

Product datasheet

# NIR Mitochondrial Membrane Potential Assay Kit (Microplate) ab112150

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Overview

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<b>Product name</b>	NIR Mitochondrial Membrane Potential Assay Kit (Microplate)
<b>Detection method</b>	Fluorescent
<b>Sample type</b>	Adherent cells, Suspension cells
<b>Assay type</b>	Direct
<b>Product overview</b>	<p>ab112150 is designed to detect cell apoptosis by measuring the loss of the mitochondrial membrane potential. 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>

ab112150 NIR Mitochondria Membrane Potential Assay Kit provides all the essential components with an optimized assay method. This fluorometric assay uses our proprietary cationic MitoNIR Dye for the detection of the mitochondrial membrane potential change in cells. In normal cells, the red fluorescence intensity is increased when NIR Dye is accumulated in the mitochondria. However, in apoptotic cells, NIR stain intensity is decreased following the collapse of MMP. Cells stained with NIR Dye can be monitored fluorimetrically at  $E_m = 660-680\text{ nm}$  with excitation at  $E_x = 620-640\text{ nm}$ .

ab112150 can be used for screening apoptosis activators and inhibitors. The assay can be performed in a convenient 96-well and 384-well fluorescence microtiter-plate format.

<b>Notes</b>	<p><b>Related assays</b></p> <p>Review the <a href="#">cell health assay guide</a> to learn about kits to perform a <a href="#">cell viability assay</a>, <a href="#">cytotoxicity assay</a> and <a href="#">cell proliferation assay</a>.</p> <p>Review the <a href="#">metabolism assay guide</a> 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>
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<b>Platform</b>	Microplate reader
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Properties

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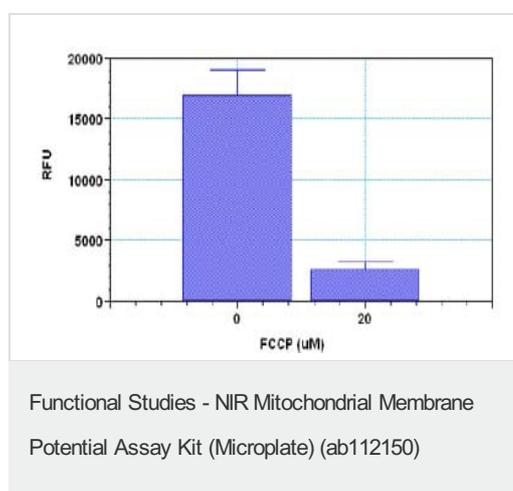
<b>Storage instructions</b>	Store at $-20^{\circ}\text{C}$ . Please refer to protocols.
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Components	5 x 96 tests
Assay Buffer A	1 x 50ml
Assay Buffer B	1 x 25ml
MitoNIR Dye	1 x 250µl

## 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



The decrease in NIR fluorescence with the addition of FCCP in HeLa cells.

HeLa cells were dye loaded with NIR alone, or in the presence of 20 µM FCCP for 15 minutes. The fluorescence intensity of NIR was measured 30 minutes after adding Assay buffer B (Component C) with a microplate reader at Ex/Em = 640/680 nm (cut off 665 nm).

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