Summary of: Single-cell multi-ome and immune profiles of the Inspiration4 crew reveal conserved, cell-type, and sex-specific responses to spaceflight

Key Findings and Quantitative Results:

Single-Cell Multi-Omics Data: - **Spaceflight Signature:** Identified a "spaceflight signature" characterized by enrichment in oxidative phosphorylation, UV response, immune function, and TCF21 pathways. - **Enriched Pathways:** Identified conserved pathways like OXPHOS, TCF21, UV response, and T cell activation. - **Conserved Responses:** Conserved responses across multiple cell types, including CD4 T cells, CD8 T cells, NK cells, DCs, and others.

Immune Prole: - **IL-6, IL-10, IL-17E/IL-25, MIP-1 α , MCP-1, ENA-78, CRP:** Increased in serum. - **IL-9, IL-17E/IL-25, MIP-1 α , MCP-2, MCP-4:** Decreased in serum. - **IL-8, IL-10, IL-17E/IL-25, IL-10, IL-17E/IL