

## John W. Mellors, MD



### Contact

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### Education

M.D., Dartmouth Medical School, 1978

### Academic Affiliation

Professor of Medicine  
Endowed Chair for Global Elimination of HIV and AIDS  
Chief, Division of Infectious Diseases

### About Research

Dr. Mellors is a global leader in the HIV-AIDS research field. His laboratory and translational research programs are at the forefront of efforts to prevent, treat and cure HIV-1 infection. His laboratory has recently shown that most of the reservoir of infectious HIV-1 that persists despite antiretroviral therapy is in clonally-expanded CD4+T-cells. Intense efforts are being directed toward identifying the sites of integration of intact (replication-competent) proviruses in the human genome. In addition, many of the newest immunotherapeutic strategies to cure HIV-1 infection are being tested in his laboratory and through Phase I/II human clinical trials. Examples of such strategies include latency reversing agents (histone deacetylase inhibitors, Toll-like receptor agonists), broadly neutralizing monoclonal antibodies (VRC01 and others), and therapeutic vaccines including dendritic cell-based and viral vectors.

Dr. Mellors' prior work established the critical relationship between plasma viremia (HIV-1 RNA) and HIV disease progression to AIDS and death. This finding led to the universal use of plasma HIV-1 RNA to estimate prognosis in HIV-1 infection and the optimal time to initiate antiretroviral

therapy (ART). His work also contributed to the development and testing of the first antiretroviral combinations that produced sustained suppression of HIV and recovery of CD4<sup>+</sup> T-cells that launched the current era of highly-effective combination ART.

The Mellors laboratory is well balanced and interactive, consisting of graduate and medical students, research specialists, post-doctoral fellows, and junior faculty. Dr. Mellors has mentored many doctoral and medical students who have authored multiple papers and developed successful research careers.

## Recent Publications

Wiegand A, Spindler J, Hong FF, Shao W, Cyktor JC, Cillo AR, Halvas EK, Coffin JM, **Mellors JW**, Kearney MF. Single-cell analysis of HIV-1 transcriptional activity reveals expression of proviruses in expanded clones during ART. *Proc Natl Acad Sci USA*. 2017 May 2;114(18):E3659-E3668. PMID: 28416661. PMCID: PMC5422779.

Bui JK, Sobolewski MD, Keele BF, Spindler J, Musick A, Wiegand A, Luke BT, Shao W, Hughes SH, Coffin JM, Kearney MF, **Mellors JW**. Proviruses with identical sequences comprise a large fraction of the replication-competent HIV reservoir. *PLoS Pathog*. 2017 Mar 22;13(3):e1006283. doi: 10.1371/journal.ppat.1006283. PMID: 283228934. PMCID: PMC5378418.

Bui JK, Halvas EK, Fyne E, Sobolewski MD, Koontz D, Shao W, Luke B, Hong FF, Kearney MF, **Mellors JW**. Ex vivo activation of CD4<sup>+</sup> T-cells from donors on suppressive ART can lead to sustained production of infectious HIV-1 from a subset of infected cells. *PLoS Pathog*. 2017 Feb 22;13(2): e1006230. doi: 10.1371/journal.ppat.1006230. eCollection 2017 Feb. PMID: 28225830. PMCID: PMC5338860.

Gandhi RT, McMahon DK, Bosch RJ, Lalama CM, Cyktor JC, Macatangay BJ, Rinaldo CR, Riddler SA, Hogg E, Godfrey C, Collier AC, Eron JJ, **Mellors JW**; ACTG A5321 Team. Levels of HIV-1 persistence on antiretroviral therapy are not associated with markers of inflammation or activation. *PLoS Pathog*. 2017 Apr 20;13(4): e1006285. doi: 10.1371/journal.ppat.1006285. eCollection 2017 Apr. PMID: 28426825. PMCID: PMC5398724.

Cillo AR, Hong F, Tsai A, Irrinki A, Kaur J, Sloan DD, Follen M, Geleziunas R, Cihlar T, Win SS, Murry JP, **Mellors JW**. Blood biomarkers of expressed and inducible HIV-1. *AIDS*. 2018 Jan 13. doi: 10.1097/QAD.0000000000001748. [Epub ahead of print] PubMed PMID: 29334544.

A complete list of more than 300 published works can be found in My Bibliography:  
<https://www.ncbi.nlm.nih.gov/sites/myncbi/14cRrJgNz6G5S/bibliography/46620723/public/?sort=date&direction=descending>