



U00129	Allergic	Male	25	10	Black	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00140	Allergic	Male	31	10	1/2 Asian 1/2 White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00147	Allergic	Male	25	10	Asian/Pacific Islander	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00150	Allergic	Female	21	20	Asian/Pacific Islander	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00151	Allergic	Male	25	30	Asian/Pacific Islander	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00153	Allergic	Female	23	10	Asian/Pacific Islander	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00089	Allergic	Female	67	12	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00092	Allergic	Female	44	6	Hispanic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00015	Allergic	Female	45	7	Hispanic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00001	Allergic	Female	25	12	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00168	Allergic	Male	44	21	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00083	Allergic	Female	45	10	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
U00114	Allergic	Male	34	10	Asian/Pacific Islander	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00169	Allergic	Female	46	9	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00172	Allergic	Female	60	12	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00158	Allergic	Male	31	31	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00170	Allergic	Male	47	37	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00122	Allergic	Female	41	20	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00160	Allergic	Female	49	31	Black	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00171	Allergic	Male	64	14	White	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
D00017	SIT	Female	67	14	White	T/G/W*	12-Aug	1:10**	4	C***	Yes
D00031	SIT	Female	44	7	Hispanic	T/GW/D	11-Aug	1:10	3	C	Yes

D00044	SIT	Female	54	8	White	T/G/W	8-Mar	1:10	5	C	No
D00063	SIT	Male	43	15	Asian/Pacific Islander	T/G/W/C/D	9-Jun	1:100	3	R	No
D00072	SIT	Female	59	8	White	T/G/W/C/D	12-Jul	1:10	5	C	Yes
D00080	SIT	Male	40	25	White	T/G/W/C/D/DM	13-Aug	1:10	5	C	Yes
D00087	SIT	Male	40	18	White	T/G/W/C/D	12-Sep	1:10	3	R	Yes
D00093	SIT	Female	43	10	White	T/G/W	11-Sep	1:10	2	C	No
D00101	SIT	Male	49	17	White	T/G/W/C	11-Sep	1:10	2	C	Yes
D00106	SIT	Female	42	9	White	T/G/D	11-Sep	1:10	2	R	Yes
D00109	SIT	Female	33	10	Black	T/G/W/C/D/M	13-Sep	1:10	4	R	Yes
D00111	SIT	Male	50	11	White	T/G/W/DM	12-Sep	1:10	3	C	Yes
D00114	SIT	Female	52	11	White	G/W/DM/C/D/M	12-Sep	1:10	3	R	No
D00116	SIT	Male	54	14	White	T/G/W/C/D	11-Apr	1:10	7	C	Yes
D00119	SIT	Female	59	12	White	G/W/C/DM	12-Jul	1:10	5	C	Yes
D00120	SIT	Female	67	16	Declined to answer	T/G/W	10-current	1:10	3	R	Yes
D00126	SIT	Male	44	17	White	T/G/W/C/D/DM/M	10-current	1:10	3	R	Yes
D00129	SIT	Female	23	17	White	T/G/W/C	11-current	1:10	2	C	Yes
D00130	SIT	Male	40	15	White	T/G/W/C/D/DM	12-Aug	1:10	4	C	Yes
D00132	SIT	Male	44	11	White	n.a.	12-current	n.a.	1	n.a.	Yes
D00133	SIT	Male	40	11	White	T/G/W/C/D	12-Sep	1:10	3	R	Yes
D00134	SIT	Female	59	15	White	T/G/W	11-Sep	1:10	2	R	Yes
D00135	SIT	Male	51	13	White	T/G/C/D/M	12-current	n.a.	1	n.a.	Yes
D00136	SIT	Female	67	10	White	T/G/C/D	12-current	n.a.	1	n.a.	Yes
D00142	SIT	Female	29	5	White	T/G/W/M	12-current	1:10	1	R	Yes

D00143	SIT	Female	53	7	White	T/G/W/C/D/DM	13-Aug	1:10	5	R	Yes
D00144	SIT	Male	35	9	White	T/G/W	12-current	1:10	1	R	Yes
D00146	SIT	Male	31	7	Black	T/G/W/C/D	12-current	1:10	1	C	Yes
D00147	SIT	Male	32	6	White	T/G/C/D	12-current	1:10	2	R	Yes
D00148	SIT	Female	46	10	Black	G/C/D	12-current	n.a.	1	n.a.	No
D00150	SIT	Female	47	6	White	T/G/W	12-Oct	1:100	2	C	Yes
D00151	SIT	Female	52	9	White	T/G/C/D	12-current	n.a.	1	n.a.	No
D00152	SIT	Female	39	10	White	T/G/W/C/D/M	12-current	1:10	2	C	Yes
D00153	SIT	Male	46	5	White	T/G/C	10-current	1:10	3	C	Yes
D00155	SIT	Male	28	9	Black	T/G/DM	12-current	n.a.	1	n.a.	Yes
D00157	SIT	Female	26	10	White	T/G/W/C/D/DM	12-current	1:10	1	R	Yes
D00162	SIT	Female	57	7	White	G/C	12-current	n.a.	1	n.a.	Yes
U00065	SIT	Female	22	8	White	C/G/T/W	9-Aug	1:10	1	C	Yes
U00141	SIT	Female	33	3	Hispanic	C/D/DM/G/T/W	11-Sep	1:10	2	C	Yes
U00158	SIT	Female	32	4	White	C/D/DM/G/T/W/M	12-Oct	1:10	2	C	Yes

\*T: trees; G: grasses; W: weeds; C: cats; D: dogs; DM: dust mites; M: molds

\*\* : 1:10 dilution of the full allergen concentration supplied by the vendor for IT

\*\*\*R: Rush immunotherapy; C: conventional immunotherapy

Controls												
ID	DRB1	DRB1	DRB3/4/5	DRB3/4/5	DQA1	DQA1	DQB1	DQB1	DPA1	DPA1	DPB1	DPB1
D00008	DRB1*13:01	DRB1*15:01	DRB3*02:02	DRB5*01:01	DQA1*01:02	DQA1*01:03	DQB1*06:02	DQB1*06:03	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*20:01
D00015	DRB1*15:01	DRB1*16:02	DRB5*01:01	DRB5*02:02			DQB1*03:01	DQB1*06:02			DPB1*02:01	DPB1*04:01
D00016	DRB1*01:02	DRB1*04:02		DRB4*01:03	DQA1*01:01	DQA1*03:01	DQB1*03:02	DQB1*05:01	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
D00045	DRB1*08:04	DRB1*15:01		DRB5*01:01	DQA1*01:02	DQA1*04:01	DQB1*04:02	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:02
D00052	DRB1*07:01	DRB1*15:01	DRB4*01:03	DRB5*01:01	DQA1*01:02	DQA1*02:01	DQB1*06:02	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*51:01
D00067	DRB1*13:02	DRB1*15:01	DRB3*01:01	DRB5*01:01	DQA1*01:02	DQA1*01:02	DQB1*06:02	DQB1*06:04	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
D00073	DRB1*03:01	DRB1*08:04	DRB3*02:02		DQA1*04:01	DQA1*05:01	DQB1*02:01	DQB1*03:19	DPA1*02:01	DPA1*02:02	DPB1*01:01	DPB1*01:01
D00083	DRB1*11:04	DRB1*13:02	DRB3*02:02	DRB3*03:01			DQB1*03:01	DQB1*06:04			DPB1*04:01	DPB1*14:01
D00084	DRB1*07:01	DRB1*07:01	DRB4*01:01	DRB4*01:03	DQA1*02:01	DQA1*02:01	DQB1*02:02	DQB1*03:03	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
D00089	DRB1*03:01	DRB1*11:04	DRB3*01:01	DRB3*02:02			DQB1*02:01	DQB1*03:01			DPB1*03:01	DPB1*04:01
D00090	DRB1*11:01	DRB1*11:04	DRB3*02:02	DRB3*02:02	DQA1*05:01	DQA1*05:05	DQB1*03:01	DQB1*03:01	DPA1*02:01	DPA1*02:01	DPB1*10:01	DPB1*10:01
D00092	DRB1*01:01	DRB1*08:02					DQB1*04:02	DQB1*05:01			DPB1*04:01	
D00096	DRB1*04:07	DRB1*03:02	DRB3*03:01	DRB4*01:03	DQA1*01:02	DQA1*03:03	DQB1*03:01	DQB1*06:09	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*03:01
D00102	DRB1*03:01	DRB1*04:01	DRB3*02:02	DRB4*01:03	DQA1*03:01	DQA1*05:01	DQB1*02:01	DQB1*03:02	DPA1*01:03	DPA1*02:02	DPB1*01:01	DPB1*02:02
D00104	DRB1*04:01	DRB1*13:01	DRB3*01:01	DRB4*01:03	DQA1*01:03	DQA1*03:03	DQB1*03:01	DQB1*06:03	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*04:01
D00117	DRB1*08:01	DRB1*15:01		DRB5*01:01	DQA1*01:02	DQA1*04:01	DQB1*04:02	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
D00168	DRB1*07:01	DRB1*10:03	DRB4*01:01	DRB4*01:01	DQA1*01:01	DQA1*01:06	DQB1*02:02	DQB1*05:01	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*04:01
D00169	DRB1*13:02	DRB1*15:01	DRB3*03:01	DRB5*01:01	DQA1*01:02	DQA1*01:02	DQB1*06:02	DQB1*06:04	DPA1*01:03	DPA1*02:01	DPB1*01:01	DPB1*03:01
U00001	DRB1*03:01	DRB1*07:01	DRB3*01:01	DRB4*01:03			DQB1*02:01	DQB1*02:02			DPB1*04:01	DPB1*04:01
U00032	DRB1*09:01	DRB1*11:01	DRB3*02:02	DRB4*01:03	DQA1*03:02	DQA1*05:05	DQB1*03:01	DQB1*03:03	DPA1*02:01	DPA1*02:02	DPB1*05:01	DPB1*14:01
U00034	DRB1*04:03	DRB1*15:01	DRB4*01:03	DRB5*01:01	DQA1*01:02	DQA1*03	DQB1*03:02	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
U00036	DRB1*03:01	DRB1*07:01	DRB3*01:01	DRB4*01:03	DQA1*02:01	DQA1*05:01	DQB1*02:01	DQB1*02:02	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
U00058	DRB1*03:01	DRB1*13:01	DRB3*01:01	DRB3*02:02	DQA1*01:03	DQA1*05:01	DQB1*02:01	DQB1*06:03	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:01
U00095	DRB1*04:02	DRB1*04:04	DRB4*01:03	DRB4*01:03	DQA1*03:01	DQA1*03	DQB1*03:02	DQB1*04:02	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:02
U00098	DRB1*03:01	DRB1*07:01	DRB3*02:02	DRB4*01:03	DQA1*02:01	DQA1*05:01	DQB1*02:01	DQB1*02:02	DPA1*01:03	DPA1*02:01	DPB1*04:01	DPB1*26:01
U00106	DRB1*04:04	DRB1*07:01	DRB4*01:03	DRB4*01:03	DQA1*02:01	DQA1*03:01	DQB1*02:02	DQB1*03:02	DPA1*01:03	DPA1*02:01	DPB1*04:01	DPB1*14:01

U00114	DRB1*12:01	DRB1*15:06	DRB3*02:02	DRB5*01:01	DQA1*01:02	DQA1*05:05	DQB1*03:01	DQB1*05:02	DPA1*01:03	DPA1*02:02	DPB1*02:01	DPB1*13:01
U00125	DRB1*03:01	DRB1*08:02	DRB3*02:02		DQA1*03:01	DQA1*05:01	DQB1*02:01	DQB1*03:02	DPA1*01:03	DPA1*02:02	DPB1*04:01	DPB1*05:01
U00129	DRB1*04:07	DRB1*11:01	DRB3*02:02	DRB4*01:03	DQA1*03:03	DQA1*05:05	DQB1*03:01	DQB1*03:19	DPA1*01:03	DPA1*02:01	DPB1*01:01	DPB1*03:01
U00140	DRB1*11:01	DRB1*13:02	DRB3*02:02	DRB3*03:01	DQA1*01:02	DQA1*05:05	DQB1*03:01	DQB1*06:09	DPA1*01:03	DPA1*02:01	DPB1*04:02	DPB1*09:01
U00147	DRB1*08:02	DRB1*15:01		DRB5*01:01	DQA1*01:02	DQA1*04:01	DQB1*06:02	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*02:01
U00150	DRB1*11:01	DRB1*15:01	DRB3*02:02	DRB5*01:01	DQA1*01:02	DQA1*05:05	DQB1*03:01	DQB1*06:01	DPA1*01:03	DPA1*02:02	DPB1*03:01	DPB1*05:01
U00151	DRB1*12:02	DRB1*15:01	DRB3*03:01	DRB5*01:01	DQA1*01:02	DQA1*06:01	DQB1*03:01	DQB1*06:01	DPA1*01:03	DPA1*02:02	DPB1*05:01	DPB1*21:01
U00153	DRB1*15:02	DRB1*15:02	DRB5*01:01	DRB5*01:08	DQA1*01:02	DQA1*01:02	DQB1*05:02	DQB1*05:02	DPA1*02:02	DPA1*02:02	DPB1*01:01	DPB1*05:01
D00158	DRB1* 03:01	DRB1* 15:01	DRB3*01:01	DRB5*01:01	DQA1* 01:02	DQA1* 05:01	DQB1* 02:01	DQB1* 06:02	DPA1* 01:03	DPA1* 02:01	DPB1* 04:01	DPB1* 11:01
D00160	DRB1* 07:01	DRB1* 11:01	DRB3*02:02	DRB4*01:03	DQA1* 02:01	DQA1* 05:05	DQB1* 02:01	DQB1* 02:02	DPA1* 02:01	DPA1* 02:01	DPB1* 11:01	DPB1* 17:01
D00122	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
D00170	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
D00171	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
D00172	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

## SIT

ID	DRB1	DRB1	DRB3/4/5	DRB3/4/5	DQA1	DQA1	DQB1	DQB1	DPA1	DPA1	DPB1	DPB1
D00017	DRB1*03:01	DRB1*11:04	DRB3*01:01	DRB3*02:02			DQB1*02:01	DQB1*03:01			DPB1*03:01	DPB1*04:01
D00031	DRB1*01:01	DRB1*08:02					DQB1*04:02	DQB1*05:01			DPB1*04:01	
D00044	DRB1*04:01	DRB1*15:01	DRB4*01:03	DRB5*01:01			DQB1*03:01	DQB1*06:02			DPB1*02:01	DPB1*04:01
D00072	DRB1*04:01	DRB1*11:01	DRB3*02:02	DRB4*01:03	DQA1*03	DQA1*05	DQB1*03:01	DQB1*03:01	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:02
D00087	DRB1*04:01	DRB1*11:01	DRB3*02:02	DRB4*01:03	DQA1*03:03	DQA1*05:09	DQB1*03:01	DQB1*03:02	DPA1*01:03	DPA1*02:01	DPB1*03:01	DPB1*14:01
D00093	DRB1*01:01	DRB1*15:01	DRB5*01:01				DQB1*05:01	DQB1*06:02			DPB1*04:02	DPB1*09:01
D00101	DRB1*03:01	DRB1*13:02	DRB3*01:01	DRB3*03:01	DQA1*05:01	DQA1*01:02	DQB1*02:01	DQB1*06:04	DPA1*01:03	DPA1*02:01	DPB1*05:01	DPB1*01:01
D00106	DRB1*03:01	DRB1*08:01	DRB3*01:01	DRB3*01:01	DQA1*04:03	DQA1*05:01	DQB1*02:01	DQB1*04:02	DPA1*01:03	DPA1*02:01	DPB1*01:01	DPB1*04:02
D00109	DRB1*08:04	DRB1*15:03		DRB5*01:01	DQA1*01:02	DQA1*05:05	DQB1*03:01	DQB1*06:02	DPA1*01:03	DPA1*02:01	DPB1*02:01	DPB1*11:01
D00111	DRB1*03:01	DRB1*15:01	DRB3*01:01	DRB5*01:01	DQA1*01:02	DQA1*05:01	DQB1*02:01	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*03:01
D00116	DRB1*04:01	DRB1*15:01	DRB4*01:03	DRB5*01:01	DQA1*01:02	DQA1*03:01	DQB1*03:02	DQB1*06:02	DPA1*01:03	DPA1*01:03	DPB1*02:01	DPB1*04:01
D00119	DRB1*04:01	DRB1*11:01	DRB3*02:02	DRB4*01:03	DQA1*03	DQA1*05	DQB1*03:01	DQB1*03:01	DPA1*01:03	DPA1*01:03	DPB1*04:01	DPB1*04:02



ACCEPTED MANUSCRIPT



Peptide sequence	LQGPFFRFLTEKGMKNVFDVVEKY TIG	AVQVFTVQKGSDPKLVLNIKYTRPGD SL	EEWEPLTKGNVWEV	NVWEVKSSKPLVGPFF	LVGPFNFRFMSKGGMRNVFDEVIPT	INAGFKAAALAAAAGVPPADKY	AFKVAATAANAAPAN	PANDKFTVFEAAFNDAIKE	ATVATAPEVKYTVFETALKKAITAMS	STWYGKPTGAGPKDN
Pool	P20	P20	P20	P20	P20	P20	P20	P20	P20	P20
Protein	Phl p 2	Phl p 3	Phl p 3	Phl p 3	Phl p 3	Phl p 5a/5b	Phl p 5a	Phl p 5a/5b	Phl p 5a/5b	Phl p 1
<b>DPA1*01:03/DPB1*03:01</b>	226.2	41.7	26158.5	5889.2	290.7	48.5	26.9	660.8	2348.6	3887.4
<b>DPB1*02:01</b>	103.8	103.5	18002.6	9616.8	25.7	4486.4	27973.6	100.0	2.2	7459.3
<b>DPB1*20:01</b>	74.2	18.2	12918.0	2912.7	48.7	33.9	7.7	491.2	1011.0	3193.6
<b>DRB1*04:05</b>	199.1	487.2	32308.4	10366.8	814.7	208.3	183.2	51.1	110.2	4568.5
<b>DRB1*15:01</b>	811.9	216.9	30341.6	4634.2	150.0	62.2	10928.6	604.6	128.4	13661.1
<b>DRB1*04:01</b>	121.3	1822.9	14260.2	2961.7	1615.5	5.4	5.8	72.7	22.3	2448.7
<b>DRB1*04:04</b>	958.7	121.5	<46728.9	862.6	1388.8	150.7	47.3	287.6	44.2	5390.3
<b>DRB1*01:01</b>	13.8	31.5	990.5	261.5	32.1	1.0	6.3	12.9	53.4	366.4
<b>DRB1*03:01</b>	57.9	235.1	2964.9	5462.6	5174.7	<33358.0	<46728.9	2889.9	938.6	<46728.9
<b>DRB1*07:01</b>	2460.6	92.8	<46728.9	373.5	216.1	83.0	77.1	222.8	185.4	4024.3
<b>DRB3*02:02</b>	<23364.5	117.6	26615.3	20986.9	457.0	28.2	680.4	242.2	376.6	5908.73
<b>DRB1*10:01</b>	8.1	43.5	637.9	542.4	46.5	1.9	1.9	4.8	83.9	125.23
<b>DRB1*08:02</b>	90.9	9.8	113.6	63.2	5.2	10.7	44.1	858.8	13.2	34.49

<b>DRB4*01:01</b>	541.5	306.2	20595.6	220.2	474.1	1816.4	2529.6	693.1	7.3	17935.62
<b>DQA1*01:02/DQB1*06:02</b>	5454.7	542.0	<46728.9	828.5	1308.6	11.7	95.7	173.6	82.0	8311.61
<b>DQA1*04:01/DQB1*04:02</b>	1652.2	<23364.5	<46728.9	4564.4	10055.5	1155.5	1565.2	656.5	2730.8	38760.85
<b>DQA1*05:01/DQB1*02:01</b>	107.0	6275.5	7915.9	422.9	43.9	988.3	1259.0	80.6	2735.7	5042.37
<b>DQA1*01:01/DQB1*05:01</b>	410.5	<23364.5	27058.8	<46728.9	28.3	869.5	<46728.9	39.3	12965.9	1810.78
<b>DPA1*03:01/DPB1*04:02</b>	5432.2	2308.7	43033.1	28416.4	5313.4	1860.9	10123.0	7681.6	48.3	11104.43
<b>DPA1*02:01/DPB1*01:01</b>	251.4	622.7	21126.8	2921.1	256.3	830.2	<46728.9	3371.5	15.1	<46728.9
<b>DPB1*14:01</b>	1865.2	557.9	22730.6	8378.4	5423.6	142.1	14.6	957.5	129.5	2786.13
<b>DPA1*01:03/DPB1*04:01</b>	5204.9	5279.1	<46728.9	12514.0	1003.5	17039.7	<46728.9	4054.6	11.0	5369.03
<b>DRB1*16:02</b>	60.5	42.8	8154.7	107.0	55.1	23.9	193.6	15.1	322.6	864.50
<b>DRB1*11:01</b>	111.2	24.2	645.5	853.7	27.0	138.7	197.5	5845.4	194.1	4710.24
<b>DRB5*01:01</b>	43.1	28.2	5169.2	2421.3	33.9	41.7	741.3	499.3	19.8	7574.92
<b>DPA1*02:01/DPB1*05:01</b>	64.1	41.7	5076.0	4643.0	276.2	4576.1	548.7	272.4	10.7	5120.64
<b>DQA1*05:01/DQB1*03:01</b>	7369.9	211.5	8015.9	34.7	523.6	8.8	16.5	322.3	89.0	102.43
<b>DQA1*03:01/DQB1*03:02</b>	1191.3	3088.7	39460.0	1601.7	4465.7	481.3	3347.3	181.0	1647.9	10548.54
<b>DRB1*12:01</b>	236.9	503.3	<46728.9	9435.9	1978.6	5931.2	<46728.9	<36855.0	668.5	28922.24
<b>DRB1*13:02</b>	400.6	119.0	5660.5	58.0	294.6	251.2	49.6	239.2	387.1	16279.77
<b>DRB1*09:01</b>	393.6	472.7	21501.5	2037.7	115.4	14.6	108.7	77.8	128.9	3559.64
<b>DRB3*01:01</b>	2568.1	<23348.1	<46728.9	<46728.9	<28019.1	<33355.6	<46728.9	407.0	7050.8	19106.03

Peptide sequence										
KPPFSGMTGCCNTPI										
FEIKCTKPEACSGEPVVVHI										
SGIAFGSMAKKGDEQ										
GELELQFRRVKCKYP										
TFHVEKGSNPNYLALLVKYVNGDGD										
EHGSEWVAMTKGEGGVWTF										
NRRNNTFKPFAEYKSDYVYQPPFK										
VIPAGELQVIEKVDAAFKVA										
AYESYKFIPALEAAVKQAYAAATVAAA										
LAKYKANWIEIMRIK										
Pool	P20	P20	P20	P20	P20	P20	P20	P20	P20	P20
Protein	Phl p 1	Phl p 1	Phl p 1	Phl p 1	Phl p 1	Phl p 2	Phl p 4	Phl p 5a	Phl p 5a/5b	Phl p 13
<b>DPA1*01:03/DPB1*03:01</b>	<46728.9	457.9	12834.8	11849.0	17589.7	<46728.9	2020.0	9752.8	4.2	246.9
<b>DPB1*02:01</b>	35448.5	12169.8	<46728.9	181.4	85.9	7066.0	45.6	1103.6	404.2	95.3
<b>DPB1*20:01</b>	16060.3	1313.9	33279.9	8655.0	18194.5	27906.0	861.7	13547.5	44.1	4592.3
<b>DRB1*04:05</b>	2905.2	771.8	32247.9	34441.7	55.7	4265.0	926.2	1487.6	9.3	485.5
<b>DRB1*15:01</b>	3947.5	1781.1	3794.8	4532.2	84.1	3750.6	12.6	135.5	146.8	503.5
<b>DRB1*04:01</b>	1099.5	478.7	15304.5	15880.6	683.8	954.7	92.5	111.5	11.5	279.3
<b>DRB1*04:04</b>	2107.4	1733.2	4174.8	18554.3	59.1	1191.7	17297.8	187.2	54.6	106.5
<b>DRB1*01:01</b>	81.8	460.4	250.9	7305.9	7.0	51.3	96.5	51.8	1.2	20.8
<b>DRB1*03:01</b>	44207.1	26820.5	<46728.9	5889.1	35480.6	<46728.9	6427.2	141.1	33.7	1401.6
<b>DRB1*07:01</b>	8963.4	1546.7	20748.8	4874.0	253.6	446.0	1485.6	150.6	33.2	385.2
<b>DRB3*02:02</b>	<46728.9	1348.16	11589.77	<46728.9	5012.35	5602.78	616.04	5659.06	108.67	16.01
<b>DRB1*10:01</b>	4.64	321.74	808.88	3037.77	13.27	110.54	26.55	316.89	8.05	12.50
<b>DRB1*08:02</b>	6989.14	1210.04	986.92	101.27	52.50	184.33	744.86	371.15	26.11	53.93

<b>DRB4*01:01</b>	9179.50	751.30	13321.23	1513.25	4669.89	350.12	4134.66	10.77	730.64	9.48
<b>DQA1*01:02/DQB1*06:02</b>	22185.87	8188.95	176.19	10680.69	1320.85	1195.97	24533.69	9154.38	14.82	478.77
<b>DQA1*04:01/DQB1*04:02</b>	<46728.9	12075.71	<46728.9	<46728.9	19522.36	1204.09	14128.01	2584.20	423.31	8704.67
<b>DQA1*05:01/DQB1*02:01</b>	23608.96	8037.30	<46728.9	<46728.9	1487.26	835.96	650.41	1554.48	303.18	681.85
<b>DQA1*01:01/DQB1*05:01</b>	18971.27	32787.06	<46728.9	<46728.9	23313.13	<46728.9	2120.04	4866.30	304.45	853.25
<b>DPA1*03:01/DPB1*04:02</b>	35353.57	3713.37	<46728.9	10311.47	1171.01	13404.87	7207.50	837.29	1368.76	185.17
<b>DPA1*02:01/DPB1*01:01</b>	<46728.9	6454.39	<46728.9	3909.30	763.44	1514.54	692.04	1091.15	321.36	97.75
<b>DPB1*14:01</b>	6594.13	7911.75	28361.55	28342.38	432.40	3815.03	2803.04	318.88	27.78	709.07
<b>DPA1*01:03/DPB1*04:01</b>	29971.72	10930.53	<46728.9	7006.82	1441.71	25972.67	580.58	2734.11	1314.71	532.64
<b>DRB1*16:02</b>	3605.51	6066.43	9940.53	4642.56	84.13	376.73	5.58	106.08	2.72	429.69
<b>DRB1*11:01</b>	6562.64	3004.27	893.76	278.74	77.48	533.90	362.75	555.97	38.85	331.33
<b>DRB5*01:01</b>	2727.33	7910.00	2724.12	171.57	1826.33	3492.89	171.43	22.19	22.52	317.68
<b>DPA1*02:01/DPB1*05:01</b>	12142.59	4314.20	746.80	3690.05	33.18	1096.27	248.78	48.79	7.28	336.22
<b>DQA1*05:01/DQB1*03:01</b>	5090.22	256.66	84.46	2736.57	92.98	354.92	8053.52	247.48	6.99	618.92
<b>DQA1*03:01/DQB1*03:02</b>	29901.31	7373.62	17981.88	<46728.9	3184.40	851.69	9207.30	811.77	184.71	2586.60
<b>DRB1*12:01</b>	14829.87	6155.06	<46728.9	11029.57	89.44	6166.46	7701.28	194.02	2071.82	1356.89
<b>DRB1*13:02</b>	7933.13	1939.94	31963.80	28776.87	70.50	618.66	4685.61	69.00	7.81	59.85
<b>DRB1*09:01</b>	2792.29	5288.01	5318.47	11613.23	99.52	656.60	126.61	187.58	4.21	159.82
<b>DRB3*01:01</b>	<46728.9	18044.05	<46728.9	<46728.9	3378.84	9604.44	32.12	540.58	2010.78	440.00

Peptide sequence	AAYLATRGLDWDVAV	APSGRIVMELYADV	AVMLTFDNAGMWNVR	CDASILDPLSNQSA	ELRKTYNLLDAVSRH	GDLYIFESRAICKYA	GEVLNALAYDVPIPG	HYKGSFHRVIPGFM	IGSFFYFPSIGMQRT	IIELFTAKGFTVQEM
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Pool	P19	P19/MNA	P19/MNA	P19	P19/MNA	P19	P19	P19/MNA	P19/MNA	P19/MNA
Protein	M82	MN26	M76	M81	M76	MN10	MN23	MN26	M83	M34
<b>DPA1*01:03/DPB1*03:01</b>	130.5	817.3	1740.2	313.8	4147.7	33.0	3697.8	8137.4	2993.6	1609.6
<b>DPB1*02:01</b>	78.2	734.5	957.1	2595.9	1626.3	599.5	5388.2	931.8	89.0	64.3
<b>DPB1*20:01</b>	864.9	848.7	31085.3	904.3	8061.6	1473.8	<46728.9	<46728.9	35007.0	4241.4
<b>DRB1*04:05</b>	9.4	291.2	60.2	208.5	6.1	70.8	1046.8	55.7	0.7	312.6
<b>DRB1*15:01</b>	38.3	289.5	58.5	363.4	973.5	0.8	30.0	1385.4	0.2	9.7
<b>DRB1*04:01</b>	11.9	774.2	35.6	41.6	59.4	2523.2	728.2	739.6	0.4	744.7
<b>DRB1*04:04</b>	390.2	2602.8	1.3	2.8	58.6	3.8	152.6	390.4	1.0	6.1
<b>DRB1*01:01</b>	3.6	561.2	501.8	1267.9	13.6	80.3	104.4	86.5	2.8	17.4
<b>DRB1*03:01</b>	23436.5	5558.7	1335.3	15.5	<46728.9	82.5	243.9	<46728.9	7492.3	4214.0
<b>DRB1*07:01</b>	2.5	330.1	358.5	1151.8	130.7	8.0	60.5	1.3	2.9	17.5
<b>DRB3*02:02</b>	3.2	4560.2	12.6	10088.7	464.1	636.8	9611.7	3906.6	2.7	4405.5
<b>DRB1*10:01</b>	0.6	780.2	75.5	49.6	3.6	1279.6	346.4	9.1	2.9	18.3
<b>DRB1*08:02</b>	111.1	439.8	2.8	17.7	54.0	11.0	56.2	199.9	0.6	4.6
<b>DRB4*01:01</b>	79.2	949.8	2004.4	1501.4	37885.6	5523.8	5919.5	17288.9	78.4	2880.7

<b>DQA1*01:02/DQB1*06:02</b>	6.4	65.3	1103.9	225.4	6684.5	779.0	413.0	5.8	1609.4	1376.0
<b>DQA1*04:01/DQB1*04:02</b>	5057.09	5438.71	5907.67	798.40	<46728.9	2007.20	3499.44	8868.76	7348.78	422.82
<b>DQA1*05:01/DQB1*02:01</b>	11.03	10.85	2280.93	2641.30	6523.87	17960.26	53.64	296.06	621.43	216.22
<b>DQA1*01:01/DQB1*05:01</b>	855.08	915.51	73.89	17881.81	2434.67	865.65	15.74	2141.62	883.24	68.58
<b>DPA1*03:01/DPB1*04:02</b>	259.57	71.61	1228.95	2714.00	2304.51	1385.56	1798.34	45.53	151.67	108.20
<b>DPA1*02:01/DPB1*01:01</b>	6458.68	50.14	8267.17	<46728.9	19820.45	5263.84	25749.24	522.54	1109.95	1870.51
<b>DPB1*14:01</b>	153.32	32799.10	23700.39	<46728.9	1960.54	5174.59	26116.87	13721.21	9754.48	1168.26
<b>DPA1*01:03/DPB1*04:01</b>	177.6	2.0	254.9	5337.3	3746.3	319.7	8995.9	19.5	64.2	436.1
<b>DRB1*16:02</b>	0.26	2297.04	665.07	324.01	244.45	9.90	315.98	262.22	1.38	65.29
<b>DRB1*11:01</b>	53.0	10998.0	2881.4	3995.1	1342.8	182.3	5653.9	349.2	11.9	495.1
<b>DRB5*01:01</b>	24.5	14033.3	325.0	2871.3	6.5	14.4	6089.8	145.9	4.8	140.1
<b>DPA1*02:01/DPB1*05:01</b>	14273.02	7362.39	3679.67	30548.06	209.48	674.58	21098.74	23063.28	8964.95	2483.95
<b>DQA1*05:01/DQB1*03:01</b>	124.6	3623.8	3128.6	5596.2	<46728.9	904.9	324.0	7964.9	4870.6	743.4
<b>DQA1*03:01/DQB1*03:02</b>	3522.0	3771.2	9589.5	382.8	<46728.9	714.0	930.2	5987.0	10483.2	313.5
<b>DRB1*12:01</b>	1069.9	100.0	2687.1	1332.3	33923.3	455.3	21.5	789.2	749.6	15.0
<b>DRB1*13:02</b>	16.9	550.6	17.1	221.5	77.5	5.2	45.4	4.2	159.5	107.2
<b>DRB1*09:01</b>	1.3	324.7	200.9	2224.5	643.6	10.9	52.7	62.1	0.8	18.3
<b>DRB3*01:01</b>	83.9	550.8	80.3	136.8	1989.3	419.5	531.5	876.3	5.5	3060.1

Peptide sequence

LVSKLYEVVPGILTE

NFTVGRIIEIFTAKG

NGSQFFLCTAKTAWL

NPMTVFWKMAQSMT

PRRWLRFNCPELSEI

QVYPRSWSAVMLTFD

QYAKEIWGITANPVP

VKLRSSAAQVDGFY

VVSRLIPVPPFPPA

Pool	P19	P19/MNA	P19	P19	P19	P19/MNA	P19	P19/MNA	P19
Protein	MN11	M34	MN26	MN01	MN23	M76	MN23	M82	M83
<b>DPA1*01:03/DPB1*03:01</b>	1060.2	799.2	1238.9	24.4	95.0	0.6	36.3	43.0	4.4
<b>DPB1*02:01</b>	6.3	715.7	0.3	11.9	1044.3	1219.9	6.5	7657.9	308.5
<b>DPB1*20:01</b>	2737.5	4839.8	7124.3	41.2	865.1	46.2	252.3	109.2	112.6
<b>DRB1*04:05</b>	6.4	7.0	45.7	3410.4	7.6	60.6	3.0	430.1	3380.6
<b>DRB1*15:01</b>	488.6	89.3	618.8	6.7	24.8	1.9	8.6	2088.4	10099.8
<b>DRB1*04:01</b>	55.2	304.9	44.8	316.4	25.5	2.8	2.1	133.6	42898.2
<b>DRB1*04:04</b>	46.3	5.5	4053.3	70.0	63.1	18.7	0.3	211.9	2114.7
<b>DRB1*01:01</b>	6.7	112.7	19.3	76.2	39.5	34.0	2.3	115.1	5375.4
<b>DRB1*03:01</b>	3065.0	<46728.9	4318.5	15451.9	1452.2	17261.8	8578.9	4551.2	27550.6
<b>DRB1*07:01</b>	3.0	2.5	14.4	23.3	7.1	5.1	2.4	6.4	229.9
<b>DRB3*02:02</b>	4122.0	965.8	2035.7	453.8	226.0	60.7	28.0	116.7	5626.2
<b>DRB1*10:01</b>	23.8	86.7	66.8	325.3	11.7	22.2	25.0	114.6	279.6
<b>DRB1*08:02</b>	14.0	7.8	3258.6	37.0	40.6	177.1	0.4	62.4	256.2
<b>DRB4*01:01</b>	10257.6	5006.6	35054.4	2711.3	313.4	1590.0	986.0	573.5	173.4

<b>DQA1*01:02/DQB1*06:02</b>	1742.9	59.4	1758.0	0.3	756.5	64.5	7.5	518.1	8650.7
<b>DQA1*04:01/DQB1*04:02</b>	8619.72	4091.38	15618.21	33127.11	35778.23	724.25	1036.84	1024.81	12173.56
<b>DQA1*05:01/DQB1*02:01</b>	694.88	476.71	546.93	5985.30	1204.37	64.11	42.85	395.32	744.39
<b>DQA1*01:01/DQB1*05:01</b>	8067.92	712.42	1613.80	7766.08	94.71	8.10	78.30	6664.63	59.06
<b>DPA1*03:01/DPB1*04:02</b>	181.32	153.41	917.37	40.22	2933.37	5663.50	589.74	23294.62	182.00
<b>DPA1*02:01/DPB1*01:01</b>	102.90	7676.56	5742.34	4597.98	10110.17	7784.50	69.41	<46728.9	3134.74
<b>DPB1*14:01</b>	23.10	3481.31	31212.58	3310.23	33759.07	60.82	11.43	569.99	749.56
<b>DPA1*01:03/DPB1*04:01</b>	3.6	2146.7	680.6	29.0	615.4	393.0	41.7	21418.5	798.7
<b>DRB1*16:02</b>	1.01	62.22	124.24	13.92	3.11	36.59	13.48	652.26	13568.53
<b>DRB1*11:01</b>	123.5	2920.1	139.0	110.1	1201.2	265.1	1799.8	965.2	5246.9
<b>DRB5*01:01</b>	591.7	2399.5	384.6	191.9	248.4	118.8	117.8	8406.6	<46728.9
<b>DPA1*02:01/DPB1*05:01</b>	146.68	9531.86	1635.65	567.24	7576.80	1164.68	19700.38	24320.89	1172.16
<b>DQA1*05:01/DQB1*03:01</b>	489.2	738.7	1646.0	128.1	9182.3	94.3	4.2	175.7	1518.3
<b>DQA1*03:01/DQB1*03:02</b>	3544.7	2387.9	3202.2	26483.8	26160.2	197.5	183.6	792.9	10369.1
<b>DRB1*12:01</b>	1903.3	13009.6	3048.7	2006.5	4198.8	4411.2	12.9	1873.2	204.8
<b>DRB1*13:02</b>	6.2	932.1	73.7	92.6	100.6	198.4	0.6	1.2	203.4
<b>DRB1*09:01</b>	2.4	234.5	19.6	12.6	7.0	7.5	5.7	34.3	839.7
<b>DRB3*01:01</b>	550.5	4755.1	312.8	3343.1	2048.9	122.5	9036.9	5282.5	17022.4



Antigen	Peptide	Sequence	Control patients						SIT patients					
			IFN $\gamma$		IL5		IL10		IFN $\gamma$		IL5		IL10	
			Donors	Sum SFC	Donors	Sum SFC	Donors	Sum SFC	Donors	Sum SFC	Donors	Sum SFC	Donors	Sum SFC
1	1 <sub>12</sub>	SDGTFARAAVPSGAS	0	0	0	0	0	0	1	540	0	0	0	0
	1 <sub>18</sub>	RAAVPSGASTGVYEA	0	0	0	0	0	0	1	67	0	0	0	0
	1 <sub>24</sub>	GASTGVYEALERDQ	0	0	0	0	0	0	0	0	0	0	0	0
	1 <sub>43</sub>	LGKGVKGNRANVEL	0	0	0	0	0	0	0	0	0	0	0	0
	1 <sub>51</sub>	NRANVELFHIAVLLA	0	0	0	0	0	0	1	30	0	0	0	0
	1 <sub>70</sub>	QTELDNFMVHQLDGT	0	0	0	0	0	0	0	0	0	0	0	0
	1 <sub>91</sub>	CKQKVFVNISADADA	0	0	0	0	0	0	0	0	0	0	0	0
	1 <sub>15</sub>	PAMAATIQSVKARQI	0	0	0	0	0	0	2	197	0	0	0	0
	1 <sub>84</sub>	VDNVNSIIGPALIGK	0	0	0	0	0	0	0	0	0	0	0	0
	1 <sub>127</sub>	KLGANAILAVSLAVC	0	0	0	0	0	0	1	67	0	0	0	0
	1 <sub>148</sub>	KKIPLYQHIANLAGN	0	0	0	0	0	0	1	27	0	0	0	0
	1 <sub>161</sub>	GNKQLVLPVPAFNV	1	190	0	0	0	0	1	47	0	0	0	0
	1 <sub>184</sub>	KLAMQEFMILPTGAS	0	0	0	0	0	0	1	63	0	0	0	0
	1 <sub>205</sub>	KMGVEVYHNLKSVIK	0	0	0	0	0	0	0	0	0	0	0	0
	1 <sub>260</sub>	GKVVIGMDVAASEFY	0	0	0	0	0	0	0	0	0	0	1	23
	1 <sub>304</sub>	VYKSFVSEYPIVSIE	0	0	1	20	0	0	2	107	0	0	0	0
	1 <sub>342</sub>	IVGDDLLVTNPTRVA	1	193	0	0	0	0	2	267	0	0	0	0
	1 <sub>365</sub>	NALLKVNQIGSVTE	1	170	0	0	0	0	0	0	0	0	0	0
	1 <sub>402</sub>	ETEDTFIADLAVGLS	0	0	0	0	0	0	1	40	0	0	0	0
	1 <sub>429</sub>	ERLAKYNQLLRIEEE	0	0	0	0	0	0	0	0	0	0	0	0
1 <sub>444</sub>	LGAAAVYAGLKFRA	1	153	0	0	0	0	1	43	0	0	0	0	
2	2 <sub>1</sub>	AEFEGVFLDFARQQA	0	0	2	137	0	0	0	0	0	0	0	0
	2 <sub>20</sub>	VDKLFKLAEEAKLKE	2	610	2	200	0	0	2	133	1	67	0	0





5 <sub>159</sub>	DHLRQVFTAQMGLSD	0	0	0	0	0	0	0	0	0	0	0	0
5 <sub>202</sub>	NPLIFDNSYFTELLT	0	0	0	0	0	0	0	0	0	0	0	0
5 <sub>248</sub>	EDAFFADYAEHLKL	0	0	0	0	0	0	0	0	0	0	0	0
6	6 <sub>1</sub>	1	140	2	63	0	0	2	383	1	70	0	0
	6 <sub>14</sub>	0	0	0	0	0	0	1	20	0	0	0	0
	6 <sub>44</sub>	0	0	2	77	0	0	2	93	0	0	0	0
	6 <sub>50</sub>	0	0	0	0	0	0	0	0	0	0	0	0
	6 <sub>92</sub>	0	0	1	33	0	0	0	0	0	0	0	0
	6 <sub>123</sub>	0	0	2	110	0	0	0	0	0	0	0	0
	6 <sub>131</sub>	0	0	1	33	0	0	2	200	0	0	0	0
	6 <sub>142</sub>	0	0	1	353	0	0	1	63	0	0	0	0
	6 <sub>149</sub>	0	0	1	153	0	0	0	0	0	0	0	0
	6 <sub>165</sub>	2	1967	3	587	1	57	3	583	3	237	0	0
	6 <sub>175</sub>	0	0	2	227	0	0	0	0	1	30	0	0
	6 <sub>224</sub>	2	130	2	173	0	0	0	0	0	0	0	0
	6 <sub>233</sub>	0	0	3	330	0	0	2	787	2	57	0	0
	6 <sub>242</sub>	1	30	3	137	0	0	0	0	0	0	0	0
	6 <sub>248</sub>	2	320	4	393	0	0	1	507	1	137	0	0
	6 <sub>282</sub>	0	0	0	0	0	0	0	0	0	0	0	0
	6 <sub>288</sub>	0	0	1	107	2	43	1	43	0	0	0	0
	6 <sub>304</sub>	1	393	1	67	0	0	2	177	1	77	0	0
	6 <sub>310</sub>	0	0	3	203	0	0	1	90	1	20	0	0
	6 <sub>316</sub>	2	1757	3	1550	2	527	3	273	2	140	0	0
	6 <sub>325</sub>	1	417	2	227	0	0	1	83	0	0	0	0
	6 <sub>348</sub>	1	53	3	180	0	0	2	183	0	0	0	0
	6 <sub>359</sub>	4	1377	5	470	1	43	6	1267	3	320	1	57



	8 <sub>313</sub>	KQMDWVSKLSAPQLK	0	0	0	0	0	0	0	0	0	0	0
	8 <sub>382</sub>	KPILFMNEYNTIEEP	0	0	0	0	0	0	0	0	0	0	0
	8 <sub>404</sub>	TKYLAKLKQIQSYPG	0	0	0	0	0	0	0	0	0	0	0
	8 <sub>438</sub>	PYVRGSLDTLAQAKV	0	0	0	0	0	0	0	0	0	0	0
	8 <sub>465</sub>	PKQVEYLEEVMREGF	0	0	0	0	0	0	0	0	0	0	0
	8 <sub>172</sub>	NVTaelVDSMSLQPF	1	293	0	0	0	0	0	0	0	0	0
9	9 <sub>56</sub>	TDTIVYCAGRTFFFR	1	180	0	0	0	0	0	0	0	0	0
	9 <sub>64</sub>	GRTFFFRRLDAPLDA	1	383	0	0	0	1	163	0	0	0	0
	9 <sub>152</sub>	KSLVRAF MWDSGSTV	0	0	0	0	0	0	0	0	0	0	0
	9 <sub>175</sub>	RVLSCDFKPTRPFRI	2	270	0	0	0	1	60	0	0	0	0
	9 <sub>260</sub>	HTGSIYAVSWSADSK	0	0	0	0	0	0	0	0	0	0	0
	9 <sub>349</sub>	AGHLKTVSSLTYFPQ	0	0	0	0	0	0	0	0	0	0	0
	9 <sub>355</sub>	VSSLTYFPQSNPRTM	0	0	1	23	0	0	0	0	0	0	0
	9 <sub>373</sub>	SYDGVIIRWIQGVGY	0	0	0	0	0	0	0	0	0	0	0
	9 <sub>397</sub>	TQIKCFVAEEEEELIT	0	0	1	20	0	0	0	0	0	0	0
	9 <sub>441</sub>	NALNIAVQQPEFALI	0	0	1	60	0	0	1	20	0	0	0
	9 <sub>450</sub>	PEFALITD SAIVLL	0	0	1	33	0	0	1	223	1	667	0
	9 <sub>457</sub>	TDSAIVLLHKSTVTS	0	0	0	0	0	0	1	47	0	0	0
	9 <sub>473</sub>	TKVSYTITSSAVSPD	0	0	0	0	0	0	0	0	0	0	0
	9 <sub>499</sub>	KLRIYSISGDTLTEE	1	53	0	0	0	0	0	0	0	0	0
	9 <sub>526</sub>	IHYPDVSMFASADA	1	77	2	47	0	0	1	50	1	23	0
	9 <sub>554</sub>	IKLKNMLFHTARINC	1	20	1	33	0	0	1	47	0	0	0
10	10 <sub>10</sub>	GRYFSKDAVQIITKM	1	170	1	43	0	0	1	40	0	0	0
	10 <sub>16</sub>	DAVQIITKMAAANGV	1	83	1	160	0	0	0	0	0	0	0
	10 <sub>29</sub>	GVRRVWVGQDSSLST	2	60	0	0	0	0	1	237	0	0	0
	10 <sub>39</sub>	SLLSTPAVSAIIRER	2	60	1	37	0	0	1	173	1	33	0

	10 <sub>45</sub>	AVSAIRERIAADGS	1	47	1	60	0	0	1	27	0	0	0	0
11	11 <sub>58</sub>	SVGFVETLENDLAQL	1	47	1	30	0	0	1	27	0	0	0	0
	11 <sub>111</sub>	LGEAPYKFKSALEAV	2	977	1	110	0	0	0	0	0	0	0	0
	11 <sub>117</sub>	KFKSALEAVKTLRAE	0	0	1	43	0	0	0	0	0	0	0	0
	11 <sub>137</sub>	QYLPAFVIVDESGKS	0	0	1	23	0	0	0	0	0	0	0	0
	11 <sub>161</sub>	VVTFNFRADRMVMLA	0	0	2	100	0	0	0	0	0	0	0	0
	11 <sub>168</sub>	ADRMVMLAKALEFAD	0	0	1	40	0	0	0	0	0	0	0	0
	11 <sub>183</sub>	FDKFDRVRVPKIKYA	0	0	0	0	0	0	0	0	0	0	0	0
	11 <sub>192</sub>	PKIKYAGMLQYDGEL	0	0	0	0	0	0	1	47	0	0	0	0
	11 <sub>206</sub>	LKLPNKFLVSPPLIE	0	0	1	30	0	0	1	43	0	0	0	0
12	12 <sub>5</sub>	YKLLCSSFPVITYHQ	0	0	2	120	0	0	1	203	1	37	0	0
	12 <sub>12</sub>	FPVITYHQGRNGNLS	0	0	1	103	0	0	0	0	0	0	0	0
	12 <sub>21</sub>	RNGNLSALACPLNQK	0	0	1	20	0	0	1	20	0	0	0	0
13	13 <sub>21</sub>	ECILSGLLSVDGLKV	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>27</sub>	LLSVDGLKVLHMDRN	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>81</sub>	VPKFMANGALVRVL	0	0	0	0	0	0	0	0	1	37	0	0
	13 <sub>92</sub>	VRVLIRTSVTKYLNLF	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>101</sub>	TKYLNFKAVDGSFVY	0	0	0	0	0	0	0	0	1	50	0	0
	13 <sub>126</sub>	TDVEALKSNLMGLFE	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>140</sub>	EKRRARKFFIYVQDY	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>146</sub>	KFFIYVQDYEEEDPK	0	0	0	0	0	0	1	33	0	0	0	0
	13 <sub>185</sub>	TVDFIGHALALHRDD	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>210</sub>	VKRMKLYAESLARFQ	0	0	0	0	0	0	1	57	0	0	0	0
	13 <sub>237</sub>	GELPQAFARLSAVYG	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>243</sub>	FARLSAVYGGTYMLN	0	0	0	0	0	0	0	0	0	0	0	0
	13 <sub>352</sub>	KGKFIAFVSTEAETD	0	0	0	0	0	0	1	153	0	0	0	0





	20 <sub>55</sub>	RGYAAAAAPSPAVF	0	0	0	0	0	0	0	0	0	0	0
	20 <sub>114</sub>	LGLPVFNSVAEAKAE	0	0	0	0	0	0	0	0	0	0	0
	20 <sub>129</sub>	TKANASVIYVPPFA	0	0	0	0	0	0	0	0	0	0	0
	20 <sub>135</sub>	VIYVPPFAAAAIME	0	0	0	0	0	0	0	0	0	0	0
	20 <sub>141</sub>	PFAAAAIMEALEAEL	0	0	0	0	0	0	0	0	0	0	0
	20 <sub>167</sub>	QHDMVKVKAALNRQS	0	0	0	0	0	1	1003	0	0	0	0
	20 <sub>222</sub>	TLTYEAVFQTTAVGL	0	0	0	0	0	0	0	0	0	0	0
	20 <sub>294</sub>	DKPVVAFIAGLTAPP	0	0	1	23	0	0	0	0	0	0	0
	20 <sub>329</sub>	KIKALREAGVTVVES	0	0	1	23	0	0	0	0	0	0	0
	20 <sub>348</sub>	GSTMFEIFKQRMVE	0	0	0	0	0	0	0	0	0	0	0
21	21 <sub>2</sub>	GSGDFKTIKALAKV	0	0	0	0	0	0	0	0	0	0	0
	21 <sub>23</sub>	MYVMYIKEGTYKEYV	0	0	0	0	0	0	0	0	0	0	0
	21 <sub>33</sub>	YKEYVTVPRVTNLV	0	0	0	0	0	1	1020	0	0	0	0
	21 <sub>43</sub>	VTNLVMIGDGAAKTI	0	0	0	0	0	0	0	0	0	0	0
	21 <sub>63</sub>	NFKMNLMSMVAVSLV	0	0	0	0	0	0	0	0	0	0	0
	21 <sub>109</sub>	YQDTLYTHAQRQFFR	0	0	0	0	0	0	0	0	0	0	0
	21 <sub>129</sub>	GTIDFIFGNSQVVIQ	0	0	0	0	0	0	0	0	0	0	0
	21 <sub>53</sub>	AKTIILKFLLPVMIV	0	0	0	0	0	0	0	0	0	0	0
22	22 <sub>15</sub>	NTRVLLRRRTSPFSA	0	0	1	63	0	0	0	0	0	0	0
	22 <sub>124</sub>	DGYIYHGQCAIIMFD	0	0	1	80	0	0	0	0	0	0	0
	22 <sub>131</sub>	QCAIIMFDVTSRLTY	0	0	1	27	0	0	0	0	0	0	0
	22 <sub>187</sub>	RKKNLQYYEISAKSN	0	0	0	0	0	0	0	0	0	0	0
	22 <sub>197</sub>	SAKSNYNFEKPFLLYL	0	0	0	0	0	1	47	0	0	0	0
	22 <sub>206</sub>	KPFLYLARKLAGDAN	1	603	2	177	0	0	0	0	0	0	0
	22 <sub>219</sub>	ANIHFVEAVALKPPE	1	63	0	0	0	0	0	0	0	0	0
	22 <sub>245</sub>	EAELAAAAQPLPDD	0	0	1	20	0	0	1	57	0	0	0

23	23 <sub>1</sub>	RTSSWGSGLKIDR	0	0	2	67	0	0	0	0	0	0	0	0
	23 <sub>10</sub>	SLKIDRRELVTRIY	0	0	0	0	0	0	0	0	0	0	0	0
24	24 <sub>21</sub>	RFLHAAVAMATKRSV	1	150	0	0	0	0	0	0	0	0	0	0
	24 <sub>44</sub>	KGKKVFLRADLNVP	3	703	2	60	0	0	4	180	0	0	0	0
	24 <sub>68</sub>	TRIRASIPTIKFLE	1	140	0	0	0	0	1	210	0	0	0	0
	24 <sub>76</sub>	TIKFLLEKGAHVILA	0	0	2	93	0	0	1	83	1	33	0	0
	24 <sub>82</sub>	EKGAKVILASHLGRP	0	0	1	63	0	0	0	0	0	0	0	0
	24 <sub>109</sub>	VPRLSELLGVEVMA	2	237	2	140	0	0	3	333	0	0	0	0
	24 <sub>141</sub>	GGVLLLENVRFYKEE	1	33	2	97	0	0	2	87	0	0	0	0
	24 <sub>160</sub>	PEFAKKLASVADLYV	0	0	2	90	0	0	0	0	0	0	0	0
	24 <sub>193</sub>	KFLRPSVAGFLMQKE	1	177	3	113	0	0	1	37	0	0	0	0
	24 <sub>199</sub>	VAGFLMQKELDYLVG	0	0	1	90	0	0	0	0	0	0	0	0
	24 <sub>206</sub>	KELDYLVGAVANPKK	1	160	1	47	0	0	2	843	1	107	0	0
	24 <sub>234</sub>	KIGVIESLLAKVDIL	0	0	1	57	0	0	0	0	0	0	0	0
	24 <sub>253</sub>	GMIFTFYKAQKAVG	2	793	2	277	0	0	6	1493	2	463	0	0
	24 <sub>272</sub>	EEDKLELATSLETA	1	50	2	110	0	0	1	20	0	0	0	0
	24 <sub>290</sub>	GVLLLLPTDVVVADK	0	0	1	90	0	0	1	20	0	0	0	0
25	25 <sub>2</sub>	SAPALRILRSFSPHS	1	143	1	100	0	0	1	27	0	0	0	0
26	26 <sub>2</sub>	VELVAVNDPFITTDY	0	0	0	0	0	0	0	0	0	0	0	0
	26 <sub>15</sub>	DYMTYMFKYDTHVHGQ	0	0	0	0	0	0	0	0	0	0	0	0
	26 <sub>90</sub>	GGAKKVIISAPSKDA	0	0	0	0	0	0	0	0	0	0	0	0
	26 <sub>116</sub>	YTSBITIVSNASCTT	0	0	0	0	0	0	0	0	0	0	0	0
	26 <sub>138</sub>	KVINDRFGIVEGLMT	1	37	0	0	0	0	1	87	0	0	0	0
	26 <sub>144</sub>	FGIVEGLMTTVHAMT	0	0	0	0	0	0	1	33	0	0	0	0
	26 <sub>174</sub>	GGRAASFNIIPSTG	0	0	0	0	0	0	0	0	0	0	0	0
	26 <sub>221</sub>	LTVRLEKAATYEQIK	0	0	0	0	0	0	1	47	0	0	0	0





	30 <sub>527</sub>	IRKISANIAAKVAAK	0	0	0	0	0	0	1	37	0	0	0	0
31	31 <sub>6</sub>	QIIRKGFYLTKNVEH	0	0	0	0	0	0	0	0	0	0	0	0
	31 <sub>12</sub>	FYLTKNVEHKGQVDL	0	0	0	0	0	0	0	0	0	0	0	0
	31 <sub>18</sub>	VEHKGQVDLVTETDK	0	0	0	0	0	0	0	0	0	0	0	0
	31 <sub>30</sub>	TDKACEDLIFNHLRK	0	0	0	0	0	0	0	0	0	0	0	0
	31 <sub>36</sub>	DLIFNHLRKLYPDHK	0	0	0	0	0	0	1	20	0	0	0	0
32	32 <sub>41</sub>	IEIDSLFEGIDFYST	1	27	0	0	0	0	0	0	0	0	0	0
	32 <sub>50</sub>	IDFYSTITRARFEEL	0	0	1	20	0	0	0	0	0	0	0	0
	32 <sub>102</sub>	IPKVQQLQDFFNKG	0	0	0	0	0	0	0	0	0	0	0	0
	32 <sub>126</sub>	EAVAYGAAVQAAILS	1	30	0	0	0	0	0	0	0	0	0	0
	32 <sub>147</sub>	VQDLLLDVTPSLG	1	47	0	0	0	0	0	0	0	0	0	0
33	33 <sub>1</sub>	QEMAYWSLKAIEIG	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>20</sub>	DAASSLYFGENLPR	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>60</sub>	GYNISLASMIPDYDT	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>72</sub>	YDTVITNVRRLAVA	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>116</sub>	LEKIVAILSFAVDAA	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>7</sub>	NVRRSLAVAKKNHLA	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>14</sub>	VAKKNHLAWNCERCR	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>20</sub>	LAWNCERCRKGESKK	0	0	0	0	0	0	0	0	0	0	0	0
	33 <sub>33</sub>	KKTVDAILSFAVDAA	0	0	0	0	0	0	0	0	0	0	0	0
34	34 <sub>1</sub>	LMSFSWICACVRAAA	0	0	0	0	0	0	0	0	0	0	0	0
	34 <sub>7</sub>	ICACVRAAAVAWEAG	0	0	0	0	0	0	0	0	0	0	0	0
	34 <sub>39</sub>	VRVKILFTALCHTDV	0	0	0	0	0	0	2	303	1	90	0	0
	34 <sub>114</sub>	MCDLLRINTDRGVMI	0	0	0	0	0	0	1	37	1	77	0	0
	34 <sub>140</sub>	KPIHFVGTSTFSEY	0	0	1	40	0	0	0	0	0	0	0	0
	34 <sub>146</sub>	VGTSTFSEYTMHVHG	0	0	0	0	0	0	2	57	0	0	0	0

	34 <sub>200</sub>	VAIFGLGAVGLAAAE	0	0	0	0	0	0	2	297	0	0	0	0
	34 <sub>206</sub>	GAVGLAAAEGARIAG	0	0	0	0	0	0	1	33	0	0	0	0
	34 <sub>275</sub>	GNINAMIQAFECVHD	0	0	0	0	0	0	1	40	0	0	0	0
	34 <sub>319</sub>	LKGTFFGNFKPRTDL	0	0	0	0	0	0	0	0	0	0	0	0
	34 <sub>349</sub>	KFITHSVTFSEINKA	1	110	1	87	0	0	0	0	0	0	0	0
	34 <sub>355</sub>	VTFSEINKAFDLMAK	1	103	0	0	0	0	0	0	0	0	0	0
35	35 <sub>1</sub>	ALRWNLQMGHSLPK	0	0	1	47	0	0	0	0	0	0	0	0
	35 <sub>25</sub>	NLDVYDWSIPDDLLA	1	67	1	90	0	0	0	0	0	0	0	0
	35 <sub>35</sub>	DDLAKFSEIKQTRL	0	0	1	30	0	0	0	0	0	0	0	0
	35 <sub>41</sub>	FSEIKQTRLLMGFI	0	0	0	0	0	0	2	207	0	0	0	0
	35 <sub>47</sub>	TRLLMGNFIVNKDSV	0	0	0	0	0	0	0	0	1	7	0	0
36	36 <sub>1</sub>	QDFKKVNEIYAKYFP	0	0	0	0	0	0	0	0	1	107	0	0
	36 <sub>7</sub>	NEIYAKYFPSPAPAR	0	0	0	0	0	0	0	0	0	0	0	0
	36 <sub>13</sub>	YFPSPAPARSTYQVA	0	0	0	0	0	0	0	0	0	0	0	0
	36 <sub>20</sub>	ARSTYQVAALPLDAR	0	0	0	0	0	0	0	0	0	0	0	0
	36 <sub>29</sub>	LPLDARIEICIAAL	0	0	0	0	0	0	0	0	0	0	0	0
37	37 <sub>5</sub>	EEAASTLPLGSSSTL	0	0	0	0	0	0	0	0	0	0	0	0
38	38 <sub>3</sub>	STKIFLESSTMESRA	0	0	0	0	0	0	1	160	0	0	0	0
	38 <sub>53</sub>	CAAVLAASAVVVLVV	0	0	0	0	0	0	1	47	0	0	0	0
	38 <sub>62</sub>	VVVLVVASGLAGSRV	0	0	0	0	0	0	0	0	0	0	0	0
	38 <sub>71</sub>	LAGSRVVRVAVDVAT	0	0	0	0	0	0	0	0	0	0	0	0
	38 <sub>159</sub>	GWYHLFYQYNPEGAV	0	0	0	0	0	0	0	0	0	0	0	0
	38 <sub>184</sub>	SRDLIHWRLPLAMV	0	0	0	0	0	0	0	0	0	0	0	0
	38 <sub>221</sub>	LNMLYTGSTNASVQV	0	0	0	0	0	0	0	0	0	0	0	0
	38 <sub>302</sub>	IAMVYKTKDFVSYEL	0	0	0	0	0	0	1	143	0	0	0	0
	38 <sub>308</sub>	TKDFVSYELIPGLLH	0	0	0	0	0	0	2	630	1	63	0	0



























	76 <sub>33</sub>	KDKLVVSTSCSLMHT	0	0	0	0	0	0	0	0	0	0	0
	76 <sub>40</sub>	TSCSLMHTAVDLVNE	0	0	1	160	0	0	0	0	0	0	0
	76 <sub>55</sub>	TKLDSEIKSWLAFAA	1	323	1	200	0	0	1	43	0	0	0
	76 <sub>61</sub>	IKSWLAFAAQKVVEV	0	0	0	0	0	0	0	0	1	50	0
	76 <sub>71</sub>	KVVEVNALGKALVGL	0	0	0	0	0	0	0	0	0	0	0
	76 <sub>85</sub>	LKDEAYFAANAAQA	1	153	1	203	0	0	0	0	0	0	0
	76 <sub>175</sub>	EAYVSAIKEEISKVV	0	0	0	0	0	0	1	207	1	197	0
	76 <sub>185</sub>	ISKVVKIQEELDIDV	0	0	0	0	0	0	0	0	0	0	0
	76 <sub>210</sub>	MVEYFGEQLSGFAFT	0	0	0	0	0	0	0	0	0	0	0
	76 <sub>218</sub>	LSGFAFTANGWVQSY	0	0	1	63	0	0	1	20	0	0	0
	76 <sub>250</sub>	NPMTVFWSKMAQSMT	0	0	2	250	0	0	1	37	0	0	0
77	77 <sub>3</sub>	EGPLMLYVSKMIPAS	0	0	0	0	0	0	0	0	1	23	0
	77 <sub>19</sub>	KGRFFAFGRVFAGRV	0	0	0	0	0	0	1	237	1	77	0
	77 <sub>79</sub>	GNTVALVGLDQFITK	0	0	0	0	0	0	0	0	1	97	0
	77 <sub>85</sub>	VGLDQFITKNATLTG	0	0	0	0	0	0	0	0	0	0	0
	77 <sub>107</sub>	PIRAMKFSVSPVVRV	0	0	0	0	0	0	0	0	0	0	0
	77 <sub>179</sub>	FMGGAEIIVSPPVVS	0	0	0	0	0	0	0	0	0	0	0
	77 <sub>188</sub>	SPPVVSFRETVLDKS	0	0	1	107	0	0	0	0	0	0	0
	77 <sub>212</sub>	NKHNRLYMEARPLEE	0	0	1	107	0	0	0	0	0	0	0
	77 <sub>338</sub>	PTARRVIFASQLTAK	0	0	0	0	0	0	1	117	1	37	0
	77 <sub>351</sub>	AKPRLLEPVYLVEIQ	0	0	0	0	0	0	0	0	0	0	0
	77 <sub>357</sub>	EPVYLVEIQAPEGAL	0	0	0	0	0	0	0	0	0	0	0
	77 <sub>395</sub>	PLYNIKAYLPVIESF	0	0	0	0	0	0	0	0	0	0	0
	77 <sub>403</sub>	LPVIESFGFSATLRA	1	333	0	0	0	0	0	0	0	0	0
	77 <sub>409</sub>	FGFSATLRAATSGQA	1	30	0	0	0	0	0	0	0	0	0
78	78 <sub>5</sub>	SLKLHKACEAFNPYD	0	0	0	0	0	0	1	87	0	0	0



81	24	FVSFADLNHFPKTFY	0	0	0	0	0	0	0	0	0	0	0
81	33	FPKTFYFMATPHASL	0	0	0	0	0	0	1	63	0	0	0
81	53	HVKAWWERIMARPAV	0	0	0	0	0	0	1	53	0	0	0
81	61	IMARPAVKKIAAAMV	0	0	0	0	0	0	0	0	0	0	0
82	82	33	KRKVRGFWRVHQISA	0	0	0	0	0	0	1	23	0	0
82	39	FWRVHQISARMAPVK	0	0	0	0	0	0	5	187	0	0	0
82	49	MAPVKLYGATLSWNV	0	0	0	0	0	0	1	130	1	33	0
82	109	GDLYIFESRAICKYA	0	0	1	290	0	0	5	593	3	300	1
82	150	EANQYTAALGPILFE	0	0	0	0	0	0	2	523	0	0	0
83	83	5	ACSLFLNYAVSFNYF	0	0	1	57	0	0	0	0	0	0
83	12	YAVSFNYFVCNLLQE	1	37	0	0	0	0	0	0	1	23	0
83	22	NLLQERLKKLSEHG	1	47	1	83	0	0	0	0	0	0	0
83	54	GMTGMLWETSLDPE	0	0	1	107	0	0	0	0	0	0	0
83	96	PEGLLWLLTGKVPT	1	33	1	93	0	0	0	0	0	0	0
83	130	YVYKAIDALPVTAHP	0	0	0	0	0	0	0	0	0	0	0
83	147	QFTTGVMALQVESEF	0	0	0	0	0	0	0	0	1	67	0
83	180	EDCLNLIARLPQVAS	0	0	1	137	0	0	1	540	1	117	0
83	186	IARLPQVASVYRRI	1	33	1	187	0	0	0	0	0	0	0
83	209	ADNSLDYAANFSHML	1	53	1	130	0	0	0	0	0	0	0
83	227	DPKMLELMRLYITIH	1	40	0	0	0	0	0	0	0	0	0
83	260	ALSDPYLSFAAALNG	1	70	1	130	0	0	0	0	0	0	0
83	266	LSFAAALNGLAGPLH	0	0	1	103	0	0	0	0	0	0	0
83	278	PLHGLANQEVLLWIK	0	0	0	0	0	0	0	0	0	0	0
83	285	QEVLLWIKSVMEETG	0	0	0	0	0	0	0	0	0	0	0
83	306	QLKEYVWVKTLKSGKV	1	40	1	90	0	0	0	0	0	0	0
83	349	EDPLFQLVSKLYEVV	0	0	1	160	0	0	0	0	0	0	0





89 <sub>261</sub>	EGKLLRLKQQFFLCS	0	0	0	0	0	0	2	140	0	0	0	0
89 <sub>267</sub>	LKQQFFLCSASLQDI	0	0	0	0	0	0	1	40	0	0	0	0
89 <sub>313</sub>	PTLAIPELMRLLMDE	0	0	0	0	0	0	1	110	0	0	0	0
89 <sub>360</sub>	QSVMRKLLPRQMEII	0	0	0	0	0	0	2	170	0	0	0	0
89 <sub>375</sub>	EEIDKRFREMVISTR	0	0	0	0	0	0	1	90	1	27	0	0
89 <sub>406</sub>	PQKPVVRMANLCVVS	0	0	0	0	0	0	3	270	0	0	0	0
89 <sub>434</sub>	ILKEELFADYVSIWP	0	0	0	0	0	0	1	40	1	33	0	0
89 <sub>460</sub>	PRRWLRFCNPELSEI	1	153	1	240	0	0	1	137	1	23	0	0
89 <sub>501</sub>	EKLHAEWAAAKLASK	0	0	0	0	0	0	0	0	0	0	0	0
89 <sub>540</sub>	IKRIHEYKRLMNIL	2	90	0	0	0	0	1	110	0	0	0	0
89 <sub>546</sub>	YKRQLMNILGAVYRY	1	77	2	187	0	0	2	137	0	0	0	0
89 <sub>554</sub>	LGAVYRYKCLKEMSA	1	63	3	163	0	0	0	0	0	0	0	0
89 <sub>583</sub>	GKAFATYTNAKRIVK	0	0	2	137	0	0	0	0	0	0	0	0
89 <sub>593</sub>	KRIVKLVNDVGAVVN	2	413	1	107	0	0	2	357	1	47	0	0
89 <sub>612</sub>	VNKYLKVVFIPIYNNV	1	220	1	120	0	0	3	290	1	67	0	0
89 <sub>619</sub>	VFIPIYNNVSAEVLII	5	1413	2	110	0	0	4	537	2	167	0	0
89 <sub>681</sub>	EDNFFLFGAKADQVA	1	503	2	97	0	0	1	107	0	0	0	0
89 <sub>723</sub>	TFGTDYDTPLLDSLE	0	0	0	0	0	0	1	150	0	0	0	0
89 <sub>748</sub>	FLVGYDFPSYIDAQA	0	0	0	0	0	0	1	123	0	0	0	0
89 <sub>772</sub>	KRWIKMSILNTAGSG	3	407	1	120	0	0	2	537	1	97	0	0
89 <sub>796</sub>	QYAKEIWGITANPVP	3	303	2	253	0	0	0	0	0	0	0	0
90	90 <sub>33</sub>	1	30	0	0	0	0	0	0	0	0	0	0
	90 <sub>45</sub>	2	60	0	0	0	0	0	0	0	0	0	0
	90 <sub>56</sub>	1	73	2	73	0	0	0	0	0	0	0	0
	90 <sub>82</sub>	1	57	0	0	0	0	1	63	0	0	0	0
	90 <sub>103</sub>	0	0	0	0	0	0	0	0	1	43	0	0

	90 <sub>198</sub>	DPLVTKGANLIPLLG	1	87	0	0	0	0	1	53	0	0	0	0
	90 <sub>205</sub>	ANLIPLLGIDVWEHA	1	113	0	0	0	0	1	20	0	0	0	0
	90 <sub>218</sub>	HAYYLQYKNVRPDYL	2	110	1	83	0	0	0	0	0	0	0	0
	90 <sub>229</sub>	PDYLTIWIKVVNWKY	1	70	2	110	0	0	0	0	0	0	0	0
91	91 <sub>35</sub>	APSGRIVMELYADV	2	247	3	737	0	0	0	0	0	0	0	0
	91 <sub>41</sub>	VMELYADVVPKTAEN	2	140	0	0	0	0	0	0	0	0	0	0
	91 <sub>74</sub>	HYKGSSFHRVIPGFM	1	537	3	623	0	0	0	0	0	0	0	0
	91 <sub>104</sub>	SIYGAKFADENFIKK	1	60	0	0	0	0	0	0	1	23	0	0
	91 <sub>135</sub>	NGSQFFLCTAKTAWL	2	447	1	543	0	0	1	270	0	0	0	0
92	92 <sub>1</sub>	SQVHIRRPGGAGRDG	1	113	0	0	0	0	0	0	0	0	0	0
	92 <sub>7</sub>	RPGGAGRDGGQLRIP	1	130	0	0	0	0	0	0	0	0	0	0
	92 <sub>13</sub>	RDGGQLRIPSLHGG	1	97	0	0	0	0	0	0	0	0	0	0
	92 <sub>27</sub>	GHGCAQPAMERRKHI	2	590	0	0	0	0	0	0	0	0	0	0
	92 <sub>38</sub>	RKHIEWNCDVCRHGD	1	83	0	0	0	0	0	0	0	0	0	0
93	93 <sub>1</sub>	WTTVMRASCGHHRFR	1	87	0	0	0	0	0	0	1	43	0	0
	93 <sub>13</sub>	RFRDCVISSLADFKL	2	93	0	0	0	0	0	0	0	0	0	0
	93 <sub>19</sub>	ISSLADFKLFPVLQH	1	67	0	0	0	0	0	0	0	0	0	0
	93 <sub>29</sub>	PVLQHIISIAVLAIF	1	140	0	0	0	0	0	0	1	47	0	0
	93 <sub>35</sub>	ISIAVLAIFIGLLMI	2	247	0	0	0	0	0	0	1	37	0	0

\*peptide is 100% identical to a peptide sequence in Phl p 1 and was therefore not included in any pools of interest for subsequent screens, namely the MAA pool and P19.



Antigen	Control patients						SIT patients					
	IL5		IFN $\gamma$		Ab reactivity		IL5		IFN $\gamma$		Ab reactivity	
	Patients	Sum SFC	Patients	Sum SFC	IgE	IgG	Patients	Sum SFC	Patients	Sum SFC	IgE	IgG
1	1	20	1	707	+	+	0	0	3	1493	+	+
2	7	3447	10	8200	+	+	3	130	4	2790	+	+
3	1	20	0	0	+	+	0	0	0	0	-	-
4	3	597	4	923	-	-	1	93	2	537	+	+
5	0	0	1	73	-	+	0	0	0	0	+	+
6	11	7003	11	7490	+	+	5	1087	10	6163	+	+
7	5	1657	5	5603	+	+	1	567	3	1270	+	+
8	0	0	0	293	+	-	0	0	0	0	+	-
9	3	217	2	983	-	-	2	690	4	610	+	+
10	1	300	2	420	+	+	1	33	3	477	+	+
11	3	377	2	1023	+	+	0	0	1	117	+	+
12	2	243	0	0	-	+	1	37	2	223	+	+
13	0	0	0	0	+	+	2	87	3	373	+	+
14	1	110	0	0	+	-	0	0	0	0	+	-
15	0	0	0	0	+	-	0	0	0	0	+	+
16	0	0	2	823	-	-	0	0	0	0	-	-
17	3	167	0	0	+	-	1	20	0	0	+	+
18	0	0	0	0	-	-	0	0	1	353	+	-
19	0	0	0	0	-	+	0	0	0	0	+	+
20	1	47	0	0	+	+	0	0	1	1003	+	-
21	0	0	0	0	+	+	0	0	1	1020	-	+
22	4	367	1	667	-	-	0	0	1	103	-	-
23	2	67	0	0	-	-	0	0	0	0	+	+
24	6	1327	5	2443	+	-	2	603	3	3307	+	+
25	1	100	1	143	+	-	0	0	2	27	+	-

26	0	0	1	37	-	+	0	0	2	167	+	+
27	2	230	2	267	-	-	0	0	0	0	+	-
28	1	540	2	953	-	-	1	143	1	453	+	+
29	2	380	1	247	+	-	1	20	1	260	+	+
30	1	67	0	0	+	+	0	0	1	37	+	+
31	0	0	0	0	+	+	0	0	1	20	+	+
32	1	20	1	103	+	+	0	0	0	0	+	+
33	0	0	0	0	-	+	0	0	0	0	-	+
34	1	127	1	213	-	-	2	167	3	767	+	+
35	1	167	1	67	-	-	0	0	3	210	+	-
36	0	0	0	0	-	-	1	107	0	0	-	+
37	0	0	0	0	-	+	0	0	0	0	-	+
38	0	0	0	0	-	+	1	63	2	1430	-	+
39	1	67	2	103	-	+	0	0	2	530	-	+
40	1	67	0	0	-	+	0	0	0	0	-	+
41	0	0	0	0	-	+	0	0	0	0	-	+
42	0	0	1	33	+	+	1	47	2	120	+	+
43	1	47	0	0	-	+	1	80	3	1337	-	+
44	0	0	0	0	-	+	0	0	0	0	-	+
45	0	0	0	0	-	+	0	0	0	0	-	+
46	5	533	2	227	+	+	0	0	3	100	+	+
47	2	210	0	0	+	+	0	0	1	57	+	+
48	0	0	1	297	-	+	0	0	1	400	-	+
49	5	7417	1	990	-	-	0	0	0	0	-	+
50	1	120	3	957	-	+	0	0	1	57	-	+
51	1	27	1	90	+	+	0	0	0	0	+	+
52	6	930	5	1293	-	+	0	0	1	27	-	+
53	6	1750	6	3693	-	+	1	30	3	903	-	+
54	4	2647	7	1133	-	-	2	387	3	1510	-	+
55	0	0	2	1070	-	+	0	0	0	0	-	+

56	0	0	1	343	-	-	0	0	0	0	-	+
57	0	0	0	0	+	-	0	0	1	480	+	-
58	0	0	0	0	-	+	0	0	0	0	-	+
59	2	67	3	620	+	-	0	0	0	0	-	+
60	0	0	0	0	-	-	0	0	0	0	-	+
61	0	0	0	0	-	+	1	137	1	27	-	+
62	5	1927	6	2827	+	+	2	80	3	1417	+	+
63	0	0	1	70	-	+	0	0	1	190	-	+
64	2	283	1	47	+	-	0	0	0	0	+	-
65	1	240	1	527	+	+	0	0	1	267	-	+
66	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
67	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
68	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
69	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
70	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
71	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
72	2	230	2	110	n.d.	n.d.	1	313	1	780	n.d.	n.d.
73	1	967	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
74	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
75	0	0	0	0	n.d.	n.d.	0	0	0	0	n.d.	n.d.
76	3	923	3	867	-	-	2	330	3	357	-	-
77	1	213	1	363	-	-	1	233	1	353	-	-
78	0	0	3	1217	-	-	1	1677	4	2907	-	-
79	1	647	2	80	-	-	0	0	1	330	-	-
80	1	280	1	63	-	-	0	0	0	0	-	-
81	2	240	0	0	-	-	0	0	2	167	-	-
82	1	290	0	0	-	-	2	333	3	1457	-	-
83	1	1747	1	410	-	-	1	207	1	540	-	-
84	1	220	1	310	-	-	0	0	1	473	-	-
85	0	0	0	0	-	-	0	0	1	20	-	-

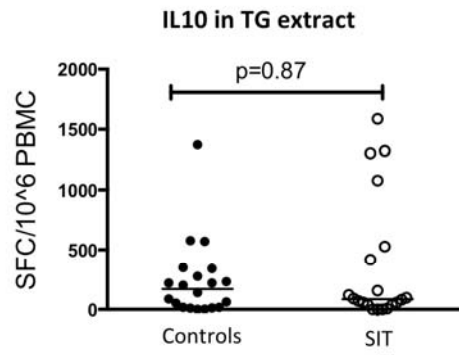
86	0	0	1	73	-	-	0	0	1	193	-	-
87	0	0	0	0	-	-	0	0	1	100	-	-
88	0	0	0	0	-	-	0	0	0	0	-	-
89	9	2360	11	5560	-	-	6	883	6	5470	-	-
90	3	267	4	600	-	-	1	43	2	137	-	-
91	4	1904	2	1430	-	-	1	23	1	270	-	-
92	0	0	2	1013	-	-	0	0	0	0	-	-
93	0	0	2	633	-	-	2	127	0	0	-	-

Allele	Alpha chain	Percent of haplotypes	Phenotype frequency
DPB1*0101	DPA1*0201	8.4	16.0
DPB1*0201	DPA1*0103	9.2	17.5
DPB1*0401	DPA1*0103	20.1	36.2
DPB1*0402	DPA1*0103	23.6	41.6
DPB1*0501	DPA1*0202	11.5	21.7
DQB1*0201	DQA1*0501	5.8	11.3
DQB1*0301	DQA1*0501	19.5	35.1
DQB1*0302	DQA1*0301	10.0	19.0
DQB1*0402	DQA1*0401	6.6	12.8
DQB1*0501	DQA1*0101	7.6	14.6
DQB1*0602	DQA1*0102	7.6	14.6
DRB1*0101	DRA1*0101	2.8	5.4
DRB1*0102	DRA1*0101	1.7	3.3
DRB1*0301	DRA1*0101	7.1	13.7
DRB1*0302	DRA1*0101	1.1	2.12
DRB1*0401	DRA1*0101	2.3	4.6
DRB1*0402	DRA1*0101	1.1	2.18
DRB1*0403	DRA1*0101	2.3	4.5
DRB1*0404	DRA1*0101	1.9	3.8
DRB1*0405	DRA1*0101	3.1	6.2
DRB1*0407	DRA1*0101	2.4	4.8
DRB1*0411	DRA1*0101	1.6	3.3
DRB1*0701	DRA1*0101	7.0	13.5
DRB1*0802	DRA1*0101	2.5	4.9
DRB1*0803	DRA1*0101	3.8	7.4
DRB1*0901	DRA1*0101	3.1	6.2
DRB1*1001	DRA1*0101	1.9	3.8
DRB1*1101	DRA1*0101	6.1	11.8
DRB1*1102	DRA1*0101	1.1	2.21
DRB1*1103	DRA1*0101	0.2	0.50
DRB1*1104	DRA1*0101	1.4	2.77
DRB1*1201	DRA1*0101	2.0	3.9
DRB1*1301	DRA1*0101	3.2	6.3
DRB1*1302	DRA1*0101	3.9	7.7
DRB1*1303	DRA1*0101	1.2	2.40
DRB1*1304	DRA1*0101	0.1	0.17
DRB1*1401	DRA1*0101	3.4	6.7
DRB1*1402	DRA1*0101	2.8	5.6
DRB1*1501	DRA1*0101	6.3	12.2
DRB1*1601	DRA1*0101	1.0	1.9
DRB1*1602	DRA1*0101	3.9	7.7

DRB3*0101	DRA1*0101	14.0	26.1
DRB3*0202	DRA1*0101	18.9	34.3
DRB3*0301	DRA1*0101	7.6	14.5
DRB4*0101	DRA1*0101	23.7	41.8
DRB5*0101	DRA1*0101	8.3	16.0
DRB5*0102	DRA1*0101	5.1	9.8

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