Introducing the Olink® Flex HIV-induced aging panel

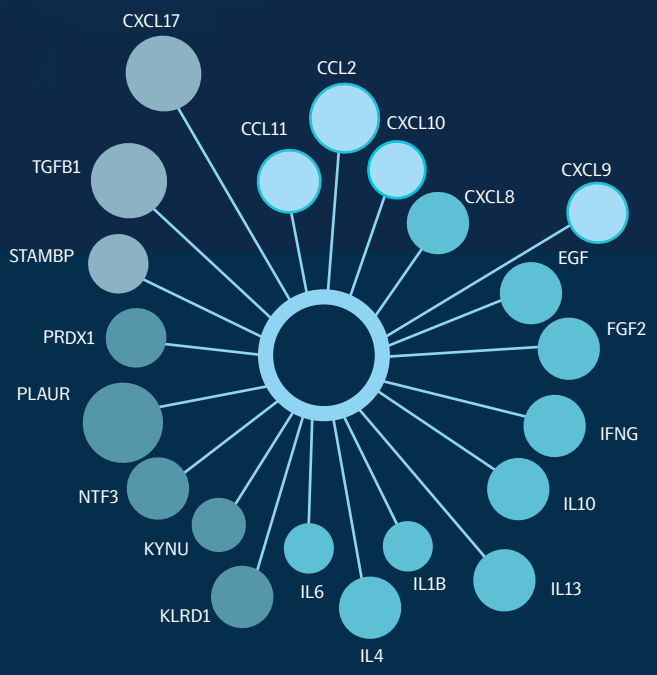
Understanding the association between HIV and aging through circulating plasma profiling

Despite successful antiretroviral treatment, long-term HIV infection is increasingly recognized as a catalyst for accelerated aging, as the chronic immune activation and inflammation can prematurely exhaust the immune system, leading to an earlier onset of age-related diseases (1-3). Plasma protein level monitoring has immense value in identifying potential accelerated aging in HIV-infected individuals who are on long term antiretroviral therapy.

The Olink Flex HIV-induced aging panel, curated by Dr. Ujjwal Neogi (Karolinska Institutet) after performing a broad protein biomarker analysis in over 500 samples with either Olink® Explore 3072 or Olink® Target 96 in different HIV-1 cohorts, consists of 21 proteins, including:

- Chemokines like CCL2, CCL11, CXCL8, and CXCL10, which are elevated in aging and chronic HIV infection, driving low-level inflammation (“inflammaging”) which accelerates tissue damage.
- Cytokines like IL6, IL10, and TGFB1, which contribute to immune exhaustion and dysregulation observed in both aging and long-term HIV-infected individuals.
- IFNG and PLAUR, which are elevated during persistent immune activation.
- EGF, FGF2, and NTF3, involved in tissue repair processes that may become compromised with age and chronic viral infections, reducing regenerative capacity.

The Olink HIV-induced aging panel therefore provides a valuable tool for assessing the immune system decline and inflammation linked to aging and HIV in infected individuals, enabling both further understanding of HIV pathophysiology and identifying patients with increased susceptibility to age-related diseases.



Key publications:

→ Svensson Akusjarvi et al. Role of myeloid cells in system-level immunometabolic dysregulation during prolonged successful HIV-1 treatment. *AIDS (2023)*

→ Svensson Akusjärvi et al. Biological Aging in People Living with HIV on Successful Antiretroviral Therapy: Do They Age Faster? Curr HIV/AIDS Rep. *(2023)*

→ Mikaeloff et al. Transcriptomics age acceleration in prolonged treated HIV infection. *Aging Cell (2023)*

Need more flexibility?

Olink® Flex allows you to optimize this panel with other validated assays from the Flex library or to build an entirely new panel that fits your research interests. Try the Flex panel builder on Olink® Insight now!

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