

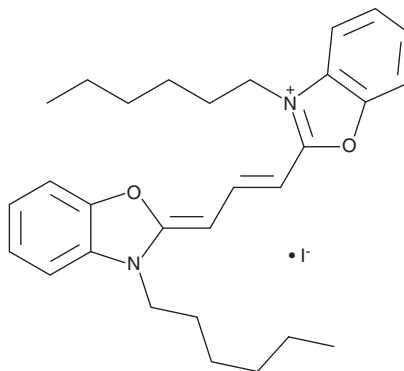
# PRODUCT INFORMATION



## 3,3'-Dihexyloxycarbocyanine (iodide)

Item No. 23124

**CAS Registry No.:** 53213-82-4  
**Formal Name:** 3-hexyl-2-[3-(3-hexyl-2(3H)-benzoxazolylidene)-1-propen-1-yl]-benzoxazolium, iodide  
**Synonyms:** DiOC<sub>6</sub>(3), NK 2280  
**MF:** C<sub>29</sub>H<sub>37</sub>N<sub>2</sub>O<sub>2</sub> • I  
**FW:** 572.5  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 486 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

3,3'-Dihexyloxycarbocyanine (iodide) (DiOC<sub>6</sub>(3)) is supplied as a crystalline solid. A stock solution may be made by dissolving the DiOC<sub>6</sub>(3) in the solvent of choice, which should be purged with an inert gas. DiOC<sub>6</sub>(3) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of DiOC<sub>6</sub>(3) in these solvents is approximately 30 mg/ml.

### Description

DiOC<sub>6</sub>(3) is a lipophilic fluorescent dye with excitation/emission spectra of 484/501 nm, respectively.<sup>1</sup> At high concentrations, DiOC<sub>6</sub>(3) accumulates in the endoplasmic reticulum (ER) and has been used to visualize ER in moss, yeast, and muscle cells. At low concentrations, DiOC<sub>6</sub>(3) accumulates in mitochondria and has been used to assess mitochondrial dislocations, fusion, and fission in living cells, as well as to visualize cellular apoptosis. DiOC<sub>6</sub>(3) can also be used to assess cell membrane potential, as depolarization directly correlates with increased fluorescence.<sup>2,3</sup> DiOC<sub>6</sub>(3) photoexcitation inactivates intracellular organelle movement and inhibits microtubule polymerization *in vitro*.<sup>4</sup>

### References

1. Sabnis, R.W., Deligeorgiev, T.G., Jachak, M.N., *et al.* DiOC<sub>6</sub>(3): A useful dye for staining the endoplasmic reticulum. *Biotech. Histochem.* **72(5)**, 253-258 (1997).
2. Jenssen, H.-L., Redmann, K., and Mix, E. Flow cytometric estimation of transmembrane potential of macrophages—a comparison with microelectrode measurements. *Cytometry* **7(4)**, 339-346 (1986).
3. Hoffman, J.F. and Laris, P.C. Determination of membrane potentials in human and *Amphiuma* red blood cells by means of fluorescent probe. *J. Physiol.* **239(3)**, 519-552 (1974).
4. Lee, C., Wu, S.S., and Chen, L.B. Photosensitization by 3,3'-dihexyloxycarbocyanine iodide: Specific disruption of microtubules and inactivation of organelle motility. *Cancer Res.* **55(10)**, 2063-2069 (1995).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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