

Nuclear Fast Red

Chemical Properties

CAS No. : 6409-77-4

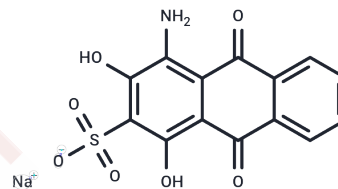
Formula: C₁₄H₈NNaO₇S

Molecular Weight: 357.27

Keep away from direct sunlight

Storage: Store at -20°C

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Nuclear Fast Red is an anthraquinone dye that serves as a red nuclear counterstain when aluminum ions are present in excess, thereby aiding in histological visualization of nuclear components. Nuclear Fast Red additionally functions as a histochemical and colorimetric reagent for calcium detection, Nuclear Fast Red further acts as a highly sensitive "off/on" fluorescent probe for the detection of guanine, making it a multifunctional research reagent.
Targets(IC50)	Others, Photosensitizer
In vitro	Nuclear Fast Red possesses both photosensitive properties and DNA affinity: under visible light excitation, it generates reactive oxygen species and free radicals through single-electron transfer; simultaneously, Nuclear Fast Red can spontaneously and irreversibly embed into DNA grooves, forming non-fluorescent complexes. Nuclear Fast Red is commonly used as a counterstain in biological experiments.[3]

Solubility Information

Solubility	DMSO: 4.5 mg/mL (12.6 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.799 mL	13.995 mL	27.990 mL
5 mM	0.5598 mL	2.799 mL	5.598 mL
10 mM	0.2799 mL	1.3995 mL	2.799 mL
50 mM	0.056 mL	0.2799 mL	0.5598 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

Yi Cui, et al. Nuclear fast red as highly sensitive "off/on" fluorescent probe for detecting guanine. *Talanta*. 2014 Dec;130:536-41.

M Frank , et al. Certification procedures for nuclear fast red (Kernechtrot), CI 60760. *Biotech Histochem*. 2007 Feb; 82(1):35-9.

Wang Q, et al. Spectroscopic and electrochemical studies on the binding mechanism of DNA with an anthraquinone biological dye, nuclear fast red[J]. *International Journal of Electrochemical Science*, 2011, 6(11): 5470-5481.

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