The vaccine-site microenvironment: impacts of antigen, adjuvant, and same-site vaccination on antigen presentation and immune signaling

SUPPLEMENTARY MATERIALS

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SUPPLEMENTARY FIGURES



Supplementary Figure 1. Principal component analysis demonstrating PC3 and PC4 of the IFA alone and IFA + peptide treated samples. Samples did not group by trial or treatment in the PC3/PC4 domain.



Supplementary Figure 2. Volcano plots of differentially expressed genes in the comparisons between samples from participants treated with IFA + Peptide from each clinical trial vs IFA alone from Mel48.



Supplementary Figure 3. These venn diagrams demonstrate the overlap in up (A) and down (B) regulated genes in the comparison of IFA+P vs IFA alone for each trial. IFA + P vs IFA alone samples from participants on Mel48 had relatively few differentially expressed genes compared the comparisons between Mel48 vs IFA+P from Mel63 and Mel64.



Supplementary figure 4. Principal component analysis (PCA) plots of all contrasts presented in figures 4, 5, and 6 of the main manuscript. W1: IFA vs W1: IFA + P PCA is shown in figure 2 of the main manuscript. IFA = Incomplete Freund's Adjuvant, pICLC = poly-ICLC, P = Peptide, PC = Principal Component.

SUPPLEMENTARY TABLES

Supplementary Table 1. Top 20 most highly differentially expressed genes in IFA + peptide versus IFA alone

Gene Symbol	Gene Name	log2Fold Change	Raw P- value	FDR-p	Function
GUCY1B2	guanylate cyclase 1 soluble subunit beta 2 (pseudogene)	4.864	0.002	0.044	Signal transduction mediated by Nitric Oxide ¹³
APOBEC3A	apolipoprotein B mRNA editing enzyme catalytic subunit 3A	4.504	0.001	0.028	Promotes M1 macrophage differentiation, expressed by mature DC's ¹⁴
TCL1A	TCL1 family AKT coactivator A	4.465	0.000	0.008	Transcriptional co-regulator with NF-KB ¹⁵

S100A7A	S100 calcium binding protein A7A	4.281	0.002	0.037	Antigen processing and presentation, chemoattractant for CD4-T cells ¹⁶
SERPINB4	serpin family B member 4	4.241	0.003	0.046	DC maturation, protection against killing by CTL, Antigen cross-presentation
KIR2DL4	killer cell immunoglobulin like receptor, two lg domains and long cytoplasmic tail 4	3.726	0.002	0.039	Promoter of NK cell immunity, binds peptide-bound HLA-G ¹⁸
CXCL10	C-X-C motif chemokine ligand 10	3.680	0.002	0.045	Stimulates chemotaxis, differentiation, and activation of peripheral immune cells, homing receptor ligand for T cells ¹⁹
CYP1A1	cytochrome P450 family 1 subfamily A member 1	3.610	0.001	0.025	Mediates chronic immune response by inhibition of the aryl hydrocarbon receptor (AHR) $^{\rm 20}$
SPIB	Spi-B transcription factor	3.510	0.000	0.009	Promotes differentiation into plasmacytoid DC's ²¹
HLA-DPB2	major histocompatibility complex, class II, DP beta 2 (pseudogene)	3.508	0.003	0.046	Function in antigen presentation and immune activation ²²
ICOS	inducible T cell co-stimulator	3.417	0.000	0.021	Broad function in the adaptive immune response, including induction, maintenance, and homing of T-follicular helper cells, and stimulation of Th1 and Th2 responses ²³
CLC	Charcot-Leyden crystal galectin	3.283	0.000	0.021	Maintains function of Treg cells ²⁴
CXCL1	C-X-C motif chemokine ligand 1	3.254	0.001	0.031	Chemokine involved in neutrophil recruitment and activation ²⁵
HLA-DRB6	major histocompatibility complex, class II, DR beta 6 (pseudogene)	3.068	0.000	0.001	Component of the Major Histocompatibility Complex ²⁶
HOXD11	homeobox D11	-3.082	0.003	0.048	Critical in axial skeletal development and forelimb morphogenesis 27
PTPRQ	protein tyrosine phosphatase receptor type Q	-3.259	0.000	0.009	phosphatase receptor involved in cellular proliferation and survival ²⁸
AC011503.1		-3.272	0.000	0.019	Uncharacterized protein
KANK4	KN motif and ankyrin repeat domains 4	-3.333	0.000	0.013	Control of cytoskeleton formation ²⁹
FBP2	fructose-bisphosphatase 2	-3.755	0.000	0.019	Regulator of cellular metabolic functions 30
C1orf158	chromosome 1 open reading frame 158	-4.297	0.003	0.048	Uncharacterized protein
Note: log2Fold compared to IF	frame 158 change demonstrates the expression of A alone. Negative Log2Fold change repr	IFA + peptide resents lower	compared t expression i	o IFA alone n IFA + pep	e. A positive Log2Fold change denotes higher expression in IFA + peptide otide compared to IFA alone.

Supplementary Table 2. GSEA results showing significantly altered KEGG pathways ranked by the normalized enrichment score.

Pathway	Gene set size	Enrichment Score	Normalized Enrichment Score	p- Value	FDR-p Value
KEGG_GRAFT_VERSUS_HOST_DISEASE	37	0.783	2.553	0.000	0.000
KEGG_ANTIGEN_PROCESSING_AND_PRESENTATION	72	0.672	2.501	0.000	0.000
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	254	0.553	2.485	0.000	0.000
KEGG_ALLOGRAFT_REJECTION	35	0.765	2.464	0.000	0.000
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	124	0.602	2.443	0.000	0.000
KEGG_T_CELL_RECEPTOR_SIGNALING_PATHWAY	108	0.611	2.433	0.000	0.000
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCT	46	0.695	2.387	0.000	0.000
KEGG_TYPE_I_DIABETES_MELLITUS	41	0.708	2.369	0.000	0.000
KEGG_CHEMOKINE_SIGNALING_PATHWAY	187	0.543	2.354	0.000	0.000
KEGG_PRIMARY_IMMUNODEFICIENCY	35	0.719	2.314	0.000	0.000
KEGG_AUTOIMMUNE_THYROID_DISEASE	42	0.679	2.294	0.000	0.000
KEGG_CYTOSOLIC_DNA_SENSING_PATHWAY	45	0.630	2.145	0.000	0.000
KEGG_NOD_LIKE_RECEPTOR_SIGNALING_PATHWAY	62	0.579	2.111	0.000	0.000
KEGG_LEISHMANIA_INFECTION	70	0.550	2.039	0.000	0.000
KEGG_ASTHMA	28	0.671	2.036	0.000	0.001
KEGG_TOLL_LIKE_RECEPTOR_SIGNALING_PATHWAY	94	0.504	1.980	0.000	0.000
KEGG_SYSTEMIC_LUPUS_ERYTHEMATOSUS	55	0.554	1.964	0.000	0.001
KEGG_HEMATOPOIETIC_CELL_LINEAGE	84	0.514	1.963	0.000	0.000
KEGG_JAK_STAT_SIGNALING_PATHWAY	147	0.435	1.818	0.000	0.000
KEGG_CELL_ADHESION_MOLECULES_CAMS	130	0.414	1.700	0.000	0.002
KEGG_RIG_I_LIKE_RECEPTOR_SIGNALING_PATHWAY	62	0.462	1.685	0.004	0.022
KEGG_VIRAL_MYOCARDITIS	68	0.427	1.574	0.008	0.035
KEGG_CELL_CYCLE	124	0.373	1.514	0.003	0.017
KEGG_VASCULAR_SMOOTH_MUSCLE_CONTRACTION	112	-0.374	-1.455	0.010	0.041
KEGG_STARCH_AND_SUCROSE_METABOLISM	48	-0.454	-1.523	0.011	0.047
KEGG_MELANOMA	69	-0.438	-1.556	0.005	0.023
KEGG_DILATED_CARDIOMYOPATHY	89	-0.430	-1.612	0.003	0.017
KEGG_ADIPOCYTOKINE_SIGNALING_PATHWAY	67	-0.456	-1.615	0.005	0.023

KEGG_CITRATE_CYCLE_TCA_CYCLE	31	-0.532	-1.627	0.005	0.023
KEGG_GLYCEROLIPID_METABOLISM	49	-0.495	-1.665	0.004	0.019
KEGG_FATTY_ACID_METABOLISM	42	-0.512	-1.676	0.003	0.017
KEGG_NEUROACTIVE_LIGAND_RECEPTOR_INTERACTION	262	-0.391	-1.683	0.000	0.000
KEGG_PROXIMAL_TUBULE_BICARBONATE_RECLAMATION	23	-0.587	-1.685	0.005	0.023
KEGG_ABC_TRANSPORTERS	44	-0.512	-1.688	0.002	0.014
KEGG_INSULIN_SIGNALING_PATHWAY	136	-0.426	-1.700	0.000	0.001
KEGG_BUTANOATE_METABOLISM	34	-0.548	-1.709	0.005	0.023
KEGG_TERPENOID_BACKBONE_BIOSYNTHESIS	15	-0.667	-1.709	0.006	0.025
KEGG_PYRUVATE_METABOLISM	40	-0.539	-1.737	0.002	0.014
KEGG_PROPANOATE_METABOLISM	32	-0.574	-1.756	0.002	0.012
KEGG_VALINE_LEUCINE_AND_ISOLEUCINE_DEGRADATION	43	-0.544	-1.793	0.001	0.007
KEGG_BETA_ALANINE_METABOLISM	22	-0.654	-1.854	0.002	0.011
KEGG_BIOSYNTHESIS_OF_UNSATURATED_FATTY_ACIDS	22	-0.693	-1.964	0.000	0.002
KEGG_PEROXISOME	77	-0.548	-1.997	0.000	0.000
KEGG_PPAR_SIGNALING_PATHWAY	69	-0.593	-2.108	0.000	0.000

Supplementary Table 3. FDR-P values of all comparisons for each gene in figures 4A, 5A, 6A.

Gene	Condition 1	Condition 2	FDR-Pvalue	Significant?
CD80	Normal Skin	W1: IFA	1	ns
CD80	Normal Skin	W1: IFA + P	0.106535291	ns
CD80	Normal Skin	W1: IFA + pICLC + P	0.000768439	***
CD80	Normal Skin	W3 SSV: IFA	0.005815237	**
CD80	Normal Skin	W3 SSV: IFA + P	7.38E-05	***
CD80	Normal Skin	W3 SSV: IFA + pICLC + P	0.000146149	***
CD80	W1: IFA + P	W1: IFA	0.231588514	ns
CD80	W1: IFA + pICLC + P	W1: IFA + P	0.152111612	ns
CD80	W3 SSV: IFA	W1: IFA	0.04872854	*
CD80	W3 SSV: IFA + P	W1: IFA + P	0.010590248	*
CD80	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.619774613	ns
CD80	W3 SSV: IFA + P	W3 SSV: IFA	0.941353662	ns
CD80	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.923543359	ns
CD80	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.638361098	ns
CD83	Normal Skin	W1: IFA	1	ns
CD83	Normal Skin	W1: IFA + P	0.069224833	ns
CD83	Normal Skin	W1: IFA + pICLC + P	0.02196281	*
CD83	Normal Skin	W3 SSV: IFA	0.001869107	**
CD83	Normal Skin	W3 SSV: IFA + P	7.94E-05	***
CD83	Normal Skin	W3 SSV: IFA + pICLC + P	0.002446439	**
CD83	W1: IFA + P	W1: IFA	0.244706972	ns
CD83	W1: IFA + pICLC + P	W1: IFA + P	0.634647988	ns
CD83	W3 SSV: IFA	W1: IFA	0.042186175	*
CD83	W3 SSV: IFA + P	W1: IFA + P	0.076860159	ns
CD83	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.265528929	ns
CD83	W3 SSV: IFA + P	W3 SSV: IFA	0.998977672	ns
CD83	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.441049819	ns
CD83	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.184551264	ns
CD86	Normal Skin	W1: IFA	1	ns
CD86	Normal Skin	W1: IFA + P	0.165205475	ns
CD86	Normal Skin	W1: IFA + pICLC + P	0.002950351	**
CD86	Normal Skin	W3 SSV: IFA	0.001735111	***
CD86	Normal Skin		2.45E-05	***
CD00		W3 SSV. IFA + PICLC + P	0.000203032	
CD00		W1. IFA	0.330703427	lis
CD86		W1: IFA + F	0.062941577	TIS PC
CD86	W3 SSV. IFA W3 SSV: IFA + P	W1: IFA + P	0.002641377	**
CD86	W3 SSV: IFA + pICLC + P	W1: $IA + p C C + P$	0.277355555	ne
CD86	W3 SSV: IFA + P	W3 SSV: IFA	0.990939698	ns
CD86	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.73645502	ns
CD86	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.344927936	ns
CD40	Normal Skin	W1: IFA	1	ns
CD40	Normal Skin	W1: IFA + P	0.553507408	ns
CD40	Normal Skin	W1: IFA + pICI C + P	0.023166054	*
CD40	Normal Skin	W3 SSV: IFA	0.023862372	*
CD40	Normal Skin	W3 SSV: IFA + P	5.86E-05	***
CD40	Normal Skin	W3 SSV: IFA + pICLC + P	0.00388106	**
CD40	W1: IFA + P	W1: IFA	0.554824574	ns
CD40	W1: IFA + pICLC + P	W1: IFA + P	0.116414031	ns
CD40	W3 SSV: IFA	W1: IFA	0.059346237	ns
CD40	W3 SSV: IFA + P	W1: IFA + P	3.88E-05	***
CD40	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.387564291	ns
CD40	W3 SSV: IFA + P	W3 SSV: IFA	0.829148924	ns
CD40	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.880313909	ns
CD40	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.109091339	ns
CD40LG	Normal Skin	W1: IFA	1	ns
CD40LG	Normal Skin	W1: IFA + P	0.601705564	ns

C2010.0 Normal Son VII PAX + PCC - P 0.0010102 m CD30.1.0 Normal Son VII SAX + pCC - P 0.0011090 VI CD30.1.0 Normal Son VII SAX + pCC - P 0.0011090 VI CD30.1.0 Normal Son VII SAX + pCC - P 0.0011090 VII SAX CD30.1.0 VII SAX + pCC - P VII FAX + pCC - P 0.00110900 VII SAX CD30.0.0 VII SAX + pCC - P VII FAX + pCC - P 0.00110900 VII SAX CD30.0.0 VII SAX + pCC - P VII FAX + pCC - P 0.00120100 VII SAX CD30.0.0 VII SAX + pCC - P VII SAX + pCC - P 0.00120100 VII SAX CD30.0.0 VII SAX + pCC - P VII SAX + pCC - P 0.00120100 VII SAX CD30.0.0 VII SAX + pCC - P VII SAX + pCC - P 0.001201000 VII SAX CD30.0.0 VII SAX + pCC - P 0.001201000 VII SAX VII SAX DATO Normal Son VII SAX + pCC - P 0.00120000 VII SAX DATO Normal Son VII SAX + pCC - P					
CONAG. Normal Son VO SSU (PA 0.0011030 ************************************	CD40LG	Normal Skin	W1: IFA + pICLC + P	0.061051892	ns
CD416.0 Norma Sum VX 350 / FA + P CD000753 ···· CD40.0 NY III FA + pLCL P CD001100 * * CD40.0 NY III FA + pLCL P CD001100 * * CD40.0 NY III FA + pLCL P CD0011000 * * CD40.0 NY III FA + pLCL P CD00110000 * * CD40.0 NY III FA + pLCL P NY III FA + pLCL P CD00110000 * * CD40.0 NY SN FA + pLCL P NY SN FA + pLCL P CD4000 CD40000 NY SN FA + pLCL P NY SN FA + pLCL P CD40000 NY SN FA + pLCL P NY SN FA + pLCL P CD400000 * * DATS Normal Sin NY IF FA + PLCL P DX SN FA + pLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA + PLCL P DX SN FA + PLCL P NY IF FA	CD40LG	Normal Skin	W3 SSV: IFA	0.002193346	**
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CDABLG Wit Sky IFA + D(C) + P Wit FA + P(C) + P Other Sky IFA + D(C) + P Wit FA + P(C) + P	CD40LG	W3 SSV: IFA	W1: IFA	0.001158955	**
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COMAG. WS SNY, HA + P MS SNY, FA 0.009709/200 66 COMAG. WS SNY, FA + PLCL + P WS SNY, FA 0.017505160 76 COMAG. WS SNY, FA + PLCL + P WS SNY, FA + PLCL + P 0.040705040 76 DATA Normal Skin WT, FA + PLCL - P 0.02160507 ************************************	CD40LG	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.013823312	*
COMULG WG SSY: KA + pICLC + P WG SSY: KA + PIC 0.577307168 ms DATES Normal Skin WT TA' + PICL + P 0.48879141 ms DATES Normal Skin WT TA' + PICL + P 0.001797035 ms DATES Normal Skin WT TA' + PICL + P 0.001797035 ms DATES Normal Skin WG SSY: FA + DICL + P 0.0016672 ms DATES Normal Skin WG SSY: FA + DICL + P 0.002682332 ms DATES Normal Skin WG SSY: FA + DICL + P 0.002682332 ms DATES WG SSY: FA + DICL + P WT TA' + PICL + P 0.002682332 ms DATES WG SSY: FA + DICL + P WG SSY: FA + DICL + P 0.002682323 ms DATES WG SSY: FA + PICL + P WG SSY: FA + DICL + P 0.002682032 ms DATES WG SSY: FA + DICL + P WG SSY: FA + DICL + P 0.00269100 ms DATES WG SSY: FA + PICL + P WG SSY: FA + DICL + P 0.0026910 ms DATES WG SSY: FA + DICL + P WG SSY: FA + DICL	CD40LG	W3 SSV: IFA + P	W3 SSV: IFA	0.995799259	ns
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BATE3 Normal Skin W1: IFA + PL 1 rs BATT3 Normal Skin W1: IFA + PL 0.25245640 rs BATT3 Normal Skin W1: IFA + PLCL + P 0.00157105 ************************************	CD40LG	W3 SSV IFA + pICLC + P	W3 SSV: IFA + P	0 486789341	ns
BATE3 Normal Sin W1: IFA + P 0.242656493 m BATE3 Normal Sin W1: IFA + PLCC + P 0.00119517	BATE3	Normal Skin	W1: IFA	1	ns
BATE3 Neural Sin W11 FA + (BCC + P 0.001371035 *** BATE3 Neural Sin W1 35V; FA + P 0.000104572 *** BATE3 Neural Sin W1 35V; FA + P 0.000104572 *** BATE3 Neural Sin W1 SA + PLC + P 0.000104572 *** BATE3 W1: FA + PLC + P 0.000104572 *** BATE3 W1: FA + PLC + P 0.000104580 * BATE3 W1: SA + PLC + P W1: FA + PLC + P 0.00020501 *** BATE3 W2: SV: FA + PLC + P W1 SA + PLC + P 0.00020501 *** BATE3 W2: SV: FA + PLC + P W1 SSV: FA + PLC + P 0.000000400 *** BATE3 W2: SV: FA + PLC + P W1 SSV: FA + PLC + P 0.000000400 *** CD4 Normal Sin W1 : FA + PLC + P 0.000000000 *** CD4 Normal Sin W1 : FA + PLC + P 0.000000000 *** CD4 Normal Sin W1 : FA + PLC + P 0.0000000000 *** CD4 Normal Sin	BATE3	Normal Skin	W1: IFA + P	0 234285493	ns
DATE3 Normal Sim NO SSN: FA - P 0.00109020 ** BATE3 Normal Sim W3 SSN: FA + P 0.0010472 ** BATE3 Normal Sim W3 SSN: FA + P 0.000505517 ** BATE3 W1 FA + P 0.000505517 ** ** BATE3 W1 FA + P 0.000505517 ** BATE3 W3 SSN: FA + PC + W1 FA + P 0.000505631 * BATE3 W3 SSN: FA + PC + W1 FA + P 0.000505632 * BATE3 W3 SSN: FA + PC + W1 FA + PC + 0.000505221 rs BATE3 W3 SSN: FA + PC + W3 SSN: FA + PC + 0.60053221 rs BATE3 W3 SSN: FA + PC + W3 SSN: FA + PC + 0.60053221 rs BATE3 W3 SSN: FA + PC + W3 SSN: FA + PC + 0.60075844 rs BATE3 W3 SSN: FA + PC + PC + 0.60075844 rs BATE3 W3 SSN: FA + PC + PC + 0.60076859 *** C04 Normal Sim W1 FA + PC + PC	BATE3	Normal Skin	W1: IFA + pICI C + P	0.001371035	**
BATE3 Normal Sin V3 SSV: FA + P 0.000704572 *** BATE3 Normal Sin V3 SSV: FA + p[CL + P 0.00050517 *** BATE3 W1: FA + p[CL + P W1: FA + p[CL + P 0.00050517 *** BATE3 W1: FA + p[CL + P W1: FA + p[CL + P 0.0012050517 *** BATE3 W1: FA + p[CL + P W1: FA + p[CL + P 0.001220508 *** BATE3 W3 SSV: FA + p[CL + P W1: FA + p[CL + P 0.001220508 *** BATE3 W3 SSV: FA + p[CL + P W1: SSV: FA 0.2000420508 ms BATE3 W3 SSV: FA + p[CL + P W1: SSV: FA 0.20007022 ms C04 Normal Sin W1: SSV: FA 0.00170152 *** C04 Normal Sin W1: FA + p[CL + P 0.005373387 *** C04 Normal Sin W1: FA + p[CL + P 0.005373387 *** C04 Normal Sin W1: FA + p[CL + P 0.005373387 *** C04 W1: FA + p[CL + P 0.005373387 *** ***	DATE2	Normal Skin	W1.11 A + piece + 1	0.001860107	**
DATES Normal Sim Normal Sim </td <td>DATE2</td> <td>Normal Skin</td> <td>W3 SSV. IFA</td> <td>0.00100572</td> <td>***</td>	DATE2	Normal Skin	W3 SSV. IFA	0.00100572	***
BARTS INTERATION INTERATION </td <td>DATE2</td> <td>Normal Skin</td> <td></td> <td>0.000104372</td> <td>***</td>	DATE2	Normal Skin		0.000104372	***
BARTB WIT IFA + P CO08224033 Pin BARTB WO SSV IFA + PICC + P WIT IFA + PICC + P 0.004230680 + BARTB WO SSV IFA + PICC + P WIT IFA + PICC + P 0.004230680 + BARTB WO SSV IFA + PICC + P WIT IFA + PICC + P 0.004230680 + BARTB WO SSV IFA + PICC + P WIT IFA + PICC + P 0.004230680 + BARTB WO SSV IFA + PICC + P WIT IFA + PICC + P 0.004230681 ns BARTB WO SSV IFA + PICC + P WIT IFA + PICC + P 0.00371152 ns COL Normal Sin WIT IFA + PICC + P 0.00371152 ns COL Normal Sin WIT IFA + PICC + P 0.00370880 +*** COL Normal Sin WIT Sin FA 0.00370880 +*** COL Normal Sin WIT Sin FA 0.0037088081 ns COL Normal Sin WIT FA + PICC + P WIT FA + PICC + P 0.0037088081 ns COL WIT Sin FA + PICC + P WIT FA + PICC + P 0.004708180 +*	BATES	Normal Skin	W3 SSV: IFA + pICLC + P	0.000303517	
BARTB Wis SSY (FA + P) Wis (FA + P) Out (FA + P) <td>DATES</td> <td></td> <td></td> <td>0.520660305</td> <td>TIS</td>	DATES			0.520660305	TIS
BARTS W0 SSV: PA + p W1 : IFA + p 0.00259300 ** BARTS W0 SSV: IFA + pICLC + P W1 : IFA + pICLC + P 0.055912271 ns BARTS W0 SSV: IFA + pICLC + P W1 : IFA + pICLC + P 0.055912271 ns BARTS W0 SSV: IFA + pICLC + P W0 SSV: IFA + pICLC + P W0 SSV: IFA + pICLC + P 0.055912271 ns BARTS W0 SSV: IFA + pICLC + P W0 SSV: IFA + PICLC + P 0.055912271 ns COL Normal Skin W1: IFA + pICLC + P 0.055912371 ns COL Normal Skin W1 : IFA + pICLC + P 0.055912371 ns COL Normal Skin W0 SSV: IFA + PICL + P 0.055912631 ns COL Normal Skin W0 SSV: IFA + PICL + P 0.05592302 ns COL W1 : IFA + PICL + P 0.05592302 ns ns COL W1 : IFA + PICL + P W1 : IFA + PICL + P 0.05592302 ns COL W1 : IFA + PICL + P W1 : IFA + PICL + P 0.05592302 ns COL W1 : IFA + PICL + P	BATES	W1. IFA + picto + P		0.098248933	TIS .
BALTS W0 35X: IFA + PICLC + P W1 IFA + PICLC + P 0.00540201 *** BATTS W0 35Y: IFA + PICLC + P W0 35Y: IFA + PICLC + P W0 35Y: IFA + PICLC + P 0.025870244 ns BATTS W0 35Y: IFA + PICLC + P W0 35Y: IFA + PICLC + P 0.025870244 ns BATTS W0 35Y: IFA + PICLC + P W0 35Y: IFA + PICLC + P 0.0357132 ns C04 Normal Sin W1: IFA + PICLC + P 0.0357133 ns C04 Normal Sin W1: IFA + PICLC + P 0.03587134 ns C04 Normal Sin W0 35Y: IFA + PICLC + P 0.0059650 *** C04 N1: IFA + PICLC + P 0.0059650 *** *** C04 W1: IFA + PICLC + P 0.0059650 *** *** C04 W1: IFA + PICLC + P 0.0059650 *** *** C04 W1: IFA + PICLC + P 0.0059650 *** *** C04 W0 35Y: IFA - PICLC + P 0.00542030 *** *** C04 W0 35Y: IFA - PICLC + P W1: IFA + PICLC + P 0	BATES	W3 SSV: IFA	W1: IFA	0.038049266	
BAIF3 W0 SSY: IFA + pLCC + P W1: IFA + pLCC + P 0.00522/11 ms BATF3 W0 SSY: IFA + pLCC + P W0 SSY: IFA + pLCC + P 0.048075244 ms BATF3 W0 SSY: IFA + pLCC + P W0 SSY: IFA + pLCC + P 0.048075244 ms BATF3 W0 SSY: IFA + pLCC + P W1 SSY: IFA + pLCC + P 0.04807524 ms C04 Normal San W1: IFA + P 0.00557337 ms C04 Normal San W1 SSY: IFA + pLCC + P 0.00191515 *** C04 Normal San W3 SSY: IFA + pLCC + P 0.00191516 *** C04 W1 IFA + pLCC + P W1 IFA + pLCC + P 0.003985320 ms C04 W1 IFA + pLCC + P W1: IFA + pLCC + P 0.00191312 ** C04 W1 SSY: IFA + pLCC + P W1: IFA + pLCC + P 0.005452337 ** C04 W1 SSY: IFA + pLCC + P W1: IFA + pLCC + P 0.00542537 ** C04 W1 SSY: IFA + pLCC + P W1: IFA + pLCC + P 0.00542537 ** C04 W1 SSY: IFA + pLCC + P W1: IFA + pLCC	BATF3	W3 SSV: IFA + P	W1: IFA + P	0.004230693	**
BAIRS WG SSY, IFA + pLCC + P USES PL 0.220016241 ns CD4 Normal Sin WT IFA + pLCC + P 0.03370174 ns ns CD4 Normal Sin WT IFA + pLCC + P 0.03370377 ns CD4 Normal Sin WS SSY, IFA + D 0.03370377 ns CD4 Normal Sin WS SSY, IFA + D 0.03370377 ns CD4 Normal Sin WS SSY, IFA + D 0.03370377 ns CD4 Normal Sin WS SSY, IFA + D 0.033908851 ns CD4 WT IFA + pLCC + P 0.033908851 ns ns CD4 WS SSY, IFA + pLCC + P WT IFA + pLCC + P 0.00452372 ns CD4 WS SSY, IFA + pLCC + P WT IFA + pLCC + P 0.00452372 ns CD4 WS SSY, IFA + pLCC + P WT IFA + pLCC + P 0.00452372 ns CD4 WS SSY, IFA + pLCC + P WT IFA + pLCC + P 0.004542320 ns CD4	BATF3	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.656352271	ns
BATS3 WG SSV: FA + PCLC + P P C SAUTS Rem COL Normal Sin WT: FA + P 1 40075144 no COL Normal Sin WT: FA + P 1 40075142 no COL Normal Sin WT: FA + P 0 40035175 COL Normal Sin WG SSV: FA + P 0 500550 COL Normal Sin WG SSV: FA + P 0 500550 COL Normal Sin WG SSV: FA + P 0 5007620 COL WG SSV: FA + DLC + P WT: FA + P 0 02515050 COL WG SSV: FA + DLC + P WT: FA + P 0 02515050 COL WG SSV: FA + P WT: FA + P 0 02515050 COL WG SSV: FA + P WT: FA + P 0 02515050 COL WG SSV: FA + P WG SSV: FA + P 0 0545237 COL WG SSV: FA + D WG SSV: FA + P 0 0545239	BATF3	W3 SSV: IFA + P	W3 SSV: IFA	0.999844543	ns
beta TW SSV: IFA + pLCC + P WS SSV: IFA + P 0.5400044 ns CD4 Normal Sin W1: IFA + P 0.40711527 ns CD4 Normal Sin W1: IFA + P 0.4021911527 ns CD4 Normal Sin W5 SSV: IFA + P 0.4021911527 ns CD4 Normal Sin W5 SSV: IFA + P 0.4021911527 ns CD4 Normal Sin W5 SSV: IFA + P 0.4021971527 ns CD4 Normal Sin W5 SSV: IFA + P 0.5866528061 ns CD4 W1: IFA + pLCL + P W1: IFA + P 0.586528062 ns CD4 W1: IFA + pLCL + P W1: IFA + P 0.001952806 ns CD4 W3 SSV: IFA + pLCL + P W5 SSV: IFA + P 0.001952806 ns CD4 W3 SSV: IFA + pLCL + P W3 SSV: IFA + P 0.001978737 ns CD4 W3 SSV: IFA + pLCL + P W3 SSV: IFA + P 0.001428969 ns CD5A Normal Sin W1: IFA + pLCL + P 0.00142896 ns CD5A	BATES	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.726019284	ns
CD4 Normal Skin W1: IFA + pL 1 ns CD4 Normal Skin W1: IFA + pLCC + P 0.4357817 ns CD4 Normal Skin W1: IFA + pLCC + P 0.0519387 ns CD4 Normal Skin W3: SSV: IFA + pLCC + P 0.00193869 *** CD4 NVI: IFA + pLCC + P W1: IFA + pLCC + P 0.02518360 *** CD4 W1: IFA + pLCC + P W1: IFA + pLCC + P 0.025183802 ns CD4 W3: SSV: IFA + P W1: IFA + pLCC + P 0.001797827 *** CD4 W3: SSV: IFA + P W1: IFA + pLCC + P 0.004108171 ns CD4 W3: SSV: IFA + P W3: SSV: IFA 0.004107172 ns CD4 W3: SSV: IFA + P W3: SSV: IFA 0.00410712 ns CD4 W3: SSV: IFA + PLCC + P W3: SSV: IFA 0.00410812 ns CD4 W3: SSV: IFA + PLCC + P W3: SSV: IFA 0.004437872 ns CD4 Normal Skin W1: IFA + pLCC + P 0.004443787 ns C	BATF3	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.548076044	ns
CD4 Normal Skin W1: IFA + P 0.403751182 ns CD4 Normal Skin W1: IFA + p(C.C + P 0.05597356 rs CD4 Normal Skin W3 SSV: IFA 0.0019735 rs CD4 Normal Skin W3 SSV: IFA 0.00597356 rs CD4 Normal Skin W3 SSV: IFA 0.005697356 rs CD4 Normal Skin W3 SSV: IFA 0.000452937 rs CD4 W3 SSV: IFA + PICC + P W1: IFA + pICC + P 0.000452937 rs CD4 W3 SSV: IFA + pICC + P W3 SSV: IFA 0.000452937 rs CD4 W3 SSV: IFA + pICC + P W3 SSV: IFA 0.000452937 rs CD4 W3 SSV: IFA + pICC + P W3 SSV: IFA + D 0.000452937 rs CD4 W3 SSV: IFA + pICC + P W3 SSV: IFA + D 0.000452937 rs CD4 W3 SSV: IFA + pICC + P W3 SSV: IFA + D 0.000142999 ns CD5A Normal Skin W1: IFA + D 0.000142999 ns CD5A	CD4	Normal Skin	W1: IFA	1	ns
CD4 Normal Skin W1: IFA + pLCL + P 0.05873387 ns CD4 Normal Skin W3 SSV IFA 0.0019973387 *** CD4 Normal Skin W3 SSV IFA 8.802-66 *** CD4 Normal Skin W3 SSV IFA + pLCL + P 8.802-66 *** CD4 W1: IFA + pLCL + P 0.2007982807 *** CD4 W3 SSV IFA + PL W1: IFA + pLCL + P 0.002518306 * CD4 W3 SSV IFA + PL W1: IFA + pLCL + P 0.0017978297 *** CD4 W3 SSV IFA + pLCL + P W1: IFA + pLCL + P 0.001797827 ns CD4 W3 SSV IFA + pLCL + P W3 SSV IFA + P 0.404108813 ns CD4 W3 SSV IFA + pLCL + P W3 SSV IFA + P 0.404108813 ns CD4 W3 SSV IFA + pLCL + P W3 SSV IFA + P 0.404428281 ns CD4 W3 SSV IFA + pLCL + P W3 SSV IFA + P 0.40444787 *** CD5A Normal Skin W3 SSV IFA + P 0.40444787 *** CD5A No	CD4	Normal Skin	W1: IFA + P	0.403761152	ns
Cb4 Normal Skin WS SSV: IFA + P 0.00590315 *** Cb4 Normal Skin WS SSV: IFA + P 6.80E-06 *** Cb4 Numel Skin WS SSV: IFA + P 0.80590850 *** Cb4 W1: IFA + piCL + P W1: IFA + piCL + P 0.8052802 ns Cb4 W1: IFA + piCL + P W1: IFA + P 0.8052802 ns Cb4 W1: IFA + piCL + P W1: IFA + P 0.8052802 ns Cb4 W3 SSV: IFA + P W1: IFA + P 0.800542802 ns Cb4 W3 SSV: IFA + P W3 SSV: IFA + P 0.80542802 ns Cb4 W3 SSV: IFA + PICL + P W3 SSV: IFA + P 0.80542806 ns Cb4 W3 SSV: IFA + pICL + P W3 SSV: IFA + P 0.840344283 ns Cb4 W3 SSV: IFA + pICL + P W3 SSV: IFA + P 0.840344289 ns Cb5A Normal Skin W1: IFA + P 0.006442829 ns Cb5A Normal Skin W3 SSV: IFA + P 0.75585743 ns Cb5A <td< td=""><td>CD4</td><td>Normal Skin</td><td>W1: IFA + pICLC + P</td><td>0.053573387</td><td>ns</td></td<>	CD4	Normal Skin	W1: IFA + pICLC + P	0.053573387	ns
CD4 Nomai Skin WS SV: IFA + P 8.66 C5 *** CD4 Wit: IFA + P 0.00796690 *** CD4 Wit: IFA + PICC + P Wit: IFA + PICC + P 0.566623802 ns CD4 Wit: IFA + PICC + P Wit: IFA + PICC + P 0.566623802 ns CD4 Wit: SSV: IFA + PICC + P Wit: IFA + PICC + P 0.566623802 *** CD4 Wit: SSV: IFA + PICC + P Wit: SSV: IFA + P 0.56976722 ns CD4 Wit: SSV: FA + PICC + P Wit: SSV: IFA + P 0.69419813 ns CD4 Wit: SSV: FA + PICC + P Wit: SSV: IFA + P 0.69419813 ns CD4 Wit: SSV: FA + PICC + P Wit: FA + PICC + P 0.00142320 *** CD5A Nomal Skin Wit: FA + PICC + P 0.00142320 *** CD5A Nomal Skin Wit: SSV: IFA + PICC + P 0.00142320 *** CD5A Nomal Skin Wit: FA + PICC + P 0.00142320 *** CD5A Nomal Skin Wit: FA + PICC + P 0.017633326 ns	CD4	Normal Skin	W3 SSV: IFA	0.001991315	**
CD4 Nomal Skin W3 SSV: IFA + pICLC + P 0.05396953 *** CD4 W1: IFA + pICLC + P W1: IFA + P 0.56396952 ns CD4 W3 SSV: IFA + P W1: IFA + P 0.05639052 ns CD4 W3 SSV: IFA + P W1: IFA + P 0.00251307 *** CD4 W3 SSV: IFA + P W1: IFA + PICLC + P 0.011781442 * CD4 W3 SSV: IFA + PICLC + P W3 SSV: IFA - D 0.60410813 ns CD4 W3 SSV: IFA + PICLC + P W3 SSV: IFA + D 0.60410813 ns CD4 W3 SSV: IFA + PICLC + P W3 SSV: IFA + P 0.03549269 ns CD5A Nomal Sin W1: IFA + P 0.04549269 ns CD5A Nomal Sin W3: IFA + PICLC + P 0.0454927 ** CD5A Nomal Sin W3: SSV: IFA + D 2.045637 ** CD5A Nomal Sin W3: SSV: IFA + D 2.05767 ** CD5A Nomal Sin W3: SSV: IFA + D 2.05786333 ns CD5A No	CD4	Normal Skin	W3 SSV: IFA + P	8.60E-05	***
CD4 W1: IFA + P W1: IFA + P 0.55895320 ns CD4 W1: IFA + PICLC + P W1: IFA + P 0.55895320 ns CD4 W3 SSV: IFA + P W1: IFA + P 0.00462337 *** CD4 W3 SSV: IFA + P W1: IFA + P 0.00462337 *** CD4 W3 SSV: IFA + P W3 SSV: IFA 0.988077672 ns CD4 W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.988077672 ns CD4 W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.34933428 ns CD4 W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.34933428 ns CD5A Nomal Skin W1: IFA + PICLC + P 0.34934428 ns CD5A Nomal Skin W1: IFA + PICLC + P 0.08492689 ns CD5A Nomal Skin W1: IFA + PICLC + P 0.04842267 ************************************	CD4	Normal Skin	W3 SSV: IFA + pICLC + P	0.000796859	***
CD4 W1: IFA + pICLC + P W1: IFA + P 0.58682302 ns CD4 W3 SSV: IFA + W1: IFA + P 0.0251306 * CD4 W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.01171842 * CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.060450813 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + pICLC + P 0.49403428 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + pICLC + P 0.49403428 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.49433428 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.00447677 ** CD8A Normal Skin W3 SSV: IFA + D 0.00447677 ** CD8A Normal Skin W3 SSV: IFA + D 0.175588343 ns CD8A W1: IFA + pICLC + P W1: IFA 0.01432503 * CD8A W3 SSV: IFA + pICLC + P W1: IFA 0.1563141 * CD8A W3 SSV: IFA + pICLC + P W1: IFA 0.0144565031 *	CD4	W1: IFA + P	W1: IFA	0.633969851	ns
	CD4	W1: IFA + pICLC + P	W1: IFA + P	0.586632802	ns
CD4 W3 SSV: FA + P W1: FA + P[CLC + P 0.00152837 *** CD4 W3 SSV: FA + P[CLC + P W3 SSV: FA 0.00171842 * CD4 W3 SSV: FA + P[CLC + P W3 SSV: FA 0.001718142 * CD4 W3 SSV: FA + P[CLC + P W3 SSV: FA 0.0010813 ns CD4 W3 SSV: FA + P[CLC + P W3 SSV: FA 0.00112329 *** CD8A Normal Skin W1: FA + P[CLC + P 0.00142329 *** CD8A Normal Skin W1: FA + P[CLC + P 0.00644577 *** CD8A Normal Skin W3 SSV: FA + P[CLC + P 0.7566343 ns CD8A Normal Skin W3 SSV: FA + P[CLC + P 0.17566343 ns CD8A W1: FA + P[CLC + P W1: FA + P[CLC + P 0.17566343 ns CD8A W1: FA + P[CLC + P W1: FA + P[CLC + P 0.17566343 ns CD8A W3 SSV: FA + P[CLC + P W1: FA + P[CLC + P 0.17566343 ns CD8A W3 SSV: FA + P[CLC + P W1: FA + P[CLC + P 0.17566343 ns <td>CD4</td> <td>W3 SSV: IFA</td> <td>W1: IFA</td> <td>0.02516306</td> <td>*</td>	CD4	W3 SSV: IFA	W1: IFA	0.02516306	*
CD4 W3 SSV: FA + p(CLC + P W1: FA + p(CLC + P 0.9997762 ns CD4 W3 SSV: FA + p(CLC + P W3 SSV: FA + p(CLC + P W3 SSV: FA + p(CLC + P N3 SSV: FA + p(CLC + P 0.3403428 ns CD4 W3 SSV: FA + p(CLC + P W3 SSV: FA + p(CLC + P 0.3403428 ns CD8A Normal Skin W1: FA + P 0.084428099 ns CD8A Normal Skin W1: FA + p(CLC + P 0.00842099 ns CD8A Normal Skin W3 SSV: FA + D 0.008442099 ns CD8A Normal Skin W3 SSV: FA + D 0.00843209 *** CD8A Normal Skin W3 SSV: FA + D 0.2864309817 ** CD8A Normal Skin W3 SSV: FA + D(CL + P 0.17558343 ns CD8A W1: FA + p(CL + P W1: FA + P 0.012435101 * CD8A W3 SSV: FA + p(CL + P W1: FA + p(CL + P 0.012435101 * CD8A W3 SSV: FA + p(CL + P W1: FA + p(CL + P 0.012435101 * CD8A W3 SSV: FA + p(CL + P	CD4	W3 SSV: IFA + P	W1: IFA + P	0.000452937	***
CD4 W3 SSV: IFA + P W3 SSV: IFA 0.999977672 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + 0 0.34933428 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.34933428 ns CD8A Normal Skin W1: IFA + P 0.085492699 ns CD8A Normal Skin W1: IFA + PICLC + P 0.006442329 *** CD8A Normal Skin W3 SSV: IFA + PICLC + P 0.006445787 *** CD8A Normal Skin W3 SSV: IFA + PICLC + P 0.006445787 *** CD8A Normal Skin W3 SSV: IFA + PICLC + P 0.16563849 ns CD8A W1: IFA + PICLC + P W1: IFA + PICLC + P 0.012681301 * CD8A W3 SSV: IFA + PICLC + P W1: IFA + PICLC + P 0.02817071 * CD8A W3 SSV: IFA + PICLC + P W1: IFA + PICLC + P 0.02845203 * CD8A W3 SSV: IFA + PICLC + P W1: IFA + PICLC + P 0.02845031 * CD8A W3 SSV: IFA + PICLC + P W3 SSV: IFA + PICLC + P <	CD4	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.011781842	*
CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.604108813 ns CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.8492699 ns CD8A Normal Skin W1: IFA + P 0.006142290 *** CD8A Normal Skin W1: IFA + P 0.006142290 *** CD8A Normal Skin W3 SSV: IFA + P 2.29E-05 *** CD8A Normal Skin W3 SSV: IFA + P 2.29E-05 *** CD8A Normal Skin W3 SSV: IFA + P 0.175588343 ns CD8A W1: IFA + pICLC + P W1: IFA + P 0.17558343 ns CD8A W3 SSV: IFA + PICLC + P W1: IFA + P 0.1635349 ns CD8A W3 SSV: IFA + PICL + P W1: IFA + P 0.024870915 * CD8A W3 SSV: IFA + PICL + P W1: IFA + P 0.024870915 * CD8A W3 SSV: IFA + PICL + P W3 SSV: IFA 0.91669961 ns CD8A W3 SSV: IFA + PICL + P W3 SSV: IFA 0.024870915 * CD8A	CD4	W3 SSV: IFA + P	W3 SSV: IFA	0.998977672	ns
CD4 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.34933428 ns CD4A Normal Skin W1: IFA + P 0.085492699 ns CD4A Normal Skin W1: IFA + pICLC + P 0.00649289 ns CD4A Normal Skin W1: IFA + pICLC + P 0.006445787 *** CD4A Normal Skin W3 SSV: IFA + P 2.28E-05 *** CD4A Normal Skin W3 SSV: IFA + pICLC + P 0.1553843 ns CD4A Normal Skin W3 SSV: IFA + pICLC + P 0.1553843 ns CD4A W1: IFA + pICLC + P W1: IFA + pICLC + P 0.012681381 * CD4A W3 SSV: IFA + P W1: IFA + pICLC + P 0.02261381 * CD4A W3 SSV: IFA + PICLC + P W3 SSV: IFA + pICLC + P 0.024870815 * CD4A W3 SSV: IFA + pICLC + P W3 SSV: IFA + pICLC + P 0.038267283 ns CD4A W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.48489728 ns CD4A W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.02263339	CD4	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.604108813	ns
CDBA Normal Skin W1: IFA 1	CD4	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0 349334428	ns
CDBA Normal Sin W1: IFA + P 0.059142209 res CDBA Normal Sin W1: IFA + pICL C + P 0.00542787 *** CDBA Normal Sin W3 SSV: IFA + D 2.296-05 *** CDBA Normal Sin W3 SSV: IFA + D 2.576-07 *** CDBA Normal Sin W3 SSV: IFA + D 0.57589343 rns CDBA W1: IFA + pICL C + P W1: IFA + D 0.57589343 rns CDBA W1: IFA + pICL C + P W1: IFA + D 0.54342203 * CDBA W3 SSV: IFA W1: IFA + DICL C + P 0.1583381 * CDBA W3 SSV: IFA + DICL C + P W1: IFA + DICL C + P 0.012591381 * CDBA W3 SSV: IFA + DICL C + P W3 SSV: IFA 0.04899972 rns CDBA W3 SSV: IFA + DICL C + P W3 SSV: IFA 0.048999728 rns CDBA W3 SSV: IFA + DICL C + P W3 SSV: IFA 0.04289912 rns CDBA Normal Sin W1: IFA + PICL C + P 0.042899161 rs	CD8A	Normal Skin	W1: IFA	1	ns
CDBA Normal Skin W1 iFA + pICL C + P 0.000142329 *** CDBA Normal Skin W3 SSV: IFA + 0.000142329 *** CDBA Normal Skin W3 SSV: IFA + 0.000142329 *** CDBA Normal Skin W3 SSV: IFA + 0.175588343 ns CDBA W1: IFA + P 0.1563349 ns . CDBA W1: IFA + P 0.1563349 ns . CDBA W1: IFA + P 0.1563349 ns . CDBA W1: IFA + PICL C + P W1: IFA + PICL C + P 0.012801361 * CDBA W3 SSV: IFA + PICL C + P W1: IFA + PICL C + P 0.012801361 * CDBA W3 SSV: IFA + PICL C + P W3 SSV: IFA 0.448690728 ns CDBA W3 SSV: IFA + PICL P W3 SSV: IFA 1 ns CDBA W3 SSV: IFA + PICL P W3 SSV: IFA 1 ns CDBA W3 SSV: IFA W3 SSV: IFA 1 ns CDBA W3 SSV: IFA W3 SSV: IFA <t< td=""><td>CD8A</td><td>Normal Skin</td><td>W1: IFA + P</td><td>0.085492699</td><td>ns</td></t<>	CD8A	Normal Skin	W1: IFA + P	0.085492699	ns
COBA Normal Skin W3 SSV: IFA 0.00644525 ** CDBA Normal Skin W3 SSV: IFA + P 2.29E-05 *** CDBA Normal Skin W3 SSV: IFA + PICLC + P 2.73E-07 *** CDBA W1: IFA + PICLC + P W1: IFA 0.175568543 ns CDBA W1: IFA + PICLC + P W1: IFA 0.01281361 * CDBA W3 SSV: IFA + P W1: IFA + P 0.01281361 * CDBA W3 SSV: IFA + P W1: IFA + PICLC + P 0.01281361 * CDBA W3 SSV: IFA + P W1: IFA + PICLC + P 0.01281361 * CDBA W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.01281361 * CDBA W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.0248070915 * CDBA W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.024809728 ns CDBA W3 SSV: IFA + PICLC + P W3 SSV: IFA 1 ns IFNG Normal Skin W1: IFA + PICLC + P 0.002580914 ** IFNG	CD8A	Normal Skin	W1: IFA + pICI C + P	0.000142329	***
CDBA Normal Skin W3 SSV: IFA + P 2.29E.0707 *** CDBA Normal Skin W3 SSV: IFA + P 2.29E.070 *** CDBA W1: IFA + pICLC + P W1: IFA + D 0.175588343 ns CDBA W1: IFA + pICLC + P W1: IFA + D 0.1683349 ns CDBA W1: IFA + pICLC + P W1: IFA + P 0.012485303 * CDBA W3 SSV: IFA + pICLC + P W1: IFA + P 0.0124870915 * CDBA W3 SSV: IFA + PICLC + P W1: IFA + IPICLC + P 0.024870915 * CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + DICLC + P 0.0248709178 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.448899728 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.0248709178 ns IFNG Normal Skin W1: IFA + PICLC + P 0.0448689728 ns IFNG Normal Skin W1: IFA + PICLC + P 0.024870814 *** IFNG Normal Skin W1: IFA + PICLC + P 0.02486339 ***	CD8A	Normal Skin	W3 SSV/ IFA	0.006445787	**
COBA Normal Skin W3 SSV. IFA + pICLC + P 5.73E.07 *** CDBA W1: IFA + pICLC + P W1: IFA 0.175588343 ns CDBA W1: IFA + pICLC + P W1: IFA 0.17558843 ns CDBA W1: IFA + pICLC + P W1: IFA 0.012681361 * CDBA W3 SSV: IFA + P W1: IFA + P 0.012813611 * CDBA W3 SSV: IFA + P W1: IFA + pICLC + P 0.012813611 * CDBA W3 SSV: IFA + PICLC + P W1: IFA + pICLC + P 0.024870915 * CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.024869728 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.328672283 ns IFNG Normal Skin W1: IFA + P 0.02489814 ** IFNG Normal Skin W1: IFA + P 0.024598330 * IFNG Normal Skin W3 SSV: IFA + P 7.86E-05 *** IFNG Normal Skin W3 SSV: IFA + P 0.69433686 ** IFNG	CD8A	Normal Skin	W3 SSV: IFA + P	2 295-05	***
CDBA INDITES IPA CP D10200 CDBA W1: IFA + pICLC + P W1: IFA 0.175568343 ns CDBA W1: IFA + pICLC + P W1: IFA + P 0.16563349 ns CDBA W3 SSV: IFA + pICLC + P W1: IFA + P 0.014345203 * CDBA W3 SSV: IFA + P W1: IFA + pICLC + P 0.0124870915 * CDBA W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.91669961 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91669961 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.044889728 ns IFNG Normal Skin W1: IFA + P 0.277994863 ns IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.22563359 * IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.22563359 * IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.20425121 *** IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.20023121 *** IFNG <td< td=""><td>CDRA</td><td>Normal Skin</td><td></td><td>5 72E 07</td><td>***</td></td<>	CDRA	Normal Skin		5 72E 07	***
CDAA W1: IFA + pICLC + P W1: IFA + pICLC + P W1: IFA + pICLC + P W1: IFA CDBA W3 SSV: IFA + W1: IFA + pICLC + P 0.01268381 * CDBA W3 SSV: IFA + W1: IFA + pICLC + P 0.012838161 * CDBA W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.012838161 * CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.448869728 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.83267283 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.83267283 ns IFNG Normal Skin W1: IFA + PICLC + P 0.27794863 ns IFNG Normal Skin W1: IFA + PICLC + P 0.024568314 ** IFNG Normal Skin W3 SSV: IFA + D 0.22663369 * IFNG Normal Skin W3 SSV: IFA + D 0.024568314 ** IFNG Normal Skin W3 SSV: IFA + D 0.024563269 ** IFNG Normal Skin W3 SSV: IFA + D 0.034614267 ns	CD8A		W3 33V. IFA + picto + F	0.175599242	20
CDBA W1: IFA+P 0.1363549 Its CDBA W3 SSV: IFA + W1: IFA 0.012581361 * CDBA W3 SSV: IFA + W1: IFA+P 0.012581361 * CDBA W3 SSV: IFA + P W1: IFA+pICLC+P 0.024870915 * CDBA W3 SSV: IFA + pICLC+P W3 SSV: IFA 0.044889728 ns CDBA W3 SSV: IFA + pICLC+P W3 SSV: IFA + 0.44889728 ns CDBA W3 SSV: IFA + pICLC+P W3 SSV: IFA + 0.42889728 ns IFNG Normal Skin W1: IFA+P 0.27794863 ns IFNG Normal Skin W1: IFA+P 0.004569814 ** IFNG Normal Skin W3 SSV: IFA+P 0.00253339 * IFNG Normal Skin W3 SSV: IFA+P 0.000326121 *** IFNG Normal Skin W3 SSV: IFA+P 0.000327833 ns IFNG N3 SSV: IFA + pICLC +P W1: IFA + 0.000127689 *** IFNG W3 SSV: IFA + pICLC +P W1: IF	CD8A		W1: IFA	0.175366343	115
CDBA W1: IFA P W1: IFA P 0.04342203 CDBA W3 SSV: IFA + P W1: IFA + PLCLC + P 0.0124870915 * CDBA W3 SSV: IFA + plCLC + P W1: IFA + pLCLC + P 0.024870915 * CDBA W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.448869728 ns CDBA W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.448869728 ns CDBA W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.448869728 ns CDBA W3 SSV: IFA + plCLC + P W3 SSV: IFA + P 0.82267283 ns IFNG Normal Skin W1: IFA + pL 0.227994683 ns IFNG Normal Skin W3 SSV: IFA + pLCC + P 0.00226329 *** IFNG Normal Skin W3 SSV: IFA + pLCC + P 0.000236121 *** IFNG W1: IFA + P 0.01276890 *** *** IFNG N0: IFA + pLC + P W1: IFA + P 0.001276890 *** IFNG W3 SSV: IFA + P W1: IFA + P 0.001276890 *** IFNG	CD6A	W1. IFA + picto + P		0.1503349	*
LDBA WI: IFA+P OUT201001 CDBA WI: SSV: IFA+plCLC+P WI: IFA+plCLC+P 0.012501301 CDBA WIS SSV: IFA + plCLC+P WI: IFA+plCLC+P 0.024870915 CDBA WIS SSV: IFA + plCLC+P WI: SSV: IFA 0.048809728 ns CDBA WIS SSV: IFA + plCLC+P WI: SSV: IFA + P 0.832872283 ns CDBA WI SSV: IFA + plCLC+P WI: IFA+P 0.832872283 ns IFNG Normal Skin WI: IFA+P 0.227794863 ns IFNG Normal Skin WI: IFA+P 0.004569814 ** IFNG Normal Skin WI: IFA+P 0.004569814 ** IFNG Normal Skin WI: IFA+P 0.0012503121 *** IFNG Normal Skin WI: SSV: IFA+plCLC+P 0.000127633 ns IFNG WI: IFA+plCLC+P WI: IFA+PL 0.000127689 *** IFNG WI: SSV: IFA+plCLC+P WI: IFA+PL 0.000127689 *** IFNG WI: SSV: IFA+plCLC+P WI: IFA+PLC+P 0.000127689	CD6A OD8A	W3 55V. IFA	WI.IFA	0.043452503	*
LOBA W3 SSV: IFA + PLCLC + P W1: IFA + PLCLC + P 0.0248/0915	CD8A	W3 SSV: IFA + P	W1: IFA + P	0.012581361	*
CDBA W3 SSV: IFA + P W3 SSV: IFA 0.9169961 ns CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + pICLC + P W3 SSV: IFA + pICLC + P Ns CDBA Normal Skin W1: IFA + P 0.83267283 ns IFNG Normal Skin W1: IFA + P 0.277994863 ns IFNG Normal Skin W1: IFA + pICLC + P 0.004569814 ** IFNG Normal Skin W3 SSV: IFA + P 0.004569814 ** IFNG Normal Skin W3 SSV: IFA + P 7.86E-05 *** IFNG Normal Skin W3 SSV: IFA + P 7.86E-05 *** IFNG Normal Skin W3 SSV: IFA + P 7.80E-05 *** IFNG W1: IFA + pICLC + P W1: IFA 0.0244614267 ns IFNG W1: IFA + pICLC + P W1: IFA 0.03930886 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + P 0.00127689 *** IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + DICL + P 0.030393086 * IF	CD8A	W3 SSV: IFA + picto + P	W1: IFA + PICLC + P	0.024870915	-
CDBA W3 SSV: IFA + pLCLC + P W3 SSV: IFA + pLCLC + P W3 SSV: IFA + pLCLC + P 0.32872283 ns IFNG Normal Skin W1: IFA + P 0.32872233 ns IFNG Normal Skin W1: IFA + P 0.27994863 ns IFNG Normal Skin W1: IFA + pLCL + P 0.02263359 * IFNG Normal Skin W3 SSV: IFA + pLCL + P 0.02263359 * IFNG Normal Skin W3 SSV: IFA + pLCL + P 0.02263359 * IFNG Normal Skin W3 SSV: IFA + pLCL + P 0.00226121 *** IFNG Normal Skin W3 SSV: IFA + pLCL + P 0.001236121 *** IFNG W1: IFA + pLCL + P 0.00137683 ns * IFNG W3 SSV: IFA + pLCL + P W1: IFA + pLCL + P 0.000127689 *** IFNG W3 SSV: IFA + pLCL + P W1: IFA + pLCL + P 0.000127689 *** IFNG W3 SSV: IFA + pLCL + P W3 SSV: IFA 0.616749064 ns IFNG W3 SSV: IFA + pLCL + P W3 SSV: IFA 0.6	CD8A	W3 SSV: IFA + P	W3 SSV: IFA	0.91669961	ns
CDBA W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.8267/283 ns IFNG Normal Skin W1: IFA 1 ns IFNG Normal Skin W1: IFA + pICLC + P 0.02468814 ** IFNG Normal Skin W1: IFA + pICLC + P 0.04688814 ** IFNG Normal Skin W3 SSV: IFA + D 0.022663359 * IFNG Normal Skin W3 SSV: IFA + D 0.00236121 *** IFNG Normal Skin W3 SSV: IFA + D 0.00033121 *** IFNG W1: IFA + P 0.015137583 ns is IFNG W1: IFA + P 0.03430886 * * IFNG W3 SSV: IFA + P 0.00127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + P 0.000127689 *** IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.616748064 ns IFNG W3 SSV: IFA + P 0.616748064	CD8A	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.448869728	ns
IFNG Normal Skin W1: IFA 1 ns IFNG Normal Skin W1: IFA + P 0.277994863 ns IFNG Normal Skin W1: IFA + PLCLC + P 0.002563359 * IFNG Normal Skin W3 SSV: IFA + P 7.86E-05 *** IFNG Normal Skin W3 SSV: IFA + P 7.86E-05 *** IFNG Normal Skin W3 SSV: IFA + PL 0.024614267 ns IFNG W1: IFA + pICLC + P W1: IFA 0.039430886 * IFNG W3 SSV: IFA W1: IFA + P 0.000127689 *** IFNG W3 SSV: IFA + P W1: IFA + P 0.000127689 *** IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.686519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.4164064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.301391253 ns IFNG W3 SSV: IFA + DICLC + P W3 SSV: IFA + D 0.001508377 * IFNG W3 SSV:	CD8A	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.832672283	ns
IFNG Normal Skin W1: IFA + P 0.277994863 ns IFNG Normal Skin W1: IFA + pICLC + P 0.004569814 ** IFNG Normal Skin W3 SSV: IFA 0.022563359 * IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.0042669814 ** IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.000236121 *** IFNG W1: IFA + P W1: IFA + PICLC + P 0.001236127 ns IFNG W1: IFA + PICLC + P W1: IFA + P 0.00127689 *** IFNG W3 SSV: IFA + DICLC + P W1: IFA + pICLC + P 0.000127689 *** IFNG W3 SSV: IFA + DICLC + P W3 SSV: IFA 0.000244244 ns IFNG W3 SSV: IFA + DICLC + P W3 SSV: IFA 0.000244244 ns IFNG W3 SSV: IFA + DICLC + P W3 SSV: IFA 0.00127689 ns IFNG W3 SSV: IFA + DICLC + P W3 SSV: IFA 0.00127689 ns IFNG W3 SSV: IFA + DICLC + P W3 SSV: IFA 0.00000000000000000000000000000000000	IFNG	Normal Skin	W1: IFA	1	ns
IFNG Normal Skin W1: IFA + pICLC + P 0.004569814 ** IFNG Normal Skin W3 SSV: IFA 0.022563359 * IFNG Normal Skin W3 SSV: IFA + pICLC + P 0.00236121 *** IFNG Wormal Skin W3 SSV: IFA + pICLC + P 0.024614267 ns IFNG W1: IFA + pICLC + P 0.024614267 ns * IFNG W1: IFA + pICLC + P 0.039430886 * * IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.000127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.092644244 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns	IFNG	Normal Skin	W1: IFA + P	0.277994863	ns
IFNG Normal Skin W3 SSV: IFA + P 0.022563359 * IFNG Normal Skin W3 SSV: IFA + P 7.8E-05 *** IFNG Normal Skin W3 SSV: IFA + PICLC + P 0.000236121 *** IFNG W1: IFA + PICLC + P W1: IFA 0.244614267 ns IFNG W1: IFA + PICLC + P W1: IFA + PICLC + P 0.05137583 ns IFNG W3 SSV: IFA + P W1: IFA + PICLC + P 0.050420886 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.09244244 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + 0 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.5130999 ns TBX21 Normal Skin W1: IFA + P 0.5130999 ns TBX21 Normal Skin W1: IFA + P 0.501391253 ns	IFNG	Normal Skin	W1: IFA + pICLC + P	0.004569814	**
I+NG Normal Skin W3 SSV: IFA + P 7.86E-05 **** IFNG Normal Skin W3 SSV: IFA + P 0.00026121 *** IFNG W1: IFA + pICLC + P W1: IFA 0.244614267 ns IFNG W1: IFA + pICLC + P W1: IFA 0.039430886 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + P 0.00127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.039430866 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.00127689 *** IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.618743064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.618743064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.301391253 ns IFX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W3 SSV: IFA + pICLC + P 0.005878372 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 ****	IFNG	Normal Skin	W3 SSV: IFA	0.022563359	T
I+NG Normal Skin W3 SSV: IFA + pICLC + P 0.00028121 *** IFNG W1: IFA + pICLC + P W1: IFA 0.244614267 ns IFNG W1: IFA + pICLC + P W1: IFA + P 0.039430886 * IFNG W3 SSV: IFA + W1: IFA + P 0.039430886 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.000127689 **** IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.039430866 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.002644244 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.688519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.54130969 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W3 SSV: IFA + P 0.005878372 ***	IFNG	Normal Skin	W3 SSV: IFA + P	7.86E-05	** *
IFNG W1: IFA + P W1: IFA 0.244614267 ns IFNG W1: IFA + pICLC + P W1: IFA + P 0.051337583 ns IFNG W3 SSV: IFA W1: IFA 0.039430886 * IFNG W3 SSV: IFA + P W1: IFA + P 0.000127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + PICLC + P 0.092644244 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130969 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130969 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns ms TBX21 Normal Skin W1: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.0000168162 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 0.183407086 ns TBX21 Normal Skin W3 SSV: IFA + PICLC + P 0.183407086 ns <td>IFNG</td> <td>Normal Skin</td> <td>W3 SSV: IFA + pICLC + P</td> <td>0.000236121</td> <td>***</td>	IFNG	Normal Skin	W3 SSV: IFA + pICLC + P	0.000236121	***
I+NG W1: IFA + pICLC + P W1: IFA P 0.051337583 ns IFNG W3 SSV: IFA + pICLC + P W1: IFA + P 0.03940886 * IFNG W3 SSV: IFA + pICLC + P W1: IFA + P 0.000127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.092644244 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.686519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.686519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130969 ns IBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W1: IFA P 0.194	IFNG	W1: IFA + P	W1: IFA	0.244614267	ns
IFNG W3 SSV: IFA W1: IFA 0.039430886 * IFNG W3 SSV: IFA + P W1: IFA + P 0.000127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.092644244 ns IFNG W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.686519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130969 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + PICLC + P 0.301391253 ns TBX21 Normal Skin W3 SSV: IFA + DICLC + P 0.0005878372 ** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 ***	IFNG	W1: IFA + pICLC + P	W1: IFA + P	0.051337583	ns
IFNG W3 SSV: IFA + P W1: IFA + P 0.00127689 *** IFNG W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.092644244 ns IFNG W3 SSV: IFA + PICLC + P W3 SSV: IFA 0.688519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130969 ns IFX21 Normal Skin W1: IFA + P 0.54130969 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.000168162 ** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.138-05 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.138-05 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.138-05 *** TBX21 Normal Skin W1: IFA + PICLC + P 0.18407086 ns </td <td>IFNG</td> <td>W3 SSV: IFA</td> <td>W1: IFA</td> <td>0.039430886</td> <td>*</td>	IFNG	W3 SSV: IFA	W1: IFA	0.039430886	*
IFNG W3 SSV: IFA + plCLC + P W1: IFA + plCLC + P 0.092644244 ns IFNG W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.688519877 ns IFNG W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + plCLC + P W3 SSV: IFA + P 0.54130969 ns IFNG W3 SSV: IFA + plCLC + P W3 SSV: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + plCLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W1: IFA PICLC + P 0.138407086 ns TBX21 W3 SSV: IFA W1: IFA PICLC + P 0.194663021 </td <td>IFNG</td> <td>W3 SSV: IFA + P</td> <td>W1: IFA + P</td> <td>0.000127689</td> <td>***</td>	IFNG	W3 SSV: IFA + P	W1: IFA + P	0.000127689	***
IFNG W3 SSV: IFA + P W3 SSV: IFA 0.688519877 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + D 0.54130969 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA + D 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W1: IFA + P 0.000168162 *** TBX21 W1: IFA + P 0.194663021 ns ms TBX21 W1: IFA + P 0.012836676 * * TBX21 W3 SSV: IFA + P	IFNG	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.092644244	ns
IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.616748064 ns IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130069 ns IBX21 Normal Skin W1: IFA 1 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + P 0.0005878372 ** TBX21 Normal Skin W1: IFA + pICLC + P 0.000168162 ** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.13E-05 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.13E-05 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.13E-05 *** TBX21 W1: IFA + PICLC + P W1: IFA 0.183407086 ns TBX21 W1: IFA + PICLC + P W1: IFA 0.012836676 * TBX21 W3 SSV: IFA + PICLC + P W1: IFA 0.02078223 * TBX21	IFNG	W3 SSV: IFA + P	W3 SSV: IFA	0.688519877	ns
IFNG W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.54130969 ns TBX21 Normal Skin W1: IFA + P 1 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA 0.011508377 * TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.11508377 * TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 W1: IFA + P 0.18463021 ns T TBX21 W3 SSV: IFA + P W1: IFA + P 0.001886676 * TBX21 W3 SSV: IFA + pICLC + P W1: IFA + P 0.025078223 * TBX21 W3 SSV: IFA + pICLC + P	IFNG	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.616748064	ns
TBX21 Normal Skin W1: IFA 1 ns TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA + 0.001508377 * TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 W1: IFA + pICLC + P W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA + P W1: IFA 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + P 0.0025078223 * TBX21 W3 SSV: IFA + P W1: IFA + pICLC + P 0.025078223 * TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.986086804 ns TBX21 W3 SSV: IFA + P W3 SSV:	IFNG	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.54130969	ns
TBX21 Normal Skin W1: IFA + P 0.301391253 ns TBX21 Normal Skin W1: IFA + pICLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA 0.011508377 * TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + pICLC + P 6.13E-05 *** TBX21 Normal Skin W3 SSV: IFA + pICLC + P 0.183407086 ns TBX21 W1: IFA + P W1: IFA + D 0.18407086 ns TBX21 W1: IFA + P W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA W1: IFA + P 0.00180676 * TBX21 W3 SSV: IFA + P W1: IFA + PICLC + P 0.012836676 * TBX21 W3 SSV: IFA + pICLC + P W1: IFA + PICLC + P 0.02078223 * TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.086088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TB	TBX21	Normal Skin	W1: IFA	1	ns
TBX21 Normal Skin W1: IFA + pICLC + P 0.005878372 ** TBX21 Normal Skin W3 SSV: IFA 0.011508377 * TBX21 Normal Skin W3 SSV: IFA + P 0.00068162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.00168162 *** TBX21 Normal Skin W3 SSV: IFA + pICLC + P 6.13E-05 *** TBX21 W1: IFA + P W1: IFA + PICLC + P 1.94663021 ns TBX21 W1: IFA + pICLC + P W1: IFA + P 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + P 0.003161057 ** TBX21 W3 SSV: IFA + P W1: IFA + P 0.025078223 * TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.96608604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.96608604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns TBX21<	TBX21	Normal Skin	W1: IFA + P	0.301391253	ns
TBX21 Normal Skin W3 SSV: IFA 0.011508377 * TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + PICLC + P 6.13E-05 *** TBX21 W1: IFA + P W1: IFA 0.183407086 ns TBX21 W1: IFA + pICLC + P W1: IFA 0.194663021 ns TBX21 W3 SSV: IFA W1: IFA + P 0.0194663021 ns TBX21 W3 SSV: IFA + P W1: IFA + P 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + PCLC + P 0.025078223 * TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.960088044 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.960088044 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.960088044 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.960088044 ns TBX21	TBX21	Normal Skin	W1: IFA + pICLC + P	0.005878372	**
TBX21 Normal Skin W3 SSV: IFA + P 0.000168162 *** TBX21 Normal Skin W3 SSV: IFA + pICLC + P 6.13E-05 *** TBX21 W1: IFA + P W1: IFA 0.183407086 ns TBX21 W1: IFA + pICLC + P W1: IFA 0.183407086 ns TBX21 W1: IFA + pICLC + P W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA W1: IFA + P 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + PICLC + P 0.02078223 * TBX21 W3 SSV: IFA + pICLC + P W1: IFA + PICLC + P 0.025078223 * TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.086088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.966088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 1 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns	TBX21	Normal Skin	W3 SSV: IFA	0.011508377	*
TBX21 Normal Skin W3 SSV: IFA + pICLC + P 6.13E-05 *** TBX21 W1: IFA + P W1: IFA 0.183407086 ns TBX21 W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA W1: IFA 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + P 0.002806676 * TBX21 W3 SSV: IFA + PICLC + P W1: IFA + P 0.0025078223 * TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.96608604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.96608604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91607758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91607758 ns STAT1 Normal Skin </td <td>TBX21</td> <td>Normal Skin</td> <td>W3 SSV: IFA + P</td> <td>0.000168162</td> <td>***</td>	TBX21	Normal Skin	W3 SSV: IFA + P	0.000168162	***
TBX21 W1: IFA + P W1: IFA 0.183407086 ns TBX21 W1: IFA + pICLC + P W1: IFA + P 0.183407086 ns TBX21 W3 SSV: IFA W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA + pICLC + P W1: IFA + P 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + P 0.003161057 ** TBX21 W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.025078223 * TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.966088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91607758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.91607758 ns STAT1 Normal Skin W1: IFA + P 1 ns	TBX21	Normal Skin	W3 SSV: IFA + pICLC + P	6.13E-05	***
TBX21 W1: IFA + pICLC + P W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA W1: IFA + P 0.194663021 ns TBX21 W3 SSV: IFA + W1: IFA + 0.012836676 * TBX21 W3 SSV: IFA + W1: IFA + PICLC + P 0.003161057 ** TBX21 W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.025078223 * TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.966088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.9160778223 * TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91607758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91607758 ns STAT1 Normal Skin W1: IFA 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W1: IFA + P	W1: IFA	0.183407086	ns
TBX21 W3 SSV: IFA W1: IFA 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + P 0.012836676 * TBX21 W3 SSV: IFA + P W1: IFA + P 0.003161057 ** TBX21 W3 SSV: IFA + P W1: IFA + PICLC + P 0.025078223 * TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.966086604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91007758 ns STAT1 Normal Skin W1: IFA + P 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W1: IFA + pICLC + P	W1: IFA + P	0.194663021	ns
TBX21 W3 SSV: IFA + P W1: IFA + P 0.003161057 ** TBX21 W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.003601057 * TBX21 W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.025078223 * TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.966088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.91607758 ns STAT1 Normal Skin W1: IFA + P 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W3 SSV: IFA	W1: IFA	0.012836676	*
TBX21 W3 SSV: IFA + pICLC + P W1: IFA + pICLC + P 0.025078223 * TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.966088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.966088604 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.91607758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA + DICLC + P W3 SSV: IFA + DICLC + P 0.91607758 ns STAT1 Normal Skin W1: IFA 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W3 SSV: IFA + P	W1: IFA + P	0.003161057	**
TBX21 W3 SSV: IFA + P W3 SSV: IFA 0.96608604 ns TBX21 W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + plCLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + plCLC + P W3 SSV: IFA + P 0.91607758 ns STAT1 Normal Skin W1: IFA 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W3 SSV: IFA + pICI C + P	W1: IFA + pICI C + P	0.025078223	*
TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA 0.810879311 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.91607758 ns TBX21 W3 SSV: IFA + pICLC + P W3 SSV: IFA + P 0.91607758 ns STAT1 Normal Skin W1: IFA + P 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W3 SSV IFA + P	W3 SSV IFA	0.966088604	ns
TBX21 W3 GV: IFA + pICLC + P W3 GV: IFA + P 0.91607758 ns STAT1 Normal Skin W1: IFA 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBX21	W3 SSV: IFA + pICI C + P	W3 SSV: IFA	0.810870311	ns
IDA21 W0 GOV. IFA T PIOLOT F W0 GOV. IFA T PIOLOT F U.9100/730 INS STAT1 Normal Skin W1: IFA 1 ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	TBY21	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.01607758	ne
STATI Normal Skin WI. IFA 1 Ns STAT1 Normal Skin W1: IFA + P 0.142912332 ns	97471	Normal Skin	W1. EA	1	110
	STAT1	Normal Skin		0 142012222	115
	JIAH	Normal ONIT	WILITATE	0.142312332	110

STAT1	Normal Skin	W1: IFA + pICI C + P	5 99E-05	***
STAT1	Normal Skill		0.061032511	
STAT1	Normal Skin	W3 55V. IFA	0.061022511	11S
STAT1	Normal Skill	W3 33V. IFA + P	2.51E-05	***
STATI		W3 SSV: IFA + pICLC + P	7.52E-07	
STATI	WT: IFA + P	W1: IFA	0.520053952	ns
STATI	W1: IFA + PICLC + P	W1: IFA + P	0.029554687	
STATI	W3 SSV: IFA	W1: IFA	0.450489753	ns
SIAI1	W3 SSV: IFA + P		0.004498665	
STATI	W3 SSV: IFA + PICLC + P	W1: IFA + PICLC + P	0.096645573	ns
STATI	W3 SSV: IFA + P	W3 SSV: IFA	0.527496179	ns
STATI	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.109138181	ns
SIATI	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.869270626	ns
GATA3	Normal Skin	W1: IFA	1	ns
GATAS	Normal Skin		0.73909022	lis
GATA3	Normal Skin	W1: IFA + PICLC + P	0.479410923	ns
GATA3	Normal Skin	W3 SSV: IFA	0.586325493	ns
GATA3	Normal Skin	W3 SSV: IFA + P	0.803762557	ns
GATA3		W3 SSV: IFA + pICLC + P	0.975572992	ns
GATA3		W1: IFA	0.405204242	ns
GATA3	W1: IFA + DICLC + P	W1: IFA + P	0.936887135	ns
GATA3	W3 SSV: IFA	W1: IFA	0.80946911	ns
GATA3	W3 SSV: IFA + P		0.107568945	ns *
GATA3	W3 SSV: IFA + PICLC + P	W1: IFA + PICLC + P	0.028424853	-
GATAS		WO SOV: IFA	0.900093081	115
GATA3			0.0337100	115
BODC	Normal Skin	W3 33V. IFA T F	0.790209190	115
RURU	Normal Skin		0.000510050	115
RUKU	Normal Skin		0.992013300	115
RURG	Normal Skin		0.30032230	115
RURG	Numidi Skili		0.200030000	*
RURU	Normal Skin		0.0490/0990	20
RORC		W1. IEA	0.212221013	115
RURU			0.000/3104/	115
RURC		WI.IFA + P	0.976221061	lis
RURC	W3 SSV: IFA	W1: IFA	0.302736994	ns **
RURC	W3 SSV: IFA + P		0.002153749	**
RURC	W3 SSV. IFA + PICLC + P		0.005955918	
RURC	W3 SSV: IFA + P	W3 SSV: IFA	0.995799259	ns
RURC	W3 SSV. IFA + pICLC + P	W3 55V. IFA	0.0100//094	lis
RURC	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.308574734	ns
FOXP3	Normal Skin	W1: IFA	1	ns
FUXP3	Normal Skin		0.684830049	ns
FOXP3	Normal Skin	W1: IFA + PICLC + P	0.190435173	ns +
FUXP3	Normal Skin	W3 SSV: IFA	0.042662165	
FUXP3	Normal Skin	W3 SSV: IFA + P	0.002190521	**
FUXP3		W3 SSV: IFA + pICLC + P	0.008059791	
FUXP3	W1: IFA + P	W1: IFA	0.431026986	ns
FUXP3	W1: IFA + PICLC + P	W1: IFA + P	0.512270784	ns *
FUXP3	W3 SSV: IFA	W1: IFA	0.031087307	**
FUXP3	W3 SSV: IFA + P	W1: IFA + P	0.001293996	*
FUXP3	W3 SSV: IFA + pICLC + P	W1: IFA + PICLC + P	0.016042083	
FUXP3	W3 SSV: IFA + P	W3 SSV: IFA	0.986607086	ns
FUXP3	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.895664995	ns
FUXP3	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.523473556	ns
PD1	Normal Skin	W1: IFA	1	ns
	Normal Skin		0.001503664	115
	Normal Clin		0.001023004	**
	Normal Skin		0.007233044	***
	Normal Skin	W3 SSV: IFA + pICLC + P	2.19E-00	***
PD1		W/4+ IEA	0.000240404	20
PD1		W1: IFA + P	0.001791001	*
PD1	W3 SSV/ IEA	W1: IFA + F	0.010049100	*
PD1	W2 SSV. IFA		5 16E 05	***
	W3 SSV. IFA + PCLC + P		0.10E-00	ne
PD1	W2 SSV. IFA + PIOLO + P		0.04/300/0	110
	W3 SSV. IFA + PCLC + P	W3 SSV. IFA	0.303000122	115
PD1		W/2 SSV. IFA	0.010420200	110
	Normal Skin	W/1: IEA	1	115
LAGS	Normal Skin	W/1: IFA + P	0 378058845	110
LAG3	Normal Skin		0.01876712	**
LAGS	Normal Skin		0.001070713	*
LAG3	Normal Skin	W/3 SSV: IFA	0.040354070	***
LAGS	Normal Skin	W3 SSV: IFA + pICLC + P	2.00010211 2.24E-06	***
LAG3		W1. IEA	0.367307225	ne
LAG3			0.000007214	*
LAG3	W1. IFA + PIOLO + P W3 SSV: IEA		0.029297214	ne
LAGS	W3 SSV. IFA W3 SSV: IFA + D	W1: IFA W1: IFA + P	0.000904010	**
LAGS			0.001244055	**
LAGS	W3 SSV. IFA + PICLC + P		0.002130030	ne
LAGS		W/2 881/- IEA	0.021000049	110
LAGS	W3 SSV. IFA + pICLC + P	W3 SSV. IFA W3 SSV: IFA + P	0.19003207	ne
TIM 2	Normal Skin	W/1+ IEA	1	110
TIM 2	Normal Skin		0.206067620	115
- IIVI-3	Normal ONIT	WILLIATE	0.230007038	110

TIM-3	Normal Skin	W1: IFA + pICLC + P	0.056983315	ns
TIM-3	Normal Skin	W3 SSV: IFA	0.009789901	**
TIM-3	Normal Skin	W3 SSV: IFA + P	0.000449181	***
TIM-3	Normal Skin	W3 SSV: IFA + pICLC + P	0.003616052	**
TIM-3	W1: IFA + P	W1: IFA	0.740817012	ns
TIM-3	W1: IFA + pICLC + P	W1: IFA + P	0.870799842	ns
TIM-3	W3 SSV: IFA	W1: IFA	0.180074194	ns
TIM-3	W3 SSV: IFA + P	W1: IFA + P	0.011673532	*
TIM-3	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.098021208	ns
TIM-3	W3 SSV: IFA + P	W3 SSV: IFA	0.994098514	ns
TIM-3	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.70755146	ns
TIM-3	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.377071734	ns
TICAM1	Normal Skin	W1: IFA	1	ns
TICAM1	Normal Skin	W1: IFA + P	0.795634732	ns
TICAM1	Normal Skin	W1: IFA + pICLC + P	0.058460425	ns
TICAM1	Normal Skin	W3 SSV: IFA	0.41854247	ns
TICAM1	Normal Skin	W3 SSV: IFA + P	0.033886014	*
TICAM1	Normal Skin	W3 SSV: IFA + pICLC + P	0.000858657	***
TICAM1	W1: IFA + P	W1: IFA	0.2043692	ns
TICAM1	W1: IFA + pICLC + P	W1: IFA + P	0.049792283	*
TICAM1	W3 SSV: IFA	W1: IFA	0.083435612	ns
TICAM1	W3 SSV: IFA + P	W1: IFA + P	0.023109022	*
TICAM1	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.010050422	*
TICAM1	W3 SSV: IFA + P	W3 SSV: IFA	0.894740887	ns
TICAM1	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.147981415	ns
TICAM1	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.381479518	ns
MYD88	Normal Skin	W1: IFA	1	ns
MYD88	Normal Skin	W1: IFA + P	0.324666971	ns
MYD88	Normal Skin	W1: IFA + pICLC + P	0.004531038	**
MYD88	Normal Skin	W3 SSV: IFA	0.042074387	*
MYD88	Normal Skin	W3 SSV: IFA + P	0.000379406	***
MYD88	Normal Skin	W3 SSV: IFA + pICLC + P	9.63E-05	***
MYD88	W1: IFA + P	W1: IFA	0.53622382	ns
MYD88	W1: IFA + pICLC + P	W1: IFA + P	0.138386014	ns
MYD88	W3 SSV: IFA	W1: IFA	0.193799974	ns
MYD88	W3 SSV: IFA + P	W1: IFA + P	0.00692755	**
MYD88	W3 SSV: IFA + pICLC + P	W1: IFA + pICLC + P	0.073919006	ns
MYD88	W3 SSV: IFA + P	W3 SSV: IFA	0.919814797	ns
MYD88	W3 SSV: IFA + pICLC + P	W3 SSV: IFA	0.616617969	ns
MYD88	W3 SSV: IFA + pICLC + P	W3 SSV: IFA + P	0.97826591	ns
ARG1	Normal Skin	W1: IFA	1	ns
ARG1	Normal Skin	W1: IFA + P	0.748130031	ns
ARG1	Normal Skin	W1: IFA + pICLC + P	0.464873931	ns
ARG1	Normal Skin	W3 SSV: IFA	0.763867727	ns
ARG1	Normal Skin	W3 SSV: IFA + P	0.589485331	ns
ARG1	Normal Skin	W3 SSV: IFA + pICLC + P	0.851116364	ns
ARG1	W1: IFA + P	W1: IFA	0.644129972	ns
ARG1	W1: IFA + pICLC + P	W1: IFA + P	0.907322252	ns
ARG1	W3 SSV: IFA	W1: IFA	0.764436026	ns
ARG1	W3 SSV: IFA + P		0.035345336	**
ARG1	W3 SSV: IFA + PICLC + P	WT: IFA + PICLC + P	0.006218425	
ARG1	W3 55V: IFA + P	W3 55V: IFA	0.99/801558	ns
ARG1	W3 SSV: IFA + PICLC + P	W3 SSV: IFA	0.859927178	ns
1001				

Supplementary Table 4. FDR-P values of all comparisons for each gene in figure's 4B, 5B, 6B.

Gene	Condition 1	Condition 2	FDR-Pvalue	Significant?
CD80	Normal Skin	W1: IFA + P	0.106535291	ns
CD80	Normal Skin	W3 SSV: IFA + P	7.38E-05	***
CD80	Normal Skin	W3 RV: IFA + P	0.76443872	ns
CD80	W3 SSV: IFA + P	W3 RV: IFA + P	0.000223518	***
CD80	W1: IFA + P	W3 RV: IFA + P	0.910136267	ns
CD80	Normal Skin	W3 RV: IFA + pICLC + P	0.033049609	*
CD80	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.910136267	ns
CD80	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.288646884	ns
CD83	Normal Skin	W1: IFA + P	0.069224833	ns
CD83	Normal Skin	W3 SSV: IFA + P	7.94E-05	***
CD83	Normal Skin	W3 RV: IFA + P	0.980134489	ns
CD83	W3 SSV: IFA + P	W3 RV: IFA + P	5.02E-05	***
CD83	W1: IFA + P	W3 RV: IFA + P	0.905419821	ns
CD83	Normal Skin	W3 RV: IFA + pICLC + P	0.27912594	ns
CD83	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.905419821	ns
CD83	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.147940092	ns
CD86	Normal Skin	W1: IFA + P	0.165205475	ns
CD86	Normal Skin	W3 SSV: IFA + P	2.45E-05	***
CD86	Normal Skin	W3 RV: IFA + P	0.886201324	ns
CD86	W3 SSV: IFA + P	W3 RV: IFA + P	7.24E-05	***
CD86	W1: IFA + P	W3 RV: IFA + P	0.967903317	ns
CD86	Normal Skin	W3 RV: IFA + pICLC + P	0.056779238	ns
CD86	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.967903317	ns

0.000			0.047004404	1
CD86	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.347204194	ns
CD40	Normal Skin	W1: IFA + P	0.553507408	NS ***
CD40	Normal Skin	W3 BV/: IFA + P	0.737557226	DC
CD40	W3 SSV: IFA + P	W3 RV: IFA + P	0.000674476	***
CD40	W1: IFA + P	W3 RV: IFA + P	0.922238713	ns
CD40	Normal Skin	W3 RV: IFA + pICLC + P	0.23882714	ns
CD40	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.922238713	ns
CD40	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.254788139	ns
CD40LG	Normal Skin	W1: IFA + P	0.601705564	ns
CD40LG	Normal Skin	W3 SSV: IFA + P	0.000267538	***
CD40LG	W/3 SSV: IEA + P	W3 RV. IFA + P	0.85733342 5.42E-05	11S ***
CD40LG	W1: IFA + P	W3 RV: IFA + P	0.995444309	ns
CD40LG	Normal Skin	W3 RV: IFA + pICLC + P	0.204234182	ns
CD40LG	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.995444309	ns
CD40LG	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.149078054	ns
BATF3	Normal Skin	W1: IFA + P	0.234285493	ns
BATF3	Normal Skin	W3 SSV: IFA + P	0.000104572	***
BATE2	Normal Skin	W3 RV: IFA + P	0.825916783	ns
BATE2	W3 SSV: IFA + P	W3 RV: IFA + P	0.000486573	
BATE3	Normal Skin	W3 RV: IFA + pICI C + P	0.218123585	ns
BATF3	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.894014538	ns
BATF3	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.056421643	ns
CD4	Normal Skin	W1: IFA + P	0.403761152	ns
CD4	Normal Skin	W3 SSV: IFA + P	8.60E-05	***
CD4	Normal Skin	W3 RV: IFA + P	0.928266469	ns
CD4	W3 SSV: IFA + P	W3 RV: IFA + P	2.98E-05	***
CD4	W1: IFA + P	W3 RV: IFA + P	0.984257495	ns
CD4	Normal Skin	W3 RV: IFA + pICLC + P	0.094257405	ns
CD4	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.11482172	ns
CD8A	Normal Skin	W1: IFA + P	0.085492699	ns
CD8A	Normal Skin	W3 SSV: IFA + P	2.29E-05	***
CD8A	Normal Skin	W3 RV: IFA + P	0.720829789	ns
CD8A	W3 SSV: IFA + P	W3 RV: IFA + P	0.000299514	***
CD8A	W1: IFA + P	W3 RV: IFA + P	0.950732209	ns
CD8A	Normal Skin	W3 RV: IFA + pICLC + P	0.01537181	*
CD8A	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.950732209	ns
LENG	W3 SSV: IFA + pICLC + P	W3 RV: IFA + PICLC + P	0.090957415	ns
IFNG	Normal Skin	W3 SSV: IFA + P	7 86E-05	***
IENG	Normal Skin	W3 RV: IFA + P	0.882663938	ns
IFNG	W3 SSV: IFA + P	W3 RV: IFA + P	3.79E-05	***
IFNG	W1: IFA + P	W3 RV: IFA + P	0.983188954	ns
IFNG	Normal Skin	W3 RV: IFA + pICLC + P	0.036430218	*
IFNG	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.983188954	ns
IFNG TDX04	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.261670608	ns
TBX21	Normal Skin	W1: IFA + P W3 SSV: IFA + P	0.000168162	ΠS ***
TBX21	Normal Skin	W3 BV: IFA + P	0.539257063	ns
TBX21	W3 SSV: IFA + P	W3 RV: IFA + P	3.38E-06	***
TBX21	W1: IFA + P	W3 RV: IFA + P	0.988235511	ns
TBX21	Normal Skin	W3 RV: IFA + pICLC + P	0.059377385	ns
TBX21	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.988235511	ns
TBX21	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.168049843	ns
STAT1	Normal Skin	W1: IFA + P	0.142912332	ns
STAT1	Normal Skin	W3 SSV: IFA + P	2.51E-U5 0.509457256	
STAT1	W3 SSV: IFA + P	W3 RV: IFA + P	0.002094592	**
STAT1	W1: IFA + P	W3 RV: IFA + P	0.899929076	ns
STAT1	Normal Skin	W3 RV: IFA + pICLC + P	0.034653928	*
STAT1	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.899929076	ns
STAT1	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.042864044	*
GATA3	Normal Skin	W1: IFA + P	0.73909022	ns
GATA3	Normal Skin	W3 SSV: IFA + P	0.803762557	ns
GATA3	Normal Skin	W3 RV: IFA + P	0.298683975	ns *
GATA3	W3 SSV: IFA + P	W3 RV: IFA + P	0.041330023	ne
GATA3	Normal Skin	W3 RV: IFA + pICI C + P	0.523893247	ns
GATA3	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.968986563	ns
GATA3	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.12324254	ns
RORC	Normal Skin	W1: IFA + P	0.992513356	ns
RORC	Normal Skin	W3 SSV: IFA + P	0.049876996	*
RORC	Normal Skin	W3 RV: IFA + P	0.801701037	ns
RURC	W3 SSV: IFA + P	W3 RV: IFA + P	0.002614630	
POPC	Normal Skin		0.902014039	ne ne
RORC	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.982614639	ns
RORC	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.074897662	ns
FOXP3	Normal Skin	W1: IFA + P	0.684830049	ns
FOXP3	Normal Skin	W3 SSV: IFA + P	0.002190521	**
FOXP3	Normal Skin	W3 RV: IFA + P	0.963330726	ns
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FOXD2	W/2 COV/ IEA + D		0.002662052	**
FOXP3	W3 33V. IFA + P	W3 RV. IFA + P	0.002662955	
FUXP3	WT: IFA + P	W3 RV: IFA + P	0.972566004	ns
FOXP3		W3 RV. IFA + pICLC + P	0.290594995	lis
FUXP3		W3 RV: IFA + pICLC + P	0.972566004	ns
FUXP3	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.290178454	ns
PD1	Normal Skin	W1: IFA + P	0.417136626	ns
PD1	Normal Skin	W3 SSV: IFA + P	2.19E-05	***
PD1	Normal Skin	W3 RV: IFA + P	0.892728444	ns
PD1	W3 SSV: IFA + P	W3 RV: IFA + P	5.70E-06	***
PD1	W1: IFA + P	W3 RV: IFA + P	0.951552029	ns
PD1	Normal Skin	W3 RV: IFA + pICLC + P	0.047816078	*
PD1	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.951552029	ns
PD1	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.439701177	ns
LAG3	Normal Skin	W1: IFA + P	0.378958845	ns
LAG3	Normal Skin	W3 SSV: IFA + P	0.00016211	***
LAG3	Normal Skin	W3 RV: IFA + P	0.795940658	ns
LAG3	W3 SSV: IFA + P	W3 RV: IFA + P	0.001018373	**
LAG3	W1: IFA + P	W3 RV: IFA + P	0.910136267	ns
LAG3	Normal Skin	W3 RV: IFA + pICLC + P	0.005443709	**
LAG3	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.910136267	ns
LAG3	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.363870747	ns
TIM-3	Normal Skin	W1: IFA + P	0.296067639	ns
TIM-3	Normal Skin	W3 SSV: IFA + P	0.000449181	***
TIM-3	Normal Skin	W3 RV: IFA + P	0.755142808	ns
TIM-3	W3 SSV: IFA + P	W3 RV: IFA + P	2.98E-05	***
TIM-3	W1: IFA + P	W3 RV: IFA + P	0.958873477	ns
TIM-3	Normal Skin	W3 RV: IFA + pICLC + P	0.282087544	ns
TIM-3	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.958873477	ns
TIM-3	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.187346139	ns
TICAM1	Normal Skin	W1: IFA + P	0.795634732	ns
TICAM1	Normal Skin	W3 SSV: IFA + P	0.033886014	*
TICAM1	Normal Skin	W3 RV: IFA + P	0.710255573	ns
TICAM1	W3 SSV: IFA + P	W3 RV: IFA + P	0.147425086	ns
TICAM1	W1: IFA + P	W3 RV: IFA + P	0.894014538	ns
TICAM1	Normal Skin	W3 RV: IFA + pICLC + P	0.720759063	ns
TICAM1	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.894014538	ns
TICAM1	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.00393303	**
MYD88	Normal Skin	W1: IFA + P	0.324666971	ns
MYD88	Normal Skin	W3 SSV: IFA + P	0.000379406	***
MYD88	Normal Skin	W3 RV: IFA + P	0.712236078	ns
MYD88	W3 SSV: IFA + P	W3 RV: IFA + P	0.004206942	**
MYD88	W1: IFA + P	W3 RV: IFA + P	0.899929076	ns
MYD88	Normal Skin	W3 RV: IFA + pICLC + P	0.190065818	ns
MYD88	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.899929076	ns
MYD88	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.042742622	*
ARG1	Normal Skin	W1: IFA + P	0.748130031	ns
ARG1	Normal Skin	W3 SSV: IFA + P	0.589485331	ns
ARG1	Normal Skin	W3 RV: IFA + P	0.391870798	ns
ARG1	W3 SSV: IFA + P	W3 RV: IFA + P	0.033776356	*
ARG1	W1: IFA + P	W3 RV: IFA + P	0.99247624	ns
ARG1	Normal Skin	W3 RV: IFA + pICLC + P	0.590473867	ns
ARG1	W1: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.99247624	ns
ARG1	W3 SSV: IFA + pICLC + P	W3 RV: IFA + pICLC + P	0.107934272	ns

SUPPLEMENTARY METHODS

Clinical Trial Methods

Mel 48: For Mel48, participants were immunized with MELITAC 12.1 (100µg of each of 12 melanoma peptides recognized by CD8 T cells (12MP) + 200µg of tetanus toxoid helper peptide (Tet))¹ emulsified in IFA (Montanide ISA-51 VG, Seppic) in one skin site on days 1, 8, 15, 29, 36, and 43. An additional sequence of vaccines were administered at one site on a different extremity to induce a similar VSME, solely for the purpose of VSME biopsies.

Participants were randomized to have the VSME biopsies a week after 1 or more vaccines. These "replicate" vaccines contained either IFA only (group 1) or IFA + MELITAC 12.1 (group 2). The replicate vaccines were administered until the date of the VSME biopsy. For the present study, VSME biopsies of the replicate site were obtained one week after the first vaccine (week 1, groups 1B/2B) or one week after the third vaccine (week 3, groups 1C/2C). Vaccine sites were marked using felt-tip pen in order to identify them at subsequent weeks for same-site vaccination. Normal skin controls were obtained pre-treatment for a subset of patients. Details of these methods have been reported.²

Mel 58: For the Mel58 trial, participants were also vaccinated with MELITAC12.1, and for the samples used in this analysis, the adjuvant preparation consisted of the TLR agonist polyICLC (pICLC, Hiltonol, Oncovir, Washington, DC, USA) emulsified with IFA, all collected one week after the first vaccine (week 1, groups 2B/2C). Details of these methods have been reported.³

Mel 60: On the Mel60 trial, participants were immunized with 7 long melanoma peptides (29-31 amino acids each), each containing a minimal epitope for CD8 T cells (LPV7⁴) (300µg per dose), with or without Tet helper peptide (200 µg per dose) with IFA and/or pICLC. The study included 7 adjuvant combinations: those analyzed for the present study included peptides with IFA alone or IFA + pICLC. Participants were vaccinated on days 1, 8, 15, 36, 57, and 78, at different extremity skin sites for each vaccine (rotating-site vaccines, RV) for groups A (IFA + LPV7+Tet) and E (IFA + pICLC+LPV7+Tet) or at the same site each week (same-site vaccination, SSV) for group E2 (IFA + pICLC+LPV7+Tet) For the present analysis, vaccine-site biopsy specimens were obtained one week after vaccine 1 (day 8, week 1) or one week after vaccine 3 (day 22, week 3) after RV or SSV. Biopsies on week 3 were taken at the site of the most recent vaccine.

Mel 63: On the Mel63 trial, participants were immunized with 6 Class II MHC restricted melanoma peptides (6MHP)⁵⁶ emulsified either in IFA alone or in IFA + pICLC, with vaccines injected in the same extremity skin site (SSV) on days 1, 8, and 15. Punch biopsy specimens from 1 week after the first vaccine (week 1) and 1 week after the third vaccine (week 3) were used in the present analysis.

Tissue collection, RNA processing, and library preparation

RNA was extracted from the RNAlater stored samples as previously described,⁷ using the RNeasy Lipid Tissue MiniKit (Qiagen, Germantown, MD, USA) according to the manufacturer's specifications. The RNA was processed for library prep as previously described.⁷ The UVA School of Medicine's Genome Analysis and Technology Core (GATC) performed the library preparation and final purified libraries underwent quantification and sizing using the Invitrogen Qubit 3 Fluorometer (ThermoFisher Scientific Inc., Waltham, MA) and Agilent Technologies 4200 TapeStation (Agilent Technologies Inc., Santa Clara, CA)

Statistical Analysis

The count table was imported to R for differential gene expression analysis. Low expressed genes (genes expressed only in few samples with low counts) were excluded from the analysis before identifying differentially expressed genes. Data normalization, dispersion estimates and fitting of a negative binomial model were be carried out with the DESeq2 Bioconductor package.⁸ The variance stabilized transformed normalized gene expression of the 500 most variable genes was used to perform a principal component analysis. The Benjamini-Hochberg False Discovery Rate (FDR) procedure was used to re-estimate the adjusted p-values. FDR-corrected p-values (FDR-p) <0.05 were considered significant.

Gene set enrichment analysis (GSEA) was performed to identify enriched biological pathways using the *clusterProfiler* package in R.⁹ Genes were ranked according to the Log2 fold-change in expression. Kyoto Encyclopedia of Genes and Genomes¹⁰ gene sets (KEGG) were imported from the Molecular Signatures Database¹¹ (MSigDB) and a custom tertiary lymphoid structure (TLS) gene set was created comprised of previously described TLS-associated genes.¹²

Example count matrix and code. Code shown in blue

Count Matrix (first four columns and subset of genes shown)

DESeq2 Data Matrix for Differential Gene Expression analysis # Creating DESeq dataset (dds) library(DESeq2)

dds <- DESeqDataSetFromMatrix(count_matrix, new.metadata, ~Conditions)

```
# Count filtration
```

```
idx <- rowSums( counts(dds) >= 5 ) >= 10
dds <- dds[idx,]
```

- # Setting the baseline comparison and DESeq execution dds\$Conditions <- relevel(dds\$Conditions, "Cont") dds <- DESeq(dds)
- # Variance Stabilizing Transformation of the count matrix rld <- vst(dds, blind = FALSE)

Note: For IFA vs IFA+Peptide analysis: DESeq2 performed as above but only including IFA and IFA+Peptide conditions.

PCA of vst transformed counts was performed using prcomp

pca <- prcomp(t(assay(rld)), center = TRUE) scores <- as.data.frame(pca\$x) PC1 <- scores\$PC1 PC2 <- scores\$PC2 PC3 <- scores\$PC3 PC4 <- scores\$PC4

PC1 vs PC2 and PC3 vs PC4 were then plotted using ggplot2.

GSEA Analysis

geneList is a list with Log2Fold change and Gene Name for GSEA which was generated by # DESeq2. This was the comparison of IFA alone and IFA + P.

library(clusterProfiler) library(msigdbr)

Downloading KEGG sets from msigdb m_t2g <- msigdbr(species = "Homo sapiens", category = "C2", subcategory = "CP:KEGG") %>% dplyr::select(gs_name, entrez_gene)

Sort gene list by Log2FoldChange for GSEA and run GSEA geneList<-sort(geneList, decreasing=TRUE) em <- GSEA(geneList, TERM2GENE = m t2g, pvalueCutoff = 0.05, verbose = FALSE)

Plot GSEA results by pathway. This example code shows the generation of the GSEA plot of the most highly enriched set.

library(enrichplot) gseaplot2(em, geneSetID = 1, title = em\$Description[1], color = "green")

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