Supplemental material

Neoantigens recognized by T and B cells are generated by aberrant mRNA splicing in lupus neutrophils

by

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Suppl. Table S1. Patient data.

id	sex	SLEDAI	Age	Prednisone dose	Other medications	Major chronic comorbidities	ANA	dsDNA	SSA	SSB	Sm	Ribosomal P	RNP
SLE 1324.00	M	2	42	-	hcq	-	+	-	+	-		-	-
SLE 1422.00	F	2	53	-	hcq	history of breast cancer	+	+	-	-	-	-	-
SLE 1419.00	F	5	34	-	hcq	-	+	+	+	+	+	n.a.	+
SLE1016N	M	2	58	-	hcq, mmf	history of DVTs, dyslipidemia, peripheral vascular disease, coronary artery disease	+	+	-	-	-	-	-
SLE1020N	F	17	38	-	benlysta	hisotry of malignancy, inflammatory bowel disease	+	+	+	-	-	+	-
SLE1086N	F	12	38	27.5mg	hcq, aza	-	+	-	-	-	+	-	+
SLE1337N	F	2	31	-	hcq	-	+	-	-	-	-	-	-
SLE1430N	F	8	22	5mg	hcq, aza	-	n.a.	+	n.a.	n.a.	+	n.a.	n.a.
SLE1429N	F	4	23	-	hcq, mmf	Libman Sacks endocarditis	+	+	+	-	-	-	-
SLE1301N	F	12	65	-	hcq, mmf	-	+	+	+	-	-	+	+
SLE1445N	F	0	74	-	hcq, aza	-	-	-	+	-	-	-	-
SLE1237N	F	2	47	-	hcq, rtx	-	+	-	+	+	+	-	indet
SLE1446N	F	19	49	-	hcq, aza	diabetes	+	-	-	-	-	-	-
SLE1073N	F	9	28	-	hcq	-	+	+	-	-	-	-	-
SLE1448N	F	4	40	-	hcq, mtx	-	+	+	-	-	-	n.a.	-
SLE 1223.00	F	36	25	40mg	-	shrinking lung, thyroid disease, history of DVT	+	+	-	-	-	-	-
SLE 1453.00	F	4	27	2.5mg	hcq, mmf	-	+	+	+	-	+	-	-
SLE 1455.00	F	2	42	-	hcq, mtx	-	+	-	-	-	-	-	+
SLE 1456.00	M	6	33	40mg	hcq, mmf	-	+	+	+	-	+	indet	+
SLE 991.00	F	2	36	3mg	hcq, benlysta	APS	+	+	+	-	-	-	-
SLE 1225.00	F	2	31	-	hcq, mmf	-	+	+	-	-	-	-	-
SLE 1195.00	F	4	31	-	hcq, mtx	-	+	+	+	-	+	-	+
SLE 1245.00	F	4	30	-	hcq	-	+	-	-	-	+	-	+
SLE 1466.00	F	2	42	-	hcq	-	+	+	-	-	+	-	indet
SLE 1136.00	F	5	49	2.5mg	hcq, tacrolimus	-	+	+	+	-	+	-	-
SLE 1107.00	F	16	63	-	hcq	-	+	-	-	-	-	-	-
SLE 1477.00	F	0	33	-	hcq	-	+	-	+	+	-	-	-
SLE 1232.00	F	14	58	-	mtx	diabetes, dyslipidemia	-	-	n.a.	n.a.	n.a.	n.a.	n.a.
SLE 1483.00	F	12	33	10mg	hcq, mmf	-	+	+	+	+	-	-	-
SLE 1063.00	F	4	43	-	hcq	-	+	+	+	+	-	+	-
SLE 1485.00	F	4	68	20mg	chloroquine, rtx	diabetes	+	-	+	-	-	-	-
SLE 1489.00	F	4	47	-	hcq, mtx	-	+	+	+	-	-	-	-
SLE 1490.00	F	4	26	-	hcq	-	+	-	-	-	-	-	-
SLE 1500.00	F	1	32	-	hcq	thyroid disease	+	+	+	-	-	-	-
SLE 1210.00	F	4	65	-	hcq	-	-	-	-	-	-	-	-

Suppl. Table S2. MHC haplotype of the SLE patients.

SLE 1195	SLE 1210	SLE 1223	SLE 1225	SLE 1232	SLE 1237
HLA-A*11:01	HLA-A*26:01	HLA-A*01:01	HLA-A*11:01	HLA-A*01:01	HLA-A*03:01
HLA-A*02:01	HLA-A*02:01	HLA-A*11:303	HLA-A*02:05	HLA-A*01:01	HLA-A*02:01
HLA-B*07:02	HLA-B*15:01	HLA-B*18:01	HLA-B*18:01	HLA-B*07:02	HLA-B*27:05
HLA-B*35:01	HLA-B*38:01	HLA-B*27:05	HLA-B*18:01	HLA-B*08:01	HLA-B*14:02
HLA-C*04:01	HLA-C*12:03	HLA-C*02:02	HLA-C*04:30	HLA-C*07:970N	HLA-C*08:02
HLA-C*07:02	HLA-C*03:03	HLA-C*12:03	HLA-C*12:03	HLA-C*07:02	HLA-C*01:02
DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03
DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*02:01
DPB1*04:01	DPB1*06:01	DPB1*04:01	DPB1*104:01	DQB1*06:04	DPB1*14:01
DPB1*02:01	DPB1*04:02	DPB1*04:01	DPB1*02:01	DQB1*06:118	DPB1*03:01
DQB1*05:01	DQB1*05:01	DQA1*03:01	DQB1*06:112N	DRA*01:02	DQA1*03:03
DQB1*05:01	DQB1*06:03	DQA1*05:05	DQB1*06:02	DRA*01:02	DQA1*03:03
DRA*01:01	DRA*01:01	DRA*01:01	DRA*01:01	DRB1*03:01	DQB1*03:01
DRA*01:01	DRA*01:01	DRA*01:01	DRA*01:02	DRB1*13:02	DQB1*02:01
DRB1*01:03	DRB1*01:02	DRB1*04:04	DRB1*15:01		DRA*01:01
DRB1*01:01	DRB1*13:01	DRB1*11:01	DRB1*11:02		DRA*01:01
DPA1*01:03-DPB1*04:01	DPA1*01:03-DPB1*06:01	DPA1*01:03-DPB1*04:01	DPA1*01:03-DPB1*104:01		DRB1*04:07
DPA1*01:03-DPB1*02:01	DPA1*01:03-DPB1*04:02		DPA1*01:03-DPB1*02:01		DRB1*03:01
					DRB3*02:02
					DRB3*02:02
					DPA1*01:03-DPB1*14:01
					DPA1*01:03-DPB1*03:01
					DPA1*02:01-DPB1*14:01
					DPA1*02:01-DPB1*03:01
					DQA1*03:03-DQB1*03:01
					DQA1*03:03-DQB1*02:01

SLE 1016	SLE 1429	SLE 1430	SLE 1445	SLE 1446	SLE 1448	SLE 1453
HLA-A*02:01	HLA-A*34:01	HLA-A*24:02	HLA-A*31:01	HLA-A*01:01	HLA-A*68:03	HLA-A*33:03
HLA-A*02:01	HLA-A*03:01	HLA-A*02:06	HLA-A*11:01	HLA-A*68:02	HLA-A*02:06	HLA-A*03:01
HLA-B*07:02	HLA-B*15:21	HLA-B*35:14	HLA-B*35:01	HLA-B*49:01	HLA-B*35:17	HLA-B*58:01
HLA-B*44:02	HLA-B*07:02	HLA-B*40:02	HLA-B*27:05	HLA-B*08:01	HLA-B*39:05	HLA-B*38:01
HLA-C*07:631	HLA-C*07:02	HLA-C*04:01	HLA-C*02:02	HLA-C*07:01	HLA-C*07:02	HLA-C*03:02
HLA-C*05:01	HLA-C*04:03	HLA-C*15:02	HLA-C*04:01	HLA-C*07:01	HLA-C*04:01	HLA-C*12:03
DPA1*02:01	DPA1*02:02	DPA1*01:03	DPA1*01:03	DPA1*01:04	DPA1*01:03	DPA1*02:02
DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*02:01	DPA1*01:03	DPA1*01:03
DPB1*01:01	DPB1*01:01	DPB1*04:01	DPB1*04:02	DPB1*15:01	DPB1*04:02	DPB1*02:01
DPB1*03:01	DPB1*16:01	DPB1*04:02	DPB1*04:02	DPB1*01:01	DPB1*04:02	DPB1*05:01
DQA1*01:02	DQA1*01:02	DQB1*03:01	DQA1*03:02	DQA1*05:01	DRA*01:01	DQA1*02:01
DQA1*05:01	DQA1*01:02	DQB1*03:92	DQA1*01:01	DQA1*01:02	DRA*01:02	DQA1*01:03
DQB1*06:04	DQB1*05:02	DRA*01:01	DQB1*05:01	DQB1*06:04	DRB1*08:02	DQB1*06:01
DQB1*06:118	DQB1*06:02	DRA*01:02	DQB1*03:03	DQB1*06:118	DRB1*04:07	DQB1*02:02
DRA*01:02	DRA*01:01	DRB1*16:02	DRA*01:01	DRA*01:01	DPA1*01:03-DPB1*04:02	DRA*01:01
DRA*01:02	DRA*01:02	DRB1*14:06	DRA*01:01	DRA*01:02		DRA*01:03
DRB1*03:01	DRB1*15:02	DRB5*02:02	DRB1*09:01	DRB1*03:01		DRB1*07:01
DRB1*13:02	DRB1*15:01	DRB5*02:02	DRB1*01:01	DRB1*13:02		DRB1*08:03
DRB3*03:01	DRB5*01:01	DPA1*01:03-DPB1*04:01	DPA1*01:03-DPB1*04:02	DRB3*03:01		DPA1*02:02-DPB1*02:01
DRB3*01:01	DRB5*01:01	DPA1*01:03-DPB1*04:02	DQA1*03:02-DQB1*05:01	DRB3*01:01		DPA1*02:02-DPB1*05:01
DPA1*02:01-DPB1*01:01	DPA1*02:02-DPB1*01:01		DQA1*03:02-DQB1*03:03	DPA1*01:04-DPB1*15:01		DPA1*01:03-DPB1*02:01
DPA1*02:01-DPB1*03:01	DPA1*02:02-DPB1*16:01		DQA1*01:01-DQB1*05:01	DPA1*01:04-DPB1*01:01		DPA1*01:03-DPB1*05:01
DPA1*01:03-DPB1*01:01	DPA1*01:03-DPB1*01:01		DQA1*01:01-DQB1*03:03	DPA1*02:01-DPB1*15:01		DQA1*02:01-DQB1*06:01
DPA1*01:03-DPB1*03:01	DPA1*01:03-DPB1*16:01			DPA1*02:01-DPB1*01:01		DQA1*02:01-DQB1*02:02
DQA1*01:02-DQB1*06:04	DQA1*01:02-DQB1*05:02			DQA1*05:01-DQB1*06:04		DQA1*01:03-DQB1*06:01
DQA1*01:02-DQB1*06:118	DQA1*01:02-DQB1*06:02			DQA1*05:01-DQB1*06:118		DQA1*01:03-DQB1*02:02
DQA1*05:01-DQB1*06:04				DQA1*01:02-DQB1*06:04		
DQA1*05:01-DQB1*06:118				DQA1*01:02-DQB1*06:118		

SLE 1455	SLE 1456	SLE 1466	SLE 1477	SLE 1483	SLE 1485
HLA-A*02:686	HLA-A*02:06	HLA-A*01:01	HLA-A*02:11	HLA-A*01:01	HLA-A*25:01
HLA-A*01:01	HLA-A*11:01	HLA-A*01:01	HLA-A*68:02	HLA-A*02:01	HLA-A*02:01
HLA-B*08:143	HLA-B*38:02	HLA-B*37:01	HLA-B*35:49	HLA-B*08:01	HLA-B*18:01
HLA-B*51:01	HLA-B*40:01	HLA-B*08:01	HLA-B*15:09	HLA-B*08:01	HLA-B*18:01
HLA-C*07:01	HLA-C*07:02	HLA-C*07:1000	HLA-C*04:01	HLA-C*07:01	HLA-C*07:01
HLA-C*04:01	HLA-C*03:04	HLA-C*06:02	HLA-C*07:04	HLA-C*07:01	HLA-C*12:03
DPA1*02:01	DQB1*05:01	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03
DPA1*02:01	DQB1*05:01	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03
DPB1*13:01	DRA*01:01	DRA*01:01	DPB1*04:01	DPB1*04:01	DPB1*02:01
DPB1*01:01	DRA*01:02	DRA*01:02	DPB1*04:02	DPB1*04:01	DPB1*23:01
DRA*01:01	DRB1*04:03	DRB1*03:01	DQB1*03:92	DQB1*06:02	DQB1*06:02
DRA*01:02	DRB1*15:02	DRB1*04:01	DQB1*03:01	DQB1*06:02	DQB1*06:02
DRB1*03:01			DRA*01:01	DRA*01:02	DRA*01:02
DRB1*04:02			DRA*01:02	DRA*01:02	DRA*01:02
DPA1*02:01-DPB1*13:01			DRB1*16:02	DRB1*03:01	DRB1*15:01
DPA1*02:01-DPB1*01:01			DRB1*11:01	DRB1*15:01	DRB1*08:01
			DRB3*02:02	DRB5*01:01	DRB5*01:01
			DRB3*02:02	DRB5*01:01	DRB5*01:01
			DRB5*02:02	DPA1*01:03-DPB1*04:01	DPA1*01:03-DPB1*02:01
			DRB5*02:02		DPA1*01:03-DPB1*23:01
			DPA1*01:03-DPB1*04:01		
			DPA1*01:03-DPB1*04:02		

SLE 1020	SLE 1063	SLE 1073	SLE 1086	SLE 1107	SLE 1136
HLA-A*30:01	HLA-A*23:01	HLA-A*01:01	HLA-A*23:01	HLA-A*01:01	HLA-A*02:01
HLA-A*31:01	HLA-A*32:01	HLA-A*68:01	HLA-A*24:02	HLA-A*01:01	HLA-A*68:03
HLA-B*13:02	HLA-B*07:02	HLA-B*39:01	HLA-B*15:03	HLA-B*08:01	HLA-B*35:01
HLA-B*52:01	HLA-B*07:02	HLA-B*08:01	HLA-B*45:01	HLA-B*14:02	HLA-B*35:01
HLA-C*06:02	HLA-C*07:02	HLA-C*07:01	HLA-C*06:02	HLA-C*07:970N	HLA-C*07:02
HLA-C*03:03	HLA-C*15:05	HLA-C*12:03	HLA-C*02:10	HLA-C*08:02	HLA-C*04:01
DPA1*02:01	DPA1*02:01	DPA1*02:01	DPA1*02:01	DPA1*01:03	DPA1*01:03
DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03
DPB1*14:01	DPB1*01:01	DPB1*01:01	DPB1*18:01	DPB1*04:01	DPB1*677:01
DPB1*04:01	DPB1*04:02	DPB1*04:01	DPB1*11:01	DPB1*04:01	DPB1*04:01
DQA1*03:03	DQB1*06:113	DQA1*01:03	DQA1*02:01	DQB1*05:01	DRA*01:02
DQA1*01:02	DQB1*06:02	DQA1*05:01	DQA1*01:02	DQB1*05:01	DRA*01:02
DQB1*06:04	DRA*01:02	DQB1*06:112N	DQB1*06:114	DRA*01:01	DRB1*08:02
DQB1*06:118	DRA*01:02	DQB1*06:03	DQB1*06:02	DRA*01:01	DRB1*08:02
DRA*01:01	DRB1*03:01	DRA*01:01	DRA*01:01	DRB1*01:03	DPA1*01:03-DPB1*677:01
DRA*01:02	DRB1*15:01	DRA*01:02	DRA*01:01	DRB1*04:01	DPA1*01:03-DPB1*04:01
DRB1*04:11	DRB5*01:01	DRB1*03:01	DRB1*15:03	DPA1*01:03-DPB1*04:01	
DRB1*13:02	DRB5*01:01	DRB1*13:01	DRB1*07:01		
DRB3*03:01	DPA1*02:01-DPB1*01:01	DRB3*01:01	DRB5*01:01		
DRB3*03:01	DPA1*02:01-DPB1*04:02	DRB3*02:02	DRB5*01:01		
DPA1*02:01-DPB1*14:01	DPA1*01:03-DPB1*01:01	DPA1*02:01-DPB1*01:01	DPA1*02:01-DPB1*18:01		
DPA1*02:01-DPB1*04:01	DPA1*01:03-DPB1*04:02	DPA1*02:01-DPB1*04:01	DPA1*02:01-DPB1*11:01		
DPA1*01:03-DPB1*14:01		DPA1*01:03-DPB1*01:01	DPA1*01:03-DPB1*18:01		
DPA1*01:03-DPB1*04:01		DPA1*01:03-DPB1*04:01	DPA1*01:03-DPB1*11:01		
DQA1*03:03-DQB1*06:04		DQA1*01:03-DQB1*06:112N	DQA1*02:01-DQB1*06:114		
DQA1*03:03-DQB1*06:118		DQA1*01:03-DQB1*06:03	DQA1*02:01-DQB1*06:02		
DQA1*01:02-DQB1*06:04		DQA1*05:01-DQB1*06:112N	DQA1*01:02-DQB1*06:114		
DQA1*01:02-DQB1*06:118		DQA1*05:01-DQB1*06:03	DQA1*01:02-DQB1*06:02		

SLE 1245	SLE 1301	SLE 1324	SLE 1337	SLE 1419	SLE 1422
HLA-A*01:01	HLA-A*31:01	HLA-A*24:02	HLA-A*02:01	HLA-A*02:01	HLA-A*33:01
HLA-A*03:01	HLA-A*11:01	HLA-A*31:01	HLA-A*02:01	HLA-A*11:01	HLA-A*02:01
HLA-B*38:01	HLA-B*35:01	HLA-B*51:01	HLA-B*15:01	HLA-B*51:01	HLA-B*14:02
HLA-B*15:01	HLA-B*27:05	HLA-B*13:02	HLA-B*18:01	HLA-B*13:01	HLA-B*52:01
HLA-C*03:03	HLA-C*02:02	HLA-C*14:02	HLA-C*07:01	HLA-C*03:04	HLA-C*08:02
HLA-C*12:03	HLA-C*04:01	HLA-C*06:02	HLA-C*03:04	HLA-C*14:02	HLA-C*03:03
DPA1*02:01	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*02:02	DPA1*02:02
DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*01:03	DPA1*02:01	DPA1*01:03
DPB1*04:01	DPB1*04:02	DPB1*02:01	DPB1*04:01	DPB1*14:01	DPB1*05:01
DPB1*14:01	DPB1*04:02	DPB1*04:02	DPB1*04:01	DPB1*05:01	DPB1*04:02
DQA1*01:10	DQA1*03:02	DQA1*04:01	DQA1*05:05	DQA1*06:01	DQA1*03:01
DQA1*01:01	DQA1*01:01	DQA1*02:01	DQA1*03:01	DQA1*03:02	DQA1*01:01
DQB1*05:01	DQB1*05:01	DRA*01:01	DQB1*03:02	DQB1*03:01	DQB1*05:01
DQB1*06:03	DQB1*03:03	DRA*01:02	DQB1*03:01	DQB1*03:03	DQB1*03:02
DRA*01:01	DRA*01:01	DRB1*08:02	DRA*01:01	DRA*01:01	DRA*01:01
DRA*01:02	DRA*01:01	DRB1*07:01	DRA*01:01	DRA*01:02	DRA*01:01
DRB1*01:03	DRB1*09:01	DPA1*01:03-DPB1*02:01	DRB1*04:01	DRB1*12:02	DRB1*01:02
DRB1*13:01	DRB1*01:01	DPA1*01:03-DPB1*04:02	DRB1*11:04	DRB1*09:01	DRB1*04:11
DRB3*01:01	DPA1*01:03-DPB1*04:02		DRB3*02:02	DRB3*03:01	DPA1*02:02-DPB1*05:01
DRB3*01:01	DQA1*03:02-DQB1*05:01		DRB3*02:02	DRB3*03:01	DPA1*02:02-DPB1*04:02
DPA1*02:01-DPB1*04:01	DQA1*03:02-DQB1*03:03		DPA1*01:03-DPB1*04:01	DPA1*02:02-DPB1*14:01	DPA1*01:03-DPB1*05:01
DPA1*02:01-DPB1*14:01	DQA1*01:01-DQB1*05:01		DQA1*05:05-DQB1*03:02	DPA1*02:02-DPB1*05:01	DPA1*01:03-DPB1*04:02
DPA1*01:03-DPB1*04:01	DQA1*01:01-DQB1*03:03		DQA1*05:05-DQB1*03:01	DPA1*02:01-DPB1*14:01	DQA1*03:01-DQB1*05:01
DPA1*01:03-DPB1*14:01			DQA1*03:01-DQB1*03:02	DPA1*02:01-DPB1*05:01	DQA1*03:01-DQB1*03:02
DQA1*01:10-DQB1*05:01			DQA1*03:01-DQB1*03:01	DQA1*06:01-DQB1*03:01	DQA1*01:01-DQB1*05:01
DQA1*01:10-DQB1*06:03				DQA1*06:01-DQB1*03:03	DQA1*01:01-DQB1*03:02
DQA1*01:01-DQB1*05:01				DQA1*03:02-DQB1*03:01	
DQA1*01:01-DQB1*06:03				DQA1*03:02-DQB1*03:03	

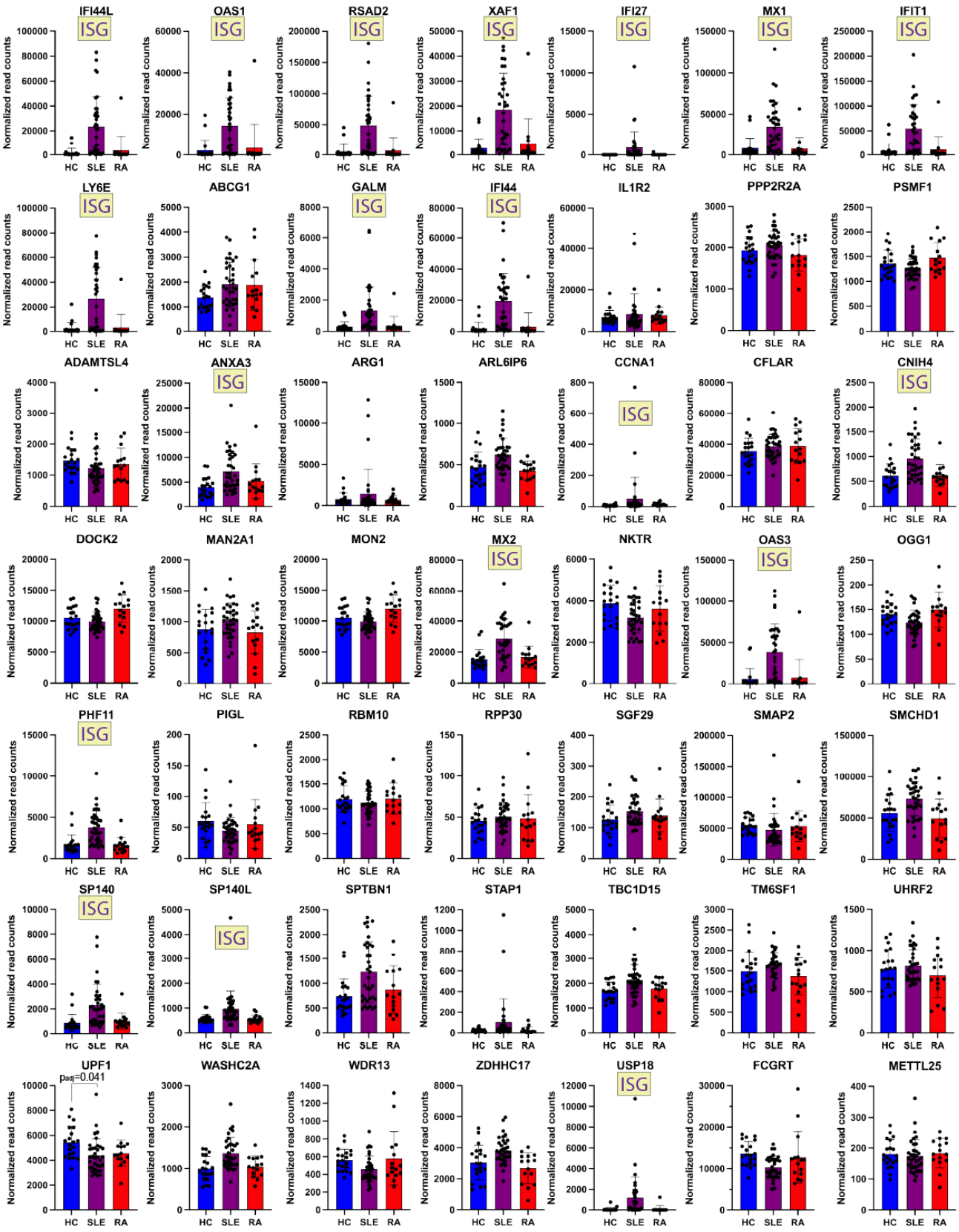
SLE 1489	SLE 1490	SLE 1500	SLE 991
HLA-A*11:303	HLA-A*02:01	HLA-A*24:02	HLA-A*32:01
HLA-A*02:11	HLA-A*02:01	HLA-A*02:01	HLA-A*01:01
HLA-B*40:10	HLA-B*18:01	HLA-B*39:06	HLA-B*40:01
HLA-B*40:06	HLA-B*07:02	HLA-B*48:01	HLA-B*38:01
HLA-C*15:02	HLA-C*07:02	HLA-C*08:03	HLA-C*07:01
HLA-C*04:03	HLA-C*07:01	HLA-C*07:02	HLA-C*03:04
DPA1*02:01	DPA1*02:02	DRA*01:01	DPA1*01:03
DPA1*02:02	DPA1*01:03	DRA*01:01	DPA1*01:03
DPB1*01:01	DPB1*04:01	DRB1*04:07	DPB1*04:01
DPB1*13:01	DPB1*05:01	DRB1*09:01	DPB1*02:01
DQB1*05:02	DQB1*06:02		DQA1*01:03
DQB1*06:03	DQB1*03:01		DQA1*03:01
DRA*01:01	DRA*01:02		DQB1*06:03
DRA*01:02	DRA*01:02		DQB1*06:112N
DRB1*15:02	DRB1*15:01		DRA*01:01
DRB1*13:01	DRB1*12:01		DRA*01:02
DRB5*01:01	DRB3*02:02		DRB1*04:01
DRB5*01:01	DRB3*02:02		DRB1*13:01
DPA1*02:01-DPB1*01:01	DRB5*01:01		DRB3*01:01
DPA1*02:01-DPB1*13:01	DRB5*01:01		DRB3*01:01
DPA1*02:02-DPB1*01:01	DPA1*02:02-DPB1*04:01		DPA1*01:03-DPB1*04:01
DPA1*02:02-DPB1*13:01	DPA1*02:02-DPB1*05:01		DPA1*01:03-DPB1*02:01
	DPA1*01:03-DPB1*04:01		DQA1*01:03-DQB1*06:03
	DPA1*01:03-DPB1*05:01		DQA1*01:03-DQB1*06:112N
			DQA1*03:01-DQB1*06:03
			DQA1*03:01-DQB1*06:112N

Suppl. Table S3. All p-values for panels g and h in Fig. 5.

Tcell_activation_stats_CD4_CD8

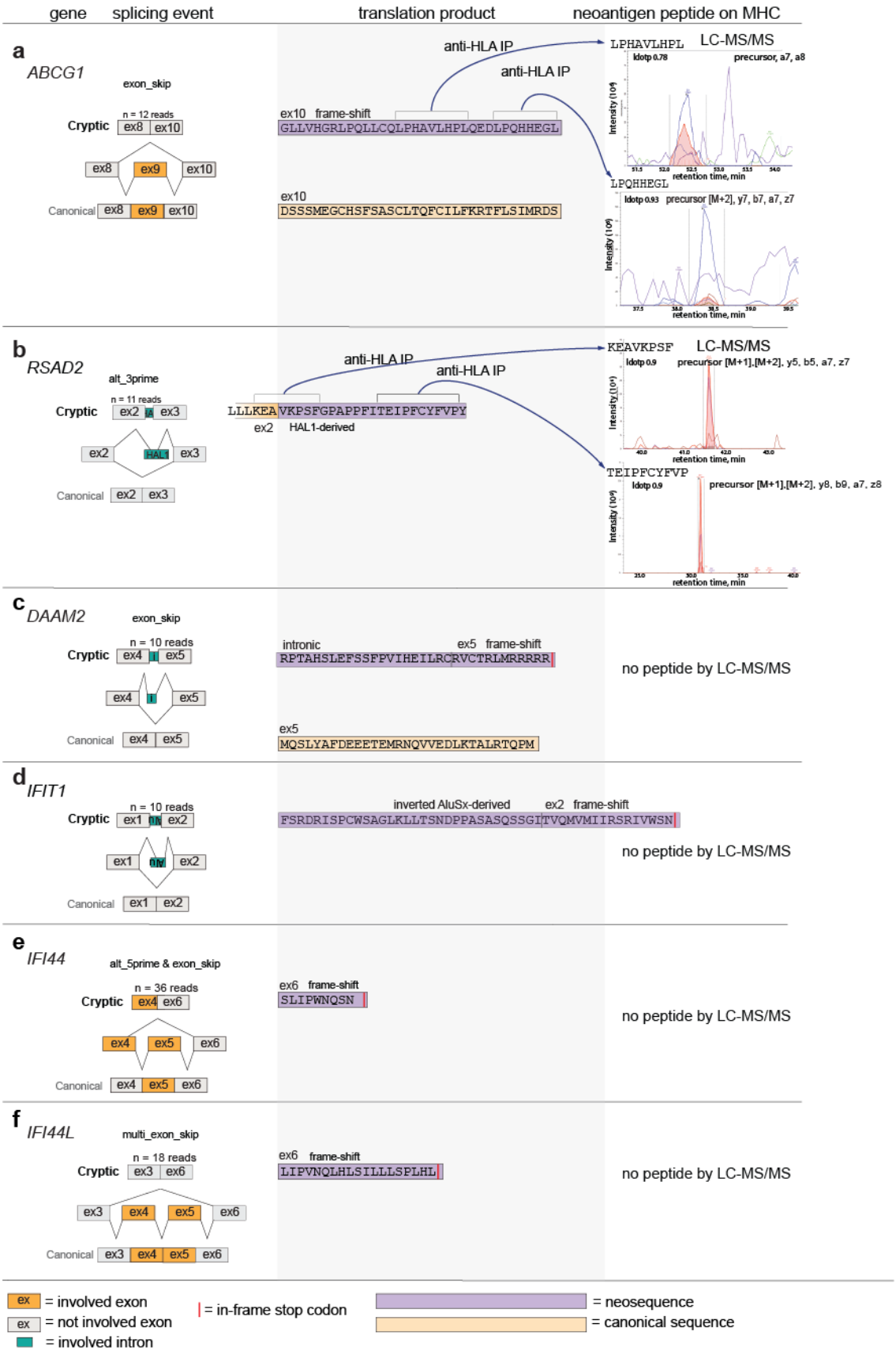
Stim	Activated_CD4	Total_CD4	Activated_CD8	Total_CD8	Chi_CD4_Fpadj	Chi_CD8_padj
IF44-1	886	17059	477	10541	1.23019563409832E-49	3.13703358289728E-33
IFI44L-1	236	13949	254	10396	0.00888340909127954	0.000511882246753642
IFI44L-2	466	11169	328	9812	7.73351080455585E-22	2.02470860282823E-13
MX1-1	277	12745	232	9274	0.931323111652439	0.000283566250395503
MX1-2	275	11410	221	8730	0.212678580116946	0.000216226366359737
MX1-3_1	207	9604	197	8996	0.980192791641372	0.0332045883905966
MX1-3 _2	568	21430	246	9367	0.00378623905393877	2.84117618837999E-05
MX1-4	308	11528	273	9280	0.00888340909127954	3.02684056461585E-08
MX1-5	342	14158	243	9386	0.183447774242871	5.73066982785197E-05
OAS1-1	360	16281	218	9761	0.794476450639903	0.0165594282409951
OAS1-2	170	14658	169	9049	5.73419938238872E-11	0.569323605242885
RSAD2-1	305	16078	178	9417	0.184336870297428	0.499887173395512
RSAD2-2	332	14920	244	8448	0.788572730709479	1.88371100096388E-07
TBC1D15	293	11747	262	8432	0.0913237205582633	9.76625836814958E-10
IFIT1	509	19281	285	10556	0.00547079444494672	3.14071554771974E-06
RSAD2-3	362	13692	232	9318	0.00888340909127954	0.000329414746646229
SERPING1	339	9823	224	7760	3.88893008185145E-10	3.02448392189273E-07
IFI44L-3	357	13919	307	8719	0.0279499914585584	5.04420448734645E-15
FCGRT_1	127	13582	131	8810	6.03552132177342E-16	0.185872067136131
FCGRT_2	208	12518	204	8833	0.0078671847922347	0.00692817815777953
FCGRT_3	295	14260	209	8666	0.794476450639903	0.0015478110865489
FCGRT_4	155	13819	137	9096	2.24308179926397E-11	0.214291213813226
ABCG1_1	334	15777	276	9616	0.931323111652439	1.28623465403876E-07
ABCG1_2	274	13691	302	8859	0.524539629117833	1.11689490680431E-13
ABCG1_3	86	11803	128	8212	2.12453627693638E-20	0.35367481504016
ABCG1_4	147	13807	134	8407	1.21243702708608E-12	0.435790656638094
OAS3_1	155	12032	169	8542	2.23169658239002E-07	0.301842545134272
OAS3_2	364	15582	204	8617	0.35082322863239	0.00312198224737477
OAS3_3	306	15396	259	9070	0.461019860102735	2.25685789038616E-07
OAS3_4	222	18433	261	10446	2.24308179926397E-11	0.000216226366359737
OAS3_5	321	15209	152	9595	0.931323111652439	0.393689117542041

Supplemental Fig. S1



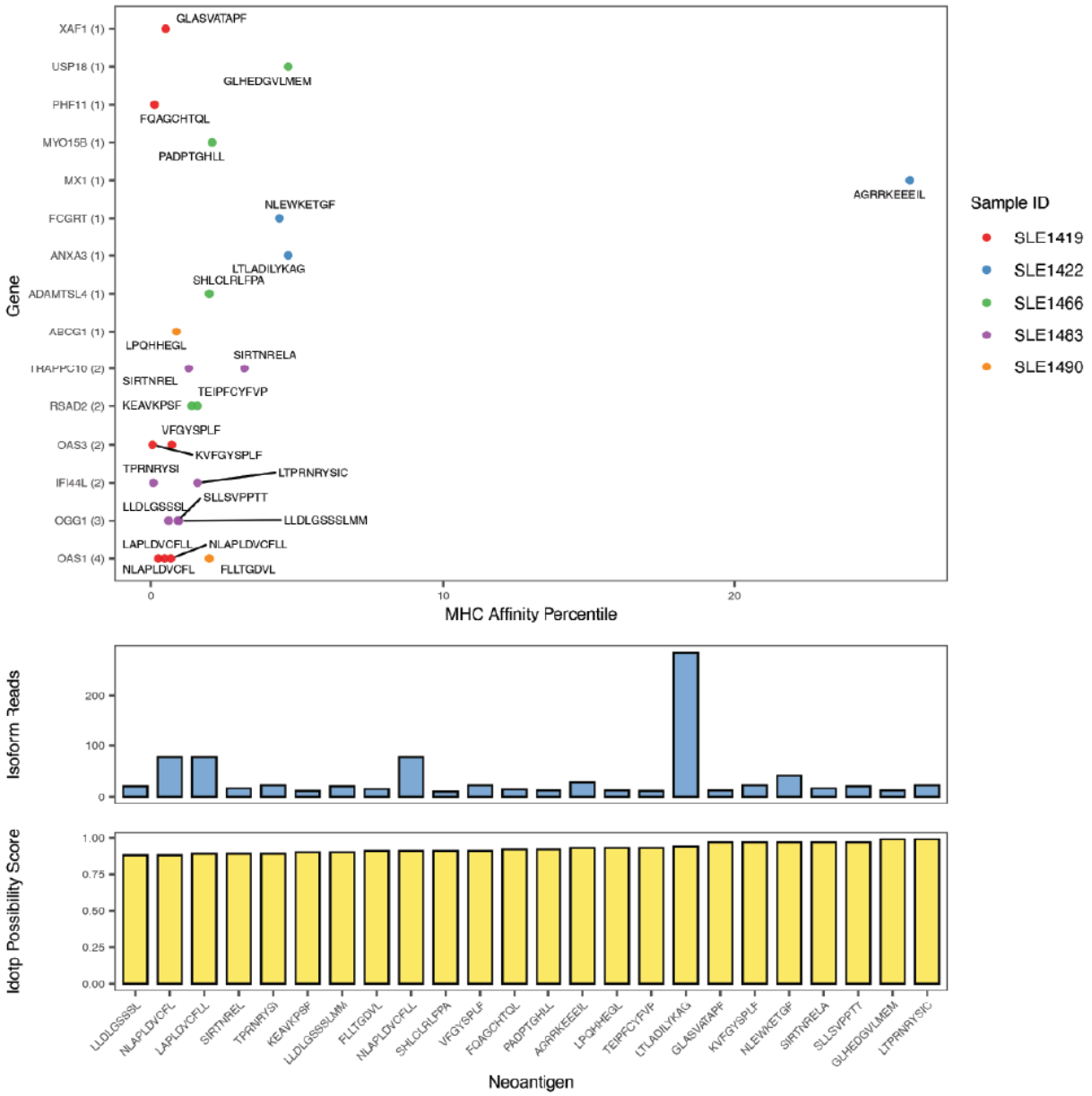
Suppl. Fig. S1 | Expression of the top genes (as in Fig. 1h, plus 3) whose transcripts are subjected to cryptic splicing in SLE neutrophils. Read counts from the same RNAseq of neutrophils used for the analysis of cryptic slicing in 20 healthy controls (HC; blue bars), 35 SLE patients (purple bars), and 15 RA patients (red bars). ISG, interferon-inducible gene.

Supplemental Fig. S2



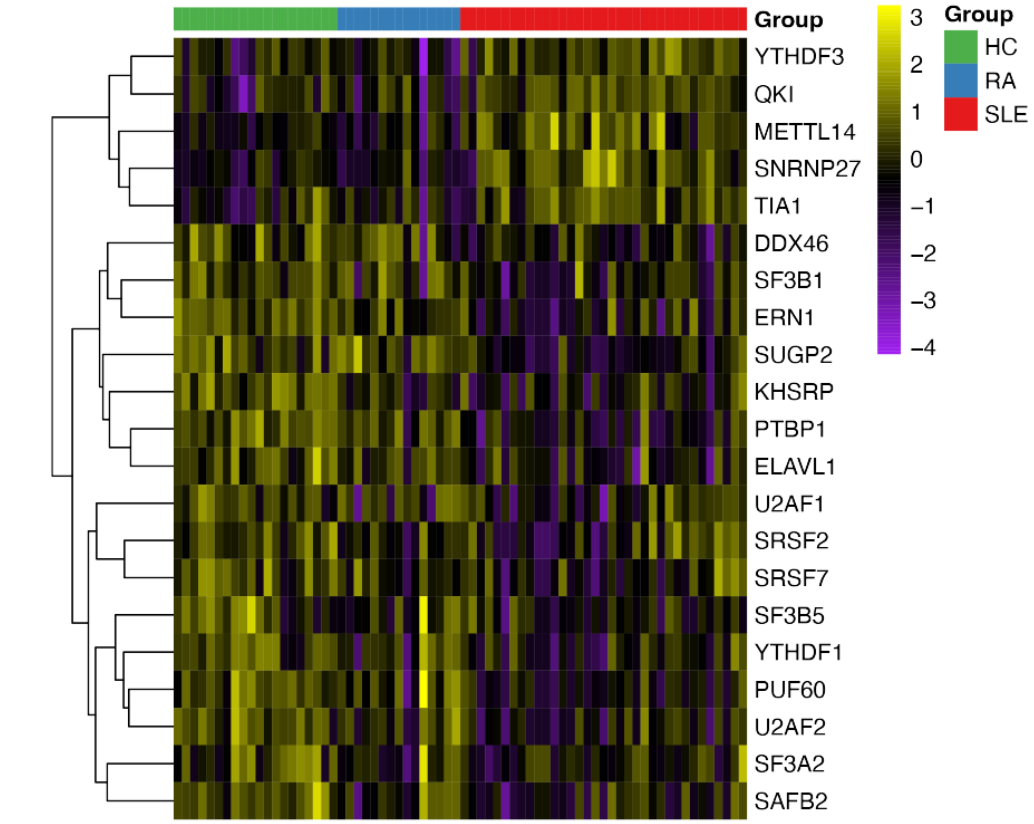
Suppl. Fig. S2 | Six additional examples of cryptic splicing events, some of which produced neoantigen peptides detected on HLA. Representation same as in Fig. 3.

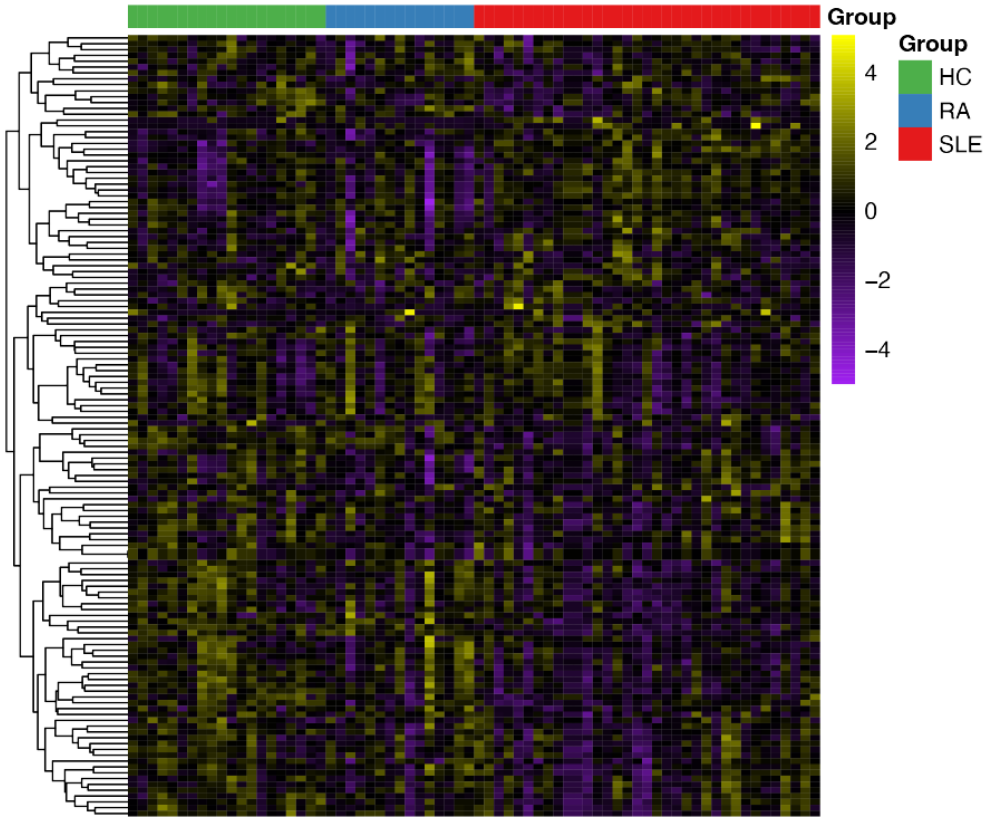
Supplemental Fig. S3



Suppl. Fig. S3 | Predicted affinities of the neoantigen peptides identified by immunopeptidomics for the class I MHC alleles unique to each patient. Top panel, the affinities by which the detected peptides are predicted to bind the patients MHC allele. Note that only the AGRRKEEEIL peptide derived from a cryptic splice event in MX1 is predicted to have a lower affinity of binding. Middle panel, read counts for the cryptic splice isoforms that generated these peptides. Bottom panel, the sequences and idop values for each peptide.

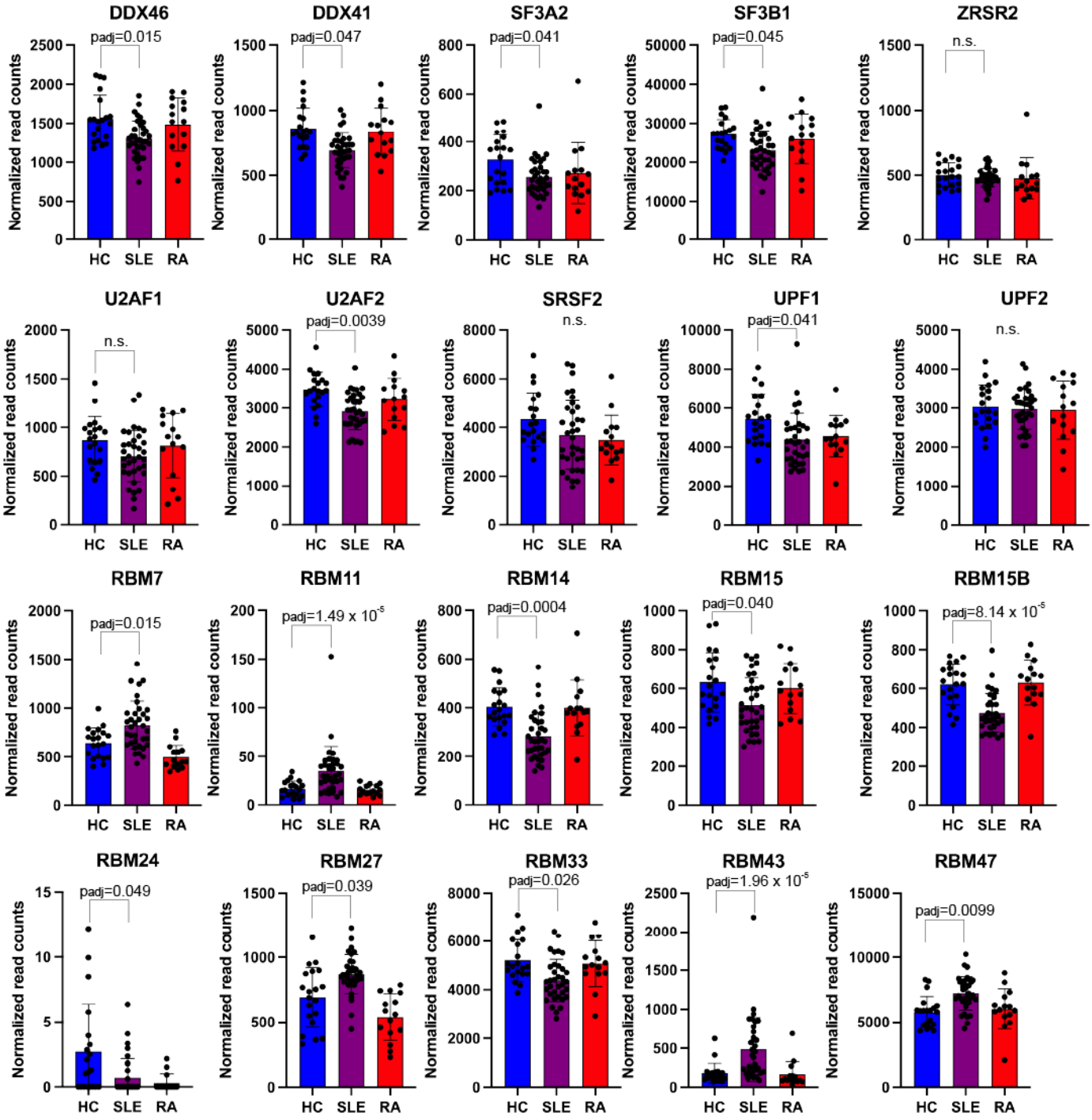
Supplemental Fig. S4





Suppl. Fig. S4 |Heat maps of expression of spliceosome components and mRNA splicing factors. Top, the statistically significantly altered genes. Bottom, all spliceosome components and mRNA splicing factors.

Supplemental Fig. S5



Suppl. Fig. S5 |Expression by normalized read counts of core spliceosome components and statistically significantly altered genes splicing factors. Statistical significance was calculated with the binomial function and corrected for multiple comparisons.