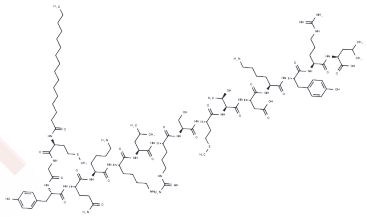
Data Sheet (Cat.No.T6764)

TargetMol

ATI-2341

Chemical Properties



CAS No. : 1337878-62-2

Formula: C104H178N26O25S2

Molecular Weight: 2256.82

Appearance: no data available

Storage: keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	ATI-2341, pepducin targeting the C-X-C chemokine receptor type 4 (CXCR4), is an allosteric agonist activating the inhibitory heterotrimeric G protein (Gi) to promote inhibition of cAMP production and induce calcium mobilization.
Targets(IC50)	CXCR
In vitro	ATI-2341 induces CXCR4- and G protein-dependent signaling, receptor internalization, and chemotaxis in CXCR4-expressing cells, with an EC50 value of 194 ± 16 nM and intrinsic activity of 81 ± 4%. It is a potent mobilizer of bone marrow PMNs (polymorphonuclear neutrophils) and HSPCs (hematopoietic stem and progenitor cells), potentially representing a novel therapeutic approach for recruiting HSPCs prior to ABMT (autologous bone marrow transplantation). ATI-2341 also induces chemotaxis in CCRF-CEM cells, exhibiting the characteristic bell-shaped curve observed with chemotactic agents[1].
In vivo	Intraperitoneal (i.p.) injection of ATI-2341 in BALB/c mice results in a dose-dependent recruitment of PMNs into the peritoneum, with a maximal effect seen at 405 nmol/kg. A higher concentration of ATI-2341 results in reduced recruitment, which is reminiscent of the bell-shaped curve generally seen with chemotactic agents. Intravenous (i.v.) administration of ATI-2341 in mice results in a dose-dependent increase in PMNs in the peripheral circulation, measured 90 min after administration of compound. The effect is maximal at 0.66 μMol/kg of ATI-2341. ATI-2341 has no effect on the mobilization of lymphocytes at any dose tested[1].
Cell Research	Receptors(CXCR4-eGFP) are transiently transfected into HEK-293 cells and are plated 24 h after transfection on glass coverslips coated with poly-D-lysine. The next day, cells are treated with either vehicle alone or with varying concentrations of ATI-2341 for 30 min at 37 °C followed by fixation with methanol for 5 min at –20 °C. GFP fluorescence is visualized directly using a Zeiss Axiovert inverted microscope. Images are processed using Adobe Photoshop and Adobe Illustrator. (Only for Reference)

Solubility Information

Solubility	Ethanol: 2 mg/mL (0.89 mM),Sonication is recommended. DMSO: 93 mg/mL (41.21 mM),Sonication is recommended. H2O: <1 mg/mL,

(< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.4431 mL	2.2155 mL	4.431 mL
5 mM	0.0886 mL	0.4431 mL	0.8862 mL
10 mM	0.0443 mL	0.2216 mL	0.4431 mL
50 mM	0.0089 mL	0.0443 mL	0.0886 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.

Reference

Tchernychev B, et al. Proc Natl Acad Sci U S A. 2010, 107(51):22255-9.