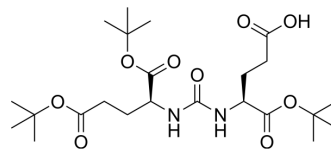


## DUPA(OtBu)-OH

<b>Cat. No.:</b>	HY-103591		
<b>CAS No.:</b>	1026987-94-9		
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>40</sub> N <sub>2</sub> O <sub>9</sub>		
<b>Molecular Weight:</b>	488.57		
<b>Target:</b>	PSMA		
<b>Pathway:</b>	Immunology/Inflammation		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 125 mg/mL (255.85 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.0468 mL	10.2339 mL	20.4679 mL
	5 mM	0.4094 mL	2.0468 mL	4.0936 mL
	10 mM	0.2047 mL	1.0234 mL	2.0468 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (4.26 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (4.26 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (4.26 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

DUPA(OtBu)-OH is a DUPA precursor. DUPA is used as the targeting moiety to actively deliver Docetaxel (DTX) for treatment of Prostate-Specific Membrane Antigen (PSMA) expressing prostate cancer.

#### In Vitro

DUPA(OtBu)-OH (DUPA precursor 17) is a 2-[3-(1,3-dicarboxypropyl)ureido]pentanedioic acid (DUPA) reagent<sup>[1]</sup>. The targeting ligand DUPA enhances the transport capability and selectivity of Paclitaxel (PTX) to tumor cells via prostate-specific membrane antigen (PSMA) mediated endocytosis. Besides, DUPA is conjugated with PTX via a disulfide bond, which facilitates the rapid and differential drug release in tumor cells<sup>[2]</sup>.

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	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	DUPA-targeted Docetaxel (DTX) conjugate with longer spacer has no toxicity in major organs of treated mice <sup>[3]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## CUSTOMER VALIDATION

- Research Square Preprint. 2021 Jun.

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## REFERENCES

- [1]. Roy J, et al. DUPA conjugation of a cytotoxic indenoisoquinoline topoisomerase I inhibitor for selective prostate cancer cell targeting. J Med Chem. 2015 Apr 9;58(7):3094-103.
- [2]. Lv Q, et al. Prostate-Specific Membrane Antigen Targeted Therapy of Prostate Cancer Using a DUPA-Paclitaxel Conjugate. Mol Pharm. 2018 May 7;15(5):1842-1852.
- [3]. Peng ZH, et al. Spacer length impacts the efficacy of targeted docetaxel conjugates in prostate-specific membrane antigen expressing prostate cancer. J Drug Target. 2013 Dec;21(10):968-80.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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