

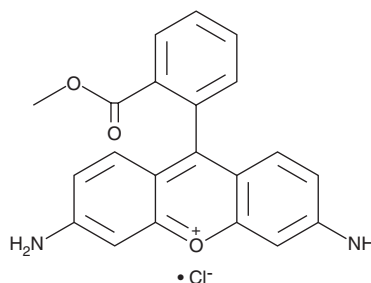
PRODUCT INFORMATION



Rhodamine 123 (chloride)

Item No. 16672

CAS Registry No.: 62669-70-9
Formal Name: 3,6-diamino-9-[2-(methoxycarbonyl)phenyl]-xanthylium, monochloride
Synonyms: R-22420, R-302, RH123
MF: C₂₁H₁₇N₂O₃ • Cl
FW: 380.8
Purity: ≥95%
Ex./Em. Max: 507/529 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

Rhodamine 123 (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the rhodamine 123 (chloride) in the solvent of choice. Rhodamine 123 (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of rhodamine 123 (chloride) in these solvents is approximately 10 mg/ml. Rhodamine 123 (chloride) is also soluble in HCl (0.1 M) at a concentration of approximately 10 mg/ml.

Description

Rhodamine 123 is a membrane-permeable cationic dye that is readily accumulated within living cells.¹ It is a substrate for the efflux pump P-glycoprotein (P-gp; also known as multidrug resistance protein 1 and ABCB1) and is rapidly exported from cells with functional P-gp.^{2,3} As P-gp is expressed on a population of stem cells known as the side population, rhodamine 123 is used to detect this group of stem cells.^{3,4} Rhodamine 123 also accumulates within mitochondria due to its positive charge and can inhibit oxidative phosphorylation.^{1,5} Rhodamine 123 has excitation/emission maxima of 507/529 nm.⁶

References

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2. Hegmann, E.J., Bauer, H.C., and Kerbel, R.S. Expression and functional activity of P-glycoprotein in cultured cerebral capillary endothelial cells. *Cancer Res.* **52(24)**, 6969-6975 (1992).
3. Huls, M., Russel, F.G., and Masereeuw, R. The role of ATP binding cassette transporters in tissue defense and organ regeneration. *J. Pharmacol. Exp. Ther.* **328(1)**, 3-9 (2009).
4. Challen, G.A. and Little, M.H. A side order of stem cells: The SP phenotype. *Stem Cells* **24(1)**, 3-12 (2006).
5. Foster, K.A., Galeffi, F., Gerich, F.J., et al. Optical and pharmacological tools to investigate the role of mitochondria during oxidative stress and neurodegeneration. *Prog. Neurobiol.* **79(3)**, 136-171 (2006).
6. Suzuki, T., Matsuzaki, T., Hagiwara, H., et al. Recent advances in fluorescent labeling techniques for fluorescence microscopy. *Acta Histochem. Cytochem.* **40(5)**, 131-137 (2007).

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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