

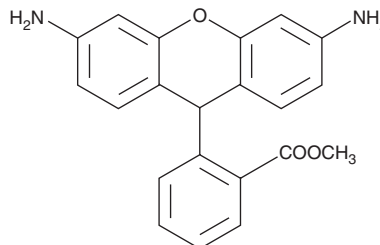
# PRODUCT INFORMATION



## 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<sub>21</sub>H<sub>18</sub>N<sub>2</sub>O<sub>3</sub>  
**FW:** 346.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 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.<sup>1</sup> 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.<sup>1</sup> 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 ( $\epsilon = 78,800 \text{ M}^{-1}\text{cm}^{-1}$ ).<sup>1-3</sup> DHR 123 has been used to investigate reactive oxygen intermediates produced by endothelial cells, eosinophils, and reactive microglia.<sup>4-6</sup>

### References

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3. Sies, H., Sharov, V.S., Klotz, L., et al. Glutathione peroxidase protects against peroxynitrite-mediated oxidations. A new function for selenoproteins as peroxynitrite reductase. *J. Biol. Chem.* **272**, 27812-27817 (1997).
4. Handa, O., Stephen, J., and Cepinskas, G. Role of endothelial nitric oxide synthase-derived nitric oxide in activation and dysfunction of cerebrovascular endothelial cells during early onsets of sepsis. *Am. J. Physiol. Heart Circ. Physiol.* **295**, H1712-9 (2008).
5. Lacy, P., Latif, D.A., Steward, M., et al. Divergence of mechanisms regulating respiratory burst in blood and sputum eosinophils and neutrophils from atopic subjects. *J. Immunol.* **170**, 2670-9 (2003).
6. Li, J., Baud, O., Volpe, J.J., et al. Peroxynitrite generated by inducible nitric oxide synthase and NADPH oxidase mediates microglial toxicity to oligodendrocytes. *Proc. Natl. Acad. Sci. USA* **102(28)**, 9936-9941 (2005).

#### 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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