

Peptides for the Selective Killing of HIV-1 Infected Cells (Yissum)

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Peptides derived from HIV-1 integrase

Categories	Peptide/Protein, Small molecules, AIDS
Development Stage	Proof of concept in cell culture; preliminary work in mouse model
Patent Status	Provisional patent filed in United States
Market	An estimated 33 million people around the world are living with HIV, with young people (under 25 years old) accounting for half of all new HIV infections worldwide.

Highlights

- New approach involves killing the virus-infected cells as opposed to the virus itself.
- When the peptide is combined with an inhibitor, the virus is completely eradicated.
- A drug that selectively kills infected cells should produce less collateral damage and toxic effects than current drugs and may even be an advantage in releasing factors that will activate the adaptive immune response and assist in the cure.
- Preliminary work in mouse model has indicated that the peptide successfully carries out one of the steps required to kill the virus infected cell

Our Innovation

- Peptide derived from the HIV-1 integrase, the INS and INRS peptides induces selective killing of HIV-1 infected cells.

Key Features

- Peptides or their derivatives can be used to specifically eliminate virus infected cells
- Peptides can be used as a diagnostic tool to amplify virus production and detect early or low virus infection
- May be used to enhance gene transfer and gene therapy when retrovirus vectors, especially HIV-1 derived, are used

Development Milestones

- Next steps involve stimulating provirus-containing cells to become infectious and proving that the peptide works in these cells – future treatment for carriers with dormant virus
- Modification of peptide to make it smaller and therefore more stable, permeable and generally available to living body

- Additional collaborative work on mouse models

The Opportunity

- Seeking investment and collaboration to further develop concept into anti HIV drug

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