

## Catalog # 10-1634

JC-1

CAS# 3520-43-2 5,5,6,6-Tetrachloro-1,1,3,3-tetraethylbenzimidazolylcarbocyanine iodide Lot # X107435



A dual emission, potential-sensitive, carbocyanine probe which can be used to measure mitochondrial membrane potential. When excited at 490 nm the monomer exhibits an emission maximum at 527 nm and J-aggregates at 590 nm.<sup>1,2</sup> JC-1 changes color reversibly from green to red with increasing mitochondrial membrane potential.<sup>3</sup> May be used for isolation of live cells expressing high multidrug resistance transport activity.<sup>4</sup> A widely used probe for determination of mitochondrial membrane potential.<sup>5</sup>

- Reers et al. (1991), J-aggregate formation of a carbocyanine as a quantitative fluorescent indicator of membrane potential Biochemistry, 30 4480
- 2) Smiley et al. (1991), Intracellular heterogeneity in mitochondrial membrane potentials revealed by a J-aggregate-forming lipophilic cation JC-1; Proc. Natl. Acad. Sci. USA, **88** 3671
- Lisa et al. (1995), Mitochondrial membrane potential in single living adult rat cardiac myocytes exposed to anoxia or metabolic inhibition; J. Physiol., 486 1
- Wolosin et al. (2017), Application of JC1 for non-toxic isolation od cells with MDR transporter activity by flow cytometry; PLoS One, 12(4) e0174905
- 5) Wang et al. (2017), A novel cytoprotective peptide protects mesenchymal stem cells against mitochondrial dysfunction and apoptosis induced by starvation via Nrf2/Sirt3/FoxO3a pathway; J. Transl. Med., **15** 33

## PHYSICAL DATA

Molecular Weight:	652.23
Molecular Formula:	C <sub>25</sub> H <sub>27</sub> Cl <sub>4</sub> IN <sub>4</sub>
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (20 mg/ml)
Physical Description:	Brown solid
Storage and Stability:	Store as supplied desiccated at -20°C for up to 2 years from the date of purchase. Solutions in
	DMSO may be stored at -20°C for up to 3 months.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.