

PRODUCT INFORMATION



Phloxine B

Item No. 18675

CAS Registry No.: 18472-87-2

Formal Name: 2',4',5',7'-tetrabromo-4,5,6,7-tetrachloro-3',6'-dihydroxy-spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, disodium salt

Synonyms: Acid Red 92, Cyanosine, D&C Red No. 28

MF: $C_{20}H_2Br_4Cl_4O_5 \cdot 2Na$

FW: 829.6

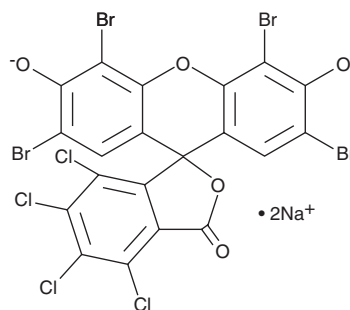
Purity: $\geq 95\%$

UV/Vis.: λ_{max} : 551 nm

Supplied as: A crystalline solid

Storage: $-20^\circ C$

Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

Phloxine B is supplied as a crystalline solid. A stock solution may be made by dissolving the phloxine B in the solvent of choice. Phloxine B is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of phloxine B in ethanol is approximately 2 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of phloxine B can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of phloxine B in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Phloxine B is a red dye, the USP grade of which is used as a color additive for food, drugs, and cosmetics.¹ It has also been used as an alternative to Gram staining, to differentiate between Gram-negative and Gram-positive bacteria.² At 100 $\mu g/ml$, it can inhibit methicillin-resistant *S. aureus* growth *in vitro*.³ Phloxine B has also been shown to modulate channel activity of wild-type cystic fibrosis transmembrane conductance regulator chloride channels (CFTR; $K_i = 38 \mu M$) and mutant delta F508 CFTR ($K_i = 33 \mu M$).⁴

References

1. Sabnis, R.W. Handbook of biological dyes and stains: Synthesis and industrial applications. John Wiley & Sons, Inc., Hoboken, NJ, USA (2010).
2. Rasooly, R. Phloxine B, a versatile bacterial stain. *FEMS Immunol. Med. Microbiol.* **49(2)**, 261-265 (2007).
3. Rasooly, A. and Weisz, A. *In vitro* antibacterial activities of phloxine B and other halogenated fluoresceins against methicillin-resistant *Staphylococcus aureus*. *Antimicrob. Agents Chemother.* **46(11)**, 3650-3653 (2002).
4. Melin, P., Norez, C., Callebaut, I., *et al.* The glycine residues G551 and G1349 within the ATP-binding cassette signature motifs play critical roles in the activation and inhibition of cystic fibrosis transmembrane conductance regulator channels by phloxine B. *J. Membr. Biol.* **208(3)**, 203-212 (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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