

## DATASHEET

JC-1

### Product overview

Name	JC-1
Cat No	HB0791
Biological action	Dyes & stains
Purity	>95%
Description	Mitochondrial membrane potential indicator/dye. Widely used in apoptosis studies.

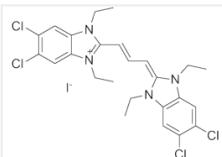
### Biological Data

<b>Biological description</b>	<p>Mitochondrial membrane potential indicator/dye which is widely used in apoptosis studies to monitor mitochondrial health.</p> <p>It can be used as an indicator of mitochondrial membrane potential in various cell types including neurons and myocytes and also intact tissues and isolated mitochondria.</p> <p>At low concentrations (due to low mitochondrial membrane potential), JC-1 is predominantly a monomer that yields green fluorescence with emission of 530±15 nm.</p> <p>At high concentrations (due to high mitochondrial membrane potential), the dye aggregates yielding a red to orange colored emission (590±17.5 nm).</p> <p>Depolarization is indicated by a decrease the aggregate fluorescent count and hyperpolarization is indicated by an increase.</p> <p>Allows both qualitative visualization and quantitative detection.</p>
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### Solubility & Handling

<b>Storage instructions</b>	-20°C
<b>Important</b>	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

### Chemical Data

<b>Chemical name</b>	5,5',6,6'-Tetrachloro-1,1',3,3'-tetraethylbenzimidazolylcarbocyanine iodide
<b>Molecular Weight</b>	652.2
<b>Chemical structure</b>	 <p>The chemical structure of JC-1 is a symmetrical dyes with a central benzimidazolylidene group. It features two 4-chlorobenzylidene groups attached to the 5 and 5' positions of the imidazole ring. Each benzylidene group is further substituted with a 4-chlorophenyl ring and a 4-iodophenyl ring. The entire molecule is a carbocyanine dye.</p>
<b>Molecular Formula</b>	C <sub>25</sub> H <sub>27</sub> Cl <sub>4</sub> IN <sub>4</sub>
<b>CAS Number</b>	47729-63-5

## References

**Functional live cell imaging of the pulmonary neuroepithelial body microenvironment.**

De Proost I *et al* (2008) Am J Respir Cell Mol Biol 39(2)

**PubMedID** 18367726

**Flex-Hets differentially induce apoptosis in cancer over normal cells by directly targeting mitochondria.**

Liu T *et al* (2007) Mol Cancer Ther 6(6)

**PubMedID** 17575110

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