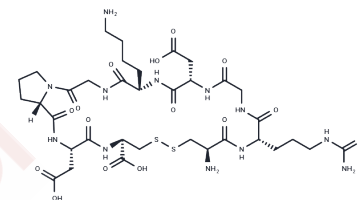


iRGD peptide

Chemical Properties

CAS No. :	1392278-76-0
Formula:	C ₃₅ H ₅₇ N ₁₃ O ₁₄ S ₂
Molecular Weight:	948.04
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	iRGD peptide (c(CRGDKGPDC)) is a 9-amino acid cyclic peptide (sequence: CRGDKGPDC) and a molecular mimicry agent that was originally identified in an in vivo screening of phage display libraries in tumor-bearing mice.
Targets(IC50)	Integrin
In vitro	iRGD peptide-mediated tumor penetration involves a three-step process: initial binding to αv -integrins present on tumor vasculature or cells, the revelation of a C-terminal motif capable of binding to neuropilin-1 (NRP-1) through proteolysis, and subsequent cell internalization. Incorporation of the iRGD peptide into the ICOVIR15K fiber's C terminus specifically improves binding and internalization in MCF7 cells, known to express NRP-1 and integrins, without affecting the virus's ability to infect and replicate [1]. Alone, the iRGD peptide does not significantly impact gastric cancer cells. However, when combined with 5-FU, it notably enhances the chemotherapy's efficacy against gastric cancer cells via NRP1, at a concentration of 0.3 $\mu\text{mol/mL}$ [2].
In vivo	iRGD inserted in the oncolytic adenovirus ICOVIR15K (ICOVIR15K-iRGD) enhances early adenovirus dissemination through the tumor mass and elevates the antitumor effect in mice[1]. In vivo, iRGD did not alter the normal organ transduction pattern, with liver and spleen as main targeted organs. iRGD (4 mmol/kg, i.v.) combined with 5-FU significantly suppresses tumor growth in nude mice bearing human gastric cancer cells[2].

Solubility Information

Solubility	DMSO: Insoluble, H ₂ O: < 1 mg/mL (insoluble), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0548 mL	5.274 mL	10.5481 mL
5 mM	0.211 mL	1.0548 mL	2.1096 mL
10 mM	0.1055 mL	0.5274 mL	1.0548 mL
50 mM	0.0211 mL	0.1055 mL	0.211 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

Puig-Saus C, et al. iRGD tumor-penetrating peptide-modified oncolytic adenovirus shows enhanced tumor transduction, intratumoral dissemination and antitumor efficacy. *Gene Ther.* 2014 Aug;21(8):767-74.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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