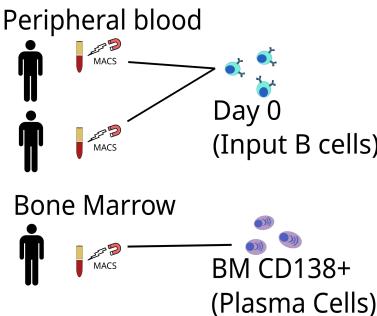
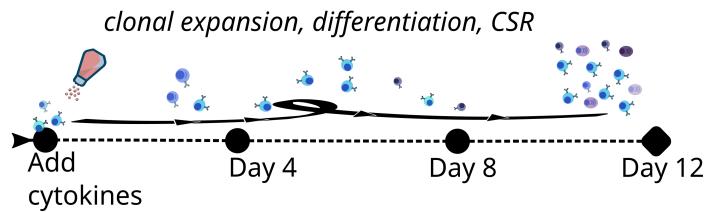
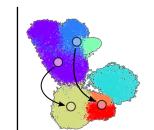


a.**1. Obtain B cells from donors****2. Perform in vitro differentiation on B cells****3. Analyze samples with single cell genomics****Samples**

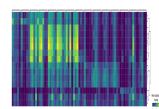
this study		public
<i>in vivo</i>	<i>in vitro</i>	<i>in vivo</i>
Day 0 BM CD138+	Day 4 Day 8 Day 12	BMMNC PBMC

Measurement

lineage barcode & isotype



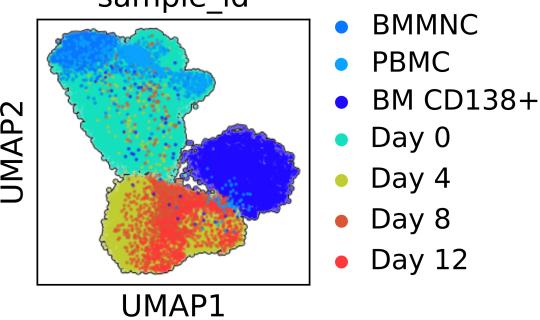
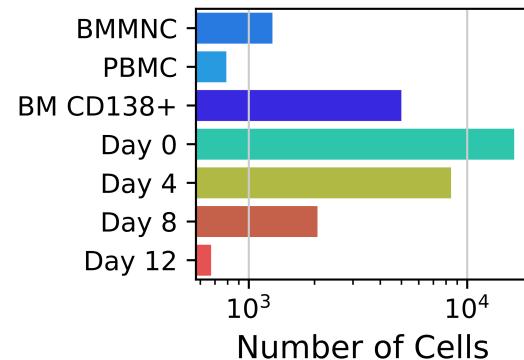
clonal fate mapping



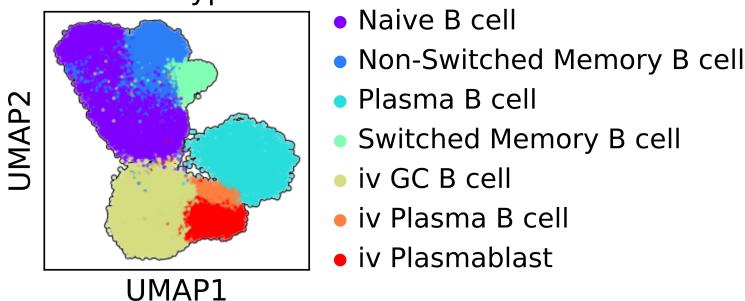
transcriptome

b.

sample_id

**c.****d.**

bcelltype

**e.**