

Special Issue

Physiopathology and Therapeutics of HIV Infection

Message from the Guest Editor

HIV primarily targets the immune system, specifically CD4+ T cells, leading to their gradual depletion. This weakens the body's ability to fight infections and diseases, progressing to AIDS if untreated. The physiopathology of HIV infection begins with viral entry into CD4+ cells, followed by integration of its genetic material into the host's DNA. The therapeutics for HIV focus on controlling viral replication through antiretroviral therapy (ART). However, HIV resistance to ART remains a significant challenge in the management of the virus. To combat this, new strategies are being developed. These include long-acting injectable therapies, which improve adherence by reducing the need for daily pills, and the use of broadly neutralizing antibodies (bNAbs) that target multiple strains of HIV, limiting its ability to mutate. Additionally, gene-editing technologies, like CRISPR, are being explored to potentially eradicate latent HIV reservoirs in the body. Combining these innovative approaches with existing ART could improve treatment outcomes and reduce the global impact of drug-resistant HIV.

Guest Editor

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Deadline for manuscript submissions

20 December 2025



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/220528

*International Journal of
Molecular Sciences*
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