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Gene-Modified HIV-Protected Hematopoietic Stem Cells

National Cancer Institute

Source

National Cancer Institute. *Gene-Modified HIV-Protected Hematopoietic Stem Cells*. NCI Thesaurus. Code C104415.

Autologous hematopoietic stem cells (HSCs) genetically modified to be resistant to infection by human immunodeficiency virus (HIV). Allogeneic human autologous HSCs are isolated and transduced ex vivo with three different anti-HIV genes. Upon infusion into the HIV-infected lymphoma patient, the gene-modified HIV-protected HSCs are resistant to HIV entry and replication thereby preventing HIV infection in these proliferating stem cells and any differentiated cells that they give rise to. This results in the formation of immune cells resistant to HIV which also may be able to destroy HIV-infected cells.