



Subject: Mozobil (plerixafor)

Revision Date: 5/24

DESCRIPTION

Plerixafor is an inhibitor of the CXCR4 chemokine receptor and blocks binding of its cognate ligand, stromal cell-derived factor-1 α (SDF-1 α). SDF-1 α and CXCR4 play a role in the trafficking and homing of human hematopoietic stem cells (HSCs) to the marrow compartment. Once in the marrow, stem cell CXCR4 can act to help anchor these cells to the marrow matrix, either directly via SDF-1 α or through the induction of other adhesion molecules. Treatment with plerixafor resulted in leukocytosis and elevations in circulating hematopoietic progenitor cells in mice, dogs, and humans. CD34+ cells mobilized by plerixafor were capable of engraftment with long-term repopulating capacity up to one year in canine transplantation models.

POLICY

OSU Health Plan (OSUHP) considers plerixafor medically necessary for patients who meet the following criteria:

- Patient meets MCG criteria for an autologous hematopoietic cell transplantation (see MCG *Medical Oncology GRG (PG-ONC)*); and
- Patient is receiving one of the following hematopoietic cell mobilization regimens:
 - Granulocyte colony-stimulating factor (G-CSF) + plerixafor
 - G-CSF + cyclophosphamide +/- plerixafor
 - Granulocyte-macrophage colony-stimulating factor + cyclophosphamide +/- plerixafor
 - Pegfilgrastim + plerixafor
 - G-CSF + disease specific chemotherapy +/- plerixafor

PROCEDURE

When the above criteria are met, OSUHP will approve plerixafor 0.24 mg/kg per day (maximum dose 40 mg/day) for 4 days starting on day 4 of G-CSF. Prior authorization is required.

EXCLUSIONS

OSUHP considers plerixafor experimental and investigational when the above criteria are not met.

CODES

HCPCS codes covered when criteria are met:

J2562	Injection, plerixafor, 1 mg
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REFERENCES

DiPersio JF, Micallef IN, Stiff PJ, et al. Phase III prospective randomized double-blind placebo-controlled trial of plerixafor plus granulocyte colony-stimulating factor compared with placebo plus granulocyte colony-stimulating factor for autologous stem-cell mobilization and transplantation for patients with non-Hodgkin's lymphoma. *J Clin Oncol.* 2009;27(28):4767-4773.

DiPersio JF, Stadtmauer EA, Nademanee A, et al; for 3102 Investigators. Plerixafor and G-CSF versus placebo and G-CSF to mobilize hematopoietic stem cells for autologous stem cell transplantation in patients with multiple myeloma. *Blood.* 2009;113(23):5720-5726.

Mozobil [prescribing information]. Cambridge, MA: Genzyme Corporation; 2019.

Nademanee AP, DiPersio JF, Maziarz RT, et al. Plerixafor plus granulocyte colony-stimulating factor versus placebo plus granulocyte colony-stimulating factor for mobilization of CD34+ hematopoietic stem cells in patients with multiple myeloma and low peripheral blood CD34+ cell count: results of a subset analysis of a randomized trial. *Biol Blood Marrow Transplant.* 2012;18:1564-1572.

NCCN. Hematopoietic cell transplantation version 1.2024.

https://www.nccn.org/professionals/physician_gls/pdf/hct.pdf

Wuchter P, Ran D, Bruckner T, et al. Poor mobilization of hematopoietic stem cells: definitions, incidence, risk factor, and impact on outcome of autologous transplantation. *Biol Blood Marrow Transplant.* 2010;16:490-499.