

# JC-1

## Packing specification

**Product Numbers:** JC-1-1、 JC-1-2、 JC-1-3、 JC-1-4、 JC-1-5

**Specification:** 1mg、 2mg、 3mg、 4mg、 5mg

**Storage conditions:** Store at -20 °C dry and protected from light, valid for one year.

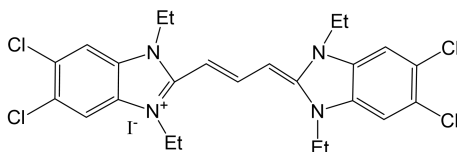
### product description:

Chemical name: JC-1 [5,5',6,6'-Tetrachloro-1,1',3,3'-tetraethyl-imidacarbocyanine iodide]

CAS #: 3520-43-2; Molecular formula: C<sub>25</sub>H<sub>27</sub>Cl<sub>4</sub>N<sub>4</sub>; Molecular weight: 652.23

Appearance: red powder; Purity: ≥98% (HPLC) UltraPure

### Structural formula:



### product description:

JC-1 is an ideal fluorescent probe widely used to detect the mitochondrial membrane potential  $\Delta \Psi_m$ . Can detect cells, tissues or purified mitochondrial membrane potential. When the mitochondrial membrane potential is high, JC-1 gathers in the mitochondrial matrix to form a polymer, which can produce red fluorescence; when the mitochondrial membrane potential is low, JC-1 cannot gather in the mitochondrial matrix. JC-1 is a monomer and can produce green fluorescence. In this way, it is very convenient to detect the change of mitochondrial membrane potential through the change of fluorescent color. The relative ratio of red and green fluorescence is commonly used to measure the proportion of mitochondrial depolarization.

The decrease of mitochondrial membrane potential is a landmark event in the early stage of apoptosis. The decrease in cell membrane potential can be detected by the transition of JC-1 from red fluorescence to green fluorescence. At the same time, the transition of JC-1 from red fluorescence to green fluorescence can also be used as a detection indicator in the early stage of apoptosis.

The maximum excitation wavelength of JC-1 monomer is 514nm and the maximum emission wavelength is 529nm; the maximum excitation wavelength of JC-1 polymer is 585nm and the maximum emission wavelength is 590nm. For actual observation, use the conventional settings for observing red and green fluorescence.

The commonly used concentration range of JC-1 for detecting the mitochondrial membrane potential of cells is 1-20  $\mu\text{g} / \text{mL}$ , and the suitable concentration of JC-1 for many cells is 10  $\mu\text{g} / \text{mL}$ .

### Precautions:

If JC-1 is used for a small amount at a time, each tube needs to be repacked appropriately to avoid repeated freezing and thawing. For your safety and health, please wear laboratory clothes and disposable gloves for operation; all products are only used for research and development, not for clinical diagnosis and treatment!

**For scientific research use only.**