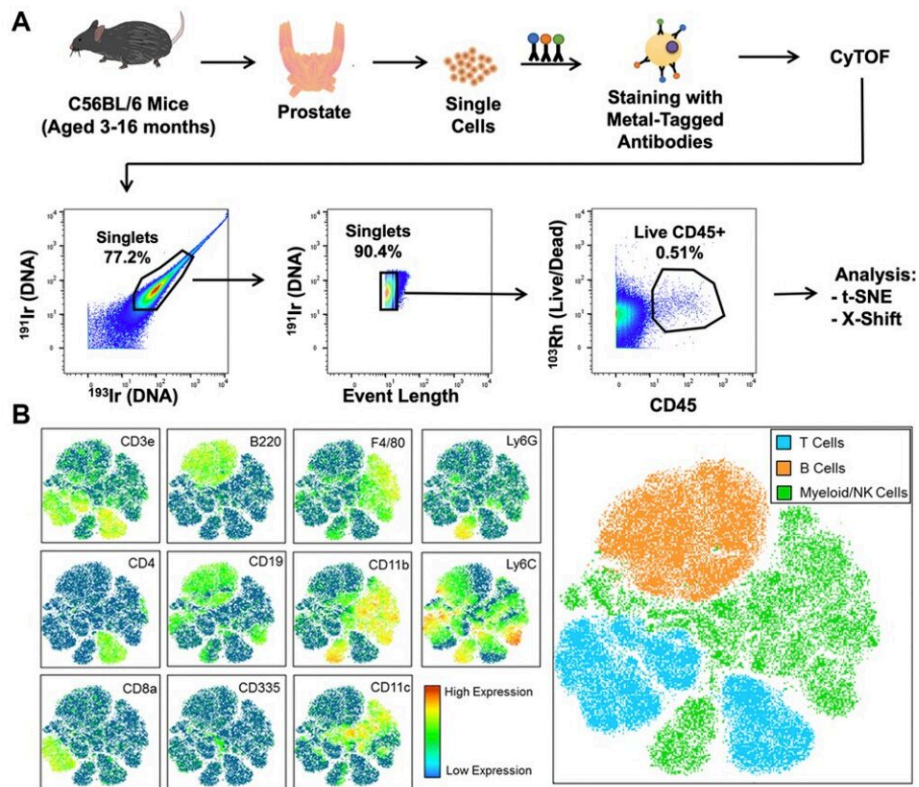


# The aging mouse prostate: Kinetics of lymphocyte infiltration

May 23 2023



CytoTOF immunophenotyping of the aging mouse prostate. Credit: *Aging* (2023). DOI: 10.18632/aging.204708

A new research paper titled "Highly multiplexed immune profiling throughout adulthood reveals kinetics of lymphocyte infiltration in the aging mouse prostate" has been published in *Aging*.

Aging is a significant risk factor for disease in several tissues, including the prostate. Defining the kinetics of age-related changes in these tissues is critical for identifying regulators of aging and evaluating interventions to slow the [aging process](#) and reduce disease risk. An altered immune microenvironment is characteristic of prostatic aging in mice, but whether features of aging in the prostate emerge predominantly in old age or earlier in adulthood has not previously been established.

In this study, researchers Jonathan J. Fox, Takao Hashimoto, Héctor I. Navarro, Alejandro J. Garcia, Benjamin L. Shou, and Andrew S. Goldstein from the University of California Los Angeles tracked the abundance of 29 immune cell clusters in the aging mouse prostate using highly multiplexed immune profiling and time-course analysis.

The researchers write, "In this study, we characterized how the inflammatory microenvironment of the adult mouse prostate changes during aging using highly-multiplexed single-cell mass cytometry."

Early in adulthood, myeloid cells comprise the vast majority of immune cells in the 3-month-old mouse prostate. Between 6 and 12 months of age, there is a profound shift towards a T and B lymphocyte-dominant mouse prostate immune microenvironment. Comparing the [prostate](#) to other urogenital tissues, the researchers found similar features of age-related inflammation in the [mouse](#) bladder but not the kidney.

"In summary, our study offers new insight into the kinetics of prostatic inflammaging and the window when interventions to slow down age-related changes may be most effective," the researchers conclude.

**More information:** Jonathan J. Fox et al, Highly multiplexed immune profiling throughout adulthood reveals kinetics of lymphocyte infiltration in the aging mouse prostate, *Aging* (2023). [DOI: 10.18632/aging.204708](https://doi.org/10.18632/aging.204708)

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