Gene-based stem cell therapy specifically removes cell receptor that attracts HIV

February 25 2010

UCLA AIDS Institute researchers successfully removed CCR5 — a cell receptor to which HIV-1 binds for infection but which the human body does not need — from human cells. Individuals who naturally lack the CCR5 receptor have been found to be essentially resistant to HIV.

Using a humanized mouse model, the researchers transplanted a small RNA molecule known as short hairpin RNA (shRNA), which induced RNA interference into human blood stem cells to inhibit the expression of CCR5 in human immune cells.

The findings provide evidence that this strategy can be an effective way to treat HIV-infected individuals, by prompting long-term and stable reduction of CCR5.

The results are being published in *Blood*, Journal of the American Society of Hematology.

Provided by University of California - Los Angeles