10X 5' Workflow

differentiation protocol
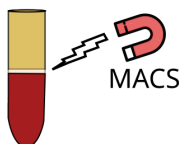
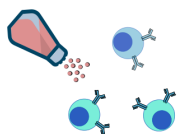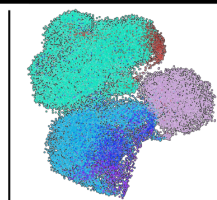|	
1.purify B cells MACS	**2. analyze *in-vivo* samples** input B cells (day 0) long-lived plasma cells: (LLPCs)
3. stimulate w/ cytokines	**4. analyze *in-vitro* time-course** division, differentiation, CSR day 4 day 8 day 12
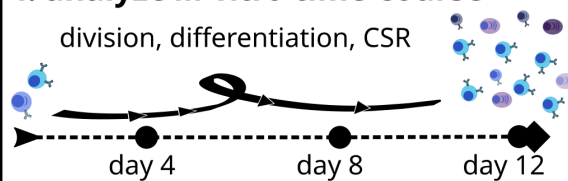
measurements

gene expression	VDJ C mutation status isotype / class
surface expression	clonal origin