Target (reference if applicable)	Reactivity	Sequence (5'-3') or Accession #	Source
HLA-DRA-IEα Forward (27)	Human	GGGAAGCAGGGGGACTATGAC	Sigma-Aldrich
HLA-DRA-IEα Reverse (27)	Human	TTAGGGCAATGACTTCGTAGG	Sigma-Aldrich
HLA-DRB1*0401-IEβ Forward (27)	Human	TGAAAGCGGTGCGTGCTGTTTAA	Sigma-Aldrich
HLA-DRB1*0401-IEβ Reverse (27)	Human	CACCCGCTCCGTCCCGTTGAA	Sigma-Aldrich
HLA-DR Transgene Insertion Site Forward*	Mouse	CCATGGACAAGGCAGGGACAAA	Sigma-Aldrich
HLA-DR Transgene Insertion Site Reverse*	Mouse	CCGTGACCAAAATGCACATTGAA	Sigma-Aldrich
IL-17A-GFP Common Forward (Jackson Primer #15240)	Mouse	AAGCTGGACCACCACATGA	Sigma-Aldrich
IL-17A-GFP Wildtype Reverse (Jackson Primer #15241)	Mouse	TGAATCCACATTCCTTGCTG	Sigma-Aldrich
IL-17A-GFP Mutant Reverse (Jackson Primer #11188)	Mouse	GACATTCAACAGACCTTGCATTC	Sigma-Aldrich
IAβ-neo^r Forward	Mouse	GGGAGGAGTACGTGCGCTACGACAG	Sigma-Aldrich
IAβ-neo^r Reverse	Mouse	GAGAACCTGCGTGCAATCCATCTTG	Sigma-Aldrich
IAβ Forward	Mouse	GGCATTTCGTGTACCAGTTCATGG	Sigma-Aldrich
IAβ Reverse	Mouse	GTCTCCGGCCCCTCGTAGTTGTGT	Sigma-Aldrich
CCL11	Human	Hs00237013_m1	Thermo Fischer
CCL2	Human	Hs00234140_m1	Thermo Fischer
CCL20	Human	Hs00355476_m1	Thermo Fischer
CCL5	Human	Hs00982282_m1	Thermo Fischer
CCL7	Human	Hs00171147_m1	Thermo Fischer
CEBPB	Human	Hs00270923_s1	Thermo Fischer
CEBPD	Human	Hs00270931_s1	Thermo Fischer
CSF2	Human	Hs00929873_m1	Thermo Fischer
CSF3	Human	Hs00738432_g1	Thermo Fischer
CXCL1	Human	Hs00605382_gH	Thermo Fischer
CXCL10	Human	Hs01124252_g1	Thermo Fischer
CXCL11	Human	Hs04187682_g1	Thermo Fischer
CXCL12	Human	Hs03676656_mH	Thermo Fischer
CXCL2	Human	Hs00601975_m1	Thermo Fischer
CXCL5	Human	Hs01099660_g1	Thermo Fischer
CXCL6	Human	Hs00605742_g1	Thermo Fischer
CXCL9	Human	Hs00171065_m1	Thermo Fischer
GATA3	Human	Hs00231122_m1	Thermo Fischer
IFNG	Human	Hs00989291_m1	Thermo Fischer
IL10	Human	Hs00961622_m1	Thermo Fischer
IL12A	Human	Hs01073447_m1	Thermo Fischer
IL12B	Human	Hs01011518_m1	Thermo Fischer
IL13	Human	Hs00174379_m1	Thermo Fischer
IL17A	Human	Hs00174383_m1	Thermo Fischer
IL17F	Human	Hs00369400_m1	Thermo Fischer
IL18	Human	Hs01038788_m1	Thermo Fischer
IL19	Human	Hs00604657_m1	Thermo Fischer
IL1B	Human	Hs00174097_m1	Thermo Fischer
IL2	Human	Hs00174114_m1	Thermo Fischer
IL22	Human	Hs01574154_m1	Thermo Fischer
IL23A	Human	Hs00900828_g1	Thermo Fischer
IL4	Human	Hs00174122_m1	Thermo Fischer
IL6	Human	Hs00985639_m1	Thermo Fischer
IL8	Human	Hs00174103_m1	Thermo Fischer
LTA	Human	Hs04188773_g1	Thermo Fischer
MYD88	Human	Hs01573837_g1	Thermo Fischer
NFKB1	Human	Hs00765730_m1	Thermo Fischer
NFKBIZ	Human	Hs00230071_m1	Thermo Fischer
NOS2	Human	Hs01075529_m1	Thermo Fischer
PTGS2	Human	Hs00153133_m1	Thermo Fischer
RORC	Human	Hs01076112_m1	Thermo Fischer
RPL13A	Human	Hs04194366_g1	Thermo Fischer
TBP	Human	Hs00427620_m1	Thermo Fischer
TBX21	Human	Hs00203436_m1	Thermo Fischer
TGFB1	Human	Hs00998133_m1	Thermo Fischer
TNFA	Human	Hs01113624_g1	Thermo Fischer
ZBTB16	Human	Hs00957433_m1	Thermo Fischer

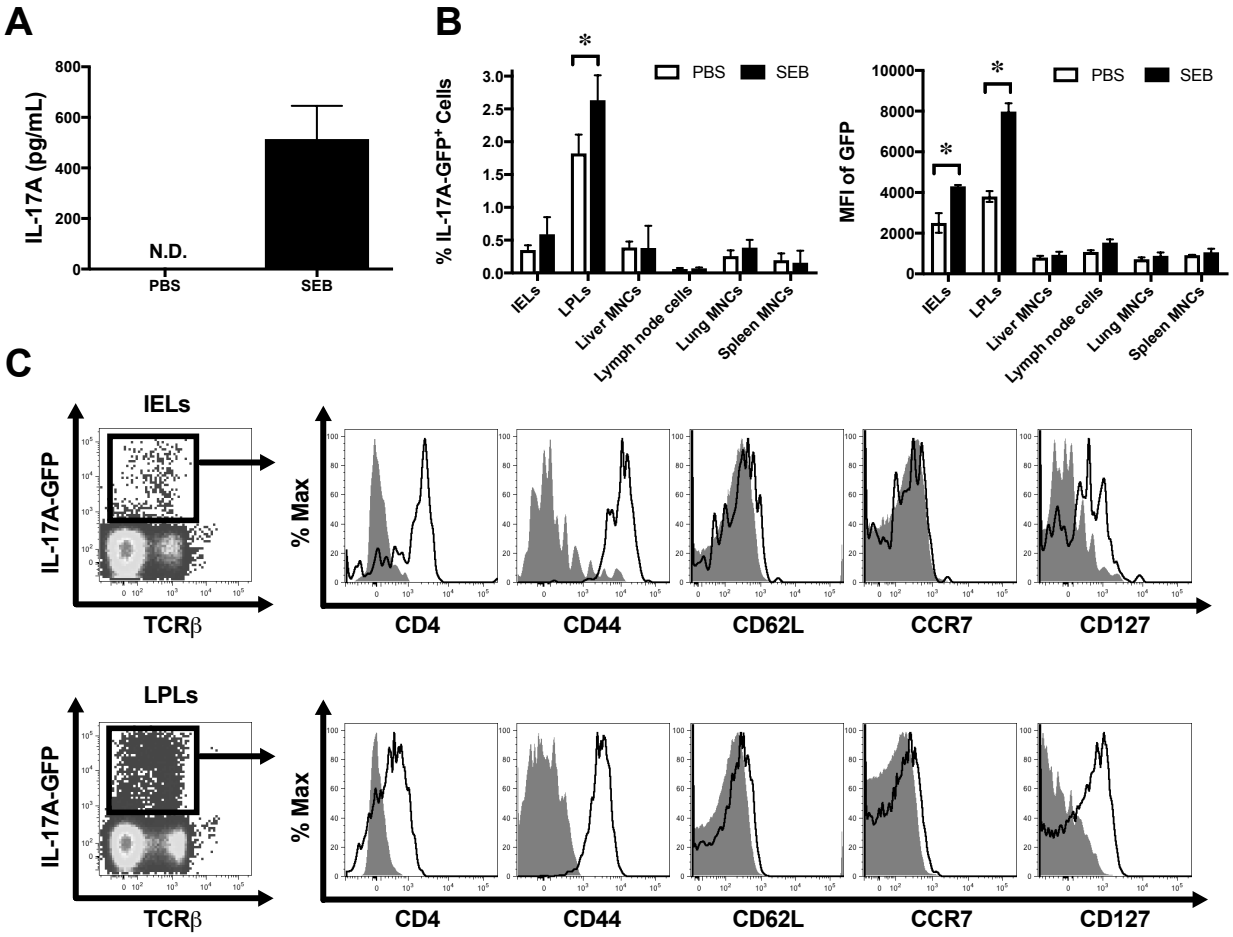
Supplemental Table 1: PCR primers/probes used in this study. *Primer was designed to span the insertion site of the HLA-DR4 transgenes in the mouse genome (Raffegerst *et al*: PLoS ONE 2009, 4(12): e8539), thus enabling discrimination between homozygous and heterozygous transgenic mice.

Target	Reactivity	Host Species	Clone/ Accession #	Isotype	Fluorochrome	Source
Surface Molecules						
TCRβ	Mouse	Arm. Hamster	H57-597	IgG	PE-Cyanine7	eBioscience
CD4	Mouse	Rat	GK1.5	IgG2b, κ	Alexa Fluor® 700	eBioscience
CD44	Human/ Mouse	Rat	IM7	IgG2b, κ	PerCP-Cyanine5.5	eBioscience
CD62L	Mouse	Rat	MEL-14	IgG2a, κ	APC-eFluor® 780	eBioscience
CCR7	Mouse	Rat	4B12	IgG2a, κ	APC	eBioscience
CD127	Mouse	Rat	A7R34	IgG2a, κ	PE	eBioscience
*i*NKT TCR (detected by CD1d loaded tetramer)	Mouse	Mouse	N/A	N/A	APC	NIH Tetramer Core Facility
CD3ε	Human	Mouse	OKT3 UCHT1	IgG2a, κ IgG1, κ	FITC eFluor® 450	eBioscience eBioscience
CD4	Human	Mouse	RPA-T4 SK3	IgG1, κ IgG1, κ	Alexa Fluor® 700 Brilliant Violet™ 510	eBioscience BD Biosciences
CD8	Human	Mouse	RPA-T8	IgG1, κ	Alexa Fluor® 700	eBioscience
CD45RA	Human	Mouse	HI100	IgG2b, κ	PE PE-Cyanine7	eBioscience eBioscience
CD45RO	Human	Mouse	UCHL1	IgG2a, κ	APC Brilliant Violet™ 785	eBioscience BD Biosciences
CCR6	Human	Mouse	G034E3	IgG2b, κ	PE	BioLegend
CCR7	Human	Rat	3D12	IgG2a, κ	PerCP-eFluor® 710 PE-eFluor® 610	eBioscience eBioscience
CD161	Human	Mouse	HP-3G10	IgG1	APC PerCP-Cyanine5.5	eBioscience eBioscience
Vα7.2 TCR	Human	Mouse	3C10	IgG1, κ	PE PerCP-Cyanine5.5	BioLegend BioLegend
*i*NKT TCR (detected by CD1d loaded tetramer)	Human	Human	N/A	N/A	APC	NIH Tetramer Core Facility
γδ TCR	Human	Mouse	B1 B1.1	IgG1, κ IgG1, κ	PE PerCP-eFluor® 710	BD Biosciences eBioscience
Cytokines						
IL-17A	Human	Mouse	eBio64-DEC17	IgG1, κ	PE PE-Cyanine7	eBioscience eBioscience
IFNγ	Human	Mouse	4S.B3	IgG1, κ	PE PE-Cyanine7	eBioscience eBioscience
Transcription Factors						
RORγT	Human	Mouse	Q21-559	IgG2a, κ	Alexa Fluor® 647	BD Biosciences
FoxP3	Human	Mouse	236A/E7	IgG1, κ	APC	eBioscience
Prime-Flow RNA						
IL-17A	Human		NM_002190		Type 1 Alexa Fluor® 647	Affymetrix
IFNγ	Human		NM_000619		Type 4 Alexa Fluor® 488	Affymetrix
RPL13A	Human		NM_012423		Type 6 Alexa Fluor® 750	Affymetrix

Supplemental Table 2: Antibodies/tetramers used in this study

Target	Fold Change (SEB relative to medium control)		
	Donor 1	Donor 2	Donor 3
IL22	1059.25	355.71	2198.29
IL17F	737.24	137.67	780.40
IFNG	304.81	661.94	445.69
IL17A	253.73	96.47	651.44
CSF3	583.76	20.88	296.10
IL6	111.03	6.77	140.41
IL19	70.28	50.68	115.96
IL13	45.96	24.00	84.64
IL2	32.45	58.60	19.38
IL12B	32.24	2.08	71.23
CCL20	40.69	2.49	45.23
CSF2	17.49	26.89	21.14
IL10	28.65	5.74	29.33
CXCL9	2.59	37.62	4.11
CXCL1	10.29	0.74	31.46
PTGS2	14.72	1.86	12.92
LTA	5.37	13.70	10.01
CXCL11	0.51	14.43	1.33
IL1B	6.39	1.20	5.01
TNFA	2.26	3.47	6.43
CXCL5	3.93	0.19	7.15
CXCL2	4.29	0.56	5.42
TBX21	3.48	3.80	0.95
IL8	3.98	0.82	3.03
IL12A	2.12	3.13	1.63
IL4	3.13	1.22	2.53
IL23A	2.13	2.12	2.20
NFKB1	2.43	1.53	2.02
CXCL6	2.75	0.08	3.14
NFKBIZ	2.11	1.29	1.74
CCL2	1.86	0.39	2.68
RORC	1.87	2.01	1.00
CXCL10	0.33	3.50	0.61
CEBPB	1.11	0.89	0.90
ZBTB16	0.93	1.05	0.73
TGFB1	0.70	1.06	0.66
GATA3	0.50	0.66	0.82
CCL7	0.55	0.26	1.00
CCL5	0.68	0.60	0.34
MYD88	0.58	0.63	0.32
NOS2	0.58	0.12	0.36
CEBPD	0.23	0.33	0.32
CXCL12	0.14	0.27	0.15
IL18	0.12	0.16	0.06

Supplemental Table 3: Fold changes in gene expression of SEB-stimulated human PBMCs relative to medium control.



Supplemental Fig. 1: SEB-primed D17 mice launch a rapid IL-17A response and harbor an enriched population of IL-17A-producing CD4$^+$ T_{EM} cells in their small intestine. D17 mice, generated by crossing DR4tg and IL-17A-GFP reporter mice, were injected *i.p.* with 50 μg SEB or with PBS. (**A**) Two hours later, mice were euthanized and the IL-17A content of serum samples was measured. N.D.: not detectable. Error bars represent SEM (n=3/group). (**B**) The frequencies of GFP$^+$ cells and the MFI of GFP were determined in non-parenchymal mononuclear cells (MNCs) from indicated tissues and among intestinal intraepithelial lymphocytes (IELs) and lamina propria lymphocytes (LPLs). * denotes $p \leq 0.05$ by two-tailed Student's *t*-test. (**C**) GFP$^+$ IELs and LPLs from SEB-injected mice were immunophenotyped using fluorochrome-labeled mAbs to indicated markers (open histograms) and isotype controls (filled histograms). Depicted data represent findings from 3 mice used in independent experiments.