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'-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 - lyophilized
10X Assay Buffer, 60mL
125uL vial 50mM Carbonylcyanide m - chlorophenylhydrazone (CCCP) concentrate in DMSO.

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

Storage	Store the unopened kit (and each unopened component) at -20°C until the expiration date. Protect the MitoPT™ JC-1 reagent from light at all times. Once reconstituted, the 100X MitoPT™JC-1 stock should be stored at -20°C protected from light.
Shelf Life	Please see label for expiry date.
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)

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