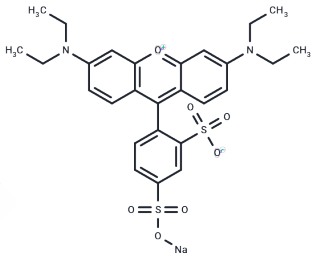
Data Sheet (Cat.No.T19063)

TargetMol

Sulforhodamine B sodium salt

Chemical Properties



CAS No. : 3520-42-1

Formula: C27H29N2NaO7S2

Molecular Weight: 580.65

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Sulforhodamine B sodium salt (Acid Red 52) is a fluorescent dye. It can be used from laser-induced fluorescence to the quantification of cellular proteins of cultured cells.
Targets(IC50)	Others
In vitro	Sulforhodamine B (SRB) is frequently used as a membrane-impermeable polar tracer and for cell density determination via cellular protein measurement (cytotoxicity assay). The SRB assay, divided into four steps—preparation of treatment, cell incubation, fixation, and SRB staining and absorbance measurement—permits inexpensive and sensitive manual or semiautomatic screening. It is applied in testing chemotherapeutic drugs or small molecules in adherent cells, evaluating gene expression modulation (knockdown, gene expression upregulation), and studying miRNA replacement effects on cell proliferation.
Cell Research	Instructions I. Solution preparation 1. Stock solution: Dissolve Sulforhodamine B sodium salt in an appropriate solvent (such as anhydrous DMSO or deionized water) to prepare a stock solution with a concentration of 1-10 mM. 2. Working solution: Dilute the stock solution to the working concentration according to the experimental needs, usually 0.05-0.1% (w/v) working solution. II. Operation steps 1. Cell culture: Inoculate an appropriate amount of cells into the culture dish to ensure that the cells grow to an appropriate density. 2. Staining: Add the working solution to the cell culture medium and incubate for about 30-60 minutes at room temperature or 37°C. 3. Washing: Wash the cells with PBS to remove unbound dye. 4. Fluorescence measurement: Observe or quantify fluorescence at 540 nm excitation and 560 nm emission wavelength using a fluorescence microscope or microplate reader. III. Application areas: 1. Cell proliferation and cytotoxicity test: Sulforhodamine B is often used to measure the changes in protein in cells after treatment, thereby reflecting the proliferation status or cell survival ability of cells. 2. Quantitative determination: The amount of cell protein can be quantified by

Cell Research	measuring its fluorescence intensity after Sulforhodamine B staining. 3. Calibration and control: 1) Set up a control group without Sulforhodamine B to ensure the specificity and accuracy of the experiment. 2) A standard curve can be established with cell samples of known concentration to quantify the protein content. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 80.83 mg/mL (139.21 mM),Sonication is recommended. H2O: 20 mg/mL (34.44 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7222 mL	8.611 mL	17.2221 mL
5 mM	0.3444 mL	1.7222 mL	3.4444 mL
10 mM	0.1722 mL	0.8611 mL	1.7222 mL
50 mM	0.0344 mL	0.1722 mL	0.3444 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Zhang F,et al. Lignin-Based Nanospheres as Environmental Remediation Platforms for Anionic Dye Contaminants. ACS Omega. 2024 Mar 1;9(10):12006-12014.
Malla S, Nyinawabera A, Neupane R, et al.Novel Thienopyrimidine-Hydrazinyl Compounds Induce DRP1-Mediated Non-Apoptotic Cell Death in Triple-Negative Breast Cancer Cells.Cancers.2024, 16(15): 2621.
Shawki MM, et al. Synergetic Effect of Tumor Treating Fields and Zinc Oxide Nanoparticles on Cell Apoptosis and Genotoxicity of Three Different Human Cancer Cell Lines. Molecules. 2022 Jul 8;27(14):4384.
Li L, et al. ZM-66, a new podophyllotoxin derivative inhibits proliferation and induces apoptosis in K562/ADM cells. Chin Med Sci J. 2014 Sep;29(3):174-9.