

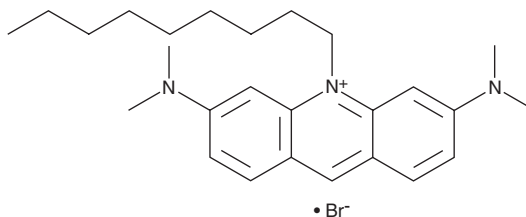
# PRODUCT INFORMATION



## Acridine Orange 10-nonyl (bromide)

Item No. 25545

**CAS Registry No.:** 75168-11-5  
**Formal Name:** 3,6-bis(dimethylamino)-10-nonyl-acridinium, monobromide  
**Synonym:** 10-nonyl Acridine Orange  
**MF:** C<sub>26</sub>H<sub>38</sub>N<sub>3</sub>• Br  
**FW:** 472.5  
**Purity:** ≥90%  
**Ex./Em. Max:** 490/510 nm  
**Supplied as:** A 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

Acridine orange 10-nonyl (bromide) is supplied as a solid. A stock solution may be made by dissolving the acridine orange 10-nonyl (bromide) in the solvent of choice. Acridine orange 10-nonyl (bromide) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas.

### Description

Acridine orange 10-nonyl is a mitochondrial dye and derivative of acridine orange (Item No. 14338) that incorporates into the cardiolipin-rich inner mitochondrial membrane.<sup>1</sup> It selectively binds to cardiolipin-containing liposomes over phosphatidylserine- and phosphatidylinositol-containing liposomes *in vitro* (K<sub>s</sub> = 0.002, 7,000, and 7,000 mM, respectively). Acridine orange 10-nonyl binding to mitochondria is abolished by the mitochondrial uncoupler FCCP (Item No. 15218) in rat cortical astrocytes, neonatal cardiomyocytes, and isolated brain mitochondria, indicating dependence on mitochondrial membrane potential.<sup>2</sup> Acridine orange 10-nonyl displays excitation/emission maxima of 490/510 nm, respectively, and has been used to quantify cardiolipin content and mitochondrial mass in isolated mitochondria and cellular systems.

### References

1. Petit, J.M., Maftah, A., Ratinaud, M.H., *et al.* 10N-nonyl acridine orange interacts with cardiolipin and allows the quantification of this phospholipid in isolated mitochondria. *Eur. J. Biochem.* **209(1)**, 267-273 (1992).
2. Jacobson, J., Duchon, M.R., and Heales, S.J. Intracellular distribution of the fluorescent dye nonyl acridine orange responds to the mitochondrial membrane potential: Implications for assays of cardiolipin and mitochondrial mass. *J. Neurochem.* **82(2)**, 224-233 (2002).

#### 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.

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