into the cytosol and forms part of the apoptosome complex. This apoptosome activation leads to the caspase cascade driving programmed cell death. Therefore cytochrome C serves as both a mediator of energy production and a regulator of apoptosis.
Pathways	Cytochrome c is integral to the mitochondrial electron transport chain and apoptotic pathways. It interacts with proteins in these pathways such as cytochrome c oxidase in oxidative phosphorylation and Apaf-1 during apoptosis. The electron transport chain's function is dependent on the efficient transfer of electrons facilitated by cytochrome c ensuring ATP production in cellular respiration.
Associated diseases and disorders	Cytochrome c links to conditions like cancer and neurodegenerative diseases. In cancer its role in the apoptotic pathway often emerges as cancer cells can develop mechanisms to evade apoptosis impacting cytochrome c release. For neurodegenerative diseases disruptions in mitochondrial function and cytochrome c's release can facilitate cell death implicating its role in conditions like Parkinson's disease. The interaction of cytochrome c with proteins such as p53 in response to cellular stress further highlights its involvement in disease pathogenesis.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

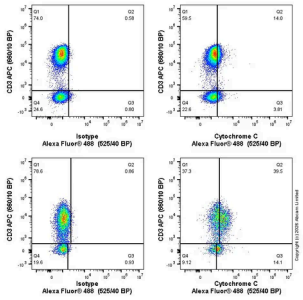
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1 product image



Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-Cytochrome C antibody [7H8.2C12] (ab326168)

Cytochrome C Flow Cytometry (Intracellular) staining of flow cyt: hu pbmc using mouse Anti-Cytochrome C antibody

Flow cytometry scatter plots showing untreated human peripheral mononuclear cells (PBMCs) (top) and PBMCs activated with 5 µg/ml PHA for 18h (bottom), either stained with ab326168 (right) or isotype control (left). The cells were fixed using BD CytoFix/CytoPerm™ (20 min). The cells were incubated in 1x PBS containing 10 µg/ml human IgG and 10% normal goat serum to block FC receptors and non-specific protein-protein interaction followed by the antibody (ab326168) (1x 106 in 100µl at 0.2 µg/ml (1/2500)) for 30min on ice. Isotype control antibody was Alexa Fluor® 488 Mouse IgG2b, κ Isotype Control. The cells were simultaneously stained with CD3. Acquisition of >30000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.This data was acquired using a Beckman Coulter CytoFlexLX flow cytometer.

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