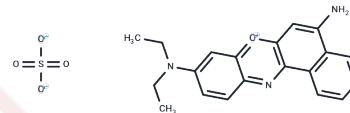


## Nile Blue A sulfate

## Chemical Properties

CAS No. :	3625-57-8
Formula:	C <sub>20</sub> H <sub>20</sub> N <sub>3</sub> O <sub>5</sub> S
Molecular Weight:	414.46
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	Nile Blue A (Nile blue sulfate) is employed for differentiating melanins and lipofuscins, staining fats, and preparing amperometric glucose sensors.
Targets(IC50)	Others
In vitro	Nile blue A is an effective stain for PHB (polyhydroxybutyrate) granules in bacteria, outperforming Sudan black B in this role. It produces a strong orange fluorescence in poly-p(3-hydroxybutyrate) granules and stains a greater number of PHB granules than Sudan black B, while also being less susceptible to being washed out of the cell during decolorization procedures. Aside from staining polyhydroxyalkanoic acid-accumulating microorganisms or detecting polyhydroxyalkanoic acids in them, Nile blue A can stain Escherichia coli cells lacking detectable polyhydroxyalkanoic acids without interfering with the surface display or specific labeling of peptides. It offers a convenient and cost-effective method for staining E. coli in flow cytometry, serving as an alternative to other fluorescent dyes or intracellular expression markers like green fluorescent protein. Additionally, Nile blue A acts as a powerful photosensitizer in photodynamic therapy, spreading through the body via the bloodstream upon intravenous administration and interacting with various biomolecules in most cells.

## Solubility Information

Solubility	DMSO: 150 mg/mL (361.92 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.4128 mL	12.0639 mL	24.1278 mL
5 mM	0.4826 mL	2.4128 mL	4.8256 mL
10 mM	0.2413 mL	1.2064 mL	2.4128 mL
50 mM	0.0483 mL	0.2413 mL	0.4826 mL

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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

Ostle AG, et al. Nile blue A as a fluorescent stain for poly-beta-hydroxybutyrate. *Appl Environ Microbiol.* 1982 Jul; 44(1):238-41.

Betscheider D, et al. Nile blue A for staining *Escherichia coli* in flow cytometer experiments. *Anal Biochem.* 2009 Jan 1;384(1):194-6.

Mishra SS, et al. Spectroscopic investigation of interaction of Nile Blue A, a potent photosensitizer, with bile salts in aqueous medium. *J Photochem Photobiol B.* 2014 Dec;141:67-75.

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