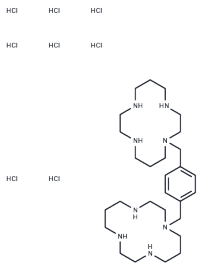
Data Sheet (Cat.No.T1776L)

TargetMol

Plerixafor octahydrochloride

Chemical Properties



CAS No. : 155148-31-5

Formula: C28H62Cl8N8

Molecular Weight: 794.46

Appearance: no data available

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

Biological Description

Description	Plerixafor octahydrochloride (JM3100 octahydrochloride) blocks the binding of stromal cell-derived factor (SDF-1alpha) to the cellular receptor CXCR4, resulting in hematopoietic stem cell (HSC) release from bone marrow and HSC movement into the peripheral circulation. Plerixafor is a bicyclam with hematopoietic stem cell-mobilizing activity.
Targets(IC50)	HIV Protease,CXCR,Virus Protease
In vitro	AMD 3100 can inhibit the replication of low-passage clinical HIV-1 isolates (K31, D370, K6/-2, HEM, and JRCSF) in primary T4 lymphocytes (EC50s: 0.16-1.5 ng/ml; EC90s: 0.36-4.7 ng/ml). In primary monocytes, AMD 3100 was active against HIV-1 (K31 and SF-162) at EC50s of 0.28-7.2 ng/mL and EC90s of 0.68-12 ng/mL.
In vivo	Serum drug levels in rabbits given AMD 3100 (10 mg/kg) by the subcutaneous route were determined by a bioassay based on the EC50 of the compound required to inhibit HIV-1 cytopathicity in MT-4 cells.
Cell Research	Plerixafor is dissolved in DMSO and then diluted with appropriate medium[2]. U87 mg cells are seeded in 96-well plates at the density of 6×103 cells in 200 µL/well and treated with CXCL12, Plerixafor or with peptide R, as described in the previous "Treatments" section. MTT (5 µg/mL) is added at each time point (24, 48, 72 h) during the final 2 h of treatment. After removing cell medium, 100 µL DMSO are added and optical densities measured at 595 nm with a LT-4000MS Microplate Reader. Measurements are made in triplicates from three independent experiments[2].

Solubility Information

Solubility	DMSO: Insoluble, H2O: 119.17 mg/mL (150 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2587 mL	6.2936 mL	12.5872 mL
5 mM	0.2517 mL	1.2587 mL	2.5174 mL
10 mM	0.1259 mL	0.6294 mL	1.2587 mL
50 mM	0.0252 mL	0.1259 mL	0.2517 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

Zabel BA, et al. J Immunol. 2009, 183(5), 3204-3211.
Li Y, Niu M, Zhao A, et al. CXCL12 is involved in α-synuclein-triggered neuroinflammation of Parkinson's disease. Journal of Neuroinflammation. 2019, 16(1): 1-14
Theil F, Kuckhahn A, Hörning A, et al.Repeated CXCR4 Blockade by Plerixafor Attenuates Transplant Vasculopathy in Murine Aortic Allografts.The Journal of Immunology.2024, 213(10): 1542-1552.
Fricker SP, et al. Biochem Pharmacol. 2006, 72(5), 588-596.
Nishimura Y, et al. J Invest Dermatol. 2012, 132(3 Pt 1), 711-720.
Kumar S, et al. Bone, 2012, 50(4), 12012-12018.
Li Y, Niu M, Zhao A, et al. CXCL12 is involved in α-synuclein-triggered neuroinflammation of Parkinson's disease[J]. Journal of Neuroinflammation. 2019, 16(1): 1-14.