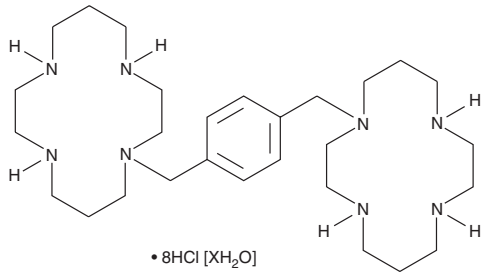
PRODUCT INFORMATION

Plerixafor (hydrochloride hydrate)

Item No. 10011332

Formal Name:	1,4-*bis*((1,4,8,11-tetraazacyclotetradecan-1-yl) methyl)benzene, octahydrochloride, hydrate
Synonyms:	AMD 3100, JM 3100, SID 791
MF:	$C_{28}H_{54}N_8 \bullet 8HCl\ [XH_2O]$
FW:	794.5
Purity:	≥98%
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Plerixafor (hydrochloride hydrate) is supplied as a crystalline solid. Aqueous solutions of plerixafor (hydrochloride hydrate) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of plerixafor (hydrochloride hydrate) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Plerixafor is a partial antagonist of chemokine receptor 4 (CXCR4) with IC_{50} values ranging from 0.02 to 0.13 µg/ml for inhibiting calcium flux in peripheral blood mononuclear cells (PBMCs), various types of T cells, and mouse lymphocytic leukemia cells.[1] It is selective for CXCR4 over CXCR1-3 and CXCR5-9 (IC_{50}s = >25 µg/ml). Plerixafor decreases infectious virus content in the supernatant of Jurkat cells chronically infected with HIV-1(III_B) (EC_{50} = ~0.02 µg/ml).[2] It rapidly mobilizes murine and human hematopoietic stem and murine long-term repopulating cells for transplantation alone and, with a synergistic effect, when used in combination with G-CSF.[3] Plerixafor also increases T cell trafficking in mouse blood, spleen, and central nervous system.[4,5] Plerixafor (1.25 mg/kg twice per day) decreases the number of 4T1 murine mammary carcinoma cells in the lung in a mouse model of lung metastasis.[6]

References

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2. De Clercq, E., Yamamoto, N., Pauwels, R., *et al.* Highly potent and selective inhibition of human immunodeficiency virus by the bicyclam derivative JM3100. *Antimicrob. Agents Chemother.* **38(4)**, 668-674 (1994).
3. Hess, D.A., Bonde, J., Craft, T.C., *et al.* Human progenitor cells rapidly mobilized by AMD3100 repopulate NOD/SCID mice with increased frequency in comparison to cells from the same donor mobilized by granulocyte colony stimulating factor. *Biol. Blood Marrow Transplant* **13(4)**, 398-411 (2007).
4. Bernardini, G., Sciumè, G., Bosisio, D., *et al.* CCL3 and CXCL12 regulate trafficking of mouse bone marrow NK cell subsets. *Blood* **111(7)**, 3626-3634 (2008).
5. McCandless, E.E., Zhang, B., Diamond, M.S., *et al.* CXCR4 antagonism increases T cell trafficking in the central nervous system and improves survival from west nile virus encephalitis. *Proc. Natl. Acad. Sci. U.S.A.* **105(32)**, 11270-11275 (2008).
6. Smith, M.C., Luker, K.E., Garbow, J.R., *et al.* CXCR4 regulates growth of both primary and metastatic breast cancer. *Cancer Res.* **64(23)**, 8604-8612 (2004).

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