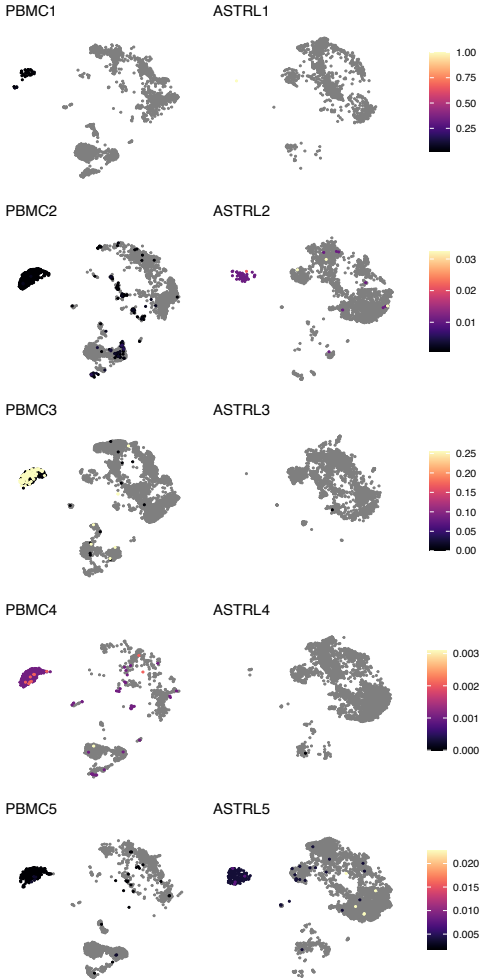


Supplementary Figure 1. Clonal Expansion in the B cell clusters of 5 PBMC samples and the respective ASTRs.



Supplementary Table 1. CyTOF antibody marker panel

Metal	Marker
149Sm	CD25
145Nd	CD4
154Sm	CD3
162Dy	FoxP3
148Nd	CD16
161Dy	CD152 (CTLA-4)
175Lu	CD278/ICOS
174Yb	CD279 (PD-1)
147Sm	LAP
111Cd	CD155
152Sm	CD112
209Bi	TIGIT
167Er	CD197 (CCR7)
163Dy	CD183 (CXCR3)
141Pr	CD196 (CCR6)
142Nd	CD19
172Yb	CD38
150Nd	CD24
155Gd	CD27
144Nd	CD11b (Mac-1)
164Dy	helios
166Er	IL-10
153Eu	CD62L (L-selectin)
165Ho	IFNg
151Eu	CD103
158Gd	CD134 (OX40)
173Yb	CD203
169Tm	CD304 (Neuropilin-1)
194Pt	CD45
113Cd	CD85k (ILT3)
168Er	CD73 (Ecto-5-nucleotidase)
160Gd	CD39
170Er	CD45RA
156Gd	GARP
159Tb	CD357 (GITR)
171Yb	CD226
146Nd	CD8a
176Yb	CD56 (NCAM)
143Nd	CD127 (IL-7Ra)
103Rh	Cell-ID Intrcalator
	Cell-ID Intercalator-Ir