Product Data Sheet

Product Name: PDI2
Cat. No.: GC78794

Chemical Properties

Cas. No.	3110124-60-9		
Formula	$C_{59}H_{90}N_{12}O_{19}$	M.Wt	1271.41
Solubility	DMSO: 1 mg/mL (0.79 mM; Need ultrasonic)	Storage	Sealed storage, away from moisture
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

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PDI2 (PSMA-DOTA-PEI2) is a prostate-specific membrane antigen (PSMA) ligand that acts as a tumor retention agent, renal uptake reducer, imaging agent and antitumor agent, applicable in SPECT diagnostic imaging and radiotheranostics. PDI2 specifically binds to PSMA on prostate cancer cells, enters cells via clathrin-dependent endocytosis, and exhibits higher tumor retention rate and lower renal uptake level. PDI2 is applicable in research related to prostate cancer and castration-resistant metastatic prostate cancer [1].

In Vivo, PDI2 (111 kBq; i.v.; single dose) exhibits high and persistent tumor uptake in the PSMA-positive LNCaP prostate cancer xenograft model, along with a favorable tumor-to-kidney radioactivity ratio[1]. PDI2 (5-10 kBq; i.v.; single dose) effectively inhibits the growth of PSMA-positive LNCaP prostate cancer xenografts with no obvious toxicity[1].

In Vitro, [111In]In-PDI2 (0.195-50 nM; incubated on ice for 2 h) binds specifically to PSMA on LNCaP cells, with a Kd value of 22.8 nM[1]. [111In]In-PDI2 (37 kBq; incubated on ice for 2 h, incubated at 37°C for 0-4 h) shows an internalization rate of 38.9% in LNCaP cells[1].

References:
[1]. Hasegawa T, et al. Development of Novel Radiotheranostic Ligand with Positively Charged Unit Targeting Prostate-Specific Membrane Antigen. J Med Chem. 2025;68(10):10190-10202.

Caution: Product has not been fully validated for medical applications. For research use only.
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