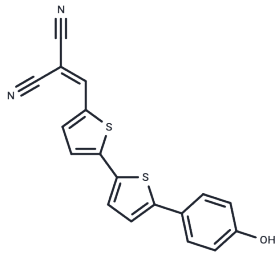
Data Sheet (Cat.No.T36948)

TargetMol

NIAD-4

Chemical Properties



CAS No. : 868592-56-7

Formula: C18H10N2OS2

Molecular Weight: 334.42

Storage: Keep away from direct sunlight
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	NIAD-4 is a near-infrared (NIR) fluorescent label targeting amyloid-beta (Ki=10 nM) capable of crossing the blood-brain barrier. It serves as a fluorophore for optical imaging of Aβ in the central nervous system (CNS) for Alzheimer's disease, with absorption peaks at 475-480 nm.
Targets(IC50)	Beta Amyloid
In vitro	NIAD-4 can enhance fluorescence quantum yield and fluorescence intensity by binding to amyloid aggregates and hindering their internal rotation, making it an effective tool for detecting amyloid proteins. Due to its charge neutrality and low molecular weight, NIAD-4 can penetrate the blood-brain barrier and can be used for imaging amyloid fibrils in the brain. The excitation wavelength of NIAD-4 is 475 nM, and the emission wavelength is 610 nM [2][3].

Solubility Information

Solubility	Ethanol: 0.2 mg/mL (0.6 mM),Sonication is recommended. DMSO: 20 mg/mL (59.81 mM),Sonication is recommended. DMSO:PBS(pH 7.2) (1:2): 0.3 mg/mL (0.9 mM),Sonication is recommended. DMF: 25 mg/mL (74.76 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.9903 mL	14.9513 mL	29.9025 mL
5 mM	0.5981 mL	2.9903 mL	5.9805 mL
10 mM	0.299 mL	1.4951 mL	2.9903 mL
50 mM	0.0598 mL	0.299 mL	0.5981 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

Kenneth T. Cheng, et al. [[5'-(4-Hydroxyphenyl)[2,2'-bithiophen]-5-yl]methylene]-propanedinitrile NIAD-4.
Brandenburg E, et al., Specific in situ discrimination of amyloid fibrils versus α-helical fibres by the fluorophore NIAD-4. Mol Biosyst. 2012 Feb;8(2):557-64.
Bae S, et al. Torsion-dependent fluorescence switching of amyloid-binding dye NIAD-4[J]. Chemical Physics Letters, 2015, 633: 109-113.

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