Product Information

JC-10

Catalog Number: J4061

Product Size: 5 mg

Application Scope: Mitochondrial dye

Parameters

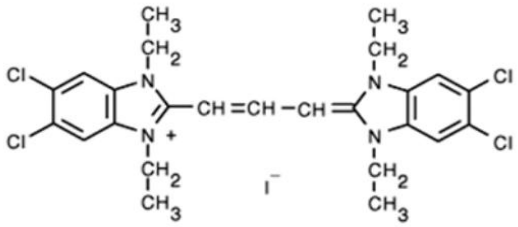
Appearance: Red solid soluble in DMSO

CAS No.: 47729-63-5

Molecular Formula: $C_{25}H_{27}Cl_4IN_4$

Molecular Weight: 583.34

Molecular Structure:



Storage

Store at 4℃ and protect from light. When stored as directed, product is stable for at least 12 months.

Description

JC-10 is an upgraded product of JC-1, which can also be used to detect the changes of mitochondrial membrane potential. JC-1 has poor water solubility. Even at a concentration of 1 μM, JC-1 will precipitate in water buffer. JC-10 has better water solubility and can replace JC-1 in some experiments that require high concentration of dyes.

JC-10 is a mitochondrial dye that stains mitochondria in living cells in a membrane potential-dependent fashion. JC-10 monomer is in equilibrium with so-called J-aggregates, which are favored at higher dye concentration or higher mitochondrial membrane potential. The monomer JC-10 has green fluorescence (Em=527 nm), while the J-aggregates have red fluorescence (Em=590nm). Therefore, it is possible to use the fluorescence ratio technique to study mitochondrial membrane potentials. JC-10 is particularly useful for apoptosis studies. In apoptotic cells, the dye stays in the cytoplasm and fluoresces green. It has also been used in high throughput drug screening applications.

JC-10 performs better than JC-1 in some cell lines. However, the performance of JC-10 is cell-dependent.

Notes

1. JC-10 commonly used working concentration is 10-30 μM. For detailed usage, please refer to related literature.
2. After the JC-10 is dissolved, it is necessary to aliquot it in small quantities to avoid repeated freeze-thaw cycles.
3. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.
4. For your safety and health, please wear lab coats and disposable gloves.

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