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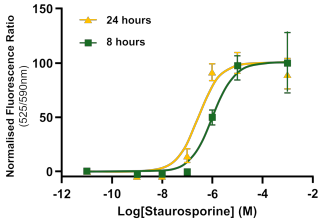
DATASHEET

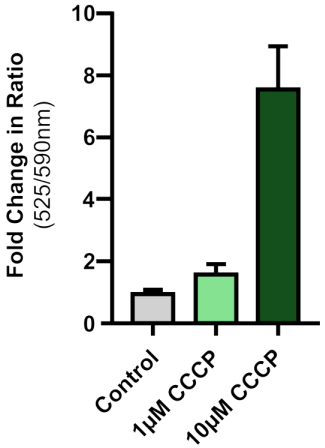
JC-10 Mitochondrial Membrane Potential Assay Kit

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	• 100x JC-10 dye in DMSO (250µl) • Dye loading buffer (25ml) • Masking buffer (25ml)
Purity	>98%
Description	Fluorescent mitochondrial membrane potential assay kit

Images





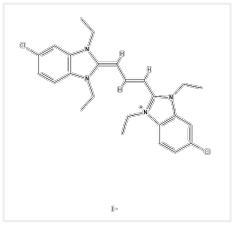
Biological Data

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

Solubility & Handling

Storage instructions	-20°C
Storage of solutions	Prepare and use solutions on the same day if possible. Store solutions at -20°C for up to one month if storage is required. Equilibrate to RT and ensure the solution is precipitate free before use.
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.
Shipping Conditions	Stable for ambient temperature shipping. Follow storage instructions on receipt.
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	583.3
Chemical structure	
Molecular Formula	$C_{25}H_{29}Cl_2IN_4$
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.

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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
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