abcam

Product datasheet

Orange Mitochondrial Membrane Potential Assay Kit (Microplate) ab138899

1 Image

Overview

Product name	Orange Mitochondrial Membrane Potential Assay Kit (Microplate)
Detection method	Fluorescent
Sample type	Adherent cells, Suspension cells
Assay type	Direct
Product overview	Orange Mitochondrial Membrane Potential Assay Kit (Microplate) 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. ab138899 uses our proprietary cationic MitoOrange Dye for the detection of the mitochondrial membrane potential change in cells. In normal cells, the orange 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 fluorometrically monitored at Ex/Em = 540/590 nm. ab138899 provides all the essential components with an optimized assay method. The kit can be used for screening activators and inhibitors of apoptosis. And the assay can be performed in a convenient 96-well and 384-well fluorescence microtiter-plate format without a wash step.
Notes	**Related assays** Review the **cell health assay guide** to learn about kits to perform a **cell viability assay**, **cytotoxicity assay** and **cell proliferation assay**. 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.
Platform	Microplate reader

Properties

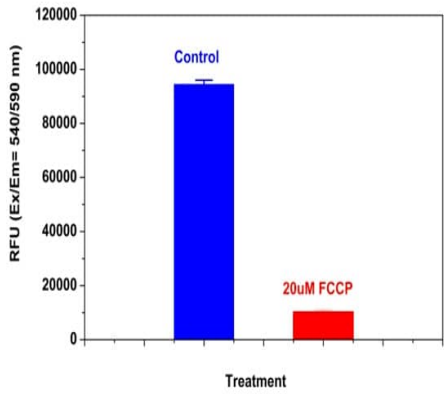
Storage instructions	Store at -20°C. Please refer to protocols.

Components	5 x 96 tests
Assay Buffer A	1 x 50ml
Assay Buffer B	1 x 25ml
MitoOrange Dye	1 x 250µl

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



Demonstation of decrease in MitoOrange Dye fluorescence with the addition of FCCP in HeLa cells

The decrease in MitoOrange Dye fluorescence with the addition of FCCP in HeLa cells. HeLa cells were dye loaded with MitoOrange Dye alone or in the presence of 20 µM FCCP for 15 minutes. The fluorescence intensity of MitoOrange Dye was measured 30 minutes after adding Assay Buffer B (Component C) with a microplate reader at Ex/Em = 540/590 nm (cut off 570 nm, bottom read).

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