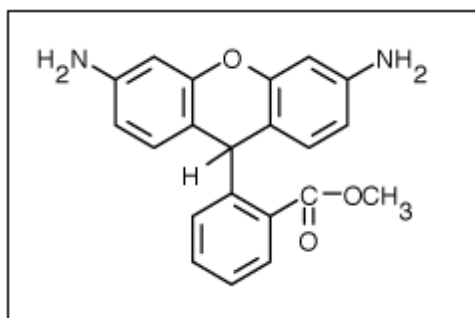


Dihydrorhodamine 123 (DHR123)

Cat. # M0545



Molecular Weight: 346.39

Storage: F, D, L

[C=Cold D=Desiccated F=Frozen L=Light Sensitive RT=Room Temperature]

Soluble: DMSO, CHCl₃, MeOH

Absorption: (in nm) 300

Molecular Formula: C₂₁H₁₈N₂O₃

CAS Number: [109244-58-8]

Description:

One of the most widely used Reactive Oxygen Species (ROS) probes for intracellular measurement and analysis.

Note:

Cleavage product: Upon enzymatic (peroxidase) reaction or chemical oxidation, the brightly fluorescent Rhodamine 123 is produced (EX: 505 nm / EM: 534 nm, e=98K/mole).

References:

- Rothe G, Oser A, Valet G. (1988) "Dihydrorhodamine 123: a new flow cytometric indicator for respiratory burst activity in neutrophil granulocytes." *Naturwissenschaften* 75: 354-355.

- Emmendorffer A, Hecht M, Lohmann-Matthes ML, Roesler J. (1990) "A fast and easy method to determine the production of reactive oxygen intermediates by human and murine phagocytes using dihydrorhodamine 123." J Immunol Methods 131: 269-275.
- Rothe G, Emmendorffer A, Oser A, Roesler J, Valet G. (1991) "Flow cytometric measurement of the respiratory burst activity of phagocytes using dihydrorhodamine 123." J Immunol Methods 138: 133-135.
- Goossens V, Grooten J, Fiers W. (1996) "The oxidative metabolism of glutamine. A modulator of reactive oxygen intermediate-mediated cytotoxicity of tumor necrosis factor in L929 fibrosarcoma cells." J Biol Chem 271: 192-196.
- Sobreira C, Davidson M, King MP, Miranda AF. (1996) "Dihydrorhodamine 123 identifies impaired mitochondrial respiratory chain function in cultured cells harboring mitochondrial DNA mutations." J Histochem Cytochem 44: 571-579.
- Tan S, Sagara Y, Liu Y, Maher P, Schubert D. (1998) "The regulation of reactive oxygen species production during programmed cell death." J Cell Biol 141: 1423-1432.
- Model MA, KuKuruga MA, Todd RF. (1997) "A sensitive flow cytometric method for measuring the oxidative burst." J Immunol Methods 202: 105-111.
- Sullivan DM, Wehr NB, Fergusson NM, Levine RL, Finkel T. (2000) "Identification of oxidant-sensitive proteins: TNF- α induces protein glutathiolation." Biochem 39: 11121-11128.
- Laird MD, Wakade C, Alleyne Jr CH, Dhandapani KM. (2008) "Hemin-induced necroptosis involves glutathione depletion in mouse astrocytes." Free Radical Biology & Medicine 45: 1103-1114.
- Ueda A, Wu CF. (2008) "Effects of *Hyperkinetic*, a β subunit of *Shaker* voltage-dependent K^+ channels, on the oxidation state of presynaptic nerve terminals." J Neurogenetics 22: 103-115.