Product Description

Resazurin (7-hydroxy-10-oxidophenoxazin-10-i um-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-oxo -7-oxidophenoxazin-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: C₁₂H₆NO₄ · 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
Dyes and Stains  

Resazurin (Sodium Salt)

Handling/Directions for Use

For preparing a stock solution, Resazurin is soluble in aqueous buffers and in organic solvents, as follows:

- Phosphate-buffered saline (PBS), pH 7.2 ≤ 5 mg/mL
- Ethanol ≤ 0.5 mg/mL
- Dimethyl sulfoxide (DMSO) ≤ 0.5 mg/mL
- Dimethyl formamide (DMF) ≤ 0.5 mg/mL

NOTE: If preparing stock solution using an organic solvent, further dilute into aqueous buffer or isotonic saline before performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, as it may have physiological effects at low concentrations.

Whenever possible, prepare and use stock solution on the same day. Protect stock solution from prolonged exposure to light. If stock solution must be made in advance, aliquot and store in tightly sealed vials at -20°C and protect from prolonged exposure to light. Generally these will be stable for up to 1 month.

Titrater the dye for optimal performance in each 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).](image)

References


Related Products

For a complete list of related products available from STEMCELL Technologies, visit www.stemcell.com/dyesandstains or contact us at techsupport@stemcell.com.