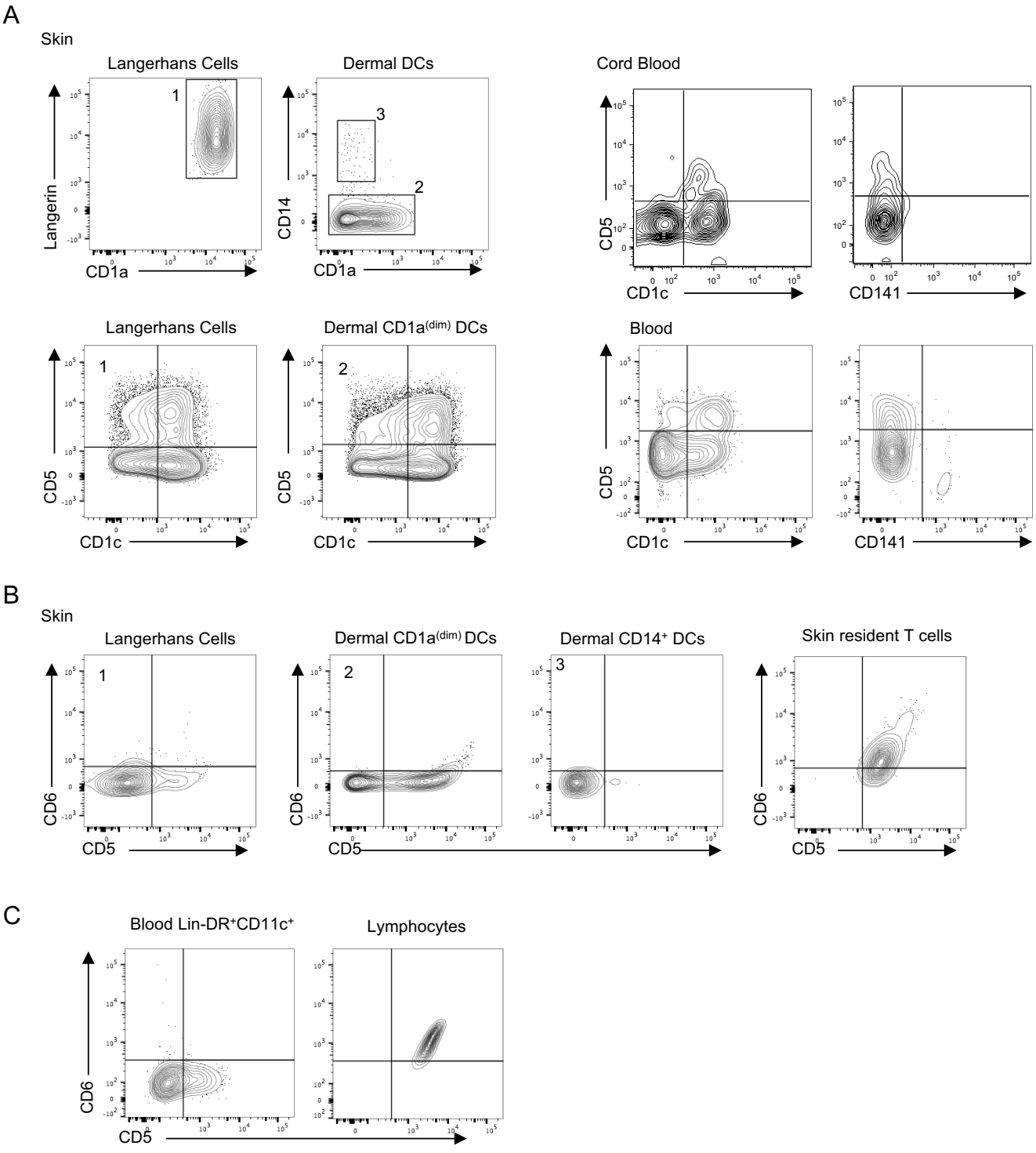
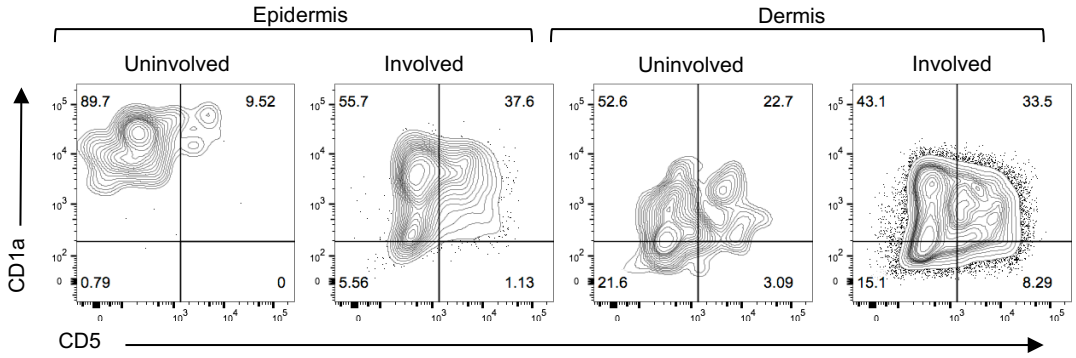
Supplemental Figure 1



Supplemental Figure 1. Characterization of skin and blood CD5$^+$ DCs. (**A**) Plots show CD5 and CD1c expression on the surface of Left: skin LCs (population 1), dermal CD1a$^{(dim)}$ DCs (population 2), Right: cord blood and adults peripheral blood CD11c$^+$CD1c$^+$ DCs and CD11c$^+$CD141$^+$ DCs. One out of more than three independent donors is shown. (**B**) Plots show CD5 and CD6 expression on the surface of skin LCs (population 1), dermal CD1a$^{(dim)}$ DCs (population 2), dermal CD14$^+$ DCs (population 3) and on resident T cells.

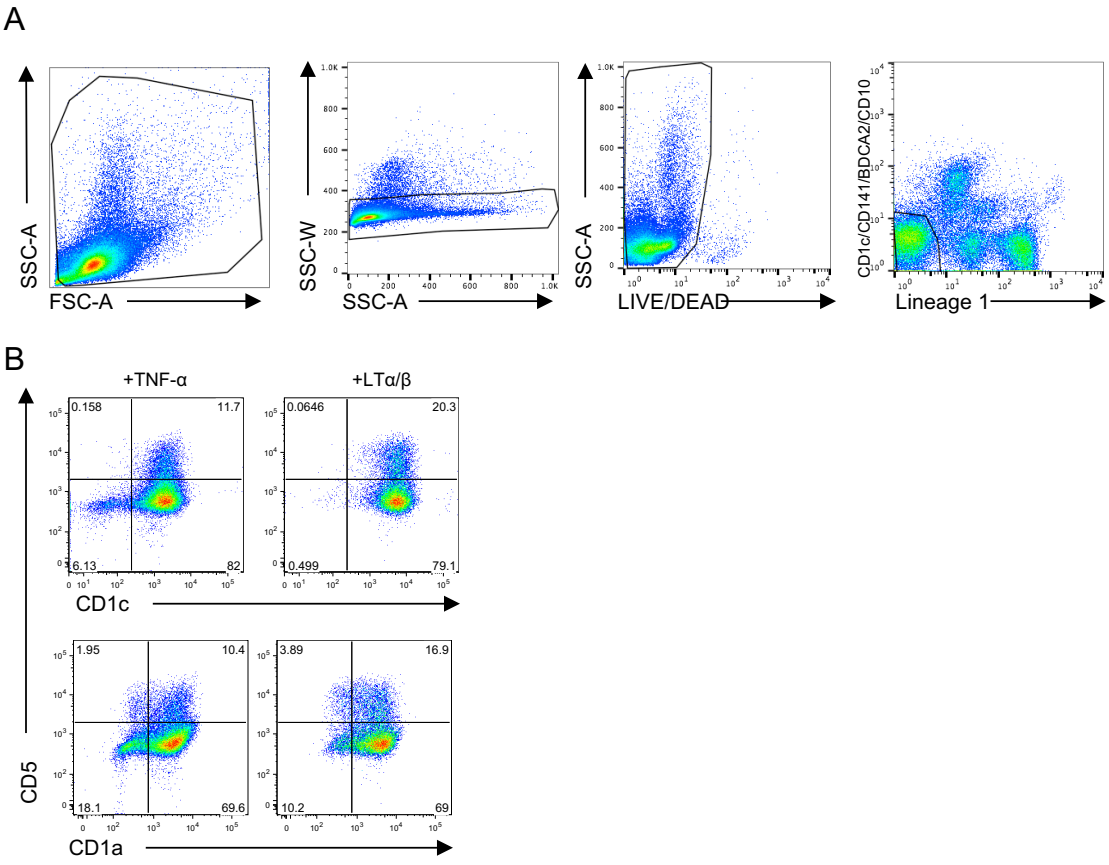
Supplemental Figure 2



Supplemental Figure 2. Expression of CD1a and CD5 in involved and uninvolved psoriatic plaques.

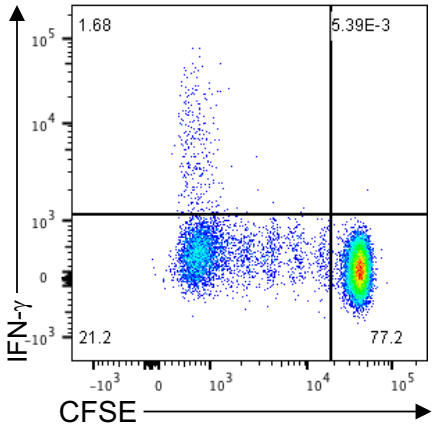
CD5 expression on epidermal and dermal DCs isolated from involved (left forearm) and uninvolved (left arm) lesions of psoriasis patient's 025 (see Table 1) skin. Graphs show the expression of CD1a and CD5 on the gated live HLA-DR^{+}CD3/19^{-} DCs.

Supplemental Figure 3



Supplemental Figure 3. (**A**) Gating strategy for purifying cord blood and dermal DC progenitors. Gating strategy Progenitors were sorted after gating on the $Lin^{neg}(CD3^{-}CD19^{-}CD56^{-}CD14^{-}CD66b^{-})$ $DC^{neg}(CD1c, BDCA2, CD141)^{-}CD10^{-}$ cells. (**B**) $CD45^{+}Lin^{neg}(CD3^{-}CD19^{-}CD56^{-}CD14^{-}CD66b^{-})$ $DC^{neg}(CD1c, BDCA2, CD141)$ $CD10^{-}$ $CD34^{+}CD117^{+}CD123^{-}$ cells were sorted and cultured on MS-5 cells with $FLT3\text{-}L^{+}SCF^{+}GM\text{-}CSF^{+}$ and in the presence of TNF-α or LTα/β. Plots show the frequency of $CD11c^{+}CD1a^{+}CD5^{+}$ and CD11c+$CD1c^{+}CD5^{+}$ DCs on day seven. Flow cytometry plots are gated on live, $CD45^{+}HLA\text{-}DR^{+}CD11c^{+}$ cells.

Supplemental Figure 4



Supplemental Figure 4. Gating strategy for purifying proliferated $CFSE^{(low)}$ T cells. Flow cytometry plot is gated on live, $CD45^{+}CD3^{+}CD11c^{-}$ cells and shows the expression of CFSE and IFN-γ.

Supplemental Table 1. Fluorescent Antibodies Used

Antigen	Fluorochrome	Clone	Manufacturer
CD1a	Pacific Blue	HI149	Biolegend
CD1c	PE	AD5-8E7	Miltenyi Biotec
CD3	AF700	UCHT1	BD Biosciences
CD4	BV421	RPA-T4	BD Biosciences
CD5	FITC	BL1a	Beckman Coulter
CD8	APC-H7	SK1	BD Biosciences
CD10	PE	HI10a	BD Biosciences
CD11b	PE	ICRF44	Biolegend
CD11c	BV711	B-ly6	BD Biosciences
CD14	QDot605	TüK4	Invitrogen
CD19	AF700	HIB19	BD Biosciences
CD34	APC	8G12	BD Biosciences
CD45RA	FITC	MEM-56	Invitrogen
CD45RA	BV605	HI100	Biolegend
CD56	AF700	HCD56	Biolegend
CD83	FITC	HB15e	Biolegend
CD86	PE	2331 (FUN-1)	BD Biosciences
CD117	PC7	104D2D1	Beckman Coulter
CD123	PE-CF594	7G3	BD Biosciences
CD141	PE	AD5-14H12	Miltenyi Biotec
CD141	APC	AD5-14H12	Miltenyi Biotec
Langerin (CD207)	PE	DCGM4	Beckman Coulter
BDCA2 (CD303)	PE	AC144	Miltenyi Biotec
CCR7	AF700	150503	R and D Systems
GranzymeB	APC	GB11	Invitrogen
HLA-DR	APC-H7	G46-6	BD Biosciences
IL-22	PE	142928	R and D Systems
IL-17	APC	eBio64DEC17	eBioscience
IFN-γ	PE-Cy7	B27	BD Biosciences
Lineage 1: CD3, CD14, CD16, CD19, CD20, CD56	FITC	CD3: SK7, CD14: MΦP9, CD16: 3G8, CD19: SJ25C1, CD20: L27, CD56: NCAM16.2	BD Biosciences
Aqua Live/Dead	Amcyan	Catalog# L34966	Invitrogen
Blue Live/Dead	Ultaviolet	Catalog# L34962	Invitrogen