

Product Data Sheet

Plerixafor (AMD3100)

Cat. No.:	A2025
CAS No.:	110078-46-1
Formula:	C ₂₈ H ₅₄ N ₈
M.Wt:	502.78
Synonyms:	
Target:	GPCR/G protein
Pathway:	CXCR
Storage:	Store at -20°C



Solvent & Solubility

≥25.14 mg/mL in EtOH; insoluble in DMSO; ≥2.9 mg/mL in H₂O with gentle warming

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	Concentration			
	1 mM	1.9889 mL	9.9447 mL	19.8894 mL
	5 mM	0.3978 mL	1.9889 mL	3.9779 mL
	10 mM	0.1989 mL	0.9945 mL	1.9889 mL

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

Biological Activity

Shortsummary

CXCR4 chemokine receptor antagonist

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line:	U2OS cells expressing EGFP-CXCR4
Preparation method:	Limited solubility in DMSO. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
Reacting conditions:	2.5 mg/mL; 30 min

	Applications:	CXCR4 and SDF-1 were key factors in regulating cancer cell invasion and metastasis, and Plerixafor effectively prevented the binding of SDF-1 to CXCR4, inhibiting cancer metastasis.
In Vivo	Animal experiment	
	Animal models:	C57BL/6 mice with segmental bone defect
	Dosage form:	5 mg/kg; i.p.
	Applications:	Cohorts of mice were administered with PBS, IGF1, PDGF, SCF or VEGF for five consecutive days and Plerixafor on the 5th day. The number and size of the colonies were highest in mice injected with IGF1 and Plerixafor than those treated with PDGF, SCF or VEGF plus Plerixafor.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. van Attekum MHA, van Bruggen JAC, et al. "CD40 signaling instructs chronic lymphocytic leukemia cells to attract monocytes via the CCR2 axis." *Haematologica*. 2017Dec;102(12):2069-2076.PMID:28971904
2. Li P, Deng J, et al."Blockade of hypoxia-induced CXCR4 with AMD3100 inhibits production of OA-associated catabolic mediators IL-1 β and MMP-13." *Mol Med Rep*. 2016 Aug;14(2):1475-82.PMID:27356492

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References

- [1]. Fricker SP, Anastassov V, Cox J, Darkes MC, Grujic O, Idzan SR, Labrecque J, Lau G, Mosi RM, Nelson KL, Qin L, Santucci Z, Wong RS. Characterization of the molecular pharmacology of AMD3100: a specific antagonist of the G-protein coupled chemokine receptor, CXCR4. *Biochem Pharmacol*. 2006 Aug 28;72(5):588-96.
- [2]. Li J, Oupick? D. Effect of biodegradability on CXCR4 antagonism, transfection efficacy and antimetastatic activity of polymeric Plerixafor.*Biomaterials*. 2014 Jul;35(21):5572-9.
- [3]. Kumar S, Ponnazhagan S. Mobilization of bone marrow mesenchymal stem cells in vivo augments bone healing in a mouse model of segmental bone defect. *Bone*. 2012 Apr;50(4):1012-8.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APEX BIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.



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