# Product Specification Sheet

**Product Name:** AMD3100 (Plerixafor)

**Catalog Number:** C2310

## Technical Information:

- **Chemical Formula:** $C_{28}H_{54}N_8$
- **CAS #:** 110078-46-1, 155148-31-5
- **Molecular Weight:** 502.78
- **Purity:** > 98%
- **Appearance:** White solid
- **Solubility:** Soluble in DMSO up to 100 mM in water
- **Chemical Name:** 1,1'-(1,4-Phenylenedioxy)methylene][1,4,8,11-tetraazacyclotetradecane]
- **Storage:** Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.
- **Shelf Life:** In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.

## Handling:

- To make 10 mM stock solution, add 0.199mL of DMSO for each mg of AMD3100 (Plerixafor)
- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

## Biological Activity:

Plerixafor (AMD3100) is a bis-tetraazadecane-based, selective inhibitor of human immunodeficiency virus. It is inhibitory to the replication of various HIV-1 and HIV-2 strains in various cell lines at an EC50 of 1-10 ng/mL, about 100,000-fold lower than cytotoxic concentrations (>500 uM/mL). [1] Plerixafor shows inhibition to HIV-1 (IIIB) and several clinical HIV-1 isolates at an EC50 of less than 1 ng/mL.

Plerixafor has been shown to be active in HIV strains resistant to reverse transcriptase inhibitors AZT, DDI, 3TC, aAPA, and TIBO. [2]

Plerixafor blocks HIV-1 entry and membrane fusion via the CXCR4 co-receptor, but not via CCR5. It also prevents monoclonal antibody 12G5 from binding to CXCR4. Entry into CXCR-expressing cells was strongly inhibited by Plerixafor at IC50 values of 0.01-0.1 nM. [3] Plerixafor demonstrates a specific antagonism of the interaction between chemokine SDF-1 and CXCR4, reducing severity of inflammation in CIA models. [4]

## Reference:


For Technical Support: [technical@cellagentech.com](mailto:technical@cellagentech.com)

*For research use only, not for clinical or diagnostic use.*