

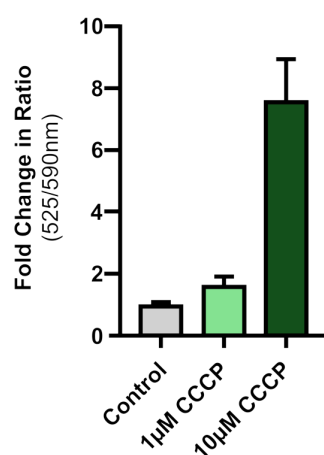
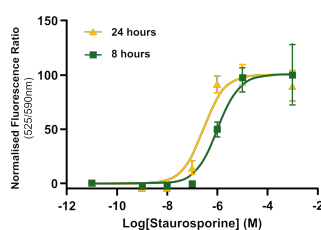
DATASHEET

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. |
| Biological action | 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. |
| Applications | Dyes & stains |
| Kit contents | fluorescence imaging, live cell imaging <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



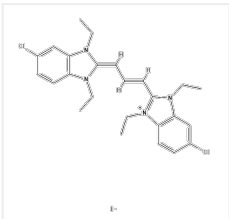
Biological Data

Application notes Please see our [JC-10 Mitochondrial Membrane Potential Assay Kit Protocol](#)

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 | 583.3 |
| Chemical structure |  |
| Molecular Formula | C ₂₅ H ₂₉ Cl ₂ IN 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.

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

PubMedID [35721026](#)

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](#)