

Table S1: CD4 T cell subsets identified by the high dimensional data approach

1. Naïve CD38-	CCR7+ CD45RA+ CD27+ CD28+ CD127+ CD25+ CD95- CD57- PD1- CD38- DR-
2. Naïve CD38+	CCR7+ CD45RA+ CD27+ CD28+ CD127+ CD25+ CD95- CD57- PD1- CD38+ DR-
3. Tscm CD38+ DR+ PD1+	CCR7+ CD45RA+ CD27+ CD28+ CD95+ CD127- CD25- CD57- CD38+ DR+ PD1+
4. CM CD38+ PD1+	CCR7+ CD45RA- CD27+ CD28+ CD95+ CD127+- CD25+- CD57- PD1+- CD38+ DR+
5. CM CD38+ PD1-	CCR7+ CD45RA- CD27+ CD28+ CD95+ CD127+- CD25+- CD57- PD1- CD38+ DR-
6. CM CD38- PD1-	CCR7+ CD45RA- CD27+ CD28+ CD95+ CD127+ CD25+- CD57- PD1- CD38- DR-
7. TM CD38- DR+	CCR7- CD45RA- CD27+ CD28+ CD95+ CD127+- CD25+- CD57- PD1+- CD38- DR+
8. TM CD38- DR-	CCR7- CD45RA- CD27- CD28+ CD95+ CD127+ CD25+- CD57- PD1- CD38- DR-
9. EM CD38+ DR+	CCR7- CD45RA- CD27- CD28- CD95+- CD127- CD25+- CD57- PD1+ CD38- DR-
10. EM CD38- DR- CD57+	CCR7- CD45RA- CD27- CD28- CD95+- CD127- CD25+- CD57- PD1+ CD38- DR-
11. EM CD38+ DR+ CD57+	CCR7- CD45RA- CD27- CD28- CD95+- CD127- CD25+- CD57+ PD1+ CD38+ DR+
12. TEMRA	CCR7- CD45RA+ CD27- CD28- CD95+ CD127- CD25+- CD57+ PD1- CD38- DR-

Table S2: CD8 T cell subsets identified by the high dimensional data approach

1. Naïve CD38-	CD45RA+ CD57- CD127+ CD25+- CD95- CD38- DR- CD28+ CCR7+ CD27+ PD1-
2. Naïve CD38+	CD45RA+ CD57- CD127+ CD25+- CD95- CD38+ DR- CD28+ CCR7+ CD27+ PD1-
3. Tscm CD38+ DR+ PD1+	CD45RA+ CD57- CD127+ CD25+- CD95+ CD38+ DR- CD28+ CCR7+ CD27+ PD1+
4. CM CD38+ DR+	CD45RA- CD57- CD127+ CD25+- CD95+ CD38+ DR+ CD28+ CCR7+ CD27+ PD1+
5. TM DR+	CD45RA- CD57- CD127+ CD25+- CD95+ CD38- DR+ CD28+ CCR7- CD27+ PD1+
6. TM DR-	CD45RA- CD57- CD127+ CD25+- CD95+ CD38- DR- CD28+ CCR7- CD27+ PD1+
7. EM CD38+ DR+ CD57-	CD45RA- CD57- CD127- CD25+- CD95+ CD38+ DR+ CD28- CCR7- CD27+ PD1+
8. EM CD38+ DR+ CD57+	CD45RA- CD57+ CD127- CD25+- CD95+ CD38+ DR+ CD28- CCR7- CD27+ PD1+
9. EM CD57+ PD1-	CD45RA- CD57+ CD127- CD25+- CD95+ CD38- DR- CD28- CCR7- CD27- PD1-
10. EM CD57+ PD1+	CD45RA- CD57+ CD127- CD25+- CD95+ CD38- DR- CD28- CCR7- CD27- PD1+
11. EM CD57- PD1-	CD45RA- CD57- CD127- CD25+- CD95+ CD38- DR- CD28- CCR7- CD27- PD1-
12. TEMRA CD38- CD57+	CD45RA+ CD57+ CD127- CD25- CD95+ CD38- DR- CD28- CCR7- CD27- PD1-
13. TEMRA CD38- CD57-	CD45RA+ CD57- CD127- CD25- CD95+ CD38- DR- CD28- CCR7- CD27- PD1-
14. TEMRA CD38+ CD57+	CD45RA+ CD57+ CD127- CD25- CD95+ CD38+ DR- CD28- CCR7- CD27- PD1-

Table S3: B cell subsets identified by the high dimensional data approach

1. Naïve	IgD+ CD38- IgM+ CD21+ CD27- CD24+-
2. Naïve IgD-	IgD- CD38- IgM+ CD21+ CD27- CD24+-
3. Memory unswitched	IgD+ CD38- IgM+ CD21- CD27+ CD24+
4. Memory switched	IgD- CD38- IgM- CD21+ CD27- CD24+
5. Memory IgM ONLY	IgD- CD38- IgM- CD21+ CD27- CD24+
6. Plasmablasts IgM-	IgD- CD38+ IgM- CD21- CD27+ CD24-
7. Plasmablasts IgM+	IgD- CD38+ IgM+ CD21- CD27+ CD24-
8. Transitional	IgD+ CD38+ IgM+ CD21+ CD27- CD24+
9. Exhausted IgD+ IgM+	IgD+ CD38- IgM+ CD21- CD27- CD24-
10. Exhausted IgD- IgM+	IgD- CD38- IgM+ CD21- CD27- CD24-
11. Surface-	IgD- CD38- IgM- CD21- CD27- CD24-