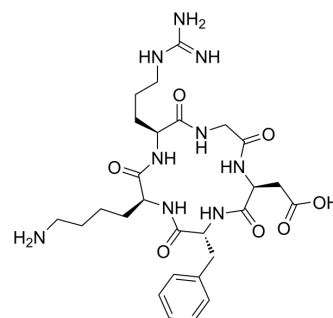


Cyclo(-RGDfK)

Cat. No.:	HY-P0023
CAS No.:	161552-03-0
Molecular Formula:	C ₂₇ H ₄₁ N ₉ O ₇
Molecular Weight:	603.67
Sequence Shortening:	Cyclo(RGDfK)
Target:	Integrin
Pathway:	Cytoskeleton
Storage:	Sealed storage, away from moisture
	Powder -80°C 2 years
	-20°C 1 year



* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (138.04 mM; Need ultrasonic)
 H₂O : 50 mg/mL (82.83 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.6565 mL	8.2827 mL	16.5653 mL
	5 mM	0.3313 mL	1.6565 mL	3.3131 mL
	10 mM	0.1657 mL	0.8283 mL	1.6565 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 (3.45 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.08 mg/mL (3.45 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.08 mg/mL (3.45 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cyclo(-RGDfK) is a potent and selective inhibitor of the α_vβ₃ integrin, with an IC₅₀ of 0.94 nM^[1]. Cyclo(-RGDfK) TFA potently targets tumor microvasculature and cancer cells through the specific binding to the α_vβ₃ integrin on the cell surface^[2].

IC₅₀ & Target

α_vβ₃
 0.94 nM (IC₅₀)

In Vitro

Cyclo(-RGDFK) is a potent and selective inhibitor of the $\alpha_v\beta_3$ integrin, with a IC_{50} of 0.94 nM^[1]. [⁶⁶Ga]DOTA-E-[c(RGDFK)]₂ can be prepared with high radiochemical purity (>97%), specific activity (36-67GBq/ μ M), in vitro stability, and moderate protein binding. MicroPET imaging up to 24 post-injection showed contrasting tumors reflecting $\alpha_v\beta_3$ -targeted tracer accumulation [2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Bioact Mater. 2021 Jan 7;6(7):2039-2057.
- Mol Ther Nucleic Acids. 2021 Jan 9;23:797-810.
- ACS Appl Mater Interfaces. 2019 Jul 31;11(30):26648-26663.
- Engineering. 8 October 2020.
- Adv Healthc Mater. 2021 May 29;e2100304.

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REFERENCES

[1]. Simecek J, et al. Benefits of NOPO as chelator in gallium-68 peptides, exemplified by preclinical characterization of (68)Ga-NOPO-c(RGDFK). Mol Pharm. 2014 May 5;11(5):1687-95.

[2]. Lopez-Rodriguez V, et al. Preparation and preclinical evaluation of (66)Ga-DOTA-E(c(RGDFK))₂ as a potential theranostic radiopharmaceutical. Nucl Med Biol. 2015 Feb;42(2):109-14.

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

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