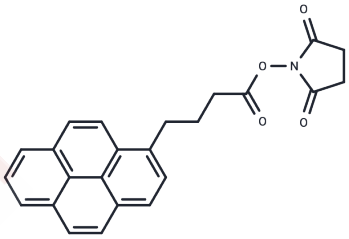
Data Sheet (Cat.No.T66661)

TargetMol

1-Pyrenebutyric acid NHS ester

Chemical Properties



CAS No. : 114932-60-4

Formula: C24H19NO4

Molecular Weight: 385.42

Storage: Store at low temperature
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	1-Pyrenebutyric acid NHS ester is an aromatic reagent widely used for biomolecule labeling. the NHS ester of 1-Pyrenebutyric acid NHS ester functionality enables covalent conjugation to amine-containing substrates, supporting applications in nucleic acid detection, protein immobilization, and characterization of cyclodextrin-based polyrotaxanes. Its pyrene fluorophore makes it suitable for fluorescence-based analytical studies.
Targets(IC50)	Others
In vitro	In in vitro experiments, antibodies were immobilized on the surface of CNT-FET circuits via a 1-hour reaction with 1-Pyrenebutyric acid NHS ester at a concentration of 5 mM [3]. 1-Pyrenebutyric acid NHS ester was employed as an interfacial coupling reagent, which enabled the efficient immobilization of SARS-CoV-2 spike antibodies on the surface of graphene sheets. This immobilization strategy provided critical support for the construction of field-effect transistor (FET)-based biosensors, which can be used for the specific detection of SARS-CoV-2 [5].

Solubility Information

Solubility	DMSO: ≥ 80 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5946 mL	12.9729 mL	25.9457 mL
5 mM	0.5189 mL	2.5946 mL	5.1891 mL
10 mM	0.2595 mL	1.2973 mL	2.5946 mL
50 mM	0.0519 mL	0.2595 mL	0.5189 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

Benvidi A, et al. Comparison of impedimetric detection of DNA hybridization on the various biosensors based on modified glassy carbon electrodes with PANHS and nanomaterials of RGO and MWCNTs. Talanta. 2016 Jan 15;147: 621-7.
Tian J, et al. Biosensing platform based on graphene oxide via self-assembly induced by synergic interactions. Anal Biochem. 2014 Sep 1;460:16-21.
Stefansson S, et al. Targeting antibodies to carbon nanotube field effect transistors by pyrene hydrazide modification of heavy chain carbohydrates[J]. Journal of Nanotechnology, 2012, 2012(1): 490175.
Fapyane D, et al. Graphitized-Carbon-Nanofiber Paper-Enzyme Electrode Fabrication Through Non-Covalent Modification for Enzyme Biofuel Cell Application. J Biomed Nanotechnol. 2015 Jan;11(1):137-42.
Khandelwal V, et al. Graphene biosensor: Rapid and Accurate diagnostic method of COVID-19 (SARS-CoV-2). 2020.
Sakamoto H, et al. Development of biofuel cell using a complex of highly oriented immobilized his-tagged enzyme and carbon nanotube surface through a pyrene derivative. Journal of Nanoscience and Nanotechnology, 2019, 19 (6): 3551-3557.