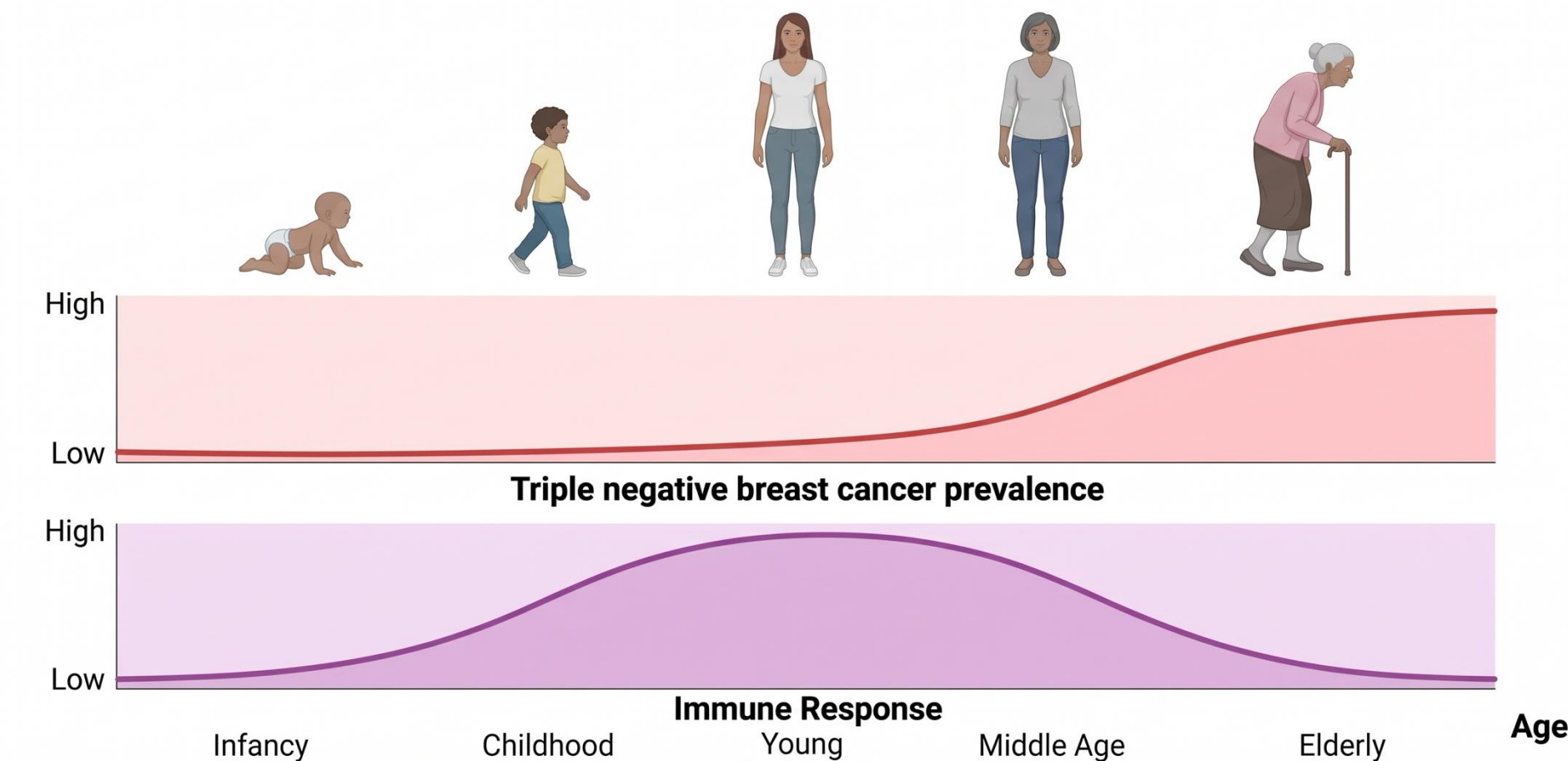
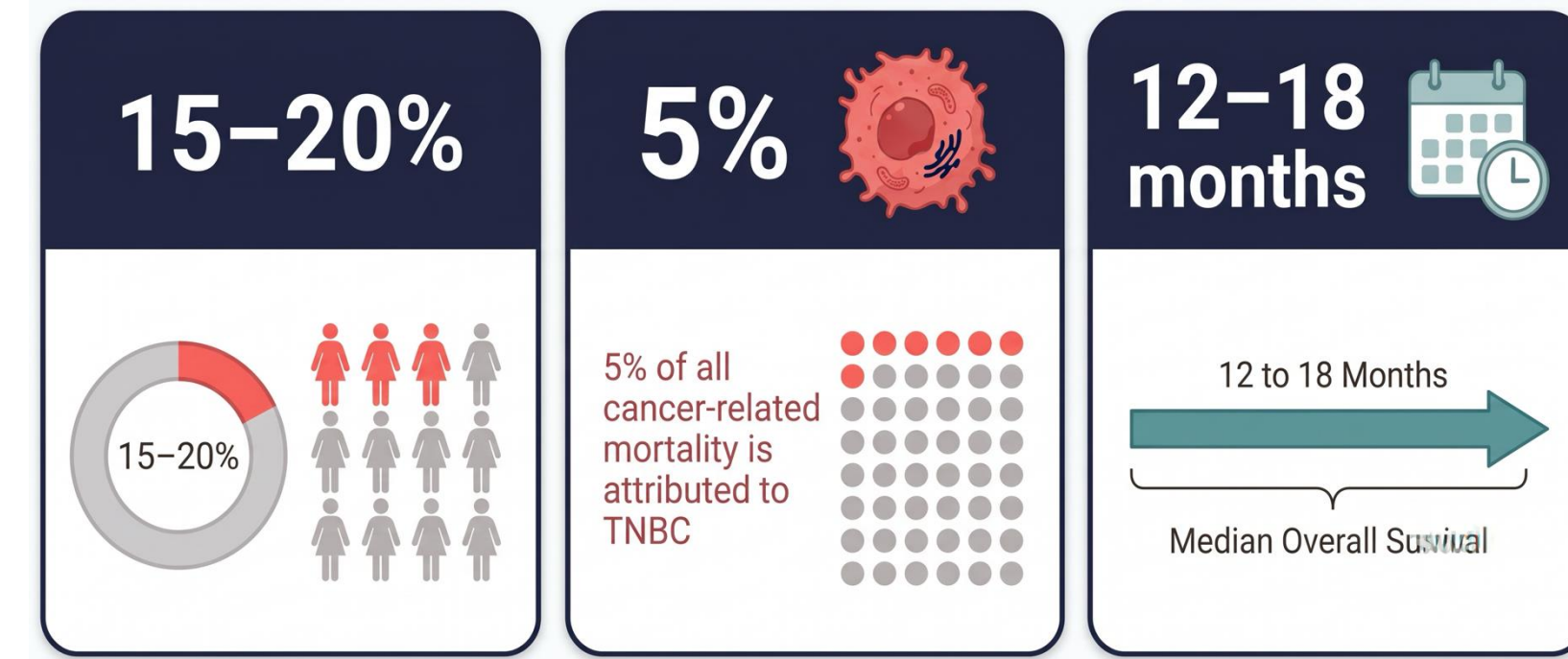


Age-Dependent Differences in Tumor Growth and Chemo-Immunotherapy Response in a Syngeneic Murine Breast Cancer Model

Contact: ramji.kandel@ucf.edu | needa.brown@ucf.edu (<https://nanobio.com/>) | aleksandra.petelski@ucf.edu (<https://www.petelskilab.com/>)

Background

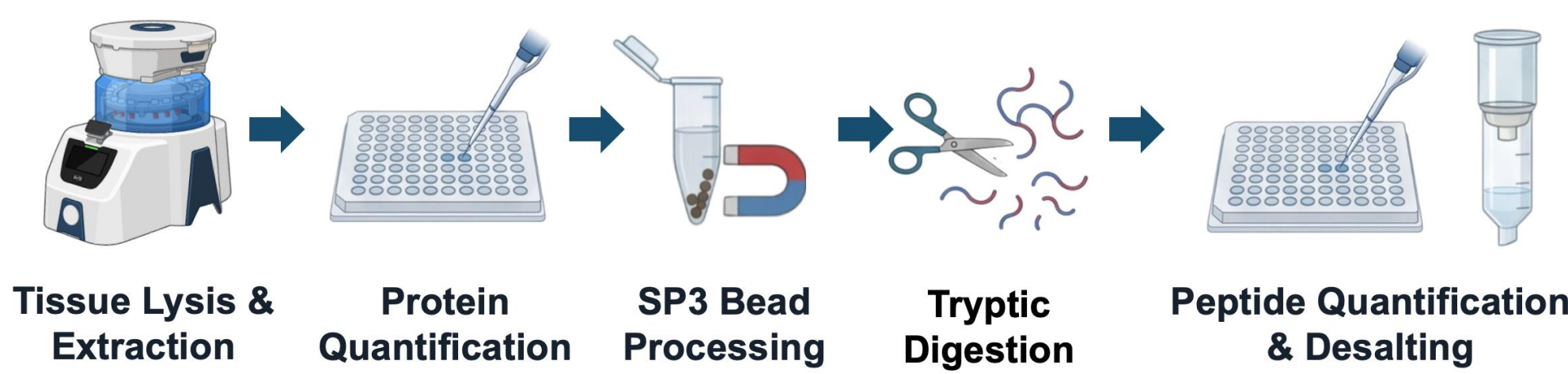
The impact of aging to drive differences in therapeutic outcomes remains poorly understood.



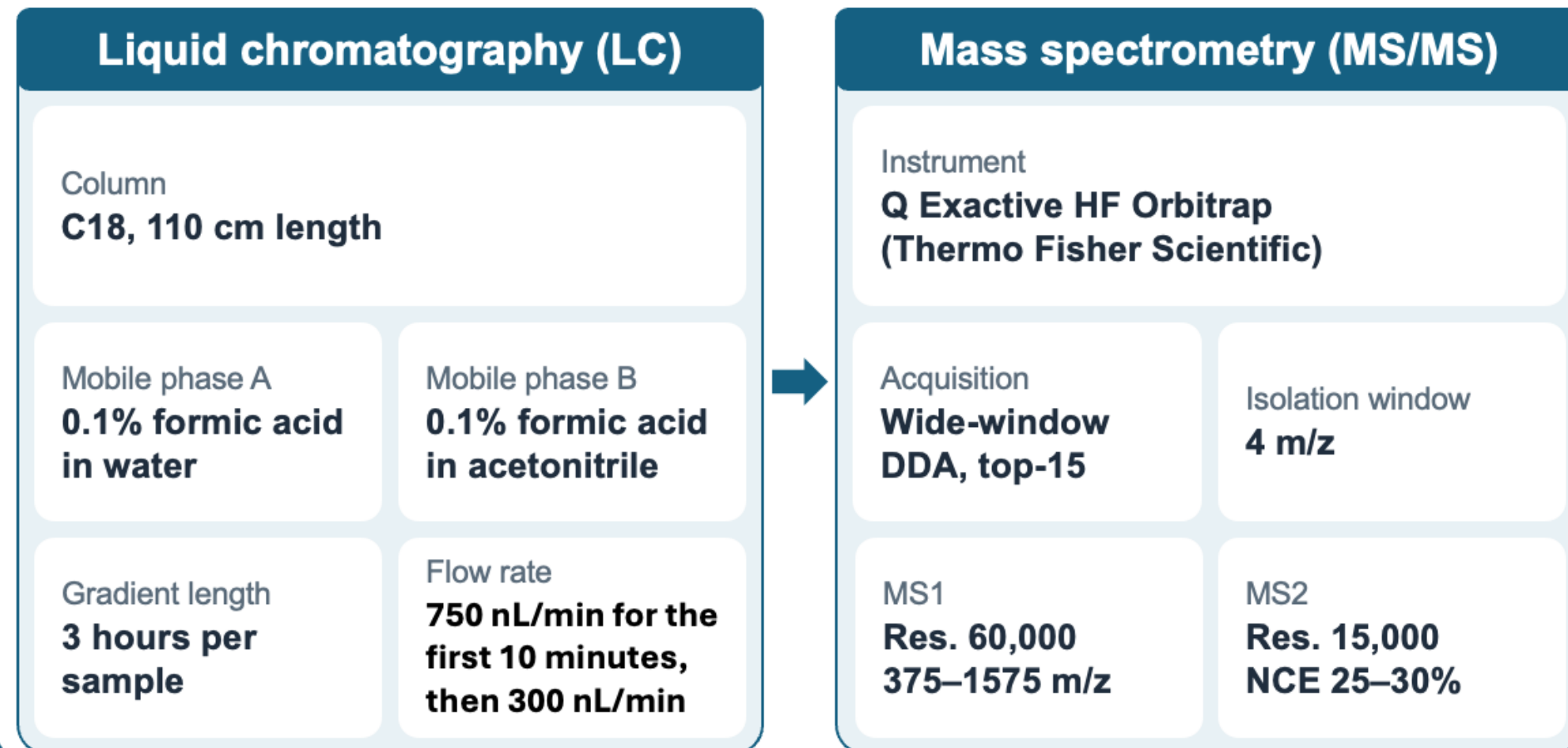
Activation of the immune signaling markers in the tumor correlate with improved response to ICI therapy in younger mice compared to older mice.

Method

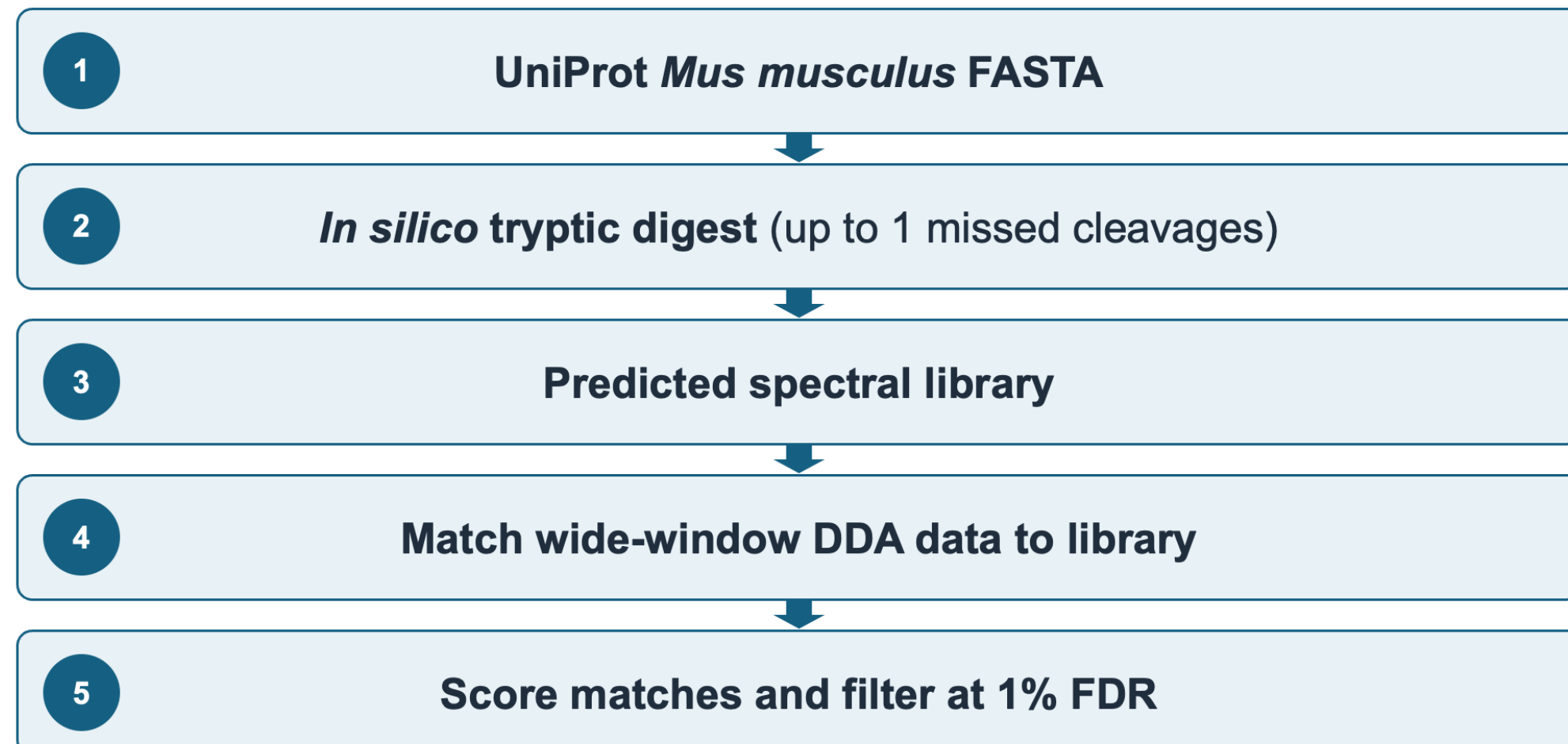
1 Sample Preparation



2 LC-MS/MS data acquisition



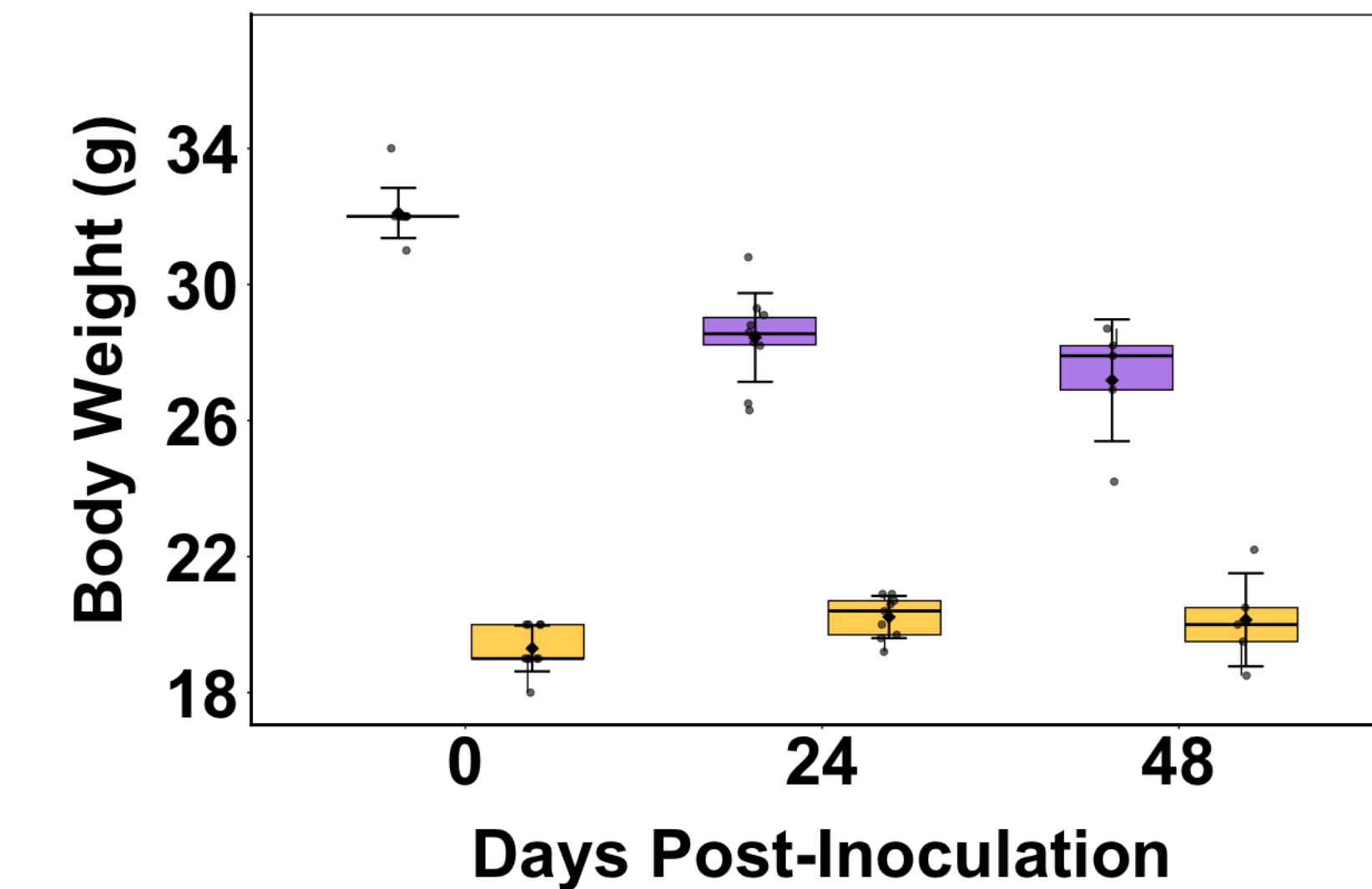
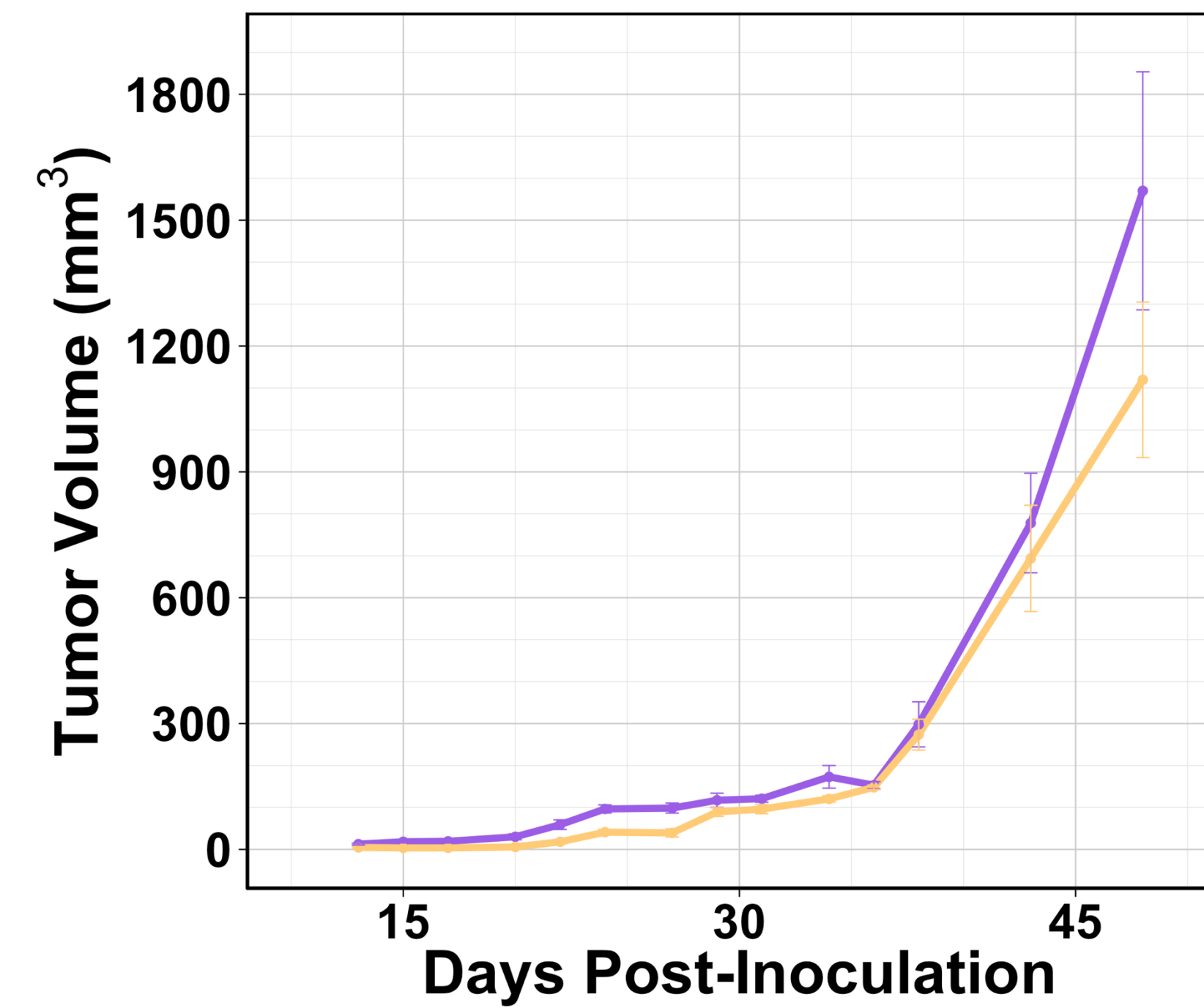
3 Database search (DIA-NN)



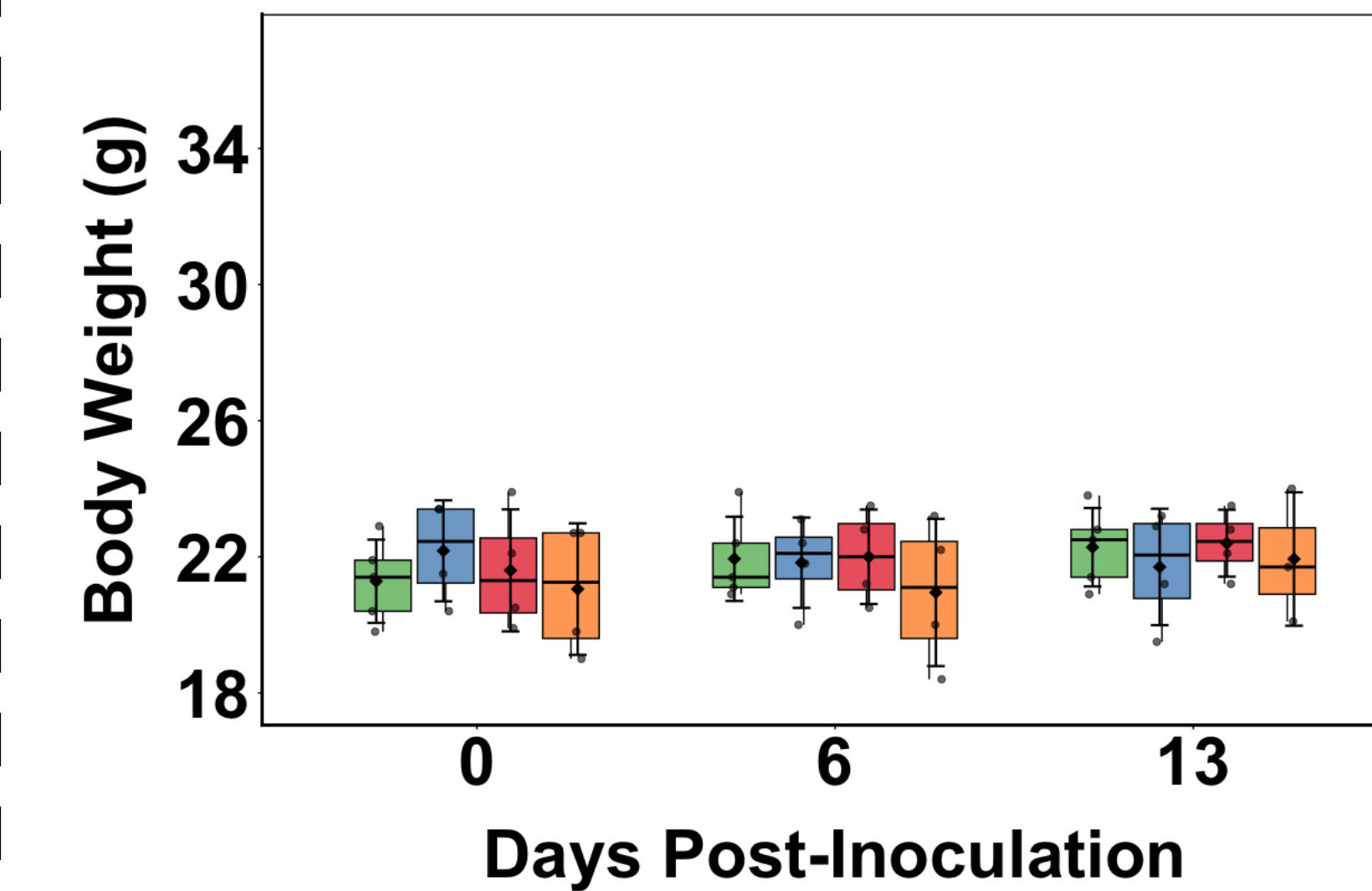
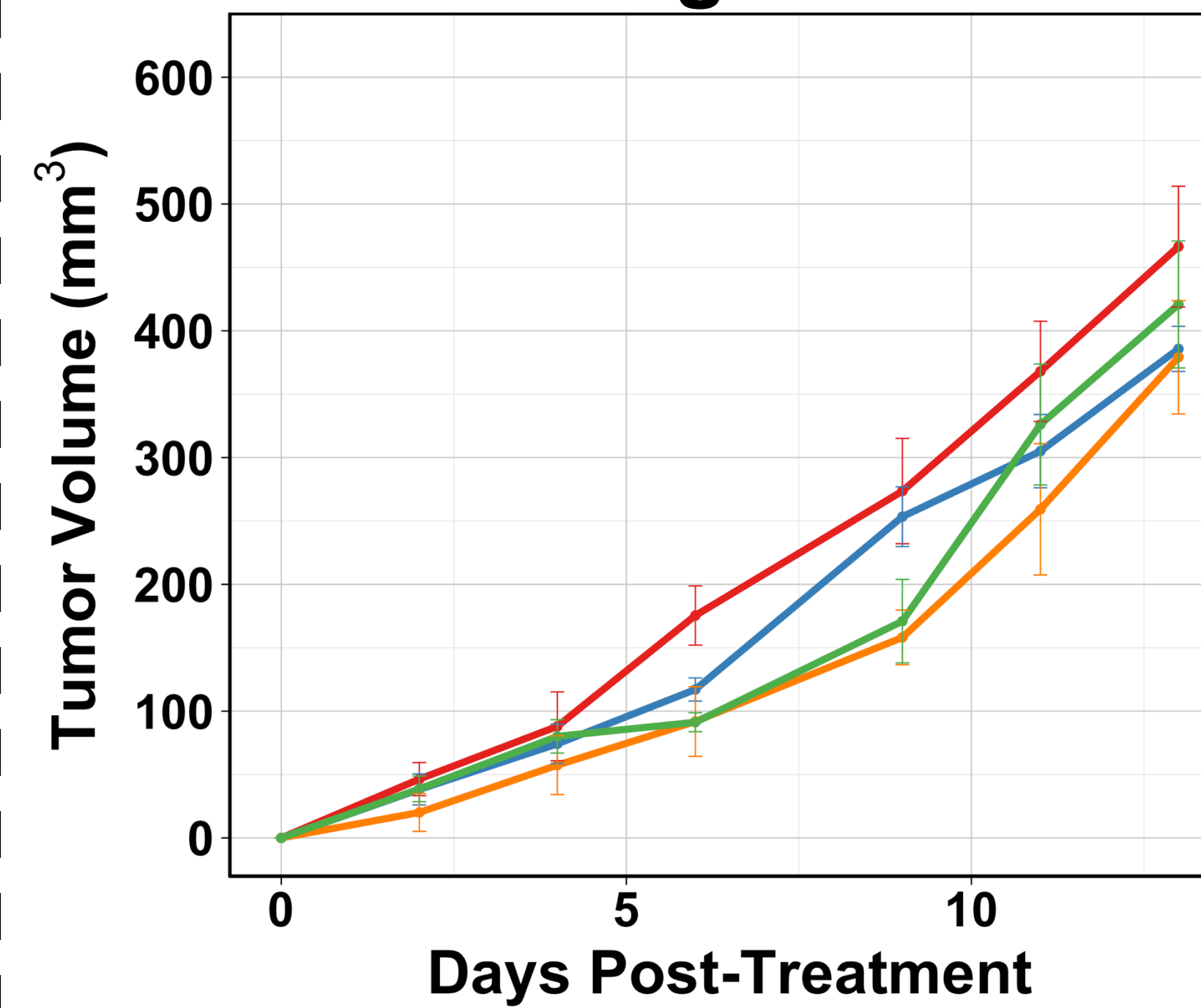
Results

Treatment Groups: ● Young ● Old ● PDL-1 ● PTX ● PTX + PDL-1 ● Vehicle

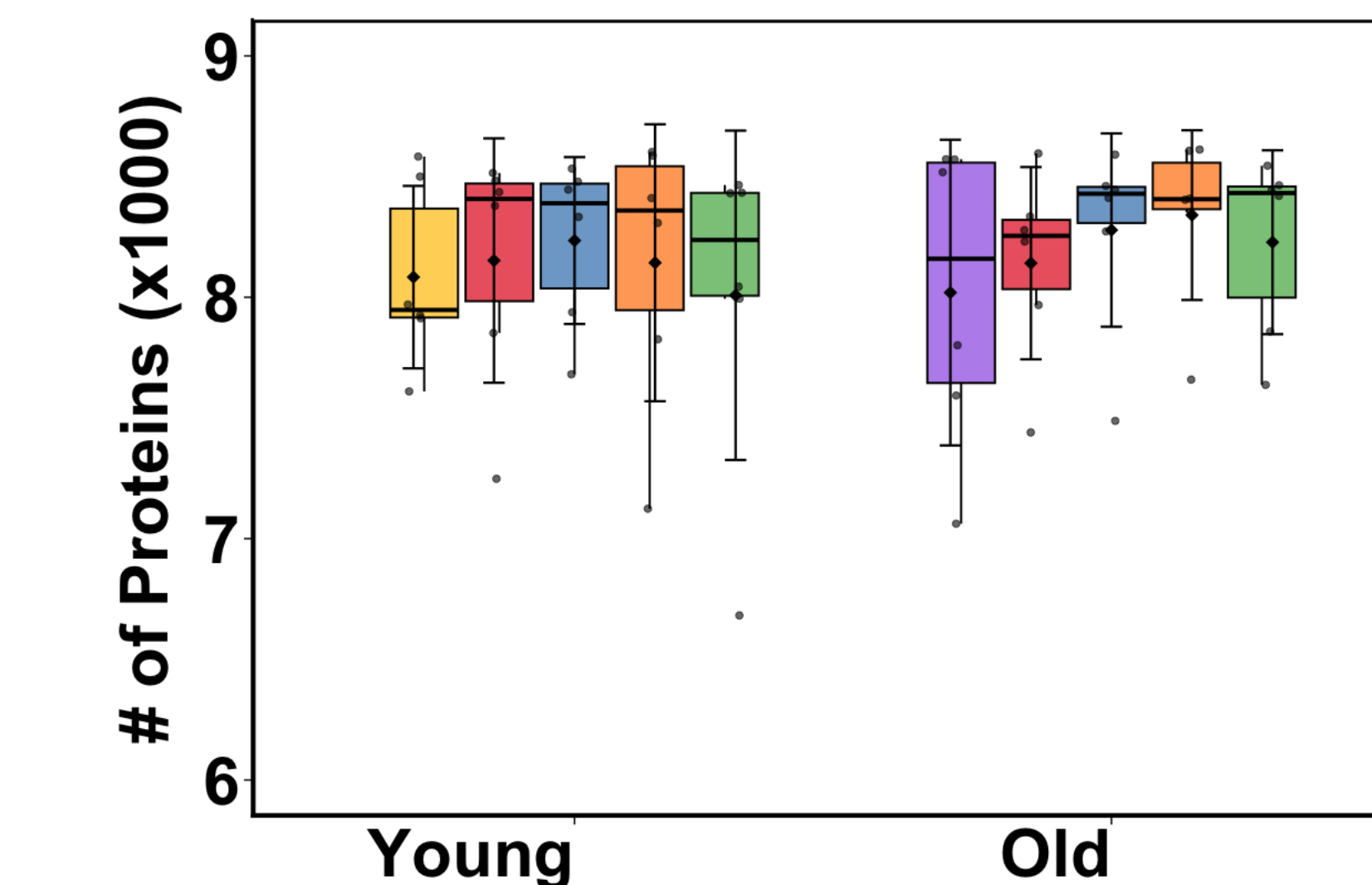
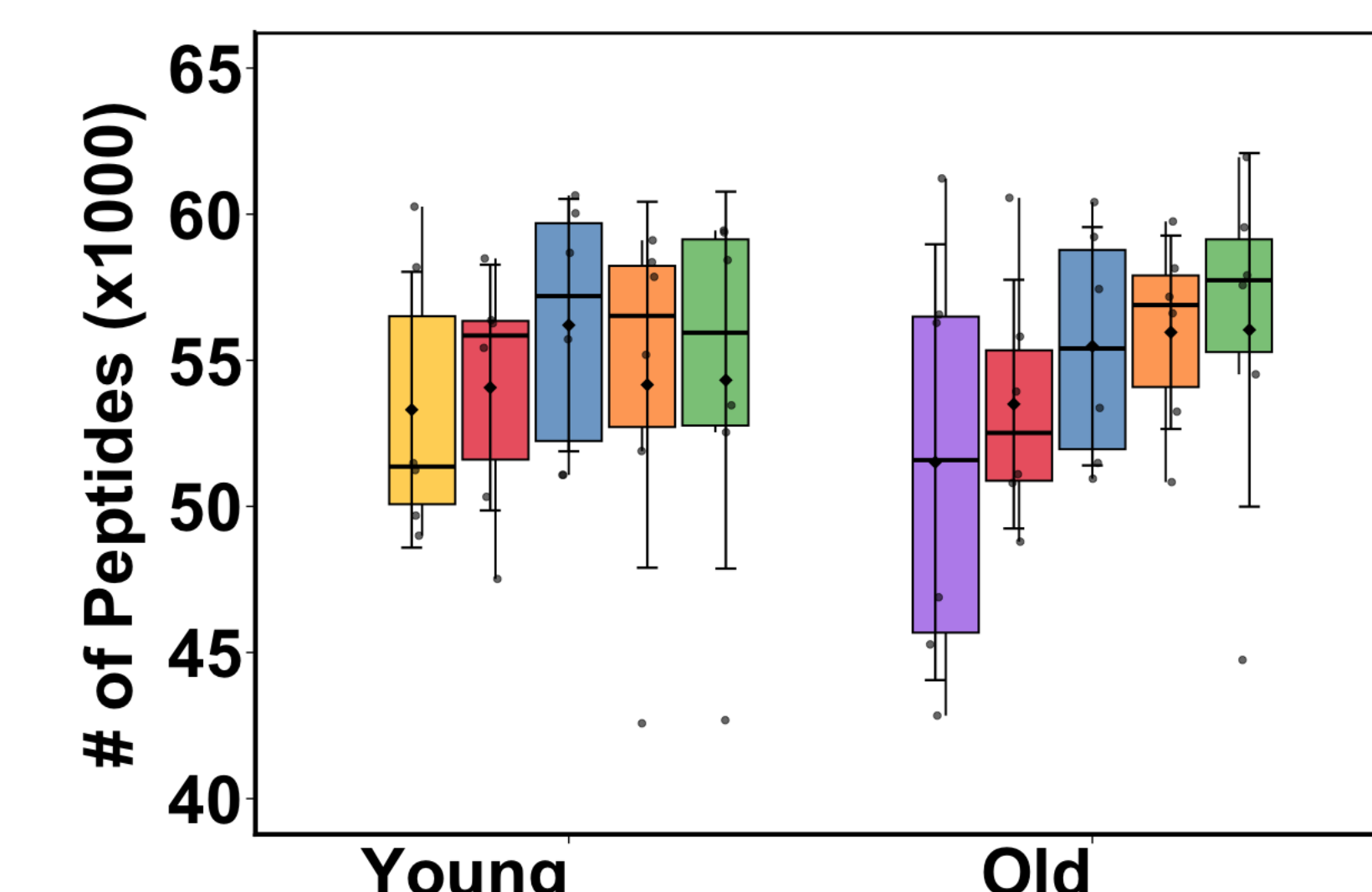
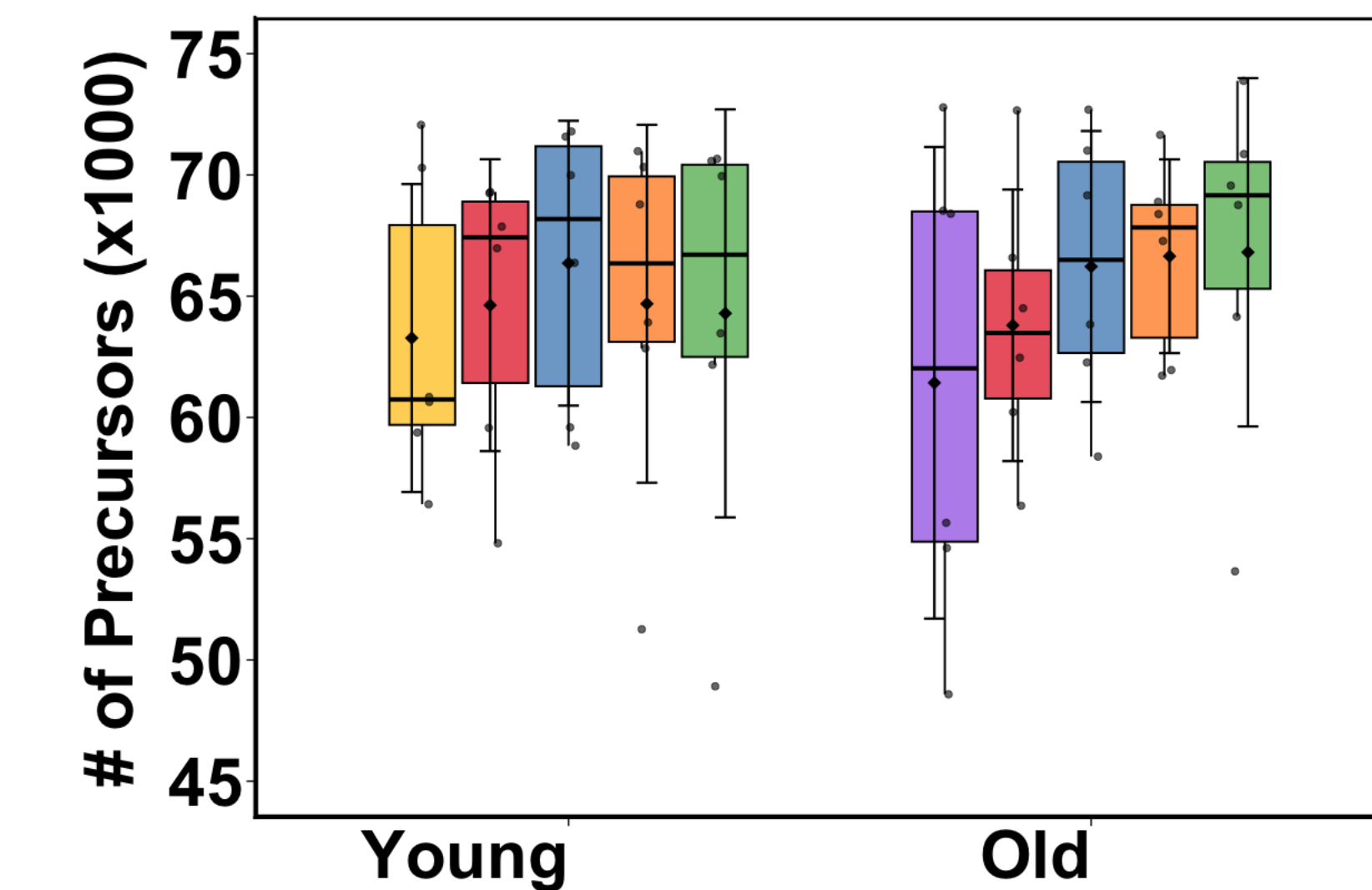
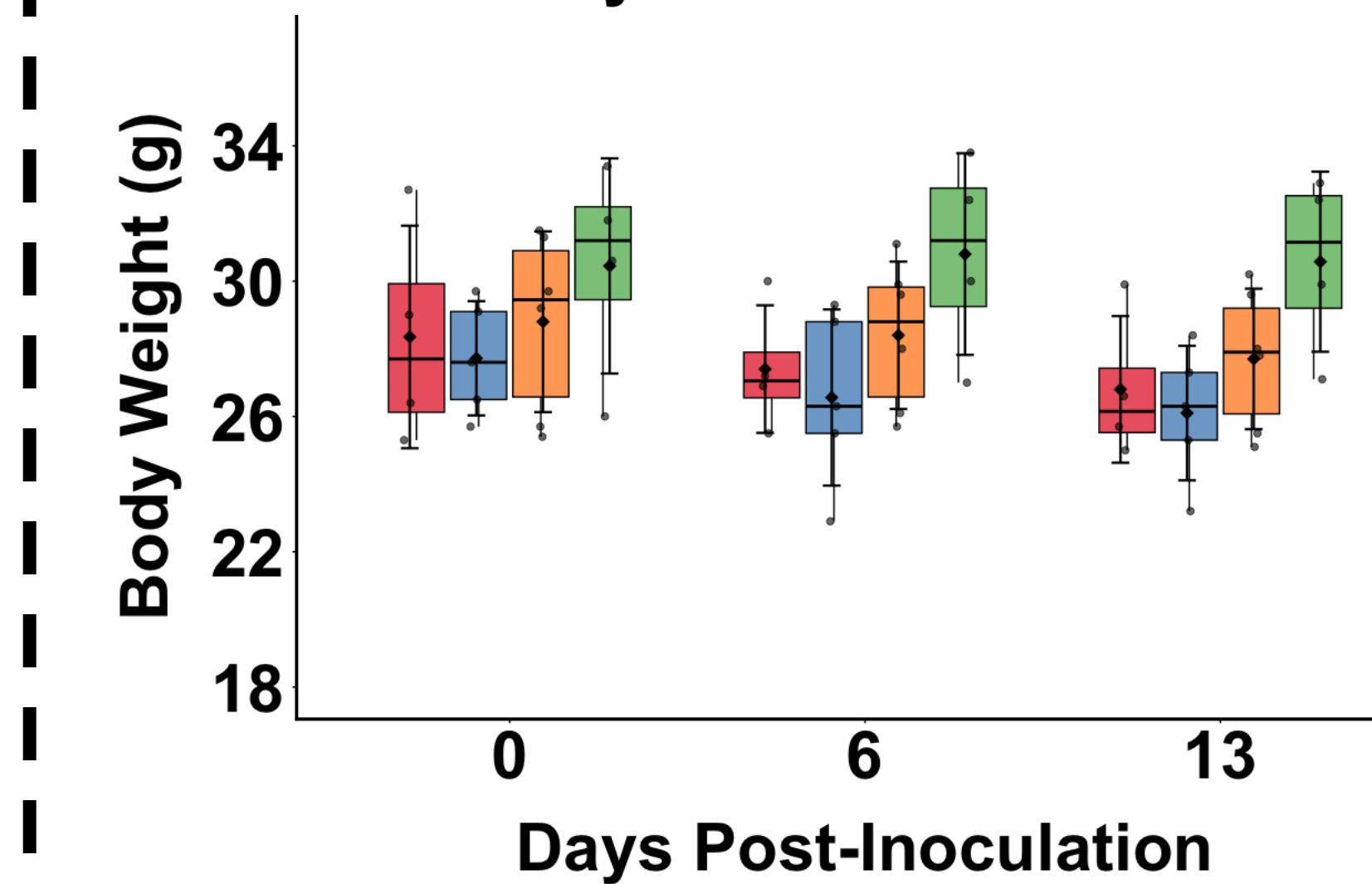
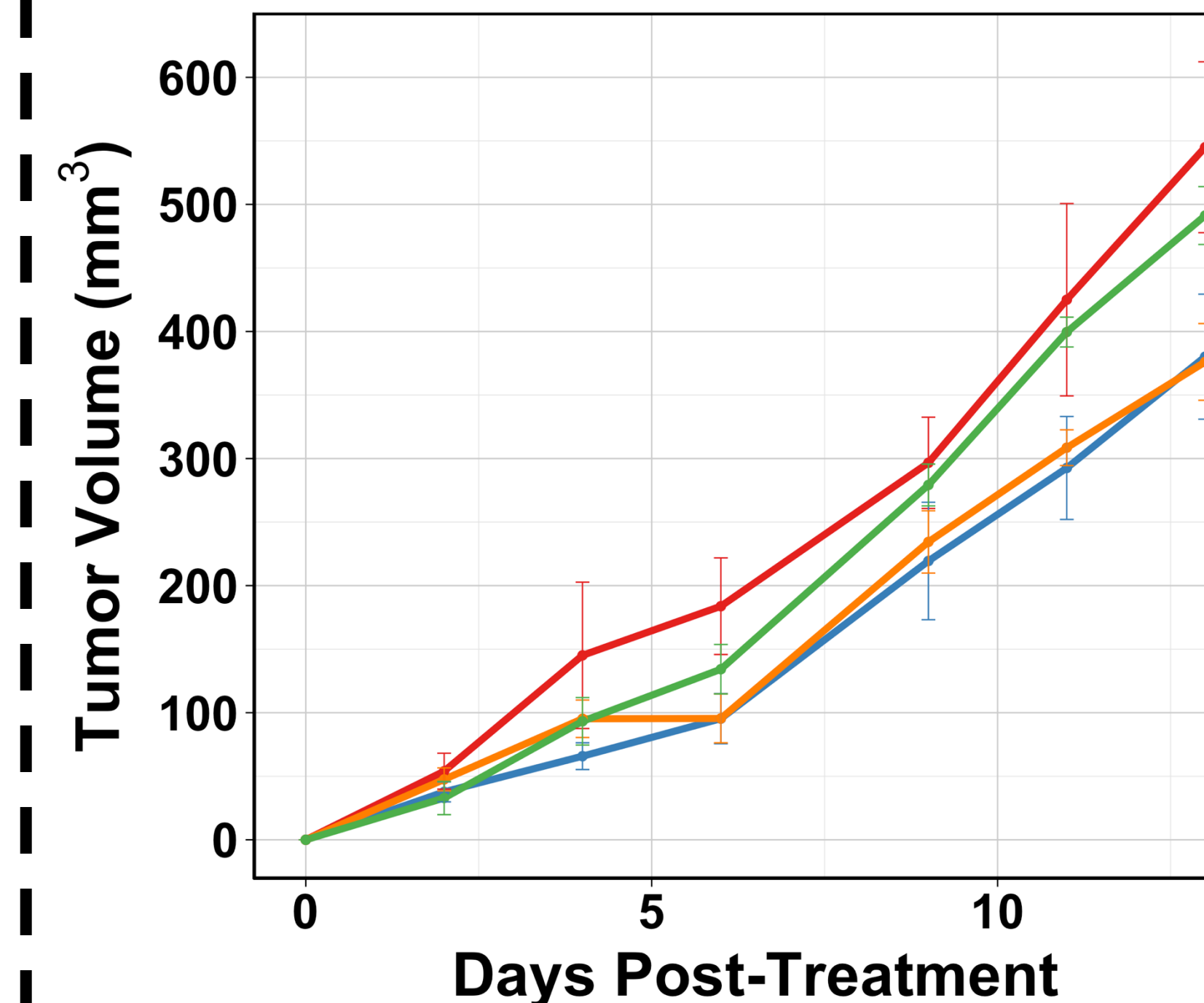
No Treatment



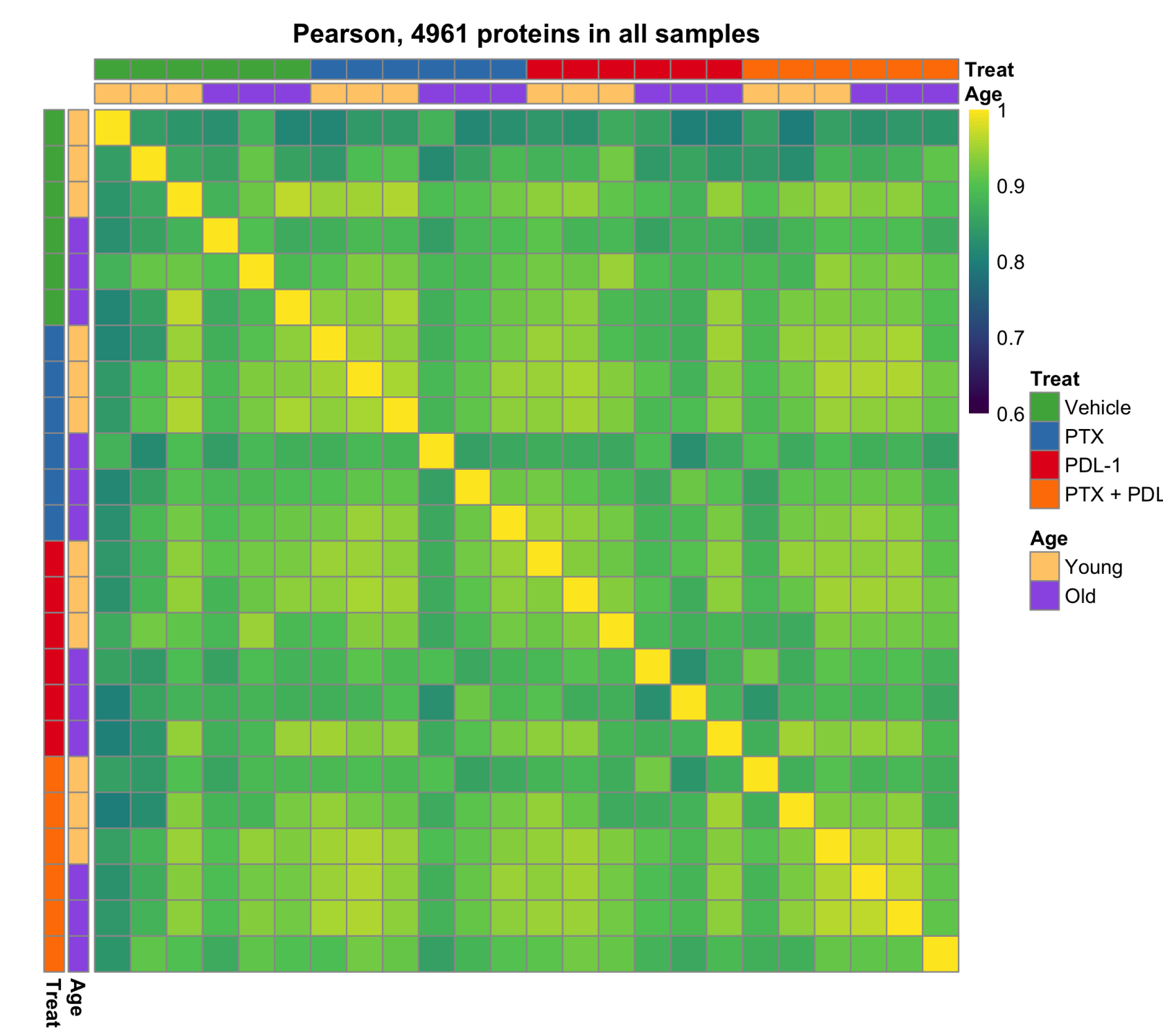
Young Cohort



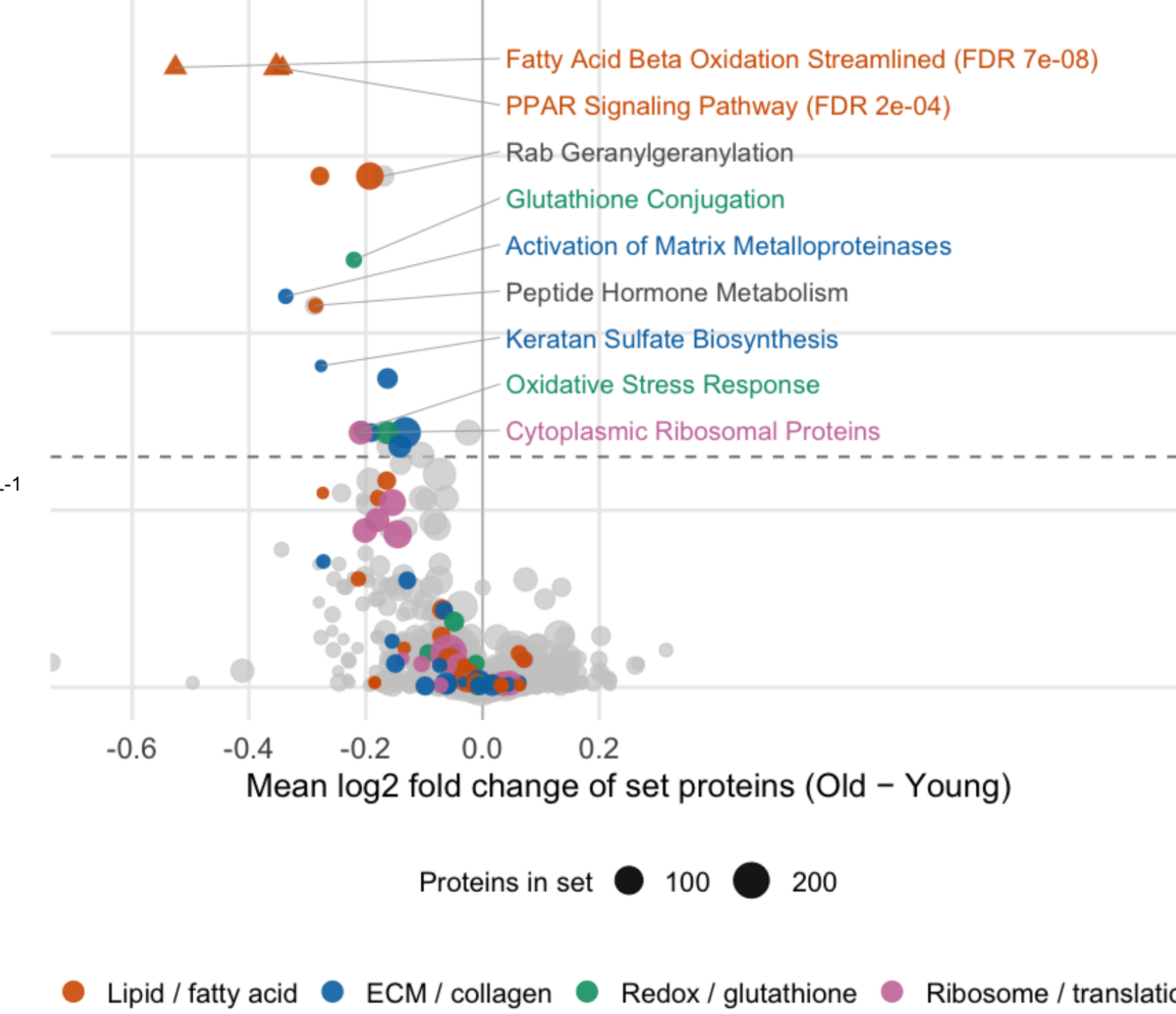
Old Cohort



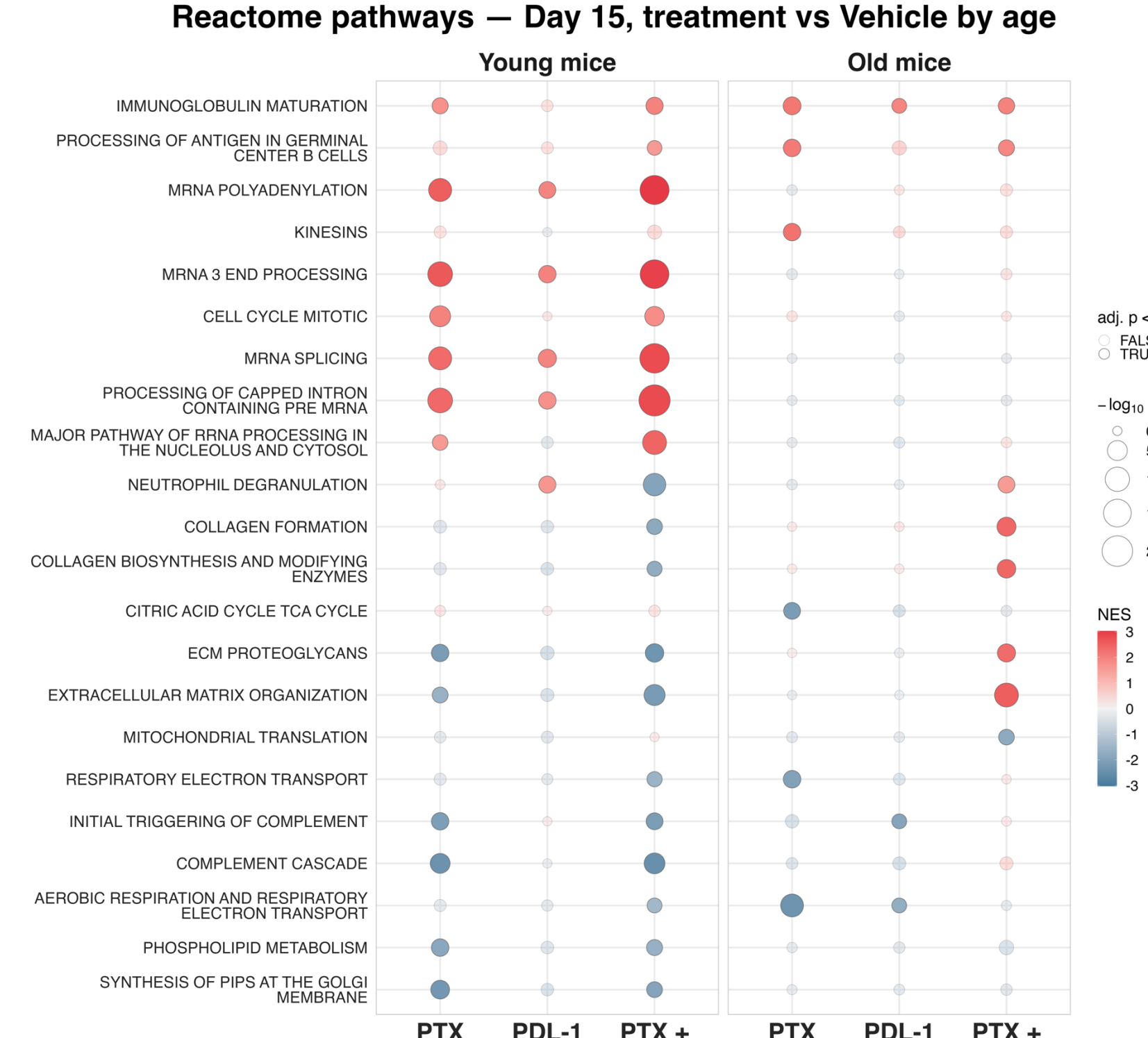
Sample Reproducibility (Pearson Correlation)



Metabolic Pathways increased in Old cohort

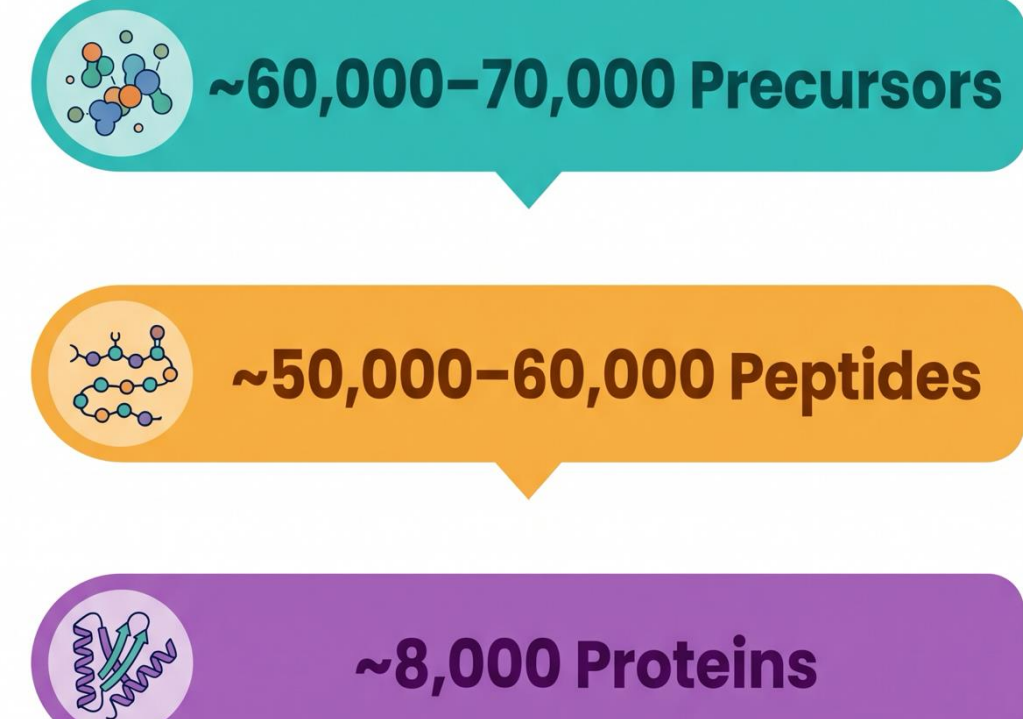


Age-dependent pathway responses to treatment



Conclusion

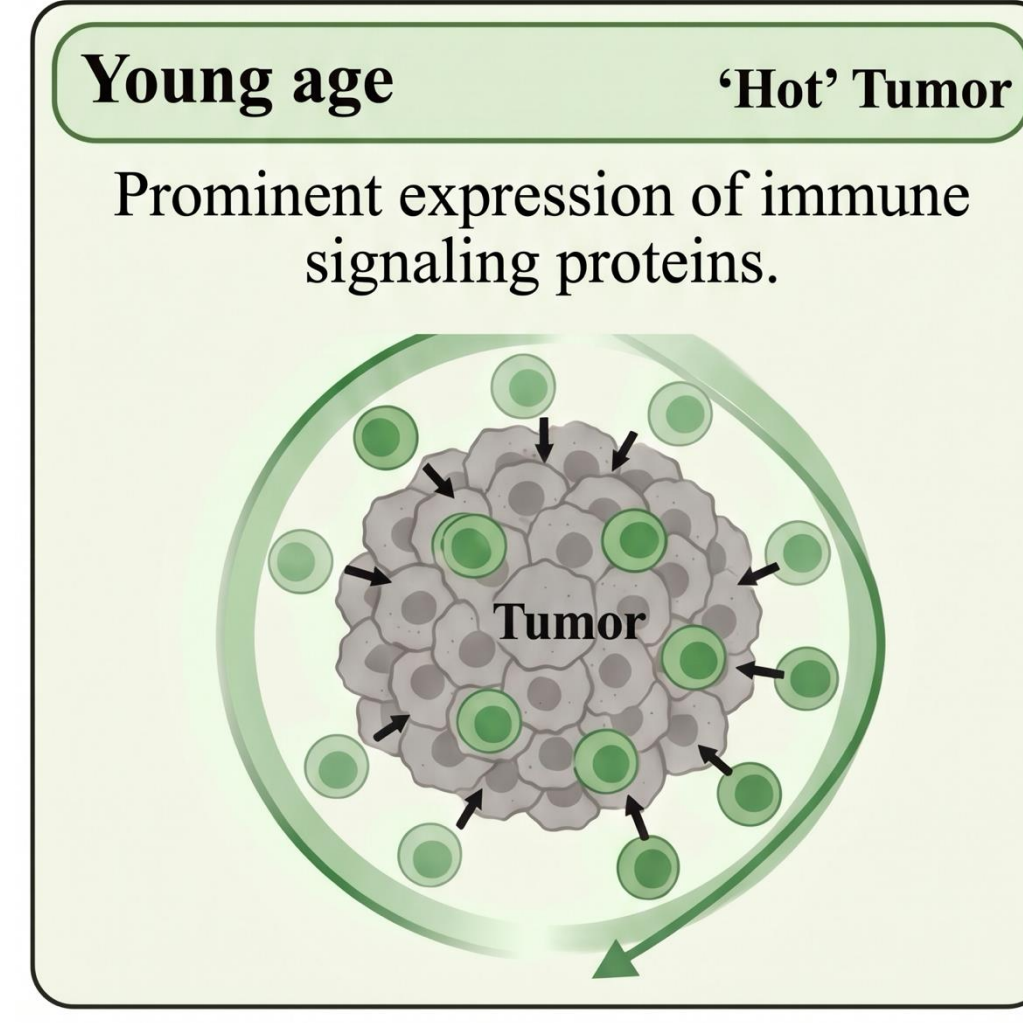
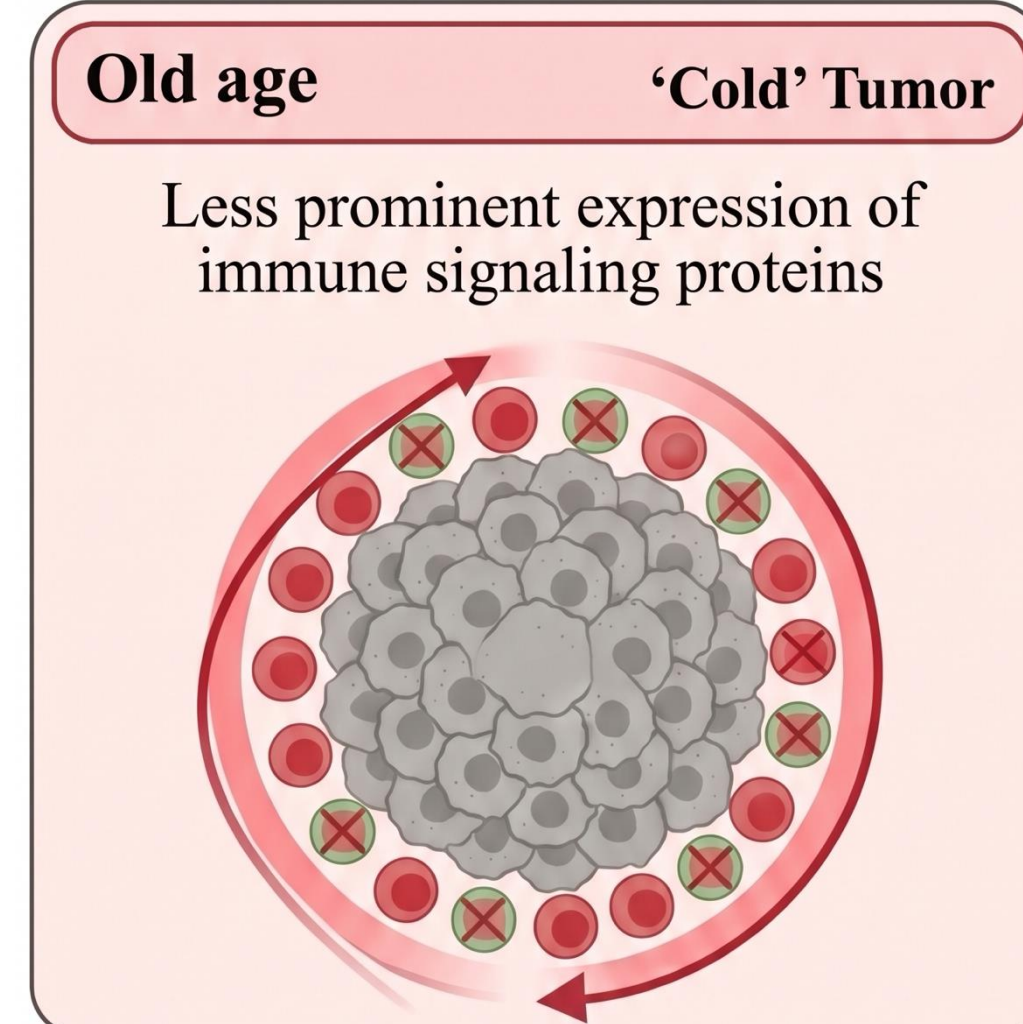
Consistent Proteome Coverage :



□ Aged mice show a pro-tumorigenic environment with larger tumor volume

■ Progressive weight loss associated with tumor progression was observed in aged mice

■ PTX + anti-PDL-1 showed better tumor growth inhibition in both age groups



Acknowledgement

- Florida Breast Cancer Foundation (FBCF)
- UCF Preeminent Postdoctoral Program (P3)
- Kari B. Basso and Katie D. Heiden, Mass Spectrometry Research and Education Center, University of Florida