

DATASHEET

JC-10 Mitochondrial Membrane Potential Assay Kit

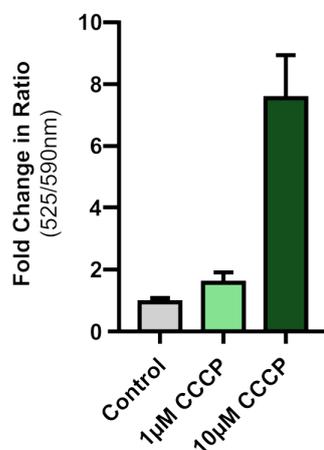
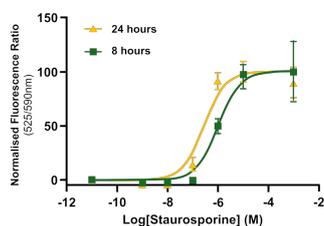
Product overview

Name	JC-10 Mitochondrial Membrane Potential Assay Kit
Cat No	HB13032
Biological description	JC-10 is a highly soluble fluorescent probe ideal for assessing mitochondrial membrane potential. In healthy cells with polarized mitochondria, JC-10 aggregates, emitting a strong orange fluorescence (Ex/Em: 540nm/590nm). However, in cells with depolarized mitochondria, a hallmark of apoptosis and other cellular stresses, JC-10 reverts to its monomeric form, resulting in a shift to green fluorescence (Ex/Em: 490nm/525nm). This reversible, ratiometric change in fluorescence emission provides a reliable indicator of mitochondrial health. JC-10's superior aqueous solubility to JC-1 makes it a convenient and robust tool for various applications, including fluorescence microscopy, flow cytometry, and high-throughput screening.

This kit contains everything needed to make 25 mL of working solution which is suitable for five 96-well plates or 500 flow cytometry samples.

Biological action	Dyes & stains
Applications	fluorescence imaging, live cell imaging
Kit contents	<ul style="list-style-type: none">• 100x JC-10 dye in DMSO (250μl)• Dye loading buffer (25ml)• Masking buffer (25ml)
Purity	>98%
Description	Fluorescent mitochondrial membrane potential assay kit

Images



Biological Data

Application notes	Please see our JC-10 Mitochondrial Membrane Potential Assay Kit Protocol
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Solubility & Handling

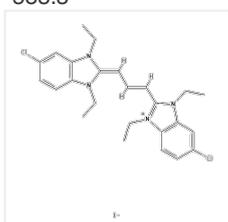
Storage instructions	-20 °C
Handling	JC-10 is light sensitive; exposure to light may affect compound performance. We therefore recommend storing the solid material and any solutions in the dark and protecting from light.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name (2E)-5-chloro-2-[(E)-3-(5-chloro-1,3-diethylbenzimidazol-1-ium-2-yl)prop-2-enylidene]-1,3-diethylbenzimidazole;iodide

Molecular Weight
Chemical structure

583.3



Molecular Formula

C₂₅H₂₉Cl₂N₄

CAS Number 5563-28-0
PubChem identifier 171361437
SMILES CCN\1C2=C(C=C(C=C2)Cl)N(/C1=C/C=C/C3=[N+](C4=C(N3CC)C=C(C=C4)Cl)CC)CC.[I-]
InChiKey WBMULJOQZAKELP-UHFFFAOYSA-M
Excitation 490nm / 540nm
Emission 525nm / 590nm

References

Garlic exosome-like nanoparticles reverse high-fat diet induced obesity via the gut/brain axis.

Sundaram K et al (2022) Theranostics 12

PubMedID [35154484](#)

Growth Differentiation Factor 15 Protects SH-SY5Y Cells From Rotenone-Induced Toxicity by Suppressing Mitochondrial Apoptosis.

Li P et al (2022) Frontiers in aging neuroscience 14

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JC-10 probe as a novel method for analyzing the mitochondrial membrane potential and cell stress in whole zebrafish embryos.

Younes N et al (2022) Toxicology research 11

PubMedID [35237413](#)
