

Emergence of Treatment-Resistant Infectious HIV after Genome-Directed Antiviral Endonuclease Therapy

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Summary for Community

Scientific Hypothesis:

- Enzymes that cut and mutate HIV DNA specifically can inactivate HIV

Key Findings:

- During enzyme treatment cleavage resistant and infectious HIV emerges
- Repeated treatment with additional enzymes can negate treatment resistance

Importance:

- Demonstrates that combination (multiple enzyme) therapies can be effective as DNA cleavage-based HIV treatments

Relation to Cure:

- Disruption/mutation of the HIV genome could be used to permanently inactivate infected cells (prevent virus reactivation and provide functional cure)

Why should we be excited?

- We can avoid the problem of resistance during the development of new DNA-directed HIV therapies