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JC-1 Mitochondrial Membrane Potential Detection Kit

JC-1 dye is used for fluorescence-based measurement of mitochondrial membrane potential changes in cells, a key measure of cell viability.



Product Description

JC-1 Mitochondrial Membrane Potential Detection Kit is used to measure mitochondrial membrane potential changes in cells, a key indicator of cell viability.

The loss of mitochondrial membrane potential is a hallmark for apoptosis. It is an early event preceding phosphatidylserine externalization and coinciding with caspase activation. In non-apoptotic cells, JC-1 accumulates as aggregates in the mitochondrial membranes, resulting in red fluorescence. The brightness of red fluorescence is proportional to the potential and varies among different cell types. However, in apoptotic and necrotic cells, which have diminished mitochondrial membrane potential, JC-1 exists in the green fluorescent monomeric form. This kit provides a step-by-step protocol and ready-to-use reagents for performing assays for flow cytometry, fluorescence microscopy, or fluorescence microplate reader.

Biotium also offers [Aquaphile™ JC-1](#), an improved and more soluble formulation of the JC-1 dye which minimizes false positive J-aggregate signal outside of cells. Biotium also sells [JC-1 chloride salt](#) and [JC-1 iodide salt](#).

References

Download a list of curated [JC-1 Mitochondrial Membrane Potential Kit References](#).

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Product attributes

Apoptosis/viability marker	Mitochondrial potential
For live or fixed cells	For live/intact cells
Detection method/readout	Microplate reader (fluorescence), Fluorescence microscopy, Flow cytometry
Assay type/options	Endpoint assay
Potential dependence	Mitochondrial potential-dependent
Indicator type	Ratiometric
Colors	Green/Red
Excitation/Emission	510/527 nm (monomer); 585/590 nm (aggregate)
Storage Conditions	Store at 2 to 8 °C, Protect dye component from light