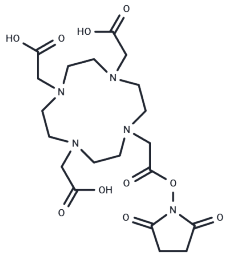
Data Sheet (Cat.No.T17842)

TargetMol

DOTA-NHS-ester

Chemical Properties



CAS No. : 170908-81-3

Formula: C20H31N5O10

Molecular Weight: 501.49

Storage: Store at low temperature,Keep away from moisture
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	DOTA-NHS-ester is a linker for affibody molecules with applications in small animal PET, SPECT, and CT. It can be used to label radiotherapeutic agents or imaging probes for tumor detection.
Targets(IC50)	ADC Linker,PROTAC Linker
In vitro	**METHODS**: The binding kinetics of hIMB1636 to Trop2 antigen were measured by biofilm interferometry (BLI). Western blotting was used to screen Trop2 expression in pancreatic cancer cell lines. Flow cytometry and cell immunofluorescence were used to evaluate the binding ability of hIMB1636 and Trop2 on the cell surface. hIMB1636 was conjugated with p-SCN-Bn-NOTA (NOTA) and DOTA-NHS-ester (DOTA) for 64Cu and 177Lu radiolabeling. **RESULTS** According to the BLI results, hIMB1636 had a strong binding affinity to Trop2. According to the results of Western blotting, flow cytometry, and cell immunofluorescence, the T3M-4 cell line showed the strongest expression of Trop2 and the specific binding ability of hIMB1636. The radiochemical purity of 64Cu-NOTA-hIMB1636 and 177Lu-DOTA-hIMB1636 exceeded 95%. [2]

Solubility Information

Solubility	DMSO: 50 mg/mL (99.7 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: 2 mg/mL (3.99 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	1.9941 mL	9.9703 mL	19.9406 mL
5 mM	0.3988 mL	1.9941 mL	3.9881 mL
10 mM	0.1994 mL	0.997 mL	1.9941 mL
50 mM	0.0399 mL	0.1994 mL	0.3988 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

Mojarrad P, et al. Novel radiopharmaceutical (Technetium-99m)-(DOTA-NHS-ester)-Methionine as a SPECT-CT tumor imaging agent. Eur J Pharm Sci. 2020 Jan 1;141:105112.
Li C,et al. Theranostic application of 64Cu/177Lu-labeled anti-Trop2 monoclonal antibody in pancreatic cancer tumor models. Eur J Nucl Med Mol Imaging. 2022 Dec;50(1):168-183.
Hall MA,et al. Quantifying multimodal contrast agent biological activity using near-infrared flow cytometry. Contrast Media Mol Imaging. 2012 May-Jun;7(3):338-45
Hoppmann S,et al. Radiolabeled affibody-albumin bioconjugates for HER2-positive cancer targeting. Bioconjug Chem. 2011 Mar 16;22(3):413-21.