Dihydrorhodamine 123
Item No. 85100

CAS Registry No.: 109244-58-8
Formal Name: 2-(3,6-diamino-9H-xanthen-9-yl)-benzoic acid, methyl ester
Synonym: DHR 123
MF: C_{21}H_{18}N_{2}O_{3}
FW: 346.4
Purity: ≥98%
UV/Vis.: \lambda_{\text{max}}: 223, 289 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

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

Description

DHR 123 is a cell-permeable fluorogenic probe that is used as an indicator of intracellular peroxynitrite formation.\(^1\) It is oxidized by peroxynitrite to the highly fluorescent product rhodamine in vitro. Neither nitric oxide, superoxide, nor hydrogen peroxide alone appear to oxidize DHR 123.\(^1\) Formation of rhodamine can be monitored by fluorescence spectroscopy using excitation and emission wavelengths of 500 and 536 nm, respectively, or by absorbance spectroscopy at 500 nm (\(\varepsilon = 78,800 \text{ M}^{-1}\text{cm}^{-1}\)).\(^1\) DHR 123 has been used to investigate reactive oxygen intermediates produced by endothelial cells, eosinophils, and reactive microglia.\(^4\)\(^-\)\(^6\)

References