

Datasheet: ICT944

BATCH NUMBER 166896

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:	400 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, 400 tests
Two bottles 10x Assay Buffer, 125 mL

CCCP (50 mM in DMSO), 600 ul.

Instructions For Use Instructions for use can be found at www.bio-rad-antibodies.com/uploads/IFU/ICT944.pdf

References

1. Gizak, A. *et al.* (2019) Targeting a moonlighting function of aldolase induces apoptosis in cancer cells. [Cell Death Dis. 10 \(10\): 712.](#)
2. 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.](#)
3. Xiaojuan, W. *et al.* (2014) *In Vitro* Comparative Effect of Three Novel Borate Bioglasses on the Behaviors of Osteoblastic MC3T3-E1 Cells [Journal of Materials Science & Technology. 30 \(10\): 979-83.](#)

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: <https://www.bio-rad-antibodies.com/SDS/ICT944>
MitoPT JC-1 Reagent (20291)
10x Assay Buffer (10474)
CCCP Reagent (10479)

Regulatory For research purposes only.

North & South Tel: +1 800 265 7376

America 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

To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
'M404843:220906'

Printed on 18 Jan 2024

© 2024 Bio-Rad Laboratories Inc | [Legal](#) | [Imprint](#)