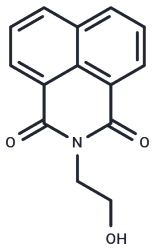
Data Sheet (Cat.No.T36710)

TargetMol

N-(2-hydroxyethyl)-Naphthalimide

Chemical Properties



CAS No. : 5450-40-8

Formula: C14H11NO3

Molecular Weight: 241.24

Storage: 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	N-(2-hydroxyethyl)-Naphthalimide is a fluorescent probe for nucleic acid detection whose fluorescence can be burst.
Targets(IC50)	Others
Animal Research	I. Application in nucleic acid detection 1. Material preparation (1) HEN probe: dissolved in an appropriate organic solvent (such as DMSO or ethanol), the recommended concentration is 1-10 μM. (2) Sample: extracted DNA/RNA, or single-stranded nucleic acid for in vitro synthesis (such as specific oligonucleotides). (3) Buffer: buffer suitable for nucleic acid reaction (such as Tris-HCl, pH 7.5). 2. Experimental steps (1) Establishment of fluorescence detection system: Prepare the reaction system, including HEN probe and target nucleic acid, and ensure uniform mixing. The binding of probe to nucleic acid can quench the fluorescence signal by forming a complex or changing the surrounding environment. (2) Fluorescence signal monitoring: Record the change of fluorescence intensity on a fluorescence spectrometer, the excitation wavelength is usually 350-400 nm, and the emission wavelength is 450-500 nm. Evaluate the nucleic acid concentration or reaction kinetics by the change of fluorescence signal. (3) Nucleic acid comparison experiment: Compare the target nucleic acid sequence with the non-specific nucleic acid sequence to verify the selectivity and specificity of the probe. c. Data analysis Use the change in fluorescence signal intensity (or quenching efficiency) to draw a fluorescence titration curve, and calculate the concentration of the target molecule by nonlinear fitting. 2. Fluorescence imaging Experimental steps: (1) Load the HEN probe into the cell culture medium and incubate with living cells. (2) Use a fluorescence microscope to observe the distribution of the probe in the cell

Animal Research	nucleus or cytoplasm and record the fluorescence intensity. (3) For specific nucleic acid targets, control experiments can be performed by adding RNA/DNA enzymes to verify the binding specificity of the probe.

Solubility Information

Solubility	DMSO: 30 mg/mL (124.36 mM),Sonication is recommended. Ethanol: 1 mg/mL (4.15 mM),Sonication is recommended. DMF: 30 mg/mL (124.36 mM),Sonication is recommended. DMSO:PBS (pH 7.2) (1:1): 0.5 mg/mL (2.07 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1452 mL	20.7262 mL	41.4525 mL
5 mM	0.829 mL	4.1452 mL	8.2905 mL
10 mM	0.4145 mL	2.0726 mL	4.1452 mL
50 mM	0.0829 mL	0.4145 mL	0.829 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

Hsu LF,et al. 970nm low-level laser affects bone metabolism in orthodontic tooth movement. J Photochem Photobiol B. 2018 Sep;186:41-50.

Linz G,et al. Cell barrier characterization in transwell inserts by electrical impedance spectroscopy. Biosens Bioelectron. 2020 Oct 1;165:112345.