

Nonyl acridine orange

Product Information

Name :	10N-Nonyl acridine orange (NAO)
Catalog Number :	FP-58566A , 100 mg
Structure :	C ₂₆ H ₃₈ BrN ₃
Molecular Weight :	MW= 472.52
Solubility:	In EtOH and DMSO
Absorption / Emission :	$\lambda_{exc}/\lambda_{em}$ (MeOH) = 495 / 522 nm
EC (M⁻¹ cm⁻¹) :	63 000

Storage: Stored at +4°C (4) and protect from light and moisture.

Introduction

Nonyl acridine orange is uptaken by mitochondria and well retained, but is not dependent on mitochondrial membrane potential. It is useful for long term studies, as mitochondria isolation, drug screening, drug resistance, and apoptosis. It is however toxic at high concentration.

Nonyl acridine orange binds to negatively charged phospholipids such as cardiolipin ($K_a=2.10^6$ M⁻¹), phosphatidylinositol and phosphatidylserine ($K_a=7.10^4$ M⁻¹). It can be used to measure changes in mitochondrial mass⁴.

Directions for use

Handling and Storage

Generally, prepare a stock solution at 10 mM, aliquote and stock at -20°C.

Guidelines for use:

Cells	Source		Concentration	Temperature	Time	Notes
E. Coli (study of cardiolipin)	Mileykovskaya E (2000)		200 nM	Room temp.	1 hour	Microscopy
Rat embryo fibroblast cells	Kunz-Schughart (1997)	5×10^5 cells/ml	5 μ M	+37°C	10 min	Flow cytometer
Human megakaryocytic cell line DAMI	Austin R.C (1998)	5×10^5 cells/ml	0.1 μ M		45 min	flow cytometry.

Other protocol may found in the literature.

Related products

- JC-1, [FP-52314A](#)
- JC-10, [CL0440](#)
- Nile Red, [FP-46875A](#)

References

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FT-58566

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