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Mavorixafor

National Cancer Institute

Source

National Cancer Institute. *Mavorixafor*. NCI Thesaurus. Code C126660.

An orally bioavailable inhibitor of C-X-C chemokine receptor type 4 (CXCR4), with potential antineoplastic and immune checkpoint inhibitory activities. Upon administration, mavorixafor selectively binds to CXCR4 and prevents the binding of CXCR4 to its ligand, stromal cell-derived factor 1 (SDF-1 or CXCL12). This inhibits receptor activation and results in decreased proliferation and migration of CXCR4-overexpressing tumor cells. In addition, inhibition of CXCR4 prevents the recruitment of regulatory T-cells and myeloid-derived suppressor cells (MDSCs) to the tumor microenvironment, thereby abrogating CXCR4-mediated immunosuppression and enabling the activation of a cytotoxic T-lymphocyte-mediated immune response against cancer cells. The G protein-coupled receptor CXCR4, which is upregulated in several tumor cell types, induces the recruitment of immunosuppressive cells in the tumor microenvironment, suppresses immune surveillance, and promotes tumor angiogenesis and tumor cell proliferation. It is also a co-receptor for HIV entry into T-cells.