

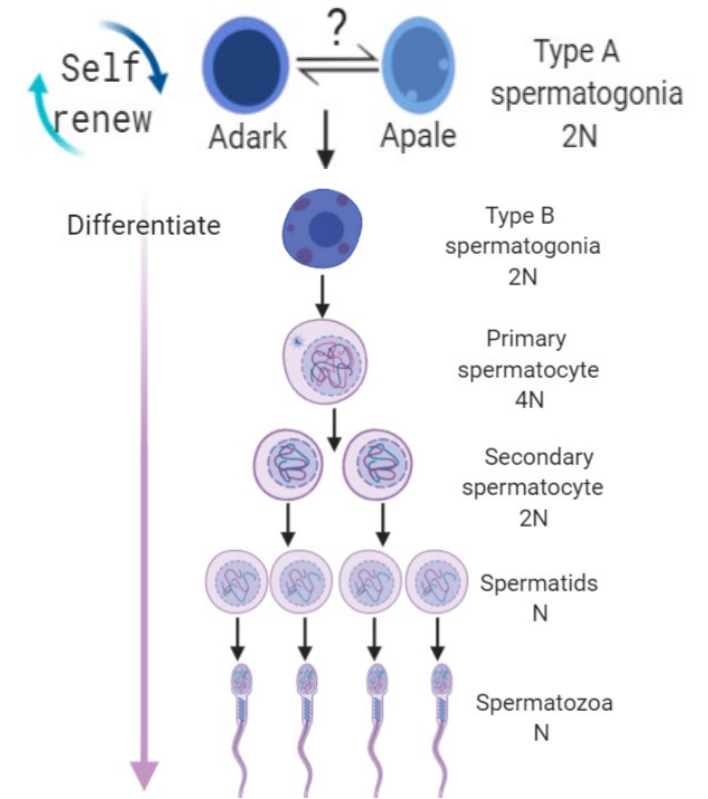
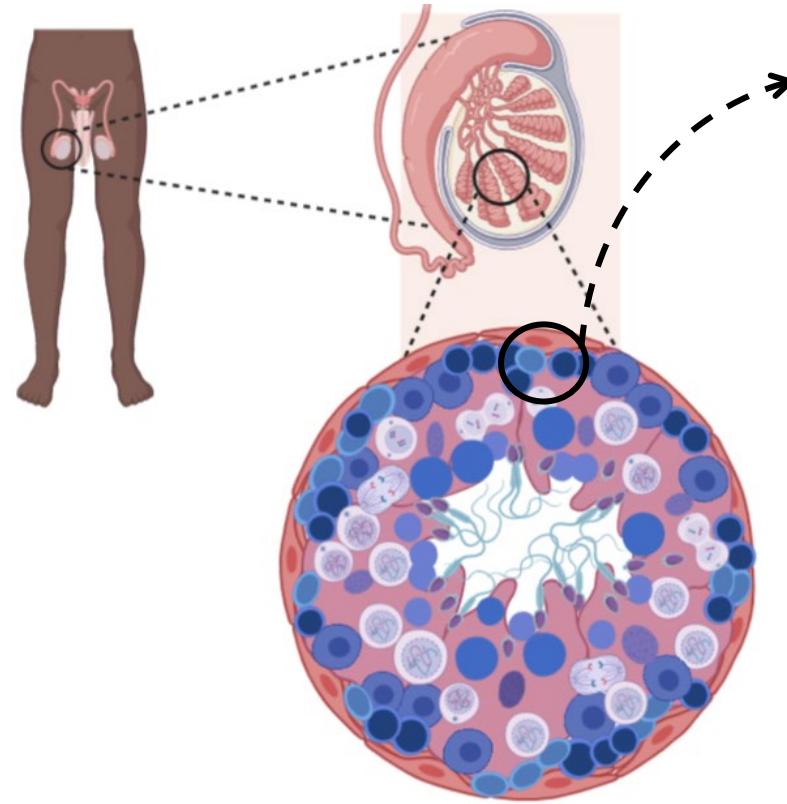
# Single Cell Transcriptome Analysis Identifies Molecular Markers of Putative Human Spermatogonial Stem Cells

**Sarah Munyoki**

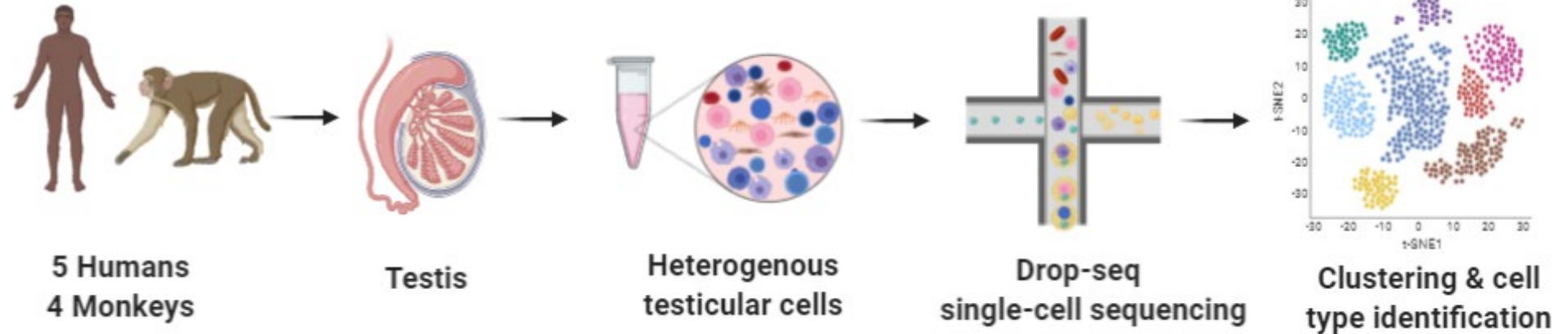
Integrative Systems Biology  
University of Pittsburgh School of Medicine  
Magee Womens Research Institute  
Orwig lab



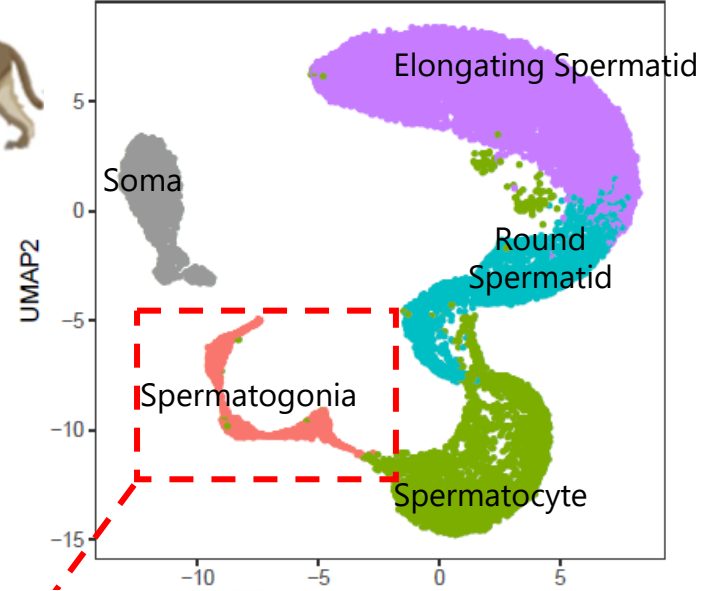
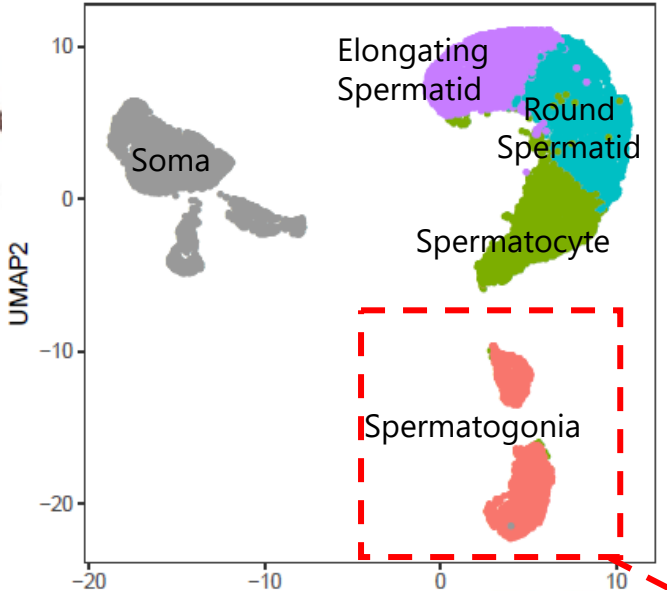
Spermatogonial stem cells (SSCs) are essential for fertility



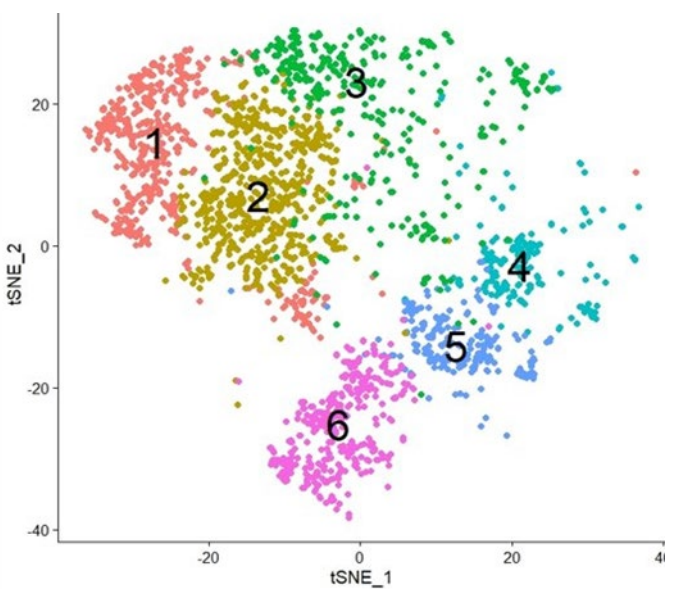
Utilized single cell RNA-seq to identify primate SSC markers



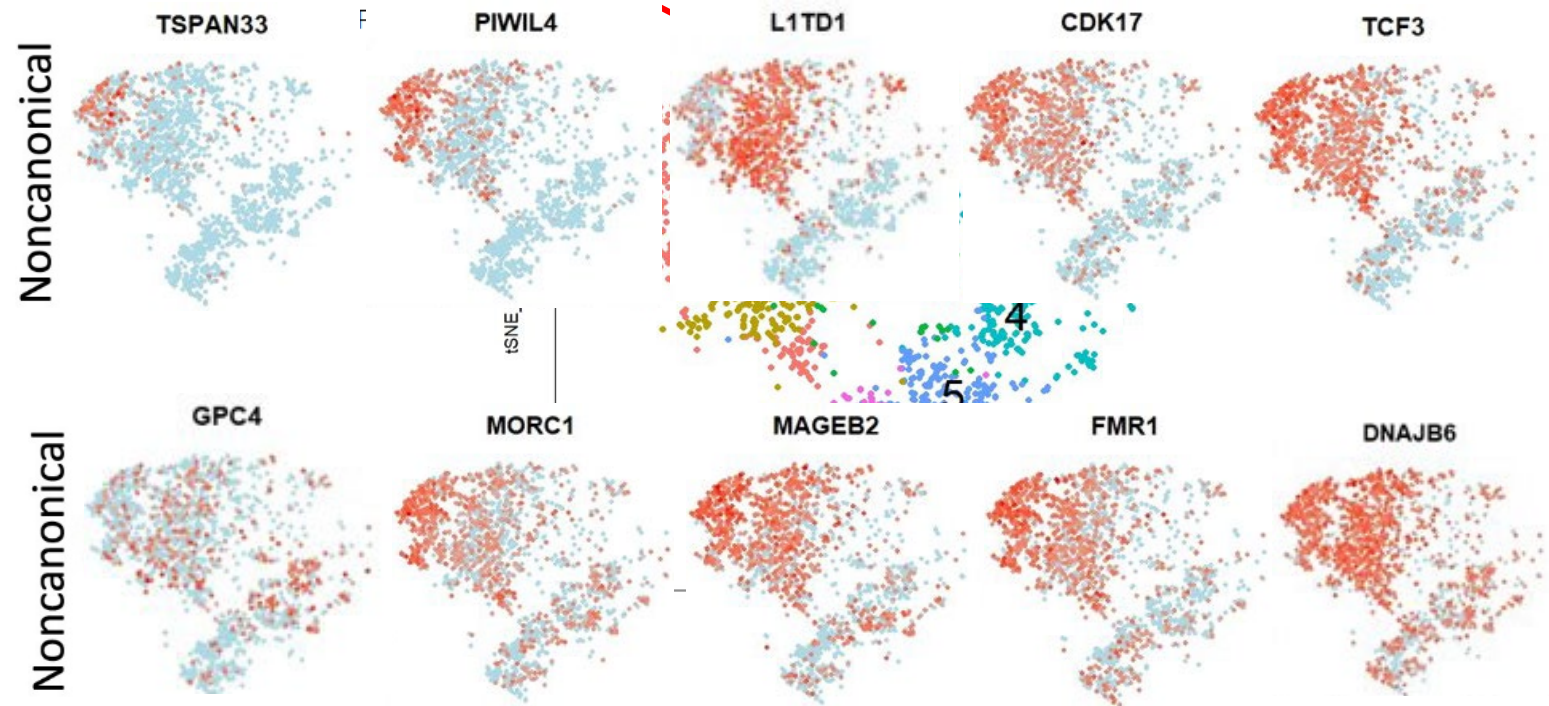
Primate spermatogonia are composed of 6 distinct states



Undifferentiated

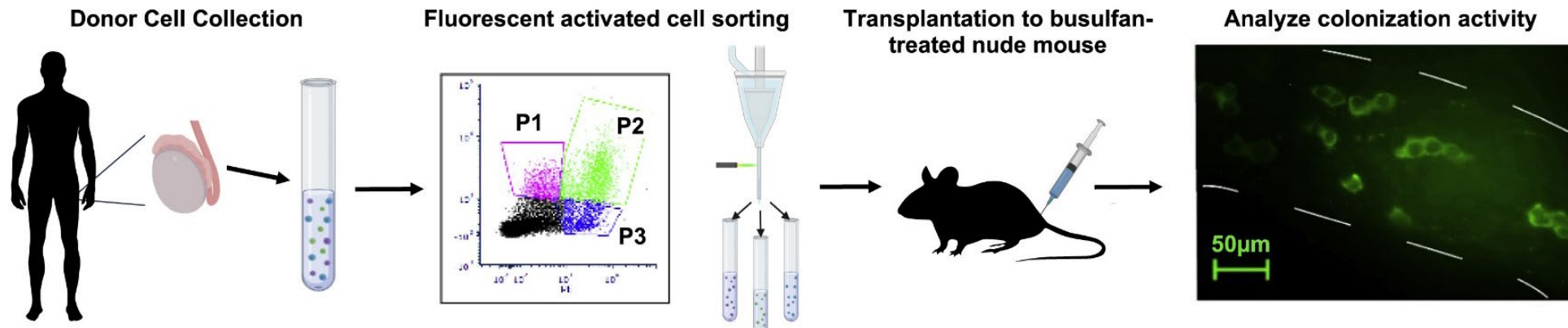


Differentiating



\*Shami, \*Zheng, \*Munyoki, et al. Dev Cell. 2020

Candidate marker  
Human to mouse  
LPPR3, TSPAN33  
mouse SSC  
FGFR3 are expressed  
xenotransplantation  
human testis



Candidate cell surface  
markers can isolate a  
subpopulation of human  
testicular cells with SSC  
colonization activity

