abcam

Product datasheet

Anti-Cytochrome C antibody [2CYTC-199] ab50050

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Overview

Product name	Anti-Cytochrome C antibody [2CYTC-199]
Description	Mouse monoclonal [2CYTC-199] to Cytochrome C
Tested applications	**Suitable for:** Other, ELISA, IP, WB, ICC/IF, IHC-P, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Full length native protein (purified) (Human)
Positive control	IHC-P: Human skeletal muscle FFPE tissue sections.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: PBS, pH 7.3
Purity	Protein G purified
Clonality	Monoclonal
Clone number	2CYTC-199
Isotype	IgG1
Light chain type	kappa

Applications

Our Abpromise guarantee covers the use of **ab50050** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Other		Use at an assay dependent concentration.
AP		Use at an assay dependent concentration.

Application	Abreviews	Notes
ELISA		Use at an assay dependent concentration.
IP		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration. Predicted molecular weight: 12 kDa.
ICC/IF		Use a concentration of 1 - 5 µg/ml.
IHC-P		Use a concentration of 5 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
Flow Cyt	★★★★★	Use at an assay dependent concentration. ab170190-Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target

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.

Involvement in disease

Defects in CYCS are the cause of thrombocytopenia type 4 (THC4) [MIM:612004]; also known as autosomal dominant thrombocytopenia type 4. Thrombocytopenia is the presence of relatively few platelets in blood. THC4 is a non-syndromic form of thrombocytopenia. Clinical manifestations of thrombocytopenia are absent or mild. THC4 may be caused by dysregulated platelet formation.

Sequence similarities

Belongs to the cytochrome c family.

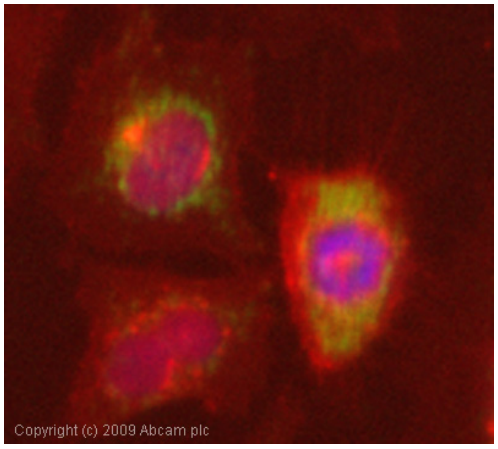
Post-translational modifications

Binds 1 heme group per subunit.

Cellular localization

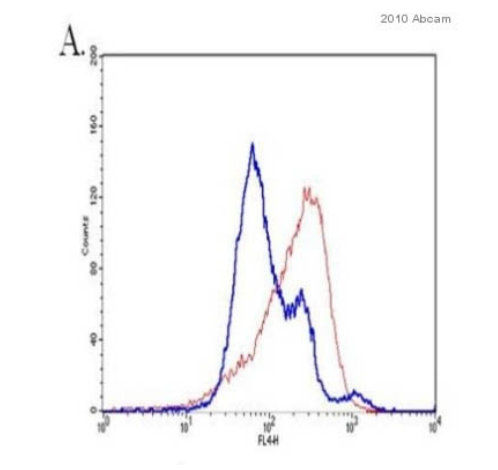
Mitochondrion matrix.

Images



Immunocytochemistry/ Immunofluorescence- Cytochrome C antibody [2CYTC-199](ab50050)

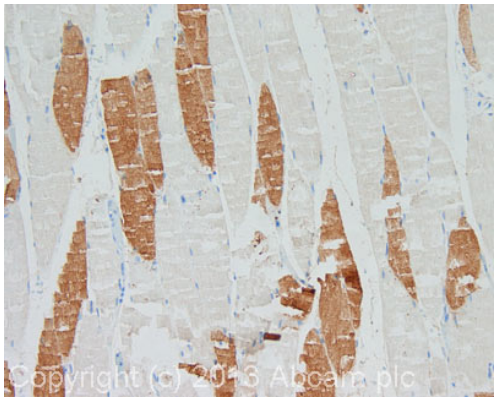
ICC/IF image of ab50050 stained HeLa cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab50050, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Flow Cytometry - Cytochrome C antibody [2CYTC-199] (ab50050)

Image courtesy of Dr Brandon White by Abreview.

HeLa cells (3-4 x10E6/10cm dishmL) were either treated with DMSO (blue) or 100 mg/mL cycloheximide (red) for 16-18 hours. After permeabilization and fixation, cells were split into half in 1.5 mL tubes and stained for cytochrome C using ab50050. Secondary antibody was an AlexaFluor 633 anti-mouse secondary antibody. Cytochrome C can be seen to be released from the mitochondria by the shift in fluorescent intensity compared to DMSO control. Data was acquired on a FACSCaliber flow cytometer with CellQuest software.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Cytochrome C antibody [2CYTC-199] (ab50050)

IHC image of Cytochrome C staining in human skeletal muscle formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab50050, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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