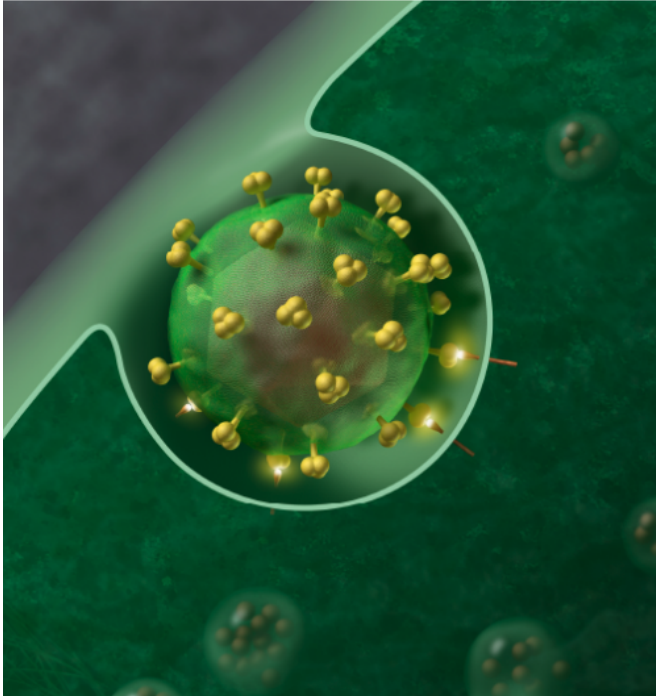


Scientists zoom in on AIDS virus hideout

15 March 2017



HIV-1 Virus. Credit: J Roberto Trujillo/Wikipedia

French scientists said Wednesday they had found a way to pinpoint elusive white blood cells which provide a hideout for the AIDS virus in people taking anti-HIV drugs.

Being able to spot, and one day neutralise, these "reservoir" cells has long been a holy grail in the quest to wipe out AIDS and the [human immunodeficiency virus](#) (HIV) that causes it.

The discovery "paves the way to a better fundamental understanding of viral reservoirs," said France's CNRS research institute, which took part in the study published in *Nature*.

"In the longer term, it should lead to therapeutic strategies aiming to eliminate the latent virus," it added in a statement.

There is no cure for HIV, and infected people have

to take virus-suppressing drugs for life.

This is because a small number of [immune system cells](#), in a category of cell called CD4 T lymphocytes, provide a haven for the virus, enabling it to re-emerge and spread if treatment is stopped— even after decades.

In tests using the blood of HIV patients, the researchers managed to spot a protein, dubbed CD32a, on the surface of virus-infected reservoir cells.

It was absent from [healthy cells](#).

Such a "marker" has proved very difficult to find, explained AIDS researcher Douglas Richman from the University of California San Diego, who did not take part in the study.

A person infected with HIV has about 200 billion CD4 T cells, of which only one in a million act as virus reservoirs.

Two percent of the body's CD4 T cells (some four billion) are found in the approximately five litres of blood in an adult human, said Richman.

This means that a 100-millilitre blood sample would contain about 80 million CD4 T cells, of which around 80 would be virus reservoirs.

Whether CD32a plays an active part in enabling the [virus](#) to hole up in CD4 cells is a big question.

If so, it could throw open a tempting target for drugs to block the stealthy process.

While describing the study as "potentially seminal", Richman cautioned that CD32a was a marker found in only about half of CD4 T reservoir cells.

To eradicate latent HIV would require the targeting of a much larger proportion.

It also remains to be seen whether CD32a is as

good a marker for non-blood CD4 T [cells](#) in the lymph nodes, bone marrow, gut and other tissues which could be reservoirs, he added.

More information: Benjamin Descours et al. CD32a is a marker of a CD4 T-cell HIV reservoir harbouring replication-competent proviruses, *Nature* (2017). [DOI: 10.1038/nature21710](https://doi.org/10.1038/nature21710)

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