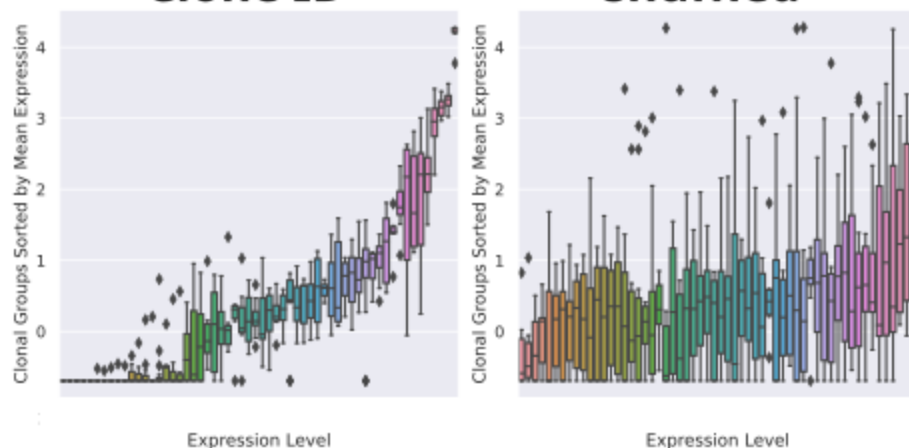


# Clone ID

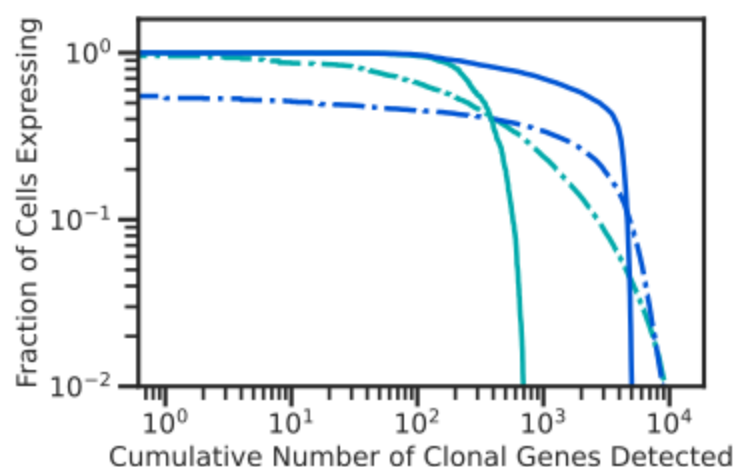
# shuffled

**a**



*intuitive look at the raw data and strength of the signal*

**b**



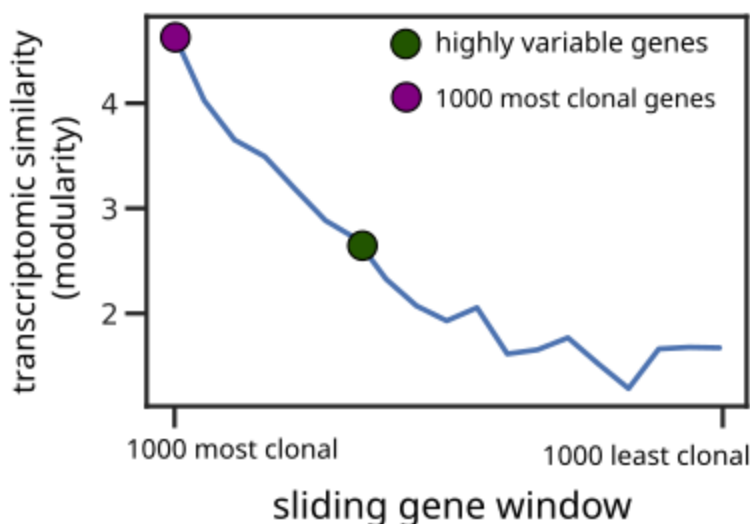
■ in vitro  
■ in vivo  
— clonal  
- - not clonal

*quantification of how many genes are detected as clonal in vivo and in vitro, as a function of dropout. This is really a pretty interesting aspect of things these long live plasma cells are expected to have a common ancestor on the time scale of months to years ago*

**c**

**Upset plot In Vivo vs. Ex Vivo Genes and IgH genes, putatively B cell development related house keeping**

**d**



*transcriptomic comparison of clones on the nearest neighbor graph, basically if they have more edges/connections to their siblings the score is higher  
On the left side I have the modularity score (higher means more connected)  
on the right side next time I will have another line quantifying the total number of significant clones*