



PRODUCT DATA SHEET

Product: JC-1, Iodide

Cat. No: BC-031 (5 mg)

Chemical Name:

5,5',6,6'-tetrachloro-1,1',3,3'-tetraethylbenzimidazolylcarbocyanine Iodide

Formula:

C₂₅H₂₇Cl₄N₄

Molecular Weight: 652

Description:

JC-1 is a mitochondrial dye that stains mitochondria in living cells in a membrane potential-dependent fashion. JC-1 monomer is in equilibrium with so-called J-aggregates, which are favored at higher dye concentration or at higher mitochondrial membrane potential. The monomer JC-1 has green fluorescence ($\lambda_{em} = 527$ nm), while the J-aggregates have red fluorescence ($\lambda_{em} = 590$ nm). Therefore, it has been possible to use fluorescence ratioing technique to study mitochondrial membrane potentials.

JC-1 is particularly useful for apoptosis studies. In apoptotic cells, the dye stays in the cytoplasm and fluoresces green. It has also been applied in high throughput drug screening applications.

Extinction coefficient:

190,000 M⁻¹cm⁻¹ (505 nm; in MeOH)

Purity: ≥ 97%

Solubility:

Soluble in DMSO or methanol.

Format:

Red solid.

Storage and Stability:

Keep cool and dry at +4°C. Protect from light, especially when in solution.

Caution / Handling:

Toxicity: Unknown.

Potentially harmful. Avoid prolonged or repeated exposure. Avoid getting in eyes, on skin, or on clothing. Wash thoroughly after handling. If eye or skin contact occurs, wash affected areas with plenty of water for 15 minutes and seek medical advice. In case of inhaling or swallowing, move individual to fresh air and seek medical advice immediately.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.