

Datasheet: ICT943

Description:	MITOCHONDRIAL PERMEABILITY TRANSITION KIT
Name:	MITOCHONDRIAL PERMEABILITY TRANSITION:MitoPT JC-1 KIT
Format:	JC-1 Dye (Dual Green/Red Fluorescence)
Product Type:	Kits
Quantity:	100 TESTS

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			
Immunofluorescence	▪			

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Product Information

The MitoPT™ JC-1 kit uses a quick and easy staining method to clearly differentiate between non-apoptotic and apoptotic cells through mitochondrial functionality.

Test Principle

An early indication of apoptosis involves a collapse in the electrochemical gradient across the mitochondrial membrane. Loss of mitochondrial membrane potential can be detected by a unique fluorescent cationic dye known as JC-1 (5,5',6,6'-tetrachloro-1,1',3,3'-tetraethylbenzamidazolocarboxyanin iodide) that has been incorporated into the MitoPT JC-1 kit.

The MitoPT JC-1 reagent easily penetrates cells and enters the mitochondria. It aggregates in the mitochondria of non-apoptotic cells and fluoresces red, whilst in apoptotic cells it diffuses throughout the cell. Once dispersed, the reagent assumes a monomeric form and fluoresces green. This allows an easy distinction between non-apoptotic red fluorescent cells and apoptotic green fluorescent cells which can be read with a flow cytometer, fluorescence microscope or a fluorescence plate reader using black microtitre plates.

Reagents In The Kit

MitoPT JC-1 Reagent, 100 tests
 10x Assay Buffer, 60 mL
 CCCP (50 mM in DMSO), 125 uL

Instructions For Use Instructions for use can be found at www.bio-rad-antibodies.com/uploads/IFU/ICT943.pdf

References

1. Jasek, E. *et al.* (2012) Effect of histone deacetylase inhibitors trichostatin A and valproic acid on etoposide-induced apoptosis in leukemia cells. [Anticancer Res. 32 \(7\): 2791-9.](#)
2. Wei, X. *et al.* (2014) *In Vitro* Comparative Effect of Three Novel Borate Bioglasses on the Behaviors of Osteoblastic MC3T3-E1 Cells [J Mater Sci and Technol. 30: \(10\) 979–83](#)
3. A, G. *et al.* (2019) Targeting a moonlighting function of aldolase induces apoptosis in cancer cells. [Cell Death Dis. 10 \(10\): 712.](#)

Storage Store the unopened kit and each unopened component at -20°C until the expiration date. Once opened, some components may be stored at 2-8°C until the expiration date. CCCP should be stored frozen. Once reconstituted with DMSO, dilute and use MitoPT reagent immediately, or store at ≤-20°C for 12 months protected from light and thawed no more than twice.

Guarantee Guaranteed until date of expiry. Please see product label.

Acknowledgements MitoPT™ is a trademark of Immunochemistry Technologies, LLC.

Health And Safety Information Material Safety Datasheet documentation #20291 #10474 #10479 available at:
MitoPT JC-1 Reagent (20291): <https://www.bio-rad-antibodies.com/uploads/MSDS/20291.pdf>
10x Assay Buffer (10474): <https://www.bio-rad-antibodies.com/uploads/MSDS/10474.pdf>
CCCP Reagent (10479): <https://www.bio-rad-antibodies.com/uploads/MSDS/10479.pdf>

Regulatory For research purposes only

Related Products

Recommended Useful Reagents

[MITOCHONDRIAL PERMEABILITY TRANSITION KIT \(ICT944\)](#)

North & South America	Tel: +1 800 265 7376 Fax: +1 919 878 3751 Email: antibody_sales_us@bio-rad.com	Worldwide	Tel: +44 (0)1865 852 700 Fax: +44 (0)1865 852 739 Email: antibody_sales_uk@bio-rad.com	Europe	Tel: +49 (0) 89 8090 95 21 Fax: +49 (0) 89 8090 95 50 Email: antibody_sales_de@bio-rad.com
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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M373126:200824'

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