Dyes and Stains

Resazurin (Sodium Salt)

Cell proliferation and viability dye

Catalog # 75005

5 g

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Product Description

Resazurin (7-hydroxy-10-oxidophenoxazin-10-ium-3-one, sodium) is a blue fluorogenic dye used as a redox indicator in cell viability and proliferation assays for bacteria, yeast, or mammalian cells. The blue form of the dye is irreversibly reduced by enzymes in viable cells to generate a highly red-fluorescent product, resorufin, which exhibits an emission maximum at ~595 nm and can be detected by flow cytometry, fluorescence microscopy, and high-throughput screening methods. Resazurin is minimally toxic to living cells, making it suitable for use in long-term cell culture. The dye has also been used to assay L-glutamate and to measure the metabolic activity of mitochondria.

Chemical Name:	sodium;10-oxido-7-oxophenoxazin-10-ium-3-olate
Alternative Names:	7-hydroxy-10-oxidophenoxazin-10-ium-3-one, sodium; Diazoresorcinol, sodium salt
CAS Number:	62758-13-8
Chemical Formula:	$C_{12}H_6NO_4 \cdot Na$
Molecular Weight:	251.2 g/mol
Excitation Wavelength:	530 - 545 (resorufin product)
Emission Wavelength:	585 - 595 (resorufin product)

Properties

Storage:	Store at 15 - 25°C.
Shelf Life:	Product stable until expiry date (EXP) on label. Protect product from prolonged exposure to light.
Format/Formulation:	A crystalline solid

Applications

Verified:	FA
Reported:	Enzyme assay, FA (Cytotoxicity, Proliferation, Viability), FC, Fluorescence microscopy, Fluorometry, Spectroscopy
Special Applications:	This product has been verified for analyzing hematopoietic cells cultured in StemSpan™ SFEM (Catalog #09650) and StemSpan™ SFEM II (Catalog #09655).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Handling/Directions for Use

PREPARATION
A stock solution may be made by dissolving Resazurin in the diluent of choice. Resazurin is soluble in aqueous buffers and in organic solvents. Guidelines for the solubility of Resazurin are as follows:
· Phosphate-buffered saline (PBS), pH 7.2 ≤ 5 mg/mL
· Ethanol ≤ 0.5 mg/mL
· DMSO ≤ 0.5 mg/mL
· Dimethyl formamide ≤ 0.5 mg/mL
NOTE: If making a stock solution using an organic solvent, further dilutions into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, as organic solvents may have physiological effects at low concentrations.

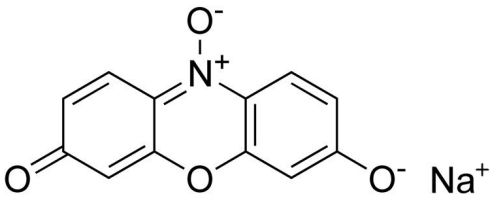
Wherever possible, prepare and use the stock solutions on the same day. Protect stock solutions from prolonged exposure to light. If stock solutions must be made in advance, it is recommended that they are stored in aliquots in tightly sealed vials at -20°C, protected from prolonged exposure to light. Generally these will be stable for up to 1 month.

The dye should be titrated for optimal performance for each cell type and application.

Notes and Tips

Data may be collected using either fluorescence-based or absorbance-based instrumentation. Absorbance can be measured using a spectrophotometer at 570 nm, or 600 nm if wavelength correction is available. It is recommended that the dye be assayed at pH 6.8 - 7.4.

Data/Structure



Chemical structure of Resazurin (Sodium Salt).

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References

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