A discrete subset of epigenetically primed human NK cells mediates antigen-specific

immune responses

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Supplementary Materials

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Supplementary Figure 1.

а Single cell RNA-seq on liver CD45+ cells superimposed with expression patterns of known marker genes for ILC subtype characterization



b Representative dot plots NK cells with anti-CD49a, anti-CD16 and isotype control

NKG2C FITC



d Single cell RNA-seq on liver CD45+ cells superimposed with expression patterns of known marker genes of CMV driven adaption of NK cells



0

Liver

Blood

0

NKp30

Liver

CD16

NKp30

Blood

CD16

Figure S1. Phenotypic characterization of human liver NK cells. **a**, t-SNE projection of Smartseq2 single-cell sequencing on human hepatic CD45⁺ leukocytes superimposed with expression pattern of known marker genes for ILCs. UMI normalized expression of indicated genes within the depicted clusters. **b**, Representative dot plots of stainings of liver- and blood-derived NK cells with anti-CD49a, anti-CD16 and an isotype control. These staining show inter-individual variability with a substantial population of CD49a⁺CD16⁻ NK cells in all liver samples. **c**, Mean percentage of CD49a⁺CD16⁻ NK cells of liver and blood listed according to the diagnosis. **d**, t-SNE projection of Smart-seq2 single-cell sequencing on human hepatic CD45⁺ leukocytes superimposed with expression pattern of known marker genes for CMV-driven adaptive NK cells. UMI normalized expression of indicated genes within the depicted clusters. **e**, Representative FACS plots of expression of CD16 and NKG2C of NK cells in liver and blood. **f**, Mean percentage of NK cells expressing NKG2C in liver and blood. **g**, Mean percentage of NKG2C⁺ NK cells expressing depicted markers in liver and blood.





Figure S2. Transcriptomic and epigenomic differences in NK cell subtypes. a, PCA analysis with Principal component 2 (PC2) and Principal component 3 (PC3) of the same set of genes as Figure 2a (top). The bar plot (bottom) shows the distribution of 10 principal components. **b**, PCA analysis of ATAC-seq data with Principal component 2 (PC2) and Principal component 3 (PC3) of the same set of differentially accessible (DA) regions as Figure 2b (top). The bar plot (bottom) shows the distribution of 10 principal components. c, Transcriptional presence of factors significantly enriched in accessible regions comparing unstimulated and stimulated NK cells and also comparing CD49a⁺CD16⁻ and CD49a⁻CD16⁻ NK cells in either unstimulated or stimulated conditions (normalized log2). The size of the circles reflects the HOMER motif enrichment pvalues. d, Stacked bar plot displaying the number of gained DA peaks at promotor regions in the comparison of CD49a⁺CD16⁻ NK cells versus CD49a⁻CD16⁻ NK cells either in unstimulated or stimulated conditions. Peaks associated with upregulated genes (orange color) and peaks without association with up-regulated genes (blue color) e, LOLA enrichment analysis for top associated factors on accessible regions with concomitant changes in expression comparing CD49a⁺CD16⁻ NK cells and CD49a⁻CD16⁺ NK cells in unstimulated conditions (odds ratio).

a Activation of CD20+ B cells

b Killing Assay with Dendritic Cells as target cells

Killing assay with filler cells

С



Figure S3. Functional aspects of CD49a⁺CD16⁻ NK cells. a, Mean expression of activation marker on CD20⁺ B cells before and after incubation with antigen proteins. Data points represent the mean of positive B cells \pm SD. n = 2. **b**, Antigen-specific lysis of autologous dendritic cells as target cells incubated with matched/mismatched antigens by hepatic CD49a⁺CD16⁻ NK cells with an effector: target cell ratio of 1:10. n = 3. ***P < 0.0001. c, Antigen-specific lysis of autologous B cells pulsed with matched/mismatched antigens by filler cells plus 5% and 1% CD8⁺ effector T cells. This did not lead to a lysis comparable to CD49a⁺CD16⁻ hepatic NK cells as controls. The effector: target cell ratio was 1:10; n = 3 (filler cells); n = 8 (positive control). ***P < 0.0001. d, Representative dot plots post-sorting of CD49a⁺CD16⁻ NK cells and CD49a⁻CD16⁺ NK cells. e, Antigen-specific lysis of CD49a⁻CD16⁻ NK cells compared to CD49a⁺CD16⁻ hepatic NK cells against autologous B cells pulsed with matched/mismatched antigens. The effector: target cell ratio was 1:10; n = 2. *P < 0.01. f, Single-cell Smart-seq2 sequencing was performed after an antigen-specific cytotoxicity assay (shown in Fig. 3i). Complete heat map of differentially expressed genes in the two identified clusters of CD107a^{+/-} CD49a⁺CD16⁻ NK cells (analogous to Fig. 3k).

Patient	Age	Gender	Tumor
L1	60	Female	Klatskin tumor
L2	77	Female	Cholangiocellular carcinoma
L3	82	Male	Colorectal carcinoma
L4	46	Female	Hemangioma
L5	54	Male	Neuroendocrine tumor
L6	45	Female	Colorectal carcinoma
L7	37	Male	Adenoma
L8	68	Female	Colorectal carcinoma
L9	73	Female	Angiomyolipoma
L10	65	Male	Hepatocellular carcinoma
L11	39	Female	Adenoma
L12	78	Male	Hepatocellular carcinoma
L13	70	Male	Hepatocellular carcinoma
L14	47	Female	Schwannoma
L15	78	Male	Colorectal carcinoma
L16	62	Male	Hepatocellular carcinoma
L19	58	Female	Liver cysts
L20	75	Male	Colorectal carcinoma
L21	53	Female	Adenoma
L22	69	Male	Cholangiocellular carcinoma
L23	66	Male	Colorectal carcinoma
L24	38	Female	Focal nodular hyperplasia
L25	66	Male	Colorectal carcinoma
L26	75	Male	Hepatocellular carcinoma
L27	76	Male	Hepatocellular carcinoma
L28	58	Female	Liver cysts
L30	45	Female	Cholangiocellular carcinoma

 Table S5. Characteristics of individuals for liver tissue. Data presented as total numbers.

Table S6. Characteristics of individuals with nickel-induced epicutaneous patch test (Ni-ECT).Data presented as total numbers.

Patient	Age	Gender	Grade NI-ECT
1	29	Female	III
2	50	Female	II
3	67	Female	II
4	52	Female	III

CD3 UCHT1 $lgGl$ CD8 SK1 $lgGl$ CD16 B73.1 $lgGl$ CD20 2H7 $lgGl$ CD45 H130 $lgGl$ CD49a TS2/7 $lgGl$ CD49b P1E6-C5 $lgGl$ CD56 HCD56 $lgGl$ CD57 HNK-1 lgM CD69 FN50 $lgGl$ CD107a H4A3 $lgGl$ CD107b H12.2H7 $lgGl$ Siglec7 6-434 $lgGl$ NKG2C/CD4 131411 $lgG2a$ NKG2D 1011 $lgGl$ NKp30 P30-15 $lgGl$ KiR2DL1/S1/S3/S5 HP-MA4 $lgG2b$ CCR3 J073F5 $lgG2b$ CCR4 GI $lgG2b$	Antibody specificity	Clone (source of antibodies)	Isotype
CD8 SK1 IgG1 CD16 B73.1 IgG1 CD20 2H7 IgG2b CD45 H130 IgG1 CD49a TS277 IgG1 CD45 HCD56 IgG1 CD49b PIF6-C5 IgG1 CD56 HCD56 IgG1 CD57 HNK-1 IgM CD69 FN50 IgG1 CD94 DX22 IgG1 CD107a H4A3 IgG1 CD107a H4A3 IgG1 CD144 C1.7 IgG1 PD-1 EH12.2H7 IgG1 NKG2A/CD94 131411 IgG2a NKG2A/CD94 134522 IgG2a NKG2D 1D11 IgG1 NKq2D 1D11 IgG1 NKp30 P30-15 IgG1 NKp46 BAB281 IgG1 NKp46 BAB281 IgG1 CR4 IG1 IgG1 CCR4 IG1 IgG1 CCR5 CTCSR IgG2b	CD3	UCHT1	IgG1
CD16 B73.1 IgG1 CD20 2H7 IgG2b CD45 HI30 IgG1 CD49a TS2/7 IgG1 CD49b PIE6-C5 IgG1 CD56 HCD56 IgG1 CD57 HNK-1 IgM CD69 FN50 IgG1 CD94 DX22 IgG1 CD107a H4A3 IgG1 CD144 C1.7 IgG1 CD244 C1.7 IgG1 Siglec7 6-434 IgG1 NKG2A/CD94 13411 IgG2a NKG2D 1011 IgG1 NK622/CD159c 134522 IgG2a NK62D 1011 IgG1 NKp30 P30-15 IgG1 NKp46 BA281 IgG1 CCR3 J073E5 IgG2a CCR4 IG1 IgG1 CCR5 CTCSR IgG1 CCR4 IG1 IgG2a CCR5	CD8	SK1	IgG1
CD20 2H7 $IgG2b$ CD45 H130 $IgG1$ CD49a TS2/7 $IgG1$ CD49b PIE6-C5 $IgG1$ CD56 HCD56 $IgG1$ CD57 HNK-1 IgM CD69 FN50 $IgG1$ CD94 DX22 $IgG1$ CD107a H4A3 $IgG1$ CD160 BY55 IgM CD244 C1.7 $IgG1$ CD244 C1.7 $IgG1$ NKG2A/CD94 131411 $IgG2a$ NKG2C/CD150 134522 $IgG1$ NK62D ID11 $IgG1$ NKp30 P30-15 $IgG1$ NKp46 BAB281 $IgG1$ NKp46 BAB281 $IgG1$ CR2 K036C2 $IgG2a$ CCR2 K036C2 $IgG2a$ CCR4 IG1 $IgG1$ CCR5 CTC5R $IgG1$ CCR6 K041E5 $IgG2a$ CCR7 SEN/CXCR2 $IgG1$ CCR8 <t< td=""><td>CD16</td><td>B73.1</td><td>IgG1</td></t<>	CD16	B73.1	IgG1
CD45 H130 I_{GG1} CD49a TS27 I_{GG1} CD49b P1E6-C5 I_{GG1} CD56 HCD56 I_{GG1} CD57 HNK-1 I_{gM} CD69 FN50 I_{gG1} CD94 D222 I_{gG1} CD107a H4A3 I_{gG1} CD144 C1.7 I_{gG1} PD-1 EH12.2H7 I_{gG1} Siglec7 6-434 I_{gG1} NKG2C/CD159c 134522 I_{gG2a} NKG2C/CD159c 134522 I_{gG2a} NKG2D ID11 I_{gG1} NKp30 P30-15 I_{gG1} NKp46 BAB281 I_{gG2b} LIR-1 GHI/75 I_{gG2a} CCR2 K036C2 I_{gG2a} CCR4 IG1 I_{gG1} CCR5 CTC5R I_{gG1} CCR4 IG1 I_{gG1} CCR5 CTC5R I_{gG1} CCR4 IG1 I_{gG1} CCR5 CTC5R <td>CD20</td> <td>2H7</td> <td>IgG2b</td>	CD20	2H7	IgG2b
CD49a TS2/7 1 GG1 CD49b PIE6-C5 1 GG1 CD56 HCD56 1 GG1 CD57 HNK-1 1 gM CD69 FN50 1 gG1 CD94 DX22 1 gG1 CD177 HA3 1 gG1 CD107a H4A3 1 gG1 CD160 BY55 1 gM CD244 C1.7 1 gG1 Siglec7 6-434 1 gG1 NKG2Δ/CD94 131411 1 gG2a NKG2Δ/CD94 131411 1 gG2a NKG2D D11 1 gG1 NKp30 P30-15 1 gG1 NKp46 BAB281 1 gG1 NKp46 BAB281 1 gG1 CCR2 K036C2 1 gG2b CR4 IG1 1 gG1 CCR5 CTC5R 1 gG1 CCR4 IG1 1 gG1 CCR5 CTC5R 1 gG1 CCR4 IG1 1 gG1 CCR5 CTC5R 1 gG1 CXCR1 3 H30	CD45	HI30	IgG1
CD49b P1E6-C5 1gG1 CD56 HCD56 IgG1 CD57 HNK-1 IgM CD69 FN50 IgG1 CD94 DX22 IgG1 CD107a H4A3 IgG1 CD160 BY55 IgM CD244 C1.7 IgG1 PD-1 EH12.2H7 IgG1 NKG2A/CD94 131411 IgG2a NKG2D ID11 IgG1 NK62D P30-15 IgG1 NKq2D P30-15 IgG1 NKp30 P30-15 IgG2b KIR2DL1/S1/S3/S5 HP-MA4 IgG2b LIR-1 GH1/75 IgG2a CCR4 G1 IgG1 CCR5 CTCSR IgG1 CCR4 IG1 IgG1 CCR4 IgG1 IgG1 CCR4 IgG1 IgG1 CCR4 IgG1 IgG2a CCR4 IgG1 IgG2a CXCR2	CD49a	TS2/7	IgG1
CD56 HCD56 IgG1 CD57 HNK-1 IgM CD69 FN50 IgG1 CD94 DX22 IgG1 CD107a H4A3 IgG1 CD107a H4A3 IgG1 CD107a H4A3 IgG1 CD244 C1.7 IgG1 PD-1 EH12.2H7 IgG1 Siglec7 6-434 IgG1 NKG2A/CD94 131411 IgG2a NKG2C/D159c 134522 IgG1 NKq2D DD11 IgG1 NKp30 P30-15 IgG1 NKp46 BAB281 IgG2b LIR-1 GHI/75 IgG2b CCR2 K036C2 IgG2b CCR3 J073E5 IgG2a CCR4 IG1 IgG1 CCR5 CTC5R IgG2a CXCR1 SF1/CXCR1 IgG2b CXCR3 G025H7 IgG1 CXCR4 K041E5 IgG1 CXCR5 CTC5R IgG1 CXCR4 BC3473 IgG1 <td>CD49b</td> <td>P1E6-C5</td> <td>IgG1</td>	CD49b	P1E6-C5	IgG1
CD57 HNK-1 IgM CD59 FN50 IgG1 CD94 DX22 IgG1 CD107a H4A3 IgG1 CD160 BY55 IgM CD244 C1.7 IgG1 PD-1 EH12.2H7 IgG1 Siglec7 6-434 IgG1 NKG2A/CD94 131411 IgG2a NKG2C/CD159c 134522 IgG1 NKG2D ID11 IgG1 NKp30 P30-15 IgG1 NKp46 BAB281 IgG1 KIR2DL1/S1/S3/S5 HP-MA4 IgG2b CCR1 GH1/75 IgG2b CCR2 K036C2 IgG2b CCR3 J073E5 IgG1 CCR4 IG1 IgG1 CCR8 L263G8 IgG2a CCR10 314305 IgG2a CXCR1 SF1/CXCR1 IgG2b CXCR2 E8/CXCR2 IgG1 CXCR3 G025H7 IgG1 CXCR4 K041E5 IgG2a CXCR4 HECA-452 <td>CD56</td> <td>HCD56</td> <td>IgG1</td>	CD56	HCD56	IgG1
CD69 FN50 IgG1 CD94 DX22 IgG1 CD107a H4A3 IgG1 CD160 BY55 IgM CD244 C1.7 IgG1 PD-1 EH12.2H7 IgG1 Siglec7 6.434 IgG1 NKG2A/CD94 131411 IgG2a NKG2C/CD159c 134522 IgG1 NKG2D ID11 IgG1 NKp30 P30-15 IgG1 NKp46 BAB281 IgG1 NKp46 BAB281 IgG2b LIR-1 GHI/75 IgG2b CCR2 K036C2 IgG2b CCR3 J073E5 IgG2a CCR4 IG1 IgG1 CCR5 CTC5R IgG1 CXCR4 IG1 IgG2a CXCR1 8F1/CXCR1 IgG2a CXCR1 8F1/CXCR1 IgG2a CXCR3 G025H7 IgG1 CXCR4 K041E5 IgG2a	CD57	HNK-1	IgM
CD94DX22IgG1CD107aH4A3IgG1CD107aH4A3IgG1CD160BY55IgMCD244C1.7IgG1PD-1EH12.2H7IgG1Siglec76434IgG1NKG2A/CD94131411IgG2aNKG2C/CD159c134522IgG2aNKG2DDD11IgG1NKp30P30-15IgG1NKp46BAB281IgG1KIR2DL1/S1/S3/S5HP-MA4IgG2bLIR-1GH1/75IgG2aCCR3J073E5IgG2aCCR4IG1IgG1CCR5CTC5RIgG1CCR8L263G8IgG2aCCR10314305IgG2aCXCR1SF1/CXCR1IgG2bCXCR2SE8/CXCR2IgG1CXCR4G025H7IgG1CXCR5WD1928IgG1CXCR6K041E5IgG2aCXCR16REA873IgG1CXCR6WD1928IgG1Interferon-yB27IgG1IL-43010.211IgG1IL-43010.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J00.211IgG1IL-4J	CD69	FN50	IgG1
CD107aH4A3IgG1CD160BY55IgMCD244C1.7IgG1PD-1EH12.2H7IgG1Siglec7 6.434 IgG1NKG2A/CD94131411IgG2aNKG2C/CD159c134522IgG1NKp30P30-15IgG1NKp46BAB281IgG1KR2DL1/S1/S3/S5HP-MA4IgG2bCCR2K036C2IgG2aCCR3J073E5IgG2aCCR4IG1IgG1CCR8L263G8IgG2aCCR10314305IgG2aCCR118F1/CXCR1IgG2bCXCR25E8/CXCR2IgG1CXCR3G025H7IgG1CXCR4HECA-452IgG1CXCR5WD1928IgG1CXCR6K041E5IgG2aCXCR6WD1928IgG1CLAHECA-452IgM ratEOMESWD1928IgG1It-43010.211IgG1IL-43010.211IgG1IL-4208a11IgG1IL-4208a11IgG1	CD94	DX22	IgG1
CD160BY55IgMCD244C1.7IgG1PD-1EH12.2H7IgG1Siglec76-434IgG1NKG2A/CD94131411IgG2aNKG2C/CD159c134522IgG2aNKG2DID11IgG1Nkp30P30-15IgG1Nkp46BAB281IgG1KIR2DL1/S1/S3/S5HP-MA4IgG2bCCR2K036C2IgG2bCCR3J073E5IgG2aCCR4IG1IgG1CCR5CTC5RIgG1CCR4134305IgG2aCCR10314305IgG2aCXCR18F1/CXCR1IgG2bCXCR25E8/CXCR2IgG1CXCR3G025H7IgG1CXCR4HECA-452IgG1CXCR5WD1928IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1It-43010.211IgG1IL-4X010.211IgG1IL-4208a11IgG1	CD107a	H4A3	IgG1
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KIR2DL1/S1/S3/S5HP-MA4IgG2bLIR-1GHI/75IgG2bCCR2K036C2IgG2bCCR3J073E5IgG2aCCR4IG1IgG1CCR5CTC5RIgG2aCCR4L263G8IgG2aCCR10314305IgG2aCXCR18F1/CXCR1IgG2bCXCR25E8/CXCR2IgG1CXCR3G025H7IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1Ki-6720Raj1IgG1	NKp46	BAB281	IgG1
LIR-1GHI/75IgG2bCCR2K036C2IgG2bCCR3J073E5IgG2aCCR4IG1IgG1CCR5CTC5RIgG1CCR8L263G8IgG2aCCR10314305IgG2aCXCR18F1/CXCR1IgG2bCXCR25E8/CXCR2IgG1CXCR3G025H7IgG1CXCR6K041E5IgG2aCXCR16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-17AN49-653IgG1IL-17AL243IgG2aKi-6720Raj1IgG1	KIR2DL1/S1/S3/S5	HP-MA4	IgG2b
CCR2K036C2IgG2bCCR3J073E5IgG2aCCR4IGIIgG1CCR5CTC5RIgG1CCR8L263G8IgG2aCCR10314305IgG2bCXCR18F1/CXCR1IgG2bCXCR25E8/CXCR2IgG1CXCR3G025H7IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	LIR-1	GHI/75	IgG2b
CCR3J073E5IgG2aCCR41G1IgG1CCR5CTC5RIgG1CCR8L263G8IgG2aCCR10314305IgG2aCXCR18F1/CXCR1IgG2bCXCR25E8/CXCR2IgG1CXCR3G025H7IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CCR2	K036C2	IgG2b
CCR41G1IgG1CCR5CTC5RIgG1CCR8L263G8IgG2aCCR10314305IgG2aCXCR1 $8F1/CXCR1$ IgG2bCXCR2 $5E8/CXCR2$ IgG1CXCR3G025H7IgG1aCXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CCR3	J073E5	IgG2a
CCR5CTC5RIgG1CCR8L263G8IgG2aCCR10314305IgG2aCXCR1 $8F1/CXCR1$ IgG2bCXCR2 $5E8/CXCR2$ IgG1CXCR3G025H7IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CCR4	1G1	IgG1
CCR8L263G8IgG2aCCR10 314305 IgG2aCXCR1 $8F1/CXCR1$ IgG2bCXCR2 $5E8/CXCR2$ IgG1CXCR3 $G025H7$ IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CCR5	CTC5R	IgG1
CCR10 314305 $IgG2a$ CXCR1 $8F1/CXCR1$ $IgG2b$ CXCR2 $5E8/CXCR2$ $IgG1$ CXCR3 $G025H7$ $IgG1$ CXCR6 $K041E5$ $IgG2a$ CXCL16 $REA873$ $IgG1$ CLA $HECA-452$ $IgM rat$ EOMES $WD1928$ $IgG1$ T-bet $4B10$ $IgG1$ Interferon- γ $B27$ $IgG1$ IL-4 3010.211 $IgG1$ IL-17A $N49-653$ $IgG1$ HLA-DR $L243$ $IgG2a$ Ki-67 $20Raj1$ $IgG1$	CCR8	L263G8	IgG2a
CXCR1 $8F1/CXCR1$ $IgG2b$ CXCR2 $5E8/CXCR2$ $IgG1$ CXCR3 $G025H7$ $IgG1$ CXCR6 $K041E5$ $IgG2a$ CXCL16REA873 $IgG1$ CLAHECA-452 $IgM rat$ EOMESWD1928 $IgG1$ T-bet4B10 $IgG1$ Interferon- γ B27 $IgG1$ IL-43010.211 $IgG1$ IL-17AN49-653 $IgG1$ HLA-DR $L243$ $IgG2a$ Ki-6720Raj1 $IgG1$	CCR10	314305	IgG2a
CXCR2 $5E8/CXCR2$ $IgG1$ CXCR3 $G025H7$ $IgG1$ CXCR6 $K041E5$ $IgG2a$ CXCL16 $REA873$ $IgG1$ CLA $HECA-452$ $IgM rat$ EOMES $WD1928$ $IgG1$ T-bet $4B10$ $IgG1$ Interferon- γ $B27$ $IgG1$ IL-4 3010.211 $IgG1$ IL-17A $N49-653$ $IgG1$ HLA-DR $L243$ $IgG2a$ Ki-67 $20Raj1$ $IgG1$	CXCR1	8F1/CXCR1	IgG2b
CXCR3G025H7IgG1CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CXCR2	5E8/CXCR2	IgG1
CXCR6K041E5IgG2aCXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CXCR3	G025H7	IgG1
CXCL16REA873IgG1CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CXCR6	K041E5	IgG2a
CLAHECA-452IgM ratEOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CXCL16	REA873	IgG1
EOMESWD1928IgG1T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	CLA	HECA-452	IgM rat
T-bet4B10IgG1Interferon- γ B27IgG1IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	EOMES	WD1928	IgG1
Interferon-γ B27 IgG1 IL-4 3010.211 IgG1 IL-17A N49-653 IgG1 HLA-DR L243 IgG2a Ki-67 20Raj1 IgG1	T-bet	4B10	IgG1
IL-43010.211IgG1IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	Interferon- <i>v</i>	B27	IgG1
IL-17AN49-653IgG1HLA-DRL243IgG2aKi-6720Raj1IgG1	IL-4	3010.211	IgG1
HLA-DR L243 IgG2a Ki-67 20Raj1 IgG1	IL-17A	N49-653	IgG1
Ki-67 20Raj1 IgG1	HLA-DR	L243	IgG2a
J U	Ki-67	20Raj1	IgG1

 Table S7. Antibodies used in this study.