bio-techne
TOCRIS

Print Date: Jun 17th 2024

Certificate of Analysis

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Product Name: **Nile Red** **Catalog No.: 7387** **Batch No.: 1**

CAS Number: 7385-67-3

IUPAC Name: 9-(Diethylamino)-5*H*-benzo[*a*]phenoxazin-5-one

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{20}H_{18}N_2O_2$.

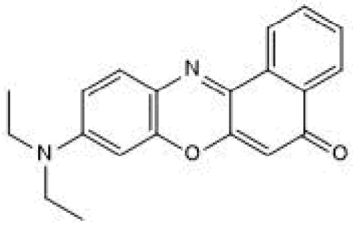
Batch Molecular Weight: 318.38

Physical Appearance: Brown solid

Solubility: DMSO to 10 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

UV Spectrum: Consistent with structure

λ_{max}: 550 nm (MeOH)

λ_{ex}: 557 nm (MeOH)

λ_{em}: 635 nm (MeOH)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	75.45	5.7	8.8
Found	75.29	5.69	8.76

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Description:

Key information: Nile red is a fluorogenic lipid membrane dye. Used for: staining of intracellular lipid droplets and neutral lipids. It is suitable for long-term monitoring of lipid dynamics in living cells. Application: fluorescence microscopy. Properties and Photophysical Data: Nile red fluoresces in the hydrophobic environment of lipid membranes. Non-fluorescent in polar environments (e.g. water). Excitation and emission maxima (λ) are 552 nm and 636 nm in methanol, respectively.

Physical and Chemical Properties:

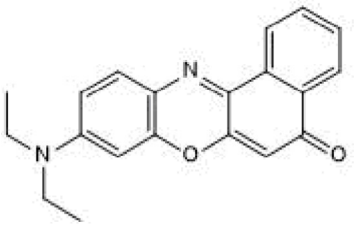
Batch Molecular Formula: $C_{20}H_{18}N_2O_2$.

Batch Molecular Weight: 318.38

Physical Appearance: Brown solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 10 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Zhanghao *et al* (2020) High-dimensional super-resolution imaging reveals heterogeneity and dynamics of subcellular lipid membranes. Nat.Commun. ***11*** 5890. PMID: 33208737.

Uribe-Etxebarria *et al* (2019) Wnt signaling reprograms metabolism in dental pulp stem cells. J.Cell Physiol. ***234*** 13068. PMID: 30549037.

Maes *et al* (2017) A rapid-screening approach to detect and quantify microplastics based on fluorescent tagging with Nile red. Sci.Rep ***16*** 44501. PMID: 28300146.