

Orange Mitochondrial Membrane Potential Assay Kit (Flow Cytometry) ab138898

[1 References](#) [1 Image](#)

Overview

Product name	Orange Mitochondrial Membrane Potential Assay Kit (Flow Cytometry)
Detection method	Fluorescent
Sample type	Adherent cells, Suspension cells
Assay type	Direct
Product overview	<p>Orange Mitochondrial Membrane Potential Assay Kit (Flow Cytometry) (ab138898) is designed to detect cell apoptosis by measuring the loss of the mitochondrial membrane potential (MMP). The collapse of mitochondrial membrane potential coincides with the opening of the mitochondrial permeability transition pores, leading to the release of cytochrome C into the cytosol, which in turn triggers other downstream events in the apoptotic cascade.</p>

ab138898 provides all the essential components with an optimized assay method. This fluorimetric assay uses our proprietary cationic MitoOrange Dye for the detection of apoptosis in cells with the loss of mitochondrial membrane potential. In normal cells, the red fluorescence intensity is increased when MitoOrange Dye is accumulated in the mitochondria. However, in apoptotic cells, the fluorescence intensity of MitoOrange Dye is decreased following the collapse of MMP. Cells stained with MitoOrange Dye can be visualized with a flow cytometer at 488 nm excitation with red emission (FL2 channel). The kit can be used together with other reagents for multi-parametric study of cell vitality and apoptosis. The kit is optimized for screening apoptosis activators and inhibitors with a flow cytometer.

Notes	<p>Related assays</p> <p>Review the cell health assay guide to learn about kits to perform a cell viability assay, cytotoxicity assay and cell proliferation assay.</p> <p>Review the metabolism assay guide to learn about assays for metabolites, metabolic enzymes, mitochondrial function, and oxidative stress, and also about how to assay metabolic function in live cells using your plate reader.</p>
Platform	Fluorescence microscope

Properties

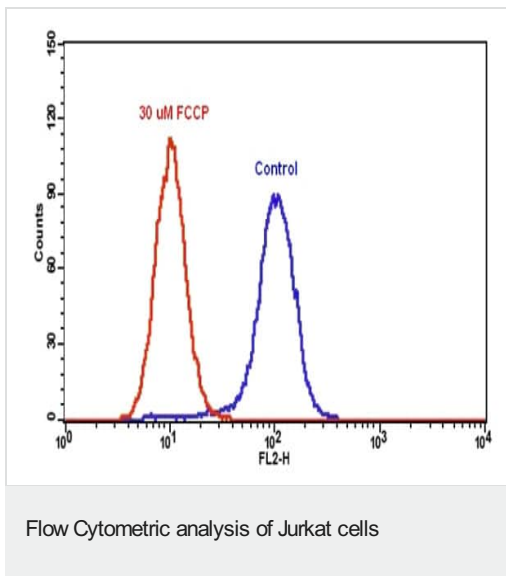
Storage instructions	Store at -20°C. Please refer to protocols.
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Components	100 tests
Assay Buffer	1 x 100ml
MitoOrange Dye	1 x 200µl

Relevance

Mitochondrial Membrane Potential is an important parameter of mitochondrial function used as an indicator of cell death. The collapse of the mitochondrial Membrane potential coincides with the opening of the mitochondrial permeability transition pores, leading to the release of cytochrome c into the cytosol, which in turn triggers other downstream events in the apoptotic cascade.

Images



Flow Cytometric analysis demonstrating the decrease in fluorescence intensity of MitoOrange Dye with the addition of FCCP in Jurkat cells. Jurkat cells were loaded with MitoOrange Dye alone (Blue) or in the presence of 30 µM FCCP (Red) for 15 minutes. The fluorescence intensity of MitoOrange Dye was measured with a flow cytometer using the FL2 channel.

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