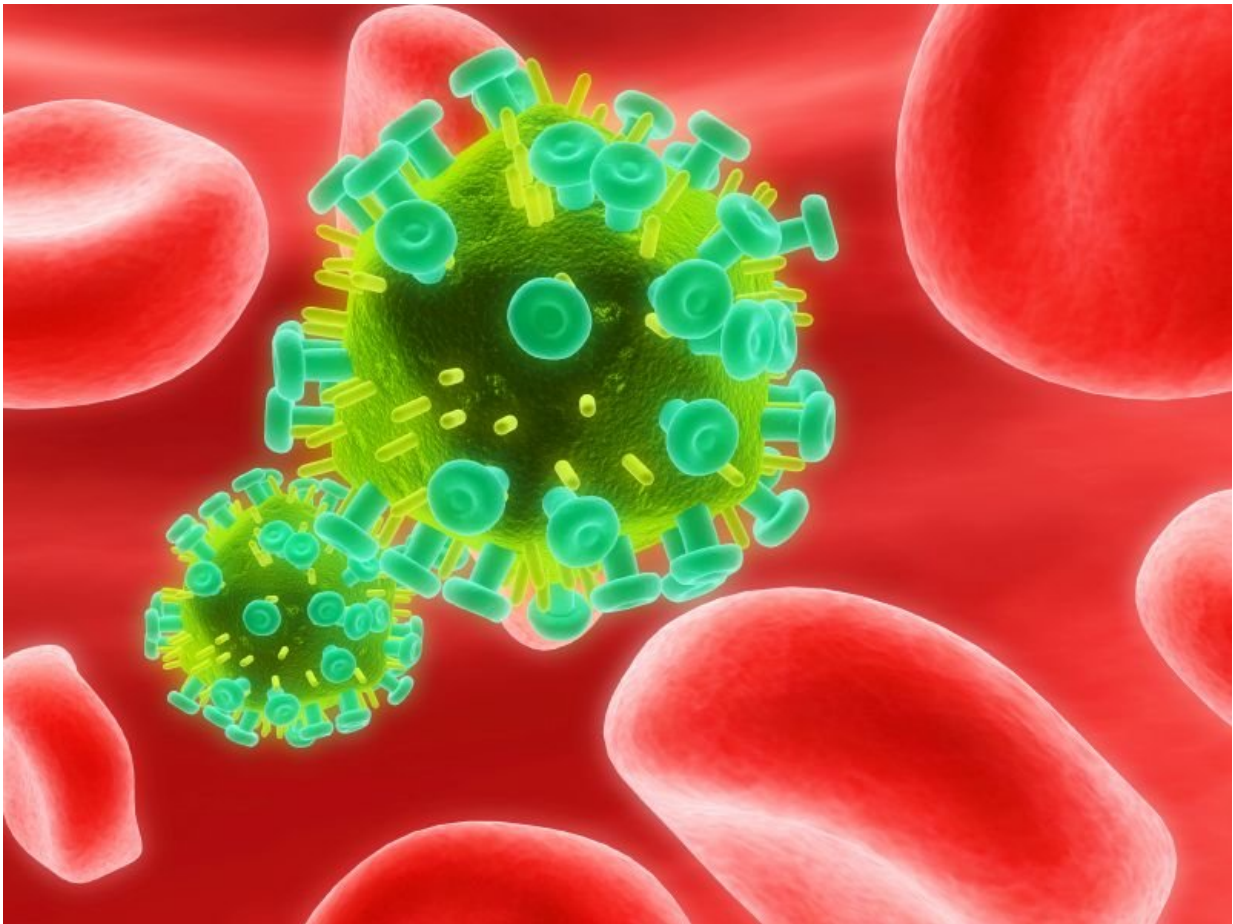


# HSPC-derived CAR T-cells capable of lasting engraftment

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(HealthDay)—Hematopoietic stem/progenitor cell (HSPC)-derived

chimeric antigen receptor (CAR) T-cells are capable of long-term engraftment in a model of HIV/AIDS, according to a study published online Dec. 28 in *PLOS Pathogens*.

Anjie Zhen, Ph.D., from the David Geffen School of Medicine at the University of California, Los Angeles, and colleagues reported the use of a protective CD4 CAR (C46CD4CAR) to redirect HSPC-derived T-cells against simian/human immunodeficiency virus (SHIV) infection in pigtail macaques.

The researchers found that CAR-containing cells persisted for more than two years with no measurable toxicity; they were capable of multilineage engraftment. Lower viral rebound was seen in CAR animals relative to controls with [combination antiretroviral therapy](#) (cART) treatment followed by cART withdrawal, with demonstration of an immune memory-like response. CAR-expressing cells were detected in multiple lymphoid tissues, and there were reduced tissue-associated SHIV RNA levels and higher CD4/CD8 ratios in the gut relative to controls.

"These results show that HSPC-derived CAR T-cells are capable of long-term engraftment and immune surveillance," the authors write. "This study demonstrates for the first time the safety and feasibility of HSPC-based CAR therapy in a large animal preclinical model."

**More information:** [Abstract/Full Text](#)

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