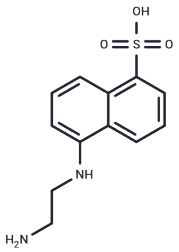
Data Sheet (Cat.No.TD0081)

TargetMol

EDANS

Chemical Properties



CAS No. : 50402-56-7

Formula: C12H14N2O3S

Molecular Weight: 266.32

Storage: Keep away from direct sunlight
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	EDANS (EDANS acid [5-((2-Aminoethyl)amino)naphthalene-1-sulfonic acid]) is a novel and quenched fluorogenic substrate for assaying retroviral protease by resonance energy transfer (RET).
Targets(IC50)	Others
In vitro	EDANS is one of the most popular donors for developing FRET-based protease substrates and nucleic acid probes. EDANS is often paired with DABSYL or DABCYL in FRETbased probes. Its fluorescence is environment-sensitive.
Cell Research	1. Detection of protease activity Experimental steps: 1. Prepare EDANS substrate solution: Dissolve the EDANS-labeled substrate in an appropriate buffer (such as PBS or experimental buffer), and the concentration is usually 1-50 μM, which is adjusted according to the experimental requirements. 2. Add protease: Add a protease (such as reverse transcriptase or other protease) to the EDANS substrate solution. 3. Incubate the reaction system at the optimal temperature, usually for 30-60 minutes. 4. Fluorescence detection: Use a fluorescence spectrophotometer or fluorescence measuring instrument, the excitation wavelength is usually 340 nm and the emission wavelength is about 490 nm to detect the fluorescence signal of EDANS. 5. Data analysis: Analyze protease activity based on fluorescence intensity. The higher the fluorescence signal intensity, the stronger the protease activity. 2. FRET experiment (EDANS as donor) Experimental steps: 1. Prepare substrates with EDANS and FRET receptors (such as DABCYL): Synthesize or purchase substrates with EDANS as donor fluorescent molecules and DABCYL as acceptor fluorescent molecules. 2. Add enzyme or protease: Add enzyme or protease to the substrate solution and allow the reaction to occur. 3. Fluorescence measurement: The excitation wavelength is 340 nm, and the emission wavelength of the monitored receptor (such as the emission wavelength of DABCYL is about 460 nm). 4. Results Analysis: After substrate cleavage, the energy transfer between EDANS and DABCYL will be reduced, and fluorescence signal changes can be used to monitor

Cell Research	enzyme activity. 3. Study on enzyme kinetics and inhibitors: Experimental steps: 1. Prepare substrate and enzyme solutions: Perform experiments in EDANS-labeled substrate and enzyme solutions at different concentrations. 2. Inhibitor research: Add different concentrations of inhibitors to study their effects on enzyme activity. 3. Incubation and fluorescence detection: Incubate the reaction according to the protease activity detection and measure the fluorescence signal, thereby calculating the enzyme kinetic parameters or inhibitory constant (IC50). Notes: 1. Buffer compatibility: Ensure that the buffer used does not quench or interfere with the fluorescent signal. Phosphate buffer (PBS) or Tris buffer is usually used. 2. Protease Inhibitor: When conducting inhibitor studies, use appropriate protease inhibitors to ensure the specificity of the experiment and avoid interference from other non-targeting enzymes. 3. Sensitivity of fluorescence measurement: Use appropriate fluorescence filters for accurate fluorescence detection. The excitation wavelength of EDANS is 340 nm and the emission wavelength is about 490 nm. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 13.89 mg/mL (52.16 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 1 mg/mL (3.75 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7549 mL	18.7744 mL	37.5488 mL
5 mM	0.751 mL	3.7549 mL	7.5098 mL
10 mM	0.3755 mL	1.8774 mL	3.7549 mL
50 mM	0.0751 mL	0.3755 mL	0.751 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

Ekici OD, et al. Profiling the substrate specificity of viral protease VP4 by a FRET-based peptide library approach. Biochemistry. 2009 Jun 23;48(24):5753-9.

Engfeldt T,et al. Chemical synthesis of triple-labelled three-helix bundle binding proteins for specific fluorescent detection of unlabelled protein. Chembiochem. 2005 Jun;6(6):1043-50.

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