Datasheet: ICT943

BATCH NUMBER 174789

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'-tetraethylbenzamidazolocarbocyanin 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 Mat Sci Technol. 30 (10): 979-83. 3. Gizak, A. *et al.* (2019) Targeting a moonlighting function of aldolase induces apoptosis in cancer cells. Cell Death Dis. 10 (10): 712. 4. Gizak, A. *et al.* (2021) A novel remitting leukodystrophy associated with a variant in FBP2. Brain Commun. 3 (2): fcab036. 5. Lasota, M. *et al.* (2022) Property of a new Prussian blue-bounded iron complex able to peroxidate non-saturated fatty acids with a tendency to create conditions that may encourage ferroptosis. J Physiol Pharmacol. 73 (5)Mar 16 [Epub ahead of print].
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/ICT943
Regulatory	For research purposes only.

Related Products

Recommended Useful Reagents

MITOCHONDRIAL PERMEABILITY TRANSITION KIT (ICT944)

Product inquiries: www.bio-rad-antibodies.com/technical-support

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

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