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# Copper Cu 64 Plerixafor

National Cancer Institute

## Source

National Cancer Institute. *Copper Cu 64 Plerixafor*. NCI Thesaurus. Code C114379.

A radioconjugate labeled with the positron-emitting radioisotope, copper Cu 64, and also composed of plerixafor, a bicyclam and hematopoietic stem cell-mobilizing agent that targets the chemokine receptor CXCR4, with tumor imaging potential using positron emission tomography (PET)/computed tomography (CT). Upon administration, the plerixafor moiety blocks the binding of stromal cell-derived factor-1alpha (SDF-1alpha or CXCL12) to the cellular receptor CXCR4. In turn, the CXCR4-expressing tumor cells can be visualized using PET/CT and the resulting images could be used to predict a tumor's response to certain treatments. The expression of CXCR4 on cancer cells has been correlated with increased tumor cell survival, tumor progression, and increased metastatic potential.