

Supplementary Table S2 Neopeptides from missense mutations in 80 HGSC patients

Patient ID	Variant ID	HLA allele	MT	Sequence (MT)	IC <sub>50</sub> (nM)	WT	Sequence (WT)	IC <sub>50</sub> (nM)	Length	FPKM
Se001	ST3GAL3 V7L	HLA-C*14:03	MT	F[L]RNLLAL	121.05	WT	F[V]RNLLAL	105.55	9	4.8926
Se001	ST3GAL3 V7L	HLA-C*14:03	MT	VF[L]RNLLAL	132.84	WT	VF[V]RNLLAL	142.68	10	4.8926
Se001	ST3GAL3 V7L	HLA-C*12:02	MT	F[L]RNLLAL	382.78	WT	F[V]RNLLAL	82.34	9	4.8926
Se001	KIF2C V31I	HLA-C*12:02	MT	HSAN[I]RTVNL	304.18	WT	HSAN[V]RTVNL	287.74	10	25.63481
Se001	KIF2C V31I	HLA-C*12:02	MT	SAN[I]RTVNL	358.11	WT	SAN[V]RTVNL	197.72	9	25.63481
Se001	KIF2C V31I	HLA-C*12:02	MT	LIHSAN[I]RTV	499.36	WT	LIHSAN[V]RTV	492.57	10	25.63481
Se001	COL11A1 E307D	HLA-B*44:03	MT	EEYLTG[D]DY	138.02	WT	EEYLTG[E]DY	80.84	9	2.73431
Se001	GDAP2 I195M	HLA-A*24:02	MT	RFLE[M]HGETI	91.15	WT	RFLE[I]HGETI	82.6	10	2.31189
Se001	GDAP2 I195M	HLA-C*12:02	MT	RTVRRFLE[M]	146.92	WT	RTVRRFLE[I]	656.04	9	2.31189
Se001	GDAP2 I195M	HLA-C*14:03	MT	RFLE[M]HGETI	244	WT	RFLE[I]HGETI	474.56	10	2.31189
Se001	GDAP2 I195M	HLA-C*14:03	MT	RTVRRFLE[M]	326.22	WT	RTVRRFLE[I]	1411.9	9	2.31189
Se001	DENND4B H476N	HLA-C*12:02	MT	FIVGI[N]SSYF	65.42	WT	FIVGI[H]SSYF	55.03	10	9.72851
Se001	DENND4B H476N	HLA-C*14:03	MT	FIVGI[N]SSYF	242.18	WT	FIVGI[H]SSYF	277.65	10	9.72851
Se001	DENND4B H476N	HLA-C*12:02	MT	FIVGI[N]SSY	250.47	WT	FIVGI[H]SSY	145.18	9	9.72851
Se001	SLAMF8 R46H	HLA-B*44:03	MT	[H]EAIWRSWL	17.65	WT	[R]EAIWRSWL	30.43	9	12.65726
Se001	PCNXL2 K1776M	HLA-A*33:03	MT	SFKV[I]VKNK	317.63	WT	SFKV[K]VKNK	440.97	9	3.29893
Se001	PCNXL2 K1776M	HLA-A*33:03	MT	I[M]VKNKECVR	483.26	WT	I[K]VKNKECVR	19880.39	9	3.29893
Se001	CEBPZ G489S	HLA-A*33:03	MT	SALLT[S]VNR	156.99	WT	SALLT[G]VNR	203.87	9	23.75264
Se001	CEBPZ G489S	HLA-A*33:03	MT	LSALLT[S]VNR	236.95	WT	LSALLT[G]VNR	353.83	10	23.75264
Se001	CEBPZ G489S	HLA-C*12:02	MT	LT[S]VNRA YPY	317.47	WT	LT[G]VNRA YPY	2106.78	10	23.75264
Se001	CEBPZ G489S	HLA-C*12:02	MT	T[S]VNRA YPY	349.77	WT	T[G]VNRA YPY	3505.18	9	23.75264
Se001	CEBPZ G489S	HLA-C*12:02	MT	MLSALLT[S]V	426.02	WT	MLSALLT[G]V	1094.12	9	23.75264
Se001	P4HTM D153H	HLA-B*44:03	MT	FEIPGFLT[H]	477.79	WT	FEIPGFLT[D]	4151.92	9	23.81771
Se001	ATP11B F859L	HLA-C*12:02	MT	YAIARFK[L]JL	38.25	WT	YAIARFK[F]L	51.19	9	9.99707
Se001	ATP11B F859L	HLA-C*14:03	MT	YAIARFK[L]JL	103.2	WT	YAIARFK[F]L	202.98	9	9.99707
Se001	ATP11B F859L	HLA-A*24:02	MT	RFK[L]LSKLLF	134.51	WT	RFK[F]LSKLLF	62.43	10	9.99707
Se001	ATP11B F859L	HLA-C*14:03	MT	RFK[L]LSKLL	360.59	WT	RFK[F]LSKLL	223.35	9	9.99707
Se001	E1F4G1 K447N	HLA-A*33:03	MT	D[N]ANKTPLR	279.68	WT	D[K]ANKTPLR	4597.56	9	116.99694
Se001	SH3TC1 K731N	HLA-A*33:03	MT	CV[K]VASLRTR	180.51	WT	CV[K]VASLRTR	113.83	10	3.47728
Se001	SH3TC1 K731N	HLA-A*33:03	MT	LSCV[N]VASLR	345.46	WT	LSCV[K]VASLR	303.76	10	3.47728
Se001	SH3TC1 K731N	HLA-A*33:03	MT	SCV[N]VASLR	379.88	WT	SCV[K]VASLR	540.33	9	3.47728
Se001	ZMAT2 R116C	HLA-C*12:02	MT	MSMRVE[C]STL	221.6	WT	MSMRVE[R]STL	168.48	10	68.05125
Se001	ZMAT2 R116C	HLA-C*14:03	MT	SMRVE[C]STL	380.12	WT	SMRVE[R]STL	265.28	9	68.05125
Se001	TMEM63B L423R	HLA-A*33:03	MT	NIYWEH[R]SIR	27.62	WT	NIYWEH[L]SIR	40.31	10	16.8457
Se001	TMEM63B L423R	HLA-A*33:03	MT	IYWEH[R]SIR	35.78	WT	IYWEH[L]SIR	103.58	9	16.8457
Se001	TMEM63B L423R	HLA-B*44:03	MT	WEH[R]SIRGF	79.87	WT	WEH[L]SIRGF	108.57	9	16.8457
Se001	TMEM63B L423R	HLA-C*14:03	MT	YWEH[R]SIRGF	110.84	WT	YWEH[L]SIRGF	138.23	10	16.8457
Se001	TTI2 I33S	HLA-A*33:03	MT	FSK[S]LHCLAR	35.95	WT	FSK[I]LHCLAR	55.88	10	3.52911
Se001	KCNB2 R496M	HLA-C*14:03	MT	RWKWA[M]KAL	80.21	WT	RWKWA[R]KAL	101.67	9	1.11286
Se001	KCNB2 R496M	HLA-C*14:03	MT	SRWKWA[M]KA	131.01	WT	SRWKWA[R]KAL	111.97	10	1.11286
Se001	VAV2 S113P	HLA-C*12:02	MT	ISAV[P]RLSL	215.41	WT	ISAV[S]RLSL	345.39	9	8.47802
Se001	VAV2 S113P	HLA-A*33:03	MT	FGKVISAV[P]R	230.91	WT	FGKVISAV[S]R	415	10	8.47802
Se001	SNAPC4 A1379P	HLA-C*14:03	MT	FTLPALL[P]TL	61.97	WT	FTLPALL[A]TL	52.3	10	6.46768
Se001	SNAPC4 A1379P	HLA-C*12:02	MT	FTLPALL[P]TL	77.35	WT	FTLPALL[A]TL	37.42	10	6.46768
Se001	SNAPC4 A1379P	HLA-C*14:03	MT	TLPALL[P]TL	289.97	WT	TLPALL[A]TL	264.15	9	6.46768
Se001	FANCF L192R	HLA-A*33:03	MT	RFLSS[R]WER	36.77	WT	RFLSS[L]WER	73.98	9	2.54317
Se001	FANCF L192R	HLA-A*24:02	MT	RFLSS[R]WERL	111.83	WT	RFLSS[L]WERL	55.78	10	2.54317
Se001	FANCF L192R	HLA-C*14:03	MT	RFLSS[R]WERL	145.38	WT	RFLSS[L]WERL	239.65	10	2.54317
Se001	FANCF L192R	HLA-A*24:02	MT	[R]WERLPQNNF	287.02	WT	[L]WERLPQNNF	828.35	10	2.54317
Se001	FANCF L192R	HLA-A*33:03	MT	RPARFLSS[R]	363.41	WT	RPARFLSS[L]	18361.83	9	2.54317
Se001	PLEKHB1 R21Q	HLA-A*24:02	MT	RWK[Q]NWFAL	18.44	WT	RWK[R]NWFALW	23.28	10	5.02637
Se001	PLEKHB1 R21Q	HLA-C*14:03	MT	RWK[Q]NWFAL	52.48	WT	RWK[R]NWFAL	82.97	9	5.02637
Se001	PLEKHB1 R21Q	HLA-A*24:02	MT	RWK[Q]NWFAL	67.87	WT	RWK[R]NWFAL	82.61	9	5.02637
Se001	PLEKHB1 R21Q	HLA-C*14:03	MT	RRWK[Q]NWFAL	307.3	WT	RRWK[R]NWFAL	140.84	10	5.02637
Se001	GDPD5 D545E	HLA-C*12:02	MT	AAVRRTSR[E]V	421.12	WT	AAVRRTSR[D]V	2128.34	10	1.69107
Se001	CHD8 A2231T	HLA-C*12:02	MT	S[T]VSTAAAQF	314.17	WT	S[A]VSTAAAQF	229.08	10	10.14659
Se001	CHD8 A2231T	HLA-C*12:02	MT	MAEEEAS[T]V	498.84	WT	MAEEEAS[A]V	636.3	9	10.14659
Se001	PAK6 D88N	HLA-A*24:02	MT	GYISGLLN[N]I	42.14	WT	GYISGLLN[D]I	72.62	10	3.55173
Se001	PAK6 D88N	HLA-C*14:03	MT	GYISGLLN[N]I	441.22	WT	GYISGLLN[D]I	444.98	10	3.55173
Se001	ZNF106 S26G	HLA-A*33:03	MT	HMR[G]MLHHR	13.1	WT	HMR[S]MLHHR	9.34	9	5.79401
Se001	ZNF106 S26G	HLA-B*44:03	MT	KEMDEHMR[G]	56.42	WT	KEMDEHMR[S]M	40.28	10	5.79401
Se001	ZNF106 S26G	HLA-C*14:03	MT	R[G]MLHHREL	112.24	WT	R[S]MLHHREL	75.75	9	5.79401
Se001	ZNF106 S26G	HLA-A*33:03	MT	EHMR[G]MLHHR	218.56	WT	EHMR[S]MLHHR	159.67	10	5.79401
Se001	ZNF106 S26G	HLA-C*14:03	MT	MR[G]MLHHREL	403.86	WT	MR[S]MLHHREL	155.14	10	5.79401
Se001	KIF7 I1203K	HLA-C*14:03	MT	RYMW[K]NQEL	7.45	WT	RYMW[I]NQEL	7.14	9	1.22908
Se001	KIF7 I1203K	HLA-A*24:02	MT	RYMW[K]NQEL	43.37	WT	RYMW[I]NQEL	9.88	9	1.22908
Se001	KIF7 I1203K	HLA-C*14:03	MT	GRYMW[K]NQEL	329.75	WT	GRYMW[I]NQEL	223.79	10	1.22908
Se001	EPOR S318I	HLA-A*24:02	MT	LWW[I]PCTPF	416.29	WT	LWW[S]PCTPF	154.17	9	3.2699
Se001	ZNF100 K137T	HLA-A*24:02	MT	KYG[T]YGHNDL	262.25	WT	KYG[K]YGHNDL	186.86	10	2.89783
Se001	PLAUR V17L	HLA-A*33:03	MT	C[L]PASWGLR	196.21	WT	C[V]PASWGLR	80.05	9	29.52336
Se001	PLAUR V17L	HLA-A*33:03	MT	TC[L]PASWGLR	345.58	WT	TC[V]PASWGLR	433.87	10	29.52336
Se001	FIZ1 K49N	HLA-A*33:03	MT	TAL[N]PHACPR	32.71	WT	TAL[K]PHACPR	40.66	10	2.89697
Se001	FIZ1 K49N	HLA-A*33:03	MT	AL[N]PHACPR	128.23	WT	AL[K]PHACPR	102.25	9	2.89697
Se001	SLC25A1 T266M	HLA-B*44:03	MT	LEAHKYRN[M]W	151.82	WT	LEAHKYRN[T]W	166.89	10	19.459
Se001	SLC25A1 T266M	HLA-C*14:03	MT	KYRN[M]WDCGL	153.97	WT	KYRN[T]WDCGL	201.93	10	19.459

Se001	SLC25A1 T266M	HLA-C*14:03	MT	[M]WDCGLQL	220.07	WT	[T]WDCGLQL	515.41	9	19.459
Se001	SLC25A1 T266M	HLA-C*14:03	MT	YRN[M]WDCGL	351.83	WT	YRN[T]WDCGL	563.48	9	19.459
Se001	SUN2 Q505E	HLA-B*44:03	MT	EEMQA[E]LREL	143.91	WT	EEMQA[Q]LREL	109.19	10	27.5642
Se001	SUN2 Q505E	HLA-B*44:03	MT	A[E]LRELESKI	312.42	WT	A[Q]LRELESKI	13421.37	10	27.5642
Se001	MECP2 P191A	HLA-A*33:03	MT	S[A]KAPGTGR	95.68	WT	S[P]KAPGTGR	2221.78	9	10.73632
Se004	ALPL G349R	HLA-B*40:02	MT	[R]JERENVSMV	51.17	WT	[G]JERENVSMV	104.77	9	96.50631
Se004	CC2D1B A387D	HLA-A*33:03	MT	[D]LQQRNLNKYR	171.89	WT	[A]LQQRNLNKYR	744	10	10.07498
Se004	CC2D1B A387D	HLA-B*40:02	MT	TESQTVLD[D]L	347.31	WT	TESQTVLD[A]L	89.16	10	10.07498
Se004	CC2D1B A387D	HLA-A*33:03	MT	TVLD[D]LQQR	369.66	WT	TVLD[A]LQQR	147.15	9	10.07498
Se004	HCN3 W294C	HLA-A*31:01	MT	HMVNHS[C]GR	26.79	WT	HMVNHS[W]GR	10.53	9	1.7876
Se004	HCN3 W294C	HLA-A*33:03	MT	HMVNHS[C]GR	30.62	WT	HMVNHS[W]GR	9.04	9	1.7876
Se004	ARHGEF2 G890C	HLA-C*14:03	MT	SLPA[C]DALYL	241.89	WT	SLPA[G]DALYL	253.43	10	35.74452
Se004	ARHGEF2 G890C	HLA-C*03:04	MT	RSLPA[C]DAL	290.7	WT	RSLPA[G]DAL	146.86	9	35.74452
Se004	SEC16B G382A	HLA-C*03:04	MT	MV[A]SDIAEL	18.41	WT	MV[G]SDIAEL	281.07	9	1.27372
Se004	SEC16B G382A	HLA-C*03:04	MT	V[A]SDIAELLM	108.87	WT	V[G]SDIAELLM	5025.7	10	1.27372
Se004	SEC16B G382A	HLA-C*03:04	MT	MV[A]SDIAEL	109.97	WT	MV[G]SDIAEL	1855.53	10	1.27372
Se004	SEC16B G382A	HLA-C*03:04	MT	SMV[A]SDIAEL	126.5	WT	SMV[G]SDIAEL	157.35	10	1.27372
Se004	SEC16B G382A	HLA-C*03:04	MT	V[A]SDIAEL	153.89	WT	V[G]SDIAEL	6403.25	9	1.27372
Se004	SEC16B G382A	HLA-C*14:03	MT	MV[A]SDIAEL	447.05	WT	MV[G]SDIAEL	3242.66	9	1.27372
Se004	KIF14 S409C	HLA-C*03:04	MT	FIYDVSWF[C]F	261.71	WT	FIYDVSWF[S]F	69.51	10	3.31938
Se004	KIF14 S409C	HLA-C*14:03	MT	IYDVSWF[C]F	360.76	WT	IYDVSWF[S]F	85.66	9	3.31938
Se004	ELK4 L392F	HLA-A*31:01	MT	TQVCF[L]LR	19.49	WT	TQVCF[L]LR	64.8	9	1.8455
Se004	ELK4 L392F	HLA-A*31:01	MT	YTQVCF[L]LR	29.36	WT	YTQVCF[L]LR	72.53	10	1.8455
Se004	ELK4 L392F	HLA-A*33:03	MT	YTQVCF[L]LR	30.91	WT	YTQVCF[L]LR	85.62	10	1.8455
Se004	ELK4 L392F	HLA-A*31:01	MT	L[F]LRFVLER	35.04	WT	L[L]LRFVLER	62.71	9	1.8455
Se004	ELK4 L392F	HLA-A*33:03	MT	FL[F]LRFVLER	42.61	WT	FL[L]LRFVLER	149.41	10	1.8455
Se004	ELK4 L392F	HLA-A*31:01	MT	FL[F]LRFVLER	47.73	WT	FL[L]LRFVLER	116.67	10	1.8455
Se004	ELK4 L392F	HLA-A*33:03	MT	TQVCF[L]LR	83.8	WT	TQVCF[L]LR	398.01	9	1.8455
Se004	ELK4 L392F	HLA-A*33:03	MT	L[F]LRFVLER	129.2	WT	L[L]LRFVLER	364.43	9	1.8455
Se004	ELK4 L392F	HLA-C*14:03	MT	LYTQVCF[L]L	167.65	WT	LYTQVCF[L]L	103.86	10	1.8455
Se004	ELK4 L392F	HLA-C*14:03	MT	LYTQVCF[L]F	269.14	WT	LYTQVCF[L]L	134.07	9	1.8455
Se004	ELK4 L392F	HLA-C*03:04	MT	YTQVCF[L]L	458.69	WT	YTQVCF[L]L	304.9	9	1.8455
Se004	ATAD2B R1108Q	HLA-C*14:03	MT	F[Q]HKQRNPM	50.4	WT	F[R]HKQRNPM	77.19	9	1.71645
Se004	ATAD2B R1108Q	HLA-C*03:04	MT	F[Q]HKQRNPM	206.69	WT	F[R]HKQRNPM	3121.41	9	1.71645
Se004	ATAD2B R1108Q	HLA-C*14:03	MT	AF[Q]HKQRNPM	227.05	WT	AF[R]HKQRNPM	170.63	10	1.71645
Se004	CEP68 E755Q	HLA-C*03:04	MT	AAMEHPC[Q]GV	80.48	WT	AAMEHPC[E]GV	122.39	10	3.21778
Se004	STK39 T421P	HLA-B*40:02	MT	PEIAVSAS[P]I	331.52	WT	PEIAVSAS[T]I	612.51	10	8.69419
Se004	EPHA4 I141F	HLA-C*03:04	MT	[F]ALVSVRVF	6	WT	[I]ALVSVRVF	60.79	9	3.16109
Se004	EPHA4 I141F	HLA-C*03:04	MT	LAFQDVGAC[F]	52.81	WT	LAFQDVGAC[I]	156.43	10	3.16109
Se004	EPHA4 I141F	HLA-C*14:03	MT	[F]ALVSVRVF	108.01	WT	[I]ALVSVRVF	480.79	9	3.16109
Se004	EPHA4 I141F	HLA-A*31:01	MT	GAC[F]ALVSVR	143.46	WT	GAC[I]ALVSVR	293.04	10	3.16109
Se004	EPHA4 I141F	HLA-A*31:01	MT	AC[F]ALVSVR	161.46	WT	AC[I]ALVSVR	651.23	9	3.16109
Se004	EPHA4 I141F	HLA-C*03:04	MT	[I]ALVSVRVFY	198.53	WT	[J]ALVSVRVFY	2076.8	10	3.16109
Se004	EPHA4 I141F	HLA-C*03:04	MT	FQDVGAC[F]AL	213.54	WT	FQDVGAC[I]AL	99.23	10	3.16109
Se004	EPHA4 I141F	HLA-C*14:03	MT	AFQDVGAC[F]	274.63	WT	AFQDVGAC[I]	1194.36	9	3.16109
Se004	EPHA4 I141F	HLA-B*40:02	MT	FQDVGAC[F]AL	454.94	WT	FQDVGAC[I]AL	549.27	10	3.16109
Se004	EPHA4 I141F	HLA-C*14:03	MT	C[F]ALVSVRVF	460.54	WT	C[I]ALVSVRVF	4774.08	10	3.16109
Se004	NBEAL2 S999F	HLA-C*03:04	MT	WAMDMNVLM[F]	8.68	WT	WAMDMNVLM[S]	1619.94	10	3.41435
Se004	NBEAL2 S999F	HLA-C*14:03	MT	WAMDMNVLM[F]	104.37	WT	WAMDMNVLM[S]	822.74	10	3.41435
Se004	NBEAL2 S999F	HLA-C*14:03	MT	AMDMMNVLM[F]	445.43	WT	AMDMMNVLM[S]	15624.88	9	3.41435
Se004	NBEAL2 S999F	HLA-C*03:04	MT	VLM[F]AQLLM	495.65	WT	VLM[S]AQLLM	153.31	9	3.41435
Se004	IFRD2 S53F	HLA-A*31:01	MT	G[F]LTPRPPR	36.11	WT	G[S]LTPRPPR	28.32	9	22.75744
Se004	IFRD2 S53F	HLA-A*31:01	MT	TG[F]LTPRPPR	92.5	WT	TG[S]LTPRPPR	647.99	10	22.75744
Se004	IFRD2 S53F	HLA-C*03:04	MT	[F]LTPRPPRPV	143.28	WT	[S]LTPRPPRPV	2375.82	10	22.75744
Se004	IFRD2 S53F	HLA-A*33:03	MT	TG[F]LTPRPPR	186.71	WT	TG[S]LTPRPPR	1282.5	10	22.75744
Se004	IFRD2 S53F	HLA-A*33:03	MT	TPTG[F]LTPR	212.23	WT	TPTG[S]LTPR	933.3	9	22.75744
Se004	IFRD2 S53F	HLA-A*33:03	MT	G[F]LTPRPPR	223.84	WT	G[S]LTPRPPR	467.59	9	22.75744
Se004	IFRD2 S53F	HLA-C*14:03	MT	[F]LTPRPPRPV	264.68	WT	[S]LTPRPPRPV	1124.53	10	22.75744
Se004	GRAMD1C E274K	HLA-A*31:01	MT	SWSSL[K]DYFK	178.16	WT	SWSSL[E]DYFK	474	10	2.26201
Se004	MFS10 L209F	HLA-C*03:04	MT	FAL[F]FAASDL	10.2	WT	FAL[L]FAASDL	12.27	10	21.79016
Se004	MFS10 L209F	HLA-B*44:03	MT	LEMALPWFAL[F]	21.88	WT	LEMALPWFAL[L]	107.62	10	21.79016
Se004	MFS10 L209F	HLA-C*14:03	MT	[F]FAASDLLF	26.54	WT	[L]FAASDLLF	133.53	9	21.79016
Se004	MFS10 L209F	HLA-B*40:02	MT	LEMALPWFAL[F]	27.63	WT	LEMALPWFAL[L]	9.91	10	21.79016
Se004	MFS10 L209F	HLA-C*14:03	MT	L[F]FAASDLL	70.91	WT	L[L]FAASDLL	1124.55	9	21.79016
Se004	MFS10 L209F	HLA-C*14:03	MT	L[F]FAASDLLF	88.58	WT	L[L]FAASDLLF	1137.2	10	21.79016
Se004	MFS10 L209F	HLA-C*14:03	MT	MAPWFAL[F]F	167.92	WT	MAPWFAL[L]F	65.02	9	21.79016
Se004	MFS10 L209F	HLA-C*14:03	MT	[F]FAASDLLFI	218.29	WT	[L]FAASDLLFI	1109.4	10	21.79016
Se004	MFS10 L209F	HLA-C*14:03	MT	FAL[F]FAASDL	356.66	WT	FAL[L]FAASDL	640	10	21.79016
Se004	MFS10 L209F	HLA-C*03:04	MT	MAPWFAL[F]F	393.02	WT	MAPWFAL[L]F	236	9	21.79016
Se004	MAN2B2 R860H	HLA-B*40:02	MT	GEAQADL[H]RV	143.32	WT	GEAQADL[R]RV	254	10	5.5156
Se004	MAN2B2 R860H	HLA-B*40:02	MT	AQADL[H]RVLL	264.8	WT	AQADL[R]RVLL	845.16	9	5.5156
Se004	MAN2B2 R860H	HLA-B*40:02	MT	AQADL[H]RVLL	316.06	WT	AQADL[R]RVLL	735.25	10	5.5156
Se004	MAN2B2 R860H	HLA-A*33:03	MT	QADL[H]RVLLR	494.4	WT	QADL[R]RVLLR	480.41	10	5.5156
Se004	WDFY3 G3428R	HLA-A*31:01	MT	RILV[R]DSRGR	36.87	WT	RILV[G]DSRGR	87.05	10	3.40416
Se004	WDFY3 G3428R	HLA-A*31:01	MT	HSRILV[R]DSR	49.59	WT	HSRILV[G]DSR	78.39	10	3.40416
Se004	WDFY3 G3428R	HLA-A*33:03	MT	HSRILV[R]DSR	101.07	WT	HSRILV[G]DSR	159.45	10	3.40416
Se004	SCOC R44W	HLA-C*14:03	MT	S[W]PEVSAGSL	37.77	WT	S[R]PEVSAGSL	187.47	10	58.20973
Se004	DCLK2 P518R	HLA-B*44:03	MT	[R]JENLLVCEY	27.82	WT	[P]JENLLVCEY	203.66	9	3.3311

Se004	DCLK2 P518R	HLA-A*33:03	MT	SIVHRDIK[R]	148.11	WT	SIVHRDIK[P]	37181.45	9	3.3311
Se004	DCLK2 P518R	HLA-A*31:01	MT	SIVHRDIK[R]	169.38	WT	SIVHRDIK[P]	35458.58	9	3.3311
Se004	DCLK2 P518R	HLA-A*31:01	MT	LSIVHRDIK[R]	236.74	WT	LSIVHRDIK[P]	33652.03	10	3.3311
Se004	DCLK2 P518R	HLA-A*33:03	MT	LSIVHRDIK[R]	343.99	WT	LSIVHRDIK[P]	35797.48	10	3.3311
Se004	MYO10 W1375L	HLA-B*40:02	MT	EEMHH[L]ITLL	16.56	WT	EEMHH[W]ITLL	16.08	9	17.09532
Se004	MYO10 W1375L	HLA-B*40:02	MT	EEMHH[L]ITLL	37.42	WT	EEMHH[W]ITLL	37.68	10	17.09532
Se004	MYO10 W1375L	HLA-B*44:03	MT	EEMHH[L]ITLL	117.36	WT	EEMHH[W]ITLL	97.69	10	17.09532
Se004	MYO10 W1375L	HLA-B*44:03	MT	EEMHH[L]ITLL	125.47	WT	EEMHH[W]ITLL	103.75	9	17.09532
Se004	CARD6 E201D	HLA-C*14:03	MT	RY[D]JELDDSL	254.37	WT	RY[E]JELDDSL	334.01	9	8.16256
Se004	ERBB2IP F212Y	HLA-C*14:03	MT	[Y]WMDANRLTF	5.18	WT	[F]WMDANRLTF	6.72	10	12.03567
Se004	ERBB2IP F212Y	HLA-B*40:02	MT	KE[Y]WMDANRL	23.96	WT	KE[F]WMDANRL	21.41	10	12.03567
Se004	ERBB2IP F212Y	HLA-B*44:03	MT	LEQLSGLKE[Y]	124.66	WT	LEQLSGLKE[F]	335.47	10	12.03567
Se004	ERBB2IP F212Y	HLA-A*31:01	MT	KE[Y]WMDANR	290.75	WT	KE[F]WMDANR	266.67	9	12.03567
Se004	ERBB2IP F212Y	HLA-C*14:03	MT	[Y]WMDANRLT	390.27	WT	[F]WMDANRLT	814.48	9	12.03567
Se004	RASA1 R674C	HLA-A*31:01	MT	ILFM[C]CQLSR	28.31	WT	ILFM[R]CQLSR	19.52	10	5.10157
Se004	RASA1 R674C	HLA-A*31:01	MT	LFM[C]CQLSR	56.1	WT	LFM[R]CQLSR	51.62	9	5.10157
Se004	RASA1 R674C	HLA-A*33:03	MT	ILFM[C]CQLSR	88.03	WT	ILFM[R]CQLSR	47.25	10	5.10157
Se004	RASA1 R674C	HLA-A*33:03	MT	LFM[C]CQLSR	136.4	WT	LFM[R]CQLSR	142.94	9	5.10157
Se004	RASA1 R674C	HLA-C*14:03	MT	LFM[C]CQLSRL	231.43	WT	LFM[R]CQLSRL	209.44	10	5.10157
Se004	PIIP5K2 T1175N	HLA-C*14:03	MT	ILTPPPA[N]L	490.68	WT	ILTPPPA[T]L	141.84	9	3.9837
Se004	EGR1 S501T	HLA-C*14:03	MT	TYS[T]VPPAF	20.26	WT	TYS[S]VPPAF	12.89	9	118.37778
Se004	EGR1 S501T	HLA-C*14:03	MT	TTYS[T]VPPAF	74.99	WT	TTYS[S]VPPAF	63.12	10	118.37778
Se004	EGR1 S501T	HLA-C*03:04	MT	TTYS[T]VPPAF	89.49	WT	TTYS[S]VPPAF	64.31	10	118.37778
Se004	EGR1 S501T	HLA-C*03:04	MT	SVATTYS[TV	409.6	WT	SVATTYS[S]V	433.11	9	118.37778
Se004	ABHD16A D360N	HLA-A*31:01	MT	ALKVMP[N]SWR	25.62	WT	ALKVMP[D]SWR	51.25	10	42.77196
Se004	ABHD16A D360N	HLA-A*33:03	MT	[N]SWRGLVTR	50.62	WT	[D]SWRGLVTR	51.46	9	42.77196
Se004	ABHD16A D360N	HLA-A*31:01	MT	[N]SWRGLVTR	51.23	WT	[D]SWRGLVTR	301.63	9	42.77196
Se004	ABHD16A D360N	HLA-C*03:04	MT	KVMP[N]SWRGL	142.48	WT	KVMP[D]SWRGL	280.42	10	42.77196
Se004	ABHD16A D360N	HLA-C*14:03	MT	VMP[N]SWRGL	166.9	WT	VMP[D]SWRGL	178.02	9	42.77196
Se004	ABHD16A D360N	HLA-C*14:03	MT	KVMP[N]SWRGL	181.54	WT	KVMP[D]SWRGL	673.88	10	42.77196
Se004	ABHD16A D360N	HLA-A*33:03	MT	ALKVMP[N]SWR	240.37	WT	ALKVMP[D]SWR	453.04	10	42.77196
Se004	ABHD16A D360N	HLA-C*14:03	MT	VMP[N]SWRGLV	379.11	WT	VMP[D]SWRGLV	434.87	10	42.77196
Se004	ABHD16A G257A	HLA-B*40:02	MT	CEGNA[A]FYEV	138.35	WT	CEGNA[G]FYEV	135.54	10	42.77196
Se004	MTCH1 R209H	HLA-C*14:03	MT	MMMQCVS[H]M	34.61	WT	MMMQCVS[R]M	33.03	9	220.97519
Se004	MTCH1 R209H	HLA-C*03:04	MT	MMMQCVS[H]M	40.07	WT	MMMQCVS[R]M	32.94	9	220.97519
Se004	MTCH1 R209H	HLA-C*03:04	MT	MMMQCVS[H]M	60.32	WT	MMMQCVS[R]JML	46.59	10	220.97519
Se004	MTCH1 R209H	HLA-C*14:03	MT	MMMQCVS[H]M	69.14	WT	MMMQCVS[R]JML	41.69	10	220.97519
Se004	MTCH1 R209H	HLA-C*03:04	MT	VS[H]MLAHL	101.27	WT	VS[R]MLAHL	404.15	9	220.97519
Se004	MTCH1 R209H	HLA-B*40:02	MT	YEMMMQCVS[H]	194.42	WT	YEMMMQCVS[R]	1497.45	10	220.97519
Se004	MTCH1 R209H	HLA-C*14:03	MT	MMQCVS[H]JML	258.56	WT	MMQCVS[R]JML	139.18	9	220.97519
Se004	MTCH1 R209H	HLA-B*44:03	MT	YEMMMQCVS[H]	344.14	WT	YEMMMQCVS[R]	3527.53	10	220.97519
Se004	MTCH1 R209H	HLA-C*03:04	MT	CVS[H]MLAHL	378.35	WT	CVS[R]MLAHL	651.43	10	220.97519
Se004	MTCH1 R209H	HLA-C*03:04	MT	MMQCVS[H]JML	398.94	WT	MMQCVS[R]JML	391.66	9	220.97519
Se004	UBR2 W1246R	HLA-A*31:01	MT	[R]JRTISQQIK	235.66	WT	[W]JRTISQQIK	3718.27	10	11.32668
Se004	PHF3 N1727I	HLA-C*03:04	MT	VAQNSPSVE[I]	181.94	WT	VAQNSPSVE[N]	26354.9	10	8.72393
Se004	ASCC3 N1368H	HLA-A*31:01	MT	RVF[H]KYPTSK	26.67	WT	RVF[N]KYPTSK	21.37	10	5.64025
Se004	ASCC3 N1368H	HLA-A*31:01	MT	LAIFRVF[H]K	159.21	WT	LAIFRVF[N]K	211.13	9	5.64025
Se004	ASCC3 N1368H	HLA-A*33:03	MT	ELAIFRVF[H]K	233.02	WT	ELAIFRVF[N]K	289.67	10	5.64025
Se004	ASCC3 N1368H	HLA-A*31:01	MT	VF[H]KYPTSK	306.15	WT	VF[N]KYPTSK	210.38	9	5.64025
Se004	ASCC3 N1368H	HLA-A*33:03	MT	LAIFRVF[H]K	333.54	WT	LAIFRVF[N]K	411.09	9	5.64025
Se004	TUBE1 D22Y	HLA-A*31:01	MT	CCFW[Y]LALR	72.51	WT	CCFW[D]LALR	285.9	9	5.59598
Se004	TUBE1 D22Y	HLA-B*40:02	MT	NQIGCCFW[Y]L	145.48	WT	NQIGCCFW[D]L	357.8	10	5.59598
Se004	TUBE1 D22Y	HLA-A*33:03	MT	CCFW[Y]LALR	162.83	WT	CCFW[D]LALR	485.56	9	5.59598
Se004	TUBE1 D22Y	HLA-A*31:01	MT	GCCFW[Y]LALR	183.22	WT	GCCFW[D]LALR	715.66	10	5.59598
Se004	MRPL32 S14F	HLA-A*31:01	MT	VVSPW[F]AAR	14.82	WT	VVSPW[S]AAR	35.49	9	93.95535
Se004	MRPL32 S14F	HLA-A*33:03	MT	VVSPW[F]AAR	15.48	WT	VVSPW[S]AAR	33.04	9	93.95535
Se004	MRPL32 S14F	HLA-A*33:03	MT	LVVSPW[F]AAR	20.9	WT	LVVSPW[S]AAR	39.27	10	93.95535
Se004	MRPL32 S14F	HLA-A*33:03	MT	W[F]AARGVLR	25.91	WT	W[S]AARGVLR	49.08	9	93.95535
Se004	MRPL32 S14F	HLA-A*31:01	MT	LVVSPW[F]AAR	31.07	WT	LVVSPW[S]AAR	70.43	10	93.95535
Se004	MRPL32 S14F	HLA-A*31:01	MT	W[F]AARGVLR	63.04	WT	W[S]AARGVLR	74.32	9	93.95535
Se004	MRPL32 S14F	HLA-C*03:04	MT	[F]AARGVLRNY	140.96	WT	[S]AARGVLRNY	1896.01	10	93.95535
Se004	MRPL32 S14F	HLA-A*31:01	MT	PW[F]AARGVLR	236.65	WT	PW[S]AARGVLR	1672.54	10	93.95535
Se004	MRPL32 S14F	HLA-C*14:03	MT	[F]AARGVLRNY	330.41	WT	[S]AARGVLRNY	2035.85	10	93.95535
Se004	MRPL32 S14F	HLA-A*33:03	MT	PW[F]AARGVLR	497.9	WT	PW[S]AARGVLR	2678.58	10	93.95535
Se004	COBL Q1004R	HLA-A*31:01	MT	SGKQSTSS[R]	240.36	WT	SGKQSTSS[Q]	34200.05	9	2.06213
Se004	TPST1 V265A	HLA-C*03:04	MT	LQIPWNHS[A]L	103.21	WT	LQIPWNHS[V]L	139.8	10	13.5769
Se004	TPST1 V265A	HLA-C*03:04	MT	HS[A]LHHEEM	144.27	WT	HS[V]LHHEEM	108.3	9	13.5769
Se004	TPST1 V265A	HLA-B*40:02	MT	LQIPWNHS[A]L	239.61	WT	LQIPWNHS[V]L	232.56	10	13.5769
Se004	TPST1 V265A	HLA-C*14:03	MT	LQIPWNHS[A]L	251.99	WT	LQIPWNHS[V]L	569.05	10	13.5769
Se004	TPST1 V265A	HLA-C*14:03	MT	QIPWNHS[A]L	278.06	WT	QIPWNHS[V]L	602.82	9	13.5769
Se004	PEG10 R34T	HLA-C*03:04	MT	[T]SPPTPTVTL	318.49	WT	[R]SPPTPTVTL	340.8	10	34.6753
Se004	PEG10 R34T	HLA-C*14:03	MT	[T]SPPTPTVTL	378.48	WT	[R]SPPTPTVTL	230.94	10	34.6753
Se004	MKLN1 R555K	HLA-A*31:01	MT	[K]NSWSCVYK	98.34	WT	[R]NSWSCVYK	72.33	9	6.89404
Se004	MKLN1 R555K	HLA-A*31:01	MT	SFWIYDIV[K]	229.18	WT	SFWIYDIV[R]	32.25	9	6.89404
Se004	XPO7 R717Q	HLA-B*40:02	MT	QEAK[Q]TLVGL	87.14	WT	QEAK[R]TLVGL	108.04	10	28.88607
Se004	XPO7 R717Q	HLA-A*31:01	MT	K[Q]TLVGLVLR	193.29	WT	K[R]TLVGLVLR	4974.19	9	28.88607
Se004	XPO7 R717Q	HLA-B*40:02	MT	NEQEAK[Q]JTL	202.32	WT	NEQEAK[R]JTL	382.76	9	28.88607
Se004	LY6E C71S	HLA-C*03:04	MT	KT[S]SPACPI	408.96	WT	KT[C]SPACPI	2580.65	9	318.12058

Se004	USP6NL A556V	HLA-A*31:01	MT	KALD[V]EDGKR	477.49	WT	KALD[A]EDGKR	1014.71	10	4.35346
Se004	IFIT1 C163S	HLA-C*03:04	MT	A[S]FEKVLEV	312.19	WT	A[C]FEKVLEV	8721.46	9	62.37524
Se004	IFIT1 C163S	HLA-C*14:03	MT	NYERAKA[S]F	357.35	WT	NYERAKA[C]F	1606.38	9	62.37524
Se004	ZFYVE27 E71D	HLA-A*31:01	MT	IQL[D]AFLSR	90.47	WT	IQL[E]AFLSR	84.35	9	11.61746
Se004	ZFYVE27 E71D	HLA-A*31:01	MT	LIQL[D]AFLSR	389	WT	LIQL[E]AFLSR	379.6	10	11.61746
Se004	ZFYVE27 E71D	HLA-B*40:02	MT	IQL[D]AFLSRL	430.2	WT	IQL[E]AFLSRL	282.79	10	11.61746
Se004	AFAP1L2 K256R	HLA-A*33:03	MT	DVIVLGLQS[R]	235.34	WT	DVIVLGLQS[K]	3407.74	10	4.49712
Se004	HNRNPUL2 R720Q	HLA-C*14:03	MT	YYRQYN[Q]DW	165.88	WT	YYRQYN[R]DW	176.66	9	65.10316
Se004	HNRNPUL2 R720Q	HLA-C*14:03	MT	QYN[Q]DWQSY	396.29	WT	QYN[R]DWQSY	615.26	9	65.10316
Se004	HNRNPUL2 R720Q	HLA-C*14:03	MT	QYN[Q]DWQSY	499.98	WT	QYN[R]DWQSY	701.9	10	65.10316
Se004	MACROD1 R10C	HLA-A*31:01	MT	RLSG[C]LAQLR	27.14	WT	RLSG[R]LAQLR	20.22	10	4.65675
Se004	MACROD1 R10C	HLA-C*14:03	MT	SRLSG[C]LAQL	357.06	WT	SRLSG[R]LAQL	292.88	10	4.65675
Se004	MACROD1 R10C	HLA-A*31:01	MT	LSG[C]LAQLR	472.69	WT	LSG[R]LAQLR	398.16	9	4.65675
Se004	C11orf80 V70L	HLA-A*31:01	MT	KIIM[L]HPKVR	42.9	WT	KIIM[V]HPKVR	38.29	10	4.82897
Se004	C11orf80 V70L	HLA-A*31:01	MT	IIM[L]HPKVR	109.09	WT	IIM[V]HPKVR	98.65	9	4.82897
Se004	C11orf80 V70L	HLA-A*33:03	MT	IIM[L]HPKVR	279.15	WT	IIM[V]HPKVR	263.6	9	4.82897
Se004	C11orf80 V70L	HLA-C*14:03	MT	M[L]HPKVRFFH	360.78	WT	M[V]HPKVRFFH	319.82	10	4.82897
Se004	HSPA8 G190V	HLA-C*03:04	MT	[V]AERNVLIF	328.21	WT	[G]AERNVLIF	1988.55	9	441.40813
Se004	HSPA8 G190V	HLA-C*03:04	MT	V[V]AERNVLIF	484.88	WT	V[G]AERNVLIF	2931.08	10	441.40813
Se004	ITPR2 S7C	HLA-B*44:03	MT	TEKMS[C]FLY	84.86	WT	TEKMS[S]FLY	49.5	9	3.06493
Se004	ITPR2 S7C	HLA-B*40:02	MT	TEKMS[C]FLYI	200.59	WT	TEKMS[S]FLYI	193.18	10	3.06493
Se004	MMP19 F393L	HLA-C*14:03	MT	LYWPLNQKV[L]	42	WT	LYWPLNQKV[F]	49.07	10	3.98569
Se004	MMP19 F393L	HLA-C*14:03	MT	YWPLNQKV[L]L	53.72	WT	YWPLNQKV[F]L	77.29	10	3.98569
Se004	MMP19 F393L	HLA-C*14:03	MT	YWPLNQKV[L]	104.08	WT	YWPLNQKV[F]	143.34	9	3.98569
Se004	SOCS4 G174C	HLA-A*33:03	MT	ELRD[C]QLKR	165.41	WT	ELRD[G]QLKR	545.95	9	3.91325
Se004	SOCS4 G174C	HLA-A*33:03	MT	ELRD[C]QLKRR	333.51	WT	ELRD[G]QLKRR	772.61	10	3.91325
Se004	CEMIP I123V	HLA-A*31:01	MT	GNFTI[V]LYGR	26.12	WT	GNFTI[I]LYGR	25.35	10	2.38728
Se004	CEMIP I123V	HLA-A*33:03	MT	NFTI[V]LYGR	28.16	WT	NFTI[I]LYGR	32.16	9	2.38728
Se004	CEMIP I123V	HLA-A*33:03	MT	GNFTI[V]LYGR	81.36	WT	GNFTI[I]LYGR	75.72	10	2.38728
Se004	CEMIP I123V	HLA-A*31:01	MT	NFTI[V]LYGR	108.17	WT	NFTI[I]LYGR	131.94	9	2.38728
Se004	CEMIP I123V	HLA-B*40:02	MT	FQGNFTI[V]L	368.72	WT	FQGNFTI[I]L	557.11	9	2.38728
Se004	CCDC64B L241F	HLA-A*33:03	MT	E[F]LLLRERR	25.61	WT	E[L]LLLRERR	71.02	10	1.94
Se004	CCDC64B L241F	HLA-A*33:03	MT	E[F]LLLRERR	28.42	WT	E[L]LLLRERR	65.25	9	1.94
Se004	CCDC64B L241F	HLA-A*33:03	MT	TTHEE[F]LLLR	53.09	WT	TTHEE[L]LLLR	118.23	10	1.94
Se004	CCDC64B L241F	HLA-A*31:01	MT	TTHEE[F]LLLR	106.35	WT	TTHEE[L]LLLR	230.45	10	1.94
Se004	CCDC64B L241F	HLA-A*33:03	MT	[F]LLLRERR	111.02	WT	[L]LLLRERR	278.84	9	1.94
Se004	CCDC64B L241F	HLA-A*31:01	MT	[F]LLLRERR	134.91	WT	[L]LLLRERR	92.5	9	1.94
Se004	CCDC64B L241F	HLA-A*31:01	MT	E[F]LLLRERR	337.06	WT	E[L]LLLRERR	554.61	10	1.94
Se004	CCDC64B L241F	HLA-A*31:01	MT	E[F]LLLRERR	411.78	WT	E[L]LLLRERR	477.95	9	1.94
Se004	CCDC64B L241F	HLA-C*03:04	MT	TTHEE[F]LLL	472.6	WT	TTHEE[L]LLL	996.7	9	1.94
Se004	APIG1 T734M	HLA-C*03:04	MT	[M]IQASNSTEL	83.48	WT	[T]IQASNSTEL	600.58	10	11.12367
Se004	APIG1 T734M	HLA-C*03:04	MT	NTNPSVTVI[M]	490.54	WT	NTNPSVTVI[T]	20778.02	10	11.12367
Se004	TP53 G113D	HLA-A*31:01	MT	SSCMG[D]MNR	180.37	WT	SSCMG[G]MNR	110.57	9	25.9208
Se004	TP53 G113D	HLA-A*31:01	MT	SSCMG[D]MNR	321.03	WT	SSCMG[G]MNR	172.56	10	25.9208
Se004	TP53 G113D	HLA-A*33:03	MT	SSCMG[D]MNR	411.15	WT	SSCMG[G]MNR	399.16	9	25.9208
Se004	TP53 G113D	HLA-A*33:03	MT	NSSCMG[D]MNR	442.58	WT	NSSCMG[G]MNR	296.66	10	25.9208
Se004	ALKBH5 P322L	HLA-A*31:01	MT	ALK[L]KRSHR	51.57	WT	ALK[P]KRSHR	27.25	9	37.46335
Se004	ALKBH5 P322L	HLA-A*33:03	MT	ALK[L]KRSHR	366.14	WT	ALK[P]KRSHR	260.63	9	37.46335
Se004	MED24 Q874H	HLA-A*31:01	MT	AS[H]LHTVNM	52.02	WT	AS[Q]LHTVNM	96.95	10	16.39195
Se004	MED24 Q874H	HLA-C*03:04	MT	SAS[H]LHTVNM	58.58	WT	SAS[Q]LHTVNM	61.88	10	16.39195
Se004	MED24 Q874H	HLA-C*03:04	MT	MSSSLAS[H]L	70	WT	MSSSLAS[Q]L	45.88	10	16.39195
Se004	MED24 Q874H	HLA-C*03:04	MT	LSAS[H]LHTV	369.42	WT	LSAS[Q]LHTV	1380.75	9	16.39195
Se004	MED24 Q874H	HLA-A*33:03	MT	AS[H]LHTVNM	453.05	WT	AS[Q]LHTVNM	903.09	10	16.39195
Se004	STAT5B S210F	HLA-A*33:03	MT	QV[F]LEAWLQR	47.93	WT	QV[S]LEAWLQR	276.5	10	5.23389
Se004	STAT5B S210F	HLA-A*31:01	MT	V[F]LEAWLQR	57.33	WT	V[S]LEAWLQR	129.84	9	5.23389
Se004	STAT5B S210F	HLA-A*31:01	MT	QV[F]LEAWLQR	72.06	WT	QV[S]LEAWLQR	543.61	10	5.23389
Se004	STAT5B S210F	HLA-A*33:03	MT	V[F]LEAWLQR	178.83	WT	V[S]LEAWLQR	817.53	9	5.23389
Se004	STAT5B S210F	HLA-B*40:02	MT	KQV[F]LEAWL	338.78	WT	KQV[S]LEAWL	477.25	9	5.23389
Se004	AOC3 L516M	HLA-C*03:04	MT	YGNQVSEHT[M]	108.34	WT	YGNQVSEHT[L]	101.47	10	1.32599
Se004	AOC3 L516M	HLA-C*14:03	MT	YGNQVSEHT[M]	380.71	WT	YGNQVSEHT[L]	507.18	10	1.32599
Se004	AOC3 L516M	HLA-B*40:02	MT	SEHT[M]GTVHT	407.7	WT	SEHT[L]GTVHT	424.87	10	1.32599
Se004	MXRA7 P145R	HLA-A*33:03	MT	EGFSFKYS[R]	16.42	WT	EGFSFKYS[P]	21887.4	9	7.18157
Se004	MXRA7 P145R	HLA-A*31:01	MT	SFKYS[R]GKLR	46.73	WT	SFKYS[P]GKLR	45.81	10	7.18157
Se004	MXRA7 P145R	HLA-A*33:03	MT	SFKYS[R]GKLR	62.15	WT	SFKYS[P]GKLR	82.43	10	7.18157
Se004	MXRA7 P145R	HLA-C*03:04	MT	FSFKYS[R]GKLR	65.16	WT	FSFKYS[P]GKLR	41.96	10	7.18157
Se004	MXRA7 P145R	HLA-A*31:01	MT	EGFSFKYS[R]	127.76	WT	EGFSFKYS[P]	29690.4	9	7.18157
Se004	MXRA7 P145R	HLA-A*31:01	MT	[R]GKLRGNQYK	254.9	WT	[P]GKLRGNQYK	11885.67	10	7.18157
Se004	MXRA7 P145R	HLA-C*14:03	MT	FSFKYS[R]GKLR	306.13	WT	FSFKYS[P]GKLR	392.35	10	7.18157
Se004	ARHGEF1 L602M	HLA-C*03:04	MT	QSSDPM[M]SEF	297.59	WT	QSSDPM[L]SEF	405.32	10	7.17865
Se004	ARHGEF1 L602M	HLA-C*03:04	MT	SSDPM[M]SEF	314.38	WT	SSDPM[L]SEF	517.12	9	7.17865
Se004	SLC1A5 V168M	HLA-A*31:01	MT	NG[M]AKHISR	93.96	WT	NG[V]AKHISR	443.4	9	63.33117
Se004	SLC1A5 V168M	HLA-A*33:03	MT	NG[M]AKHISR	98.15	WT	NG[V]AKHISR	304.22	9	63.33117
Se004	SLC1A5 V168M	HLA-A*33:03	MT	NNG[M]AKHISR	322.07	WT	NNG[V]AKHISR	549.56	10	63.33117
Se004	SLC1A5 V168M	HLA-C*03:04	MT	[M]AKHISRFIL	376.46	WT	[V]AKHISRFIL	1815.83	10	63.33117
Se004	SLC1A5 V168M	HLA-B*44:03	MT	EENNG[M]AKHI	380.76	WT	EENNG[V]AKHI	337.75	10	63.33117
Se004	HELZ2 D523E	HLA-B*40:02	MT	GE[D]GLLDTV	326	WT	GE[I]GLLDTV	550.06	9	8.55094
Se004	CABIN1 Y1300H	HLA-C*03:04	MT	TSPY[H]TATPI	376.74	WT	TSPY[Y]TATPI	558.78	10	27.28784
Se004	EP300 S875T	HLA-A*33:03	MT	Q[T]QALHPPPR	58.51	WT	Q[S]QALHPPPR	206.06	10	7.36724

Se004	EP300 S875T	HLA-A*31:01	MT	Q[T]QALHPPPR	58.64	WT	Q[S]QALHPPPR	91.78	10	7.36724
Se004	EP300 S875T	HLA-A*31:01	MT	[T]QALHPPPR	127.5	WT	[S]QALHPPPR	93.33	9	7.36724
Se004	EP300 S875T	HLA-A*33:03	MT	[T]QALHPPPR	309.99	WT	[S]QALHPPPR	561.3	9	7.36724
Se004	EP300 S875T	HLA-C*14:03	MT	MPPGPQ[T]QAL	481.29	WT	MPPGPQ[S]QAL	636.87	10	7.36724
Se004	PLXNB2 R241W	HLA-A*31:01	MT	A[W]NRLLAR	79.02	WT	A[R]NRLLAR	2365.21	9	46.13768
Se004	PLXNB2 R241W	HLA-A*31:01	MT	PA[W]NRLLAR	172.17	WT	PA[R]NRLLAR	572.83	10	46.13768
Se004	PLXNB2 R241W	HLA-C*14:03	MT	HPA[W]NRLL	211.02	WT	HPA[R]NRLL	828.99	9	46.13768
Se004	PLXNB2 R241W	HLA-C*14:03	MT	A[W]NRLLARM	298.65	WT	A[R]NRLLARM	1219.54	10	46.13768
Se004	PLXNB2 R241W	HLA-A*33:03	MT	PA[W]NRLLAR	353.75	WT	PA[R]NRLLAR	1347.08	10	46.13768
Se004	PLXNB2 R241W	HLA-C*03:04	MT	HPA[W]NRLL	421.44	WT	HPA[R]NRLL	1273.27	9	46.13768
Se004	PLXNB2 R241W	HLA-C*14:03	MT	KHPA[W]NRLL	443.38	WT	KHPA[R]NRLL	693.69	9	46.13768
Se004	PLXNB2 R241W	HLA-C*14:03	MT	KHPA[W]NRLL	470.33	WT	KHPA[R]NRLL	692.97	10	46.13768
Se004	MBTPS2 Q210K	HLA-A*31:01	MT	[K]LISPVQQLR	27.82	WT	[Q]LISPVQQLR	168.82	10	4.80532
Se004	BCOR R861H	HLA-B*44:03	MT	EELG[H]ISDF	151.24	WT	EELG[R]ISDF	427.42	9	5.37696
Se004	BCOR R861H	HLA-B*40:02	MT	REELG[H]ISDF	246.58	WT	REELG[R]ISDF	407.1	10	5.37696
Se004	KRBOX4 L32F	HLA-A*33:03	MT	DSAQKN[F]YR	21.15	WT	DSAQKN[L]YR	128.46	9	6.44805
Se004	KRBOX4 L32F	HLA-C*14:03	MT	[F]YRDVMLENY	48.93	WT	[L]YRDVMLENY	274.26	10	6.44805
Se004	KRBOX4 L32F	HLA-A*31:01	MT	DSAQKN[F]YR	237.66	WT	DSAQKN[L]YR	1403.96	9	6.44805
Se004	SUV39H1 I230M	HLA-A*14:03	MT	VRLRAGL[P]M	189.91	WT	VRLRAGL[P]I	450.69	9	4.24908
Se004	SUV39H1 I230M	HLA-A*31:01	MT	P[M]YECNSRCR	266.53	WT	P[I]YECNSRCR	1136.02	10	4.24908
Se004	GPC4 C189F	HLA-C*03:04	MT	[F]VSKYTEQL	45.88	WT	[C]VSKYTEQL	2570.73	9	1.82387
Se004	GPC4 C189F	HLA-B*44:03	MT	DEYLE[F]VSKY	131.71	WT	DEYLE[C]VSKY	154.31	10	1.82387
Se004	GPC4 C189F	HLA-C*14:03	MT	HFTDEYLE[F]	238.02	WT	HFTDEYLE[C]	16093.99	9	1.82387
Se004	GPC4 C189F	HLA-C*14:03	MT	YHFTDEYLE[F]	283.49	WT	YHFTDEYLE[C]	15787.59	10	1.82387
Se004	GPC4 C189F	HLA-C*14:03	MT	[F]VSKYTEQL	457.4	WT	[C]VSKYTEQL	6064.47	9	1.82387
Se005	PLEKHG5 Y435C	HLA-A*14:03	MT	LFKP[Y]IRYCM	340.47	WT	LFKP[Y]IRYCM	330.29	10	3.42977
Se005	TTC21B A279V	HLA-C*14:03	MT	[V]MEPQNAQLF	472.72	WT	[A]MEPQNAQLF	950.26	10	3.88735
Se005	ZNF445 A281V	HLA-C*14:03	MT	FTKP[V]LISWL	272.43	WT	FTKP[A]LISWL	117.01	10	1.966
Se005	ZNF445 A281V	HLA-A*33:03	MT	[V]LISWLEAR	286.61	WT	[A]LISWLEAR	320.95	9	1.966
Se005	CMSS1 N220K	HLA-A*24:02	MT	KFLVFDW[K]W	186	WT	KFLVFDW[N]W	136.54	9	21.36121
Se005	CMSS1 N220K	HLA-A*33:03	MT	FLVFDW[K]WR	367.9	WT	FLVFDW[N]WR	131.92	9	21.36121
Se005	CMSS1 N220K	HLA-A*33:03	MT	DW[K]WRDQKLR	386.83	WT	DW[N]WRDQKLR	388.05	10	21.36121
Se005	SYNPO2 S1106F	HLA-A*24:02	MT	RTYFPAYL[F]	70.44	WT	RTYFPAYL[S]	21258.62	9	3.99695
Se005	SYNPO2 S1106F	HLA-C*14:03	MT	RTYFPAYL[F]	167.97	WT	RTYFPAYL[S]	9088.4	9	3.99695
Se005	SYNPO2 S1106F	HLA-C*14:03	MT	IRTYFPAYL[F]	413.24	WT	IRTYFPAYL[S]	16453.64	10	3.99695
Se005	MDN1 T2349I	HLA-A*33:03	MT	ILLALH[I]ETR	224.48	WT	ILLALH[T]ETR	237.53	10	2.36508
Se005	GSDMD L134F	HLA-A*33:03	MT	NTWQTL[F]HER	10.5	WT	NTWQTL[L]HER	22.16	10	29.73649
Se005	GSDMD L134F	HLA-A*33:03	MT	TL[F]HERHLR	12.51	WT	TL[L]HERHLR	41.88	9	29.73649
Se005	GSDMD L134F	HLA-A*33:03	MT	QTL[L]HERHLR	23.56	WT	QTL[L]HERHLR	34.96	10	29.73649
Se005	GSDMD L134F	HLA-A*33:03	MT	TWQTL[F]HER	32.01	WT	TWQTL[L]HER	72.56	9	29.73649
Se005	SMARCA2 P127R	HLA-C*14:03	MT	YMSPHPS[R]L	15.69	WT	YMSPHPS[P]L	4.99	9	9.1711
Se005	SMARCA2 P127R	HLA-C*14:03	MT	GYMSPHPS[R]L	22.55	WT	GYMSPHPS[P]L	9.24	10	9.1711
Se005	SMARCA2 P127R	HLA-A*33:03	MT	GYMSPHPS[R]	187.78	WT	GYMSPHPS[P]	35506.17	9	9.1711
Se005	SMARCA2 P127R	HLA-A*24:02	MT	GYMSPHPS[R]L	257.29	WT	GYMSPHPS[P]L	221.34	10	9.1711
Se005	SMARCA2 P127R	HLA-C*01:02	MT	YMSPHPS[R]L	432.05	WT	YMSPHPS[P]L	117.75	9	9.1711
Se005	SMARCA2 P127R	HLA-A*33:03	MT	QGYMSPHPS[R]	432.8	WT	QGYMSPHPS[P]	39601.17	10	9.1711
Se005	DFNB31 S407N	HLA-A*33:03	MT	S[N]KELPRNER	334.05	WT	S[S]KELPRNER	210.08	10	1.84475
Se005	SPI1 Q93H	HLA-C*14:03	MT	LYRHMELE[H]M	162.7	WT	LYRHMELE[Q]M	132.96	10	20.32371
Se005	SPI1 Q93H	HLA-B*44:03	MT	MELE[H]MHVL	175.41	WT	MELE[Q]MHVL	277.15	9	20.32371
Se005	SPI1 Q93H	HLA-C*14:03	MT	[H]MHVLDTPM	227.85	WT	[Q]MHVLDTPM	1187.68	9	20.32371
Se005	CD163 P1037T	HLA-A*33:03	MT	[T]T]QKATTGR	163.69	WT	[T]P]QKATTGR	4088.22	9	13.6809
Se005	RBM25 P750T	HLA-B*44:03	MT	[T]ELFAYPLDW	27.38	WT	[P]ELFAYPLDW	338.75	10	23.13121
Se005	PTPN21 R59Q	HLA-B*44:03	MT	[R]EVTYFSLW	14.16	WT	[R]EVTYFSLW	17.42	9	3.08457
Se005	PTPN21 R59Q	HLA-B*44:03	MT	[Q]EVTYFSLWY	20.6	WT	[R]EVTYFSLWY	20.33	10	3.08457
Se005	PTPN21 R59Q	HLA-B*44:03	MT	LEL[Q]EVTYF	91.64	WT	LEL[R]EVTYF	109.68	9	3.08457
Se005	SCAPER G22C	HLA-A*33:03	MT	IVAAE[Q]RTAR	124.89	WT	IVAAE[G]RTAR	203.34	10	2.511
Se005	MUC16 V9603I	HLA-B*44:03	MT	TETST[I]LYKM	110.28	WT	TETST[V]LYKM	99.75	10	4.76995
Se005	GNAS A46P	HLA-A*33:03	MT	RAL[P]T]SNAR	321.78	WT	RAL[A]T]SNAR	251.8	9	252.56319
Se005	PANX2 T188M	HLA-A*33:03	MT	QSKGPGI[M]ER	198.13	WT	QSKGPGI[T]ER	258.17	10	2.10672
Se005	SLC25A43 A89T	HLA-A*24:02	MT	[T]YRKFFVFLF	24.17	WT	[A]YRKFFVFLF	56.59	9	3.64983
Se005	SLC25A43 A89T	HLA-A*33:03	MT	SAVQLA[T]YR	61.79	WT	SAVQLA[A]YR	44.69	9	3.64983
Se005	SLC25A43 A89T	HLA-A*33:03	MT	CSAVQLA[T]YR	75.42	WT	CSAVQLA[A]YR	56.74	10	3.64983
Se005	SLC25A43 A89T	HLA-C*14:03	MT	[T]YRKFFVFLF	153.89	WT	[A]YRKFFVFLF	259.82	9	3.64983
Se005	SLC25A43 A89T	HLA-A*24:02	MT	A[T]YRKFFVFLF	437.27	WT	A[A]YRKFFVFLF	1061.54	10	3.64983
Se005	IDH3G M70I	HLA-A*33:03	MT	[L]LHVKSVFR	53.13	WT	[L]M]LHVKSVFR	39.15	10	29.13056
Se005	IDH3G M70I	HLA-A*33:03	MT	[I]LHVKSVFR	66.34	WT	[M]LHVKSVFR	15.02	9	29.13056
Se006	DNAJC11 Y391F	HLA-B*55:02	MT	LPSAMF[F]ATV	27.31	WT	LPSAMF[Y]ATV	49.73	10	17.95547
Se006	DNAJC11 Y391F	HLA-B*55:02	MT	LPSAMF[F]AT	33.89	WT	LPSAMF[Y]AT	37.08	9	17.95547
Se006	DNAJC11 Y391F	HLA-C*15:02	MT	[F]ATVGPLVV	95.17	WT	[Y]ATVGPLVV	98.3	9	17.95547
Se006	DNAJC11 Y391F	HLA-B*51:01	MT	LPSAMF[F]ATV	98.08	WT	LPSAMF[Y]ATV	137.91	10	17.95547
Se006	ARHGEF10L A97V	HLA-A*11:01	MT	A[V]DAAAFSGAR	375.51	WT	A[A]DAAAFSGAR	997.34	10	5.10718
Se006	POMGNT1 A377S	HLA-C*15:02	MT	I[S]VDFFSFL	86.3	WT	I[A]VDFFSFL	166.54	9	30.33687
Se006	ATXN7L2 R230W	HLA-A*11:01	MT	KTH[Q]KMARK	26.33	WT	KTH[R]KMARK	57.49	9	1.57373
Se006	ATXN7L2 R230W	HLA-A*11:01	MT	RLPPKTH[W]K	180.8	WT	RLPPKTH[R]K	235.11	9	1.57373
Se006	CEP350 N2321S	HLA-A*11:01	MT	[S]LHKSEMLK	70.42	WT	[N]LHKSEMLK	564.51	10	2.79971
Se006	CEP350 N2321S	HLA-A*11:01	MT	GLAIE[S]LHK	145.09	WT	GLAIE[N]LHK	176.13	9	2.79971
Se006	LGR6 T296N	HLA-C*15:02	MT	LTDNQL[N]TL	385.04	WT	LTDNQL[T]TL	305.19	9	12.05021
Se006	CR2 Y996H	HLA-A*11:01	MT	IVITL[H]VISK	25.79	WT	IVITL[Y]VISK	25.19	10	1.24577

Se006	CR2 Y996H	HLA-A*11:01	MT	VITL[H]VISK	41.47	WT	VITL[Y]VISK	40.3	9	1.24577
Se006	GPD2 R91T	HLA-A*11:01	MT	ALDAVT[T]GLK	82.77	WT	ALDAVT[R]GLK	168.83	10	19.31584
Se006	RBMS1 R181H	HLA-A*11:01	MT	GTS[H]GVGFAR	89.32	WT	GTS[R]GVGFAR	102.68	10	24.7626
Se006	RBMS1 R181H	HLA-A*11:01	MT	TS[H]GVGFAR	187.45	WT	TS[R]GVGFAR	809.11	9	24.7626
Se006	SETMAR G62A	HLA-B*55:02	MT	TPDHVVGPA[A]	449.11	WT	TPDHVVGPA[G]A	1597.48	10	6.79358
Se006	SETMAR G62A	HLA-B*55:02	MT	TPDHVVGPA[A]	495.06	WT	TPDHVVGPA[G]	15629.44	9	6.79358
Se006	FGF12 V140D	HLA-A*11:01	MT	SSD[D]FTPECK	281.16	WT	SSD[V]FTPECK	140.12	10	7.23121
Se006	USP38 I175L	HLA-C*15:02	MT	RT[L]GHFQCV	62.97	WT	RT[I]GHFQCV	22.04	9	4.0153
Se006	CUL7 R503H	HLA-C*15:02	MT	[H]TYVWHWHM	120.07	WT	[R]TYVWHWHML	54.99	10	14.13804
Se006	CUL7 R503H	HLA-C*15:02	MT	[H]TYVWHWHM	339.54	WT	[R]TYVWHWHM	129.06	9	14.13804
Se006	ADGRE5 D383E	HLA-C*15:02	MT	KVMC[E]NPNV	249.6	WT	KVMC[D]NPNV	198.03	9	2.95536
Se006	SPIDR I546K	HLA-A*11:01	MT	[K]IDEDPIYK	56.77	WT	[I]IDEDPIYK	52.62	9	23.99669
Se006	VPS13B K2922N	HLA-A*15:02	MT	AT[N]VHPGGTV	175.05	WT	AT[K]VHPGGTV	1593.05	10	2.57355
Se006	DENND3 P867S	HLA-C*15:02	MT	MSNEM[S]MTL	39.09	WT	MSNEM[P]MTL	33.27	9	3.42797
Se006	DENND3 P867S	HLA-C*15:02	MT	M[S]MTLPETTL	105.24	WT	M[P]MTLPETTL	10009.34	10	3.42797
Se006	PITRM1 G9V	HLA-A*11:01	MT	RQ[V]LCLVLR	417.63	WT	RQ[G]LCLVLR	835.44	9	32.64178
Se006	PRKCQ V152L	HLA-A*11:01	MT	[L]ANLCCGINQK	193.13	WT	[V]ANLCCGINQK	119.83	10	4.43087
Se006	CYP2R1 K68M	HLA-C*15:02	MT	HVYMR[M]QSQV	304.73	WT	HVYMR[K]QSQV	953.3	10	3.18593
Se006	CREB3L1 K289E	HLA-A*11:01	MT	LTKAE[E]ALK	392.2	WT	LTKAE[K]ALK	613.11	10	3.2895
Se006	VPS51 R152H	HLA-C*15:02	MT	FSA[H]ISATL	30.44	WT	FSA[R]ISATL	41.54	9	22.8741
Se006	ARHGEF12 F794L	HLA-A*11:01	MT	KVLDQV[L]YQR	82.75	WT	KVLDQV[F]YQR	58.24	10	11.72555
Se006	ARHGEF12 F794L	HLA-C*15:02	MT	RTLKVLDQV[L]	316.74	WT	RTLKVLDQV[F]	1381.56	10	11.72555
Se006	ETS1 S193L	HLA-A*11:01	MT	IS[L]JEELLSLK	37.08	WT	IS[S]JEELLSLK	39.79	10	10.48483
Se006	ETS1 S193L	HLA-A*11:01	MT	S[L]JEELLSLK	124.67	WT	S[S]JEELLSLK	86.12	9	10.48483
Se006	ETS1 S193L	HLA-C*15:02	MT	IS[L]JEELLSL	388.46	WT	IS[S]JEELLSL	278.69	9	10.48483
Se006	APOLD1 E147A	HLA-A*11:01	MT	LIFCNSR[A]LR	156.78	WT	LIFCNSR[E]LR	253.23	10	3.14587
Se006	APOLD1 E147A	HLA-C*15:02	MT	R[A]LRRVQEI	183.45	WT	R[E]LRRVQEI	17416.89	9	3.14587
Se006	NUP58 G322V	HLA-C*15:02	MT	RTQKTTP[V]L	493.24	WT	RTQKTTP[G]L	720.96	9	2.27467
Se006	AREL1 A586T	HLA-C*15:02	MT	RSFL[T]QIIGL	199.69	WT	RSFL[A]QIIGL	149.17	10	12.57094
Se006	AREL1 A586T	HLA-C*15:02	MT	FTRSFL[T]QI	369.36	WT	FTRSFL[A]QI	412.5	9	12.57094
Se006	AREL1 A586T	HLA-C*15:02	MT	FTRSFL[T]QII	370.35	WT	FTRSFL[A]QII	398.18	10	12.57094
Se006	AKT1 P313L	HLA-A*11:01	MT	KTFCGT[L]EY	13.39	WT	KTFCGT[P]EY	37.88	9	56.02013
Se006	AKT1 P313L	HLA-C*15:02	MT	KTFCGT[L]EYL	55.99	WT	KTFCGT[P]EYL	59.23	10	56.02013
Se006	AKT1 P313L	HLA-C*15:02	MT	KTFCGT[L]EY	131.32	WT	KTFCGT[P]EY	418.08	9	56.02013
Se006	AKT1 P313L	HLA-C*15:02	MT	ATMKTFCGT[L]	184.44	WT	ATMKTFCGT[P]	12539.59	10	56.02013
Se006	AKT1 P313L	HLA-C*15:02	MT	GT[L]EYLAPEV	434.11	WT	GT[P]EYLAPEV	906.17	10	56.02013
Se006	ZFYVE19 A334P	HLA-A*11:01	MT	ALAKRL[P]MLR	348.84	WT	ALAKRL[A]MLR	289.54	10	7.64297
Se006	COX11 M106R	HLA-A*11:01	MT	YVAAVAVG[R]	422.98	WT	YVAAVAVG[M]	13893.28	9	9.75824
Se006	COX11 M106R	HLA-C*15:02	MT	YVAAVAVG[R]L	462.43	WT	YVAAVAVG[M]L	598.57	10	9.75824
Se006	SUPT5H C634S	HLA-C*15:02	MT	FV[S]KTRHLVL	216.24	WT	FV[C]KTRHLVL	999.98	10	18.2113
Se006	SUPT5H C634S	HLA-C*15:02	MT	FV[S]KTRHLV	322.15	WT	FV[C]KTRHLV	1756.23	9	18.2113
Se006	EPS8L1 A251V	HLA-A*11:01	MT	LTS[D][V]VALLR	79.95	WT	LTS[D][A]VALLR	121.21	10	63.71739
Se006	EPS8L1 A251V	HLA-C*15:02	MT	LTS[D][V]VALL	88.92	WT	LTS[D][A]VALL	101.23	9	63.71739
Se006	EPS8L1 A251V	HLA-A*11:01	MT	TSD[V]VALLR	377.54	WT	TSD[A]VALLR	245.65	9	63.71739
Se006	MMP9 R61H	HLA-A*11:01	MT	RVAEM[H]GESK	38.07	WT	RVAEM[R]GESK	53.52	10	3.86019
Se006	CD40 D183Y	HLA-B*55:02	MT	[Y]PVCHPLGA	141.29	WT	[D]PVCHPLGA	5857.27	9	4.34246
Se006	CSTF1 D263Y	HLA-A*11:01	MT	HT[Y]AICSVNY	53.28	WT	HT[D]AICSVNY	1139.67	10	24.43597
Se006	COL6A2 N968Y	HLA-C*15:02	MT	[Y]VVPTVLAL	149.01	WT	[N]VVPTVLAL	1886.28	9	78.12649
Se006	COL6A2 N968Y	HLA-C*15:02	MT	HSMRKQ[Y]VV	165.6	WT	HSMRKQ[N]VV	332.69	9	78.12649
Se006	COL6A2 N968Y	HLA-C*01:02	MT	[Y]VVPTVLAL	486.56	WT	[N]VVPTVLAL	4204.22	9	78.12649
Se006	INPP5J K287N	HLA-C*15:02	MT	YTVSDH[N]PV	104.3	WT	YTVSDH[K]PV	235.65	9	1.45733
Se008	RERE R465H	HLA-C*03:04	MT	KT[H]TASTPV	306.38	WT	KT[R]TASTPV	1738.07	9	11.43886
Se008	TIMM17A E7D	HLA-C*03:04	MT	YAR[D]PCPWRI	203.96	WT	YAR[E]PCPWRI	199.6	10	12.30225
Se008	HERC5 R663S	HLA-C*03:04	MT	KAYL[S]SAAI	25.38	WT	KAYL[R]SAAI	40.28	9	5.09468
Se008	SLC17A5 L159F	HLA-C*03:04	MT	IAAD[F]GVGPL	7.51	WT	IAAD[L]GVGPL	8.54	10	6.92667
Se008	SLC17A5 L159F	HLA-C*03:04	MT	AAD[F]GVGPL	47.64	WT	AAD[L]GVGPL	60.47	9	6.92667
Se008	SLC17A5 L159F	HLA-C*03:04	MT	[F]GVGPLIVL	56.12	WT	[L]GVGPLIVL	1101.87	9	6.92667
Se008	SLC17A5 L159F	HLA-A*02:01	MT	FTPIAAD[F]GV	276.87	WT	FTPIAAD[L]GV	846.27	10	6.92667
Se008	SLC17A5 L159F	HLA-B*54:01	MT	TPIAAD[F]GV	286.35	WT	TPIAAD[L]GV	626.72	9	6.92667
Se008	COMMD5 P150Q	HLA-A*02:01	MT	QQGAWL[Q]HV	271.41	WT	QQGAWL[P]HV	55.39	9	10.39594
Se008	RABGAP1 H721R	HLA-A*02:01	MT	[R]JMYASQWFL	4.63	WT	[H]JMYASQWFL	6.09	9	4.57649
Se008	RABGAP1 H721R	HLA-A*02:01	MT	[R]JMYASQWFLT	45.87	WT	[H]JMYASQWFLT	82.93	10	4.57649
Se008	RABGAP1 H721R	HLA-A*02:01	MT	FLDISLEA[R]M	68.07	WT	FLDISLEA[H]M	51.19	10	4.57649
Se008	RABGAP1 H721R	HLA-B*13:01	MT	[R]JMYASQWFL	243.73	WT	[H]JMYASQWFL	413.25	9	4.57649
Se008	CPSF6 P276L	HLA-C*03:04	MT	[L]VLFPGQPF	248.52	WT	[P]VLFPGQPF	9995.41	9	5.16699
Se008	NLRC5 K996R	HLA-C*03:04	MT	[R]ALGGSCHL	74.99	WT	[K]ALGGSCHL	105.47	9	3.10905
Se008	TSHZ1 C972W	HLA-B*54:01	MT	HPVFF[W]NDCA	89.94	WT	HPVFF[C]NDCA	152.82	10	3.6477
Se008	LPIN3 N612S	HLA-A*02:01	MT	GA[S]DVVFSV	61.67	WT	GA[N]DVVFSV	88.47	9	30.4931
Se008	LPIN3 N612S	HLA-A*02:01	MT	NLQEGA[S]DVV	443.91	WT	NLQEGA[N]DVV	597.39	10	30.4931
Se008	HLCS D171N	HLA-C*03:04	MT	YVGS[N]SQEAL	82.27	WT	YVGS[D]SQEAL	145.3	10	1.97192
Se011	PUS10 D437N	HLA-B*40:02	MT	IEFLNDIK[N]L	73.41	WT	IEFLNDIK[D]L	117.59	10	1.37875
Se011	C3orf18 L78F	HLA-A*33:03	MT	[F]VLYIRKKKR	48.05	WT	[L]VLYIRKKKR	137.65	10	2.71013
Se011	C3orf18 L78F	HLA-A*33:03	MT	AVA[L]VLYIR	51.35	WT	AVA[L]VLYIR	122.57	9	2.71013
Se011	C3orf18 L78F	HLA-A*33:03	MT	LAVA[F]VLYIR	130.62	WT	LAVA[L]VLYIR	220.09	10	2.71013
Se011	ACAP2 R16G	HLA-A*33:03	MT	CLKDSP[G]JFR	74.07	WT	CLKDSP[R]JFR	109.95	9	4.74494
Se011	G3BP2 V352G	HLA-B*40:02	MT	[G]QRILAKPI	486.56	WT	[V]QRILAKPI	907.4	10	15.57736
Se011	VCAN P1018T	HLA-B*40:02	MT	LEATIS[T]JTM	127.67	WT	LEATIS[P]JTM	145.57	10	8.347
Se011	VCAN P1018T	HLA-A*33:03	MT	EATIS[T]JTM	310.43	WT	EATIS[P]JTM	454.42	10	8.347

Se011	VCAN P1018T	HLA-A*33:03	MT	ATIS[T]ETMR	366.27	WT	ATIS[P]ETMR	366.02	9	8.347
Se011	VCAN P1018T	HLA-B*44:03	MT	LEATIS[T]ETM	390.44	WT	LEATIS[P]ETM	447.14	10	8.347
Se011	VCAN P1018T	HLA-B*40:02	MT	LEATIS[T]JET	461.79	WT	LEATIS[P]JET	248.24	9	8.347
Se011	ZNF300 R253T	HLA-B*40:02	MT	SQLIVHQ[T]I	83.12	WT	SQLIVHQ[R]I	382.5	9	5.75622
Se011	NOTCH4 H260Q	HLA-B*40:02	MT	F[Q]LCLCPPGF	201.91	WT	F[H]LCLCPPGF	5924.29	10	13.99709
Se011	FNDC1 P1094R	HLA-A*33:03	MT	DVRA[R]AHAAR	17.43	WT	DVRA[P]AHAAR	20.07	10	19.26966
Se011	PDK4 G297D	HLA-A*33:03	MT	[D]VPLRIIDR	441.66	WT	[G]VPLRIIDR	2367.95	9	11.25033
Se011	TGS1 R30M	HLA-A*33:03	MT	CS[M]AFVEDR	281.54	WT	CS[R]AFVEDR	437.38	9	6.30497
Se011	KIAA0196 N517S	HLA-B*40:02	MT	QEFHQLES[S]L	40.77	WT	QEFHQLES[N]L	67.73	10	11.34288
Se011	KIAA0196 N517S	HLA-B*44:03	MT	LES[S]LQVCQF	56.14	WT	LES[N]LQVCQF	69.67	10	11.34288
Se011	KIAA0196 N517S	HLA-B*40:02	MT	LES[S]LQVCQF	209.07	WT	LES[N]LQVCQF	262.2	10	11.34288
Se011	MTAP T118P	HLA-A*33:03	MT	QFIDRT[P]MR	54.42	WT	QFIDRT[T]MR	30.5	9	3.70714
Se011	MTAP T118P	HLA-C*14:03	MT	RT[P]MRPQSF	60.78	WT	RT[T]MRPQSF	274.14	9	3.70714
Se011	MTAP T118P	HLA-A*33:03	MT	DQFIDRT[P]MR	191.93	WT	DQFIDRT[T]MR	155.12	10	3.70714
Se011	LIMA1 L30Q	HLA-C*14:03	MT	SANENS[Q]AV	325.1	WT	SANENS[L]AV	175.19	9	11.91154
Se011	ITGA5 Q900E	HLA-B*40:02	MT	LELSCP[E]AL	48.41	WT	LELSCP[Q]AL	37.66	9	20.70292
Se011	CCDC64 D19Y	HLA-A*24:02	MT	P[Y]SACCMEL	351.44	WT	P[D]SACCMEL	30340.21	9	7.37295
Se011	LONP2 R758W	HLA-A*33:03	MT	GLKQVIIP[W]R	333.07	WT	GLKQVIIP[R]R	445.38	10	12.47696
Se011	POLR2A N997S	HLA-A*33:03	MT	AQKIFH[S]PR	175.93	WT	AQKIFH[N]PR	217.14	10	15.84306
Se011	TOP2A N260K	HLA-A*33:03	MT	DVKVFLNG[K]	385.38	WT	DVKVFLNG[N]	21780.63	9	3.57104
Se011	TOP2A N260K	HLA-C*14:03	MT	VFLNG[K]KLPV	482.3	WT	VFLNG[N]KLPV	227.67	10	3.57104
Se011	GGA3 S309C	HLA-A*33:03	MT	SDLDF[C]PR	449.37	WT	SDLDF[S]PR	367.39	9	11.31966
Se011	P2RY11 A87V	HLA-C*14:03	MT	TLPLA[A]YL	137.16	WT	TLPLA[A]YL	70.45	9	6.44792
Se011	P2RY11 A87V	HLA-A*33:03	MT	[V]YLYPPKHWR	198	WT	[A]YLYPPKHWR	371.5	10	6.44792
Se011	P2RY11 A87V	HLA-A*24:02	MT	[V]YLYPPKHWR	376.19	WT	[A]YLYPPKHWR	786.24	9	6.44792
Se011	ILVBL V402M	HLA-C*14:03	MT	SF[M]LKLVEGL	248.48	WT	SF[V]LKLVEGL	969.36	10	28.46359
Se011	ARMC6 M437I	HLA-A*33:03	MT	I[I]QARSAHR	46.64	WT	I[M]QARSAHR	34.22	9	12.27747
Se011	ARMC6 M437I	HLA-A*33:03	MT	LI[I]QARSAHR	110.05	WT	LI[M]QARSAHR	50.75	10	12.27747
Se011	BCAS4 S120P	HLA-B*40:02	MT	LEK[P]PAPVPV	146.85	WT	LEK[S]PAPVPV	94.03	10	6.89005
Se011	MYH9 A849V	HLA-B*40:02	MT	EEMM[V]KEEEL	297.47	WT	EEMM[A]KEEEL	330.82	10	117.41755
Se015	TMEM57 G160W	HLA-A*02:01	MT	FAAHC[W]YYPV	4.02	WT	FAAHC[G]YYPV	15.9	10	4.96634
Se015	TMEM57 G160W	HLA-A*24:02	MT	[W]YYPVVTGFG	30.6	WT	[G]YYPVVTGFG	55.31	9	4.96634
Se015	TMEM57 G160W	HLA-A*24:02	MT	I[W]YYPVVTGFG	49.88	WT	I[G]YYPVVTGFG	1583.7	10	4.96634
Se015	TMEM57 G160W	HLA-A*02:01	MT	AAHC[W]YYPV	60.08	WT	AAHC[G]YYPV	274.16	9	4.96634
Se015	TMEM57 G160W	HLA-B*55:02	MT	FAAHC[W]YYPV	156.29	WT	FAAHC[G]YYPV	175.79	10	4.96634
Se015	TMEM57 G160W	HLA-A*02:01	MT	CI[W]YYPVVTL	356.92	WT	CI[G]YYPVVTL	2540.76	9	4.96634
Se015	PDZK1IP1 T13R	HLA-A*02:01	MT	GLL[R]AVPPA	15.01	WT	GLL[T]AVPPA	8.69	9	16.0077
Se015	PDZK1IP1 T13R	HLA-A*02:01	MT	LLILGLL[R]AV	31.32	WT	LLILGLL[T]AV	11.66	10	16.0077
Se015	PDZK1IP1 T13R	HLA-A*02:01	MT	LILGLL[R]AV	120.93	WT	LILGLL[T]AV	17.33	9	16.0077
Se015	PDZK1IP1 T13R	HLA-A*02:01	MT	LLILGLL[R]A	301.84	WT	LLILGLL[T]A	168.36	9	16.0077
Se015	EFCAB7 L497M	HLA-A*02:01	MT	E[M]TEACPFV	100.78	WT	E[L]TEACPFV	93.56	9	6.40448
Se015	HLX H75Y	HLA-A*02:01	MT	ALTA[Y]LGSV	17.48	WT	ALTA[H]LGSV	33.07	9	1.75755
Se015	HLX H75Y	HLA-A*02:01	MT	[Y]LGSVHPHA	23.01	WT	[H]LGSVHPHA	742.38	9	1.75755
Se015	PAX8 P139R	HLA-B*07:02	MT	KVQQ[R]FNLPM	248.02	WT	KVQQ[P]FNLPM	414.45	10	70.19397
Se015	GLI2 G109S	HLA-B*07:02	MT	HPA[S]JGESPF	15.76	WT	HPA[G]JGESPF	17.32	10	4.11031
Se015	ITPR1 S159P	HLA-B*07:02	MT	G[P]WFIQPF	285.63	WT	G[S]WFIQPF	19427.69	9	1.61271
Se015	ABI3BP S516P	HLA-B*07:02	MT	I[P]LKPQIPL	10.24	WT	I[S]LKPQIPL	5452.88	9	4.14972
Se015	ABI3BP S516P	HLA-B*07:02	MT	APGKTQF[P]L	18.24	WT	APGKTQF[S]L	21.46	10	4.14972
Se015	ATR N2342H	HLA-A*02:01	MT	RLMEF[H]SLI	5.56	WT	RLMEF[N]SLI	4.81	9	4.3511
Se015	ZNF354B G584V	HLA-B*07:02	MT	KPYECNAC[V]	481.07	WT	KPYECNAC[G]	9734.77	9	5.6748
Se015	STK3 D316N	HLA-A*02:01	MT	NVFP[N]NWKV	43.87	WT	NVFP[D]NWKV	55.93	9	6.74835
Se015	STK3 D316N	HLA-B*55:02	MT	FPMSKNVFP[N]	171.51	WT	FPMSKNVFP[D]	285.87	10	6.74835
Se015	PTPRD R1378S	HLA-B*07:02	MT	MPQYIL[S]JEF	36.8	WT	MPQYIL[R]JEF	37.5	9	4.23352
Se015	PTPRD R1378S	HLA-A*24:02	MT	NMPQYIL[S]JEF	209.89	WT	NMPQYIL[R]JEF	330.09	10	4.23352
Se015	PTPRD R1378S	HLA-A*02:01	MT	IL[S]JEFKVTDA	229.6	WT	IL[R]JEFKVTDA	2762.54	10	4.23352
Se015	PTPRD R1378S	HLA-B*55:02	MT	MPQYIL[S]JEF	391.89	WT	MPQYIL[R]JEF	884.08	9	4.23352
Se015	PTPRD A1205E	HLA-A*02:01	MT	FIHDALLE[E]V	5.48	WT	FIHDALLE[A]V	6.66	10	4.23352
Se015	AGTPBP1 V360I	HLA-A*02:01	MT	CLA[I]RTLDP	425.91	WT	CLA[V]RTLDP	397.15	10	5.20939
Se015	ZNF503 S47W	HLA-B*07:02	MT	GPGPG[W]SPA	100.88	WT	GPGPG[S]SPA	99.62	9	30.69099
Se015	ATL3 V434L	HLA-A*02:01	MT	VLFTGI[L]AL	12.71	WT	VLFTGI[V]AL	9.76	9	5.64603
Se015	ATL3 V434L	HLA-A*02:01	MT	I[L]ALYASGL	29.67	WT	I[V]ALYASGL	429.91	10	5.64603
Se015	ATL3 V434L	HLA-B*07:02	MT	TPAVLFTGI[L]	45.55	WT	TPAVLFTGI[V]	295.07	10	5.64603
Se015	TRPT1 G54A	HLA-A*02:01	MT	GLPMGAD[A]FV	121.99	WT	GLPMGAD[G]FV	637.25	10	16.8251
Se015	TRPT1 G54A	HLA-B*55:02	MT	LPMGAD[A]FV	165.43	WT	LPMGAD[G]FV	305.73	9	16.8251
Se015	TRPT1 G54A	HLA-B*07:02	MT	LPMGAD[A]FV	434.52	WT	LPMGAD[G]FV	356.66	9	16.8251
Se015	ADAMTS8 L239Q	HLA-A*24:02	MT	FYGAD[L]QNH	344.76	WT	FYGAD[L]QNH	116.02	10	2.3388
Se015	GPATCH2L S62I	HLA-A*02:01	MT	HLEHTCCY[I]	17.39	WT	HLEHTCCY[S]	805.01	10	1.49887
Se015	GPATCH2L S62I	HLA-A*24:02	MT	CY[I]EASESSL	192.22	WT	CY[S]EASESSL	662.26	10	1.49887
Se015	SMG1 P2599R	HLA-A*24:02	MT	SYV[R]ATAFL	33.41	WT	SYV[P]ATAFL	26.22	9	4.86528
Se015	SMG1 P2599R	HLA-C*07:02	MT	SYV[R]ATAFL	155.44	WT	SYV[P]ATAFL	45.56	9	4.86528
Se015	KIAA0556 A1326G	HLA-C*07:02	MT	YRG[G]KIVHV	302.16	WT	YRG[A]KIVHV	193.62	9	2.88693
Se015	PRSS53 C249Y	HLA-A*02:01	MT	GISSFASS[Y]A	361.43	WT	GISSFASS[C]A	1706.6	10	8.45197
Se015	SHPK N325I	HLA-A*02:01	MT	SLNGG[I]VLA	53.97	WT	SLNGG[N]VLA	379.51	9	3.6477
Se015	SHPK N325I	HLA-A*02:01	MT	[I]VLATFVHML	224.27	WT	[N]VLATFVHML	459.65	10	3.6477
Se015	SHPK N325I	HLA-A*02:01	MT	SLNGG[I]VLAT	433	WT	SLNGG[N]VLAT	1813.74	10	3.6477
Se015	KDM6B S1192R	HLA-A*24:02	MT	IYLE[R]KRDAF	188.73	WT	IYLE[S]KRDAF	134.49	10	7.66861
Se015	KDM6B S1192R	HLA-C*07:02	MT	IYLE[R]KRDAF	242.09	WT	IYLE[S]KRDAF	456.43	10	7.66861
Se015	C1QL1 P60A	HLA-A*02:01	MT	ALSEQSGAP[A]	174.12	WT	ALSEQSGAP[P]	10312.57	10	2.80131

Se015	TPGS2 G33C	HLA-A*02:01	MT	RILESSP[C]V	29.04	WT	RILESSP[G]V	13.02	9	26.59555
Se015	MALT1 G170R	HLA-B*07:02	MT	IPN[R]NTSEL	6.63	WT	IPN[G]NTSEL	10.31	9	5.30737
Se015	MALT1 G170R	HLA-B*07:02	MT	IPN[R]NTSELI	280.03	WT	IPN[G]NTSELI	362.33	10	5.30737
Se015	MAST1 I324N	HLA-B*07:02	MT	IPRY[N]IRQL	6.65	WT	IPRY[I]IRQL	11.91	9	1.21895
Se015	AKAP8L A521V	HLA-A*02:01	MT	GISEG[V]EGV	65.54	WT	GISEG[A]EGV	327.55	9	68.30659
Se015	CSEIL D302A	HLA-B*07:02	MT	VPNMEFRAA[A]	95.17	WT	VPNMEFRAA[D]	6737.78	10	41.89837
Se015	CSEIL D302A	HLA-B*55:02	MT	VPNMEFRAA[A]	200.55	WT	VPNMEFRAA[D]	14694.76	10	41.89837
Se015	STAR8 P227R	HLA-B*07:02	MT	VPGDHK[R]GTF	121.78	WT	VPGDHK[P]GTF	413.61	10	1.10031
Se015	CENP1 V32L	HLA-A*02:01	MT	FQTTL5AWK[L]	159.93	WT	FQTTL5AWK[V]	42.78	10	2.49061
Se015	BCORL1 A849V	HLA-A*02:01	MT	SLLSIGISS[V]	9.7	WT	SLLSIGISS[A]	59.82	10	3.28274
Se015	BCORL1 A849V	HLA-A*02:01	MT	LLSIGISS[V]	19.43	WT	LLSIGISS[A]	162.46	9	3.28274
Se015	ELF4 R270T	HLA-C*07:02	MT	[T]YYYQRGIL	346.57	WT	[R]YYYQRGIL	557.42	9	6.66268
Se016	KDF1 T272N	HLA-A*11:01	MT	TVFLEK[N]JSK	55.2	WT	TVFLEK[T]JSK	41.88	9	6.89449
Se016	CELSR2 A2769G	HLA-B*67:01	MT	GPG[G]ERLPL	181.75	WT	GPG[A]ERLPL	179.9	9	19.95089
Se016	ZBTB18 L78Q	HLA-B*67:01	MT	APAFAL[Q]LEF	134.74	WT	APAFAL[L]LEF	113.16	10	6.60025
Se016	ZBTB18 L78Q	HLA-A*11:01	MT	L[Q]LEFMYEGK	158.09	WT	L[L]LEFMYEGK	125.33	10	6.60025
Se016	PXDN R662P	HLA-B*67:01	MT	F[P]YPRDPYTV	11.3	WT	F[R]YPRDPYTV	7923.34	10	32.65849
Se016	PXDN R662P	HLA-A*11:01	MT	LLALF[R]YPR	130.09	WT	LLALF[R]YPR	134.22	9	32.65849
Se016	PXDN R662P	HLA-B*67:01	MT	F[P]YPRDPYT	168.93	WT	F[R]YPRDPYT	19498.64	9	32.65849
Se016	IWS1 T651S	HLA-B*67:01	MT	LPSVSQE[S]L	24.34	WT	LPSVSQE[T]L	27.67	9	11.0938
Se016	DNAH7 E85Q	HLA-A*11:01	MT	A[Q]YMERFGK	30.8	WT	A[E]YMERFGK	3418.14	9	3.10616
Se016	DNAH7 E85Q	HLA-A*11:01	MT	A[Q]YMERFGKK	74.46	WT	A[E]YMERFGKK	7247.32	10	3.10616
Se016	DNAH7 E85Q	HLA-A*11:01	MT	HA[Q]YMERFGK	250.55	WT	HA[E]YMERFGK	760.44	10	3.10616
Se016	ZNF197 A495T	HLA-A*11:01	MT	N[T]YLIDHQR	328.15	WT	N[A]YLIDHQR	1582.66	9	4.0747
Se016	ZNF197 P509H	HLA-A*11:01	MT	RLHKGEE[H]YK	185.06	WT	RLHKGEE[P]YK	168.05	10	4.0747
Se016	DHX29 A869V	HLA-C*07:02	MT	FRNIEG[A]VL	148.11	WT	FRNIEG[A]VL	222.03	9	5.63613
Se016	DHX29 A869V	HLA-C*07:02	MT	FRNIEG[V]VLI	204.85	WT	FRNIEG[A]VLI	269.51	10	5.63613
Se016	DHX29 A869V	HLA-B*67:01	MT	SPQFRNIEG[V]	307.42	WT	SPQFRNIEG[A]	894.58	10	5.63613
Se016	PPP2R2B R251W	HLA-A*11:01	MT	GTI[Q]LCDMR	364.27	WT	GTI[R]LCDMR	773.49	9	4.32749
Se016	PPP2R2B R251W	HLA-B*67:01	MT	[W]LCDMRASAL	495.68	WT	[R]LCDMRASAL	1365.68	10	4.32749
Se016	GABBR1 R51G	HLA-B*67:01	MT	HPSSER[G]AV	34.83	WT	HPSSER[R]AV	38.56	9	15.36934
Se016	GABBR1 R51G	HLA-B*67:01	MT	HPSSER[G]AVY	450.43	WT	HPSSER[R]AVY	627.75	10	15.36934
Se016	BTAF1 V827M	HLA-A*11:01	MT	Q[M]LQQLDSK	329.61	WT	Q[V]LQQLDSK	295.17	9	14.14292
Se016	MORN4 L47P	HLA-B*67:01	MT	G[P]FNGFGVL	60.01	WT	G[L]FNGFGVL	4722.19	9	4.19505
Se016	MAP4K2 L504V	HLA-C*07:02	MT	IY[T]VNLHEL	254.27	WT	IY[T]LNLHEL	226.13	9	4.28979
Se016	C11orf63 Q98H	HLA-A*11:01	MT	ASGKAA[H]MAR	447.86	WT	ASGKAA[Q]MAR	712.81	10	2.95711
Se016	CHPT1 R33C	HLA-C*07:02	MT	[C]YSAAGVSL	407.52	WT	[R]YSAAGVSL	411.09	10	3.06556
Se016	HEATR5A A1304P	HLA-B*67:01	MT	F[P]TVPEPEF	36.84	WT	F[A]TVPEPEF	1727.76	9	3.07875
Se016	ZIK1 K386T	HLA-A*11:01	MT	GQCG[K]SFSQK	221.23	WT	GQCG[K]SFSQK	307.14	10	1.94334
Se016	SPATC1L N140K	HLA-B*67:01	MT	[K]PLHSSPAAL	19.64	WT	[N]PLHSSPAAL	8.57	10	4.2725
Se016	SPATC1L N140K	HLA-B*67:01	MT	RPDLRA[K]PL	46.54	WT	RPDLRA[N]PL	13.18	9	4.2725
Se016	SPATC1L N140K	HLA-B*67:01	MT	[K]PLHSSPAA	447.1	WT	[N]PLHSSPAA	153.93	9	4.2725
Se016	MTMR1 S270I	HLA-B*67:01	MT	YPAIIVVPT[I]	14.44	WT	YPAIIVVPT[S]	184.14	10	17.6301
Se016	MTMR1 S270I	HLA-A*11:01	MT	AIVVPT[I]VK	45.43	WT	AIVVPT[S]VK	43.56	10	17.6301
Se016	MTMR1 S270I	HLA-A*11:01	MT	IIVVPT[I]VK	71.86	WT	IIVVPT[S]VK	106.39	9	17.6301
Se016	MTMR1 S270I	HLA-A*11:01	MT	[I]VKDDDLK	469.33	WT	[S]VKDDDLK	196.3	9	17.6301
Se016	MTMR1 S270I	HLA-A*11:01	MT	T[I]VKDDDLK	493.15	WT	T[S]VKDDDLK	919.32	10	17.6301
Se020	ZFYVE9 P802T	HLA-B*07:02	MT	SP[T]PTVMVPV	40.88	WT	SP[P]PTVMVPV	162.72	10	3.02643
Se020	ZFYVE9 P802T	HLA-C*03:04	MT	LSSP[T]PTVM	41.73	WT	LSSP[P]PTVM	47.93	9	3.02643
Se020	ZFYVE9 P802T	HLA-C*03:04	MT	ALSSP[T]PTVM	173.9	WT	ALSSP[P]PTVM	184.05	10	3.02643
Se020	ZFYVE9 P802T	HLA-C*03:04	MT	GALSSP[T]PTV	435.27	WT	GALSSP[P]PTV	674.75	10	3.02643
Se020	RSBN1 M49T	HLA-B*40:02	MT	GE[T]AAQVGAV	67.76	WT	GE[M]AAQVGAV	12.04	10	1.37684
Se020	RSBN1 M49T	HLA-B*40:02	MT	GE[T]AAQVGA	186.67	WT	GE[M]AAQVGA	22.64	9	1.37684
Se020	SV2A R334K	HLA-B*40:02	MT	YQFHSW[K]VF	64.06	WT	YQFHSW[R]VF	38.75	9	3.22151
Se020	SV2A R334K	HLA-A*31:01	MT	SAYQFHSW[K]	125.29	WT	SAYQFHSW[R]	9.01	9	3.22151
Se020	SV2A R334K	HLA-B*40:02	MT	YQFHSW[K]VFV	229.28	WT	YQFHSW[R]VFV	138.15	10	3.22151
Se020	SV2A R334K	HLA-C*03:04	MT	YQFHSW[K]VF	284.87	WT	YQFHSW[R]VF	105.59	9	3.22151
Se020	SV2A R334K	HLA-A*31:01	MT	GSAYQFHSW[K]	419.46	WT	GSAYQFHSW[R]	22.08	10	3.22151
Se020	SV2A R334K	HLA-C*03:04	MT	SAYQFHSW[K]V	474.84	WT	SAYQFHSW[R]V	407.34	10	3.22151
Se020	YY1AP1 T421I	HLA-B*07:02	MT	[I]PAQSTHSEA	47.07	WT	[T]PAQSTHSEA	139.42	10	22.42945
Se020	SLC30A1 I101S	HLA-B*40:02	MT	[S]ERFIEPHEM	229.82	WT	[I]ERFIEPHEM	425.7	10	29.3467
Se020	MEIS1 V319L	HLA-A*31:01	MT	Q[L]NNWFINAR	20.53	WT	Q[V]NNWFINAR	15.39	10	6.42728
Se020	MEIS1 V319L	HLA-A*31:01	MT	[L]NNWFINARR	40.57	WT	[V]NNWFINARR	34.82	10	6.42728
Se020	MEIS1 V319L	HLA-A*31:01	MT	[L]NNWFINAR	41.7	WT	[V]NNWFINAR	34.97	9	6.42728
Se020	DGUOK R30T	HLA-A*31:01	MT	SSS[T]GLHAGR	64.5	WT	SSS[R]GLHAGR	52.66	10	15.41526
Se020	DGUOK R30T	HLA-A*31:01	MT	SS[T]GLHAGR	78.41	WT	SS[R]GLHAGR	15.03	9	15.41526
Se020	DGUOK R30T	HLA-B*07:02	MT	SPLEGVSSS[T]	224.47	WT	SPLEGVSSS[R]	9741.52	10	15.41526
Se020	DGUOK R30T	HLA-B*40:02	MT	LEGVSSS[T]GL	337.33	WT	LEGVSSS[R]GL	556.29	10	15.41526
Se020	DGUOK R30T	HLA-A*31:01	MT	[T]GLHAGRPR	445.7	WT	[R]GLHAGRPR	64.97	10	15.41526
Se020	BAZ2B G85A	HLA-C*03:04	MT	SASS[A]HSEF	25.31	WT	SASS[G]HSEF	24.1	9	3.24373
Se020	BAZ2B G85A	HLA-C*03:04	MT	HSASS[A]HSEF	85.63	WT	HSASS[G]HSEF	89.28	10	3.24373
Se020	BAZ2B G85A	HLA-C*03:04	MT	S[A]HSEFGGL	448.6	WT	S[G]HSEFGGL	10925.95	9	3.24373
Se020	GPR155 Y803H	HLA-B*40:02	MT	DEYLF[H]RFL	174.02	WT	DEYLF[Y]RFL	227.25	9	1.29953
Se020	GPR155 Y803H	HLA-A*31:01	MT	EFRDEYLF[H]R	182.11	WT	EFRDEYLF[Y]R	61.63	10	1.29953
Se020	GPR155 Y803H	HLA-A*31:01	MT	YLF[H]RFLQK	186.34	WT	YLF[Y]RFLQK	215.87	9	1.29953
Se020	GPR155 Y803H	HLA-C*07:02	MT	FRDEYLF[H]RF	206.02	WT	FRDEYLF[Y]RF	201.56	10	1.29953
Se020	GPR155 Y803H	HLA-A*31:01	MT	EYLF[H]RFLQK	453.48	WT	EYLF[Y]RFLQK	305	10	1.29953
Se020	FRZB G283S	HLA-A*31:01	MT	KWKDRL[S]KK	254.37	WT	KWKDRL[G]KK	623.76	9	75.05641



Se020	COQ10B K116R	HLA-A*31:01	MT	IS[R]RSGYCK	289.11	WT	IS[K]RSGYCK	288.09	9	16.7069
Se020	KANSL1L L705S	HLA-A*31:01	MT	AQL[S]QGRKKR	350.52	WT	AQL[L]QGRKKR	529.43	10	1.34887
Se020	COL6A3 G1374C	HLA-A*31:01	MT	RALILV[C]LER	23.5	WT	RALILV[G]LER	36.22	10	324.12365
Se020	COL6A3 G1374C	HLA-A*31:01	MT	ALILV[C]LER	314.32	WT	ALILV[G]LER	575.12	9	324.12365
Se020	COL6A3 G1374C	HLA-A*31:01	MT	[C]LERVVNLER	471.62	WT	[G]LERVVNLER	659.39	10	324.12365
Se020	DCP1A L35Q	HLA-A*31:01	MT	VA[Q]YTFCPK	339.44	WT	VA[L]YTFCPK	221.69	9	5.18008
Se020	FLNB E753Q	HLA-A*31:01	MT	KVFGPGV[Q]R	12.56	WT	KVFGPGV[E]R	14.71	9	9.09383
Se020	FLNB E753Q	HLA-B*07:02	MT	GGPV[Q]RSGL	62.55	WT	GGPV[E]RSGL	299.7	9	9.09383
Se020	GTPBP8 Y95N	HLA-A*31:01	MT	RID[N]VSSAVR	174.45	WT	RID[Y]VSSAVR	118.45	10	1.48104
Se020	PPP2R3A C67S	HLA-A*31:01	MT	ASKFI[S]LLAK	239.27	WT	ASKFI[C]LLAK	169.58	10	1.49052
Se020	FOXL2 A216V	HLA-B*07:02	MT	SPMPY[V]SCQM	15.04	WT	SPMPY[A]SCQM	11.99	10	1.65772
Se020	FOXL2 A216V	HLA-B*07:02	MT	MPY[V]SCQMAA	67.68	WT	MPY[A]SCQMAA	47.42	10	1.65772
Se020	FOXL2 A216V	HLA-C*03:04	MT	Y[V]SCQMAAA	447.48	WT	Y[A]SCQMAAA	58.04	9	1.65772
Se020	FOXL2 A216V	HLA-B*07:02	MT	MPY[V]SCQMA	477.71	WT	MPY[A]SCQMA	291.89	9	1.65772
Se020	FOXL2 A216V	HLA-C*03:04	MT	SPMPY[V]SCQM	484.57	WT	SPMPY[A]SCQM	491.91	10	1.65772
Se020	FOXL2 A216V	HLA-C*03:04	MT	Y[V]SCQMAAAA	495.14	WT	Y[A]SCQMAAAA	62.93	10	1.65772
Se020	DCP2 D106V	HLA-B*40:02	MT	[V]ETLENVLL	243.62	WT	[D]ETLENVLL	2140.72	9	1.56667
Se020	DCP2 D106V	HLA-C*03:04	MT	YGAIIL[V]ETL	306.22	WT	YGAIIL[D]ETL	547.08	10	1.56667
Se020	DCP2 D106V	HLA-B*40:02	MT	[V]ETLENVLLV	474.11	WT	[D]ETLENVLLV	4349.37	10	1.56667
Se020	SPARC T27K	HLA-B*40:02	MT	[K]EVVEETVA	478.72	WT	[T]EVVEETVA	2477.56	9	3128.549
Se020	COL12A1 D652G	HLA-B*07:02	MT	KP[G]TPYITIV	215.31	WT	KP[D]TPYITIV	399.81	10	132.65292
Se020	DLX5 S113R	HLA-A*31:01	MT	GGAYNRVP[R]	139.42	WT	GGAYNRVP[S]	25251.46	9	3.98847
Se020	DLX5 S113R	HLA-B*07:02	MT	VP[R]ATNQPE	393.45	WT	VP[S]ATNQPE	4364.6	9	3.98847
Se020	DLX5 S113R	HLA-A*31:01	MT	YGGAYNRVP[R]	491.95	WT	YGGAYNRVP[S]	31059.82	10	3.98847
Se020	TMEM130 S380P	HLA-C*03:04	MT	VADDFD[F]JPM	56.05	WT	VADDFD[S]JPM	24.72	9	4.34538
Se020	ZNF862 P184T	HLA-A*31:01	MT	G[T]FKVETLK	268.02	WT	G[P]FKVETLK	13967.73	9	2.24135
Se020	VPS13B L3454I	HLA-B*40:02	MT	VEICCGDLQ[I]	84.66	WT	VEICCGDLQ[L]	52.38	10	2.76884
Se020	COL15A1 N807I	HLA-C*03:04	MT	KVLSNSLI[I]	411.74	WT	KVLSNSLI[N]	26588.34	9	36.25336
Se020	DOCK1 D1534N	HLA-C*03:04	MT	HL[D]DPSLPI	101.89	WT	HL[D]DPSLPI	331.01	9	11.68187
Se020	UEVLD H333R	HLA-A*31:01	MT	KLQSSASSI[R]	73.48	WT	KLQSSASSI[H]	11756.41	10	1.92944
Se020	UEVLD H333R	HLA-C*03:04	MT	SSASSI[R]SL	96.71	WT	SSASSI[H]SL	66.77	9	1.92944
Se020	UEVLD H333R	HLA-C*07:02	MT	I[R]SLQQQLKL	435.33	WT	I[H]SLQQQLKL	8259.89	10	1.92944
Se020	UEVLD H333R	HLA-C*03:04	MT	SSI[R]SLQQQL	479.81	WT	SSI[H]SLQQQL	294.83	10	1.92944
Se020	MRGPRF R75S	HLA-C*03:04	MT	FSIK[S]NPFIS	27.54	WT	FSIK[R]NPFIS	36.64	10	16.72063
Se020	MRGPRF R75S	HLA-C*03:04	MT	FGFSIK[S]NPF	107.69	WT	FGFSIK[R]NPF	223.64	10	16.72063
Se020	MRGPRF R75S	HLA-A*31:01	MT	K[S]NPFISYFL	333.1	WT	K[R]NPFISYFL	4157.46	10	16.72063
Se020	MCAM K613N	HLA-C*03:04	MT	LVVEV[N]SDKL	444.08	WT	LVVEV[K]SDKL	1422.4	10	123.80076
Se020	ROBO3 V254E	HLA-C*03:04	MT	SAAAEVM[E]L	16.83	WT	SAAAEVM[V]L	20.4	9	5.30803
Se020	ROBO3 V254E	HLA-B*40:02	MT	M[E]LERPSFL	69.53	WT	M[V]LERPSFL	21718.73	9	5.30803
Se020	ROBO3 V254E	HLA-A*31:01	MT	M[E]LERPSFLR	217.47	WT	M[V]LERPSFLR	9.32	10	5.30803
Se020	ARHGAP9 W11C	HLA-B*07:02	MT	WPSS[C]GILGL	39.21	WT	WPSS[W]GILGL	36.75	10	5.17517
Se020	SLC26A10 T246N	HLA-A*31:01	MT	CF[N]SSVDTR	128.52	WT	CF[T]SSVDTR	316.59	9	5.21588
Se020	MON2 E984D	HLA-C*07:02	MT	YFFQRG[E]TI	122.73	WT	YFFQRG[E]TI	93.79	9	3.1421
Se020	CHD8 D1952N	HLA-C*03:04	MT	MQ[N]PDFSFL	369.92	WT	MQ[D]PDFSFL	578.88	9	4.07936
Se020	CHD8 D1952N	HLA-B*07:02	MT	[N]PDFSFLAA	472.11	WT	[D]PDFSFLAA	3851.91	9	4.07936
Se020	CHD8 D1952N	HLA-B*40:02	MT	MQ[N]PDFSFL	481.17	WT	MQ[D]PDFSFL	1126.68	9	4.07936
Se020	MGAT2 D199N	HLA-B*07:02	MT	CPR[N]LPKNAA	87.17	WT	CPR[D]LPKNAA	186.33	10	8.95797
Se020	MGAT2 D199N	HLA-A*31:01	MT	R[N]LPKNAALK	201.14	WT	R[D]LPKNAALK	3629.06	10	8.95797
Se020	NDN T271N	HLA-B*40:02	MT	REI[I]KMQIM	38.41	WT	REI[T]KMQIM	49.71	9	21.56102
Se020	NDN T271N	HLA-C*07:02	MT	SRASREI[N]KM	401.85	WT	SRASREI[T]KM	313.4	10	21.56102
Se020	NDN T271N	HLA-A*31:01	MT	GSRASREI[N]K	487	WT	GSRASREI[T]K	591.71	10	21.56102
Se020	NUSAP1 Y340C	HLA-A*31:01	MT	RINFYKKT[C]K	92.3	WT	RINFYKKT[Y]K	24.35	10	2.37937
Se020	UBR1 D1142H	HLA-B*40:02	MT	GEAL[H]PLFM	100.32	WT	GEAL[D]PLFM	310.26	9	3.14724
Se020	UBR1 D1142H	HLA-B*07:02	MT	[H]PLFMDPDL	204.09	WT	[D]PLFMDPDL	7458.18	9	3.14724
Se020	UBR1 D1142H	HLA-C*03:04	MT	LSGEAL[H]JPL	377.61	WT	LSGEAL[D]JPL	1104.86	9	3.14724
Se020	WDR59 D531E	HLA-A*31:01	MT	YQ[D]ANIPFPR	229.32	WT	YQ[D]ANIPFPR	307.1	10	7.74439
Se020	WDR59 D531E	HLA-C*07:02	MT	SYQ[E]ANIPF	242.64	WT	SYQ[D]ANIPF	198.31	9	7.74439
Se020	WDR59 D531E	HLA-C*03:04	MT	TAYGSYQ[E]A	473.54	WT	TAYGSYQ[D]A	3200.62	9	7.74439
Se020	CDH13 K137R	HLA-B*07:02	MT	VPRQ[R]RSIVV	10.26	WT	VPRQ[K]RSIVV	11.73	10	14.24994
Se020	CDH13 K137R	HLA-B*07:02	MT	VPRQ[R]RSIV	11.3	WT	VPRQ[K]RSIV	13.17	9	14.24994
Se020	CDH13 K137R	HLA-B*07:02	MT	SPVPRQ[R]RSI	13.99	WT	SPVPRQ[K]RSI	38.36	10	14.24994
Se020	CDH13 K137R	HLA-A*31:01	MT	RTSPVPRQ[R]R	33.72	WT	RTSPVPRQ[K]R	42.31	10	14.24994
Se020	CDH13 K137R	HLA-A*31:01	MT	RTSPVPRQ[R]	43.79	WT	RTSPVPRQ[K]	428.31	9	14.24994
Se020	TP53 P146S	HLA-A*31:01	MT	RVCAC[S]GRDR	106.39	WT	RVCAC[P]GRDR	96.27	10	7.8114
Se020	MYO18A T436M	HLA-C*03:04	MT	H[M]YAGPSLL	37.66	WT	H[T]YAGPSLL	24.93	9	8.36719
Se020	MYO18A T436M	HLA-C*07:02	MT	[M]YAGPSLLVL	110.83	WT	[T]YAGPSLLVL	185.08	10	8.36719
Se020	MYO18A T436M	HLA-C*07:02	MT	QRYGASLLH[M]	183.53	WT	QRYGASLLH[T]	8987.35	10	8.36719
Se020	MYO18A T436M	HLA-C*07:02	MT	[M]YAGPSLLV	211.56	WT	[T]YAGPSLLV	313.47	9	8.36719
Se020	MYO18A T436M	HLA-C*03:04	MT	LLH[M]YAGPSL	309.03	WT	LLH[T]YAGPSL	379.51	10	8.36719
Se020	MYO18A T436M	HLA-C*03:04	MT	H[M]YAGPSLLV	328.08	WT	H[T]YAGPSLLV	179.84	10	8.36719
Se020	MYO18A T436M	HLA-C*03:04	MT	LH[M]YAGPSL	386.2	WT	LH[T]YAGPSL	2585.32	9	8.36719
Se020	MYO18A T436M	HLA-C*03:04	MT	[M]YAGPSLLVL	406.36	WT	[T]YAGPSLLVL	1883.9	10	8.36719
Se020	BPTF D746H	HLA-A*31:01	MT	HQHREDH[H]KR	189.24	WT	HQHREDH[D]KR	1387.74	10	3.56999
Se020	GLTSCR2 A472V	HLA-A*31:01	MT	KLVEKR[V]FR	9.81	WT	KLVEKR[A]FR	10.33	9	113.61218
Se020	GLTSCR2 A472V	HLA-B*40:02	MT	VEKR[V]FREI	271.06	WT	VEKR[A]FREI	286.43	9	113.61218
Se020	NAT14 L64V	HLA-C*03:04	MT	FA[V]ALLLPV	6.2	WT	FA[L]ALLLPV	12.11	9	7.84145
Se020	NAT14 L64V	HLA-C*03:04	MT	FA[V]ALLLPVF	10.59	WT	FA[L]ALLLPVF	17.42	10	7.84145
Se020	NAT14 L64V	HLA-C*03:04	MT	FVLASFA[V]AL	11.28	WT	FVLASFA[L]AL	11.74	10	7.84145

Se020	NAT14 L64V	HLA-C*03:04	MT	LASFA[V]ALL	26.3	WT	LASFA[L]ALL	59.84	9	7.84145
Se020	NAT14 L64V	HLA-C*03:04	MT	LASFA[V]ALLL	29.49	WT	LASFA[L]ALLL	45.34	10	7.84145
Se020	NAT14 L64V	HLA-C*03:04	MT	FVLASFA[V]A	289.43	WT	FVLASFA[L]A	1618.17	9	7.84145
Se020	NAT14 L64V	HLA-C*03:04	MT	VLASFA[V]AL	328.63	WT	VLASFA[L]AL	172.68	9	7.84145
Se020	NAT14 L64V	HLA-C*03:04	MT	ASFA[V]ALLL	399	WT	ASFA[L]ALLL	495.87	9	7.84145
Se020	SOGA1 E455V	HLA-B*40:02	MT	[V]EANLLSRRRI	214.31	WT	[E]EANLLSRRRI	1263.19	10	2.3137
Se020	ZFP64 C335Y	HLA-A*31:01	MT	EF[Y]DKCFSR	51.21	WT	EF[C]DKCFSR	341.21	9	1.54275
Se020	TRPM2 K1107M	HLA-B*07:02	MT	TPAKRH[M]QL	10.79	WT	TPAKRH[K]QL	23.5	9	1.93213
Se020	TOP3B L5V	HLA-A*31:01	MT	KTV[V]MVAEK	253.32	WT	KTV[L]MVAEK	277.16	9	2.80544
Se020	TOP3B L5V	HLA-C*03:04	MT	V[V]MVAEKPSL	299.68	WT	V[L]MVAEKPSL	957.94	10	2.80544
Se020	PGK1 G54R	HLA-A*31:01	MT	SIKFLDN[R]	19.73	WT	SIKFLDN[G]	19870.08	9	87.48911
Se020	PGK1 G54R	HLA-C*07:02	MT	N[R]AKSVVLM	228.61	WT	N[G]AKSVVLM	12025.07	9	87.48911
Se020	G6PD V382L	HLA-A*31:01	MT	RWDG[L]PFILR	93.29	WT	RWDG[V]PFILR	75.96	10	8.70792
Se020	G6PD V382L	HLA-B*40:02	MT	NERWDG[L]PFI	141.86	WT	NERWDG[V]PFI	125.7	10	8.70792
Se020	G6PD V382L	HLA-B*40:02	MT	VENERWDG[L]	272.22	WT	VENERWDG[V]	766.35	9	8.70792
Se020	G6PD V382L	HLA-B*40:02	MT	NERWDG[L]PF	287.41	WT	NERWDG[V]PF	273.21	9	8.70792
Se023	C1orf174 G109A	HLA-A*02:06	MT	ALLPGSEA[A]V	18.76	WT	ALLPGSEA[G]V	16.4	10	20.68506
Se023	C1orf174 G109A	HLA-A*02:06	MT	ALLPGSEA[A]	126.21	WT	ALLPGSEA[G]	5058.2	9	20.68506
Se023	C1orf174 G109A	HLA-A*02:06	MT	LLPGSEA[A]V	142.79	WT	LLPGSEA[G]V	116.45	9	20.68506
Se023	TRAF5 C81F	HLA-B*40:02	MT	RELNTVPI[F]	26.58	WT	RELNTVPI[C]	82.99	9	5.17675
Se023	TRAF5 C81F	HLA-A*02:06	MT	ELNTVPI[F]PV	119.13	WT	ELNTVPI[C]PV	553.6	10	5.17675
Se023	BIRC6 V3552A	HLA-C*03:03	MT	H[A]HPNYFSL	8.68	WT	H[V]HPNYFSL	54.57	9	4.46879
Se023	BIRC6 V3552A	HLA-C*03:03	MT	H[A]HPNYFSL	16.56	WT	H[V]HPNYFSL	129.8	10	4.46879
Se023	BIRC6 V3552A	HLA-A*02:06	MT	SLLCSMCH[A]	60.54	WT	SLLCSMCH[V]	7.89	9	4.46879
Se023	ING5 E108V	HLA-A*02:06	MT	RLDADLARF[V]	68.16	WT	RLDADLARF[E]	16639.98	10	3.76447
Se023	TRAK1 R460C	HLA-B*40:02	MT	GEL[C]SGSLT	233.74	WT	GEL[R]SGSLT	356.54	9	5.65518
Se023	RBM5 V145M	HLA-C*03:03	MT	FAF[M]EFYHL	18.01	WT	FAF[V]EFYHL	24.04	9	42.04707
Se023	RBM5 V145M	HLA-A*02:06	MT	FAF[M]EFYHL	18.17	WT	FAF[V]EFYHL	29.89	9	42.04707
Se023	RBM5 V145M	HLA-B*40:02	MT	[M]EFYHLQDAT	74.53	WT	[V]EFYHLQDAT	165.24	10	42.04707
Se023	RBM5 V145M	HLA-B*40:02	MT	[M]EFYHLQDA	111.15	WT	[V]EFYHLQDA	219.01	9	42.04707
Se023	RBM5 V145M	HLA-A*02:06	MT	GVSRRGFAF[M]	485.02	WT	GVSRRGFAF[V]	18.38	9	42.04707
Se023	RBM5 V145M	HLA-A*24:02	MT	GFAF[M]EFYHL	499.73	WT	GFAF[V]EFYHL	485.77	10	42.04707
Se023	DZIP3 I336M	HLA-A*02:06	MT	GIVK[M]LFEV	8.48	WT	GIVK[I]LFEV	7.04	9	1.6226
Se023	DZIP3 I336M	HLA-A*02:06	MT	GIVK[M]LFEVV	84.29	WT	GIVK[I]LFEVV	75.64	10	1.6226
Se023	BRAT1 L659V	HLA-C*03:03	MT	LA[V]VFLGQTL	36.4	WT	LA[L]VFLGQTL	67.94	10	8.51385
Se023	BRAT1 L659V	HLA-C*03:03	MT	A[V]VFLGQTL	336.59	WT	A[L]VFLGQTL	1231.59	9	8.51385
Se023	BRAT1 L659V	HLA-A*02:06	MT	AQGLELA[V]V	367.97	WT	AQGLELA[L]V	110.47	9	8.51385
Se023	URGCP G538V	HLA-A*02:06	MT	S[V]VQEFISGI	94.72	WT	S[G]VQEFISGI	3890.44	10	6.08714
Se023	URGCP G538V	HLA-A*02:06	MT	QNGHDPSS[V]	190.41	WT	QNGHDPSS[G]	24875.74	10	6.08714
Se023	URGCP G538V	HLA-A*02:06	MT	[V]VQEFISGI	224.29	WT	[G]VQEFISGI	207.02	9	6.08714
Se023	SAMD9 C494F	HLA-A*24:02	MT	LYHQPSWIF[F]	15.86	WT	LYHQPSWIF[C]	3442.2	10	5.99703
Se023	SAMD9 C494F	HLA-A*24:02	MT	YHQPSWIF[F]	118.01	WT	YHQPSWIF[C]	14278.53	9	5.99703
Se023	SAMD9 C494F	HLA-C*03:03	MT	WIF[F]NGRLDL	219.98	WT	WIF[C]NGRLDL	155.35	10	5.99703
Se023	ABC8 G495V	HLA-B*40:02	MT	HEFITSPFE[V]	17.28	WT	HEFITSPFE[G]	349.24	10	4.80064
Se023	ABC8 G495V	HLA-A*02:06	MT	TSPFE[V]YNTV	127.25	WT	TSPFE[G]YNTV	219	10	4.80064
Se023	ABC8 G495V	HLA-B*55:02	MT	FPE[V]YNTVV	182.33	WT	FPE[G]YNTVV	266.41	9	4.80064
Se023	ABC8 G495V	HLA-A*24:02	MT	SFPE[V]YNTV	301.81	WT	SFPE[G]YNTV	549	9	4.80064
Se023	ANGPT2 M87R	HLA-B*40:02	MT	[R]JENNTQWLM	35.78	WT	[M]JENNTQWLM	77.49	9	3.70264
Se023	RAB11FIP1 V20M	HLA-A*02:06	MT	AVWSPTH[V]QV	28.32	WT	AVWSPTH[V]QV	38.5	10	4.28054
Se023	RAB11FIP1 V20M	HLA-C*03:03	MT	GAVWSPTH[M]	151.4	WT	GAVWSPTH[V]	1009.21	9	4.28054
Se023	PLEKHA2 Y229F	HLA-C*03:03	MT	FALDDFTIC[F]	17.34	WT	FALDDFTIC[Y]	135.39	10	8.96669
Se023	PLEKHA2 Y229F	HLA-A*02:06	MT	ALDDFTIC[F]F	330.43	WT	ALDDFTIC[Y]F	276.73	10	8.96669
Se023	SEMA4D E243V	HLA-B*40:02	MT	VEY[V]FVFRVL	19.24	WT	VEY[E]FVFRVL	15.11	10	5.49632
Se023	SEMA4D E243V	HLA-A*02:06	MT	Y[V]FVFRVLI	78.82	WT	Y[E]FVFRVLI	1197.09	9	5.49632
Se023	SEMA4D E243V	HLA-A*02:06	MT	FFTEVSVEY[V]	104.69	WT	FFTEVSVEY[E]	21928.69	10	5.49632
Se023	SEMA4D E243V	HLA-B*40:02	MT	VEY[V]FVFRV	108.46	WT	VEY[E]FVFRV	105.38	9	5.49632
Se023	SEMA4D E243V	HLA-A*02:06	MT	FTEVSVEY[V]	126.2	WT	FTEVSVEY[E]	24334.67	9	5.49632
Se023	SEMA4D E243V	HLA-A*02:06	MT	SVEY[V]FVFRV	136.08	WT	SVEY[E]FVFRV	146.14	10	5.49632
Se023	SEMA4D E243V	HLA-A*24:02	MT	EY[V]FVFRVLI	184.03	WT	EY[E]FVFRVLI	286.29	10	5.49632
Se023	SEMA4D E243V	HLA-B*40:02	MT	TEVSVEY[V]FV	201.17	WT	TEVSVEY[E]FV	480.8	10	5.49632
Se023	SEMA4D E243V	HLA-B*40:02	MT	TEVSVEY[V]F	222.68	WT	TEVSVEY[E]F	334.86	9	5.49632
Se023	FBXW5 V234M	HLA-A*02:06	MT	N[M]VKRFLFKI	135.68	WT	N[V]VKRFLFKI	327.53	9	49.74458
Se023	FBXW5 V234M	HLA-B*40:02	MT	SENVN[M]VKRRL	209.17	WT	SENVN[V]VKRRL	168.53	10	49.74458
Se023	FBXW5 V234M	HLA-B*40:02	MT	VESENVN[M]V	270.23	WT	VESENVN[V]V	176.52	9	49.74458
Se023	PFKP G118S	HLA-C*03:03	MT	R[S]JITNLCVI	191.88	WT	R[G]JITNLCVI	1214.36	9	21.90231
Se023	PFKP G118S	HLA-A*02:06	MT	NLLQR[S]JITNL	359.74	WT	NLLQR[G]JITNL	430.3	10	21.90231
Se023	PFKP G118S	HLA-A*02:06	MT	LLQR[S]JITNL	407.09	WT	LLQR[G]JITNL	244.63	9	21.90231
Se023	PAMR1 K148M	HLA-A*02:06	MT	Y[M]JACLAGY	210.46	WT	Y[K]JACLAGY	19396.6	10	1.06971
Se023	PAMR1 K148M	HLA-A*24:02	MT	SY[M]JACLAGY	357.97	WT	SY[K]JACLAGY	2061.2	10	1.06971
Se023	KMT2D P3838L	HLA-C*03:03	MT	MTQSRVLSS[L]	85.17	WT	MTQSRVLSS[P]	24621.45	10	3.61105
Se023	KMT2D P3838L	HLA-A*02:06	MT	RVLSS[L]QLA	105.6	WT	RVLSS[P]QLA	1030.29	9	3.61105
Se023	KMT2D P3838L	HLA-A*02:06	MT	TQSRVLSS[L]	195.73	WT	TQSRVLSS[P]	12864.7	9	3.61105
Se023	KMT2D P3838L	HLA-A*02:06	MT	MTQSRVLSS[L]	460.88	WT	MTQSRVLSS[P]	18372.7	10	3.61105
Se023	KMT2D P3838L	HLA-A*02:06	MT	[L]QLAQGGQGL	466.89	WT	[P]QLAQGGQGL	13126.13	10	3.61105
Se023	FLT1 A935E	HLA-A*02:06	MT	FLNKDA[E]LHM	152.13	WT	FLNKDA[A]LHM	107.74	10	2.45095
Se023	FLT1 A935E	HLA-C*03:03	MT	FLNKDA[E]LHM	297.1	WT	FLNKDA[A]LHM	85.21	10	2.45095
Se023	MTRF1 N107S	HLA-C*03:03	MT	RSL[S]JRRHAEL	360.39	WT	RSL[N]JRRHAEL	459.11	10	5.22061
Se023	RNF219 I124V	HLA-A*02:06	MT	SQ[V]KTILDPL	38.21	WT	SQ[I]KTILDPL	16.7	10	14.28669

Se023	RNF219 I124V	HLA-B*40:02	MT	LESQ[V]KTLI	73.22	WT	LESQ[I]KTLI	61.67	9	14.28669
Se023	RNF219 I124V	HLA-B*40:02	MT	SQ[V]KTLIDPL	205.92	WT	SQ[I]KTLIDPL	99.65	10	14.28669
Se023	PAPLN D959E	HLA-B*40:02	MT	R[E]SQKQLRI	80.26	WT	R[D]SQKQLRI	2500.83	10	2.60408
Se023	STON2 H395Y	HLA-A*02:06	MT	LQIDDPD[Y]F	431.35	WT	LQIDDPD[H]F	1639.73	9	9.42144
Se023	ADAL N287D	HLA-A*02:06	MT	YQLAAETF[D]L	12.18	WT	YQLAAETF[N]L	5.22	10	1.50474
Se023	ADAL N287D	HLA-A*02:06	MT	QLAAETF[D]L	185.2	WT	QLAAETF[N]L	29.06	9	1.50474
Se023	ADAL N287D	HLA-B*40:02	MT	YQLAAETF[D]L	221.53	WT	YQLAAETF[N]L	108.84	10	1.50474
Se023	MYO1E V710M	HLA-A*02:06	MT	F[M]ARKKYVQM	219.02	WT	F[V]ARKKYVQM	1007.2	10	9.52341
Se023	MYO1E V710M	HLA-C*03:03	MT	F[M]ARKKYVQM	319.18	WT	F[V]ARKKYVQM	199.63	10	9.52341
Se023	MYO1E V710M	HLA-C*03:03	MT	[M]ARKKYVQM	437.79	WT	[V]ARKKYVQM	1902.76	9	9.52341
Se023	THSD4 G323R	HLA-B*40:02	MT	[R]EWSECSKTC	150.47	WT	[G]EWSECSKTC	402.92	10	41.35849
Se023	THSD4 G323R	HLA-B*40:02	MT	[R]EWSECSKT	192.81	WT	[G]EWSECSKT	517.5	9	41.35849
Se023	SLC7A6OS N127S	HLA-B*40:02	MT	SEYTPG[S]PEA	81.66	WT	SEYTPG[N]PEA	88.89	10	4.21922
Se023	ATP6V0A1 E166D	HLA-B*40:02	MT	S[D]MGRGTPL	359.72	WT	S[E]MGRGTPL	10.51	9	4.19181
Se023	FASN G1002S	HLA-B*40:02	MT	YDY[S]PHFQGI	140.96	WT	YDY[G]PHFQGI	182.89	10	14.1349
Se023	FASN G1002S	HLA-C*03:03	MT	Y[S]PHFQGI	312.31	WT	Y[G]PHFQGI	1170.36	9	14.1349
Se023	FASN G1002S	HLA-B*55:02	MT	[S]PHFQGILEA	461.45	WT	[G]PHFQGILEA	991.38	10	14.1349
Se023	RNMT N320Y	HLA-A*24:02	MT	YFIGTTP[Y]SF	9.31	WT	YFIGTTP[N]SF	22.77	10	5.21033
Se023	RNMT N320Y	HLA-C*03:03	MT	[Y]SFELIRRL	38.49	WT	[N]SFELIRRL	1856.83	9	5.21033
Se023	RNMT N320Y	HLA-A*02:06	MT	GTTT[Y]SFEL	84.37	WT	GTTT[N]SFEL	363.4	9	5.21033
Se023	RNMT N320Y	HLA-A*02:06	MT	[Y]SFELIRRL	199	WT	[N]SFELIRRL	3672.03	9	5.21033
Se023	RNMT N320Y	HLA-A*02:06	MT	TTP[Y]SFELI	276.39	WT	TTP[N]SFELI	348.07	9	5.21033
Se023	RNMT N320Y	HLA-A*02:06	MT	GTTT[Y]SFELI	476.75	WT	GTTT[N]SFELI	848.6	10	5.21033
Se023	MUC16 T3046A	HLA-B*40:02	MT	KETSFLSP[A]	30.74	WT	KETSFLSP[T]	62.08	9	11.14232
Se023	MUC16 T3046A	HLA-B*40:02	MT	KETSFLSP[A]A	36.49	WT	KETSFLSP[T]A	42.29	10	11.14232
Se023	MUC16 T3046A	HLA-C*03:03	MT	[A]ASTSRKTSLS	319.97	WT	[T]ASTSRKTSLS	341.89	10	11.14232
Se023	COLGALT1 H256Y	HLA-A*24:02	MT	FYPPI[Y]PDYTW	15.02	WT	FYPPI[H]PDYTW	21.87	10	31.59263
Se023	COLGALT1 H256Y	HLA-A*24:02	MT	P[Y]PDYTWSF	29.15	WT	P[H]PDYTWSF	2945.57	9	31.59263
Se023	LPAR2 R303C	HLA-B*40:02	MT	AEM[C]RTFRRL	25.46	WT	AEM[R]RTFRRL	37.37	10	6.88294
Se023	LPAR2 R303C	HLA-B*40:02	MT	RDAEM[C]RTF	491.72	WT	RDAEM[R]RTF	923.55	9	6.88294
Se023	RBM42 A177G	HLA-C*03:03	MT	SSA[G]AGPRPM	69.54	WT	SSA[A]AGPRPM	69.32	10	34.49046
Se023	RBM42 A177G	HLA-C*03:03	MT	SA[G]AGPRPM	77.33	WT	SA[A]AGPRPM	9.81	9	34.49046
Se023	RBM42 A177G	HLA-C*03:03	MT	[G]AGPRPMAL	356.73	WT	[A]AGPRPMAL	101.56	9	34.49046
Se023	MYBPC2 G813V	HLA-A*02:06	MT	RILFRVV[V]V	121.19	WT	RILFRVV[G]V	36.33	9	1.19099
Se023	MYBPC2 G813V	HLA-A*02:06	MT	ILFRVV[V]VNI	190.55	WT	ILFRVV[G]VNI	621.97	10	1.19099
Se023	SLC52A3 A158V	HLA-A*02:06	MT	GLLPALVAL[V]	8.87	WT	GLLPALVAL[A]	41.11	10	5.19805
Se023	SLC52A3 A158V	HLA-A*02:06	MT	LLPALVAL[V]	14.7	WT	LLPALVAL[A]	107.22	9	5.19805
Se023	SLC52A3 A158V	HLA-C*03:03	MT	VAL[V]QGSGL	167.87	WT	VAL[A]QGSGL	103.33	9	5.19805
Se023	SLC52A3 A158V	HLA-A*02:06	MT	[V]QGSGLTTCV	174.19	WT	[A]QGSGLTTCV	104.25	10	5.19805
Se024	CPT2 R634Q	HLA-A*24:02	MT	SYPRNA[Q]JEF	37.26	WT	SYPRNA[R]JEF	111.58	10	6.27441
Se024	KDM5B N460D	HLA-A*02:06	MT	SGW[D]LNNMPV	172.89	WT	SGW[N]LNNMPV	292.55	10	12.69383
Se024	HPCAL1 E66K	HLA-A*24:02	MT	KFA[K]HVFRTF	17.78	WT	KFA[E]HVFRTF	16.91	10	10.11966
Se024	HPCAL1 E66K	HLA-C*12:02	MT	FA[K]HVFRTF	24.57	WT	FA[E]HVFRTF	32.33	9	10.11966
Se024	GLI2 R1372Q	HLA-A*02:06	MT	GLVQP[Q]PPL	394.9	WT	GLVQP[R]PPL	827.06	9	1.041
Se024	GLI2 R1372Q	HLA-A*02:06	MT	GLVQP[Q]PPL	394.9	WT	GLVQP[R]PPL	827.06	9	1.84676
Se024	FAP G443S	HLA-A*02:06	MT	ALVCY[S]PGI	25.77	WT	ALVCY[G]PGI	90.54	9	3.03033
Se024	FAP G443S	HLA-C*12:02	MT	Y[S]PGIPISTL	30.83	WT	Y[G]PGIPISTL	193.21	10	3.03033
Se024	FAP G443S	HLA-A*02:06	MT	YALVCY[S]PGI	80.55	WT	YALVCY[G]PGI	167.03	10	3.03033
Se024	FAP G443S	HLA-A*02:06	MT	Y[S]PGIPISTL	210.11	WT	Y[G]PGIPISTL	1327.85	10	3.03033
Se024	FAP G443S	HLA-C*08:01	MT	Y[S]PGIPISTL	308.04	WT	Y[G]PGIPISTL	1142.02	10	3.03033
Se024	FAP G443S	HLA-C*12:02	MT	YALVCY[S]PGI	413	WT	YALVCY[G]PGI	625.44	10	3.03033
Se024	FN1 P1461S	HLA-C*12:02	MT	VAAT[S]TSL	85	WT	VAAT[P]TSL	47.85	9	104.28207
Se024	FN1 P1461S	HLA-C*12:02	MT	VAAT[S]TSLLI	210.67	WT	VAAT[P]TSLLI	142.13	10	104.28207
Se024	FN1 P1461S	HLA-C*12:02	MT	VVAAT[S]TSL	246.97	WT	VVAAT[P]TSL	198.34	10	104.28207
Se024	FN1 P1461S	HLA-C*12:02	MT	VVAAT[S]TSL	288.02	WT	VVAAT[P]TSL	261.79	9	104.28207
Se024	HIST1H4E D86H	HLA-C*12:02	MT	TAM[H]VVYAL	41.69	WT	TAM[D]VVYAL	16.3	9	1.8759
Se024	HIST1H4E D86H	HLA-A*02:06	MT	KTVTAM[H]VV	43.11	WT	KTVTAM[D]VV	127.15	9	1.8759
Se024	HIST1H4E D86H	HLA-A*02:06	MT	TAM[H]VVYAL	54.61	WT	TAM[D]VVYAL	22.18	9	1.8759
Se024	HIST1H4E D86H	HLA-A*02:06	MT	VTAM[H]VVYA	105.24	WT	VTAM[D]VVYA	291.48	9	1.8759
Se024	HIST1H4E D86H	HLA-A*02:06	MT	VTAM[H]VVYAL	150.9	WT	VTAM[D]VVYAL	204.42	10	1.8759
Se024	HIST1H4E D86H	HLA-C*08:01	MT	TAM[H]VVYAL	193.72	WT	TAM[D]VVYAL	90.01	9	1.8759
Se024	HIST1H4E D86H	HLA-C*12:02	MT	KTVTAM[H]VV	234.48	WT	KTVTAM[D]VV	557.49	9	1.8759
Se024	HIST1H4E D86H	HLA-C*12:02	MT	VTAM[H]VVYAL	237.2	WT	VTAM[D]VVYAL	427.1	10	1.8759
Se024	HIST1H4E D86H	HLA-C*12:02	MT	KTVTAM[H]VVY	332.05	WT	KTVTAM[D]VVY	519.27	10	1.8759
Se024	HIST1H4E D86H	HLA-A*02:06	MT	TVTAM[H]VVYA	467.58	WT	TVTAM[D]VVYA	1064.75	10	1.8759
Se024	TRRAP R90W	HLA-A*02:06	MT	QL[W]KLVLEI	23.81	WT	QL[R]KLVLEI	74.39	10	4.50529
Se024	TRRAP R90W	HLA-A*02:06	MT	QL[W]KLVLEI	134.71	WT	QL[R]KLVLEI	3652.81	9	4.50529
Se024	ABC9 R637W	HLA-A*02:06	MT	IIAH[W]LSTV	8.44	WT	IIAH[R]LSTV	42.9	9	1.36777
Se024	ABC9 R637W	HLA-A*02:06	MT	IIAH[W]LSTV	10.15	WT	IIAH[R]LSTV	40.71	10	1.36777
Se024	ABC9 R637W	HLA-C*12:02	MT	IIAH[W]LSTV	163.48	WT	IIAH[R]LSTV	164.96	9	1.36777
Se024	ABC9 R637W	HLA-A*02:06	MT	HTVLIIAH[W]L	177.05	WT	HTVLIIAH[R]L	374	10	1.36777
Se024	ABC9 R637W	HLA-C*12:02	MT	IIAH[W]LSTV	217.49	WT	IIAH[R]LSTV	212.55	10	1.36777
Se024	ABC9 R637W	HLA-A*02:06	MT	[W]LSTVEHAHL	339.27	WT	[R]LSTVEHAHL	1061.19	10	1.36777
Se024	ABC9 R637W	HLA-A*02:06	MT	TVLIIAH[W]L	350.48	WT	TVLIIAH[R]L	534.35	9	1.36777
Se024	ABC9 R637W	HLA-A*02:06	MT	IIAH[W]LST	416.07	WT	IIAH[R]LST	2656.32	9	1.36777
Se024	ALOX5AP A74E	HLA-A*02:06	MT	FLAVLWS[E]GL	23.91	WT	FLAVLWS[A]GL	21.06	10	4.15834
Se024	MTHFS I122F	HLA-A*02:06	MT	EQ[F]CLQVPV	16.73	WT	EQ[I]CLQVPV	25.94	9	14.83298
Se024	MTHFS I122F	HLA-A*02:06	MT	ALAFKEQ[F]CL	488.61	WT	ALAFKEQ[I]CL	1481.26	10	14.83298

Se024	CDH3 N706S	HLA-A*02:06	MT	FIIE[S]LKAA	13.22	WT	FIIE[N]LKAA	16.92	9	20.23897
Se024	TP53 Y88D	HLA-A*02:06	MT	VVP[D]EPPEV	58.81	WT	VVP[Y]EPPEV	193.11	9	34.48702
Se024	TP53 Y88D	HLA-A*02:06	MT	VVV[PD]EPPEV	65.26	WT	VVV[Y]EPPEV	34.53	10	34.48702
Se024	EMILIN2 V906M	HLA-A*02:06	MT	SL[M]SFSAGL	15.89	WT	SL[V]SFSAGL	72.98	9	8.64208
Se024	EMILIN2 V906M	HLA-B*54:01	MT	VPSL[M]SFSFA	45.86	WT	VPSL[V]SFSFA	38.94	9	8.64208
Se024	EMILIN2 V906M	HLA-A*02:06	MT	SL[M]SFSAGLT	407.6	WT	SL[V]SFSAGLT	1830.45	10	8.64208
Se024	EMILIN2 V906M	HLA-C*12:02	MT	SL[M]SFSAGL	455.21	WT	SL[V]SFSAGL	1358.76	9	8.64208
Se024	ZNF160 M54V	HLA-A*02:06	MT	VSLGLCHF[D][V]	281.58	WT	VSLGLCHF[D][M]	2090.28	10	7.71673
Se024	ZNF160 M54V	HLA-A*02:06	MT	SLGLCHF[D][V]	491.43	WT	SLGLCHF[D][M]	2284	9	7.71673
Se025	MUTYH R112W	HLA-C*03:04	MT	[W]AYAVVWSEV	20.58	WT	[R]AYAVVWSEV	39.47	10	13.88373
Se025	MUTYH R112W	HLA-C*12:02	MT	[W]AYAVVWSEV	27.79	WT	[R]AYAVVWSEV	41.27	10	13.88373
Se025	PIP5K1A D147N	HLA-C*03:04	MT	FGIRP[N]DYL	355.34	WT	FGIRP[D]DYL	637.79	9	22.5364
Se025	CEP350 Q1451E	HLA-B*40:01	MT	R[E]ICEMAEL	5.98	WT	R[Q]ICEMAEL	356.18	9	1.2314
Se025	HS3ST1 R152H	HLA-C*03:04	MT	[H]VLSDYTQVF	415.82	WT	[R]VLSDYTQVF	586.4	10	5.75224
Se025	GFPT2 V642L	HLA-C*03:04	MT	KTIELPHT[L]	61.34	WT	KTIELPHT[V]	708.21	9	2.3415
Se025	GFPT2 V642L	HLA-C*12:02	MT	KTIELPHT[L]	91.23	WT	KTIELPHT[V]	80.91	9	2.3415
Se025	GFPT2 V642L	HLA-B*40:01	MT	IELPHT[L]DCL	102.07	WT	IELPHT[V]DCL	82.27	10	2.3415
Se025	TECPR1 T842M	HLA-C*03:04	MT	TGYTSRGLP[M]	276.79	WT	TGYTSRGLP[T]	13871.52	10	1.88536
Se025	TECPR1 T842M	HLA-C*12:02	MT	TGYTSRGLP[M]	480.72	WT	TGYTSRGLP[T]	12349.01	10	1.88536
Se025	TACCP1 V196M	HLA-B*40:01	MT	SESDKTA[M]L	105.93	WT	SESDKTA[V]L	39.64	9	2.15552
Se025	KNTC1 I1217V	HLA-B*40:01	MT	YEL[V]SSLVPL	6.45	WT	YEL[I]SSLVPL	6.55	10	3.31206
Se025	KNTC1 I1217V	HLA-C*03:04	MT	VIYEL[V]SSL	107.25	WT	VIYEL[I]SSL	174.65	9	3.31206
Se025	KNTC1 I1217V	HLA-C*12:02	MT	VIYEL[V]SSL	262.26	WT	VIYEL[I]SSL	276.83	9	3.31206
Se025	KNTC1 I1217V	HLA-A*24:02	MT	IYEL[V]SSLV	437.43	WT	IYEL[I]SSLV	357.11	9	3.31206
Se025	KNTC1 I1217V	HLA-C*12:02	MT	VIYEL[V]SSLV	468.31	WT	VIYEL[I]SSLV	532.28	10	3.31206
Se025	SPAG9 E189K	HLA-C*03:04	MT	QAI[E]STPEL	55.17	WT	QAI[I]STPEL	54.84	10	6.91801
Se025	SPAG9 E189K	HLA-C*03:04	MT	AII[K]STPEL	202.4	WT	AII[E]STPEL	62.64	9	6.91801
Se025	DIP2A A214T	HLA-B*40:01	MT	LE[T]HTHIGV	169.39	WT	LE[A]HTHIGV	122.72	9	5.33112
Se025	ZBED4 T64M	HLA-B*40:01	MT	GERAGLGG[M]	421.28	WT	GERAGLGG[T]	9424.58	9	2.46266
Se026	ECE1 R171H	HLA-B*15:01	MT	AQVYY[H]ACM	66.86	WT	AQVYY[R]ACM	113.18	9	22.12594
Se026	ECE1 R171H	HLA-C*03:04	MT	KAQVYY[H]ACM	443.31	WT	KAQVYY[R]ACM	846.03	10	22.12594
Se026	LRRN2 S45L	HLA-C*15:02	MT	[L]JSYREATTV	149.47	WT	[S]JSYREATTV	99.27	9	17.68531
Se026	OR2W3 P182H	HLA-B*40:06	MT	REM[H]ALIRMA	81.3	WT	REM[P]ALIRMA	91.21	10	1.2688
Se026	OR2W3 P182H	HLA-A*24:02	MT	HFLREM[H]ALI	151.05	WT	HFLREM[P]ALI	251.73	10	1.2688
Se026	OR2W3 P182H	HLA-B*40:06	MT	REM[H]ALIRM	186.89	WT	REM[P]ALIRM	254.12	9	1.2688
Se026	MTHFD2 V205I	HLA-C*15:02	MT	RSKN[I]GMPI	210.79	WT	RSKN[V]GMPI	213.53	9	28.14006
Se026	MTHFD2 V205I	HLA-C*03:04	MT	[I]GMPIAMLL	471.99	WT	[V]GMPIAMLL	708	9	28.14006
Se026	DOCK10 S1776R	HLA-A*24:02	MT	AF[L]R]ITPNI	393.36	WT	AF[L]S]ITPNI	270.98	9	3.51733
Se026	TRANK1 L436I	HLA-A*26:02	MT	TIIPH[I]STW	118.24	WT	TIIPH[L]STW	105.13	9	3.5667
Se026	ARMC8 D26Y	HLA-B*15:01	MT	VTASSRHYV[Y]	195.74	WT	VTASSRHYV[D]	28278.51	10	8.26426
Se026	ARMC8 D26Y	HLA-A*26:02	MT	VTASSRHYV[Y]	333.4	WT	VTASSRHYV[D]	31088.34	10	8.26426
Se026	ARMC8 D26Y	HLA-C*15:02	MT	ASSRHYV[Y]RL	386.12	WT	ASSRHYV[D]RL	1833.59	10	8.26426
Se026	ARMC8 D26Y	HLA-B*15:01	MT	SSRHYV[Y]RFL	452.57	WT	SSRHYV[D]RFL	727.4	10	8.26426
Se026	ADAP1 P219L	HLA-C*03:04	MT	YTVLHGFP[L]	6.08	WT	YTVLHGFP[P]	5567.22	9	4.44598
Se026	ADAP1 P219L	HLA-A*26:02	MT	YTVLHGFP[L]	34.52	WT	YTVLHGFP[P]	2602.64	9	4.44598
Se026	ADAP1 P219L	HLA-C*15:02	MT	YTVLHGFP[L]	116.79	WT	YTVLHGFP[P]	11171.36	9	4.44598
Se026	TMEM184A I226T	HLA-C*03:04	MT	L[T]YNASVSL	13.25	WT	L[I]YNASVSL	25.27	9	5.46851
Se026	TMEM184A I226T	HLA-C*15:02	MT	L[T]YNASVSL	66.93	WT	L[I]YNASVSL	789.51	9	5.46851
Se026	TMEM184A I226T	HLA-C*03:04	MT	YVTL[I]YNASV	141.09	WT	YVTL[I]YNASV	278.13	10	5.46851
Se026	TMEM184A I226T	HLA-B*15:01	MT	L[T]YNASVSL	212.34	WT	L[I]YNASVSL	108.49	9	5.46851
Se026	TMEM184A I226T	HLA-A*24:02	MT	[T]YNASVSLAL	223.7	WT	[I]YNASVSLAL	153.55	10	5.46851
Se026	TMEM184A I226T	HLA-A*26:02	MT	YVTL[T]YNASV	253.64	WT	YVTL[I]YNASV	253.27	10	5.46851
Se026	TMEM184A I226T	HLA-C*15:02	MT	VTL[T]YNASV	294.33	WT	VTL[I]YNASV	644.05	9	5.46851
Se026	TMEM184A I226T	HLA-C*15:02	MT	L[T]YNASVSLA	308.85	WT	L[I]YNASVSLA	3656.1	10	5.46851
Se026	TMEM184A I226T	HLA-C*03:04	MT	TL[T]YNASVSL	377.03	WT	TL[I]YNASVSL	117.4	10	5.46851
Se026	CHD7 A2127S	HLA-A*24:02	MT	SFLD[S]HKNF	346.33	WT	SFLD[A]HKNF	289.94	9	4.45236
Se026	CHD7 A2127S	HLA-B*15:01	MT	LSFLD[S]HKNF	383.09	WT	LSFLD[A]HKNF	594.98	10	4.45236
Se026	SGK3 L214F	HLA-B*15:01	MT	[F]LKNVKHPF	31.09	WT	[L]LKNVKHPF	33.25	9	2.74679
Se026	SGK3 L214F	HLA-A*24:02	MT	V[F]LKNVKHPF	58.8	WT	V[L]LKNVKHPF	950.48	10	2.74679
Se026	SGK3 L214F	HLA-B*15:01	MT	HIMAERNV[F]	59.88	WT	HIMAERNV[L]	1636.87	9	2.74679
Se026	SGK3 L214F	HLA-C*03:04	MT	HIMAERNV[F]L	354.34	WT	HIMAERNV[L]L	288.95	10	2.74679
Se026	SGK3 L214F	HLA-A*26:02	MT	HIMAERNV[F]	437.07	WT	HIMAERNV[L]	2367.34	9	2.74679
Se026	SGK3 L214F	HLA-C*03:04	MT	IMAERNV[F]L	487.12	WT	IMAERNV[L]L	370.86	9	2.74679
Se026	NCOA2 L694F	HLA-B*15:01	MT	RL[F]QDSSSPV	221.54	WT	RL[L]QDSSSPV	964.68	10	3.97959
Se026	NCOA2 L694F	HLA-C*03:04	MT	[F]QDSSSPVDL	314.18	WT	[L]QDSSSPVDL	1641.91	10	3.97959
Se026	NCOA2 L694F	HLA-C*03:04	MT	RL[F]QDSSSPV	322.93	WT	RL[L]QDSSSPV	1201.18	10	3.97959
Se026	VPS13B I579T	HLA-A*26:02	MT	STKSLV[T]GPL	141.41	WT	STKSLV[I]GPL	122.22	10	2.35119
Se026	VPS13B I579T	HLA-B*15:01	MT	SLV[T]GPLDF	453.96	WT	SLV[I]GPLDF	711.33	9	2.35119
Se026	ZNF462 T1204M	HLA-A*26:02	MT	[M]VKGVLIHY	18.26	WT	[T]VKGVLIHY	30.7	9	2.35687
Se026	ZNF462 T1204M	HLA-B*15:01	MT	R[M]VKGVLIHY	18.85	WT	R[T]VKGVLIHY	83.95	10	2.35687
Se026	ZNF462 T1204M	HLA-B*15:01	MT	[M]VKGVLIHY	81.25	WT	[T]VKGVLIHY	276.98	9	2.35687
Se026	ZNF462 T1204M	HLA-B*15:01	MT	R[M]VKGVLIHY	431.68	WT	R[T]VKGVLIHY	2875.79	9	2.35687
Se026	TRIM32 A513S	HLA-B*15:01	MT	CLCS[S]VRPKF	338.05	WT	CLCS[A]VRPKF	353.17	10	5.58729
Se026	ITIH5 R399G	HLA-C*03:04	MT	Y[G]FLTPFTSM	16.28	WT	Y[R]FLTPFTSM	346.73	10	8.02168
Se026	ITIH5 R399G	HLA-B*15:01	MT	AQALAVSY[G]F	23.83	WT	AQALAVSY[R]F	31.68	10	8.02168
Se026	ITIH5 R399G	HLA-B*15:01	MT	VSY[G]FLTPF	31.55	WT	VSY[R]FLTPF	39.67	9	8.02168
Se026	ITIH5 R399G	HLA-B*15:01	MT	AVSY[G]FLTPF	35.72	WT	AVSY[R]FLTPF	56.51	10	8.02168
Se026	ITIH5 R399G	HLA-C*03:04	MT	VSY[G]FLTPF	115.13	WT	VSY[R]FLTPF	215.22	9	8.02168

Se026	ITIH5 R399G	HLA-A*26:02	MT	AVSY[G]FLTPF	212.3	WT	AVSY[R]FLTPF	223.41	10	8.02168
Se026	ITIH5 R399G	HLA-C*03:04	MT	AVSY[G]FLTPF	216.98	WT	AVSY[R]FLTPF	429.8	10	8.02168
Se026	ITIH5 R399G	HLA-B*15:01	MT	Y[G]FLTPFTSM	466.3	WT	Y[R]FLTPFTSM	2937.36	10	8.02168
Se026	ITIH5 R399G	HLA-C*15:02	MT	VSY[G]FLTPF	482.76	WT	VSY[R]FLTPF	550.59	9	8.02168
Se026	NCOA4 F246V	HLA-A*26:02	MT	N[V]FNNVGGNL	242.09	WT	N[F]FNNVGGNL	8758.9	10	36.45984
Se026	NCOA4 F246V	HLA-A*26:02	MT	QTSSRACN[V]F	342.22	WT	QTSSRACN[F]F	196.56	10	36.45984
Se026	NCOA4 F246V	HLA-B*15:01	MT	TSSRACN[V]F	420.47	WT	TSSRACN[F]F	1378.44	9	36.45984
Se026	NCOA4 F246V	HLA-B*15:01	MT	QTSSRACN[V]F	440.8	WT	QTSSRACN[F]F	1238.53	10	36.45984
Se026	NCOA4 F246V	HLA-C*15:02	MT	RACN[V]FNNV	497.68	WT	RACN[F]FNNV	287.78	9	36.45984
Se026	NR1H4 1478N	HLA-A*24:02	MT	KFTPLLCE[N]W	247.15	WT	KFTPLLCE[I]W	323.99	10	4.43142
Se026	DACT1 N766S	HLA-C*15:02	MT	H[S]HPAKTFV	351.42	WT	H[N]HPAKTFV	10877.83	9	12.39553
Se026	CSPG4 H1548L	HLA-B*15:01	MT	S[L]RGTLDGGF	188.62	WT	S[H]RGTLDGGF	13338.88	10	2.46812
Se026	SETBP1 Q1000L	HLA-A*24:02	MT	HYYPVPIYI[Q]	17.97	WT	HYYPVPIYI[Q]	4039.81	9	1.78041
Se026	SETBP1 Q1000L	HLA-C*03:04	MT	YI[Q]YDPLLYL	66.52	WT	YI[Q]YDPLLYL	108.51	10	1.78041
Se026	SETBP1 Q1000L	HLA-C*15:02	MT	I[L]YDPLLYL	267.75	WT	I[Q]YDPLLYL	319.8	9	1.78041
Se026	SETBP1 Q1000L	HLA-C*03:04	MT	I[L]YDPLLYL	377.07	WT	I[Q]YDPLLYL	800.82	9	1.78041
Se026	SETBP1 Q1000L	HLA-C*03:04	MT	VPYI[Q]YDPL	385.45	WT	VPYI[Q]YDPL	533.9	9	1.78041
Se026	SETBP1 Q1000L	HLA-A*24:02	MT	YYPVPIYI[Q]	429.59	WT	YYPVPIYI[Q]	698.26	9	1.78041
Se026	SETBP1 Q1000L	HLA-C*15:02	MT	YI[Q]YDPLLYL	477.02	WT	YI[Q]YDPLLYL	723.67	10	1.78041
Se026	MYO5B V1703A	HLA-A*26:02	MT	D[A]CSWSTGM	135.52	WT	D[V]CSWSTGM	13.77	9	5.21686
Se026	ARID3A C327Y	HLA-B*15:01	MT	YMKYLYPYE[Y]	26.77	WT	YMKYLYPYE[C]	4284.82	10	1.04472
Se026	ARID3A C327Y	HLA-C*03:04	MT	YPYE[Y]EKRG	413.76	WT	YPYE[C]EKRG	321.4	10	1.04472
Se026	ARID3A C327Y	HLA-A*26:02	MT	YMKYLYPYE[Y]	483.29	WT	YMKYLYPYE[C]	24270.11	10	1.04472
Se026	DLGAP4 P53S	HLA-A*26:02	MT	N[L]S[GDGLF	91.92	WT	N[L]P[GDGLF	114.67	9	17.87983
Se026	DLGAP4 P53S	HLA-C*03:04	MT	TL[S]GDGLFPL	454.17	WT	TL[P]GDGLFPL	987.33	10	17.87983
Se026	OPHN1 H150N	HLA-C*03:04	MT	YSLDRHL[N]L	105.07	WT	YSLDRHL[H]L	90.98	10	1.61009
Se026	OPHN1 H150N	HLA-C*15:02	MT	YSLDRHL[N]L	208.92	WT	YSLDRHL[H]L	186.76	10	1.61009
Se029	VPS13D Q502L	HLA-A*02:06	MT	HVFAKLN[L]L	78.76	WT	HVFAKLN[Q]L	11710.87	9	3.11671
Se029	VPS13D Q502L	HLA-A*02:06	MT	HVFAKLN[L]L	97.53	WT	HVFAKLN[Q]L	175.14	10	3.11671
Se029	VPS13D Q502L	HLA-C*14:02	MT	VFAKLN[L]L	159.32	WT	VFAKLN[Q]L	286.76	9	3.11671
Se029	VPS13D Q502L	HLA-A*02:06	MT	L[L]LQRGTVTL	269.94	WT	L[Q]LQRGTVTL	129.06	10	3.11671
Se029	VPS13D Q502L	HLA-A*24:02	MT	VFAKLN[L]L	286.74	WT	VFAKLN[Q]L	684.89	9	3.11671
Se029	VPS13D Q502L	HLA-A*02:06	MT	[L]LQRGTVTL	296.98	WT	[Q]LQRGTVTL	979.21	9	3.11671
Se029	VPS13D Q502L	HLA-C*12:02	MT	HVFAKLN[L]L	386.71	WT	HVFAKLN[Q]L	16469.19	9	3.11671
Se029	VPS13D Q502L	HLA-A*02:06	MT	[L]LQRGTVTL	445.59	WT	[Q]LQRGTVTL	1428.87	10	3.11671
Se029	VPS13D Q502L	HLA-C*14:02	MT	HVFAKLN[Q]L	489.12	WT	HVFAKLN[Q]L	19982.19	9	3.11671
Se029	VWA5A H190Y	HLA-A*02:06	MT	ATIDSQ[Y]GI	30.93	WT	ATIDSQ[H]GI	95.44	9	11.72248
Se032	KLHL21 S401Y	HLA-C*14:03	MT	D[Y]WEALQPM	98.96	WT	D[S]WEALQPM	3447.45	9	6.17063
Se032	KLHL21 S401Y	HLA-C*14:03	MT	[Y]WEALQPMY	253.03	WT	[S]WEALQPMY	1525.33	10	6.17063
Se032	CAMTA1 A1381T	HLA-B*44:03	MT	[T]JENECEGQPM	284.74	WT	[A]JENECEGQPM	92.7	10	4.24552
Se032	VGLL4 M199K	HLA-A*02:197	MT	[K]VSHSHSPSV	310.59	WT	[M]VSHSHSPSV	108.09	10	55.44165
Se032	NOP16 L53V	HLA-C*14:03	MT	SVRQN[V]AEM	153.81	WT	SVRQN[L]AEM	151.04	9	7.04687
Se032	NOP16 L53V	HLA-B*15:01	MT	SVRQN[V]AEM	359.61	WT	SVRQN[L]AEM	349.59	9	7.04687
Se032	RREB1 L9W	HLA-B*44:03	MT	[W]EGSDLSI	474.24	WT	[L]EGSDLSI	1038.26	9	2.35152
Se032	PLPP6 I183F	HLA-A*02:197	MT	LLVAL[F]KGL	127.38	WT	LLVAL[I]KGL	115.51	10	8.51058
Se032	PLPP6 I183F	HLA-A*02:197	MT	LLVAL[F]KGLV	256.26	WT	LLVAL[I]KGLV	218.29	10	8.51058
Se032	PLPP6 I183F	HLA-A*02:197	MT	LLVAL[F]KGL	390.41	WT	LLVAL[I]KGL	145.05	9	8.51058
Se032	CLIC3 S222I	HLA-B*15:01	MT	H[I]AEILAA	32.44	WT	H[S]AEILAA	27.68	9	14.40284
Se032	CLIC3 S222I	HLA-C*14:03	MT	KYTCPH[I]AEI	118.99	WT	KYTCPH[S]AEI	128.9	10	14.40284
Se032	CLIC3 S222I	HLA-A*02:197	MT	YTCPH[I]AEI	144.09	WT	YTCPH[S]AEI	717.42	9	14.40284
Se032	CLIC3 S222I	HLA-C*14:03	MT	YTCPH[I]AEI	211.46	WT	YTCPH[S]AEI	225.91	9	14.40284
Se032	CLIC3 S222I	HLA-C*14:03	MT	YTCPH[I]AEIL	249.38	WT	YTCPH[S]AEIL	281.84	10	14.40284
Se032	CLIC3 S222I	HLA-B*44:03	MT	KEFKYTCPH[I]	251.63	WT	KEFKYTCPH[S]	2829.52	10	14.40284
Se032	WAPL T1125R	HLA-C*14:03	MT	SY[R]ALLGCL	93.05	WT	SY[T]ALLGCL	111.11	10	7.89436
Se032	WAPL T1125R	HLA-C*14:03	MT	IVASY[R]ALL	153.83	WT	IVASY[T]ALL	102.51	9	7.89436
Se032	WAPL T1125R	HLA-C*14:03	MT	IVASY[R]ALLL	214.82	WT	IVASY[T]ALLL	179.19	10	7.89436
Se032	WAPL T1125R	HLA-C*14:03	MT	Y[R]ALLGCL	353.97	WT	Y[T]ALLGCL	939.1	9	7.89436
Se032	IFT46 D180N	HLA-A*02:197	MT	AI[N]TWIESI	219.38	WT	AI[D]TWIESI	330.81	9	32.66939
Se032	ARID2 H48Q	HLA-B*44:03	MT	KELDL[Q]GLY	52.59	WT	KELDL[H]GLY	51.34	9	5.1643
Se032	NCOR2 G1872S	HLA-A*02:197	MT	GMK[S]IITAV	55.26	WT	GMK[G]IITAV	76.38	9	9.08906
Se032	CSPG4 S1188Y	HLA-A*02:197	MT	[Y]QQDLLDGAV	182.87	WT	[S]QQDLLDGAV	971.2	10	1.49384
Se032	CSPG4 S1188Y	HLA-B*15:01	MT	RAGQPATAF[Y]	410.86	WT	RAGQPATAF[S]	23241.29	10	1.49384
Se032	CSPG4 S1188Y	HLA-B*15:01	MT	AGQPATAF[Y]	435.66	WT	AGQPATAF[S]	27932.75	9	1.49384
Se032	CSPG4 S1188Y	HLA-A*02:197	MT	[Y]QQDLLDGA	454.65	WT	[S]QQDLLDGA	3830.63	9	1.49384
Se032	ABCC1 I741M	HLA-A*02:197	MT	[M]QACALLPDL	90.82	WT	[I]QACALLPDL	353.52	10	13.3172
Se032	ABCC1 I741M	HLA-C*14:03	MT	YRSV[M]QACAL	111.33	WT	YRSV[I]QACAL	139.26	10	13.3172
Se032	ABCC1 I741M	HLA-C*14:03	MT	SV[M]QACALL	119.87	WT	SV[I]QACALL	419.47	9	13.3172
Se032	ABCC1 I741M	HLA-C*14:03	MT	YRSV[M]QACA	162.89	WT	YRSV[I]QACA	189.09	10	13.3172
Se032	ABCC1 I741M	HLA-C*14:03	MT	YRSV[M]QAC	227.45	WT	YRSV[I]QAC	200.12	9	13.3172
Se032	ABCC1 I741M	HLA-B*15:01	MT	[M]QACALLPDL	293.79	WT	[I]QACALLPDL	806.98	10	13.3172
Se032	ABCC1 I741M	HLA-A*02:197	MT	SV[M]QACALL	367.77	WT	SV[I]QACALL	991.31	9	13.3172
Se032	TP53 G134R	HLA-A*02:197	MT	NLL[R]JRNSEFV	33.46	WT	NLL[G]JRNSEFV	14.87	10	28.74253
Se032	TP53 G134R	HLA-A*02:197	MT	LL[R]JRNSEFV	89.25	WT	LL[G]JRNSEFV	10.74	9	28.74253
Se032	ST6GALNAC1 R391P	HLA-C*14:03	MT	YVFP[IL]SGAL	30.7	WT	YVFP[R]LSGAL	86.68	9	5.43437
Se032	ST6GALNAC1 R391P	HLA-A*02:197	MT	YVFP[IL]SGALI	114.28	WT	YVFP[R]LSGALI	284.74	10	5.43437
Se032	ST6GALNAC1 R391P	HLA-C*14:03	MT	YVFP[IL]SGALI	149.11	WT	YVFP[R]LSGALI	462.41	10	5.43437
Se032	ST6GALNAC1 R391P	HLA-A*02:197	MT	YVFP[IL]SGAL	178.75	WT	YVFP[R]LSGAL	419.66	9	5.43437
Se032	ST6GALNAC1 R391P	HLA-C*14:03	MT	VF[IL]SGALI	188.49	WT	VF[R]LSGALI	426.99	9	5.43437

Se032	ST6GALNAC1 R391P	HLA-B*15:01	MT	YVF[P]LSGAL	330.09	WT	YVF[R]LSGAL	421.67	9	5.43437
Se032	ST6GALNAC1 R391P	HLA-C*08:03	MT	YVF[P]LSGAL	335	WT	YVF[R]LSGAL	1038.13	9	5.43437
Se032	ST6GALNAC1 R391P	HLA-C*14:03	MT	DYVFP[LSGAL	477.62	WT	DYVFR[LSGAL	543.44	10	5.43437
Se032	SERPINB5 F354S	HLA-B*15:01	MT	ELNADHP[S]IY	498.83	WT	ELNADHP[F]IY	809.36	10	4.71335
Se032	JAM2 Y43F	HLA-B*15:01	MT	QQVVTAVE[F]	67.59	WT	QQVVTAVE[Y]	71.29	9	3.78943
Se034	CEP104 A895T	HLA-B*39:01	MT	SAVA[T]SGPL	368.3	WT	SAVA[A]SGPL	433.53	9	2.68198
Se034	DDAH1 P96R	HLA-A*33:03	MT	TALITRPGA[R]	70.43	WT	TALITRPGA[P]	33769.78	10	17.65337
Se034	DDAH1 P96R	HLA-A*33:03	MT	ITRPGA[R]SRR	153.61	WT	ITRPGA[P]SRR	223.22	10	17.65337
Se034	DDAH1 P96R	HLA-A*33:03	MT	ITRPGA[R]SR	384.81	WT	ITRPGA[P]SR	242.65	9	17.65337
Se034	VTCN1 S44L	HLA-B*39:01	MT	HSITVTTVA[L]	220.8	WT	HSITVTTVA[S]	17839.71	10	93.28337
Se034	CAD L1342V	HLA-A*33:03	MT	[V]SSFVTKGYR	172.95	WT	[L]SSFVTKGYR	94.39	10	7.16821
Se034	POLR1A Y792D	HLA-B*39:01	MT	LQL[D]RGFTL	94.6	WT	LQL[Y]RGFTL	132.72	9	5.69411
Se034	POLR1A Y792D	HLA-C*14:03	MT	YLQL[D]RGFTL	183.55	WT	YLQL[Y]RGFTL	147.56	10	5.69411
Se034	POLR1A Y792D	HLA-A*33:03	MT	FTAYLQL[D]R	240.01	WT	FTAYLQL[Y]R	13.05	9	5.69411
Se034	POLR1A Y792D	HLA-C*14:03	MT	AYLQL[D]RGF	309.05	WT	AYLQL[Y]RGF	136.54	9	5.69411
Se034	CXCR4 A251G	HLA-A*26:01	MT	TVILIL[G]FF	189.18	WT	TVILIL[A]FF	204.9	9	91.2426
Se034	CXCR4 A251G	HLA-C*14:03	MT	[G]FFACWLPY	340.79	WT	[A]FFACWLPY	135.55	9	91.2426
Se034	STK16 Q124E	HLA-B*44:03	MT	D[E]JLWLLGI	212.9	WT	D[Q]JLWLLGI	7009.93	10	9.37189
Se034	PDE6D V122I	HLA-B*39:01	MT	SQMMPAS[I]L	37.7	WT	SQMMPAS[V]L	25.13	9	9.50154
Se034	PDE6D V122I	HLA-C*14:03	MT	SQMMPAS[I]L	233.97	WT	SQMMPAS[V]L	209.19	9	9.50154
Se034	MRPL1 Y148F	HLA-C*14:03	MT	FTSVLSLP[F]	71.6	WT	FTSVLSLP[Y]	165.67	9	28.52873
Se034	MRPL1 Y148F	HLA-C*14:03	MT	SVLSLP[F]PF	231.77	WT	SVLSLP[Y]PF	221.62	9	28.52873
Se034	RAP1GDS1 L144M	HLA-A*26:01	MT	IVIDLRS[M]	23.92	WT	IVIDLRS[L]	246.78	9	6.68089
Se034	RAP1GDS1 L144M	HLA-C*14:03	MT	IVIDLRS[M]	104.76	WT	IVIDLRS[L]	116.36	9	6.68089
Se034	RAP1GDS1 L144M	HLA-B*39:01	MT	DHLRS[M]CSI	237.99	WT	DHLRS[L]CSI	228.55	9	6.68089
Se034	RAP1GDS1 L144M	HLA-C*07:02	MT	IVIDLRS[M]	419.91	WT	IVIDLRS[L]	610.06	9	6.68089
Se034	CENPE K827N	HLA-B*39:01	MT	[N]EAKQFDSSL	289.05	WT	[K]EAKQFDSSL	4041.14	10	2.19362
Se034	UBR2 H709N	HLA-A*33:03	MT	[N]JFLMIMLSR	35.55	WT	[H]JFLMIMLSR	26.87	9	5.67003
Se034	UBR2 H709N	HLA-A*33:03	MT	N[J]FLMIMLSR	37.97	WT	N[H]JFLMIMLSR	310.41	10	5.67003
Se034	UBR2 H709N	HLA-C*14:03	MT	SMMDPN[N]JFLM	49.13	WT	SMMDPN[H]JFLM	39.49	10	5.67003
Se034	UBR2 H709N	HLA-C*14:03	MT	MMDPN[N]JFLM	87.91	WT	MMDPN[H]JFLM	44.22	9	5.67003
Se034	UBR2 H709N	HLA-C*14:03	MT	SMMDPN[N]JFL	95.64	WT	SMMDPN[H]JFL	98.84	9	5.67003
Se034	UBR2 H709N	HLA-B*39:01	MT	MMDPN[N]JFLM	175.66	WT	MMDPN[H]JFLM	116.91	9	5.67003
Se034	UBR2 H709N	HLA-C*07:02	MT	MMDPN[N]JFLM	198.12	WT	MMDPN[H]JFLM	87.12	9	5.67003
Se034	UBR2 H709N	HLA-C*14:03	MT	MMDPN[N]JFLMI	233.51	WT	MMDPN[H]JFLMI	230.12	10	5.67003
Se034	UBR2 H709N	HLA-B*39:01	MT	SMMDPN[N]JFL	244.99	WT	SMMDPN[H]JFL	75.66	9	5.67003
Se034	UBR2 H709N	HLA-C*07:02	MT	SMMDPN[N]JFLM	305.32	WT	SMMDPN[H]JFLM	173.07	10	5.67003
Se034	UBR2 H709N	HLA-B*39:01	MT	MMDPN[N]JFLMI	330.12	WT	MMDPN[H]JFLMI	276.58	10	5.67003
Se034	UBR2 H709N	HLA-B*39:01	MT	SMMDPN[N]JFLM	330.13	WT	SMMDPN[H]JFLM	212.12	10	5.67003
Se034	TSPYL4 G52C	HLA-C*14:03	MT	VMANTGG[G]JSL	320.92	WT	VMANTGG[G]JSL	433.25	10	22.33287
Se034	TSPYL4 G52C	HLA-B*39:01	MT	MANTGG[G]JSL	367.69	WT	MANTGG[G]JSL	742.52	9	22.33287
Se034	TSPYL4 G52C	HLA-C*14:03	MT	MANTGG[G]JSL	499.95	WT	MANTGG[G]JSL	455.92	9	22.33287
Se034	ERMARD L117Q	HLA-B*39:01	MT	[S]QJQSPAISL	55.88	WT	[L]QJQSPAISL	832.49	9	4.52452
Se034	ERMARD L117Q	HLA-B*39:01	MT	[Q]QJQSPAISL	64.68	WT	[L]QJQSPAISL	111.4	10	4.52452
Se034	ERMARD L117Q	HLA-B*44:03	MT	LES[Q]QSPA	280.81	WT	LES[L]QSPA	340.52	9	4.52452
Se034	VCPIP1 D974G	HLA-B*39:01	MT	FPIGP[D]VEDL	307.34	WT	FPIGP[D]VEDL	453.4	10	3.36742
Se034	DAPK1 K175N	HLA-C*14:03	MT	F[N]NIFGTPEF	378.88	WT	F[K]NIFGTPEF	531.76	10	2.68003
Se034	DAPK1 K175N	HLA-C*14:03	MT	FGNEF[N]NIF	470.16	WT	FGNEF[K]NIF	741.62	9	2.68003
Se034	LRMAM1 E161V	HLA-A*26:01	MT	N[V]IQRLPQM	68.05	WT	N[E]IQRLPQM	8585.42	9	4.83457
Se034	LRMAM1 E161V	HLA-A*33:03	MT	NISGN[V]IQR	247.86	WT	NISGN[E]IQR	600.57	9	4.83457
Se034	LRMAM1 E161V	HLA-A*33:03	MT	LNISGN[V]IQR	440.83	WT	LNISGN[E]IQR	1097.65	10	4.83457
Se034	AP3M1 R169W	HLA-B*44:03	MT	GQLSNIPWR[W]	437.47	WT	GQLSNIPWR[R]	25035.63	10	5.85345
Se034	ZNF143 T321S	HLA-A*33:03	MT	HVRTH[T]JGER	55.4	WT	HVRTH[T]JGER	39.88	9	5.88257
Se034	AMPD3 N231Y	HLA-C*14:03	MT	KF[Y]SKYNPV	84.38	WT	KF[N]SKYNPV	382.27	9	2.36831
Se034	AMPD3 N231Y	HLA-C*14:03	MT	F[Y]SKYNPVGA	272.92	WT	F[N]SKYNPVGA	12068.58	10	2.36831
Se034	AMPD3 N231Y	HLA-C*07:02	MT	HRFDK[F]NISKY	445.29	WT	HRFDK[F]NISKY	601.92	10	2.36831
Se034	NUMA1 R958S	HLA-B*39:01	MT	[S]JQFCSTQAAL	20.11	WT	[R]JQFCSTQAAL	75.6	10	45.46748
Se034	NUMA1 R958S	HLA-C*14:03	MT	[S]JQFCSTQAAL	221.53	WT	[R]JQFCSTQAAL	245.41	10	45.46748
Se034	SYTL2 K557N	HLA-B*39:01	MT	[N]RMSKSVPAF	79.37	WT	[K]RMSKSVPAF	1367.6	10	1.78352
Se034	SYTL2 K557N	HLA-C*07:02	MT	[N]RMSKSVPAF	136.69	WT	[K]RMSKSVPAF	91.81	10	1.78352
Se034	SYTL2 K557N	HLA-C*14:03	MT	[N]RMSKSVPAF	146.09	WT	[K]RMSKSVPAF	65.8	10	1.78352
Se034	SYTL2 K557N	HLA-B*39:01	MT	[N]RMSKSVPA	205.57	WT	[K]RMSKSVPA	2121.35	9	1.78352
Se034	NCOR2 N429I	HLA-C*14:03	MT	VYKDRQVM[I]M	56.73	WT	VYKDRQVM[N]M	84.05	10	10.69321
Se034	NCOR2 N429I	HLA-C*07:02	MT	VYKDRQVM[I]M	186.27	WT	VYKDRQVM[N]M	230.31	10	10.69321
Se034	NCOR2 N429I	HLA-B*39:01	MT	YKDRQVM[I]M	271.51	WT	YKDRQVM[N]M	862.97	9	10.69321
Se034	NCOR2 N429I	HLA-C*14:03	MT	VYKDRQVM[I]	337.6	WT	VYKDRQVM[N]	14777.09	9	10.69321
Se034	CDH24 Y349F	HLA-A*33:03	MT	TLIDPA[F]LR	23.79	WT	TLIDPA[Y]LR	23.35	9	1.47651
Se034	CDH24 Y349F	HLA-A*33:03	MT	NTLIDPA[F]LR	30.49	WT	NTLIDPA[Y]LR	29.88	10	1.47651
Se034	CDH24 Y349F	HLA-A*33:03	MT	TLIDPA[F]LRR	78.78	WT	TLIDPA[Y]LRR	96.75	10	1.47651
Se034	ZNF689 L449Q	HLA-B*39:01	MT	SHLAQHQ[L]JL	116.4	WT	SHLAQHQ[L]JL	99.75	9	1.64091
Se034	TOMM34 S135L	HLA-B*39:01	MT	NRMTRALMD[L]	39.29	WT	NRMTRALMD[S]	7796.24	10	40.94488
Se034	TOMM34 S135L	HLA-C*07:02	MT	NRMTRALMD[L]	129.58	WT	NRMTRALMD[S]	13566.23	10	40.94488
Se034	TOMM34 S135L	HLA-C*14:03	MT	NRMTRALMD[L]	379.1	WT	NRMTRALMD[S]	16622.03	10	40.94488
Se034	MMP9 V348A	HLA-B*44:03	MT	GELC[A]FPFTF	51.53	WT	GELC[V]FPFTF	61.6	10	6.70295
Se034	ZNFX1 L217F	HLA-A*33:03	MT	ILKNSKF[F]K	277.89	WT	ILKNSKF[L]K	700.27	9	15.77017
Se034	ZNFX1 L217F	HLA-C*14:03	MT	F[F]KVCLPAY	324.61	WT	F[L]KVCLPAY	1165.81	9	15.77017
Se034	ZNFX1 L217F	HLA-C*14:03	MT	F[F]KVCLPAYV	427.16	WT	F[L]KVCLPAYV	1453.64	10	15.77017
Se035	SYTL1 P278L	HLA-C*14:02	MT	HYE[L]GAAEL	40.33	WT	HYE[P]GAAEL	21.1	9	7.15714

Se035	SYTL1 P278L	HLA-C*14:02	MT	SVHFFALHYE[L]	221.87	WT	SVHFFALHYE[P]	19899.8	10	7.15714
Se035	SYTL1 P278L	HLA-C*03:03	MT	SVHFFALHYE[L]	297.27	WT	SVHFFALHYE[P]	29883.34	10	7.15714
Se035	SYTL1 P278L	HLA-C*03:03	MT	LHYE[L]GAAEL	406.77	WT	LHYE[P]GAAEL	222.28	10	7.15714
Se035	SYTL1 P278L	HLA-C*14:02	MT	LHYE[L]GAAEL	474.05	WT	LHYE[P]GAAEL	371.08	10	7.15714
Se035	SYTL1 P278L	HLA-C*03:03	MT	FALHYE[L]GAA	497.99	WT	FALHYE[P]GAA	495.68	10	7.15714
Se035	PLXNA2 V100A	HLA-C*03:03	MT	I[A]QPCSEVL	34.8	WT	I[V]QPCSEVL	291.61	9	2.7587
Se035	PLXNA2 V100A	HLA-C*03:03	MT	LI[A]QPCSEVL	182.81	WT	LI[V]QPCSEVL	195.69	10	2.7587
Se035	OBSCN R2628H	HLA-C*03:03	MT	AGIV[H]ASSL	328.29	WT	AGIV[R]ASSL	742.18	9	3.54089
Se035	PNPT1 E355K	HLA-A*31:01	MT	RSIVLN[K]YKR	16.93	WT	RSIVLN[E]YKR	26.27	10	5.61626
Se035	PNPT1 E355K	HLA-A*31:01	MT	SIVLN[K]YKR	73.66	WT	SIVLN[E]YKR	257.82	9	5.61626
Se035	PNPT1 E355K	HLA-A*31:01	MT	RSIVLN[K]YK	102.75	WT	RSIVLN[E]YK	127.02	9	5.61626
Se035	PNPT1 E355K	HLA-A*31:01	MT	VFRSIVLN[K]	180.82	WT	VFRSIVLN[E]	18211.46	9	5.61626
Se035	WDR19 D493G	HLA-B*35:01	MT	YGT[G]TGVVQY	133.65	WT	YGT[D]TGVVQY	72.08	10	5.87328
Se035	WDR19 D493G	HLA-C*14:02	MT	IYG[T]G]TGVV	299.35	WT	IYG[D]TGVV	914.56	9	5.87328
Se035	WDR19 D493G	HLA-C*03:03	MT	FLIYGT[G]TGV	411.45	WT	FLIYGT[D]TGV	440.96	10	5.87328
Se035	RBM27 G953R	HLA-A*31:01	MT	KTMSSQGR[R]	23.07	WT	KTMSSQGR[G]	19613.75	9	5.93774
Se035	RBM27 G953R	HLA-A*31:01	MT	KTMSSQGR[R]R	24.43	WT	KTMSSQGR[G]R	21.14	10	5.93774
Se035	RBM27 G953R	HLA-A*31:01	MT	MSSQGR[R]RGR	114.03	WT	MSSQGR[G]RGR	201.3	10	5.93774
Se035	RBM27 G953R	HLA-A*31:01	MT	SSQGR[R]RGR	213.6	WT	SSQGR[G]RGR	538.51	9	5.93774
Se035	RBM27 G953R	HLA-A*31:01	MT	TMSSQGR[R]R	270.25	WT	TMSSQGR[G]R	292.79	9	5.93774
Se035	RBM27 G953R	HLA-A*31:01	MT	SQGR[R]RGRGR	350.96	WT	SQGR[G]RGRGR	721.5	10	5.93774
Se035	CD74 G267R	HLA-C*14:02	MT	R[R]HHNCSESL	385.47	WT	R[G]HHNCSESL	551.24	10	2990.6345
Se035	FAM193B D461N	HLA-C*14:02	MT	RLEW[P]N]REL	254.39	WT	RLEW[P]D]REL	533.03	10	22.71409
Se035	FAM193B D461N	HLA-C*03:03	MT	RLEW[P]N]REL	438.15	WT	RLEW[P]D]REL	652.13	10	22.71409
Se035	FILIP1 R125P	HLA-B*35:01	MT	L[P]VLHRDAIL	168.62	WT	L[R]VLHRDAIL	26636.94	10	4.07153
Se035	FILIP1 R125P	HLA-B*35:01	MT	L[P]VLHRDAI	277.01	WT	L[R]VLHRDAI	27328.57	9	4.07153
Se035	IMMP2L R155H	HLA-A*31:01	MT	ILWPPE[H]WQK	145.55	WT	ILWPPE[R]WQK	176.71	10	9.17633
Se035	IMMP2L R155H	HLA-C*14:02	MT	LWPPE[H]WQKL	195.08	WT	LWPPE[R]WQKL	180.08	10	9.17633
Se035	DSCC1 H376Y	HLA-C*03:03	MT	YS[Y]SSMQNGV	86.82	WT	YS[H]SSMQNGV	196.87	10	2.82197
Se035	DSCC1 H376Y	HLA-C*14:02	MT	S[Y]SSMQNGV	226.06	WT	S[H]SSMQNGV	10665.25	9	2.82197
Se035	DSCC1 H376Y	HLA-C*14:02	MT	YS[Y]SSMQNGV	255.03	WT	YS[H]SSMQNGV	670.73	10	2.82197
Se035	DSCC1 H376Y	HLA-C*03:03	MT	LLTKYS[Y]SSM	431.65	WT	LLTKYS[H]SSM	280.47	10	2.82197
Se035	DSCC1 H376Y	HLA-A*26:01	MT	LTKYS[Y]SSM	467.48	WT	LTKYS[H]SSM	1085.67	9	2.82197
Se035	ANK3 D349G	HLA-B*35:01	MT	VPVDDVTN[G]Y	9.88	WT	VPVDDVTN[D]Y	10.33	10	1.00013
Se035	ANK3 D349G	HLA-C*03:03	MT	VTN[G]YLTAL	163.21	WT	VTN[D]YLTAL	82.04	9	1.00013
Se035	GBF1 K1029R	HLA-C*14:02	MT	GW[R]NIMEAM	280.78	WT	GW[K]NIMEAM	431.28	9	14.77847
Se035	GBF1 K1029R	HLA-C*14:02	MT	ILREGW[R]NIM	318.42	WT	ILREGW[K]NIM	952.86	10	14.77847
Se035	FAM24B A32P	HLA-A*31:01	MT	KIHNA[K]P]AK	357.62	WT	KIHNA[K]A]AK	249.44	10	4.01011
Se035	KCTD12 R8S	HLA-C*03:03	MT	MALADST[S]GL	9.99	WT	MALADST[R]JGL	17.71	10	15.4132
Se035	KCTD12 R8S	HLA-B*35:01	MT	MALADST[S]GL	67.27	WT	MALADST[R]JGL	193.39	10	15.4132
Se035	KCTD12 R8S	HLA-C*03:03	MT	ALADST[S]JG	317.14	WT	ALADST[R]JG	517.53	9	15.4132
Se035	KCTD12 R8S	HLA-B*35:01	MT	MALADST[S]G	420.55	WT	MALADST[R]JG	3038.84	9	15.4132
Se035	CHTF18 R164C	HLA-C*03:03	MT	RASPA[A]C]NPV	49.75	WT	RASPA[A]R]NPV	77.82	10	13.28079
Se035	CHTF18 R164C	HLA-B*35:01	MT	SPAA[C]NPVL	121.44	WT	SPAA[R]NPVL	654.9	9	13.28079
Se035	CHTF18 R164C	HLA-A*31:01	MT	AA[C]NPVLR	150.49	WT	AA[R]NPVLR	71.22	9	13.28079
Se035	ZNF319 C345F	HLA-B*35:01	MT	RPFK[F]DLCPM	24.96	WT	RPFK[C]DLCPM	21.48	10	5.09413
Se035	ZNF319 C345F	HLA-C*03:03	MT	RPFK[F]DLCPM	401.95	WT	RPFK[C]DLCPM	304.04	10	5.09413
Se035	TP53 R141H	HLA-A*31:01	MT	[H]V]CACPGRDR	306.77	WT	[R]V]CACPGRDR	96.27	10	26.23483
Se035	METTL2A C308R	HLA-A*31:01	MT	[R]LSGNFYVR	14.43	WT	[C]LSGNFYVR	47.53	9	4.95604
Se035	METTL2A C308R	HLA-A*31:01	MT	AQLRFKKGQ[R]	70.07	WT	AQLRFKKGQ[C]	32723.07	10	4.95604
Se035	METTL2A C308R	HLA-A*31:01	MT	QLRFKKGQ[R]	295.91	WT	QLRFKKGQ[C]	32474.83	9	4.95604
Se035	L3MBTL4 R522M	HLA-B*35:01	MT	HPFRDLPLG[M]	13.97	WT	HPFRDLPLG[R]	7918.41	10	1.55211
Se035	MALT1 V156F	HLA-B*35:01	MT	HPF[F]YQWFK	37.53	WT	HPF[V]YQWFK	51.04	9	4.61209
Se035	MALT1 V156F	HLA-C*14:02	MT	F[F]YQWFKM	98.39	WT	F[V]YQWFKM	523.5	9	4.61209
Se035	MALT1 V156F	HLA-A*31:01	MT	PF[F]YQWFK	116.47	WT	PF[V]YQWFK	952.05	9	4.61209
Se035	MALT1 V156F	HLA-B*35:01	MT	RATGHPP[F]YQY	138.68	WT	RATGHPP[V]YQY	180.81	10	4.61209
Se035	MALT1 V156F	HLA-A*31:01	MT	[F]YQWFKMKNK	399.45	WT	[V]YQWFKMKNK	189.08	10	4.61209
Se035	GSK3A R113C	HLA-B*35:01	MT	GPE[C]SQEVAY	118.51	WT	GPE[R]SQEVAY	267.74	10	11.09311
Se035	GNAS A51T	HLA-A*26:01	MT	E[T]SGLHWSSL	163.33	WT	E[A]SGLHWSSL	1934.25	10	314.91143
Se035	GNAS A51T	HLA-B*35:01	MT	SPAWE[H]TJSGL	258.65	WT	SPAWE[A]TJSGL	486.3	9	314.91143
Se035	HELZ2 E276G	HLA-A*31:01	MT	QVSALRQ[G]LR	153.54	WT	QVSALRQ[E]LR	141.76	10	20.13789
Se035	HELZ2 E276G	HLA-A*31:01	MT	VSALRQ[G]LR	178.67	WT	VSALRQ[E]LR	192.45	9	20.13789
Se035	HELZ2 E276G	HLA-A*31:01	MT	SALRQ[G]LRRR	237.96	WT	SALRQ[E]LRRR	388.21	10	20.13789
Se035	HELZ2 E276G	HLA-A*31:01	MT	ALRQ[G]LRRR	246.22	WT	ALRQ[E]LRRR	388.02	9	20.13789
Se035	HELZ2 E276G	HLA-A*31:01	MT	SALRQ[G]LRR	273.77	WT	SALRQ[E]LRR	370.52	9	20.13789
Se035	HELZ2 E276G	HLA-A*31:01	MT	VSALRQ[G]LRR	473.35	WT	VSALRQ[E]LRR	537.39	10	20.13789
Se037	ZMYM1 L881I	HLA-C*12:02	MT	[I]SSERNDVYF	207.7	WT	[L]SSERNDVYF	229.87	10	2.85047
Se037	ZMYM1 L881I	HLA-C*12:02	MT	[I]SSERNDVY	407.14	WT	[L]SSERNDVY	613.61	9	2.85047
Se037	ASPM S1110C	HLA-B*40:02	MT	FEQY[C]ENIKL	70.38	WT	FEQY[S]ENIKL	69.91	10	3.37614
Se037	DISC1 A473V	HLA-B*40:02	MT	LEAKMH[V]IS	385.04	WT	LEAKMH[A]IS	632.99	9	2.73213
Se037	RMDN2 F154Y	HLA-A*24:02	MT	V[Y]NLNEIEIF	90.64	WT	V[F]NLNEIEIF	407.47	10	1.29309
Se037	RMDN2 F154Y	HLA-A*24:02	MT	V[Y]NLNEIEI	486.15	WT	V[F]NLNEIEI	2767.06	9	1.29309
Se037	COQ10B L10F	HLA-C*12:02	MT	MAARTGHTA[F]	45.74	WT	MAARTGHTA[L]	50.64	10	14.41155
Se037	CCR1 I246V	HLA-A*24:02	MT	VIM[V]IFFLF	189.68	WT	VIM[I]IFFLF	273.23	9	6.60995
Se037	CCR1 I246V	HLA-C*12:02	MT	FVIM[V]IFFLF	424.2	WT	FVIM[I]IFFLF	585.96	9	6.60995
Se037	ZGRF1 I1814T	HLA-C*12:02	MT	Q[I]TEPASLL	404.37	WT	Q[I]TEPASLL	1085.98	9	1.34235
Se037	PRKAA1 G203V	HLA-A*24:02	MT	LYA[V]PEVDIW	232.47	WT	LYA[G]PEVDIW	235.65	10	11.66338
Se037	AP3B1 G832A	HLA-A*24:02	MT	K[A]LAAHYFF	63.68	WT	K[G]LAAHYFF	94.14	9	10.166

Se037	LARS V750A	HLA-B*40:02	MT	[A]EDANFVEAM	80.04	WT	[V]EDANFVEAM	179.49	10	14.83979
Se037	LARS V750A	HLA-B*40:02	MT	[A]EDANFVEA	204.31	WT	[V]EDANFVEA	401.79	9	14.83979
Se037	VARS2 W485S	HLA-C*12:02	MT	F[S]VGRMVML	44.39	WT	F[W]VGRMVML	1527.73	9	6.30148
Se037	VARS2 W485S	HLA-C*12:02	MT	LLF[S]VGRMVVM	281.41	WT	LLF[W]VGRMVVM	648.53	10	6.30148
Se037	COL12A1 A223T	HLA-B*40:02	MT	LE[T]PSNLVI	135.04	WT	LE[A]PSNLVI	93.4	9	21.66438
Se037	MTPN E49G	HLA-C*12:02	MT	YAADCGQL[G]I	45.03	WT	YAADCGQL[E]I	23.35	10	48.93065
Se037	MTPN E49G	HLA-B*40:02	MT	GQL[G]ILEFLL	148.9	WT	GQL[E]ILEFLL	130.93	10	48.93065
Se037	MTPN E49G	HLA-B*40:02	MT	GQL[G]ILEFL	198.15	WT	GQL[E]ILEFL	152.13	9	48.93065
Se037	RGS22 G92V	HLA-B*40:02	MT	[V]EEEEVSYSL	146.17	WT	[G]EEEEVSYSL	75.68	10	1.0824
Se037	FOCAD D58E	HLA-B*40:02	MT	WEKCCS[E]NVV	71.45	WT	WEKCCS[D]NVV	88.8	10	4.21772
Se037	FOCAD D58E	HLA-B*40:02	MT	WEKCCS[E]NV	119.12	WT	WEKCCS[D]NV	140.84	9	4.21772
Se037	FOCAD D58E	HLA-B*40:02	MT	S[E]NVVVRTA	281.38	WT	S[D]NVVVRTA	7468.83	9	4.21772
Se037	ZEB1 R197S	HLA-C*12:02	MT	FAYRTQLE[S]H	435.12	WT	FAYRTQLE[R]H	1113.41	10	8.12103
Se037	C11orf80 C57F	HLA-B*40:02	MT	TD[F]LVIKHFL	309.45	WT	TD[C]LVIKHFL	2482.95	10	8.45053
Se037	CPT1A L174P	HLA-C*12:02	MT	FQTSLPR[L]PV	364.83	WT	FQTSLPR[L]PV	235.65	10	13.32134
Se037	ZW10 T93A	HLA-B*40:02	MT	GEF[A]DLKQQL	35.38	WT	GEF[T]DLKQQL	56.76	10	6.21374
Se037	SNX19 V61M	HLA-C*12:02	MT	MV[M]SAIVDTL	76.58	WT	MV[V]SAIVDTL	168.88	10	14.88094
Se037	NTM E184K	HLA-C*12:02	MT	FVSED[K]YLEI	175.82	WT	FVSED[E]YLEI	246.99	10	3.08437
Se037	CLECB2 S88R	HLA-A*24:02	MT	RYKC[R]SDHWI	207.19	WT	RYKC[S]SDHWI	178.45	10	10.96512
Se037	UBFD1 V163I	HLA-C*12:02	MT	STINDVLA[I]	140.37	WT	STINDVLA[V]	54.88	9	14.62301
Se037	CAMKK1 L281V	HLA-B*40:02	MT	RDIKPSN[V]L	158.64	WT	RDIKPSN[L]L	252.58	9	1.45494
Se037	CAMKK1 L281V	HLA-B*40:02	MT	RDIKPSN[V]LL	206.27	WT	RDIKPSN[L]LL	260.45	10	1.45494
Se037	DPY19L3 A696P	HLA-C*12:02	MT	YV[P]YFTRVF	89.59	WT	YV[A]YFTRVF	24.87	9	5.10053
Se037	DPY19L3 A696P	HLA-A*24:02	MT	PYV[P]YFTRVF	250.8	WT	PYV[A]YFTRVF	266.24	10	5.10053
Se037	DPY19L3 A696P	HLA-A*24:02	MT	NLPPYV[P]YF	266.42	WT	NLPPYV[A]YF	328.2	9	5.10053
Se037	DPY19L3 A696P	HLA-A*24:02	MT	RNLPPYV[P]YF	480.51	WT	RNLPPYV[A]YF	395.06	10	5.10053
Se037	SYNE4 V202F	HLA-A*24:02	MT	LWQLQAQL[F]	91.66	WT	LWQLQAQL[V]	3817.6	9	5.70288
Se037	SYNE4 V202F	HLA-C*12:02	MT	[F]YSYLVFEEA	108.3	WT	[V]YSYLVFEEA	1770.9	10	5.70288
Se037	SYNE4 V202F	HLA-B*40:02	MT	LQAQL[F]YSYL	138.25	WT	LQAQL[V]YSYL	203.42	10	5.70288
Se037	SYNE4 V202F	HLA-B*40:02	MT	AQL[F]YSYLVF	145.36	WT	AQL[V]YSYLVF	131.04	10	5.70288
Se037	SYNE4 V202F	HLA-A*24:02	MT	RLWQLQAQL[F]	403.32	WT	RLWQLQAQL[V]	9537.69	10	5.70288
Se037	SYNE4 V202F	HLA-B*40:02	MT	AQL[F]YSYLV	499.47	WT	AQL[V]YSYLV	423.7	9	5.70288
Se037	SIRPB1 P2S	HLA-C*12:02	MT	M[S]VPASWPHL	258.42	WT	M[P]VPASWPHL	3031.05	10	1.09086
Se037	DNTTIP1 S191C	HLA-A*24:02	MT	VWPKP[C]CEPI	465.29	WT	VWPKP[S]CEPI	797.36	10	11.29775
Se037	PCDH19 S96I	HLA-B*40:02	MT	RQ[I]PKCHSL	67.14	WT	RQ[S]PKCHSL	248.18	10	2.6865
Se039	TCEB3 Q156L	HLA-C*07:02	MT	HR[L]KKHRKL	203.66	WT	HR[Q]KKHRKL	317.33	9	12.24794
Se039	FUCA1 T459S	HLA-B*40:02	MT	AEFAW[S]IKL	6.92	WT	AEFAW[T]IKL	8.24	9	42.23565
Se039	FUCA1 T459S	HLA-A*02:06	MT	FAW[S]IKLTGV	13.55	WT	FAW[T]IKLTGV	18.89	10	42.23565
Se039	FUCA1 T459S	HLA-A*02:197	MT	FAW[S]IKLTGV	32.66	WT	FAW[T]IKLTGV	51.18	10	42.23565
Se039	FUCA1 T459S	HLA-A*02:06	MT	AVPAEFAW[S]I	66.39	WT	AVPAEFAW[T]I	81.74	10	42.23565
Se039	FUCA1 T459S	HLA-B*40:02	MT	AEFAW[S]IKLT	72.14	WT	AEFAW[T]IKLT	94.69	10	42.23565
Se039	FUCA1 T459S	HLA-A*02:197	MT	AVPAEFAW[S]I	476.62	WT	AVPAEFAW[T]I	497.03	10	42.23565
Se039	FUCA1 Y335C	HLA-A*02:197	MT	SLGGN[Y]LLNI	292.31	WT	SLGGN[Y]LLNI	173.99	10	42.23565
Se039	MSTO1 Y278C	HLA-B*40:02	MT	GEAQRNI[C]JRL	94.82	WT	GEAQRNI[Y]JRL	51.88	10	10.71947
Se039	MSTO1 Y278C	HLA-B*40:02	MT	AQRNI[C]JRL	497.22	WT	AQRNI[Y]JRL	238.11	9	10.71947
Se039	UHMK1 E275G	HLA-B*40:02	MT	[G]ECQKYGPVV	57.32	WT	[E]ECQKYGPVV	526.64	10	15.21238
Se039	UHMK1 E275G	HLA-B*40:02	MT	[G]ECQKYGPV	96.47	WT	[E]ECQKYGPV	1256.14	9	15.21238
Se039	DDX59 L210V	HLA-B*40:02	MT	FEHCS[V]PEVL	16.33	WT	FEHCS[L]PEVL	18.61	10	11.65405
Se039	DDX59 L210V	HLA-B*40:02	MT	FEHCS[V]PEV	35.09	WT	FEHCS[L]PEV	41.73	9	11.65405
Se039	DDX59 L210V	HLA-A*02:06	MT	IIDFEHCS[V]	122.53	WT	IIDFEHCS[L]	1002.96	9	11.65405
Se039	DDX59 L210V	HLA-A*02:06	MT	S[V]PEVLNHNL	140.28	WT	S[L]PEVLNHNL	39.89	10	11.65405
Se039	DDX59 L210V	HLA-A*02:197	MT	IIDFEHCS[V]	169.88	WT	IIDFEHCS[L]	1371.84	9	11.65405
Se039	DDX59 L210V	HLA-A*02:06	MT	FEHCS[V]PEV	480.67	WT	FEHCS[L]PEV	237.02	9	11.65405
Se039	MEIS1 D200N	HLA-B*40:02	MT	SE[N]ITRSANL	160.47	WT	SE[D]ITRSANL	496.59	10	52.0724
Se039	ZAK E288Q	HLA-B*40:02	MT	AEWRCEI[Q]AT	41.53	WT	AEWRCEI[E]AT	65.33	10	4.98881
Se039	ZAK E288Q	HLA-B*40:02	MT	AEWRCEI[Q]A	54.57	WT	AEWRCEI[E]A	44.3	9	4.98881
Se039	ZAK E288Q	HLA-B*40:02	MT	CEI[Q]ATLERL	74.48	WT	CEI[E]ATLERL	60.55	10	4.98881
Se039	ZAK E288Q	HLA-C*07:02	MT	WRCEI[Q]ATL	449.16	WT	WRCEI[E]ATL	1545.9	9	4.98881
Se039	CHPF R91G	HLA-A*02:197	MT	LLS[G]MLLQQL	229.77	WT	LLS[R]MLLQQL	53.96	10	22.87797
Se039	CHPF R91G	HLA-A*02:06	MT	LLS[G]MLLQQL	112.03	WT	LLS[R]MLLQQL	237.56	10	22.87797
Se039	ZMYND10 I103M	HLA-A*02:06	MT	NTFP[M]YMVV	52.67	WT	NTFP[I]YMVV	26.92	9	6.94686
Se039	ZMYND10 I103M	HLA-B*55:02	MT	FP[M]YMVVHH	323.97	WT	FP[I]YMVVHH	1181.72	9	6.94686
Se039	ZMYND10 I103M	HLA-C*07:02	MT	FKPQNTFP[I]	334.59	WT	FKPQNTFP[I]	781.71	9	6.94686
Se039	GRAMD1C L446V	HLA-A*02:197	MT	IMLQKTFDL[V]	19.06	WT	IMLQKTFDL[L]	65.61	10	1.14194
Se039	GRAMD1C L446V	HLA-A*02:06	MT	IMLQKTFDL[V]	24.98	WT	IMLQKTFDL[L]	112.77	10	1.14194
Se039	GRAMD1C L446V	HLA-A*02:197	MT	MLQKTFDL[V]	25.86	WT	MLQKTFDL[L]	146.74	9	1.14194
Se039	GRAMD1C L446V	HLA-A*02:06	MT	MLQKTFDL[V]	37	WT	MLQKTFDL[L]	315.8	9	1.14194
Se039	IGSF10 T1800M	HLA-A*02:197	MT	V[M]VDGTLVL	30.74	WT	V[T]VDGTLVL	3287.52	9	1.78969
Se039	IGSF10 T1800M	HLA-A*02:06	MT	V[M]VDGTLVL	46.01	WT	V[T]VDGTLVL	316.64	9	1.78969
Se039	IGSF10 T1800M	HLA-A*02:06	MT	VV[M]VDGTLV	75.48	WT	VV[T]VDGTLV	1264.08	9	1.78969
Se039	IGSF10 T1800M	HLA-A*02:06	MT	AVV[M]VDGTLV	298.64	WT	AVV[T]VDGTLV	312.49	10	1.78969
Se039	IGSF10 T1800M	HLA-A*02:197	MT	VV[M]VDGTLV	455.93	WT	VV[T]VDGTLV	7043.97	9	1.78969
Se039	SMC4 Q340H	HLA-B*40:02	MT	AEMET[H]KEKI	52.92	WT	AEMET[Q]KEKI	76.84	10	10.97417
Se039	SMC4 K963E	HLA-B*40:02	MT	AEL[E]SLEDKA	458.65	WT	AEL[K]SLEDKA	502.4	10	10.97417
Se039	HNRNPDL A39V	HLA-A*02:197	MT	QL[V]PLLPSL	20.58	WT	QL[A]PLLPSL	9.57	9	54.28938
Se039	HNRNPDL A39V	HLA-A*02:06	MT	QL[V]PLLPSL	26.84	WT	QL[A]PLLPSL	14.03	9	54.28938
Se039	HNRNPDL A39V	HLA-B*40:02	MT	RQL[V]PLLPSL	36.34	WT	RQL[A]PLLPSL	30.31	10	54.28938
Se039	HNRNPDL A39V	HLA-A*02:06	MT	RQL[V]PLLPSL	39.58	WT	RQL[A]PLLPSL	14.72	10	54.28938



Se039	HNRNPDL A39V	HLA-C*07:02	MT	WRPRPPRQL[V]	279.58	WT	WRPRPPRQL[A]	2413.54	10	54.28938
Se039	HNRNPDL A39V	HLA-A*02:06	MT	QL[V]PLLPPLA	281.68	WT	QL[A]PLLPPLA	165.34	10	54.28938
Se039	HNRNPDL A39V	HLA-A*02:197	MT	QL[V]PLLPPLA	350.68	WT	QL[A]PLLPPLA	124.75	10	54.28938
Se039	HNRNPDL A39V	HLA-A*02:197	MT	RQL[V]PLLPPL	444.93	WT	RQL[A]PLLPPL	120.28	10	54.28938
Se039	SCD5 Q203E	HLA-A*02:197	MT	ALN[E]EAACEM	193.17	WT	ALN[Q]EAACEM	1110.41	10	9.69357
Se039	SCD5 Q203E	HLA-A*02:06	MT	ALN[E]EAACEM	358.43	WT	ALN[Q]EAACEM	1643.48	10	9.69357
Se039	SCD5 Q203E	HLA-B*40:02	MT	N[E]EAACEM	429.74	WT	N[Q]EAACEM	3973.44	9	9.69357
Se039	PPP3CA K382N	HLA-B*40:02	MT	SESVLTL[N]JGL	67.11	WT	SESVLTL[K]JGL	101.27	10	9.79964
Se039	PPP3CA K382N	HLA-A*02:06	MT	LTL[N]GLTPT	244.85	WT	LTL[K]GLTPT	376.3	9	9.79964
Se039	LRBA V2630L	HLA-A*02:06	MT	VVFGHWDV[L]	320.63	WT	VVFGHWDV[V]	32.01	9	7.229
Se039	DDX60L M239I	HLA-B*40:02	MT	FEHLKWNMD[I]	98.79	WT	FEHLKWNMD[M]	95.28	10	1.27523
Se039	DDX60L M239I	HLA-B*40:02	MT	[I]JEEAYQTLFL	149.26	WT	[M]JEEAYQTLFL	66.2	10	1.27523
Se039	DDX60L M239I	HLA-A*02:06	MT	M[I]JEEAYQTL	466.49	WT	M[M]JEEAYQTL	74.64	9	1.27523
Se039	TRIO V1589I	HLA-B*40:02	MT	RE[I]IQERTI	61.63	WT	RE[V]IQERTI	107.42	9	9.7547
Se039	TRIO V1589I	HLA-A*02:06	MT	[I]IQERTIHL	401.38	WT	[V]IQERTIHL	596.24	9	9.7547
Se039	TRIO V1589I	HLA-A*02:197	MT	[I]IQERTIHL	482.68	WT	[V]IQERTIHL	716.21	9	9.7547
Se039	LMBRD1 Y495C	HLA-A*02:06	MT	AAV[C]FGNWA	330.04	WT	AAV[Y]FGNWA	441.26	9	55.07611
Se039	LMBRD1 Y495C	HLA-A*02:06	MT	Y[C]FGNWAFL	363.57	WT	Y[Y]FGNWAFL	101.03	9	55.07611
Se039	PHIP E356D	HLA-A*02:06	MT	GQP[D]KISEL	419.21	WT	GQP[E]KISEL	342.08	9	12.66137
Se039	FAM71F2 V85M	HLA-A*02:06	MT	S[M]PSLPLPNV	22.3	WT	S[V]PSLPLPNV	51.58	10	1.05924
Se039	FAM71F2 V85M	HLA-A*02:197	MT	S[M]PSLPLPNV	22.59	WT	S[V]PSLPLPNV	353.13	10	1.05924
Se039	FAM71F2 V85M	HLA-B*55:02	MT	[M]PSLPLPNV	62.77	WT	[V]PSLPLPNV	1301.6	9	1.05924
Se039	FAM71F2 V85M	HLA-B*55:02	MT	[M]PSLPLPNVL	379.84	WT	[V]PSLPLPNVL	4907.49	10	1.05924
Se039	FLNC P1411S	HLA-B*40:02	MT	VEY[I]SFTPG	293.69	WT	VEY[P]SFTPG	397.63	9	1.13288
Se039	FLNC P1411S	HLA-A*02:06	MT	CTVEY[I]SFT	354.34	WT	CTVEY[P]SFT	136.7	9	1.13288
Se039	ZNF862 V308A	HLA-B*40:02	MT	[A]JESCIQDPSA	124.28	WT	[V]JESCIQDPSA	342.84	10	1.95154
Se039	VPS13B Q3975R	HLA-A*02:06	MT	SSM[R]IPCPV	43.8	WT	SSM[Q]IPCPV	42.47	9	1.93703
Se039	VPS13B Q3975R	HLA-A*02:06	MT	SSM[R]IPCPVV	178	WT	SSM[Q]IPCPVV	167.84	10	1.93703
Se039	VPS13B Q3975R	HLA-A*02:197	MT	SSM[R]IPCPV	396.23	WT	SSM[Q]IPCPV	392.7	9	1.93703
Se039	RAD21 L14P	HLA-A*02:06	MT	FVLSKRGP[P]A	62.58	WT	FVLSKRGP[L]A	185.9	10	84.98553
Se039	RAD21 L14P	HLA-A*02:197	MT	FVLSKRGP[P]A	365.48	WT	FVLSKRGP[L]A	907.66	10	84.98553
Se039	RPL8 T111S	HLA-A*02:06	MT	GTMPEG[S]IV	455.85	WT	GTMPEG[T]IV	303.67	9	1280.1931
Se039	NPR2 Y663C	HLA-A*02:06	MT	FVLKITD[C]JGL	42.57	WT	FVLKITD[Y]JGL	14.27	10	2.88761
Se039	NPR2 Y663C	HLA-A*02:197	MT	FVLKITD[C]JGL	148.76	WT	FVLKITD[Y]JGL	34	10	2.88761
Se039	FKBP15 V281G	HLA-A*02:06	MT	SIL[G]FEVEV	16.88	WT	SIL[V]FEVEV	43.3	9	7.96831
Se039	FKBP15 V281G	HLA-A*02:197	MT	SIL[G]FEVEV	21.45	WT	SIL[V]FEVEV	59.78	9	7.96831
Se039	FKBP15 V281G	HLA-A*02:06	MT	ATDSIL[G]FEV	50.39	WT	ATDSIL[V]FEV	17.61	10	7.96831
Se039	FKBP15 V281G	HLA-A*02:197	MT	ATDSIL[G]FEV	192.03	WT	ATDSIL[V]FEV	40.28	10	7.96831
Se039	DIP2C G187E	HLA-B*40:02	MT	S[E]AAHRLADV	195.99	WT	S[G]AAHRLADV	26336.19	10	4.47343
Se039	KIAA1217 H126Y	HLA-C*07:02	MT	S[Y]SPQPPSL	116.62	WT	S[H]SPQPPSL	3763.26	9	15.79152
Se039	AFAP1L2 I113M	HLA-B*40:02	MT	GQ[I]SGAQSF	99.74	WT	GQ[I]SGAQSF	263.37	9	54.57562
Se039	AFAP1L2 I113M	HLA-A*02:06	MT	GQ[I]SGAQSF	144.83	WT	GQ[I]SGAQSF	380.18	9	54.57562
Se039	AFAP1L2 I113M	HLA-A*02:06	MT	LTLGQ[I]SGA	398.63	WT	LTLGQ[I]SGA	412.16	9	54.57562
Se039	CYP2E1 Q148K	HLA-C*07:02	MT	SRI[K]REAHFL	223.08	WT	SRI[Q]REAHFL	174.48	10	2.1025
Se039	NAALADL1 F431Y	HLA-C*07:02	MT	F[Y]NKLQERTV	225.78	WT	F[F]NKLQERTV	1585.69	10	1.3301
Se039	RBM14 S612C	HLA-B*40:02	MT	AEL[C]DYRRL	130.43	WT	AEL[S]DYRRL	181.78	9	8.57162
Se039	PITPNM1 T777M	HLA-A*02:06	MT	LQ[M]HSSLFL	11.16	WT	LQ[T]HSSLFL	131.63	9	31.31698
Se039	PITPNM1 T777M	HLA-A*02:197	MT	LQ[M]HSSLFL	47.75	WT	LQ[T]HSSLFL	1242.56	9	31.31698
Se039	PITPNM1 T777M	HLA-A*02:197	MT	LLLADTLQ[M]	86.6	WT	LLLADTLQ[T]	275.36	9	31.31698
Se039	PITPNM1 T777M	HLA-A*02:197	MT	TLQ[M]HSSLFL	175.67	WT	TLQ[T]HSSLFL	166.89	10	31.31698
Se039	PITPNM1 T777M	HLA-B*40:02	MT	LQ[M]HSSLFL	182.3	WT	LQ[T]HSSLFL	983.38	9	31.31698
Se039	PITPNM1 T777M	HLA-A*02:06	MT	LLLADTLQ[M]	218.75	WT	LLLADTLQ[T]	607.11	9	31.31698
Se039	TMEM126B W140C	HLA-A*02:06	MT	RVLIH[C]MTL	181.44	WT	RVLIH[W]MTL	76.18	9	18.04574
Se039	TMEM126B W140C	HLA-A*02:197	MT	RVLIH[C]MTL	467.33	WT	RVLIH[W]MTL	419.09	9	18.04574
Se039	ZBTB44 E301K	HLA-B*40:02	MT	[K]JEVSQPVSA	165.83	WT	[E]JEVSQPVSA	2753.15	9	3.01567
Se039	ITGA5 G845S	HLA-A*02:06	MT	AQAQVTLN[S]V	16.53	WT	AQAQVTLN[G]V	16.73	10	9.10586
Se039	ITGA5 G845S	HLA-A*02:197	MT	AQAQVTLN[S]V	129.78	WT	AQAQVTLN[G]V	165.74	10	9.10586
Se039	GLS2 V8F	HLA-A*02:06	MT	MVNAGAI[F]V	9.59	WT	MVNAGAI[V]V	58.74	9	4.17335
Se039	GLS2 V8F	HLA-A*02:197	MT	MVNAGAI[F]V	28.68	WT	MVNAGAI[V]V	316.89	9	4.17335
Se039	MICU2 G46V	HLA-A*02:06	MT	AVAGAALA[V]	28.2	WT	AVAGAALA[G]	12582.63	9	46.7764
Se039	MICU2 G46V	HLA-A*02:06	MT	AAVAGAALA[V]	110.78	WT	AAVAGAALA[G]	21209.19	10	46.7764
Se039	MICU2 G46V	HLA-A*02:06	MT	AVAGAALA[V]A	164.16	WT	AVAGAALA[G]A	60.93	10	46.7764
Se039	MICU2 G46V	HLA-A*02:197	MT	AVAGAALA[V]	273.54	WT	AVAGAALA[G]	28817.49	9	46.7764
Se039	RNF6 C635F	HLA-B*40:02	MT	SELGKICSV[F]	64.69	WT	SELGKICSV[C]	283.05	10	12.13428
Se039	RNF6 C635F	HLA-A*02:06	MT	CSV[F]ISDYV	112.07	WT	CSV[C]ISDYV	112.02	9	12.13428
Se039	FAM63B N181Y	HLA-A*02:06	MT	FS[Y]LHSPSS	149.23	WT	FS[N]LHSPSS	1134.54	9	1.34394
Se039	FAM63B N181Y	HLA-B*40:02	MT	LESFS[Y]LHSF	149.54	WT	LESFS[N]LHSF	186.15	10	1.34394
Se039	FAM63B N181Y	HLA-A*02:197	MT	[Y]LHSPSS	468.66	WT	[N]LHSPSS	9214.54	9	1.34394
Se039	POLG G114R	HLA-A*02:197	MT	GLW[R]QPAVPL	44.22	WT	GLW[G]QPAVPL	19.94	10	11.13857
Se039	POLG G114R	HLA-A*02:06	MT	GLW[R]QPAVPL	217.72	WT	GLW[G]QPAVPL	77.39	10	11.13857
Se039	POLG G114R	HLA-A*02:06	MT	[R]QPAVPLPDV	245.79	WT	[G]QPAVPLPDV	444.74	10	11.13857
Se039	MAN2A2 P139A	HLA-A*02:06	MT	[L]AFDNDGGV	123.98	WT	[P]AFDNDGGV	7115.75	10	16.17682
Se039	MAN2A2 P139A	HLA-B*40:02	MT	SEEL[A]FDNV	293.5	WT	SEEL[P]FDNV	489.37	9	16.17682
Se039	ATP6V0C A27P	HLA-A*02:06	MT	MVFS[P]LGAA	25.09	WT	MVFS[A]LGAA	18.46	9	97.02169
Se039	ATP6V0C A27P	HLA-A*02:06	MT	SAAMVFS[P]L	102.48	WT	SAAMVFS[A]L	269.17	9	97.02169
Se039	ATP6V0C A27P	HLA-A*02:06	MT	ASAAMVFS[P]L	147.04	WT	ASAAMVFS[A]L	270.63	10	97.02169
Se039	ATP6V0C A27P	HLA-A*02:06	MT	AAMVFS[P]LGA	174.56	WT	AAMVFS[A]LGA	132.53	10	97.02169
Se039	ATP6V0C A27P	HLA-B*55:02	MT	MVFS[P]LGAA	191.04	WT	MVFS[A]LGAA	259.24	9	97.02169

Se039	ATP6V0C A27P	HLA-A*02:06	MT	AMVFS[P]LGAA	246.2	WT	AMVFS[A]LGAA	197.91	10	97.02169
Se039	ATP6V0C A27P	HLA-A*02:197	MT	MVFS[P]LGAA	283.01	WT	MVFS[A]LGAA	159.29	9	97.02169
Se039	ATP6V0C A27P	HLA-A*02:06	MT	AMVFS[P]LGA	337.15	WT	AMVFS[A]LGA	283.87	9	97.02169
Se039	ATP6V0C A27P	HLA-A*02:197	MT	AMVFS[P]LGA	373.6	WT	AMVFS[A]LGA	491.49	9	97.02169
Se039	ATP6V0C A27P	HLA-B*55:02	MT	S[P]LGAAAYGTA	431.83	WT	S[A]LGAAAYGTA	7212.98	10	97.02169
Se039	ATP6V0C A27P	HLA-A*02:197	MT	AMVFS[P]LGAA	468.34	WT	AMVFS[A]LGAA	391.89	10	97.02169
Se039	KIAA0100 R1075T	HLA-B*55:02	MT	LPWGNVAVE[T]	138.12	WT	LPWGNVAVE[R]	1398.48	10	28.77764
Se039	KIAA0100 R1075T	HLA-A*02:06	MT	VAVE[T]NMPPL	294.48	WT	VAVE[R]NMPPL	313.64	10	28.77764
Se039	SEC14L1 G215V	HLA-A*02:06	MT	YL[V]DLTPLQ	329.32	WT	YL[G]DLTPLQ	820.82	9	18.79949
Se039	SEC14L1 G215V	HLA-A*02:197	MT	YL[V]DLTPLQ	395.75	WT	YL[G]DLTPLQ	689.71	9	18.79949
Se039	SEC14L1 G215V	HLA-C*07:02	MT	KRYL[V]DLTPL	466.47	WT	KRYL[G]DLTPL	384.01	10	18.79949
Se039	MOCOS R183L	HLA-A*02:06	MT	WSAEE[L]SASA	446.19	WT	WSAEE[R]SASA	2474.39	10	3.73592
Se039	ZNF407 D183H	HLA-A*02:06	MT	CTIGNV[H]TV	19.89	WT	CTIGNV[D]TV	42.58	9	1.94911
Se039	ZNF407 D183H	HLA-A*02:197	MT	CTIGNV[H]TV	147.32	WT	CTIGNV[D]TV	426.05	9	1.94911
Se039	ZNF407 D183H	HLA-A*02:06	MT	CTIGNV[H]TVL	438.12	WT	CTIGNV[D]TVL	808.46	10	1.94911
Se039	ADNP2 A114P	HLA-A*02:06	MT	CVF[P]SQPKV	157.2	WT	CVF[A]SQPKV	145.65	9	3.27042
Se039	THOP1 K286N	HLA-A*02:197	MT	NMA[N]TSQTV	83.06	WT	NMA[K]TSQTV	143.86	9	12.26717
Se039	THOP1 K286N	HLA-A*02:06	MT	YVLEMNMA[N]T	100.72	WT	YVLEMNMA[K]T	177.8	10	12.26717
Se039	THOP1 K286N	HLA-A*02:06	MT	NMA[N]TSQTV	160.51	WT	NMA[K]TSQTV	256.46	9	12.26717
Se039	THOP1 K286N	HLA-B*40:02	MT	LEMNMA[N]TS	326.92	WT	LEMNMA[K]TS	420.51	9	12.26717
Se039	CLPP C144Y	HLA-A*02:197	MT	ILNPI[Y]TWCV	6.26	WT	ILNPI[C]TWCV	9.06	10	21.74163
Se039	CLPP C144Y	HLA-A*02:06	MT	ILNPI[Y]TWCV	11.53	WT	ILNPI[C]TWCV	22.19	10	21.74163
Se039	CLPP C144Y	HLA-A*02:06	MT	[Y]TWCVQGAA	93.07	WT	[C]TWCVQGAA	854.89	9	21.74163
Se039	CLPP C144Y	HLA-A*02:06	MT	MQYILNPI[Y]T	216.85	WT	MQYILNPI[C]T	808.84	10	21.74163
Se039	TRIP10 Q175E	HLA-B*40:02	MT	Q[E]AHLRSHM	495.26	WT	Q[Q]AHLRSHM	3821.65	9	30.67606
Se039	JAK3 T21M	HLA-B*40:02	MT	[M]EAGALHVL	13.64	WT	[T]EAGALHVL	29.39	9	1.26021
Se039	JAK3 T21M	HLA-B*40:02	MT	[M]EAGALHVLL	15.41	WT	[T]EAGALHVLL	38.93	10	1.26021
Se039	JAK3 T21M	HLA-A*02:06	MT	LS[M]EAGALHV	35.71	WT	LS[T]EAGALHV	820.14	10	1.26021
Se039	JAK3 T21M	HLA-A*02:197	MT	SLLS[M]EAGA	183.15	WT	SLLS[T]EAGA	385.34	9	1.26021
Se039	JAK3 T21M	HLA-A*02:197	MT	SLLS[M]EAGAL	271.47	WT	SLLS[T]EAGAL	460.32	10	1.26021
Se039	JAK3 T21M	HLA-A*02:197	MT	S[M]EAGALHV	296.43	WT	S[T]EAGALHV	11144.08	9	1.26021
Se039	JAK3 T21M	HLA-A*02:06	MT	S[M]EAGALHV	300.23	WT	S[T]EAGALHV	1989.88	9	1.26021
Se039	JAK3 T21M	HLA-A*02:197	MT	S[M]EAGALHVL	346.57	WT	S[T]EAGALHVL	10767.63	10	1.26021
Se039	JAK3 T21M	HLA-A*02:06	MT	SLLS[M]EAGA	465.29	WT	SLLS[T]EAGA	835.85	9	1.26021
Se039	JAK3 T21M	HLA-A*02:06	MT	S[M]EAGALHVL	487.85	WT	S[T]EAGALHVL	2140.44	10	1.26021
Se039	GPR4 L308M	HLA-A*02:197	MT	F[M]ASDKPQEM	57.53	WT	F[L]ASDKPQEM	49.99	10	1.15845
Se039	GPR4 L308M	HLA-A*02:06	MT	F[M]ASDKPQEM	59.7	WT	F[L]ASDKPQEM	65.08	10	1.15845
Se039	GPR4 L308M	HLA-A*02:197	MT	ALHNLLRF[M]A	276.28	WT	ALHNLLRF[L]A	227.6	10	1.15845
Se039	GPR4 L308M	HLA-A*02:06	MT	ALHNLLRF[M]A	448.93	WT	ALHNLLRF[L]A	356.08	10	1.15845
Se039	C20orf196 G9V	HLA-A*02:06	MT	MAARDATS[V]	279.68	WT	MAARDATS[G]	30193.17	9	8.12748
Se039	UCKL1 1488N	HLA-B*55:02	MT	FPRVR[N]JITTA	28.67	WT	FPRVR[I]JITTA	19.02	10	24.92705
Se039	UCKL1 1488N	HLA-C*07:02	MT	YAFPRVR[N]I	100.04	WT	YAFPRVR[I]I	94.84	9	24.92705
Se039	UCKL1 1488N	HLA-B*55:02	MT	FPRVR[N]JITT	114.95	WT	FPRVR[I]JITT	97.06	9	24.92705
Se039	CLIC6 L613V	HLA-A*02:06	MT	F[V]DGDELTLA	98.62	WT	F[L]DGDELTLA	37.16	10	1.0497
Se039	CLIC6 L613V	HLA-A*02:06	MT	F[V]DGDELTL	168.05	WT	F[L]DGDELTL	54.43	9	1.0497
Se039	CLIC6 L613V	HLA-A*02:197	MT	F[V]DGDELTLA	283.13	WT	F[L]DGDELTLA	17.59	10	1.0497
Se039	CLIC6 L613V	HLA-A*02:197	MT	F[V]DGDELTL	303.17	WT	F[L]DGDELTL	17.93	9	1.0497
Se039	PISD F318L	HLA-A*02:06	MT	GSYND[L]SFV	82.33	WT	GSYND[F]SFV	44.27	9	18.70231
Se039	PISD F318L	HLA-A*02:197	MT	GSYND[L]SFV	411.98	WT	GSYND[F]SFV	415.15	9	18.70231
Se039	APOL6 G246V	HLA-A*02:06	MT	GVMSAFSL[V]	5.79	WT	GVMSAFSL[G]	4379.59	9	1.79589
Se039	APOL6 G246V	HLA-A*02:197	MT	GVMSAFSL[V]	22.13	WT	GVMSAFSL[G]	17251.1	9	1.79589
Se039	APOL6 G246V	HLA-A*02:197	MT	SL[V]YDLATL	83.94	WT	SL[G]YDLATL	196.29	9	1.79589
Se039	APOL6 G246V	HLA-A*02:06	MT	FSL[G]YDLATL	144	WT	FSL[G]YDLATL	52.71	10	1.79589
Se039	APOL6 G246V	HLA-A*02:06	MT	SL[V]YDLATL	215.47	WT	SL[G]YDLATL	982.65	9	1.79589
Se039	APOL6 G246V	HLA-A*02:06	MT	SAFSL[V]YDLA	320.7	WT	SAFSL[G]YDLA	555	10	1.79589
Se039	SH3BP1 R312L	HLA-A*02:197	MT	F[L]LAAGASV	3.98	WT	F[R]LAAGASV	7032.39	9	2.08365
Se039	SH3BP1 R312L	HLA-A*02:06	MT	F[L]LAAGASV	4.22	WT	F[R]LAAGASV	2113.65	9	2.08365
Se039	SH3BP1 R312L	HLA-A*02:197	MT	F[L]LAAGASVL	11.51	WT	F[R]LAAGASVL	12857.9	10	2.08365
Se039	SH3BP1 R312L	HLA-A*02:06	MT	F[L]LAAGASVL	27.44	WT	F[R]LAAGASVL	4378.07	10	2.08365
Se039	SH3BP1 R312L	HLA-A*02:197	MT	GMKEEGLF[L]L	86.18	WT	GMKEEGLF[R]L	173.17	10	2.08365
Se039	SH3BP1 R312L	HLA-B*40:02	MT	KEEGLF[L]LAA	102.36	WT	KEEGLF[R]LAA	160.89	10	2.08365
Se039	SH3BP1 R312L	HLA-A*02:197	MT	[L]LAAGASVL	131.14	WT	[R]LAAGASVL	430.98	9	2.08365
Se039	SH3BP1 R312L	HLA-A*02:06	MT	GMKEEGLF[L]L	140.56	WT	GMKEEGLF[R]L	291.24	10	2.08365
Se039	SH3BP1 R312L	HLA-A*02:197	MT	GLF[R]LAAGA	155.9	WT	GLF[R]LAAGA	187.27	9	2.08365
Se039	SH3BP1 R312L	HLA-B*40:02	MT	KEEGLF[L]LAA	183.63	WT	KEEGLF[R]LAA	379.32	9	2.08365
Se039	SH3BP1 R312L	HLA-B*40:02	MT	EEGLF[R]LAA	334.99	WT	EEGLF[R]LAA	438.69	9	2.08365
Se039	SH3BP1 R312L	HLA-A*02:06	MT	[L]LAAGASVL	452.4	WT	[R]LAAGASVL	1062.04	9	2.08365
Se039	SH3BP1 R312L	HLA-A*02:197	MT	GMKEEGLF[L]	454.04	WT	GMKEEGLF[R]	28427.6	9	2.08365
Se039	SH3BP1 R312L	HLA-A*02:06	MT	GLF[R]LAAGA	487.97	WT	GLF[R]LAAGA	453.15	9	2.08365
Se039	ATRX T13R	HLA-A*02:197	MT	KLN[R]LVQKL	180.35	WT	KLN[T]LVQKL	95.98	9	3.36435
Se039	ATRX T13R	HLA-A*02:197	MT	[R]LVQKLHDFL	189.76	WT	[T]LVQKLHDFL	306	10	3.36435
Se039	ATRX T13R	HLA-B*40:02	MT	SESKLN[R]LV	194.84	WT	SESKLN[T]LV	120.09	9	3.36435
Se039	ATRX T13R	HLA-A*02:06	MT	[R]LVQKLHDFL	311.45	WT	[T]LVQKLHDFL	403.57	10	3.36435
Se039	OCRL H598N	HLA-A*02:06	MT	GQVPC[N]FSFI	24.88	WT	GQVPC[H]FSFI	21.13	10	5.66417
Se039	OCRL H598N	HLA-A*02:06	MT	QVPC[N]FSFI	151.09	WT	QVPC[H]FSFI	124.88	9	5.66417
Se039	OCRL H598N	HLA-A*02:06	MT	GQVPC[N]FSF	253.18	WT	GQVPC[H]FSF	281	9	5.66417
Se039	OCRL H598N	HLA-A*02:197	MT	GQVPC[N]FSFI	330.44	WT	GQVPC[H]FSFI	286.05	10	5.66417
Se039	OCRL H598N	HLA-B*40:02	MT	GQVPC[N]FSFI	421.93	WT	GQVPC[H]FSFI	216.98	10	5.66417

Se039	OCRL H598N	HLA-B*40:02	MT	GQVPC[N]FSF	431.9	WT	GQVPC[H]FSF	180.48	9	5.66417
Se043	PPARG N24D	HLA-C*12:02	MT	LSA[D]ISQEM	39	WT	LSA[N]ISQEM	70.96	9	1.67578
Se043	RHOBTB3 L274V	HLA-C*12:02	MT	IV[V]CAVSHV	262.71	WT	IV[L]CAVSHV	1308.29	9	5.1695
Se043	RHOBTB3 L274V	HLA-C*12:02	MT	IV[V]CAVSHVF	346.08	WT	IV[L]CAVSHVF	1346.74	10	5.1695
Se043	DDHD2 V515L	HLA-A*33:03	MT	MFLT[L]RGLKR	26.2	WT	MFLT[V]RGLKR	19.84	10	12.46178
Se043	DDHD2 V515L	HLA-A*33:03	MT	MFLT[L]RGLK	129.8	WT	MFLT[V]RGLK	74.54	9	12.46178
Se043	DDHD2 V515L	HLA-A*33:03	MT	SPIGMFLT[L]R	211.69	WT	SPIGMFLT[V]R	532.09	10	12.46178
Se043	DDHD2 V515L	HLA-C*14:03	MT	SPIGMFLT[L]	450.95	WT	SPIGMFLT[V]	1188.71	9	12.46178
Se043	AGO2 S253F	HLA-A*33:03	MT	D[F]QRVKFTK	128.43	WT	D[S]QRVKFTK	533.49	9	3.91025
Se043	AGO2 S253F	HLA-A*33:03	MT	QQKPLTD[F]QR	297.79	WT	QQKPLTD[S]QR	759.96	10	3.91025
Se043	CDH23 V1137E	HLA-B*44:03	MT	DEGEFGR[E]W	161.73	WT	DEGEFGR[V]W	155.51	9	1.28795
Se043	CDH23 V1137E	HLA-C*14:03	MT	FGR[E]WYRIL	197.06	WT	FGR[V]WYRIL	594.08	9	1.28795
Se043	CDH23 V1137E	HLA-A*33:03	MT	GEFGR[E]WYR	215.97	WT	GEFGR[V]WYR	82.02	9	1.28795
Se043	CDH23 V1137E	HLA-A*33:03	MT	EGEFGR[E]WYR	321.14	WT	EGEFGR[V]WYR	126.42	10	1.28795
Se043	CDH23 V1137E	HLA-B*44:03	MT	GEFGR[E]WYRI	390.74	WT	GEFGR[V]WYRI	171	10	1.28795
Se043	CD19 E243K	HLA-C*14:03	MT	MWVM[K]TGLLL	130.54	WT	MWVM[E]TGLLL	167.03	10	1.16242
Se043	CD19 E243K	HLA-A*33:03	MT	VM[K]TGLLLPR	157.12	WT	VM[E]TGLLLPR	1119.97	10	1.16242
Se043	CD19 E243K	HLA-C*14:03	MT	WVM[K]TGLLL	159.68	WT	WVM[E]TGLLL	109.69	9	1.16242
Se043	CD19 E243K	HLA-A*33:03	MT	MWVM[K]TGLL	176.8	WT	MWVM[E]TGLL	270.79	9	1.16242
Se043	CD19 E243K	HLA-C*12:02	MT	WVM[K]TGLLL	320.49	WT	WVM[E]TGLLL	116.28	9	1.16242
Se043	TP53 K32E	HLA-C*12:02	MT	MAIY[E]QSQHM	167.76	WT	MAIY[K]QSQHM	106.84	10	32.32562
Se043	TP53 K32E	HLA-C*12:02	MT	AIY[E]QSQHM	206.2	WT	AIY[K]QSQHM	580.07	9	32.32562
Se043	EPB41L3 R129S	HLA-A*33:03	MT	YTCDVVEK[S]SR	118.14	WT	YTCDVVEK[R]SR	269.67	10	5.05393
Se043	CEP192 L1428S	HLA-A*33:03	MT	[S]VFKNKAIIR	69.32	WT	[L]VFKNKAIIR	116.29	10	4.67779
Se043	CEP192 L1428S	HLA-A*33:03	MT	STYRC[S]VFK	143.63	WT	STYRC[L]VFK	109.66	9	4.67779
Se043	CEP192 L1428S	HLA-C*12:02	MT	LSTYRC[S]VF	175.59	WT	LSTYRC[L]VF	333.34	9	4.67779
Se043	ICAM1 R225W	HLA-C*12:02	MT	LVSP[R]VLEV	128.59	WT	LVSP[R]VLEV	163.78	9	51.86255
Se043	LIN37 P65L	HLA-A*33:03	MT	[L]SARFPHQ	87.3	WT	[P]SARFPHQ	1041.22	9	8.99055
Se043	LIN37 P65L	HLA-A*33:03	MT	R[L]SARFPHQ	150.07	WT	R[P]SARFPHQ	767.77	10	8.99055
Se043	LIN37 P65L	HLA-A*33:03	MT	ATGKR[L]SAR	172.01	WT	ATGKR[P]SAR	497.89	9	8.99055
Se043	LIN37 P65L	HLA-A*33:03	MT	[L]SARFPHQ	267.19	WT	[P]SARFPHQ	2862.61	10	8.99055
Se043	LIN37 P65L	HLA-A*33:03	MT	AATGKR[L]SAR	300.46	WT	AATGKR[P]SAR	520.51	10	8.99055
Se044	BEST4 G19C	HLA-A*31:01	MT	GGFS[G]LLLR	46.9	WT	GGFS[G]LLLR	84.67	9	1.22249
Se044	BEST4 G19C	HLA-A*31:01	MT	GFS[C]LLLRWR	101.78	WT	GFS[G]LLLRWR	166.43	10	1.22249
Se044	BEST4 G19C	HLA-B*40:02	MT	AEARFGGFS[C]	151	WT	AEARFGGFS[G]	366.21	10	1.22249
Se044	BEST4 G19C	HLA-A*31:01	MT	FS[C]JLLLRWR	282.88	WT	FS[G]JLLLRWR	762.83	9	1.22249
Se044	BEST4 G19C	HLA-A*24:02	MT	RFGGFS[C]LLL	352.29	WT	RFGGFS[G]LLL	708.86	10	1.22249
Se044	GMCL1 K482N	HLA-B*40:02	MT	LE[N]DQEQVVM	318.99	WT	LE[K]DQEQVVM	645.86	10	7.92153
Se044	PIKFYVE L1632I	HLA-C*12:02	MT	FANL[I]PGNSY	38.91	WT	FANL[L]PGNSY	46.3	10	2.60661
Se044	PIKFYVE L1632I	HLA-C*03:04	MT	FANL[I]PGNSY	140.35	WT	FANL[L]PGNSY	163.59	10	2.60661
Se044	UGDH E150Q	HLA-C*03:04	MT	LTNTWSS[Q]L	401.88	WT	LTNTWSS[E]L	167.22	10	17.99307
Se044	ANKRD37 R144P	HLA-C*03:04	MT	VAVLRQK[P]SL	257.29	WT	VAVLRQK[R]SL	427.63	10	4.98828
Se044	PDZD2 R565H	HLA-C*03:04	MT	HIVKKS[T]R]SL	230.86	WT	HIVKKS[R]SL	271.57	10	4.8374
Se044	PDZD2 R565H	HLA-C*12:02	MT	ST[H]SLSTTQV	278.36	WT	ST[R]SLSTTQV	822.46	10	4.8374
Se044	GIN1 G409W	HLA-A*31:01	MT	VLRDNT[W]VR	62.35	WT	VLRDNT[G]VR	941.83	9	2.02551
Se044	GIN1 G409W	HLA-A*31:01	MT	AVLRDNT[W]VR	67.67	WT	AVLRDNT[G]VR	415.28	10	2.02551
Se044	GIN1 G409W	HLA-A*31:01	MT	RDNT[W]VRLKR	297.44	WT	RDNT[G]VRLKR	1417.97	10	2.02551
Se044	GOLGA2 A154G	HLA-B*40:02	MT	GEGPASS[G]NL	346.19	WT	GEGPASS[A]NL	197.83	10	23.85667
Se044	ATG2A L288V	HLA-A*31:01	MT	SLHL[V]LTPR	23.26	WT	SLHL[L]LTPR	31.77	9	5.35722
Se044	ATG2A L288V	HLA-A*31:01	MT	GSLHL[V]LTPR	25.23	WT	GSLHL[L]LTPR	27.25	10	5.35722
Se044	ATG2A L288V	HLA-B*40:02	MT	GQLGSLHL[V]L	110.21	WT	GQLGSLHL[L]L	167.93	10	5.35722
Se044	ARL2 S151I	HLA-B*40:02	MT	IDWLLDDIS[I]	365.79	WT	IDWLLDDIS[S]	9898.18	10	12.12582
Se044	TENM4 H2344Q	HLA-A*24:02	MT	LYYDLQ[Q]LF	37.02	WT	LYYDLQ[H]LF	29.7	10	2.60317
Se044	TENM4 H2344Q	HLA-A*24:02	MT	YYDLQ[Q]LF	106.99	WT	YYDLQ[H]LF	64.07	9	2.60317
Se044	TENM4 H2344Q	HLA-B*40:02	MT	YDLQ[Q]LFAM	383.86	WT	YDLQ[H]LFAM	182.16	10	2.60317
Se044	LRP1 A2366T	HLA-C*03:04	MT	AALSG[T]NVL	12.5	WT	AALSG[A]NVL	15.24	9	13.76187
Se044	LRP1 A2366T	HLA-C*03:04	MT	RAALSG[T]NVL	18.81	WT	RAALSG[A]NVL	24.39	10	13.76187
Se044	LRP1 A2366T	HLA-C*12:02	MT	RAALSG[T]NVL	213.79	WT	RAALSG[A]NVL	327.12	10	13.76187
Se044	LRP1 A2366T	HLA-C*03:04	MT	LSG[T]NVLTL	285.95	WT	LSG[A]NVLTL	193.37	9	13.76187
Se044	LRP1 A2366T	HLA-C*03:04	MT	RAALSG[T]NV	308.21	WT	RAALSG[A]NV	430.58	9	13.76187
Se044	LRP1 A2366T	HLA-C*12:02	MT	RAALSG[T]NV	424.83	WT	RAALSG[A]NV	562.09	9	13.76187
Se044	LRP1 A2366T	HLA-C*12:02	MT	AALSG[T]NVL	493.68	WT	AALSG[A]NVL	926.44	9	13.76187
Se044	MYCBP2 T2374A	HLA-B*40:02	MT	KEARYIAI[A]M	14.32	WT	KEARYIAI[T]M	18.39	10	5.39712
Se044	MYCBP2 T2374A	HLA-B*40:02	MT	KEARYIAI[A]	44.65	WT	KEARYIAI[T]	81.25	9	5.39712
Se044	MYCBP2 T2374A	HLA-A*24:02	MT	RYIAI[A]MMKV	62.16	WT	RYIAI[T]MMKV	45.93	10	5.39712
Se044	MYCBP2 T2374A	HLA-A*31:01	MT	RYIAI[A]MMK	83	WT	RYIAI[T]MMK	68.21	9	5.39712
Se044	MYCBP2 T2374A	HLA-C*12:02	MT	IAI[A]MMKVY	204.16	WT	IAI[T]MMKVY	345.85	9	5.39712
Se044	MYCBP2 T2374A	HLA-C*12:02	MT	I[A]MMKVYENY	298.33	WT	I[T]MMKVYENY	631.21	10	5.39712
Se044	MYCBP2 T2374A	HLA-C*12:02	MT	YIAI[A]MMKV	427.59	WT	YIAI[T]MMKV	423.74	9	5.39712
Se044	MYCBP2 T2374A	HLA-C*03:04	MT	IAI[A]MMKVY	459.35	WT	IAI[T]MMKVY	747.47	9	5.39712
Se044	SYNE2 E694D	HLA-B*40:02	MT	KE[D]KATVEF	313.12	WT	KE[E]KATVEF	302.49	9	1.79911
Se044	AMFR D576N	HLA-A*31:01	MT	RFSKSA[N]ER	83.2	WT	RFSKSA[D]ER	324.24	9	20.50426
Se044	AMFR D576N	HLA-C*12:02	MT	SA[N]JERQRMLV	424.61	WT	SA[D]JERQRMLV	2027.33	10	20.50426
Se044	AMFR D576N	HLA-C*03:04	MT	SA[N]JERQRML	474.86	WT	SA[D]JERQRML	726.37	9	20.50426
Se044	TP53 G112D	HLA-A*31:01	MT	SSCM[D]GMNR	357.51	WT	SSCM[G]GMNR	110.57	9	30.03394
Se044	TP53 G112D	HLA-A*31:01	MT	SSCM[D]GMNRR	392.86	WT	SSCM[G]GMNRR	172.56	10	30.03394
Se044	FCGBP C758G	HLA-B*40:02	MT	YELCGPA[G]PT	63.3	WT	YELCGPA[C]PT	54.51	10	1.46501
Se047	WDTC1 T305N	HLA-C*12:02	MT	LTYKQRPY[N]F	462.84	WT	LTYKQRPY[T]F	160.14	10	4.96473

Se047	POGZ K719M	HLA-C*12:02	MT	FKNSVSGI[M]	402.13	WT	FKNSVSGI[K]	24199.97	9	14.95625
Se047	POGZ K719M	HLA-C*12:02	MT	[M]LACTSCTF	487.95	WT	[K]LACTSCTF	2309.03	9	14.95625
Se047	RASSF5 L191V	HLA-C*12:02	MT	SIADRPLY[V]	73.69	WT	SIADRPLY[L]	102.35	9	4.79236
Se047	RASSF5 L191V	HLA-C*12:02	MT	LSIADRPLY[V]	219.75	WT	LSIADRPLY[L]	292.16	10	4.79236
Se047	TTC7A G106A	HLA-C*12:02	MT	MAAKVCI[A]SL	36.41	WT	MAAKVCI[G]SL	78.51	10	6.35396
Se047	DCTN1 L67V	HLA-C*12:02	MT	[V]TSPGAVPPL	360.52	WT	[L]TSPGAVPPL	192.66	10	17.49277
Se047	FN1 L1952F	HLA-C*12:02	MT	[F]TRGATYNI	241.25	WT	[L]TRGATYNI	1850.87	10	71.43351
Se047	FN1 L1952F	HLA-C*12:02	MT	[F]TRGATYNI	299.63	WT	[L]TRGATYNI	2226.66	9	71.43351
Se047	FN1 L1952F	HLA-A*26:03	MT	STSATLTG[F]	372.84	WT	STSATLTG[L]	1064.92	9	71.43351
Se047	FN1 L1952F	HLA-C*12:02	MT	STSATLTG[F]	448.05	WT	STSATLTG[L]	474.96	9	71.43351
Se047	BOC S666Y	HLA-C*12:02	MT	SAIPPSRL[Y]V	25.3	WT	SAIPPSRL[S]V	29.88	10	5.35949
Se047	BOC S666Y	HLA-C*12:02	MT	SAIPPSRL[Y]	79.93	WT	SAIPPSRL[S]	2745.53	9	5.35949
Se047	WDR19 D355Y	HLA-C*12:02	MT	[Y]ACSTRIAYL	37.79	WT	[D]ACSTRIAYL	3842.24	10	8.43838
Se047	WDR19 D355Y	HLA-C*12:02	MT	[Y]ACSTRIAY	142.77	WT	[D]ACSTRIAY	7582.26	9	8.43838
Se047	FAM24B K34N	HLA-C*12:02	MT	AA[N]EPEAVAV	232.25	WT	AA[K]EPEAVAV	848.55	10	5.62179
Se047	HELZ S752C	HLA-C*12:02	MT	ISSAH[C]TFQM	213.97	WT	ISSAH[S]TFQM	120.87	10	2.36889
Se047	HELZ S752C	HLA-C*12:02	MT	SSAH[C]TFQM	353.3	WT	SSAH[S]TFQM	231.57	9	2.36889
Se047	LLGL2 G370D	HLA-C*12:02	MT	QTA[D]WPPVQL	359.57	WT	QTA[G]WPPVQL	724.16	10	17.3001
Se047	ZBTB14 L231F	HLA-C*12:02	MT	[F]GSGTQPAL	208.02	WT	[L]GSGTQPAL	2079.92	9	2.7574
Se047	CAPS G195A	HLA-C*12:02	MT	RS[A]DGVVTV	79.86	WT	RS[G]DGVVTV	1286.6	9	69.76995
Se047	SARS2 E301K	HLA-A*26:03	MT	GTA[K]VGLAGY	461.63	WT	GTA[E]VGLAGY	236.07	10	15.60311
Se047	CBFA2T2 R329H	HLA-A*26:03	MT	ELVDH[H]LTER	439.14	WT	ELVDH[R]LTER	673.98	10	8.76817
Se047	PABPC1L V518F	HLA-C*12:02	MT	SAAHSTYR[F]	208.45	WT	SAAHSTYR[V]	158.47	9	17.11761
Se047	PABPC1L V518F	HLA-C*12:02	MT	SSAAHSTYR[F]	298.9	WT	SSAAHSTYR[V]	223.62	10	17.11761
Se047	TYMP D209H	HLA-C*12:02	MT	VTATV[H]SLPL	228.45	WT	VTATV[D]SLPL	459.95	10	174.96252
Se047	TYMP D209H	HLA-C*12:02	MT	TATV[H]SLPL	315.04	WT	TATV[D]SLPL	1028.29	9	174.96252
Se047	TYMP D209H	HLA-C*12:02	MT	[H]SLPLITASI	467.91	WT	[D]SLPLITASI	4832.49	10	174.96252
Se047	PHKA1 I562V	HLA-C*12:02	MT	[V]TFPISHSM	64.48	WT	[I]TFPISHSM	29.06	9	1.26628
Se047	PHKA1 I562V	HLA-C*12:02	MT	[V]TFPISHSML	214.63	WT	[I]TFPISHSML	99.52	10	1.26628
Se047	PHKA1 I562V	HLA-C*12:02	MT	MTGQPT[V]TF	370.74	WT	MTGQPT[I]TF	542.16	9	1.26628
Se047	PHKA1 I562V	HLA-A*26:03	MT	T[V]TFPISHSM	448.18	WT	T[I]TFPISHSM	1226.65	10	1.26628
Se047	G6PD K538M	HLA-C*12:02	MT	FQYEGTY[M]WV	28.6	WT	FQYEGTY[K]WV	81.9	10	12.22432
Se047	G6PD K538M	HLA-B*52:01	MT	FQYEGTY[M]W	480.06	WT	FQYEGTY[K]W	662.88	9	12.22432
Se048	LEPR S791C	HLA-A*31:01	MT	KWLRISS[C]VK	304.17	WT	KWLRISS[S]VK	264.51	10	3.61194
Se048	WDR54 L244I	HLA-A*02:01	MT	HLYEATTGN[I]	95.35	WT	HLYEATTGN[L]	59.08	10	5.97244
Se048	GYP C D27G	HLA-A*31:01	MT	GMSGWP[G]GR	155.69	WT	GMSGWP[D]GR	228.96	9	99.05636
Se048	WDR1 Q14E	HLA-A*02:01	MT	KVFASLP[E]V	5.52	WT	KVFASLP[Q]V	11.14	9	81.2922
Se048	WDR1 Q14E	HLA-A*31:01	MT	VFASLP[E]VER	190.97	WT	VFASLP[Q]VER	113.93	10	81.2922
Se048	WDR1 Q14E	HLA-A*02:01	MT	SLP[Q]VERGV	283.68	WT	SLP[V]VERGV	1886.72	9	81.2922
Se048	RAD23B M267I	HLA-A*31:01	MT	RNQPQFQQ[I]R	144.07	WT	RNQPQFQQ[M]R	93.93	10	18.77901
Se048	DCHS1 R2217H	HLA-A*02:01	MT	SQPA[H]GLFHV	218.37	WT	SQPA[R]GLFHV	564.29	10	7.75282
Se048	DDX51 S561N	HLA-A*02:01	MT	LLI[N]TDATA	472.18	WT	LLI[S]TDATA	419.25	9	6.83772
Se048	ZNF592 R608Q	HLA-A*31:01	MT	KLSLQHYG[Q]R	12.87	WT	KLSLQHYG[R]R	14.96	10	1.78928
Se048	ZNF592 R608Q	HLA-A*31:01	MT	SLSQHYG[Q]R	179.03	WT	SLSQHYG[R]R	234.72	9	1.78928
Se048	LRRK1 T1196M	HLA-A*02:01	MT	VL[M]AIERDFI	88.07	WT	VL[T]AIERDFI	1130.58	10	7.73255
Se048	TP53 S82C	HLA-A*02:01	MT	FLHSGTAK[C]V	52.09	WT	FLHSGTAK[S]V	23.12	10	2.3181
Se048	TP53 S82C	HLA-A*02:01	MT	FLHSGTAK[C]	417.76	WT	FLHSGTAK[S]	614.94	9	2.3181
Se048	PHF20 P570L	HLA-A*31:01	MT	[S]LJPKAFAVTR	121.97	WT	[P]PKAFAVTR	5998.48	10	6.77755
Se048	DLGAP4 E210K	HLA-A*31:01	MT	SWQLVETP[E]K	406.73	WT	SWQLVETP[E]	26229.73	9	13.97992
Se049	TAF1A I163M	HLA-C*03:04	MT	FPSNPNAH[M]	438.63	WT	FPSNPNAH[I]	1235.69	9	3.09667
Se049	PYCR2 E36Q	HLA-C*03:04	MT	IASSP[Q]MNL	89.44	WT	IASSP[E]MNL	229.79	9	80.89696
Se049	PYCR2 E36Q	HLA-B*15:01	MT	KIIASSP[Q]M	263.59	WT	KIIASSP[E]M	195.02	9	80.89696
Se049	PYCR2 E36Q	HLA-B*15:01	MT	[Q]MNLPTVSAL	282.89	WT	[E]MNLPTVSAL	1214.76	10	80.89696
Se049	PYCR2 E36Q	HLA-C*03:04	MT	[Q]MNLPTVSAL	366.12	WT	[E]MNLPTVSAL	900.23	10	80.89696
Se049	PYCR2 E36Q	HLA-C*03:04	MT	IASSP[Q]MNL	470.78	WT	IASSP[E]MNL	1125.02	10	80.89696
Se049	C1orf131 L32V	HLA-A*24:02	MT	A[L]QLNLYDF	490.59	WT	A[L]QLNLYDF	355.16	9	2.54004
Se049	MBD5 H218Y	HLA-B*15:01	MT	GQKSPFRGS[Y]	39.25	WT	GQKSPFRGS[H]	2076.72	10	2.16871
Se049	C3orf18 T56M	HLA-C*03:04	MT	[M]JAGVGTMLL	64.94	WT	[T]JAGVGTMLL	532.44	9	2.49481
Se049	PARP14 I921V	HLA-C*03:04	MT	IAIPA[V]SSGV	34.12	WT	IAIPA[I]SSGV	43.35	10	32.3772
Se049	PARP14 I921V	HLA-C*03:04	MT	[V]SSGVFGFPL	249.2	WT	[I]SSGVFGFPL	122.97	10	32.3772
Se049	PARP14 I921V	HLA-B*15:01	MT	A[V]SSGVFGF	287.21	WT	A[I]SSGVFGF	177.88	9	32.3772
Se049	PARP14 I921V	HLA-B*15:01	MT	AIPA[V]SSGVF	307.15	WT	AIPA[I]SSGVF	404.18	10	32.3772
Se049	NDFIP1 R111M	HLA-B*15:01	MT	L[M]IGNDGIF	17.35	WT	L[R]IGNDGIF	7160.15	9	35.0732
Se049	NDFIP1 R111M	HLA-B*15:01	MT	L[M]IGNDGIFM	92.27	WT	L[R]IGNDGIFM	12898.5	10	35.0732
Se049	NDFIP1 R111M	HLA-B*15:01	MT	QL[M]IGNDGIF	271	WT	QL[R]IGNDGIF	348.76	10	35.0732
Se049	NDFIP1 R111M	HLA-C*03:04	MT	L[M]IGNDGIFM	394.78	WT	L[R]IGNDGIFM	10390.3	10	35.0732
Se049	SETX V1974L	HLA-B*15:01	MT	KSKTI[L]GLLY	231.71	WT	KSKTI[V]GLLY	219.63	10	4.23908
Se049	RNF31 R374C	HLA-B*15:01	MT	LQWL[R]SELPE	79.54	WT	LQWL[R]SELPE	72.25	10	12.76782
Se049	EPG5 Q2519P	HLA-C*03:04	MT	KAQ[P]ALNAL	42.43	WT	KAQ[Q]ALNAL	50.49	9	1.11497
Se049	EPG5 Q2519P	HLA-C*03:04	MT	HLPKAQ[P]AL	441.08	WT	HLPKAQ[Q]AL	519.9	10	1.11497
Se049	EPG5 Q2519P	HLA-C*03:04	MT	LTPKAQ[P]AL	464.96	WT	LTPKAQ[Q]AL	437.74	9	1.11497
Se049	NACC1 R89Q	HLA-C*03:04	MT	FCYTG[Q]LSM	40.17	WT	FCYTG[R]LSM	59.76	9	18.04126
Se049	NACC1 R89Q	HLA-C*03:04	MT	LSFCYTG[Q]L	312.32	WT	LSFCYTG[R]L	621.97	9	18.04126
Se049	NACC1 R89Q	HLA-B*15:01	MT	[Q]LSMNVGDQF	369.32	WT	[R]LSMNVGDQF	133.33	10	18.04126
Se049	CLASRP D274Y	HLA-B*15:01	MT	FITSFGGS[Y]	104.76	WT	FITSFGGS[D]	26086.81	9	12.08022
Se049	CLASRP D274Y	HLA-B*40:02	MT	[Y]EEAAAAAAA	204.02	WT	[D]EEAAAAAAA	5586.83	10	12.08022
Se049	CLASRP D274Y	HLA-B*40:02	MT	[Y]EEAAAAAAA	204.02	WT	[D]EEAAAAAAA	5586.83	10	12.08022
Se049	CLASRP D274Y	HLA-B*15:01	MT	TFITSFGGS[Y]	455.83	WT	TFITSFGGS[D]	31406.15	10	12.08022

Se049	ZNF264 V569L	HLA-B*15:01	MT	S[L]TDVGRPF	66.8	WT	S[V]TDVGRPF	405.16	9	1.66022
Se049	ZNF264 V569L	HLA-B*15:01	MT	IS[L]TDVGRPF	204.88	WT	IS[V]TDVGRPF	87.52	10	1.66022
Se049	ZNF264 V569L	HLA-C*03:04	MT	IS[L]TDVGRPF	271.97	WT	IS[V]TDVGRPF	172.74	10	1.66022
Se049	ZNF264 V569L	HLA-C*03:04	MT	S[L]TDVGRPF	403.05	WT	S[V]TDVGRPF	177.14	9	1.66022
Se049	TRMT6 L114F	HLA-B*15:01	MT	KLTDQDDIKA[F]	482.14	WT	KLTDQDDIKA[L]	7750.8	10	9.7649
Se050	PCNXL2 L609V	HLA-B*40:01	MT	AEQNEESG[V]L	31.43	WT	AEQNEESG[L]L	39.53	10	2.84701
Se050	CCDC138 A225G	HLA-C*07:02	MT	FRHEN[G]LSKI	96.99	WT	FRHEN[A]LSKI	71.04	10	2.88684
Se050	MOGAT1 V333L	HLA-C*03:04	MT	YGIPEHETL[L]	174.38	WT	YGIPEHETL[V]	1049.58	10	1.18382
Se050	MOGAT1 V333L	HLA-B*07:02	MT	IPEHETL[L]L	303.79	WT	IPEHETL[V]L	62.71	9	1.18382
Se050	SEN7 H512R	HLA-A*24:02	MT	[R]YYCVSTCSF	9.84	WT	[H]YYCVSTCSF	24.65	10	2.79743
Se050	SEN7 H512R	HLA-C*07:02	MT	[R]YYCVSTCSF	162.83	WT	[H]YYCVSTCSF	113.02	10	2.79743
Se050	LG12 A509S	HLA-B*07:02	MT	[S]PRSFTAVST	19.36	WT	[A]PRSFTAVST	22.62	10	1.10535
Se050	LG12 A509S	HLA-A*24:02	MT	IYVQ[S]PRSF	58.12	WT	IYVQ[A]PRSF	60.22	9	1.10535
Se050	LG12 A509S	HLA-B*07:02	MT	[S]PRSFTAVS	69.77	WT	[A]PRSFTAVS	84.78	9	1.10535
Se050	LG12 A509S	HLA-C*07:02	MT	IYVQ[S]PRSF	116.93	WT	IYVQ[A]PRSF	103.84	9	1.10535
Se050	CLCN3 L432V	HLA-B*40:01	MT	KE[V]FTDCGPL	23.55	WT	KE[L]FTDCGPL	28.8	10	5.53575
Se050	PCDHGB4 R645C	HLA-C*03:04	MT	AV[C]DGGQPPL	448.69	WT	AV[R]DGGQPPL	296.51	10	3.2682
Se050	MAP3K7 H244R	HLA-B*07:02	MT	AV[R]NGTRPPL	17.52	WT	AV[H]NGTRPPL	78.67	10	13.31438
Se050	MAP3K7 H244R	HLA-C*07:02	MT	V[R]NGTRPPL	295.66	WT	V[H]NGTRPPL	5476.23	9	13.31438
Se050	MAP3K7 H244R	HLA-C*07:02	MT	V[R]NGTRPPLI	379.38	WT	V[H]NGTRPPLI	3726.24	10	13.31438
Se050	PTPRK N986H	HLA-C*03:04	MT	IVMVT[H]LVEV	141.68	WT	IVMVT[N]LVEV	147.72	10	10.36199
Se050	PLAGL1 F232L	HLA-C*03:04	MT	HTISPS[L]QL	38.77	WT	HTISPS[F]QL	88.15	9	5.46766
Se050	PLAGL1 F232L	HLA-C*03:04	MT	STFHITSPS[L]	58.55	WT	STFHITSPS[F]	140.13	10	5.46766
Se050	PLAGL1 F232L	HLA-B*07:02	MT	SPS[L]QLKAAA	93.07	WT	SPS[F]QLKAAA	75.06	10	5.46766
Se050	PLAGL1 F232L	HLA-B*07:02	MT	SPS[L]QLKAA	135.27	WT	SPS[F]QLKAA	105.74	9	5.46766
Se050	SLC12A9 T190I	HLA-C*03:04	MT	FAVLFNCG[I]	155.4	WT	FAVLFNCG[T]	3726.02	9	9.71369
Se050	YAP1 R124G	HLA-C*03:04	MT	[G]AHSSPASL	100.41	WT	[R]AHSSPASL	26.69	9	11.46805
Se050	YAP1 R124G	HLA-C*03:04	MT	V[G]AHSSPASL	477.75	WT	V[R]AHSSPASL	3391.03	10	11.46805
Se050	TP53 R116W	HLA-C*07:02	MT	[W]RPILTIITL	173.08	WT	[R]RPILTIITL	156.92	10	26.63736
Se050	NLK V61L	HLA-C*03:04	MT	HLHPGSAAL[L]	58.42	WT	HLHPGSAAL[V]	336.21	10	3.31195
Se050	NLK V61L	HLA-B*07:02	MT	HLHPGSAAL[L]	256.73	WT	HLHPGSAAL[V]	1999.99	10	3.31195
Se050	DLGAP1 H119P	HLA-C*03:04	MT	LSRDGY[P]TL	351.26	WT	LSRDGY[H]TL	298.79	9	1.09452
Se050	DLGAP1 H119P	HLA-B*07:02	MT	Y[P]TLQYKRRTA	358.35	WT	Y[H]TLQYKRRTA	30524.16	10	1.09452
Se050	DLGAP1 H119P	HLA-B*07:02	MT	LPLSRDGY[P]T	382.41	WT	LPLSRDGY[H]T	4089.33	10	1.09452
Se050	DSG2 A8S	HLA-A*24:02	MT	[S]YALLLLL	16.71	WT	[A]YALLLLL	44.14	9	25.6055
Se050	DSG2 A8S	HLA-B*07:02	MT	SPGR[S]YALL	94.73	WT	SPGR[A]YALL	81.23	9	25.6055
Se050	DSG2 A8S	HLA-B*07:02	MT	SPGR[S]YALLL	105.98	WT	SPGR[A]YALLL	95.99	10	25.6055
Se050	DSG2 A8S	HLA-B*07:02	MT	MARSPGR[S]YA	181.33	WT	MARSPGR[A]YA	222.56	10	25.6055
Se050	DSG2 A8S	HLA-C*07:02	MT	ARSPGR[S]YAL	251.17	WT	ARSPGR[A]YAL	189.4	10	25.6055
Se050	DSG2 A8S	HLA-C*07:02	MT	GR[S]YALLLL	392.01	WT	GR[A]YALLLL	401.05	9	25.6055
Se050	DSG2 A8S	HLA-C*07:02	MT	GR[S]YALLLLL	396.38	WT	GR[A]YALLLLL	415.37	10	25.6055
Se050	DSG2 A8S	HLA-C*03:04	MT	RSPGR[S]YAL	442.65	WT	RSPGR[A]YAL	419.22	9	25.6055
Se050	DSG2 A8S	HLA-A*24:02	MT	R[S]YALLLLL	482.05	WT	R[A]YALLLLL	634.15	10	25.6055
Se050	SHKBP1 W225L	HLA-B*40:01	MT	KEASG[L]QLVF	37.45	WT	KEASG[W]QLVF	33.36	10	20.96767
Se050	SHKBP1 W225L	HLA-B*40:01	MT	KEASG[L]QLV	97.78	WT	KEASG[W]QLV	64.3	9	20.96767
Se050	SHKBP1 W225L	HLA-C*07:02	MT	YRLKEASG[L]	337.45	WT	YRLKEASG[W]	6660.4	9	20.96767
Se050	PPP1R37 S291P	HLA-C*03:04	MT	HVLD[P]GLAYI	289.85	WT	HVLD[S]GLAYI	252.72	10	7.89522
Se050	PPP1R37 S291P	HLA-C*07:02	MT	LRNNHVLD[L]	59.06	WT	LRNNHVLD[S]	9391.8	9	7.89522
Se050	BCL2L12 Y162C	HLA-B*07:02	MT	LP1RPC[C]GL	136.18	WT	LP1RPC[Y]GL	164.13	9	15.0744
Se050	UQCC1 V18I	HLA-B*07:02	MT	[I]PVCSRIPV	30.86	WT	[V]PVCSRIPV	46.78	10	4.51093
Se050	UQCC1 V18I	HLA-A*24:02	MT	QW[I]PVCSRLI	167.51	WT	QW[V]PVCSRLI	459.1	10	4.51093
Se050	UQCC1 V18I	HLA-C*03:04	MT	TSISQW[I]PV	340.31	WT	TSISQW[V]PV	329.71	9	4.51093
Se050	UQCC1 V18I	HLA-A*24:02	MT	QW[I]PVCSRSL	447.94	WT	QW[V]PVCSRSL	1114.23	9	4.51093
Se050	UQCC1 V18I	HLA-C*03:04	MT	[I]PVCSRIPV	466.11	WT	[V]PVCSRIPV	600.6	10	4.51093
Se050	CBY1 R79M	HLA-B*07:02	MT	RLR[M]RNQQL	72.8	WT	RLR[R]RNQQL	86.5	9	21.24963
Se050	ARHGEF6 C139R	HLA-B*40:01	MT	EEV[R]TFQQT	82.15	WT	EEV[C]TFQQT	46.82	10	1.35157
Se051	CELSR2 A106T	HLA-B*40:02	MT	SEAHPLPP[T]	93.73	WT	SEAHPLPP[A]	53.47	10	37.3869
Se051	ATP1A1 D202Y	HLA-B*07:02	MT	IPA[Y]LRIISA	56.58	WT	IPA[D]LRIISA	121.79	10	179.55389
Se051	RCS1 P122L	HLA-C*03:04	MT	MVSPFHSP[L]	8.1	WT	MVSPFHSP[P]	10519.36	9	3.45557
Se051	RCS1 P122L	HLA-B*07:02	MT	MVSPFHSP[L]	82.02	WT	MVSPFHSP[P]	11063.35	9	3.45557
Se051	RCS1 P122L	HLA-C*03:04	MT	AMVSPFHSP[L]	95.66	WT	AMVSPFHSP[P]	21946.53	10	3.45557
Se051	RCS1 P122L	HLA-B*07:02	MT	SPFHSP[L]ST	186.19	WT	SPFHSP[P]ST	403.36	9	3.45557
Se051	ASPM K1802E	HLA-B*40:02	MT	V[E]KKAATCLQA	443.33	WT	V[K]KKAATCLQA	24346.16	10	2.32807
Se051	HLX G29V	HLA-C*03:04	MT	SAGPG[V]CSF	96.81	WT	SAGPG[G]CSF	130.02	9	1.50198
Se051	HLX G29V	HLA-B*07:02	MT	GPG[V]CSFPL	100.98	WT	GPG[G]CSFPL	80.41	9	1.50198
Se051	HLX G29V	HLA-C*03:04	MT	SSAGPG[V]CSF	164.53	WT	SSAGPG[G]CSF	247.25	10	1.50198
Se051	NTPCR T132M	HLA-B*40:02	MT	RQ[M]LSTPGTI	68.27	WT	RQ[T]LSTPGTI	533.01	10	10.82859
Se051	NTPCR T132M	HLA-C*03:04	MT	[M]LSTPGTIL	81.25	WT	[T]LSTPGTIL	483.23	10	10.82859
Se051	NTPCR T132M	HLA-C*03:04	MT	FIQAVRQ[M]L	219.15	WT	FIQAVRQ[T]L	47.08	9	10.82859
Se051	KCNK1 K176N	HLA-C*03:04	MT	FS[N]QVVAIV	185.27	WT	FS[K]QVVAIV	1056.01	9	19.8715
Se051	KCNK1 K176N	HLA-C*03:04	MT	WGFS[N]QVVAI	313.78	WT	WGFS[K]QVVAI	1149.5	10	19.8715
Se051	CDCA7 S34F	HLA-C*03:04	MT	ISMETSSS[F]	10.38	WT	ISMETSSS[S]	3858.62	9	14.93442
Se051	CDCA7 S34F	HLA-C*03:04	MT	SS[F]DDSCDSF	269.58	WT	SS[S]DDSCDSF	1139.76	10	14.93442
Se051	CDCA7 S34F	HLA-C*03:04	MT	LISMETSSS[F]	279.29	WT	LISMETSSS[S]	22793.49	10	14.93442
Se051	PODXL2 P304L	HLA-B*40:02	MT	GQHEEV[L]AL	228.52	WT	GQHEEV[P]AL	245.74	9	4.83399
Se051	PODXL2 P304L	HLA-B*40:02	MT	HEEV[L]ALPSF	244.48	WT	HEEV[P]ALPSF	509.11	10	4.83399
Se051	PODXL2 P304L	HLA-B*40:02	MT	EEV[L]ALPSF	419.04	WT	EEV[P]ALPSF	529.54	9	4.83399
Se051	ATP13A3 Y618C	HLA-B*40:02	MT	FELPAT[C]EI	48.31	WT	FELPAT[Y]EI	22.41	9	16.16985

Se051	ATP13A3 Y618C	HLA-B*40:02	MT	[C]EIGIVRQF	220.47	WT	[Y]EIGIVRQF	52.6	9	16.16985
Se051	ICE1 N1870Y	HLA-A*26:01	MT	VTAEGIHK[Y]	160.43	WT	VTAEGIHK[N]	31451.59	9	7.12915
Se051	PCDH12 Q964R	HLA-B*07:02	MT	SPPVQQIS[R]L	131.88	WT	SPPVQQIS[Q]L	103.64	10	3.04494
Se051	PCDH12 Q964R	HLA-B*40:02	MT	QQIS[R]LLSL	278.8	WT	QQIS[Q]LLSL	292.48	9	3.04494
Se051	PCDH12 Q964R	HLA-B*40:02	MT	QQIS[R]LLSL	361.42	WT	QQIS[Q]LLSL	376.11	10	3.04494
Se051	SAP30L N79S	HLA-A*24:02	MT	LYICDFHK[S]F	22.63	WT	LYICDFHK[N]F	23.21	10	6.66382
Se051	TP53I11 A137V	HLA-B*40:02	MT	TE[V]CYFGVQF	105.13	WT	TE[A]CYFGVQF	111.39	10	58.68151
Se051	WNK1 K940N	HLA-A*26:01	MT	EIIIE[N]ADEM	56.65	WT	EIIIE[K]ADEM	61.53	9	24.59376
Se051	WNK1 K940N	HLA-B*40:02	MT	REIIE[N]ADEM	72.94	WT	REIIE[K]ADEM	97.37	10	24.59376
Se051	NR4A1 A504S	HLA-B*07:02	MT	VPAF[S]CLSAL	8.13	WT	VPAF[A]CLSAL	8.15	10	57.70604
Se051	NR4A1 A504S	HLA-C*03:04	MT	F[S]CLSALVL	63.63	WT	F[A]CLSALVL	9.73	9	57.70604
Se051	NR4A1 A504S	HLA-B*07:02	MT	VPAF[S]CLSA	183.07	WT	VPAF[A]CLSA	160.06	9	57.70604
Se051	NR4A1 A504S	HLA-C*03:04	MT	LVDVPAF[S]CL	331.4	WT	LVDVPAF[A]CL	307.24	10	57.70604
Se051	NR4A1 A504S	HLA-C*03:04	MT	VPAF[S]CLSAL	382.04	WT	VPAF[A]CLSAL	349.76	10	57.70604
Se051	NR4A1 A504S	HLA-C*03:04	MT	PAF[S]CLSAL	383.33	WT	PAF[A]CLSAL	309.65	9	57.70604
Se051	CCDC92 S8N	HLA-A*26:01	MT	MTSPHFS[N]Y	9.85	WT	MTSPHFS[S]Y	6.97	9	9.18265
Se051	CCDC92 S8N	HLA-C*03:04	MT	FS[N]YDEGPL	28.58	WT	FS[S]YDEGPL	34.68	9	9.18265
Se051	CCDC92 S8N	HLA-C*03:04	MT	MTSPHFS[N]Y	302	WT	MTSPHFS[S]Y	72.54	9	9.18265
Se051	EP400 L2658V	HLA-C*03:04	MT	TATPD[V]VSM	37.68	WT	TATPD[L]VSM	65.9	9	2.59841
Se051	EP400 L2658V	HLA-B*07:02	MT	SPATATPD[V]V	60.29	WT	SPATATPD[L]V	217.66	10	2.59841
Se051	EP400 L2658V	HLA-B*07:02	MT	SPATATPD[V]V	63.04	WT	SPATATPD[L]V	15.58	9	2.59841
Se051	EP400 L2658V	HLA-C*03:04	MT	ATATPD[V]VSM	164.78	WT	ATATPD[L]VSM	234.64	10	2.59841
Se051	TFDP1 Q222E	HLA-B*40:02	MT	KQS[E]LQELIL	386.57	WT	KQS[Q]LQELIL	417.82	10	47.94848
Se051	TFDP1 Q222E	HLA-B*07:02	MT	RIKQKQS[E]L	472.17	WT	RIKQKQS[Q]L	679.41	9	47.94848
Se051	TP53 R116Q	HLA-C*07:02	MT	[Q]RPILTIITL	325.61	WT	[R]RPILTIITL	156.92	10	31.19247
Se051	COASY L312M	HLA-A*03:04	MT	LA[M]YQIQLL	23.53	WT	LA[L]YQIQLL	168.77	9	22.144
Se051	COASY L312M	HLA-B*40:02	MT	EELA[M]YQIQL	71.41	WT	EELA[L]YQIQL	63.83	10	22.144
Se051	COASY L312M	HLA-B*40:02	MT	LENDLEELA[M]	159.61	WT	LENDLEELA[L]	74.33	10	22.144
Se051	COASY L312M	HLA-B*40:02	MT	LEELA[M]YQI	187.49	WT	LEELA[L]YQI	147.07	9	22.144
Se051	COASY L312M	HLA-A*24:02	MT	[M]YQIQLLKDL	223.72	WT	[L]YQIQLLKDL	590.09	10	22.144
Se051	EPS15L1 T536M	HLA-A*26:01	MT	ETIIKSLKS[M]	29.11	WT	ETIIKSLKS[T]	3749.81	10	3.57662
Se051	EPS15L1 T536M	HLA-A*26:01	MT	TIKSLKS[M]	330.21	WT	TIKSLKS[T]	17102.98	9	3.57662
Se051	SIGLEC10 I476V	HLA-C*03:04	MT	HGAQSGS[V]L	323.16	WT	HGAQSGS[I]L	548.27	9	1.47468
Se051	SIGLEC10 I476V	HLA-C*03:04	MT	GAQSGS[V]LQL	375.82	WT	GAQSGS[I]LQL	462.97	10	1.47468
Se051	KIF3B V314A	HLA-C*03:04	MT	M[A]ANVGPASY	67.43	WT	M[V]ANVGPASY	398.83	10	8.63399
Se051	KIF3B V314A	HLA-A*26:01	MT	M[A]ANVGPASY	285.7	WT	M[V]ANVGPASY	32.36	10	8.63399
Se051	KIF3B V314A	HLA-C*03:04	MT	[A]ANVGPASY	375.59	WT	[V]ANVGPASY	269.51	9	8.63399
Se051	PREX1 R198M	HLA-B*40:02	MT	IQ[M]JICKYPL	42.04	WT	IQ[R]JICKYPL	356.88	9	6.08669
Se051	PREX1 R198M	HLA-B*40:02	MT	IQ[M]JICKYPLL	99.46	WT	IQ[R]JICKYPLL	628.85	10	6.08669
Se051	PREX1 R198M	HLA-A*24:02	MT	GYLLSPIQ[R]I	120.26	WT	GYLLSPIQ[R]I	107.04	10	6.08669
Se051	SYNJ1 R638T	HLA-C*03:04	MT	FI[T]PQHAPF	29.98	WT	FI[R]PQHAPF	100.37	9	1.21154
Se051	SYNJ1 R638T	HLA-A*24:02	MT	VFI[T]PQHAPF	97.67	WT	VFI[R]PQHAPF	65.67	10	1.21154
Se051	MYH9 L1449P	HLA-B*40:02	MT	KQKKFDPQ[P]L	320.38	WT	KQKKFDPQ[L]L	524.43	9	108.60627
Se051	PLS3 H210D	HLA-C*03:04	MT	SAIGC[D]VVNI	240.83	WT	SAIGC[H]VVNI	131.7	10	30.35613
Se051	PLS3 H210D	HLA-C*03:04	MT	SASAIGC[D]VV	380.21	WT	SASAIGC[H]VV	236.37	10	30.35613
Se051	DKC1 R298W	HLA-C*03:04	MT	LTSHK[R]LVM	210.48	WT	LTSHK[R]LVM	297.88	9	29.67798
Se054	STIL Q638K	HLA-B*44:03	MT	SEAL[K]KHSLF	394.31	WT	SEAL[Q]KHSLF	173.89	10	5.45993
Se054	TXNIP V123L	HLA-C*14:02	MT	MFIPDGR[L]SV	70.93	WT	MFIPDGR[V]SV	98.31	10	48.97169
Se054	TXNIP V123L	HLA-C*14:03	MT	MFIPDGR[L]SV	70.93	WT	MFIPDGR[V]SV	98.31	10	48.97169
Se054	TXNIP V123L	HLA-C*14:02	MT	FIPDGR[L]SV	135.3	WT	FIPDGR[V]SV	179.25	9	48.97169
Se054	TXNIP V123L	HLA-C*14:03	MT	FIPDGR[L]SV	135.3	WT	FIPDGR[V]SV	179.25	9	48.97169
Se054	PREPL G298A	HLA-A*33:03	MT	H[A]VLYYVEHR	33.79	WT	H[G]VLYYVEHR	316.75	10	22.79053
Se054	PREPL G298A	HLA-A*33:03	MT	[A]VLYYVEHR	170.86	WT	[G]VLYYVEHR	211.17	9	22.79053
Se054	ITGB6 G80R	HLA-A*33:03	MT	TSNFRLGF[R]	13.24	WT	TSNFRLGF[G]	16131.12	9	7.91764
Se054	ITGB6 G80R	HLA-A*33:03	MT	LTSNFRLGF[R]	21.85	WT	LTSNFRLGF[G]	19042.85	10	7.91764
Se054	ITGB6 G80R	HLA-C*14:02	MT	NFRLGF[R]SF	295.53	WT	NFRLGF[G]SF	582.55	9	7.91764
Se054	ITGB6 G80R	HLA-C*14:03	MT	NFRLGF[R]SF	295.53	WT	NFRLGF[G]SF	582.55	9	7.91764
Se054	PHC3 N813S	HLA-A*24:02	MT	RY[S]VSCSKKF	86.42	WT	RY[N]VSCSKKF	163.99	10	8.48229
Se054	PHC3 N813S	HLA-C*14:02	MT	RY[S]VSCSKKF	165.41	WT	RY[N]VSCSKKF	125.12	10	8.48229
Se054	PHC3 N813S	HLA-C*14:03	MT	RY[S]VSCSKKF	165.41	WT	RY[N]VSCSKKF	125.12	10	8.48229
Se054	CUL9 V1877L	HLA-A*33:03	MT	NLLSCLL[L]R	121.96	WT	NLLSCLL[V]R	259.82	9	3.99361
Se054	DNAH11 R852S	HLA-A*33:03	MT	CVLPP[S]REHR	77.3	WT	CVLPP[R]REHR	34.91	10	3.02078
Se054	DNAH11 R852S	HLA-A*33:03	MT	WARCVLPP[S]R	105.01	WT	WARCVLPP[R]R	136.47	10	3.02078
Se054	LRWD1 T286I	HLA-B*44:03	MT	YEFQASQLL[I]	36.05	WT	YEFQASQLL[T]	623.76	10	10.6289
Se054	FZD3 Q471E	HLA-B*44:03	MT	T[E]MSRPDLI	232.21	WT	T[Q]MSRPDLI	7433.68	9	2.26413
Se054	FZD3 Q471E	HLA-B*44:03	MT	T[E]MSRPDLIL	314.28	WT	T[Q]MSRPDLIL	8623.72	10	2.26413
Se054	CDK5RAP2 D881N	HLA-A*33:03	MT	TVATEG[N]LLR	152.02	WT	TVATEG[D]LLR	358.63	10	10.79124
Se054	VWF E581D	HLA-C*14:02	MT	RFS[D]EACAVL	112.94	WT	RFS[E]EACAVL	109.4	10	6.42505
Se054	VWF E581D	HLA-C*14:03	MT	RFS[D]EACAVL	112.94	WT	RFS[E]EACAVL	109.4	10	6.42505
Se054	SPINT1 V256L	HLA-A*33:03	MT	CLASNK[V]JGR	266.36	WT	CLASNK[V]JGR	114.27	9	256.403
Se054	SPINT1 V256L	HLA-A*33:03	MT	[L]JGRCRGSFPR	360.83	WT	[V]JGRCRGSFPR	432.26	10	256.403
Se054	ADAMTSL3 H424Y	HLA-C*14:02	MT	[Y]NPWTACSV	118.35	WT	[H]NPWTACSV	844.05	9	2.93597
Se054	ADAMTSL3 H424Y	HLA-C*14:03	MT	[Y]NPWTACSV	118.35	WT	[H]NPWTACSV	844.05	9	2.93597
Se054	ADAMTSL3 H424Y	HLA-C*14:02	MT	E[Y]NPWTACSV	355.91	WT	E[H]NPWTACSV	11220.12	10	2.93597
Se054	ADAMTSL3 H424Y	HLA-C*14:03	MT	E[Y]NPWTACSV	355.91	WT	E[H]NPWTACSV	11220.12	10	2.93597
Se054	ADAMTSL3 H424Y	HLA-C*14:02	MT	HFQPLPRWE[Y]	367.3	WT	HFQPLPRWE[H]	4289.13	10	2.93597
Se054	ADAMTSL3 H424Y	HLA-C*14:03	MT	HFQPLPRWE[Y]	367.3	WT	HFQPLPRWE[H]	4289.13	10	2.93597
Se054	CSNK2A2 N119S	HLA-B*44:03	MT	FEYIN[S]TDF	150.43	WT	FEYIN[N]TDF	292.57	9	24.45501

Se054	KDM6B L173R	HLA-B*44:03	MT	[R]EQVWNLHL	376.05	WT	[L]EQVWNLHL	485.18	10	2.48732
Se054	KDM6B L173R	HLA-B*44:03	MT	[R]EQVWNLH	459.36	WT	[L]EQVWNLH	570.69	9	2.48732
Se054	P3H4 Q46L	HLA-B*44:03	MT	LE[L]YEGESW	55.2	WT	LE[Q]YEGESW	92.48	9	5.03844
Se054	P3H4 Q46L	HLA-C*14:02	MT	AAYGHALE[L]	63.19	WT	AAYGHALE[Q]	9350.54	9	5.03844
Se054	P3H4 Q46L	HLA-C*14:03	MT	AAYGHALE[L]	63.19	WT	AAYGHALE[Q]	9350.54	9	5.03844
Se054	P3H4 Q46L	HLA-A*33:03	MT	E[L]YEGESWR	102.95	WT	E[Q]YEGESWR	163.28	9	5.03844
Se054	P3H4 Q46L	HLA-C*14:02	MT	AAYGHALE[L]Y	305.24	WT	AAYGHALE[Q]Y	588.21	10	5.03844
Se054	P3H4 Q46L	HLA-C*14:03	MT	AAYGHALE[L]Y	305.24	WT	AAYGHALE[Q]Y	588.21	10	5.03844
Se054	P3H4 Q46L	HLA-C*14:02	MT	AAAYGHALE[L]	472.15	WT	AAAYGHALE[Q]	21642.11	10	5.03844
Se054	P3H4 Q46L	HLA-C*14:03	MT	AAAYGHALE[L]	472.15	WT	AAAYGHALE[Q]	21642.11	10	5.03844
Se054	LAMA3 S1494C	HLA-C*14:02	MT	[C]FNPGSNSM	39.01	WT	[S]FNPGSNSM	15.29	9	72.32509
Se054	LAMA3 S1494C	HLA-C*14:03	MT	[C]FNPGSNSM	39.01	WT	[S]FNPGSNSM	15.29	9	72.32509
Se054	DSG2 S351R	HLA-A*33:03	MT	DF[R]VIVANK	242.18	WT	DF[S]VIVANK	203.97	9	55.98409
Se054	CPAMD8 P217H	HLA-A*33:03	MT	YILD[H]RGRSR	66.16	WT	YILD[P]RGRSR	106.46	9	27.84162
Se054	CPAMD8 P217H	HLA-C*14:02	MT	YILD[H]RGRSRM	138.05	WT	YILD[P]RGRSRM	171.51	10	27.84162
Se054	CPAMD8 P217H	HLA-C*14:03	MT	YILD[H]RGRSRM	138.05	WT	YILD[P]RGRSRM	171.51	10	27.84162
Se054	BMP7 S13T	HLA-A*24:02	MT	[T]FVALWAPLF	34.5	WT	[S]FVALWAPLF	30.38	10	2.8248
Se054	BMP7 S13T	HLA-C*14:02	MT	[T]FVALWAPL	80.1	WT	[S]FVALWAPL	49.96	9	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	[T]FVALWAPL	80.1	WT	[S]FVALWAPL	49.96	9	2.8248
Se054	BMP7 S13T	HLA-C*14:02	MT	LRAAAPH[T]F	100.47	WT	LRAAAPH[S]F	149.97	9	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	LRAAAPH[T]F	100.47	WT	LRAAAPH[S]F	149.97	9	2.8248
Se054	BMP7 S13T	HLA-C*14:02	MT	AAAPH[T]FVAL	136.75	WT	AAAPH[S]FVAL	224.09	10	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	AAAPH[T]FVAL	136.75	WT	AAAPH[S]FVAL	224.09	10	2.8248
Se054	BMP7 S13T	HLA-C*14:02	MT	AAPH[T]FVAL	203.14	WT	AAPH[S]FVAL	246.81	9	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	AAPH[T]FVAL	203.14	WT	AAPH[S]FVAL	246.81	9	2.8248
Se054	BMP7 S13T	HLA-A*24:02	MT	SLRAAAPH[T]F	217.91	WT	SLRAAAPH[S]F	240.19	10	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	SLRAAAPH[T]F	217.91	WT	SLRAAAPH[S]F	240.19	10	2.8248
Se054	BMP7 S13T	HLA-C*14:02	MT	H[T]FVALWAPL	218.06	WT	H[S]FVALWAPL	437.8	10	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	H[T]FVALWAPL	218.06	WT	H[S]FVALWAPL	437.8	10	2.8248
Se054	BMP7 S13T	HLA-C*14:02	MT	[T]FVALWAPLF	233.72	WT	[S]FVALWAPLF	138.94	10	2.8248
Se054	BMP7 S13T	HLA-C*14:03	MT	[T]FVALWAPLF	233.72	WT	[S]FVALWAPLF	138.94	10	2.8248
Se054	BMP7 S13T	HLA-A*33:03	MT	H[T]FVALWAPL	344	WT	H[S]FVALWAPL	2060.5	10	2.8248
Se054	BMP7 S13T	HLA-A*24:02	MT	[T]FVALWAPL	473.25	WT	[S]FVALWAPL	458.42	9	2.8248
Se054	TNRC6B R1319W	HLA-A*24:02	MT	T[W]GGSPYNQF	64.7	WT	T[R]GGSPYNQF	12478.51	10	2.55301
Se059	COL9A2 Q489H	HLA-A*31:01	MT	[H]GYPGPPGPR	69.38	WT	[Q]GYPGPPGPR	276.07	10	3.53544
Se059	HMCN1 S3553C	HLA-B*40:02	MT	LELTCIA[C]GI	63.93	WT	LELTCIA[S]GI	63.12	10	1.88795
Se059	HMCN1 S3553C	HLA-B*39:02	MT	LELTCIA[C]GI	399.86	WT	LELTCIA[S]GI	409.97	10	1.88795
Se059	HMCN1 S3553C	HLA-A*31:01	MT	IA[C]GIPAPK	423.23	WT	IA[S]GIPAPK	710.66	9	1.88795
Se059	KIF21B R832W	HLA-B*40:02	MT	SE[W]VAGRAGL	13.92	WT	SE[R]VAGRAGL	146.46	10	1.6182
Se059	KIF21B R832W	HLA-B*39:02	MT	SE[W]VAGRAGL	33.08	WT	SE[R]VAGRAGL	1167.27	10	1.6182
Se059	KIF21B R832W	HLA-A*31:01	MT	PMSE[W]VAGR	351.99	WT	PMSE[R]VAGR	426.86	9	1.6182
Se059	KIF21B R832W	HLA-B*40:02	MT	SE[W]VAGRAG	358.16	WT	SE[R]VAGRAG	4754.44	9	1.6182
Se059	LYPD6B N133Y	HLA-B*39:02	MT	[Y]HTNAVFVAV	33.79	WT	[N]HTNAVFVAV	136.03	9	21.1699
Se059	LYPD6B N133Y	HLA-B*39:02	MT	[Y]HTNAVFVAVM	41.77	WT	[N]HTNAVFVAVM	170.28	10	21.1699
Se059	LYPD6B N133Y	HLA-C*07:02	MT	[Y]HTNAVFVAV	138.09	WT	[N]HTNAVFVAV	2658.3	10	21.1699
Se059	LYPD6B N133Y	HLA-C*03:04	MT	[Y]HTNAVFVAVM	204.76	WT	[N]HTNAVFVAVM	6339.25	10	21.1699
Se059	LYPD6B N133Y	HLA-B*40:02	MT	VELPT[Y]HTNA	232.07	WT	VELPT[N]HTNA	468.23	10	21.1699
Se059	LYPD6B N133Y	HLA-C*07:02	MT	[Y]HTNAVFVAVM	481.56	WT	[N]HTNAVFVAVM	4189.82	10	21.1699
Se059	DHX30 K846Q	HLA-B*39:02	MT	I[K]AVDEAVIL	40.42	WT	I[J]AVDEAVIL	213.7	10	13.04975
Se059	DHX30 K846Q	HLA-B*39:02	MT	I[Q]AVDEAVI	119.7	WT	I[K]AVDEAVI	815.48	9	13.04975
Se059	DHX30 K846Q	HLA-C*03:04	MT	[Q]AVDEAVILL	127.88	WT	[K]AVDEAVILL	71.65	10	13.04975
Se059	DHX30 K846Q	HLA-C*03:04	MT	[Q]AVDEAVIL	173.9	WT	[K]AVDEAVIL	80.65	9	13.04975
Se059	CLDN16 L90F	HLA-C*03:04	MT	FAFFSAGF[F]	16.81	WT	FAFFSAGF[L]	7.27	9	2.50203
Se059	CLDN16 L90F	HLA-C*03:04	MT	FAFFSAGF[F]I	28.35	WT	FAFFSAGF[L]I	21.97	10	2.50203
Se059	CLDN16 L90F	HLA-B*39:02	MT	FAFFSAGF[F]I	278.17	WT	FAFFSAGF[L]I	160.16	10	2.50203
Se059	CLDN16 L90F	HLA-B*39:02	MT	FSAGF[F]IVA	493.77	WT	FSAGF[L]IVA	1030.26	9	2.50203
Se059	ARSI S290R	HLA-C*07:02	MT	FYNN[R]VIIF	13.34	WT	FYNN[S]VIIF	41.23	9	2.09585
Se059	ARSI S290R	HLA-C*03:04	MT	YGFYNN[R]VI	77.62	WT	YGFYNN[S]VI	35.23	9	2.09585
Se059	ARSI S290R	HLA-A*31:01	MT	KRYGFYNN[R]	117.34	WT	KRYGFYNN[S]	19052.15	9	2.09585
Se059	ARSI S290R	HLA-B*39:02	MT	YGFYNN[R]VII	141.97	WT	YGFYNN[S]VII	117.6	10	2.09585
Se059	ARSI S290R	HLA-C*03:04	MT	YGFYNN[R]VII	145.47	WT	YGFYNN[S]VII	74.63	10	2.09585
Se059	ARSI S290R	HLA-B*39:02	MT	YGFYNN[R]VI	157.15	WT	YGFYNN[S]VI	96.71	9	2.09585
Se059	ARSI S290R	HLA-C*07:02	MT	GFYNN[R]VIIF	461.6	WT	GFYNN[S]VIIF	959.45	10	2.09585
Se059	CASP8AP2 L1497V	HLA-B*40:02	MT	SEQDIHLA[V]	18.61	WT	SEQDIHLA[L]	10.85	9	1.23438
Se059	CASP8AP2 L1497V	HLA-B*39:02	MT	SEQDIHLA[V]	46.6	WT	SEQDIHLA[L]	12.86	9	1.23438
Se059	TSC22D4 L246F	HLA-B*39:02	MT	ME[F]GAPEEM	44.6	WT	ME[L]GAPEEM	104.38	9	19.14947
Se059	TSC22D4 L246F	HLA-B*40:02	MT	ME[F]GAPEEM	61.62	WT	ME[L]GAPEEM	124.61	9	19.14947
Se059	TSC22D4 L246F	HLA-B*39:02	MT	RME[F]GAPEEM	355.47	WT	RME[L]GAPEEM	297.17	10	19.14947
Se059	ING3 F22L	HLA-B*39:02	MT	R[L]JTEMREMDL	423.38	WT	R[F]JTEMREMDL	1461.34	10	2.49021
Se059	ERMP1 L817F	HLA-C*03:04	MT	WS[F]GNGTPV	13.94	WT	WS[L]GNGTPV	35.2	9	3.08419
Se059	ERMP1 L817F	HLA-B*39:02	MT	WS[F]GNGTPV	78.87	WT	WS[L]GNGTPV	224.83	9	3.08419
Se059	ERMP1 L817F	HLA-B*39:02	MT	SQWS[F]GNGT	145.14	WT	SQWS[L]GNGT	313.11	9	3.08419
Se059	ERMP1 L817F	HLA-B*39:02	MT	SQWS[F]GNGTP	418.2	WT	SQWS[L]GNGTP	620.2	10	3.08419
Se059	BNC2 C446Y	HLA-A*31:01	MT	RVFCNA[Y]GK	41.75	WT	RVFCNA[C]GK	119.77	9	1.64304
Se059	ARHGAP21 K229Q	HLA-B*39:02	MT	[S]QJQQTSTPVL	10.67	WT	[K]JQQTSTPVL	60.57	10	7.2514
Se059	ARHGAP21 K229Q	HLA-B*39:02	MT	[S]QJQQTSTPVL	20.21	WT	[K]JQQTSTPVL	17.81	9	7.2514
Se059	ARHGAP21 K229Q	HLA-B*39:02	MT	[S]QJQQTSTPV	21.44	WT	[K]JQQTSTPV	192.8	9	7.2514
Se059	ACBD5 L85V	HLA-B*39:02	MT	KQATEGPCK[V]	132.17	WT	KQATEGPCK[L]	39.95	10	4.48287

Se059	ACBD5 L85V	HLA-A*31:01	MT	ATEGPCK[V]JSR	485.96	WT	ATEGPCK[L]JSR	738.18	10	4.48287
Se059	TCF7L2 A148V	HLA-A*31:01	MT	SLQSRQ[V]LJK	260.57	WT	SLQSRQ[A]LJK	322.95	9	4.18208
Se059	TCF7L2 A148V	HLA-A*31:01	MT	QSRQ[V]LKDAR	364.21	WT	QSRQ[A]LKDAR	721.29	10	4.18208
Se059	CHST11 V107L	HLA-C*03:04	MT	LV[L]DEDHEL	356.67	WT	LV[V]DEDHEL	201.88	9	24.47088
Se059	ARHGEF7 R651W	HLA-C*03:04	MT	FAS[W]JKSTAAL	2.46	WT	FAS[R]JKSTAAL	3.32	10	1.87377
Se059	ARHGEF7 R651W	HLA-B*39:02	MT	FAS[W]KSTAAL	37.29	WT	FAS[R]KSTAAL	98.48	10	1.87377
Se059	ARHGEF7 R651W	HLA-C*03:04	MT	FAS[W]KSTAA	55.9	WT	FAS[R]KSTAA	136.71	9	1.87377
Se059	ARHGEF7 R651W	HLA-C*03:04	MT	AS[W]KSTAAL	80.21	WT	AS[R]KSTAAL	297.13	9	1.87377
Se059	ARHGEF7 R651W	HLA-B*39:02	MT	AS[W]KSTAAL	115.55	WT	AS[R]KSTAAL	1358.36	9	1.87377
Se059	ARHGEF7 R651W	HLA-C*07:02	MT	FAS[W]KSTAAL	341.41	WT	FAS[R]KSTAAL	737.04	10	1.87377
Se059	ADCY4 A676P	HLA-C*03:04	MT	LVF[P]MAITSL	25.41	WT	LVF[A]MAITSL	37.46	10	6.30885
Se059	ADCY4 A676P	HLA-C*03:04	MT	F[P]MAITSLF	45.87	WT	F[A]MAITSLF	3.38	9	6.30885
Se059	ADCY4 A676P	HLA-C*03:04	MT	F[P]MAITSLFF	70.34	WT	F[A]MAITSLFF	4.36	10	6.30885
Se059	ADCY4 A676P	HLA-B*39:02	MT	F[P]MAITSLF	108.58	WT	F[A]MAITSLF	38.62	9	6.30885
Se059	ADCY4 A676P	HLA-B*39:02	MT	F[P]MAITSLFF	167.83	WT	F[A]MAITSLFF	70.48	10	6.30885
Se059	ADCY4 A676P	HLA-C*03:04	MT	TATILLVF[P]M	168	WT	TATILLVF[A]M	348.02	10	6.30885
Se059	ADCY4 A676P	HLA-C*03:04	MT	ATILLVF[P]M	289.14	WT	ATILLVF[A]M	743.73	9	6.30885
Se059	ADCY4 A676P	HLA-B*39:02	MT	LVF[P]MAITSL	324.03	WT	LVF[A]MAITSL	238.2	10	6.30885
Se059	ADCY4 A676P	HLA-B*39:02	MT	ATILLVF[P]M	418.22	WT	ATILLVF[A]M	753.48	9	6.30885
Se059	ADCY4 A676P	HLA-B*39:02	MT	ILLVF[P]MAI	460.75	WT	ILLVF[A]MAI	424.52	9	6.30885
Se059	TRIP11 E67D	HLA-A*31:01	MT	HAILRS[D]NER	230.82	WT	HAILRS[E]NER	183.91	10	2.20242
Se059	TRIP11 E67D	HLA-A*31:01	MT	AILRS[D]NER	266.03	WT	AILRS[E]NER	313.39	9	2.20242
Se059	CIITA L861M	HLA-C*03:04	MT	FS[M]DLRSTGI	27.39	WT	FS[L]DLRSTGI	212.44	10	10.86415
Se059	CIITA L861M	HLA-B*40:02	MT	LEAAGQDFS[M]	112.61	WT	LEAAGQDFS[L]	47.29	10	10.86415
Se059	CIITA L861M	HLA-B*39:02	MT	LEAAGQDFS[M]	173.2	WT	LEAAGQDFS[L]	39.09	10	10.86415
Se059	CIITA L861M	HLA-B*39:02	MT	FS[M]DLRSTGI	265.16	WT	FS[L]DLRSTGI	977.48	10	10.86415
Se059	MNT G534S	HLA-B*39:02	MT	QQVNGTA[S]L	11.51	WT	QQVNGTA[G]L	25.21	9	3.398
Se059	MNT G534S	HLA-B*39:02	MT	HQQVNGTA[S]L	14.57	WT	HQQVNGTA[G]L	28.41	10	3.398
Se059	MNT G534S	HLA-C*03:04	MT	TA[S]LGPPATV	101.18	WT	TA[G]LGPPATV	862.93	10	3.398
Se059	MNT G534S	HLA-C*03:04	MT	A[S]LGPPATVM	141	WT	A[G]LGPPATVM	928.11	10	3.398
Se059	MNT G534S	HLA-C*03:04	MT	QQVNGTA[S]L	313.08	WT	QQVNGTA[G]L	2537.87	9	3.398
Se059	MNT G534S	HLA-C*03:04	MT	[S]LGPPATVM	487.53	WT	[G]LGPPATVM	2150.84	9	3.398
Se059	TP53 M114V	HLA-A*31:01	MT	SSCMGG[V]NR	109.28	WT	SSCMGG[M]NR	110.57	9	18.32025
Se059	TP53 M114V	HLA-A*31:01	MT	SSCMGG[V]NRR	167.87	WT	SSCMGG[M]NRR	172.56	10	18.32025
Se059	SLC26A11 I271V	HLA-B*40:02	MT	FEVTGYQP[F]V	71.79	WT	FEVTGYQP[F]I	41.12	10	6.52973
Se059	SLC26A11 I271V	HLA-B*39:02	MT	FEVTGYQP[F]V	267.03	WT	FEVTGYQP[F]I	183.31	10	6.52973
Se059	KIAA1468 R867G	HLA-B*39:02	MT	WRLC[G]TFGKI	247.3	WT	WRLC[R]TFGKI	428.48	10	3.23033
Se059	CDKN2D A37T	HLA-B*40:02	MT	RELVHPD[T]L	19.64	WT	RELVHPD[A]L	18.42	9	4.69931
Se059	CDKN2D A37T	HLA-B*39:02	MT	RELVHPD[T]L	45.56	WT	RELVHPD[A]L	41.03	9	4.69931
Se059	CDKN2D A37T	HLA-B*39:02	MT	HRELVHPD[T]L	142.84	WT	HRELVHPD[A]L	152.45	10	4.69931
Se059	CDKN2D A37T	HLA-A*31:01	MT	LVHPD[T]LNR	333.23	WT	LVHPD[A]LNR	470.17	9	4.69931
Se059	CILP2 R112H	HLA-B*40:02	MT	GE[H]VHLNPT	74.24	WT	GE[R]VHLNPT	132.95	9	4.31929
Se059	CILP2 R112H	HLA-C*03:04	MT	SAVGE[H]VHL	138.9	WT	SAVGE[R]VHL	299.54	9	4.31929
Se059	SLC1A5 A172G	HLA-B*40:02	MT	[G]JENAPSKEVL	134.1	WT	[A]JENAPSKEVL	90.7	10	28.18228
Se059	SLC1A5 A172G	HLA-B*39:02	MT	[G]JENAPSKEVL	245.03	WT	[A]JENAPSKEVL	161.41	10	28.18228
Se059	SLC1A5 A172G	HLA-B*40:02	MT	[G]JENAPSKEV	283.28	WT	[A]JENAPSKEV	182.08	9	28.18228
Se059	SLC2A11 R2T	HLA-A*31:01	MT	[T]ALRRLIQGR	61.64	WT	[R]ALRRLIQGR	10.82	10	4.50573
Se060	MOV10 Y180C	HLA-C*12:02	MT	FAF[C]NEDQEL	36.23	WT	FAF[Y]NEDQEL	29.4	10	67.99836
Se060	FAM189B V81I	HLA-C*12:02	MT	FS[I]JGLTICA	372.55	WT	FS[V]JGLTICA	649.44	10	9.32094
Se060	FAM189B V81I	HLA-A*24:02	MT	GFSNLLFS[I]	456.87	WT	GFSNLLFS[V]	3946.92	9	9.32094
Se060	OBSCN P2494A	HLA-C*12:02	MT	R[A]APKAVQWY	332.26	WT	R[P]APKAVQWY	8078.73	10	1.44977
Se060	YIPF4 L178V	HLA-B*07:02	MT	LP[V]JVIAPVL	198.07	WT	LP[L]JVIAPVL	202.22	10	8.95584
Se060	YIPF4 L178V	HLA-B*07:02	MT	LP[V]JVIAPV	449.26	WT	LP[L]JVIAPV	457.32	9	8.95584
Se060	BIRC6 E2160K	HLA-B*07:02	MT	LPMHRR[T]K]GV	25.43	WT	LPMHRR[T]E]GV	25.01	10	1.46777
Se060	CCDC88A R882H	HLA-A*24:02	MT	IYKESC[V]HJL	110.71	WT	IYKESC[R]JL	106.11	9	1.41071
Se060	DYSF R1572L	HLA-A*24:02	MT	IYIV[L]AFGL	137.68	WT	IYIV[R]AFGL	91.86	9	2.15486
Se060	DYSF R1572L	HLA-C*07:02	MT	VRIYIV[L]JAF	349.01	WT	VRIYIV[R]JAF	110.87	9	2.15486
Se060	ATG7 K350N	HLA-C*12:02	MT	FVDNA[N]ISY	229.57	WT	FVDNA[K]ISY	455.92	9	1.9239
Se060	GOLGB1 A1991T	HLA-C*12:02	MT	ITKENLAQ[T]V	287.82	WT	ITKENLAQ[A]V	288.15	10	4.07175
Se060	SH3RF1 G393R	HLA-B*07:02	MT	VPYQAAL[R]JTL	15.62	WT	VPYQAAL[G]JTL	17.61	10	1.31781
Se060	SH3RF1 G393R	HLA-A*24:02	MT	PYQAAL[R]JTL	219.98	WT	PYQAAL[G]JTL	274.47	9	1.31781
Se060	SH3RF1 G393R	HLA-B*07:02	MT	AL[R]JTLNPP	284.19	WT	AL[G]JTLNPP	10002.77	9	1.31781
Se060	CFTR R1066C	HLA-C*12:02	MT	[R]AFGRQPYF	366.83	WT	[R]AFGRQPYF	246.74	9	2.20801
Se060	MAF1 R120Q	HLA-C*12:02	MT	FS[Q]EPSLSWV	95.3	WT	FS[R]EPSLSWV	44.81	10	74.51427
Se060	MAF1 R120Q	HLA-C*12:02	MT	FS[Q]EPSLSW	417.17	WT	FS[R]EPSLSW	216.46	9	74.51427
Se060	JAK2 Y934H	HLA-B*07:02	MT	LP[H]GSLRDYL	30.26	WT	LP[Y]GSLRDYL	43.53	10	3.00197
Se060	TMEM216 L65R	HLA-A*24:02	MT	[R]YLGIEVIRL	80.58	WT	[L]YLGIEVIRL	435.66	10	19.28204
Se060	MYRF D427N	HLA-B*07:02	MT	KPL[D]CFYLYKL	158.31	WT	KPL[L]CFYLYKL	242.75	10	1.84675
Se060	ARHGEF17 P1035L	HLA-B*07:02	MT	MPLCLPAA[L]	21.2	WT	MPLCLPAA[P]	5121.75	9	8.57067
Se060	ARHGEF17 P1035L	HLA-B*07:02	MT	LPLAA[L]PSA	368.65	WT	LPLAA[P]PSA	370.9	9	8.57067
Se060	RALGAP1 G934A	HLA-C*12:02	MT	FGFGTDT[A]V	105.23	WT	FGFGTDT[G]V	321.7	9	1.3905
Se060	SEMA6D V21F	HLA-C*12:02	MT	[F]SFPEDDEPL	68.48	WT	[V]SFPEDDEPL	1607.36	10	1.14016
Se060	FAM195A N138Y	HLA-B*07:02	MT	NPRLQ[N]FVPI	20.15	WT	NPRLQ[N]FVPI	14.88	10	55.21244
Se060	FAM195A N138Y	HLA-A*24:02	MT	[Y]FVPIDLDEW	176.51	WT	[N]FVPIDLDEW	1514.12	10	55.21244
Se060	FAM195A N138Y	HLA-B*07:02	MT	TPNPRLQ[Y]F	367.37	WT	TPNPRLQ[N]F	359.17	9	55.21244
Se060	AMHD2 G9R	HLA-B*07:02	MT	AA[R]ARVLQF	293.22	WT	AA[G]ARVLQF	8167.25	9	3.0718
Se060	ITGAX S357R	HLA-C*12:02	MT	MAQEGF[R]AV	78.03	WT	MAQEGF[S]AV	50.53	9	2.65736
Se060	ITGAX S357R	HLA-C*12:02	MT	MAQEGF[R]AVF	96.22	WT	MAQEGF[S]AVF	67.93	10	2.65736



Se060	ITGAX S357R	HLA-C*12:02	MT	[R]AVFTPDGPV	347.13	WT	[S]AVFTPDGPV	212.36	10	2.65736
Se060	DNMT1 P7T	HLA-B*07:02	MT	MPARTA[T]ARV	26.35	WT	MPARTA[P]ARV	44.2	10	5.11625
Se060	DNMT1 P7T	HLA-B*07:02	MT	[T]ARVPTLAV	141.28	WT	[P]ARVPTLAV	3888.84	9	5.11625
Se060	DNMT1 P7T	HLA-C*12:02	MT	[T]ARVPTLAV	200.13	WT	[P]ARVPTLAV	4151.79	9	5.11625
Se060	DNMT1 P7T	HLA-C*12:02	MT	A[T]ARVPTLAV	233.32	WT	A[P]ARVPTLAV	3635.73	10	5.11625
Se060	DNMT1 P7T	HLA-B*07:02	MT	RTA[T]ARVPTL	237.57	WT	RTA[P]ARVPTL	188.43	10	5.11625
Se060	DNMT1 P7T	HLA-C*12:02	MT	RTA[T]ARVPTL	342.33	WT	RTA[P]ARVPTL	135.95	10	5.11625
Se060	DNMT1 P7T	HLA-C*12:02	MT	TA[T]ARVPTL	441.51	WT	TA[P]ARVPTL	448.47	9	5.11625
Se060	LYL1 G221V	HLA-C*12:02	MT	LAAGTPP[V]	52.34	WT	LAAGTPP[G]	9035.84	9	6.54587
Se060	LYL1 G221V	HLA-B*07:02	MT	[V]PRKRPVHRV	66.97	WT	[G]PRKRPVHRV	86.91	10	6.54587
Se060	LYL1 G221V	HLA-B*07:02	MT	TPP[V]PRKRPV	299.41	WT	TPP[G]PRKRPV	279.67	10	6.54587
Se060	DTD1 D138Y	HLA-A*24:02	MT	N[Y]GPVTIEL	142.48	WT	N[D]GPVTIEL	27311.73	9	12.62039
Se060	DTD1 D138Y	HLA-C*07:02	MT	N[Y]GPVTIEL	176.82	WT	N[D]GPVTIEL	20531.4	9	12.62039
Se060	SIK1 D506E	HLA-C*12:02	MT	TSS[E]SCLTF	406.73	WT	TSS[D]SCLTF	272.57	9	2.34966
Se067	CLDN19 V167L	HLA-A*02:06	MT	F[L]GWASAGL	20.35	WT	F[V]GWASAGL	42.51	9	2.19453
Se067	CLDN19 V167L	HLA-A*02:06	MT	ALF[L]GWASA	45.82	WT	ALF[V]GWASA	46.58	9	2.19453
Se067	CLDN19 V167L	HLA-A*24:02	MT	RYEFGPALF[L]	76.75	WT	RYEFGPALF[V]	352.15	10	2.19453
Se067	CLDN19 V167L	HLA-B*40:06	MT	YEFGPALF[L]	107.86	WT	YEFGPALF[V]	103.5	9	2.19453
Se067	CLDN19 V167L	HLA-A*02:06	MT	F[L]GWASAGLA	147.11	WT	F[V]GWASAGLA	171.2	10	2.19453
Se067	CLDN19 V167L	HLA-A*02:06	MT	YEFGPALF[L]	201.72	WT	YEFGPALF[V]	196.49	9	2.19453
Se067	CYP4B1 L8V	HLA-A*02:06	MT	FLS[V]SFSSL	35.34	WT	FLS[L]SFSSL	54.45	9	1.13093
Se067	CYP4B1 L8V	HLA-C*12:02	MT	FLS[V]SFSSL	131.48	WT	FLS[L]SFSSL	229.6	9	1.13093
Se067	CYP4B1 L8V	HLA-A*24:02	MT	SFLS[V]SFSSL	161.34	WT	SFLS[L]SFSSL	249.81	10	1.13093
Se067	CYP4B1 L8V	HLA-A*24:02	MT	MVPSFSL[V]SF	337.8	WT	MVPSFSL[L]SF	175.57	10	1.13093
Se067	CYP4B1 L8V	HLA-C*12:02	MT	LS[V]SFSSLGL	474.64	WT	LS[L]SFSSLGL	1292.28	10	1.13093
Se067	CYP4B1 L8V	HLA-C*12:02	MT	MVPSFSL[V]SF	487.64	WT	MVPSFSL[L]SF	431.44	10	1.13093
Se067	CMTM6 G114E	HLA-A*02:06	MT	YITLGT[E]CV	188.05	WT	YITLGT[G]CV	564.86	9	139.59182
Se067	CMTM6 G114E	HLA-A*02:06	MT	ITLGT[E]CVFL	339.62	WT	ITLGT[G]CVFL	185.69	10	139.59182
Se067	CMTM6 G114E	HLA-A*02:06	MT	TLGT[E]CVFLL	470.3	WT	TLGT[G]CVFLL	332.77	10	139.59182
Se067	SCN5A F1604L	HLA-A*24:02	MT	KYFFSPTL[L]	28.98	WT	KYFFSPTL[F]	6.89	9	1.17033
Se067	SCN5A F1604L	HLA-A*02:06	MT	FFSPTL[L]RV	264.03	WT	FFSPTL[F]RV	50.95	9	1.17033
Se067	SCN5A F1604L	HLA-A*02:06	MT	YFFSPTL[L]RV	265.61	WT	YFFSPTL[F]RV	73.49	10	1.17033
Se067	SCN5A F1604L	HLA-C*12:02	MT	YFFSPTL[L]RV	331.07	WT	YFFSPTL[F]RV	436.76	10	1.17033
Se067	SCN5A F1604L	HLA-C*12:02	MT	FFSPTL[L]RV	494.75	WT	FFSPTL[F]RV	667.06	9	1.17033
Se067	ITPR3 V1058M	HLA-A*02:06	MT	RMFLR[M]LIHL	91.92	WT	RMFLR[V]LIHL	83.23	10	13.05938
Se067	ITPR3 V1058M	HLA-C*12:02	MT	FLR[M]LIHLTM	431.14	WT	FLR[V]LIHLTM	668.55	10	13.05938
Se067	AIG1 P139T	HLA-A*02:06	MT	TVL[T]FILIEM	282.58	WT	TVL[P]FILIEM	147.3	10	3.35581
Se067	AIG1 P139T	HLA-A*02:06	MT	TTVL[T]FILI	289.81	WT	TTVL[P]FILI	239.81	9	3.35581
Se067	AIG1 P139T	HLA-A*24:02	MT	HGMHTTVL[T]F	424.49	WT	HGMHTTVL[P]F	562.74	10	3.35581
Se067	AIG1 P139T	HLA-A*02:06	MT	GMHTTVL[T]FI	453.3	WT	GMHTTVL[P]FI	206.88	10	3.35581
Se067	CCZ1B C184Y	HLA-A*02:06	MT	LQS[Y]DLLDI	437.99	WT	LQS[C]DLLDI	399.82	9	40.63081
Se067	KMT2E P1832A	HLA-C*12:02	MT	S[A]VPGQIPI	227.5	WT	S[P]VPGQIPI	4061.28	9	18.74468
Se067	KMT2E P1832A	HLA-A*02:06	MT	QQAS[A]VPGQI	432.75	WT	QQAS[P]VPGQI	818.68	10	18.74468
Se067	ADAMTSL2 V478M	HLA-A*02:06	MT	FTLNET[M]NSI	17.42	WT	FTLNET[V]NSI	23.2	10	2.57697
Se067	ADAMTSL2 V478M	HLA-C*12:02	MT	FTLNET[M]NSI	88.44	WT	FTLNET[V]NSI	96.63	10	2.57697
Se067	ADAMTSL2 V478M	HLA-A*02:06	MT	T[V]NSIFAQGA	233.63	WT	T[V]NSIFAQGA	500.3	10	2.57697
Se067	ADAMTSL2 V478M	HLA-A*02:06	MT	TLNET[M]NSI	233.89	WT	TLNET[V]NSI	363.52	9	2.57697
Se067	PPP3CB L386V	HLA-A*02:06	MT	VLSICSDDE[V]	363.55	WT	VLSICSDDE[L]	1914.16	10	27.64204
Se067	SIDT2 T311S	HLA-A*02:06	MT	FLSFYLL[S]V	4.68	WT	FLSFYLL[T]V	6.28	9	7.05406
Se067	SIDT2 T311S	HLA-A*02:06	MT	FLSFYLL[S]VL	34.54	WT	FLSFYLL[T]VL	31.74	10	7.05406
Se067	SIDT2 T311S	HLA-A*02:06	MT	YLL[S]VLLAC	211.69	WT	YLL[T]VLLAC	535.9	9	7.05406
Se067	SIDT2 T311S	HLA-C*12:02	MT	FLSFYLL[S]VL	289.84	WT	FLSFYLL[T]VL	301.99	10	7.05406
Se067	SIDT2 T311S	HLA-C*12:02	MT	LSFYLL[S]VL	333.39	WT	LSFYLL[T]VL	425.65	9	7.05406
Se067	SIDT2 T311S	HLA-A*02:06	MT	IFLSFYLL[S]V	376.16	WT	IFLSFYLL[T]V	424	10	7.05406
Se067	SIDT2 T311S	HLA-C*12:02	MT	FLSFYLL[S]V	380.18	WT	FLSFYLL[T]V	336.21	9	7.05406
Se067	SIDT2 T311S	HLA-C*12:02	MT	LSFYLL[S]VLL	499.84	WT	LSFYLL[T]VLL	476.46	10	7.05406
Se067	BHLHE41 K76E	HLA-A*02:06	MT	LLPEHL[E]LT	255.34	WT	LLPEHL[K]LT	1569.6	9	13.63373
Se067	OPRL1 N21T	HLA-A*24:02	MT	IYGSHLQG[T]L	240.58	WT	IYGSHLQG[N]L	399.78	10	3.70588
Se067	RRP1B D115N	HLA-A*02:06	MT	RL[N]KYYMLI	105.78	WT	RL[D]KYYMLI	111.45	9	12.79159
Se067	RRP1B D115N	HLA-A*24:02	MT	RL[N]KYYMLI	379.64	WT	RL[D]KYYMLI	1432.52	9	12.79159
Se068	CGN R845S	HLA-A*31:01	MT	K[S]LLDRTVDR	67.34	WT	K[R]LLDRTVDR	4674.5	10	3.82611
Se068	CGN R845S	HLA-A*31:01	MT	[S]LLDRTVDR	128.41	WT	[R]LLDRTVDR	28.5	9	3.82611
Se068	PKP4 G446D	HLA-C*03:03	MT	TALYRT[D]SV	257.79	WT	TALYRT[G]SV	379.23	9	11.72097
Se068	TKT I274M	HLA-C*03:03	MT	MAEQIIQE[M]	71.19	WT	MAEQIIQE[I]	443.42	9	65.03983
Se068	TKT I274M	HLA-B*15:01	MT	NMAEQIIQE[M]	308.75	WT	NMAEQIIQE[I]	3668.94	10	65.03983
Se068	TKT I274M	HLA-A*31:01	MT	[M]YSQIQSKK	440.08	WT	[I]YSQIQSKK	1159.58	9	65.03983
Se068	TKT I274M	HLA-C*14:02	MT	NMAEQIIQE[M]	464.49	WT	NMAEQIIQE[I]	2488.07	10	65.03983
Se068	CPE S424L	HLA-C*03:03	MT	TA[L]APGYLAI	76.3	WT	TA[S]APGYLAI	77.07	10	47.55003
Se068	CPE S424L	HLA-C*03:03	MT	LTA[L]APGYL	322.74	WT	LTA[S]APGYL	168.48	9	47.55003
Se068	CPE S424L	HLA-B*15:01	MT	KLTA[L]APGY	381.77	WT	KLTA[S]APGY	330.76	9	47.55003
Se068	C2 G169C	HLA-A*31:01	MT	KSNMG[C]SPK	53.24	WT	KSNMG[G]SPK	134.19	9	37.10059
Se068	AIMP2 D74H	HLA-C*03:03	MT	AAV[H]GLSKM	70.04	WT	AAV[D]GLSKM	39.12	9	11.8677
Se068	AIMP2 D74H	HLA-C*03:03	MT	KAAV[H]GLSKM	78.2	WT	KAAV[D]GLSKM	137.47	10	11.8677
Se068	CYC1 K315N	HLA-A*31:01	MT	VL[N]SRKLAYR	11.84	WT	VL[K]SRKLAYR	13.61	10	671.75962
Se068	CYC1 K315N	HLA-A*31:01	MT	L[N]SRKLAYR	35	WT	L[K]SRKLAYR	682.54	9	671.75962
Se068	CYC1 K315N	HLA-B*15:01	MT	VL[N]SRKLAY	130.33	WT	VL[K]SRKLAY	154.93	9	671.75962
Se068	CYC1 K315N	HLA-A*31:01	MT	RHKWSVL[N]SR	159.29	WT	RHKWSVL[K]SR	370.7	10	671.75962
Se068	CYC1 K315N	HLA-C*03:03	MT	WSVL[N]SRKLL	172.53	WT	WSVL[K]SRKLL	925.07	9	671.75962

Se068	CYC1 K315N	HLA-A*31:01	MT	KWSVL[N]SRK	263.06	WT	KWSVL[K]SRK	286.99	9	671.75962
Se068	SEC24C P621A	HLA-C*03:03	MT	FV[A]VIQAGM	49.88	WT	FV[P]VIQAGM	218.87	9	11.53699
Se068	SEC24C P621A	HLA-C*03:03	MT	[A]VIQAGMEAL	65.4	WT	[P]VIQAGMEAL	2630.52	10	11.53699
Se068	DLG4 R148Q	HLA-B*15:01	MT	R[Q]KPPAEKVM	290.73	WT	R[R]KPPAEKVM	17262.83	10	1.52748
Se068	DLG4 R148Q	HLA-A*31:01	MT	VMR[Q]KPPAEK	354.36	WT	VMR[R]KPPAEK	170.03	10	1.52748
Se068	DLG4 R148Q	HLA-A*31:01	MT	IVRLYVMR[Q]K	389.21	WT	IVRLYVMR[R]K	477.11	10	1.52748
Se068	NLE1 R119H	HLA-B*15:01	MT	SL[H]GHVAAVY	17.63	WT	SL[R]GHVAAVY	15.2	10	3.41471
Se068	NLE1 R119H	HLA-A*24:20	MT	KYLASL[H]GHV	212.77	WT	KYLASL[R]GHV	785.86	10	3.41471
Se068	NLE1 R119H	HLA-C*03:03	MT	ASL[H]GHVAAV	383.61	WT	ASL[R]GHVAAV	695.6	10	3.41471
Se068	NLE1 R119H	HLA-C*14:02	MT	SL[H]GHVAAV	389.4	WT	SL[R]GHVAAV	470.66	9	3.41471
Se068	ZNF763 Y158C	HLA-A*31:01	MT	KAFR[C]HPSFR	4.48	WT	KAFR[Y]HPSFR	4.21	10	2.30161
Se068	ZNF763 Y158C	HLA-A*31:01	MT	AFR[C]HPSFR	10.7	WT	AFR[Y]HPSFR	8.57	9	2.30161
Se068	ZNF763 Y158C	HLA-C*03:03	MT	KAFR[C]HPSF	109.86	WT	KAFR[Y]HPSF	165.21	9	2.30161
Se068	ZNF763 Y158C	HLA-C*14:02	MT	KAFR[C]HPSF	143	WT	KAFR[Y]HPSF	167.64	9	2.30161
Se068	ZNF763 Y158C	HLA-B*15:01	MT	KAFR[C]HPSF	168.99	WT	KAFR[Y]HPSF	177.45	9	2.30161
Se068	SPINT2 D29H	HLA-A*31:01	MT	GVLAA[H]RER	103.49	WT	GVLAA[D]RER	769.45	9	266.82727
Se068	SPINT2 D29H	HLA-A*31:01	MT	LLSGVLA[A]HJR	139.35	WT	LLSGVLA[A]DJR	1018.42	10	266.82727
Se068	SPINT2 D29H	HLA-A*31:01	MT	LSGVLA[A]HJR	227.56	WT	LSGVLA[A]DJR	2464.8	9	266.82727
Se068	ZNF182 P4H	HLA-B*15:01	MT	MAK[H]QGLVTF	52.45	WT	MAK[P]QGLVTF	44.33	10	2.16224
Se068	ZNF182 P4H	HLA-C*03:03	MT	MAK[H]QGLVTF	138.07	WT	MAK[P]QGLVTF	82.72	10	2.16224
Se068	ZNF182 P4H	HLA-C*14:02	MT	MAK[H]QGLVTF	265.64	WT	MAK[P]QGLVTF	168.21	10	2.16224
Se071	SPEG R1350C	HLA-A*31:01	MT	L[C]KGVQHIFR	219.63	WT	L[R]KGVQHIFR	1026.19	10	1.09197
Se071	TNIK R1262T	HLA-C*08:01	MT	FMTLN[T]NSM	405.12	WT	FMTLN[R]NSM	1345.85	9	2.85587
Se071	PIK3CA H1047R	HLA-A*31:01	MT	FMKQMND[A]R	360.9	WT	FMKQMND[A]H	18331.65	9	4.46232
Se071	KCNK5 S295Y	HLA-A*31:01	MT	NIFSFL[Y]KK	140.91	WT	NIFSFL[S]KK	573.06	9	7.28467
Se071	KCNK5 S295Y	HLA-A*31:01	MT	VNIFSFL[Y]K	407.14	WT	VNIFSFL[S]K	1593.86	9	7.28467
Se071	BTRC T391I	HLA-A*31:01	MT	[I]LRRVLVGH	34.35	WT	[T]LRRVLVGH	31.14	10	2.25368
Se071	BTRC T391I	HLA-A*31:01	MT	MASPTD[I]JLR	80.87	WT	MASPTD[I]TLR	62.99	10	2.25368
Se071	BTRC T391I	HLA-C*08:01	MT	MASPTD[I]JL	388.9	WT	MASPTD[I]TL	212.91	9	2.25368
Se071	SYT13 R303C	HLA-B*51:01	MT	LPAAN[C]JLLV	355.97	WT	LPAAN[R]JLLV	691.19	9	1.30138
Se071	SYT13 R303C	HLA-B*51:01	MT	LPAAN[C]JLLV	464.43	WT	LPAAN[R]JLLV	649.32	10	1.30138
Se071	GPRC5B C267S	HLA-C*08:01	MT	FAL[S]FSCLL	186.56	WT	FAL[C]FSCLL	329.41	9	6.56796
Se071	PPP2R1A P179R	HLA-A*31:01	MT	[R]MVRRAAASK	51.59	WT	[P]MVRRAAASK	4609.91	10	65.27311
Se071	PPP2R1A P179R	HLA-A*31:01	MT	RNLCSDDT[R]	453.91	WT	RNLCSDDT[P]	40536.17	9	65.27311
Se071	SLC4A11 G766R	HLA-A*31:01	MT	TSLGASVLV[R]	287.17	WT	TSLGASVLV[G]	33948.48	10	6.96152
Se071	SLC4A11 G766R	HLA-A*31:01	MT	SLGASVLV[R]	409.28	WT	SLGASVLV[G]	33996.02	9	6.96152
Se071	GAL3ST1 D128N	HLA-A*31:01	MT	FARSLVQ[N]YR	40.16	WT	FARSLVQ[D]YR	107.82	10	1.22958
Se071	PHKA2 T842R	HLA-A*31:01	MT	KVEVLA[E]AC[R]	284.08	WT	KVEVLA[E]AC[T]	33682.49	10	4.22676
Se101	MRPL37 Y31C	HLA-A*31:01	MT	RGA[C]EJWGV	283.69	WT	RGA[Y]EJWGV	219.11	9	91.30662
Se101	PHLDB2 S196L	HLA-C*14:02	MT	ISR[L]GAASM	411.45	WT	ISR[S]GAASM	270.28	9	1.3349
Se101	SLC22A5 I146V	HLA-C*14:02	MT	KAPL[T]VSLF	99.31	WT	KAPL[T]ISLF	100.73	9	5.53418
Se101	SLC22A5 I146V	HLA-A*24:02	MT	KAPL[T]VSLF	271.61	WT	KAPL[T]ISLF	239.76	9	5.53418
Se101	SLC22A5 I146V	HLA-C*14:02	MT	KAPL[T]VSLFF	288.47	WT	KAPL[T]ISLFF	307.27	10	5.53418
Se101	SLC22A5 I146V	HLA-A*24:02	MT	KAPL[T]VSLFF	361.61	WT	KAPL[T]ISLFF	301.24	10	5.53418
Se101	UBE2J1 S9T	HLA-C*14:02	MT	RYNLK[T]PAV	43.25	WT	RYNLK[S]PAV	65.36	9	15.24973
Se101	UBE2J1 S9T	HLA-A*31:01	MT	NLK[T]PAVKK	149.08	WT	NLK[S]PAVKK	123	9	15.24973
Se101	UBE2J1 S9T	HLA-A*31:01	MT	RYNLK[T]PAVK	296.02	WT	RYNLK[S]PAVK	337.33	10	15.24973
Se101	UBE2J1 S9T	HLA-A*31:01	MT	K[T]PAVKRLMK	458.57	WT	K[S]PAVKRLMK	804.5	10	15.24973
Se101	THAP1 T138A	HLA-A*31:01	MT	[A]VEDTMHQR	443.96	WT	[T]VEDTMHQR	573.32	9	3.98937
Se101	TF1 G121R	HLA-A*31:01	MT	KLKMYHSL[L]R	8.1	WT	KLKMYHSL[L]G	4684.28	10	8.30465
Se101	TF1 G121R	HLA-A*24:02	MT	MYHSL[L]RNDW	72.82	WT	MYHSL[L]GNDW	67.3	10	8.30465
Se101	TF1 G121R	HLA-C*14:02	MT	MYHSL[L]RNDW	417.65	WT	MYHSL[L]GNDW	626.25	10	8.30465
Se101	BAD A78V	HLA-A*31:01	MT	RSRHSSYP[V]	450.16	WT	RSRHSSYP[A]	653.81	9	28.20489
Se101	RBM23 L380V	HLA-C*14:02	MT	ALNPAA[V]TAL	213.3	WT	ALNPAA[L]TAL	229.44	10	37.26113
Se101	RBM23 L380V	HLA-C*14:02	MT	LNPA[A]VJTAL	339.71	WT	LNPA[A]LJTAL	484.98	9	37.26113
Se101	FANCM P936T	HLA-A*24:02	MT	SVSSNLF[L]TJF	170.07	WT	SVSSNLF[L]PJF	288.42	10	1.61563
Se101	FANCM P936T	HLA-C*14:02	MT	SVSSNLF[L]TJF	217.12	WT	SVSSNLF[L]PJF	162.25	10	1.61563
Se101	FANCM P936T	HLA-A*24:02	MT	VSSNLF[L]TJF	294.19	WT	VSSNLF[L]PJF	578.41	9	1.61563
Se101	NDC80 K271T	HLA-A*31:01	MT	KLESLEA[T]NR	186.24	WT	KLESLEA[K]NR	398.38	10	8.66641
Se101	GDF15 D136A	HLA-A*31:01	MT	RSW[A]VTRPLR	7.05	WT	RSW[D]VTRPLR	10.64	10	10.77319
Se101	GDF15 D136A	HLA-A*31:01	MT	ASRSW[A]VTR	11.2	WT	ASRSW[D]VTR	17.41	9	10.77319
Se101	GDF15 D136A	HLA-A*31:01	MT	SW[A]VTRPLR	39.88	WT	SW[D]VTRPLR	263.09	9	10.77319
Se101	GDF15 D136A	HLA-C*14:02	MT	SRSW[A]VTRPL	69.28	WT	SRSW[D]VTRPL	260.45	10	10.77319
Se101	GDF15 D136A	HLA-A*31:01	MT	SW[A]VTRPLRR	89.44	WT	SW[D]VTRPLRR	732.16	10	10.77319
Se101	GDF15 D136A	HLA-A*31:01	MT	TASRSW[A]VTR	111.62	WT	TASRSW[D]VTR	317.92	10	10.77319
Se101	GDF15 D136A	HLA-C*14:02	MT	RSW[A]VTRPL	116.46	WT	RSW[D]VTRPL	161.42	9	10.77319
Se101	ZNF431 G16V	HLA-A*31:01	MT	AS[V]CPGAER	309.92	WT	AS[G]CPGAER	457.04	9	3.95022
Se101	RBL1 S1013N	HLA-A*31:01	MT	[N]LKDINNMR	224.02	WT	[S]LKDINNMR	49.58	10	1.91234
Se101	RBPJL L250H	HLA-A*31:01	MT	RQWAAFT[H]JHL	227.45	WT	RQWAAFT[L]JHL	390.44	10	1.07054
Se101	RBPJL L250H	HLA-A*24:02	MT	QWAAFT[H]JHL	286.03	WT	QWAAFT[L]JHL	536.25	9	1.07054
Se101	RBPJL L250H	HLA-C*14:02	MT	QWAAFT[H]JHL	345.71	WT	QWAAFT[L]JHL	529.98	9	1.07054
Se102	MMEL1 L287F	HLA-B*15:01	MT	LQFMVSVAT[F]	6.32	WT	LQFMVSVAT[L]	56.48	10	8.48644
Se102	MMEL1 L287F	HLA-A*33:03	MT	MVSVAT[F]LR	8.54	WT	MVSVAT[L]LR	34.86	9	8.48644
Se102	MMEL1 L287F	HLA-A*33:03	MT	FMVSVAT[F]LR	18.68	WT	FMVSVAT[L]LR	68.02	10	8.48644
Se102	MMEL1 L287F	HLA-A*11:01	MT	MVSVAT[F]LR	40.39	WT	MVSVAT[L]LR	71.09	9	8.48644
Se102	MMEL1 L287F	HLA-C*14:03	MT	QFMVSVAT[F]	91.29	WT	QFMVSVAT[L]	85.64	9	8.48644
Se102	MMEL1 L287F	HLA-C*14:03	MT	FMVSVAT[F]L	285.43	WT	FMVSVAT[L]L	124.47	9	8.48644
Se102	MMEL1 L287F	HLA-C*14:03	MT	QFMVSVAT[F]L	318.23	WT	QFMVSVAT[L]L	159.97	10	8.48644

Se102	MMEL1 L287F	HLA-A*33:03	MT	[F]JLREDANLPR	323.59	WT	[L]JLREDANLPR	640.07	10	8.48644
Se102	MMEL1 L287F	HLA-B*15:01	MT	FMVSVAT[F]L	396.63	WT	FMVSVAT[L]L	379.32	9	8.48644
Se102	MMEL1 L287F	HLA-B*15:01	MT	QFMVSVAT[F]	404.99	WT	QFMVSVAT[L]	5034.94	9	8.48644
Se102	OMA1 V299M	HLA-B*15:01	MT	F[M]LPNGQMF	20.45	WT	F[V]LPNGQMF	286.38	9	9.20449
Se102	OMA1 V299M	HLA-C*14:03	MT	F[M]LPNGQMF	20.87	WT	F[V]LPNGQMF	48.04	9	9.20449
Se102	OMA1 V299M	HLA-B*15:01	MT	[M]LPNGQMFV	80.63	WT	[V]LPNGQMFV	383.16	10	9.20449
Se102	OMA1 V299M	HLA-C*14:03	MT	F[M]LPNGQMFV	179.03	WT	F[V]LPNGQMFV	374	10	9.20449
Se102	OMA1 V299M	HLA-C*14:03	MT	AF[M]LPNGQMF	200.16	WT	AF[V]LPNGQMF	656.51	10	9.20449
Se102	OMA1 V299M	HLA-C*14:03	MT	[M]LPNGQMFV	248.71	WT	[V]LPNGQMFV	516.86	10	9.20449
Se102	OMA1 V299M	HLA-C*14:03	MT	AF[M]LPNGQM	375.34	WT	AF[V]LPNGQM	1378.79	9	9.20449
Se102	PDE4B D225E	HLA-B*15:01	MT	YMMTLE[E]JHY	21.92	WT	YMMTLE[D]JHY	35.8	9	2.17609
Se102	PDE4B D225E	HLA-B*44:03	MT	E[E]JHYHSDVAY	154.46	WT	E[D]JHYHSDVAY	6854.76	10	2.17609
Se102	STRN W490G	HLA-A*11:01	MT	HTLKM[G]NLQK	29.24	WT	HTLKM[W]NLQK	16.15	10	6.18643
Se102	STRN W490G	HLA-A*11:01	MT	TLKM[G]NLQK	121.42	WT	TLKM[W]NLQK	68.43	9	6.18643
Se102	CNNM4 C151R	HLA-A*33:03	MT	ESMKLYAL[R]	13.01	WT	ESMKLYAL[C]	11468.36	9	4.53153
Se102	CNNM4 C151R	HLA-A*33:03	MT	SMKLYAL[R]TR	82.35	WT	SMKLYAL[C]TR	46.6	10	4.53153
Se102	WDR33 M423I	HLA-C*14:03	MT	RYNLNLLPG[I]	268.61	WT	RYNLNLLPG[M]	48.93	10	8.98195
Se102	FN1 P1111T	HLA-A*33:03	MT	IVITWTPA[T]R	39.68	WT	IVITWTPA[P]R	18.77	10	912.38619
Se102	FN1 P1111T	HLA-A*11:01	MT	WTPA[T]RIGFK	94.16	WT	WTPA[P]RIGFK	83.23	10	912.38619
Se102	FN1 P1111T	HLA-C*14:03	MT	WTPA[T]RIGF	194.26	WT	WTPA[P]RIGF	297	9	912.38619
Se102	FN1 P1111T	HLA-C*14:03	MT	TWTPA[T]RIGF	226.92	WT	TWTPA[P]RIGF	282.26	10	912.38619
Se102	FN1 P1111T	HLA-A*33:03	MT	VITWTPA[T]R	236.28	WT	VITWTPA[P]R	73.12	9	912.38619
Se102	FN1 P1111T	HLA-A*11:01	MT	IVITWTPA[T]R	266.33	WT	IVITWTPA[P]R	114.7	10	912.38619
Se102	TRNT1 S269L	HLA-C*14:03	MT	F[L]PKPVTL	80.93	WT	F[S]PKPVTL	78.14	9	7.68745
Se102	TRNT1 S269L	HLA-A*11:01	MT	KNVDGF[L]PK	107.03	WT	KNVDGF[S]PK	165.13	9	7.68745
Se102	TRNT1 S269L	HLA-C*14:03	MT	GF[L]PKPVTL	197.11	WT	GF[S]PKPVTL	233.66	9	7.68745
Se102	TRNT1 S269L	HLA-C*14:03	MT	GF[L]PKPVTL	365.26	WT	GF[S]PKPVTL	327.32	10	7.68745
Se102	FLNB V1220L	HLA-A*11:01	MT	LVPHPAR[L]K	133.16	WT	LVPHPAR[V]K	375.75	10	27.20684
Se102	FLNB V1220L	HLA-C*14:03	MT	LVPHPAR[L]Y	487.97	WT	LVPHPAR[V]	1475.24	9	27.20684
Se102	PCCB R410W	HLA-C*14:03	MT	I[W]HGAKLLY	462.56	WT	I[R]HGAKLLY	932.3	9	11.34848
Se102	PCCB R410W	HLA-B*44:03	MT	QEYGGI[W]H	465.64	WT	QEYGGI[R]H	685.87	9	11.34848
Se102	IL1RAP S575T	HLA-A*11:01	MT	HVQRRR[T]RLK	339.56	WT	HVQRRR[S]RLK	375.71	10	26.9323
Se102	LAP3 L511F	HLA-A*11:01	MT	RTLIEF[F]LR	57.22	WT	RTLIEF[L]LR	68.53	9	131.15973
Se102	LAP3 L511F	HLA-B*15:01	MT	TLIEF[F]LRF	101.75	WT	TLIEF[L]LRF	278.69	9	131.15973
Se102	LAP3 L511F	HLA-A*33:03	MT	RTLIEF[F]LR	110.75	WT	RTLIEF[L]LR	549.51	9	131.15973
Se102	PCDHGB1 D662E	HLA-C*14:03	MT	IFA[E]SLQEV	149.56	WT	IFA[D]SLQEV	129.98	10	25.84185
Se102	PCDHGB1 D662E	HLA-C*14:03	MT	IFA[E]SLQEV	200.17	WT	IFA[D]SLQEV	177.16	9	25.84185
Se102	GCNT2 Q193K	HLA-A*11:01	MT	NTCG[Q]DFPLK	127.61	WT	NTCG[Q]DFPLK	130.1	10	2.10085
Se102	GCNT2 Q193K	HLA-B*15:01	MT	YVINTCG[K]DF	310.62	WT	YVINTCG[Q]DF	135.87	10	2.10085
Se102	GCNT2 Q193K	HLA-C*14:03	MT	YVINTCG[K]DF	461.49	WT	YVINTCG[Q]DF	208.31	10	2.10085
Se102	MRPS10 S90T	HLA-B*15:01	MT	AVLD[T]YEYF	472.48	WT	AVLD[S]YEYF	406.38	9	21.31108
Se102	MRPS10 S90T	HLA-B*15:01	MT	KAVLD[T]YEY	496.54	WT	KAVLD[S]YEY	572.37	9	21.31108
Se102	ELFN1 Y379N	HLA-C*14:03	MT	FTLTNYT[N]CV	364.73	WT	FTLTNYT[Y]CV	374.47	10	1.52588
Se102	FOKK1 A317V	HLA-C*14:03	MT	SYAQLIVQ[V]I	59.65	WT	SYAQLIVQ[A]I	30.3	10	3.83402
Se102	FOKK1 A317V	HLA-C*14:03	MT	SYAQLIVQ[V]	91.96	WT	SYAQLIVQ[A]	624.92	9	3.83402
Se102	TMEM130 S52R	HLA-A*11:01	MT	TISA[R]LVAK	19.77	WT	TISA[S]LVAK	14.02	9	1.31612
Se102	TMEM130 S52R	HLA-A*11:01	MT	VTISA[R]LVAK	21.11	WT	VTISA[S]LVAK	18.57	10	1.31612
Se102	TMEM130 S52R	HLA-A*33:03	MT	TGAVVTISA[R]	313.13	WT	TGAVVTISA[S]	34274.39	10	1.31612
Se102	CDK5 L235R	HLA-A*33:03	MT	NL[R]KCNPVQR	142.04	WT	NL[L]KCNPVQR	197.99	10	10.37303
Se102	SCRIB A1325V	HLA-B*15:01	MT	KQAYRAF[V]AV	383.6	WT	KQAYRAF[A]AV	353.09	10	28.05909
Se102	CENPP E63Q	HLA-A*33:03	MT	HFFV[Q]WFEYR	4.43	WT	HFFV[E]WFEYR	6.04	10	2.02449
Se102	CENPP E63Q	HLA-A*33:03	MT	FFV[Q]WFEYR	28.75	WT	FFV[E]WFEYR	17.01	9	2.02449
Se102	CENPP E63Q	HLA-A*11:01	MT	FV[Q]WFEYRK	37.14	WT	FV[E]WFEYRK	98.81	9	2.02449
Se102	CENPP E63Q	HLA-A*33:03	MT	FV[Q]WFEYRKR	81.54	WT	FV[E]WFEYRKR	229.92	10	2.02449
Se102	CENPP E63Q	HLA-C*14:03	MT	[Q]WFEYRKRTF	162.55	WT	[E]WFEYRKRTF	1131.99	10	2.02449
Se102	CENPP E63Q	HLA-B*15:01	MT	SLHFFV[Q]WF	171.27	WT	SLHFFV[E]WF	332.78	9	2.02449
Se102	CENPP E63Q	HLA-C*14:03	MT	HFFV[Q]WFEY	332.21	WT	HFFV[E]WFEY	391.49	9	2.02449
Se102	CENPP E63Q	HLA-B*15:01	MT	RSLHFFV[Q]WF	414	WT	RSLHFFV[E]WF	619.46	10	2.02449
Se102	STXBP1 L582V	HLA-A*11:01	MT	LLDT[V]KKLNK	361.2	WT	LLDT[L]KKLNK	430.25	10	5.94312
Se102	ST6GALNAC4 A19S	HLA-B*15:01	MT	CSVVFS[S]JY	50.27	WT	CSVVFS[A]JY	51.45	9	12.74461
Se102	ST6GALNAC4 A19S	HLA-C*14:03	MT	VFS[S]JYILL	223.09	WT	VFS[A]JYILL	358.15	9	12.74461
Se102	ST6GALNAC4 A19S	HLA-B*15:01	MT	LCSVVFS[S]JY	470.81	WT	LCSVVFS[A]JY	441.5	10	12.74461
Se102	ADAMTSL2 R221L	HLA-A*11:01	MT	CTHVVTGNY[L]K	31.78	WT	CTHVVTGNY[R]K	60.97	10	3.27186
Se102	ADAMTSL2 R221L	HLA-B*15:01	MT	Y[L]KGNHLGY	54.36	WT	Y[R]KGNHLGY	4683.41	10	3.27186
Se102	ADAMTSL2 R221L	HLA-C*14:03	MT	NY[L]KGNHL	169.71	WT	NY[R]KGNHL	184.89	9	3.27186
Se102	ADAMTSL2 R221L	HLA-C*14:03	MT	Y[L]KGNHLGY	304.25	WT	Y[R]KGNHLGY	457.79	10	3.27186
Se102	LCOR L354R	HLA-B*44:03	MT	SEI[R]JEEAISV	291.62	WT	SEI[L]JEEAISV	301.65	10	1.24736
Se102	NSMCE4A R83P	HLA-A*33:03	MT	C[R]QIRHQYR	331.01	WT	C[R]QIRHQYR	1448.43	9	12.64897
Se102	NSMCE4A R83P	HLA-B*15:01	MT	GLC[R]QIRHQY	366.79	WT	GLC[L]QIRHQY	583.75	10	12.64897
Se102	LRRC32 I230N	HLA-B*15:01	MT	LSCNS[N]JEF	125.86	WT	LSCNS[I]JEF	53.89	9	10.84726
Se102	FLII L64M	HLA-A*33:03	MT	E[M]JSSLPSL	13.95	WT	E[L]JSSLPSL	39.84	9	27.61658
Se102	FLII L64M	HLA-B*44:03	MT	GE[M]JSSLPSL	63.71	WT	GE[L]JSSLPSL	266.83	9	27.61658
Se102	GHDC Q376H	HLA-C*14:03	MT	AYN[Q]CPVVR	56.83	WT	AYN[H]CPVVR	60.63	10	7.76857
Se102	GHDC Q376H	HLA-A*33:03	MT	GAYN[H]CPVVR	276.69	WT	GAYN[Q]CPVVR	608.05	10	7.76857
Se102	GHDC Q376H	HLA-C*14:03	MT	YN[H]CPVVR	334.63	WT	YN[Q]CPVVR	587.63	9	7.76857
Se102	GHDC Q376H	HLA-A*11:01	MT	GAYN[H]CPVVR	363.85	WT	GAYN[Q]CPVVR	596.84	10	7.76857
Se102	GHDC Q376H	HLA-A*33:03	MT	[H]CPVVRFCR	391.62	WT	[Q]CPVVRFCR	1751.09	10	7.76857
Se102	ZNF652 L538V	HLA-A*33:03	MT	MNPVST[V]PPR	115.96	WT	MNPVST[L]PPR	167.69	10	1.7918

Se102	APBBP2 L26V	HLA-A*33:03	MT	SV[V]AYSFSR	13.29	WT	SV[L]AYSFSR	12.64	9	5.56777
Se102	APBBP2 L26V	HLA-A*11:01	MT	SV[V]AYSFSR	18.54	WT	SV[L]AYSFSR	17.31	9	5.56777
Se102	APBBP2 L26V	HLA-A*33:03	MT	SV[V]AYSFSRR	21.61	WT	SV[L]AYSFSRR	19.91	10	5.56777
Se102	APBBP2 L26V	HLA-A*11:01	MT	SV[V]AYSFSRR	32.14	WT	SV[L]AYSFSRR	29.63	10	5.56777
Se102	APBBP2 L26V	HLA-A*33:03	MT	V[V]AYSFSRR	44.27	WT	V[L]AYSFSRR	135.77	9	5.56777
Se102	APBBP2 L26V	HLA-B*15:01	MT	KVASV[V]AYSF	48.75	WT	KVASV[L]AYSF	56.2	10	5.56777
Se102	APBBP2 L26V	HLA-A*11:01	MT	V[V]AYSFSRR	72.35	WT	V[L]AYSFSRR	232.11	9	5.56777
Se102	APBBP2 L26V	HLA-B*15:01	MT	GVKVASV[V]AY	79.07	WT	GVKVASV[L]AY	82.6	10	5.56777
Se102	APBBP2 L26V	HLA-A*11:01	MT	ASV[V]AYSFSR	118.21	WT	ASV[L]AYSFSR	90.69	10	5.56777
Se102	APBBP2 L26V	HLA-A*33:03	MT	ASV[V]AYSFSR	292.3	WT	ASV[L]AYSFSR	270.81	10	5.56777
Se102	APBBP2 L26V	HLA-B*15:01	MT	VKVASV[V]AY	373.94	WT	VKVASV[L]AY	305.33	9	5.56777
Se102	APBBP2 L26V	HLA-B*15:01	MT	VASV[V]AYSF	450.16	WT	VASV[L]AYSF	387.77	9	5.56777
Se102	APBBP2 V25G	HLA-B*15:01	MT	KVAS[G]LAYSF	52.21	WT	KVAS[V]LAYSF	56.2	10	5.56777
Se102	APBBP2 V25G	HLA-B*15:01	MT	GVKVAS[G]LAY	85.42	WT	GVKVAS[V]LAY	82.6	10	5.56777
Se102	APBBP2 V25G	HLA-A*11:01	MT	S[G]LAYSFSR	150.21	WT	S[V]LAYSFSR	17.31	9	5.56777
Se102	APBBP2 V25G	HLA-A*11:01	MT	AS[G]LAYSFRR	155.13	WT	AS[V]LAYSFRR	90.69	10	5.56777
Se102	APBBP2 V25G	HLA-A*33:03	MT	S[G]LAYSFRR	208.61	WT	S[V]LAYSFRR	12.64	9	5.56777
Se102	APBBP2 V25G	HLA-A*33:03	MT	[G]LAYSFRR	270.62	WT	[V]LAYSFRR	135.77	9	5.56777
Se102	APBBP2 V25G	HLA-B*15:01	MT	VAS[G]LAYSF	294.84	WT	VAS[V]LAYSF	387.77	9	5.56777
Se102	APBBP2 V25G	HLA-A*11:01	MT	S[G]LAYSFRR	337.4	WT	S[V]LAYSFRR	29.63	10	5.56777
Se102	APBBP2 V25G	HLA-A*11:01	MT	[G]LAYSFRR	342.87	WT	[V]LAYSFRR	232.11	9	5.56777
Se102	APBBP2 V25G	HLA-B*15:01	MT	VKVAS[G]LAY	351.33	WT	VKVAS[V]LAY	305.33	9	5.56777
Se102	APBBP2 V25G	HLA-A*33:03	MT	S[G]LAYSFRR	371.17	WT	S[V]LAYSFRR	19.91	10	5.56777
Se102	APBBP2 V25G	HLA-C*14:03	MT	KVAS[G]LAYSF	441.72	WT	KVAS[V]LAYSF	675.31	10	5.56777
Se102	HELZ K500N	HLA-C*14:03	MT	[N]YAQNGQLF	52.82	WT	[K]YAQNGQLF	17.26	9	2.82786
Se102	HELZ K500N	HLA-B*15:01	MT	LTGVSGGA[N]Y	411.83	WT	LTGVSGGA[K]Y	783.58	10	2.82786
Se102	TMC6 R231P	HLA-A*11:01	MT	ALMPW[P]YALK	8.28	WT	ALMPW[R]YALK	10.31	10	12.7561
Se102	TMC6 R231P	HLA-C*14:03	MT	ALMPW[P]YAL	47.15	WT	ALMPW[R]YAL	66.48	9	12.7561
Se102	TMC6 R231P	HLA-B*15:01	MT	LQALMPW[P]Y	48.68	WT	LQALMPW[R]Y	175.89	9	12.7561
Se102	TMC6 R231P	HLA-A*11:01	MT	LMPW[P]YALK	62.1	WT	LMPW[R]YALK	111.17	9	12.7561
Se102	TMC6 R231P	HLA-A*33:03	MT	MPW[P]YALKR	165.5	WT	MPW[R]YALKR	204.66	9	12.7561
Se102	TMC6 R231P	HLA-B*15:01	MT	ALQALMPW[P]Y	194.83	WT	ALQALMPW[R]Y	541.43	10	12.7561
Se102	TMC6 R231P	HLA-A*33:03	MT	LMPW[P]YALKR	347.06	WT	LMPW[R]YALKR	195.01	10	12.7561
Se102	TMC6 R231P	HLA-B*15:01	MT	ALMPW[P]YAL	367.99	WT	ALMPW[R]YAL	340.33	9	12.7561
Se102	BRD4 E345Q	HLA-A*11:01	MT	SQQHPAP[Q]K	122.8	WT	SQQHPAP[E]K	129.27	9	12.69856
Se102	RASAL3 R992L	HLA-C*14:03	MT	SLQLSPRT[L]	483.8	WT	SLQLSPRT[R]	16228.28	9	1.61285
Se102	CHERP R559Q	HLA-A*33:03	MT	DFPP[Q]HPFER	189.19	WT	DFPP[R]HPFER	85.73	10	17.80433
Se102	CENPB Q313H	HLA-B*15:01	MT	GLRHV[H]LAF	31.97	WT	GLRHV[Q]LAF	31.71	9	51.81155
Se102	CENPB Q313H	HLA-B*15:01	MT	GLRHV[H]LAF	94.54	WT	GLRHV[Q]LAF	100.17	10	51.81155
Se102	CENPB Q313H	HLA-C*14:03	MT	SGLRHV[H]LAF	414.93	WT	SGLRHV[Q]LAF	679.62	10	51.81155
Se103	OBSCN E4387K	HLA-B*44:03	MT	SENA[K]VVFV	53.19	WT	SENA[E]VVFV	19.11	9	2.77493
Se103	OBSCN E4387K	HLA-A*11:01	MT	[K]VVFVFNGLR	185.36	WT	[E]VVFVFNGLR	2748.42	10	2.77493
Se103	OBSCN E4387K	HLA-A*33:03	MT	[K]VVFVFNGLR	315.58	WT	[E]VVFVFNGLR	58.44	10	2.77493
Se103	HIBCH V158M	HLA-A*11:01	MT	GQFR[M]ATEK	72.85	WT	GQFR[V]ATEK	57.68	9	20.7199
Se103	HIBCH V158M	HLA-C*14:03	MT	FR[M]ATEKCLF	178.31	WT	FR[V]ATEKCLF	909.28	10	20.7199
Se103	HIBCH V158M	HLA-C*14:03	MT	[M]ATEKCLFAM	292.61	WT	[V]ATEKCLFAM	839.5	10	20.7199
Se103	DOCK1 D344N	HLA-B*44:03	MT	DE[N]KQHFIFP	170.61	WT	DE[D]KQHFIFP	1260.82	10	11.66788
Se103	PPFIA1 V178M	HLA-C*14:03	MT	K[M]RERLRVAL	109.91	WT	K[V]RERLRVAL	230.54	10	10.48798
Se103	PPFIA1 V178M	HLA-C*14:03	MT	[M]RERLRVAL	351.21	WT	[V]RERLRVAL	727.47	9	10.48798
Se103	ZNF200 I334M	HLA-A*11:01	MT	K[M]JFKCPECGK	46.45	WT	K[I]JFKCPECGK	38.32	10	2.73017
Se103	ZNF200 I334M	HLA-A*11:01	MT	GIHIREK[M]JFK	157.3	WT	GIHIREK[I]JFK	222.39	10	2.73017
Se103	ZNF200 I334M	HLA-A*33:03	MT	[M]JFKCPECGK	312.77	WT	[I]JFKCPECGK	2257.52	9	2.73017
Se103	TP53 V41L	HLA-A*33:03	MT	V[L]JRRCPHHER	139.43	WT	V[V]JRRCPHHER	53.41	10	22.44744
Se103	TP53 V41L	HLA-A*33:03	MT	QSQHMTEV[L]R	471.56	WT	QSQHMTEV[V]R	1188.53	10	22.44744
Se103	SIRT2 G104V	HLA-C*14:03	MT	LYP[V]QFKPTI	194.09	WT	LYP[G]QFKPTI	141.28	10	15.68762
Se103	SIRT2 G104V	HLA-C*08:01	MT	FALAKELYP[V]	202.77	WT	FALAKELYP[G]	16995.17	10	15.68762
Se103	SIRT2 G104V	HLA-C*14:03	MT	FALAKELYP[V]	391.2	WT	FALAKELYP[G]	12169.61	10	15.68762
Se104	CPA1 A336T	HLA-C*12:02	MT	A[T]VTALASL	274.93	WT	A[A]VTALASL	198.26	9	1.51475
Se104	CPA1 A336T	HLA-C*12:02	MT	LSKA[T]VTAL	332.33	WT	LSKA[A]VTAL	240.59	9	1.51475
Se104	CPA1 A336T	HLA-C*12:02	MT	A[T]VTALASLY	479.72	WT	A[A]VTALASLY	287.45	10	1.51475
Se104	LZTS2 G27R	HLA-B*07:02	MT	APVM[R]JSVSSL	5.39	WT	APVM[G]JSVSSL	6.57	10	23.13225
Se104	LZTS2 G27R	HLA-B*07:02	MT	APQAPVM[R]JSV	29.99	WT	APQAPVM[G]JSV	31.9	10	23.13225
Se104	LZTS2 G27R	HLA-B*07:02	MT	APVM[R]JSVSS	443.9	WT	APVM[G]JSVSS	1081.76	9	23.13225
Se104	KIAA0556 R1029H	HLA-B*07:02	MT	LPAYGKDP[R]HIV	396.78	WT	LPAYGKDP[R]V	302.11	10	6.24894
Se104	CLDN7 A94T	HLA-C*12:02	MT	L[T]MFVATMGM	91.09	WT	L[A]MFVATMGM	32.59	10	35.25859
Se104	CLDN7 A94T	HLA-C*12:02	MT	FL[T]MFVATM	100.08	WT	FL[A]MFVATM	40.75	9	35.25859
Se104	CLDN7 A94T	HLA-C*12:02	MT	[T]MFVATMGM	264.72	WT	[A]MFVATMGM	386.47	9	35.25859
Se104	RRP1B R476W	HLA-B*07:02	MT	RP[W]JKKSPRA	129.73	WT	RP[R]JKKSPRA	51.31	9	17.26816
Se104	RRP1B R476W	HLA-B*07:02	MT	RP[W]JKKSPRAH	197.26	WT	RP[R]JKKSPRAH	120.43	10	17.26816
Se105	SLAMF7 P93S	HLA-C*12:02	MT	[S]VSRNFSSPI	400.04	WT	[P]VSRNFSSPI	9760.86	10	2.5408
Se105	SLAMF7 P93S	HLA-C*14:02	MT	TFICVARN[S]V	444.1	WT	TFICVARN[P]V	247.58	10	2.5408
Se105	RBM34 V194F	HLA-C*14:02	MT	TVFVGNLP[F]	295.74	WT	TVFVGNLP[V]	693.53	9	13.56689
Se105	RBM34 V194F	HLA-C*12:02	MT	TVFVGNLP[F]	400.12	WT	TVFVGNLP[V]	174.09	9	13.56689
Se105	RBM34 V194F	HLA-C*12:02	MT	RTVFGNLP[F]	448.75	WT	RTVFGNLP[V]	376.42	10	13.56689
Se105	PTCD1 E36D	HLA-C*14:02	MT	RWAGGR[D]GLM	274.74	WT	RWAGGR[E]GLM	343.07	10	19.46356
Se105	TSSK6 G121S	HLA-C*12:02	MT	FAQIA[S]AVRY	151.81	WT	FAQIA[G]AVRY	157.81	10	1.12867
Se105	TSSK6 G121S	HLA-C*12:02	MT	QIA[S]AVRYL	447.91	WT	QIA[G]AVRYL	439.21	9	1.12867
Se105	TSSK6 G121S	HLA-C*14:02	MT	LFAQIA[S]AV	464.72	WT	LFAQIA[G]AV	903.37	9	1.12867

Se105	SUPT5H D310N	HLA-C*14:02	MT	Y[N]RIKARMSL	139.85	WT	Y[D]RIKARMSL	1683.12	10	46.15297
Se105	CAPN6 V134L	HLA-C*14:02	MT	FWHFGWE[TE][L]	35.62	WT	FWHFGWE[TE][V]	166.6	10	2.61866
Se105	CAPN6 V134L	HLA-C*12:02	MT	[L][V]IDLLPTI	310.33	WT	[V][V]IDLLPTI	476.28	10	2.61866
Se108	ALG14 E85Q	HLA-A*11:01	MT	KINSF[Q]LDR	135.66	WT	KINSF[E]LDR	293.98	9	5.71582
Se108	ALG14 E85Q	HLA-B*67:01	MT	SANKINSF[Q]L	455.8	WT	SANKINSF[E]L	255.86	10	5.71582
Se108	ALG14 E85Q	HLA-C*15:02	MT	SANKINSF[Q]L	466.43	WT	SANKINSF[E]L	310.24	10	5.71582
Se108	POLR3C S538C	HLA-A*02:01	MT	FLLE[C]YIECT	10.56	WT	FLLE[S]YIECT	10.59	10	14.28824
Se108	POLR3C S538C	HLA-A*02:01	MT	FLLE[C]YIEC	18.36	WT	FLLE[S]YIEC	12.35	9	14.28824
Se108	POLR3C S538C	HLA-B*40:01	MT	LE[C]YIECTM	172.07	WT	LE[S]YIECTM	47.58	9	14.28824
Se108	POLR3C S538C	HLA-A*02:01	MT	TIFLLE[C]YI	396.9	WT	TIFLLE[S]YI	558.32	9	14.28824
Se108	MNDA F223L	HLA-A*11:01	MT	VVLKATAP[L]K	23.44	WT	VVLKATAP[F]K	15.84	10	15.57865
Se108	MNDA F223L	HLA-A*11:01	MT	VLKATAP[L]K	71.63	WT	VLKATAP[F]K	49.36	9	15.57865
Se108	MNDA F223L	HLA-B*67:01	MT	VVLKATAP[L]K	270.87	WT	VVLKATAP[F]K	1393.57	9	15.57865
Se108	MNDA F223L	HLA-A*02:01	MT	VVLKATAP[L]K	361.49	WT	VVLKATAP[F]K	10813.99	9	15.57865
Se108	EXO1 T396S	HLA-B*40:01	MT	KENPS[S]VGV	157.37	WT	KENPS[T]VGV	229.78	9	2.1449
Se108	EXO1 T396S	HLA-B*67:01	MT	NPS[S]VGV	211.85	WT	NPS[T]VGV	247.1	10	2.1449
Se108	WDR35 G151V	HLA-A*11:01	MT	SVDGNRIW[V]K	42.42	WT	SVDGNRIW[G]K	53.97	10	3.24162
Se108	POLR1A G130A	HLA-B*40:01	MT	LEV[A]ALQAV	100.22	WT	LEV[G]ALQAV	101.17	9	6.37549
Se108	POLR1A G130A	HLA-A*02:01	MT	VLEV[A]ALQAV	359.03	WT	VLEV[G]ALQAV	355.1	10	6.37549
Se108	POLR1A G130A	HLA-B*67:01	MT	[A]ALQAVYEL	481.07	WT	[G]ALQAVYEL	1021.4	9	6.37549
Se108	POLR1A G130A	HLA-C*15:02	MT	[A]ALQAVYEL	484.84	WT	[G]ALQAVYEL	1187.13	9	6.37549
Se108	CD8B P108L	HLA-A*02:01	MT	FILNLT[SVK][P]	45.89	WT	FILNLT[SVK][P]	11159.97	10	3.64116
Se108	CD8B P108L	HLA-B*40:01	MT	[L]JEDSGIYFCM	68.22	WT	[P]JEDSGIYFCM	1438.9	10	3.64116
Se108	CD8B P108L	HLA-A*02:01	MT	ILNLT[SVK][L]	418.29	WT	ILNLT[SVK][P]	19340.86	9	3.64116
Se108	PTPN23 Q762H	HLA-C*15:02	MT	TTVDSI[H]API	169.91	WT	TTVDSI[Q]API	340.21	10	11.57448
Se108	PTPN23 Q762H	HLA-C*15:02	MT	TVDSI[H]API	485.73	WT	TVDSI[Q]API	1403.87	9	11.57448
Se108	BCHE E559G	HLA-C*07:02	MT	SFFPKVL[G]M	174.04	WT	SFFPKVL[E]M	42.19	9	3.05157
Se108	FYTTD1 S84R	HLA-C*07:02	MT	T[R]LNRRGRVM	125.22	WT	T[S]LNRRGRVM	3086.96	10	15.78759
Se108	C5orf34 F362S	HLA-A*11:01	MT	YSGDGSV[F]K	230.54	WT	YSGDGSV[F]K	51.9	9	2.81733
Se108	DDX56 R379W	HLA-A*02:01	MT	ILLPYQF[W]M	8.47	WT	ILLPYQF[R]M	13.65	9	16.14379
Se108	DDX56 R379W	HLA-B*67:01	MT	LPYQF[W]MEEI	66.98	WT	LPYQF[R]MEEI	58.29	10	16.14379
Se108	LAMB1 L421V	HLA-C*15:02	MT	YTD[STG][L]I	99.34	WT	YTD[STG][L]I	75.67	9	48.40018
Se108	LAMB1 L421V	HLA-A*11:01	MT	G[L]JAGQCRCK	181.32	WT	G[L]JAGQCRCK	538.33	10	48.40018
Se108	DLC1 I141T	HLA-A*11:01	MT	M[I]JQAGSLEK	35.25	WT	M[I]JQAGSLEK	76.27	10	5.27259
Se108	DLC1 I141T	HLA-A*11:01	MT	[T]JQAGSLEK	202.53	WT	[I]JQAGSLEK	338.25	9	5.27259
Se108	GOLGA2 S131P	HLA-B*67:01	MT	L[P]JQQLNGLV	192.72	WT	L[S]JQQLNGLV	15014.48	9	29.05184
Se108	GOLGA2 S131P	HLA-B*67:01	MT	L[P]JQQLNGLVC	395.14	WT	L[S]JQQLNGLVC	18297.21	10	29.05184
Se108	NUP214 V990I	HLA-C*15:02	MT	STSS[V]SQSL	242.93	WT	STSS[V]SQSL	242.01	9	12.994
Se108	SEC61A2 G122V	HLA-B*40:01	MT	AEM[G]JAGICLL	7.43	WT	AEM[G]JAGICLL	4.94	10	2.38095
Se108	SEC61A2 G122V	HLA-B*40:01	MT	AEM[V]JAGICL	9.56	WT	AEM[G]JAGICL	5.74	9	2.38095
Se108	SEC61A2 G122V	HLA-A*02:01	MT	GMVGDPAEM[V]	19.26	WT	GMVGDPAEM[G]	10273.31	10	2.38095
Se108	SEC61A2 G122V	HLA-A*02:01	MT	M[V]JAGICLLI	155.36	WT	M[G]JAGICLLI	5716.15	9	2.38095
Se108	SEC61A2 G122V	HLA-A*02:01	MT	M[V]JAGICLLI	397.52	WT	M[G]JAGICLLI	8664.52	10	2.38095
Se108	C10orf12 G594W	HLA-B*40:01	MT	AEQEGEG[W]GI	44.92	WT	AEQEGEG[G]GI	105.2	10	1.36275
Se108	C10orf12 G594W	HLA-B*40:01	MT	QEGEG[W]GII	184.47	WT	QEGEG[G]GII	182	9	1.36275
Se108	ABLIM1 G43E	HLA-B*40:01	MT	C[E]JEPCKGEVL	72.12	WT	C[G]JEPCKGEVL	29149.02	10	29.54223
Se108	RGS10 S31T	HLA-A*11:01	MT	SSSSHQ[T]LK	17.56	WT	SSSSHQ[S]LK	13.15	9	37.0914
Se108	RGS10 S31T	HLA-A*11:01	MT	SSSSHQ[T]LK	21.98	WT	SSSSHQ[S]LK	17.15	10	37.0914
Se108	RGS10 S31T	HLA-C*15:02	MT	SSSSHQ[T]L	456.94	WT	SSSSHQ[S]L	394.69	9	37.0914
Se108	DCHS1 T156R	HLA-B*67:01	MT	[R]AFGTRYPL	33.98	WT	[T]AFGTRYPL	32.23	9	5.40251
Se108	DCHS1 T156R	HLA-C*15:02	MT	[R]AFGTRYPL	157.28	WT	[T]AFGTRYPL	563.73	9	5.40251
Se108	DCHS1 T156R	HLA-C*07:02	MT	H[R]AFGTRYPL	216.64	WT	H[T]AFGTRYPL	3300.12	10	5.40251
Se108	DCHS1 T156R	HLA-B*67:01	MT	H[R]AFGTRYPL	365.96	WT	H[T]AFGTRYPL	99.13	10	5.40251
Se108	DGKZ R38W	HLA-B*67:01	MT	EPDKAP[W]RL	152.19	WT	EPDKAP[R]RL	343.91	9	14.52037
Se108	C2CD3 A1021G	HLA-A*02:01	MT	GLAPLQ[G]TV	113.1	WT	GLAPLQ[A]TV	13.83	9	4.75773
Se108	PLXNC1 A133P	HLA-C*15:02	MT	WTFDRG[P]CEV	91.08	WT	WTFDRG[A]CEV	92.94	10	8.20446
Se108	PLXNC1 A133P	HLA-A*02:01	MT	WTFDRG[P]CEV	178.24	WT	WTFDRG[A]CEV	193.36	10	8.20446
Se108	BRI3BP A74S	HLA-A*02:01	MT	FL[S]RLTERFV	18.6	WT	FL[A]RLTERFV	12.36	10	6.78026
Se108	BRI3BP A74S	HLA-C*15:02	MT	RAAQKFL[S]JRL	142.55	WT	RAAQKFL[A]JRL	144.16	10	6.78026
Se108	BRI3BP A74S	HLA-C*07:02	MT	[S]RLTERFV	239.87	WT	[A]RLTERFV	656.7	9	6.78026
Se108	BRI3BP A74S	HLA-A*11:01	MT	RAAQKFL[S]R	247.97	WT	RAAQKFL[A]R	270.54	9	6.78026
Se108	TRPM7 G317A	HLA-B*40:01	MT	CE[A]JTGRAADL	96.25	WT	CE[G]JTGRAADL	426.65	10	8.23778
Se108	SCAPER V317I	HLA-A*02:01	MT	F[V]JGDGTSNTI	123.71	WT	F[V]JGDGTSNTI	305.88	10	2.03094
Se108	IL16 G277V	HLA-B*67:01	MT	MA[V]LTHQDAL	72.06	WT	MA[G]LTHQDAL	307.36	10	4.00243
Se108	IL16 G277V	HLA-B*40:01	MT	LELNGESMA[V]	118.87	WT	LELNGESMA[G]	8119.47	10	4.00243
Se108	IL16 G277V	HLA-A*11:01	MT	[V]LTHQDALQK	285.51	WT	[G]LTHQDALQK	469.3	10	4.00243
Se108	WDR81 K495E	HLA-B*40:01	MT	R[K]SVFFVQGL	12.76	WT	R[K]SVFFVQGL	7024.12	10	5.65394
Se108	WDR81 K495E	HLA-A*02:01	MT	TQHR[E]SVFFV	180.85	WT	TQHR[K]SVFFV	283.69	10	5.65394
Se108	WDR81 K495E	HLA-C*07:02	MT	VYTQHR[E]SVF	364.67	WT	VYTQHR[K]SVF	313.64	10	5.65394
Se108	PITPNM3 R669W	HLA-B*67:01	MT	RP[R]JRLGVGV	66.33	WT	RP[R]JRLGVGV	270.63	9	3.28331
Se108	PITPNM3 R669W	HLA-A*11:01	MT	ITYNVPRP[W]R	115.08	WT	ITYNVPRP[R]R	151.82	10	3.28331
Se108	PITPNM3 R669W	HLA-C*07:02	MT	TYNVPRP[W]R	204.97	WT	TYNVPRP[R]R	214.74	10	3.28331
Se108	PITPNM3 R669W	HLA-C*07:02	MT	YNVPRP[W]R	371.92	WT	YNVPRP[R]R	273.82	9	3.28331
Se108	BCAS3 I743V	HLA-B*67:01	MT	HPSGQTTV[V]	23.48	WT	HPSGQTTV[I]	29.33	9	4.79451
Se108	BCAS3 I743V	HLA-C*15:02	MT	TTV[V]JSSSSV	382.35	WT	TTV[I]JSSSSV	448.44	10	4.79451
Se108	BCAS3 I743V	HLA-B*67:01	MT	HPSGQTTV[V]S	404.16	WT	HPSGQTTV[I]S	508.5	10	4.79451
Se108	FOXS1 G315E	HLA-B*67:01	MT	YPL[E]JLTPCL	7.76	WT	YPL[G]JLTPCL	6.91	9	2.38588
Se108	FOXS1 G315E	HLA-B*67:01	MT	YPL[E]JLTPCLY	432.56	WT	YPL[G]JLTPCLY	380.17	10	2.38588

Se108	NCOA6 A855S	HLA-C*15:02	MT	MSFN[S]PFSGA	248.98	WT	MSFN[A]PFSGA	230.43	10	7.20469
Se108	F8 P926T	HLA-A*02:01	MT	SLGP[T]SMPV	15.51	WT	SLGP[P]SMPV	23.31	9	2.04326
Se108	F8 P926T	HLA-C*15:02	MT	SSLGP[T]SMPV	59.52	WT	SSLGP[P]SMPV	54.5	10	2.04326
Se109	OBSN D2733N	HLA-C*07:02	MT	TRARVRVH[N]L	298.09	WT	TRARVRVH[D]L	466.49	10	1.53967
Se109	NUP35 P267R	HLA-C*03:04	MT	LAFTP[R]IKTL	42.96	WT	LAFTP[P]IKTL	24.77	10	7.46924
Se109	NUP35 P267R	HLA-C*07:02	MT	AFTP[R]IKTL	306.65	WT	AFTP[P]IKTL	943.72	9	7.46924
Se109	STK36 V1042I	HLA-C*03:04	MT	SASPRTI[I]SF	38.7	WT	SASPRTI[V]SF	29.27	10	6.07367
Se109	STK36 V1042I	HLA-C*03:04	MT	I[I]SFLSVAL	180.67	WT	I[V]SFLSVAL	78.68	9	6.07367
Se109	STK36 V1042I	HLA-C*03:04	MT	TI[I]SFLSVAL	210.1	WT	TI[V]SFLSVAL	261.56	10	6.07367
Se109	STK36 V1042I	HLA-C*03:04	MT	[I]SFLSVAL	282.29	WT	[V]SFLSVAL	575.83	9	6.07367
Se109	COL6A6 L174M	HLA-C*03:04	MT	KASEEN[M]KAM	63.64	WT	KASEEN[L]KAM	77.99	10	1.11695
Se109	TNIP1 P522R	HLA-C*07:02	MT	RYPPI[R]PMAM	25.84	WT	RYPPI[P]PMAM	66.53	9	44.29428
Se109	TNIP1 P522R	HLA-C*07:02	MT	IRYPP[R]PMAM	27.59	WT	IRYPP[P]PMAM	33.3	10	44.29428
Se109	TNIP1 P522R	HLA-A*24:02	MT	RYPPI[R]PMAM	152.11	WT	RYPPI[P]PMAM	237.21	9	44.29428
Se109	TNIP1 P522R	HLA-C*03:04	MT	SQIRYPP[R]PM	357.1	WT	SQIRYPP[P]PM	200.76	10	44.29428
Se109	ZNF292 L2484P	HLA-B*40:01	MT	DEMDE[P]TEL	334.82	WT	DEMDE[L]TEL	102.59	9	4.75951
Se109	ZNF292 L2484P	HLA-B*40:01	MT	DEMDE[P]TEL	334.82	WT	DEMDE[L]TEL	102.59	9	4.75951
Se109	ZNF292 L2484P	HLA-B*40:01	MT	DEMDE[P]TEL	334.82	WT	DEMDE[L]TEL	102.59	9	4.75951
Se109	LACE1 G450R	HLA-C*03:04	MT	FT[R]EEEIFAF	186.92	WT	FT[G]EEEIFAF	961.36	10	1.34806
Se109	CRTC3 A32S	HLA-B*40:01	MT	AEETR[S]FEQL	108.39	WT	AEETR[A]FEQL	79.45	10	4.88748
Se109	CRTC3 A32S	HLA-B*40:01	MT	AEETR[S]FEQL	108.39	WT	AEETR[A]FEQL	79.45	10	4.88748
Se109	CRTC3 A32S	HLA-B*40:01	MT	AEETR[S]FEQL	108.39	WT	AEETR[A]FEQL	79.45	10	4.88748
Se109	CRTC3 A32S	HLA-B*40:01	MT	EETR[S]FEQL	184.28	WT	EETR[A]FEQL	166.75	9	4.88748
Se109	CRTC3 A32S	HLA-B*40:01	MT	EETR[S]FEQL	184.28	WT	EETR[A]FEQL	166.75	9	4.88748
Se109	CRTC3 A32S	HLA-B*40:01	MT	EETR[S]FEQL	184.28	WT	EETR[A]FEQL	166.75	9	4.88748
Se109	CRTC3 A32S	HLA-C*03:04	MT	R[S]FEQLMTDL	315.05	WT	R[A]FEQLMTDL	39.02	10	4.88748
Se109	CILP2 V645M	HLA-A*24:02	MT	TYGMFS[M]JDL	201.64	WT	TYGMFS[V]JDL	335.18	9	2.3453
Se109	CILP2 V645M	HLA-C*03:04	MT	RTYGMFS[M]JDL	242.84	WT	RTYGMFS[V]JDL	264.85	10	2.3453
Se109	GDI1 G220V	HLA-C*03:04	MT	Y[V]KSPYLYPL	69.14	WT	Y[G]KSPYLYPL	302.48	10	83.59188
Se109	GDI1 G220V	HLA-C*07:02	MT	ARY[V]KSPYL	75.69	WT	ARY[G]KSPYL	51.22	9	83.59188
Se109	GDI1 G220V	HLA-A*24:02	MT	RY[V]KSPYLY	285.49	WT	RY[G]KSPYLY	404.61	9	83.59188
Se109	GDI1 G220V	HLA-C*07:02	MT	ARY[V]KSPYLY	296.14	WT	ARY[G]KSPYLY	188.88	10	83.59188
Se109	GDI1 G220V	HLA-C*07:02	MT	LYSESLARY[V]	349.52	WT	LYSESLARY[G]	13953.64	10	83.59188
Se109	GDI1 G220V	HLA-C*03:04	MT	LARY[V]KSPYL	473.44	WT	LARY[G]KSPYL	359.53	10	83.59188
Se110	KCNAB2 M106I	HLA-C*12:02	MT	[I]THVINOQM	402.33	WT	[M]THVINOQM	170.12	9	3.63995
Se110	ZP3 P22H	HLA-A*24:02	MT	CY[H]QPLWLL	11.59	WT	CY[P]QPLWLL	9.02	9	3.48888
Se110	ANK3 G167A	HLA-C*12:02	MT	Q[A]HDQVVSL	142.23	WT	Q[G]HDQVVSL	2309.69	10	1.34215
Se110	ANK3 G167A	HLA-C*12:02	MT	Q[A]HDQVVSL	195.97	WT	Q[G]HDQVVSL	3014.47	9	1.34215
Se110	ZBTB39 V87D	HLA-C*12:02	MT	LSF[D]YTSELF	20.85	WT	LSF[V]YTSELF	67.77	9	2.58581
Se110	ZBTB39 V87D	HLA-C*12:02	MT	LSF[D]YTSELF	50.33	WT	LSF[V]YTSELF	144.31	10	2.58581
Se110	ZBTB39 V87D	HLA-A*24:02	MT	SF[D]YTSELF	420.28	WT	SF[V]YTSELF	42.21	9	2.58581
Se110	PAK4 R203P	HLA-C*12:02	MT	LAAG[P]PFNTY	104.6	WT	LAAG[R]PFNTY	112.68	10	25.73503
Se111	SASS6 L262F	HLA-B*40:06	MT	KE[F]QDVGQSL	310.99	WT	KE[L]QDVGQSL	582.4	10	1.36514
Se111	BOLA1 E41K	HLA-A*02:01	MT	KL[K]EALSPEV	11.49	WT	KL[E]EALSPEV	9.41	10	21.60177
Se111	POLE4 F74I	HLA-A*02:01	MT	FILARAAEL[I]	73.58	WT	FILARAAEL[F]	2839.8	10	52.18219
Se111	POLE4 F74I	HLA-A*02:01	MT	ILARAAEL[I]V	125.2	WT	ILARAAEL[F]V	25.17	10	52.18219
Se111	POLE4 F74I	HLA-A*02:01	MT	ILARAAEL[I]	193.99	WT	ILARAAEL[F]	6781.69	9	52.18219
Se111	PVRL3 M213V	HLA-A*26:02	MT	E[V]ESTTTSF	42.4	WT	E[M]ESTTTSF	721.01	9	15.39236
Se111	PVRL3 M213V	HLA-B*15:01	MT	GE[V]ESTTTSF	209.01	WT	GE[M]ESTTTSF	74.27	10	15.39236
Se111	TNS3 G785V	HLA-A*02:01	MT	SLGQYDND[A]V	297.19	WT	SLGQYDND[A]G	30168.3	10	12.17396
Se111	DNAJB5 F174S	HLA-B*15:01	MT	ASF[S]GGSNPF	13.16	WT	ASF[F]GGSNPF	15.77	10	11.20393
Se111	DNAJB5 F174S	HLA-B*15:01	MT	SF[S]GGSNPF	469.31	WT	SF[F]GGSNPF	89.38	9	11.20393
Se111	GBA2 L526V	HLA-B*15:01	MT	FGY[L]EGQEY	233.68	WT	FGY[L]EGQEY	403	9	20.56861
Se111	GBA2 L526V	HLA-A*26:02	MT	Y[V]EGQEYRMY	439.8	WT	Y[L]EGQEYRMY	2404.88	10	20.56861
Se111	DIP2C G1027V	HLA-A*02:01	MT	HLQD[V]DHVAL	140.65	WT	HLQD[G]DHVAL	192.7	10	1.48825
Se111	DIP2C G1027V	HLA-A*02:01	MT	LQD[V]DHVAL	200.39	WT	LQD[G]DHVAL	84.24	10	1.48825
Se111	DIP2C G1027V	HLA-A*26:02	MT	D[V]DHVALVY	434.47	WT	D[G]DHVALVY	11778.47	9	1.48825
Se111	EPS8 S481N	HLA-A*02:01	MT	RLSTEH[S]N	163.69	WT	RLSTEH[S]V	148.95	9	5.03446
Se111	NOVA1 V197I	HLA-A*02:01	MT	NLQERV[I]TV	32.85	WT	NLQERV[V]TV	49.86	9	1.87955
Se111	ETFA A25T	HLA-A*02:01	MT	KVAGI[T]KVLV	408.63	WT	KVAGI[A]KVLV	610.21	10	24.74845
Se111	RABEP1 L729F	HLA-A*02:01	MT	QQLES[F]QEI	134.23	WT	QQLES[L]QEI	85.34	9	5.06638
Se111	RTEL1 G516C	HLA-A*02:01	MT	RVYDNF[C]HV	10.91	WT	RVYDNF[G]HV	83.27	9	2.75414
Se111	RTEL1 G516C	HLA-A*02:01	MT	RVYDNF[C]HVI	198.64	WT	RVYDNF[G]HVI	570.56	10	2.75414
Se111	RTEL1 G516V	HLA-A*02:01	MT	RVYDNF[V]HV	11.73	WT	RVYDNF[G]HV	83.27	9	2.75414
Se111	RTEL1 G516V	HLA-A*02:01	MT	RVYDNF[V]HVI	118.59	WT	RVYDNF[G]HVI	570.56	10	2.75414
Se111	RTEL1 G516V	HLA-C*07:02	MT	RVYDNF[V]HV	437.8	WT	RVYDNF[G]HV	1513.59	9	2.75414
Se111	RTEL1 G516V	HLA-C*07:02	MT	VYDNF[V]HVI	468.5	WT	VYDNF[G]HVI	805.23	9	2.75414
Se112	SCNN1D S332T	HLA-A*11:01	MT	SLYNVNL[T]K	13.08	WT	SLYNVNL[S]K	9.62	9	1.09682
Se112	ACP6 M132I	HLA-A*33:03	MT	Q[I]FALGERLR	73.87	WT	Q[M]FALGERLR	46.11	10	4.44121
Se112	ACP6 M132I	HLA-C*14:03	MT	VGMQQ[I]FAL	390.55	WT	VGMQQ[M]FAL	513.26	9	4.44121
Se112	ACP6 M132I	HLA-A*33:03	MT	MQQ[I]FALGER	459.91	WT	MQQ[M]FALGER	236.25	10	4.44121
Se112	SV2A Q286H	HLA-B*44:03	MT	[H]EKRGHEHLSW	74.55	WT	[Q]EKRGHEHLSW	98.21	10	1.59102
Se112	SV2A Q286H	HLA-A*11:01	MT	FSEFLA[H]EK	255.58	WT	FSEFLA[Q]EK	1132.02	9	1.59102
Se112	SV2A Q286H	HLA-C*14:03	MT	SYFSEFLA[H]	309.05	WT	SYFSEFLA[Q]	1223.59	9	1.59102
Se112	SV2A Q286H	HLA-B*35:01	MT	FSYFSEFLA[H]	324.45	WT	FSYFSEFLA[Q]	3008.36	10	1.59102

Se112	SV2A Q286H	HLA-A*11:01	MT	YFSEFLA[H]JEK	325.78	WT	YFSEFLA[Q]JEK	926.33	10	1.59102
Se112	PRRX1 N219K	HLA-A*11:01	MT	[K]MANSIANLR	103.04	WT	[N]MANSIANLR	896.53	10	30.08311
Se112	PRRX1 N219K	HLA-A*33:03	MT	[K]MANSIANLR	183.45	WT	[N]MANSIANLR	16.57	10	30.08311
Se112	PRRX1 N219K	HLA-C*14:03	MT	[K]MANSIANL	424.99	WT	[N]MANSIANL	655.55	9	30.08311
Se112	ELK4 P409T	HLA-C*14:03	MT	VLNSHG[T]FTL	231.38	WT	VLNSHG[P]FTL	269.2	10	2.02501
Se112	ELK4 P409T	HLA-C*14:03	MT	SVLNSHG[T]F	377.35	WT	SVLNSHG[P]F	287.08	9	2.02501
Se112	MAPKAPK2 M314T	HLA-A*11:01	MT	[T]TITEFMNH	181.65	WT	[M]TITEFMNH	116.19	9	31.7864
Se112	RTKN M131I	HLA-B*35:01	MT	IPL[I]WKDTEY	12.23	WT	IPL[M]WKDTEY	10.43	10	11.69512
Se112	RTKN M131I	HLA-A*11:01	MT	L[I]WKDTEYFK	46.52	WT	L[M]WKDTEYFK	51.66	10	11.69512
Se112	RTKN M131I	HLA-B*44:03	MT	SDLRIPL[I]W	417.87	WT	SDLRIPL[M]W	444.59	9	11.69512
Se112	LRR15 L438P	HLA-B*35:01	MT	W[P]LLNQPR	242.24	WT	W[L]LLNQPR	12534.67	9	5.69404
Se112	LRR15 L438P	HLA-A*33:03	MT	RNW[P]LLNQPR	302.94	WT	RNW[L]LLNQPR	296.29	10	5.69404
Se112	LRR15 L438P	HLA-C*14:03	MT	ILPLRNW[P]LL	344.66	WT	ILPLRNW[L]LL	452.53	10	5.69404
Se112	LRR15 L438P	HLA-C*14:03	MT	NW[P]LLNQPR	391.41	WT	NW[L]LLNQPR	1023.95	10	5.69404
Se112	LRR15 L438P	HLA-C*14:03	MT	ILPLRNW[P]L	438.34	WT	ILPLRNW[L]L	914.7	9	5.69404
Se112	LRR15 L438P	HLA-B*35:01	MT	LPLRNW[P]LL	447.89	WT	LPLRNW[L]LL	277.78	9	5.69404
Se112	UVSSA R683Q	HLA-A*11:01	MT	KVFAKAAV[Q]R	68.65	WT	KVFAKAAV[R]R	66.71	10	2.04614
Se112	UVSSA R683Q	HLA-A*33:03	MT	KVFAKAAV[Q]R	96.11	WT	KVFAKAAV[R]R	121.15	10	2.04614
Se112	UVSSA R683Q	HLA-B*35:01	MT	AAV[Q]RVVAAM	99.26	WT	AAV[R]RVVAAM	264.82	10	2.04614
Se112	UVSSA R683Q	HLA-A*33:03	MT	VFAKAAV[Q]R	304.15	WT	VFAKAAV[R]R	352.28	9	2.04614
Se112	UVSSA R683Q	HLA-C*14:03	MT	VFAKAAV[Q]RV	415.97	WT	VFAKAAV[R]RV	405.19	10	2.04614
Se112	UVSSA R683Q	HLA-C*14:03	MT	AAV[Q]RVVAAM	425.03	WT	AAV[R]RVVAAM	564.04	10	2.04614
Se112	FBXO4 C330S	HLA-A*11:01	MT	S[S]ISQGDVK	190.49	WT	S[C]ISQGDVK	9653.9	9	2.36141
Se112	CHD1 R547T	HLA-B*44:03	MT	[T]EIQTWASQM	64.84	WT	[R]EIQTWASQM	71.54	10	5.0271
Se112	PCDH12 R1175S	HLA-A*11:01	MT	KS[S]GSSSSSR	249.18	WT	KS[R]GSSSSSR	1389.43	10	6.41542
Se112	PCDH12 R1175S	HLA-A*11:01	MT	S[S]GSSSSSR	340.39	WT	S[R]GSSSSSR	25683.8	9	6.41542
Se112	ZNF354B C466F	HLA-A*11:01	MT	RIHTGEKP[F]K	125.18	WT	RIHTGEKP[C]K	517.6	10	2.96867
Se112	ZNF354B C466F	HLA-A*11:01	MT	HTGEKP[F]KCK	293.64	WT	HTGEKP[C]KCK	1037.91	10	2.96867
Se112	PKN3 C606W	HLA-A*33:03	MT	EIESLY[W]EKR	125	WT	EIESLY[C]EKR	324.41	10	2.74625
Se112	PKN3 C606W	HLA-C*14:03	MT	Y[W]EKRILEAV	307.56	WT	Y[C]EKRILEAV	6126.46	10	2.74625
Se112	SEC61A2 E210K	HLA-A*33:03	MT	RALR[K]AFYR	44.62	WT	RALR[E]AFYR	149.85	9	2.12101
Se112	SEC61A2 E210K	HLA-A*11:01	MT	RALR[K]AFYR	50.87	WT	RALR[E]AFYR	59.98	9	2.12101
Se112	SEC61A2 E210K	HLA-A*11:01	MT	RTDKVRALR[K]	107.54	WT	RTDKVRALR[E]	15141.37	10	2.12101
Se112	ARL5B V42L	HLA-C*14:03	MT	LYQFLMNEV[L]	56.15	WT	LYQFLMNEV[V]	231.77	10	4.67929
Se112	ARL5B V42L	HLA-B*44:03	MT	NEV[L]HTSPTI	236.8	WT	NEV[V]HTSPTI	273.89	10	4.67929
Se112	PLCE1 G1960R	HLA-A*33:03	MT	LTKSTKQPR[R]	171.46	WT	LTKSTKQPR[G]	34750.18	10	1.12215
Se112	PLCE1 G1960R	HLA-C*14:03	MT	[R]LTSPSPLL	480.33	WT	[G]LTSPSPLL	2487.79	9	1.12215
Se112	RCN1 H202R	HLA-A*33:03	MT	FLHPPEEF[R]	260.58	WT	FLHPPEEF[H]	22168.88	9	71.00507
Se112	TMEM126B L84F	HLA-A*11:01	MT	A[F]YSDNISK	123.76	WT	A[L]YSDNISK	17.84	9	7.27629
Se112	MAML2 Q672E	HLA-A*33:03	MT	[E]SLPSQPLL	124.59	WT	[Q]SLPSQPLL	519.7	10	6.40557
Se112	MAML2 Q672E	HLA-B*44:03	MT	A[E]SLPSQPL	276.72	WT	A[Q]SLPSQPL	11053.78	9	6.40557
Se112	MAML2 Q672E	HLA-B*44:03	MT	A[E]SLPSQPLL	292.39	WT	A[Q]SLPSQPLL	13173.39	10	6.40557
Se112	MANSC1 C100S	HLA-B*35:01	MT	[S]PNEEACPL	79.27	WT	[C]PNEEACPL	284.47	9	7.67533
Se112	SPATS2 A275S	HLA-C*14:03	MT	KMKQAF[S]EL	150.97	WT	KMKQAF[A]EL	176.82	9	7.93403
Se112	SLC16A7 F346Y	HLA-B*35:01	MT	YAV[Y]FGLGF	16.02	WT	YAV[F]FGLGF	30.46	9	1.54399
Se112	SLC16A7 F346Y	HLA-B*35:01	MT	YTSLVLYAV[Y]	29.2	WT	YTSLVLYAV[F]	124.95	10	1.54399
Se112	SLC16A7 F346Y	HLA-C*14:03	MT	V[Y]FGLGFGSV	135.11	WT	V[F]FGLGFGSV	931.76	10	1.54399
Se112	SLC16A7 F346Y	HLA-C*14:03	MT	LYAV[Y]FGLGF	168.3	WT	LYAV[F]FGLGF	241.14	10	1.54399
Se112	SLC16A7 F346Y	HLA-C*14:03	MT	YAV[Y]FGLGF	206.27	WT	YAV[F]FGLGF	305.05	9	1.54399
Se112	SLC16A7 F346Y	HLA-C*14:03	MT	YTSLVLYAV[Y]	456.97	WT	YTSLVLYAV[F]	257.52	10	1.54399
Se112	SLC16A7 F346Y	HLA-B*35:01	MT	TSLVLYAV[Y]	472.31	WT	TSLVLYAV[F]	1983.24	9	1.54399
Se112	ANKRD13A V34M	HLA-A*33:03	MT	QN[M]EAVDPR	394.69	WT	QN[V]EAVDPR	1312.79	9	12.50843
Se112	ARID4A N358T	HLA-C*14:03	MT	VYHQGGCD[T]I	72.03	WT	VYHQGGCD[N]I	244.66	10	4.36436
Se112	ARID4A N358T	HLA-A*11:01	MT	[T]IDSGAVWK	114.15	WT	[N]IDSGAVWK	694.56	9	4.36436
Se112	ZWILCH L148F	HLA-B*35:01	MT	EPRGP[ <i>I</i> ]NHLY	179.79	WT	EPRGP[ <i>L</i> ]NHLY	198.89	10	5.08156
Se112	ZC3H18 R406W	HLA-A*33:03	MT	HNYRERE[W]JER	30.75	WT	HNYRERE[R]JER	155.84	10	9.57578
Se112	ZC3H18 R406W	HLA-A*33:03	MT	NYRERE[W]JER	33.33	WT	NYRERE[R]JER	662.93	9	9.57578
Se112	KDM6B P528R	HLA-A*33:03	MT	EGFLG[R]PASR	91.33	WT	EGFLG[P]PASR	234.7	10	5.55802
Se112	KDM6B P528R	HLA-A*33:03	MT	GFLG[R]PASR	177.15	WT	GFLG[P]PASR	368.31	9	5.55802
Se112	FLCN P404R	HLA-A*11:01	MT	RH[R]YSSQY	251.42	WT	RH[P]YSSQY	215.94	9	11.97291
Se112	FLCN P404R	HLA-C*14:03	MT	[R]YSSQYEEAY	442.86	WT	[P]YSSQYEEAY	7122.1	10	11.97291
Se112	TNFAIP1 F80V	HLA-A*33:03	MT	H[V]GTILNYLR	12.78	WT	H[F]GTILNYLR	16.85	10	16.79562
Se112	TNFAIP1 F80V	HLA-A*11:01	MT	H[V]GTILNYLR	203.13	WT	H[F]GTILNYLR	3683.99	10	16.79562
Se112	MYOM1 T395A	HLA-B*35:01	MT	MPLSFGV[A]PY	1.75	WT	MPLSFGV[T]PY	1.85	10	1.04538
Se112	MYOM1 T395A	HLA-B*35:01	MT	MPLSFGV[A]P	73.62	WT	MPLSFGV[T]P	162.04	9	1.04538
Se112	MYOM1 T395A	HLA-A*33:03	MT	GV[A]PYGYASR	82.53	WT	GV[T]PYGYASR	139.76	10	1.04538
Se112	MYOM1 T395A	HLA-B*35:01	MT	LSFGV[A]PYGY	86.73	WT	LSFGV[T]PYGY	66.83	10	1.04538
Se112	MYOM1 T395A	HLA-B*35:01	MT	[A]PYGYASRF	116.68	WT	[T]PYGYASRF	27.67	9	1.04538
Se112	MYOM1 T395A	HLA-A*11:01	MT	GV[A]PYGYASR	151.89	WT	GV[T]PYGYASR	598.43	10	1.04538
Se112	MYOM1 T395A	HLA-C*14:03	MT	V[A]PYGYASRF	277.05	WT	V[T]PYGYASRF	385.11	10	1.04538
Se112	MYOM1 T395A	HLA-A*33:03	MT	V[A]PYGYASR	499.04	WT	V[T]PYGYASR	322.65	9	1.04538
Se112	UBA52 I61M	HLA-A*11:01	MT	RTLSDDY[N]JQK	12.71	WT	RTLSDDY[I]QK	17.15	10	104.4925
Se112	UBA52 I61M	HLA-A*11:01	MT	RTLSDDY[N]JQK	18.71	WT	RTLSDDY[I]QK	23.2	9	104.4925
Se112	UBA52 I61M	HLA-C*14:03	MT	YN[M]JQKESTL	203.6	WT	YN[I]JQKESTL	660.18	9	104.4925
Se112	PRR12 T1192M	HLA-A*11:01	MT	AS[M]PTDGAKK	43.75	WT	AS[T]PTDGAKK	550.68	10	6.35469
Se112	PRR12 T1192M	HLA-A*11:01	MT	AS[M]PTDGAK	54.78	WT	AS[T]PTDGAK	715.13	9	6.35469
Se112	PRR12 T1192M	HLA-B*35:01	MT	TAGPASAS[M]	116.34	WT	TAGPASAS[T]	13650.84	9	6.35469
Se112	PRR12 T1192M	HLA-A*11:01	MT	SAS[M]PTDGAK	241.16	WT	SAS[T]PTDGAK	348.75	10	6.35469

Se112	PRR12 T1192M	HLA-B*35:01	MT	TTAGPASAS[M]	457.63	WT	TTAGPASAS[T]	23547.77	10	6.35469
Se112	RANGAP1 L23R	HLA-A*11:01	MT	[R]SFKGKSLK	21.08	WT	[L]SFKGKSLK	31.97	9	13.86878
Se112	RANGAP1 L23R	HLA-A*11:01	MT	QVAGGQ[R]SFK	71.87	WT	QVAGGQ[L]SFK	23.67	10	13.86878
Se112	RANGAP1 L23R	HLA-A*11:01	MT	VAGGQ[R]SFK	194.11	WT	VAGGQ[L]SFK	87.92	9	13.86878
Se112	DDX3X R183C	HLA-A*33:03	MT	NIELT[C]YTR	115.71	WT	NIELT[R]YTR	38.53	9	74.33424
Se112	DDX3X R183C	HLA-A*33:03	MT	GNIELT[C]YTR	265.6	WT	GNIELT[R]YTR	263.11	10	74.33424
Se112	DDX3X R183C	HLA-B*35:01	MT	MGNIELT[C]Y	334.18	WT	MGNIELT[R]Y	605.08	9	74.33424
Se112	RRAGB N92K	HLA-C*14:03	MT	RFLGNLVL[K]L	143.78	WT	RFLGNLVL[N]L	143.19	10	6.3353
Se112	RRAGB N92K	HLA-A*11:01	MT	RFLGNLVL[K]	235.46	WT	RFLGNLVL[N]	31701.33	9	6.3353
Se112	PNCK H392D	HLA-A*11:01	MT	ATSFLR[D]IRK	34.51	WT	ATSFLR[H]IRK	18.1	10	1.04508
Se112	PNCK H392D	HLA-A*11:01	MT	TSFLR[D]IRK	36.04	WT	TSFLR[H]IRK	19.53	9	1.04508
Se112	PNCK H392D	HLA-A*33:03	MT	NATSFLR[D]IR	185.12	WT	NATSFLR[H]IR	36.95	10	1.04508
Se112	PNCK H392D	HLA-A*33:03	MT	ATSFLR[D]IR	266.45	WT	ATSFLR[H]IR	42.3	9	1.04508
Se112	PNCK H392D	HLA-C*14:03	MT	SFLR[D]IRKL	315.18	WT	SFLR[H]IRKL	91.66	9	1.04508
Se112	PNCK H392D	HLA-A*11:01	MT	ATSFLR[D]IR	418.45	WT	ATSFLR[H]IR	124.56	9	1.04508
Se113	FMO4 G162R	HLA-A*33:03	MT	EAF[R]IHKFK	73.25	WT	EAF[G]IHKFK	110.12	10	1.68595
Se113	FMO4 G162R	HLA-A*33:03	MT	HLPLEAFP[R]	101.31	WT	HLPLEAFP[G]	34815.72	9	1.68595
Se113	MBNL1 T6I	HLA-A*33:03	MT	MAVSV[I]PIR	38.41	WT	MAVSV[T]PIR	38.7	9	14.49147
Se113	MBNL1 T6I	HLA-B*58:01	MT	SV[I]PIRDTKW	39.2	WT	SV[T]PIRDTKW	99.39	10	14.49147
Se113	PCDHGB6 R627C	HLA-A*33:03	MT	RTGEV[C]TAR	208.56	WT	RTGEV[R]TAR	129.88	9	39.71458
Se113	PCDHGB6 R627C	HLA-A*33:03	MT	[C]TARALGDR	467.28	WT	[R]TARALGDR	2477.15	9	39.71458
Se113	TRRAP E660D	HLA-A*33:03	MT	TTVPYMV[D]JR	47.51	WT	TTVPYMV[E]JR	16.69	9	6.62431
Se113	TRRAP E660D	HLA-A*33:03	MT	QTTVPYMV[D]R	210.41	WT	QTTVPYMV[E]R	73.77	10	6.62431
Se113	NSMCE2 F17L	HLA-C*03:04	MT	IS[L]SGVESAL	87.35	WT	IS[F]SGVESAL	35.46	10	11.00293
Se113	NSMCE2 F17L	HLA-C*03:03	MT	IS[L]SGVESAL	87.35	WT	IS[F]SGVESAL	35.46	10	11.00293
Se113	ECHDC3 V247L	HLA-C*03:04	MT	ASLSRP[L]VSL	257.52	WT	ASLSRP[V]VSL	185.35	10	1.50265
Se113	ECHDC3 V247L	HLA-C*03:03	MT	ASLSRP[L]VSL	257.52	WT	ASLSRP[V]VSL	185.35	10	1.50265
Se113	ECHDC3 V247L	HLA-C*03:04	MT	KIASLSRP[L]	258.77	WT	KIASLSRP[V]	1584	9	1.50265
Se113	ECHDC3 V247L	HLA-C*03:03	MT	KIASLSRP[L]	258.77	WT	KIASLSRP[V]	1584	9	1.50265
Se113	ZNF664 H49Y	HLA-A*33:03	MT	HISELHI[Y]WR	8.15	WT	HISELHI[H]WR	10.01	10	19.79416
Se113	ZNF664 H49Y	HLA-B*58:01	MT	HISELHI[Y]W	23.31	WT	HISELHI[H]W	27.27	9	19.79416
Se113	ZNF664 H49Y	HLA-A*33:03	MT	ISELHI[Y]WR	187.15	WT	ISELHI[H]WR	329.12	9	19.79416
Se113	TP53 R116W	HLA-B*58:01	MT	SSCMGGMN[W]	27.06	WT	SSCMGGMN[R]	31452.95	9	32.68065
Se113	TP53 R116W	HLA-B*58:01	MT	NSSCMGGMN[W]	76.07	WT	NSSCMGGMN[R]	33270.55	10	32.68065
Se113	TP53 R116W	HLA-A*33:03	MT	SSCMGGMN[W]R	303.47	WT	SSCMGGMN[R]R	507.12	10	32.68065
Se113	PPP6R1 R692G	HLA-C*03:04	MT	CAA[G]GGATPL	8.96	WT	CAA[R]GGATPL	12.99	10	34.70777
Se113	PPP6R1 R692G	HLA-C*03:03	MT	CAA[G]GGATPL	8.96	WT	CAA[R]GGATPL	12.99	10	34.70777
Se113	PPP6R1 R692G	HLA-C*03:04	MT	AA[G]GGATPL	44.5	WT	AA[R]GGATPL	18.67	9	34.70777
Se113	PPP6R1 R692G	HLA-C*03:03	MT	AA[G]GGATPL	44.5	WT	AA[R]GGATPL	18.67	9	34.70777
Se113	PPP1R3F G278C	HLA-A*33:03	MT	TFWANNH[C]R	16.67	WT	TFWANNH[G]R	10.84	9	1.8388
Se113	PPP1R3F G278C	HLA-A*33:03	MT	GTFWANNH[C]R	37.63	WT	GTFWANNH[G]R	25.84	10	1.8388
Se113	PPP1R3F G278C	HLA-A*33:03	MT	H[C]RNYTVLLR	280.63	WT	H[G]RNYTVLLR	177.96	10	1.8388
Se114	NLRP3 S597N	HLA-A*02:01	MT	KL[N]CKISQOI	132.76	WT	KL[S]CKISQOI	87.89	10	1.38248
Se114	ARL6IP6 L130F	HLA-A*02:01	MT	FLLAIAI[Y]FJ	3.29	WT	FLLAIAI[L]J	4.29	9	9.91904
Se114	ARL6IP6 L130F	HLA-A*02:01	MT	FLLAIAI[Y]FIV	4.47	WT	FLLAIAI[L]IV	10.2	10	9.91904
Se114	ARL6IP6 L130F	HLA-A*02:01	MT	LIAIAY[F]IV	35.83	WT	LIAIAY[L]IV	220.35	9	9.91904
Se114	ARL6IP6 L130F	HLA-A*24:02	MT	AFLAIAI[Y]F	228.08	WT	AFLAIAI[L]	1476.02	9	9.91904
Se114	ARL6IP6 L130F	HLA-A*24:02	MT	AFLAIAI[Y]FJ	353.79	WT	AFLAIAI[L]J	234.43	10	9.91904
Se114	ARL6IP6 L130F	HLA-A*02:01	MT	AIAY[F]IVKEL	395.57	WT	AIAY[L]IVKEL	625.42	10	9.91904
Se114	PLA2R1 G922R	HLA-A*02:01	MT	[R]LWGSEECV	29.41	WT	[G]LWGSEECV	23.83	10	1.78733
Se114	PLA2R1 G922R	HLA-A*24:02	MT	GFSSIT[R]LW	294.65	WT	GFSSIT[G]LW	296.56	10	1.78733
Se114	SSFA2 H740R	HLA-B*54:01	MT	CPYSHR[R]AT	485.76	WT	CPYSHR[H]AT	102.21	9	12.21401
Se114	WDR5B T297A	HLA-A*02:01	MT	KLQGH[A]DVV	161.73	WT	KLQGH[T]DVV	84.06	9	5.2915
Se114	WDR5B T297A	HLA-A*02:01	MT	KLQGH[A]DVVI	367.08	WT	KLQGH[T]DVVI	364.89	10	5.2915
Se114	DIRC2 L382W	HLA-B*54:01	MT	LPLTTV[T]WYA	48.16	WT	LPLTTV[L]WYA	48.27	10	7.42432
Se114	DIRC2 L382W	HLA-A*24:02	MT	T[W]YASCILL	439.14	WT	T[L]YASCILL	11025.11	9	7.42432
Se114	NSD1 W421C	HLA-A*02:01	MT	ILSK[C]EASV	28.1	WT	ILSK[W]EASV	16.07	9	9.03143
Se114	NSD1 W421C	HLA-A*02:01	MT	KILSK[C]EASV	63	WT	KILSK[W]EASV	39.11	10	9.03143
Se114	NEU1 S119I	HLA-A*02:01	MT	[I]TWSPTAFIV	133.14	WT	[S]TWSPTAFIV	132.19	10	25.27052
Se114	NEU1 S119I	HLA-A*02:01	MT	[I]TWSPTAFI	207.69	WT	[S]TWSPTAFI	310.8	9	25.27052
Se114	FBXO30 N285T	HLA-A*02:01	MT	SALC[T]GFPL	336.5	WT	SALC[N]GFPL	327.15	9	3.96942
Se114	BIRC3 G472A	HLA-A*02:01	MT	ILDSLLTA[A]I	21.23	WT	ILDSLLTA[G]I	23.97	10	11.00904
Se114	BIRC3 G472A	HLA-A*02:01	MT	ILDSLLTA[A]	29.93	WT	ILDSLLTA[G]	2246.6	9	11.00904
Se114	ALOX5AP S108R	HLA-A*02:01	MT	YLGERTQ[R]T	321.08	WT	YLGERTQ[S]T	114.42	9	19.47422
Se114	TJP1 S404C	HLA-B*54:01	MT	LPVSP[C]DGV	164.63	WT	LPVSP[S]DGV	137	9	12.60195
Se114	DECR2 D12Y	HLA-A*24:02	MT	[Y]CLPAYRHFL	495.93	WT	[D]CLPAYRHFL	13153.45	10	3.63966
Se114	USP7 D428Y	HLA-B*54:01	MT	[Y]PANYILHAV	11.04	WT	[D]PANYILHAV	286.78	10	16.72134
Se114	USP7 D428Y	HLA-B*54:01	MT	[Y]PANYILHA	33.3	WT	[D]PANYILHA	1433.34	9	16.72134
Se114	DYRK1B A417T	HLA-A*02:01	MT	RMLEYEP[T]A	12.76	WT	RMLEYEP[A]A	12.61	9	7.88859
Se114	IRAK1 D52H	HLA-A*02:01	MT	ALIVR[H]QTEL	412.14	WT	ALIVR[D]QTEL	463.96	10	39.96844
Se115	RAPH1 S913A	HLA-B*55:02	MT	QPSSIPV[P]A	177.18	WT	QPSSIPV[S]	4085.08	9	2.39179
Se115	ZNF142 L943S	HLA-B*07:02	MT	LPKDAP[S]JEL	29.69	WT	LPKDAP[L]JEL	39.37	9	5.19336
Se115	SEC62 F234V	HLA-C*07:02	MT	YYLSVGAGC[V]	401.98	WT	YYLSVGAGC[F]	143.29	10	20.29382
Se115	SEC62 F234V	HLA-A*24:02	MT	YYLSVGAGC[V]	473.06	WT	YYLSVGAGC[F]	16.61	10	20.29382
Se115	METTL14 A62V	HLA-B*07:02	MT	APN[V]KRKYL	46.95	WT	APN[A]KRKYL	26.35	9	6.31498
Se115	CDC42 K634R	HLA-B*07:02	MT	NPV[R]KRKDL	371.79	WT	NPV[K]KRKDL	256.71	9	3.05482
Se115	ADAMTSL2 P333T	HLA-B*07:02	MT	[T]PHESRPQPI	52.08	WT	[P]PHESRPQPI	958.59	10	1.63625
Se115	ADAMTSL4 K825N	HLA-A*24:02	MT	AY[N]YVIHEDL	383.92	WT	AY[K]YVIHEDL	364.9	10	1.0468



Se115	ADAMTS14 Y826N	HLA-A*24:02	MT	AYK[N]VIHEDL	297.86	WT	AYK[Y]VIHEDL	364.9	10	1.0468
Se115	ATP11A A915V	HLA-A*24:02	MT	[V]YLTLYNISF	18.14	WT	[A]YLTLYNISF	33.5	10	6.47587
Se115	ATP11A A915V	HLA-A*24:02	MT	LYDT[V]YLTTL	53.49	WT	LYDT[A]YLTTL	107.66	9	6.47587
Se115	ATP11A A915V	HLA-C*07:02	MT	LYDT[V]YLTTL	201.54	WT	LYDT[A]YLTTL	156.2	9	6.47587
Se115	FASN R1349W	HLA-A*24:02	MT	GFLLHTLL[W]	421.34	WT	GFLLHTLL[R]	15731.21	10	6.90259
Se115	B3GNT3 H91Y	HLA-C*07:02	MT	YRHCR[Y]FPLL	8.92	WT	YRHCR[H]FPLL	8.19	10	4.02073
Se115	B3GNT3 H91Y	HLA-C*07:02	MT	YRHCR[Y]FPL	9.38	WT	YRHCR[H]FPL	8.31	9	4.02073
Se115	B3GNT3 H91Y	HLA-A*24:02	MT	LYRHCR[Y]FPL	88.23	WT	LYRHCR[H]FPL	143.41	10	4.02073
Se115	B3GNT3 H91Y	HLA-A*24:02	MT	R[Y]FPLLQDV	94.2	WT	R[H]FPLLQDV	13765.34	9	4.02073
Se115	B3GNT3 H91Y	HLA-C*07:02	MT	LYRHCR[Y]FPL	301.54	WT	LYRHCR[H]FPL	238.73	10	4.02073
Se115	B3GNT3 H91Y	HLA-C*07:02	MT	R[Y]FPLLQDV	322.35	WT	R[H]FPLLQDV	4101.78	9	4.02073
Se115	B3GNT3 H91Y	HLA-C*07:02	MT	FLLYRHCR[Y]F	395.06	WT	FLLYRHCR[H]F	1249.67	10	4.02073
Se115	KMT2B S941C	HLA-B*07:02	MT	EPTG[C]GGTL	260.28	WT	EPTG[S]GGTL	195.6	9	10.97326
Se115	EML2 S185L	HLA-A*24:02	MT	RYLSPERLA[L]	185.97	WT	RYLSPERLA[S]	8036.17	10	7.76798
Se115	EML2 S185L	HLA-C*07:02	MT	RYLSPERLA[L]	331.3	WT	RYLSPERLA[S]	9492.02	10	7.76798
Se115	SLC52A3 F129S	HLA-B*07:02	MT	LP[S]MSRLPT	28.69	WT	LP[F]MSRLPT	32.55	9	3.56899
Se115	SLC52A3 F129S	HLA-B*55:02	MT	LP[S]MSRLPT	348.34	WT	LP[F]MSRLPT	56.89	9	3.56899
Se116	MXRA8 P160L	HLA-B*40:02	MT	GDFSLRIE[L]	192.25	WT	GDFSLRIE[P]	8093.88	9	10.10897
Se116	MXRA8 P160L	HLA-A*02:01	MT	SLRIE[L]LEV	200.5	WT	SLRIE[P]LEV	858.73	9	10.10897
Se116	MXRA8 P160L	HLA-A*02:01	MT	FSLRIE[L]LEV	225.01	WT	FSLRIE[P]LEV	411.22	10	10.10897
Se116	MXRA8 P160L	HLA-B*40:02	MT	GDFSLRIE[L]L	251.23	WT	GDFSLRIE[P]L	93.65	10	10.10897
Se116	ZNF638 K1431N	HLA-A*02:01	MT	[N]LSAKEFGL	251.8	WT	[K]LSAKEFGL	57.47	9	17.76437
Se116	RBSN L559V	HLA-B*40:02	MT	REIGPFQ[V]EP	208.91	WT	REIGPFQ[L]EP	244.22	10	3.74079
Se116	RBSN L559V	HLA-B*40:02	MT	REIGPFQ[V]E	406.34	WT	REIGPFQ[L]E	820.25	9	3.74079
Se116	EXOSC7 M239I	HLA-A*11:01	MT	VTC[I]RKVGK	303.53	WT	VTC[M]RKVGK	237.73	9	20.6967
Se116	EXOSC7 M239I	HLA-A*11:01	MT	VVTC[I]RKVGK	452.79	WT	VVTC[M]RKVGK	458.35	10	20.6967
Se116	CACNA1D L80V	HLA-C*03:04	MT	SAPPPVGS[V]	133.81	WT	SAPPPVGS[L]	30.03	9	1.33245
Se116	ABI3BP E427Q	HLA-A*11:01	MT	KTSRTL[Q]QPR	268.84	WT	KTSRTL[E]QPR	377.57	10	1.32572
Se116	ABI3BP E427Q	HLA-C*03:04	MT	RTL[Q]QPRATL	294	WT	RTL[E]QPRATL	195.81	10	1.32572
Se116	GEMIN5 R718Q	HLA-A*11:01	MT	HS[R]PPQGKK	394.92	WT	HS[R]PPQGKK	947.63	9	4.7956
Se116	DOCK2 M1388R	HLA-A*11:01	MT	MTQFPNAEK[R]	329.31	WT	MTQFPNAEK[M]	13705.28	10	1.05531
Se116	DOCK2 M1388R	HLA-B*40:02	MT	AEK[R]NTTSA	434.48	WT	AEK[M]NTTSA	344.51	9	1.05531
Se116	MDC1 M1316I	HLA-A*11:01	MT	RSRTN[I]SSVK	274.17	WT	RSRTN[M]SSVK	225.96	10	8.17975
Se116	BAG6 Q289E	HLA-A*02:01	MT	FL[E]RYEVL	140.43	WT	FL[Q]RYEVL	36.65	9	62.92272
Se116	BAG6 Q289E	HLA-B*40:02	MT	L[E]RYEVLGA	479.62	WT	L[Q]RYEVLGA	6081.61	10	62.92272
Se116	FGD2 R322C	HLA-A*11:01	MT	TL[L]C]EGPVLK	62.84	WT	TL[L]R]EGPVLK	54.05	10	1.03685
Se116	FGD2 R322C	HLA-A*02:01	MT	LL[C]EGPVLKI	120.28	WT	LL[R]EGPVLKI	833.17	10	1.03685
Se116	FGD2 R322C	HLA-A*11:01	MT	LL[C]EGPVLK	142.29	WT	LL[R]EGPVLK	399.37	9	1.03685
Se116	FGD2 R322C	HLA-A*02:01	MT	TL[L]C]EGPVL	199.92	WT	TL[L]R]EGPVL	934.64	9	1.03685
Se116	RBAK C266S	HLA-A*11:01	MT	CSE[S]GKSFCK	359.69	WT	CSE[C]GKSFCK	410.42	10	6.08618
Se116	FBXL18 R501H	HLA-C*03:04	MT	SAMP[H]NEPAI	20.72	WT	SAMP[R]NEPAI	31.12	10	2.75813
Se116	FBXL18 R501H	HLA-C*03:04	MT	SAMP[H]NEPA	150.29	WT	SAMP[R]NEPA	275.08	9	2.75813
Se116	TRIM4 R170L	HLA-A*11:01	MT	[L]MRISTEFSK	260.86	WT	[R]MRISTEFSK	173.13	10	4.22197
Se116	TRIB1 L42I	HLA-A*11:01	MT	IVLGD[L]K[I]RK	150.47	WT	IVLGD[L]K[L]RK	101.71	10	6.17113
Se116	TRIB1 L42I	HLA-A*11:01	MT	VLGD[L]K[I]RK	152.88	WT	VLGD[L]K[L]RK	152.56	9	6.17113
Se116	ZNF239 R44K	HLA-A*11:01	MT	ASSPISR[N]K	81.78	WT	ASSPISR[N]R	535.59	9	6.93293
Se116	IGHMBP2 D754Y	HLA-A*02:01	MT	SLNSH[Y]RLRV	171.88	WT	SLNSH[D]RLRV	481.03	10	3.40419
Se116	TAPBPL R442H	HLA-A*02:01	MT	GLLQAE[H]WET	136.2	WT	GLLQAE[R]WET	647.59	10	24.38147
Se116	TAPBPL R442H	HLA-A*02:01	MT	LLQAE[H]WET	165.28	WT	LLQAE[R]WET	832.05	9	24.38147
Se116	TAPBPL R442H	HLA-B*40:02	MT	AE[H]WETTSCA	212.13	WT	AE[R]WETTSCA	299.58	10	24.38147
Se116	TAPBPL R442H	HLA-B*40:02	MT	AE[H]WETTSC	309.12	WT	AE[R]WETTSC	465.44	9	24.38147
Se116	SPRY2 R292H	HLA-A*11:01	MT	RVNRP[C]G[H]CK	53.16	WT	RVNRP[C]G[R]CK	163.85	10	5.79804
Se116	NOP9 R290C	HLA-A*11:01	MT	QVALQVLH[C]K	58.58	WT	QVALQVLH[R]K	53.94	10	7.96378
Se116	NOP9 R290C	HLA-A*11:01	MT	VALQVLH[C]K	121.66	WT	VALQVLH[R]K	94.68	9	7.96378
Se116	NOP9 R290C	HLA-C*03:04	MT	VALQVLH[C]KL	484.72	WT	VALQVLH[R]KL	612.2	10	7.96378
Se116	SYNE2 M5466I	HLA-A*02:01	MT	[I]LLPGLHSL	11.91	WT	[M]LLPGLHSL	6.93	10	5.305
Se116	SYNE2 M5466I	HLA-B*40:02	MT	AESSTH[I]JLL	18.25	WT	AESSTH[M]JLL	24.94	9	5.305
Se116	SYNE2 M5466I	HLA-C*03:04	MT	[I]LLPGLHSL	321.7	WT	[M]LLPGLHSL	101.37	10	5.305
Se116	ITGAE I909T	HLA-A*02:01	MT	IMNCR[I]GHPV	49.52	WT	IMNCR[I]GHPV	24.11	10	1.06409
Se116	ITGAE I909T	HLA-A*11:01	MT	R[I]GHPVLR	133.74	WT	R[I]GHPVLR	210.18	9	1.06409
Se116	TP53 R116W	HLA-A*11:01	MT	SSCMGGMN[W]R	314.72	WT	SSCMGGMN[R]R	416.65	10	26.67127
Se116	TP53 R116W	HLA-A*02:01	MT	GMN[W]RPILT	349.83	WT	GMN[R]RPILT	1051.42	10	26.67127
Se116	MAPK7 P323S	HLA-A*11:01	MT	PVSE[S]APPK	479	WT	PVSE[P]APPK	594.12	9	4.94366
Se116	KCNJ2 I269V	HLA-A*02:01	MT	FLVSPIT[V]V	7.12	WT	FLVSPIT[I]V	9.1	9	4.88954
Se116	KCNJ2 I269V	HLA-A*02:01	MT	RIFLVSPT[V]	108.96	WT	RIFLVSPT[I]	501.02	10	4.88954
Se116	KCNJ2 I269V	HLA-C*03:04	MT	FLVSPIT[V]V	146.34	WT	FLVSPIT[I]V	439.92	9	4.88954
Se116	GDF15 R57Q	HLA-B*40:02	MT	REL[Q]KRYEDL	43.01	WT	REL[R]KRYEDL	60.79	10	4.29015
Se116	MOC3 V189F	HLA-A*02:01	MT	YL[F]NDACVLA	7.9	WT	YL[V]NDACVLA	41.85	10	8.32048
Se116	MOC3 V189F	HLA-A*02:01	MT	YL[F]NDACVL	10.19	WT	YL[V]NDACVL	51.08	9	8.32048
Se116	MOC3 V189F	HLA-C*03:04	MT	YL[F]NDACVL	17.95	WT	YL[V]NDACVL	31.71	9	8.32048
Se117	PMF1 E198K	HLA-B*40:06	MT	REQR[KL]VAV	256.39	WT	REQR[E]LVAV	259.08	9	41.43247
Se117	ATP2B2 P859T	HLA-C*15:02	MT	S[T]LKAVQML	413.44	WT	S[P]LKAVQML	18781.37	9	3.23116
Se117	CUL7 R1062Q	HLA-A*24:02	MT	TFWVPV[F]R]EQL	354.74	WT	TFWVPV[F]R]EQL	506.94	10	18.0435
Se117	SLC17A5 F48L	HLA-A*24:02	MT	RYNLAILAF[L]	58.12	WT	RYNLAILAF[F]	16.54	10	7.49879
Se117	UTRN D1037V	HLA-A*24:02	MT	KWMDGVK[V]F	172.03	WT	KWMDGVK[D]F	244.97	9	2.61391
Se117	UTRN D1037V	HLA-A*24:02	MT	KWMDGVK[V]JL	347.56	WT	KWMDGVK[D]JL	668.75	10	2.61391
Se117	TMEM140 A153V	HLA-C*15:02	MT	LSLPGPGL[V]	143.38	WT	LSLPGPGL[A]	1386.92	10	5.21187
Se117	CLEC5A E113V	HLA-A*24:02	MT	IYHR[V]EKRW	458.22	WT	IYHR[E]EKRW	1854.96	9	3.15483

Se117	CLECSA E113V	HLA-A*24:02	MT	YFIGLIYHR[V]	495.25	WT	YFIGLIYHR[E]	11721.77	10	3.15483
Se117	TRPS1 S882F	HLA-A*24:02	MT	QYPASGENK[F]	215.63	WT	QYPASGENK[S]	20245.66	10	17.39733
Se117	PLEC I3605L	HLA-B*40:06	MT	KERM[L]IIII	203.88	WT	KERM[I]IIII	221.54	9	37.11197
Se117	GBA2 L550F	HLA-A*24:02	MT	FYASFALIM[F]	32.61	WT	FYASFALIM[L]	259.8	10	16.68847
Se117	DHCR7 Q144E	HLA-A*24:02	MT	KY[E]INGLQAW	156.74	WT	KY[Q]INGLQAW	30.42	10	17.94896
Se117	TMPRSS13 L308Q	HLA-A*24:02	MT	KWPWQVS[Q]HF	34.54	WT	KWPWQVS[L]HF	29.21	10	6.03841
Se117	EFTUD1 V487L	HLA-B*40:06	MT	LEFLRR[L]PL	273.51	WT	LEFLRR[V]PL	203.05	9	13.55461
Se117	TP53 C9Y	HLA-C*15:02	MT	KT[Y]PVQLWV	19.62	WT	KT[C]PVQLWV	163.76	9	18.04264
Se117	FARSA P347L	HLA-C*15:02	MT	FT[L]VKYFSI	287.34	WT	FT[P]VKYFSI	468.4	9	29.65828
Se117	DYRK1A A26G	HLA-C*15:02	MT	FSFHA[G]GLQM	63.04	WT	FSFHA[A]GLQM	63.42	10	10.08463
Se117	PIM3 T86A	HLA-B*40:06	MT	TEWGS LGGA[A]	252.09	WT	TEWGS LGGA[T]	1033.81	10	16.67216
Se117	PDK3 R162H	HLA-C*15:02	MT	YTNRISF[H]ML	56.69	WT	YTNRISF[R]ML	60.74	10	2.4772
Se117	PDK3 R162H	HLA-C*15:02	MT	YTNRISF[H]M	78.46	WT	YTNRISF[R]M	77.14	9	2.4772
Se117	PDK3 R162H	HLA-A*24:02	MT	FYTNRISF[H]M	273.7	WT	FYTNRISF[R]M	297.87	10	2.4772
Se118	PRKCZ R73G	HLA-A*11:01	MT	[G]VIGRGSYAK	35.8	WT	[R]VIGRGSYAK	22.5	10	6.3913
Se118	USP24 S2135T	HLA-C*03:04	MT	Y[T]SDYFSFVL	8.54	WT	Y[S]SDYFSFVL	8.19	10	7.53997
Se118	USP24 S2135T	HLA-C*03:04	MT	Y[T]SDYFSFV	112.95	WT	Y[S]SDYFSFV	85.75	9	7.53997
Se118	USP24 S2135T	HLA-A*26:01	MT	DVY[T]SDYFSF	160.16	WT	DVY[S]SDYFSF	128.06	10	7.53997
Se118	USP24 S2135T	HLA-A*26:01	MT	Y[T]SDYFSFV	166.61	WT	Y[S]SDYFSFV	1745.74	9	7.53997
Se118	ATP8B2 D1022N	HLA-C*03:04	MT	LA[N]YQSFV	88.71	WT	LA[D]YQSFV	170.83	9	6.63327
Se118	ATP8B2 D1022N	HLA-B*54:01	MT	LA[N]YQSFV	487.12	WT	LA[D]YQSFV	1524.11	9	6.63327
Se118	ELK4 M405L	HLA-B*40:06	MT	LERLCVTV[L]	474.53	WT	LERLCVTV[M]	896.47	9	2.17001
Se118	BIRC6 D1967H	HLA-C*03:04	MT	KAVEE[H]SRVF	73.11	WT	KAVEE[D]SRVF	126.26	10	6.5027
Se118	GULP1 D103H	HLA-A*11:01	MT	RISFCA[H]DK	41.32	WT	RISFCA[D]DK	111.27	9	1.33919
Se118	MYEOV2 K192Q	HLA-A*26:01	MT	NQS[Q]WLGSY	433.54	WT	NQS[K]WLGSY	418.58	9	20.79512
Se118	FBLN2 G707S	HLA-A*11:01	MT	AICSCFP[S]Y	109.19	WT	AICSCFP[G]Y	162.47	9	6.40665
Se118	FBLN2 G707S	HLA-C*03:04	MT	SAICSCFP[S]Y	194.17	WT	SAICSCFP[G]Y	709.18	10	6.40665
Se118	FBLN2 G707S	HLA-A*11:01	MT	SAICSCFP[S]Y	206.61	WT	SAICSCFP[G]Y	270.64	10	6.40665
Se118	FRYL S2582F	HLA-A*26:01	MT	TFFEDEG[F]Y	117.86	WT	TFFEDEG[S]Y	107.89	9	4.99589
Se118	FRYL S2582F	HLA-B*40:06	MT	FEDEG[F]YII	253.2	WT	FEDEG[S]YII	392.31	9	4.99589
Se118	FRAS1 L1138F	HLA-B*40:06	MT	VED[F]LFHV	368.83	WT	VED[L]LFHV	358.37	9	1.45026
Se118	FAT2 T843A	HLA-A*11:01	MT	TTIAEL[T]TK	18.1	WT	TTIAEL[T]TK	18.1	9	1.54178
Se118	FAT2 T843A	HLA-A*11:01	MT	GTIAEL[A]TK	129.26	WT	GTIAEL[T]TK	136.03	10	1.54178
Se118	CD83 S48F	HLA-A*11:01	MT	QVPYTV[F]WVK	93.1	WT	QVPYTV[S]WVK	206.76	10	8.59801
Se118	CD83 S48F	HLA-C*03:04	MT	YTV[F]WVKLL	311.6	WT	YTV[S]WVKLL	100.62	9	8.59801
Se118	BAK1 G4W	HLA-A*11:01	MT	AS[W]QGGPPR	213.97	WT	AS[G]QGGPPR	1156.24	10	22.68104
Se118	FAM83B E575G	HLA-A*11:01	MT	GSQGS[G]TPK	109.9	WT	GSQGS[E]TPK	151.93	9	2.02613
Se118	TULP4 Y464F	HLA-B*40:06	MT	LE[F]LGLLVP	53.94	WT	LE[Y]LGLLVP	60.95	10	3.23813
Se118	TULP4 Y464F	HLA-A*11:01	MT	[F]LGLLVPILK	238.97	WT	[Y]LGLLVPILK	147.43	10	3.23813
Se118	C7orf60 D349A	HLA-B*54:01	MT	IPQDFNSIE[A]	168.09	WT	IPQDFNSIE[D]	19919.27	10	3.22274
Se118	SNTB1 H382N	HLA-A*11:01	MT	RLV[N]SGPGK	154.91	WT	RLV[H]SGPGK	142.44	9	7.19712
Se118	SPTAN1 Q2124R	HLA-C*03:04	MT	[R]ADFNQLAEL	64.12	WT	[Q]ADFNQLAEL	127.37	10	36.04571
Se118	SPTAN1 Q2124R	HLA-C*03:04	MT	SA[R]ADFNQL	415.37	WT	SA[Q]ADFNQL	195.48	9	36.04571
Se118	ABCA2 H1295L	HLA-C*03:04	MT	GAFERLFQ[L]L	346.96	WT	GAFERLFQ[H]L	365.43	10	6.92575
Se118	ABCA2 H1295L	HLA-C*03:04	MT	GAFERLFQ[L]	351.53	WT	GAFERLFQ[H]	20026.77	9	6.92575
Se118	CDHR1 K578M	HLA-C*03:04	MT	[M]SVQKKTMLV	75.49	WT	[K]SVQKKTMLV	621.02	10	1.26905
Se118	CDHR1 K578M	HLA-C*03:04	MT	FG[M]SVQKKTMLV	178.94	WT	FG[K]SVQKKTMLV	8833.22	10	1.26905
Se118	CDHR1 K578M	HLA-B*54:01	MT	HPPQFG[M]SV	389.84	WT	HPPQFG[K]SV	1761.11	9	1.26905
Se118	MRPL43 R68C	HLA-C*03:04	MT	YVNS[R]PCCV	268.76	WT	YVNS[R]PCCV	262.95	9	11.42203
Se118	MRPL43 R68C	HLA-B*54:01	MT	[C]PCCVPRVVA	269.41	WT	[R]PCCVPRVVA	2255.76	10	11.42203
Se118	SLC43A1 P183T	HLA-A*11:01	MT	SSAITF[T]GIK	23.19	WT	SSAITF[P]GIK	31.16	10	1.49436
Se118	SLC43A1 P183T	HLA-A*11:01	MT	SAITF[T]GIK	31.63	WT	SAITF[P]GIK	59.03	9	1.49436
Se118	SLC43A1 P183T	HLA-C*03:04	MT	SAITF[T]GIKL	84.74	WT	SAITF[P]GIKL	87.68	10	1.49436
Se118	SLC43A1 P183T	HLA-A*11:01	MT	ITF[T]GIKLIY	220.99	WT	ITF[P]GIKLIY	223.12	10	1.49436
Se118	LGALS12 D11H	HLA-B*54:01	MT	VPL[H]AHRFQV	293.57	WT	VPL[D]AHRFQV	276.02	10	1.72826
Se118	CYFIP1 Q378H	HLA-A*26:01	MT	EVVTGSGR[H]	492.67	WT	EVVTGSGR[Q]	5645.47	9	17.20739
Se118	STRA6 A400S	HLA-C*03:04	MT	RALHRGA[S]L	20.84	WT	RALHRGA[A]L	16.51	9	1.04246
Se118	STRA6 A400S	HLA-C*03:04	MT	GA[S]LDLSPL	140.59	WT	GA[A]LDLSPL	85.56	9	1.04246
Se118	STRA6 A400S	HLA-A*11:01	MT	A[S]LDLSPLHR	179.85	WT	A[A]LDLSPLHR	492.47	10	1.04246
Se118	ALDH1A3 V170M	HLA-A*11:01	MT	R[M]TLELGGK	494.31	WT	R[V]TLELGGK	233.61	9	3.74735
Se118	GLYR1 R7W	HLA-A*11:01	MT	[W]LGDLVWGK	421.52	WT	[R]LGDLVWGK	74.86	9	24.80077
Se118	GLYR1 R7W	HLA-C*03:04	MT	AAVSL[W]LGD	438.39	WT	AAVSL[R]LGD	513.31	10	24.80077
Se118	FBXL19 L74V	HLA-C*03:04	MT	L[V]RQCTAPV	249.78	WT	L[L]RQCTAPV	499.44	10	9.06548
Se118	FBXL19 L74V	HLA-C*03:04	MT	L[V]RQCTAPV	342.99	WT	L[L]RQCTAPV	934.03	9	9.06548
Se118	RILP Q250H	HLA-A*11:01	MT	[H]ILQERNELK	165.96	WT	[Q]ILQERNELK	366.62	10	3.50254
Se118	RILP Q250H	HLA-C*03:04	MT	FSREEFE[H]IL	256.59	WT	FSREEFE[Q]IL	221.53	10	3.50254
Se118	PHF12 G938R	HLA-C*03:04	MT	[R]AGWEGTAL	149.22	WT	[G]AGWEGTAL	928.33	9	9.50122
Se118	PHF12 G938R	HLA-A*11:01	MT	SSSLIGGS[R]	315.79	WT	SSSLIGGS[G]	26148.08	10	9.50122
Se118	PHF12 G938R	HLA-A*11:01	MT	SSSLIGGS[R]	319.18	WT	SSSLIGGS[G]	26810.49	9	9.50122
Se118	PHF12 G938R	HLA-C*03:04	MT	[R]AGWEGTALL	459.34	WT	[G]AGWEGTALL	2505.08	10	9.50122
Se118	STARD3 W386C	HLA-A*11:01	MT	FV[C]ILNTDLK	240.54	WT	FV[W]ILNTDLK	145.18	10	16.70026
Se118	CHERP K879N	HLA-A*26:01	MT	DVRD[N]WDQY	134.84	WT	DVRD[K]WDQY	315.5	9	14.16531
Se118	ATRN H808R	HLA-A*11:01	MT	SVCERPAN[R]	430.8	WT	SVCERPAN[H]	2750.14	9	11.56261
Se119	ESPN D689N	HLA-A*02:06	MT	FQP[N]SPLPSV	7.96	WT	FQP[D]SPLPSV	4.75	10	9.09865
Se119	ESPN D689N	HLA-B*35:01	MT	QPAFQP[N]SPL	130.44	WT	QPAFQP[D]SPL	119.25	10	9.09865
Se119	ESPN D689N	HLA-C*03:03	MT	PAFQP[N]SPL	197.44	WT	PAFQP[D]SPL	292.96	9	9.09865
Se119	ESPN D689N	HLA-C*03:04	MT	PAFQP[N]SPL	197.44	WT	PAFQP[D]SPL	292.96	9	9.09865
Se119	ZMYND10 N301H	HLA-A*02:06	MT	TLLDQLP[H]L	5.53	WT	TLLDQLP[N]L	6.49	9	1.46587

Se119	ZMYND10 N301H	HLA-B*35:01	MT	LP[H]LAHLQSF	19.66	WT	LP[N]LAHLQSF	9.86	10	1.46587
Se119	ZMYND10 N301H	HLA-A*02:06	MT	TLLDQLP[H]LA	33.16	WT	TLLDQLP[N]LA	70.46	10	1.46587
Se119	ZMYND10 N301H	HLA-A*02:06	MT	[H]LAHLQSF	237.62	WT	[N]LAHLQSF	339.5	10	1.46587
Se119	ZMYND10 N301H	HLA-A*02:06	MT	[H]LAHLQSF	339.79	WT	[N]LAHLQSF	535.1	9	1.46587
Se119	ZMYND10 N301H	HLA-A*02:06	MT	LLDQLP[H]LA	488.05	WT	LLDQLP[N]LA	1011.2	9	1.46587
Se119	UGT2B7 T503S	HLA-A*02:06	MT	FLLVCVA[S]V	6.47	WT	FLLVCVA[T]V	9.7	9	5.4888
Se119	UGT2B7 T503S	HLA-A*02:06	MT	CVA[S]VIFIV	42.06	WT	CVA[T]VIFIV	91.43	9	5.4888
Se119	UGT2B7 T503S	HLA-A*02:06	MT	FLLVCVA[S]VI	111.87	WT	FLLVCVA[T]VI	97.54	10	5.4888
Se119	PCDHGC4 V368A	HLA-C*03:03	MT	SAEPGT[A]VAL	30.91	WT	SAEPGT[V]VAL	30.78	10	1.87483
Se119	PCDHGC4 V368A	HLA-C*03:04	MT	SAEPGT[A]VAL	30.91	WT	SAEPGT[V]VAL	30.78	10	1.87483
Se119	PCDHGC4 V368A	HLA-A*02:06	MT	GT[A]VALISV	68.04	WT	GT[V]VALISV	82.97	9	1.87483
Se119	PCDHGC4 V368A	HLA-B*40:02	MT	AEPGT[A]VAL	110.97	WT	AEPGT[V]VAL	84.54	9	1.87483
Se119	PCDHGC4 V368A	HLA-B*40:02	MT	AEPGT[A]VALI	350.82	WT	AEPGT[V]VALI	316.2	10	1.87483
Se119	LRRIC16A G171V	HLA-A*02:06	MT	L[V]FSYREEV	23.72	WT	L[G]FSYREEV	1721.08	9	3.65601
Se119	LRRIC16A G171V	HLA-B*35:01	MT	YACVCDWL[V]F	33.31	WT	YACVCDWL[G]F	121.15	10	3.65601
Se119	LRRIC16A G171V	HLA-A*24:02	MT	MYACVCDWL[V]	55.3	WT	MYACVCDWL[G]	980.86	10	3.65601
Se119	LRRIC16A G171V	HLA-A*02:06	MT	WL[V]FSYREEV	84.89	WT	WL[G]FSYREEV	243.02	10	3.65601
Se119	LRRIC16A G171V	HLA-C*03:03	MT	YACVCDWL[V]F	99.96	WT	YACVCDWL[G]F	415.04	10	3.65601
Se119	LRRIC16A G171V	HLA-C*03:04	MT	YACVCDWL[V]F	99.96	WT	YACVCDWL[G]F	415.04	10	3.65601
Se119	LRRIC16A G171V	HLA-B*35:01	MT	CVCDWL[V]FSY	187.18	WT	CVCDWL[G]FSY	251.45	10	3.65601
Se119	LRRIC16A G171V	HLA-A*02:06	MT	YACVCDWL[V]	222.96	WT	YACVCDWL[G]	19562.46	9	3.65601
Se119	GLTSCR1L I166L	HLA-C*03:03	MT	YSGQTLQP[L]	49.37	WT	YSGQTLQP[I]	287.87	9	3.01907
Se119	GLTSCR1L I166L	HLA-C*03:04	MT	YSGQTLQP[L]	49.37	WT	YSGQTLQP[I]	287.87	9	3.01907
Se119	GLTSCR1L I166L	HLA-A*02:06	MT	LQP[L]GVTHV	108.38	WT	LQP[I]GVTHV	138.43	9	3.01907
Se119	GLTSCR1L I166L	HLA-B*35:01	MT	QP[L]GVTHVPV	232.29	WT	QP[I]GVTHVPV	82.53	10	3.01907
Se119	GLTSCR1L I166L	HLA-A*02:06	MT	TLQP[I]GVTHV	239.99	WT	TLQP[I]GVTHV	196.57	10	3.01907
Se119	ZNF775 P275L	HLA-C*03:03	MT	AAVSGPEG[L]	116.83	WT	AAVSGPEG[P]	34248.56	9	1.69208
Se119	ZNF775 P275L	HLA-C*03:04	MT	AAVSGPEG[L]	116.83	WT	AAVSGPEG[P]	34248.56	9	1.69208
Se119	ZNF775 P275L	HLA-C*03:03	MT	RAAVSGPEG[L]	142.92	WT	RAAVSGPEG[P]	30454.34	10	1.69208
Se119	ZNF775 P275L	HLA-C*03:04	MT	RAAVSGPEG[L]	142.92	WT	RAAVSGPEG[P]	30454.34	10	1.69208
Se119	SEC31B G122V	HLA-C*03:03	MT	HT[V]AVRALDL	269.09	WT	HT[G]AVRALDL	3095.05	10	2.24443
Se119	SEC31B G122V	HLA-C*03:04	MT	HT[V]AVRALDL	269.09	WT	HT[G]AVRALDL	3095.05	10	2.24443
Se119	FRMD8 R152L	HLA-A*02:06	MT	FLPAHLCK[R]	10.8	WT	FLPAHLCK[R]	3542.51	9	10.75632
Se119	FRMD8 R152L	HLA-A*02:06	MT	K[L]GQSLFAA	49.54	WT	K[R]GQSLFAA	14868.01	9	10.75632
Se119	FRMD8 R152L	HLA-A*02:06	MT	K[L]GQSLFAAL	103.98	WT	K[R]GQSLFAAL	10826.42	10	10.75632
Se119	FRMD8 R152L	HLA-A*24:02	MT	SFLPAHLCK[R]	453.25	WT	SFLPAHLCK[R]	12363.25	10	10.75632
Se119	R3HDM2 M724I	HLA-B*35:01	MT	[I]VQWSHCKY	326.08	WT	[M]VQWSHCKY	21.99	9	10.19345
Se119	R3HDM2 M724I	HLA-B*35:01	MT	NPS[I]VQWSH	354.71	WT	NPS[M]VQWSH	438.26	9	10.19345
Se119	TBC1D15 M145I	HLA-B*40:02	MT	KEG[I]GWSYLV	96.6	WT	KEG[M]GWSYLV	86.52	10	8.03269
Se119	TBC1D15 M145I	HLA-B*40:02	MT	KEG[I]GWSYL	100.62	WT	KEG[M]GWSYL	94.59	9	8.03269
Se119	TBC1D15 M145I	HLA-B*35:01	MT	EG[I]GWSYLVF	238.28	WT	EG[M]GWSYLVF	149.83	10	8.03269
Se119	TBC1D15 M145I	HLA-A*02:06	MT	EG[I]GWSYLV	238.79	WT	EG[M]GWSYLV	176.28	9	8.03269
Se119	SEL1L L9V	HLA-A*02:06	MT	[V]LLCAVLLSL	52.38	WT	[L]LLCAVLLSL	41.82	10	17.67881
Se119	SEL1L L9V	HLA-A*02:06	MT	GLT[V]LLCAV	133.8	WT	GLT[L]LLCAV	143.8	9	17.67881
Se119	CACNA1H G712C	HLA-C*03:03	MT	RALEDPE[C]JEL	103.88	WT	RALEDPE[G]JEL	141.67	10	1.14006
Se119	CACNA1H G712C	HLA-C*03:04	MT	RALEDPE[C]JEL	103.88	WT	RALEDPE[G]JEL	141.67	10	1.14006
Se119	ZNF574 K506E	HLA-A*02:06	MT	KMFK[E]KSHV	146.9	WT	KMFK[K]KSHV	317.23	9	6.76679
Se119	ZNF574 K506E	HLA-B*40:02	MT	K[E]KSHVRNHL	183.68	WT	K[K]KSHVRNHL	11356.83	10	6.76679
Se119	C20orf27 G178A	HLA-A*02:06	MT	MLLD[G]VKCV	15.12	WT	MLLD[J]VKCV	13.97	9	30.52502
Se119	C20orf27 G178A	HLA-A*02:06	MT	GTPMLLD[A]V	362.5	WT	GTPMLLD[G]V	405.2	9	30.52502
Se119	KCNG1 A441V	HLA-A*02:06	MT	[V]LSSILSGI	76.73	WT	[A]LSSILSGI	40.93	9	1.42093
Se119	KCNG1 A441V	HLA-A*02:06	MT	V[V]LSSILSGI	77.57	WT	V[A]LSSILSGI	370.66	10	1.42093
Se119	KCNG1 A441V	HLA-A*02:06	MT	GQVV[V]LSSI	124.67	WT	GQVV[A]LSSI	97.33	9	1.42093
Se119	KCNG1 A441V	HLA-B*40:02	MT	GQVV[V]LSSI	210.61	WT	GQVV[A]LSSI	332.61	9	1.42093
Se119	KCNG1 A441V	HLA-B*40:02	MT	GQVV[V]LSSIL	284.09	WT	GQVV[A]LSSIL	425.3	10	1.42093
Se119	KCNG1 A441V	HLA-C*03:03	MT	RSTPGQVV[V]L	297.22	WT	RSTPGQVV[A]L	185.1	10	1.42093
Se119	KCNG1 A441V	HLA-C*03:04	MT	RSTPGQVV[V]L	297.22	WT	RSTPGQVV[A]L	185.1	10	1.42093
Se119	KCNG1 A441S	HLA-A*02:06	MT	[S]LSSILSGI	59.45	WT	[A]LSSILSGI	40.93	9	1.42093
Se119	KCNG1 A441S	HLA-A*02:06	MT	GQVV[S]LSSI	164.28	WT	GQVV[A]LSSI	97.33	9	1.42093
Se119	KCNG1 A441S	HLA-C*03:03	MT	RSTPGQVV[S]L	216.53	WT	RSTPGQVV[A]L	185.1	10	1.42093
Se119	KCNG1 A441S	HLA-C*03:04	MT	RSTPGQVV[S]L	216.53	WT	RSTPGQVV[A]L	185.1	10	1.42093
Se119	KCNG1 A441S	HLA-B*40:02	MT	GQVV[S]LSSI	337.06	WT	GQVV[A]LSSI	332.61	9	1.42093
Se119	KCNG1 A441S	HLA-C*03:03	MT	QVV[S]LSSIL	420.36	WT	QVV[A]LSSIL	406.5	9	1.42093
Se119	KCNG1 A441S	HLA-C*03:04	MT	QVV[S]LSSIL	420.36	WT	QVV[A]LSSIL	406.5	9	1.42093
Se119	KCNG1 A441S	HLA-B*40:02	MT	GQVV[S]LSSIL	470.6	WT	GQVV[A]LSSIL	425.3	10	1.42093
Se119	PRDM15 S267I	HLA-A*02:06	MT	SLPPG[I]QSEA	295.51	WT	SLPPG[S]QSEA	1107.3	10	2.52069
Se119	PRDM15 S267I	HLA-A*02:06	MT	EQAKSLPPG[I]	495.83	WT	EQAKSLPPG[S]	13667.45	10	2.52069
Se120	ALDH4A1 R10G	HLA-B*35:01	MT	LPAPALR[G]AL	38.71	WT	LPAPALR[R]AL	46.32	10	6.77243
Se120	ZZZ3 S367Y	HLA-B*35:01	MT	[Y]LSEPQEHRY	198.31	WT	[S]LSEPQEHRY	1851.58	10	20.95429
Se120	TANC1 A1036V	HLA-C*03:03	MT	Q[V]LTAASAM	276.99	WT	Q[A]LTAASAM	38.88	9	10.38317
Se120	TANC1 A1036V	HLA-B*35:01	MT	Q[V]LTAASAM	302.42	WT	Q[A]LTAASAM	73.27	9	10.38317
Se120	TANC1 A1036V	HLA-B*35:01	MT	HALQQ[V]LTAA	422.15	WT	HALQQ[A]LTAA	349.1	10	10.38317
Se120	ATG4B R90P	HLA-C*03:03	MT	FAQALVC[P]JHL	26.07	WT	FAQALVC[R]JHL	31.69	10	20.68699
Se120	ATG4B R90P	HLA-B*35:01	MT	FAQALVC[P]JH	93.84	WT	FAQALVC[R]JH	1744.21	9	20.68699
Se120	TTC33 R46H	HLA-C*03:03	MT	HAIK[H]RKEIL	146.41	WT	HAIK[R]RKEIL	272.59	10	2.92766
Se120	TTC33 R46H	HLA-C*03:03	MT	HAIK[H]RKEI	352.79	WT	HAIK[R]RKEI	721.42	9	2.92766
Se120	SKIV2L2 H810Y	HLA-B*35:01	MT	HPL[Y]NDPNL	140.7	WT	HPL[H]NDPNL	189.1	9	17.73998
Se120	SLC35B2 F73L	HLA-C*03:03	MT	[L]VSFPTQVL	59.05	WT	[F]VSFPTQVL	6.59	9	89.96051

Se120	SLC35B2 F73L	HLA-A*24:02	MT	QYEALK[L]VSFL	145.53	WT	QYEALK[F]VSF	77.63	10	89.96051
Se120	SLC35B2 F73L	HLA-C*03:03	MT	K[L]VSFPTQVL	351.63	WT	K[F]VSFPTQVL	2478.88	10	89.96051
Se120	NOM1 C697Y	HLA-A*26:01	MT	EIIHVLMDC[Y]	17.05	WT	EIIHVLMDC[C]	9132.61	10	5.14356
Se120	NOM1 C697Y	HLA-C*03:03	MT	[Y]LQEKTYNPF	193.1	WT	[C]LQEKTYNPF	4693	10	5.14356
Se120	NOM1 C697Y	HLA-A*24:02	MT	[Y]LQEKTYNPF	214.86	WT	[C]LQEKTYNPF	536.85	10	5.14356
Se120	NOM1 C697Y	HLA-B*35:01	MT	[Y]LQEKTYNPF	281.72	WT	[C]LQEKTYNPF	2675.02	10	5.14356
Se120	NOM1 C697Y	HLA-B*35:01	MT	EIIHVLMDC[Y]	349.89	WT	EIIHVLMDC[C]	35194.07	10	5.14356
Se120	KAT6A V1188I	HLA-B*35:01	MT	MPVSTQAC[I]	37.41	WT	MPVSTQAC[V]	30.19	9	12.38895
Se120	KAT6A V1188I	HLA-B*35:01	MT	MPVSTQAC[I]I	42.19	WT	MPVSTQAC[V]I	27.14	10	12.38895
Se120	SULF1 H182Y	HLA-B*35:01	MT	[Y]GFDYAKDY	190.69	WT	[H]GFDYAKDY	798.24	9	5.41244
Se120	SULF1 H182Y	HLA-B*35:01	MT	[Y]GFDYAKDYF	448.7	WT	[H]GFDYAKDYF	1562.69	10	5.41244
Se120	FAM175B R282Q	HLA-C*03:03	MT	FSP[Q]MPSSGF	268.65	WT	FSP[R]MPSSGF	339.85	10	11.71531
Se120	FAM175B R282Q	HLA-B*35:01	MT	SP[Q]MPSSGF	329.04	WT	SP[R]MPSSGF	810.38	9	11.71531
Se120	FAM175B R282Q	HLA-C*03:03	MT	SLDPAFSP[Q]M	378.22	WT	SLDPAFSP[R]M	562.42	10	11.71531
Se120	PIK3C2A V528M	HLA-B*35:01	MT	TP[M]DLNKHLY	12.57	WT	TP[V]DLNKHLY	20.72	10	16.12213
Se120	PIK3C2A V528M	HLA-C*03:03	MT	RTAEDDETP[M]	151.94	WT	RTAEDDETP[V]	1195.43	10	16.12213
Se120	PIK3C2A V528M	HLA-B*35:01	MT	TAEDDETP[M]	197.4	WT	TAEDDETP[V]	6364.64	9	16.12213
Se120	NCAPD3 D1135G	HLA-B*35:01	MT	LPL[G]LDASEL	38.41	WT	LPL[D]LDASEL	33.19	10	7.76346
Se120	NCAPD3 D1135G	HLA-C*03:03	MT	FADGILPL[G]L	38.91	WT	FADGILPL[D]L	50.75	10	7.76346
Se120	NCAPD3 D1135G	HLA-C*08:01	MT	FADGILPL[G]L	65.91	WT	FADGILPL[D]L	74.21	10	7.76346
Se120	TIMELESS R515Q	HLA-A*24:02	MT	LFLKMLE[Q]F	49.28	WT	LFLKMLE[R]F	51.78	9	27.46669
Se120	FZD10 R443H	HLA-C*03:03	MT	MV[H]IGLFSVL	138.55	WT	MV[R]IGLFSVL	583.08	10	11.8341
Se120	NFATC4 P127L	HLA-C*03:03	MT	TSISPTPE[P]	57.95	WT	TSISPTPE[P]	27343.08	9	2.50046
Se120	NFATC4 P127L	HLA-B*35:01	MT	SPTPE[L]PAAL	126.3	WT	SPTPE[P]PAAL	204.2	10	2.50046
Se120	NFATC4 P127L	HLA-C*03:03	MT	ITSISPTPE[L]	140.33	WT	ITSISPTPE[P]	30787.92	10	2.50046
Se120	SPTB P1197Q	HLA-C*03:03	MT	LAHLEP[Q]DSL	114.25	WT	LAHLEP[P]DSL	92.06	10	1.8271
Se120	SHCBP1 S337C	HLA-C*03:03	MT	ITHVVS[C]TM	102.01	WT	ITHVVS[S]TM	69.14	9	1.70358
Se120	SHCBP1 S337C	HLA-C*03:03	MT	ITHVVS[C]TMM	377.57	WT	ITHVVS[S]TMM	178.7	10	1.70358
Se120	SHCBP1 S337C	HLA-C*03:03	MT	VVS[C]TMMAGL	492.8	WT	VVS[S]TMMAGL	365.41	10	1.70358
Se120	GPS2 D107H	HLA-B*35:01	MT	[H]LTLTSAAY	33.51	WT	[D]LTLTSAAY	100.86	10	13.5662
Se120	NF1 T1951S	HLA-C*03:03	MT	[S]AILDKLITM	50.43	WT	[T]AILDKLITM	68.31	10	14.30734
Se120	NF1 T1951S	HLA-B*35:01	MT	[S]AILDKLITM	382.71	WT	[T]AILDKLITM	232.86	10	14.30734
Se120	PCTP F104L	HLA-A*24:02	MT	YY[F]DNPGGQI	117.58	WT	YY[F]DNPGGQI	191.51	10	14.35037
Se120	RGS9 S554N	HLA-C*03:03	MT	SVTES[N]EASL	205.37	WT	SVTES[S]EASL	171.2	10	1.11989
Se120	SIGLEC15 S178I	HLA-B*35:01	MT	[I]PAHAFRAL	25.12	WT	[S]PAHAFRAL	44.84	9	1.02214
Se120	SIGLEC15 S178I	HLA-C*03:03	MT	IVNISVLP[I]	184.09	WT	IVNISVLP[S]	13333.2	9	1.02214
Se120	SIGLEC15 S178I	HLA-B*35:01	MT	LP[I]PAHAFA	209.66	WT	LP[S]PAHAFA	334.89	10	1.02214
Se120	SIGLEC15 S178I	HLA-B*35:01	MT	SVLP[I]PAHAF	239.86	WT	SVLP[S]PAHAF	134.78	10	1.02214
Se120	SIGLEC15 S178I	HLA-C*03:03	MT	[I]PAHAFRAL	340.73	WT	[S]PAHAFRAL	371.94	9	1.02214
Se120	SIGLEC15 S178I	HLA-C*03:03	MT	SVLP[I]PAHAF	406.73	WT	SVLP[S]PAHAF	171.73	10	1.02214
Se120	ZNF837 E461V	HLA-C*03:03	MT	KTFRGCS[V]L	150.82	WT	KTFRGCS[E]L	161.68	9	1.09794
Se120	MYH7B Y175N	HLA-A*26:01	MT	[N]TASVVAAY	10.24	WT	[Y]TASVVAAY	4.98	9	1.61478
Se120	MYH7B Y175N	HLA-B*35:01	MT	[N]TASVVAAY	11.82	WT	[Y]TASVVAAY	4.3	9	1.61478
Se120	MYH7B Y175N	HLA-B*35:01	MT	LPV[N]TASVV	54.42	WT	LPV[Y]TASVV	43.47	9	1.61478
Se120	MYH7B Y175N	HLA-B*35:01	MT	LPV[N]TASVVA	55.77	WT	LPV[Y]TASVVA	46.55	10	1.61478
Se120	RPN2 G57V	HLA-C*03:03	MT	YSIV[G]LSSL	9.73	WT	YSIV[G]LSSL	5.23	9	172.743
Se120	RPN2 G57V	HLA-C*03:03	MT	SAFYSIV[V]L	12.34	WT	SAFYSIV[G]L	27.07	9	172.743
Se120	RPN2 G57V	HLA-B*40:06	MT	LESAFYSIV[V]	126.1	WT	LESAFYSIV[G]	4366.49	10	172.743
Se120	RPN2 G57V	HLA-A*24:02	MT	FYSIV[V]LSSL	150.03	WT	FYSIV[G]LSSL	286.86	10	172.743
Se121	GNL2 R355P	HLA-A*31:01	MT	WQYITLM[P]R	46.52	WT	WQYITLM[R]R	87.43	9	31.69561
Se121	GNL2 R355P	HLA-A*31:01	MT	VWQYITLM[P]R	56.81	WT	VWQYITLM[R]R	80.07	10	31.69561
Se121	GNL2 R355P	HLA-B*40:02	MT	WQYITLM[P]RI	95.02	WT	WQYITLM[R]RI	220.5	10	31.69561
Se121	GNL2 R355P	HLA-C*03:04	MT	YITLM[P]RIFL	307.54	WT	YITLM[R]RIFL	691.18	10	31.69561
Se121	GNL2 R355P	HLA-A*11:01	MT	WQYITLM[P]R	392.73	WT	WQYITLM[R]R	896.53	9	31.69561
Se121	GNL2 R355P	HLA-C*03:04	MT	YITLM[P]RIF	496.41	WT	YITLM[R]RIF	1116.99	9	31.69561
Se121	SLC44A5 R351Q	HLA-A*11:01	MT	RI[Q]VAIILLK	38.94	WT	RI[R]VAIILLK	105.32	10	1.60925
Se121	SLC44A5 R351Q	HLA-A*11:01	MT	I[Q]VAIILLK	55.59	WT	I[R]VAIILLK	6407.62	9	1.60925
Se121	SLC44A5 R351Q	HLA-A*31:01	MT	RI[Q]VAIILLK	258.12	WT	RI[R]VAIILLK	94.45	10	1.60925
Se121	ITSN2 D614H	HLA-B*40:02	MT	SEM[H]SFNNQL	17.44	WT	SEM[D]SFNNQL	18.05	10	4.77952
Se121	ITSN2 D614H	HLA-A*11:01	MT	EM[H]SFNNQLK	222.98	WT	EM[D]SFNNQLK	351.07	10	4.77952
Se121	ITSN2 D614H	HLA-B*15:01	MT	ASKLSEM[H]SF	284.29	WT	ASKLSEM[D]SF	923.07	10	4.77952
Se121	HARS N120T	HLA-C*03:04	MT	KVYRRD[T]PAM	95.2	WT	KVYRRD[N]PAM	162.07	10	15.21724
Se121	HARS N120T	HLA-B*15:01	MT	KVYRRD[T]PAM	349.16	WT	KVYRRD[N]PAM	589.58	10	15.21724
Se121	PCDHGA6 D426H	HLA-C*03:04	MT	TAT[H]KGTPLL	38.38	WT	TAT[D]KGTPLL	29.95	10	4.738
Se121	PCDHGA6 D426H	HLA-C*03:04	MT	AT[H]KGTPLL	106.64	WT	AT[D]KGTPLL	287.69	9	4.738
Se121	ZSCAN16 K318I	HLA-B*15:01	MT	RIHTGE[I]PY	218.41	WT	RIHTGE[K]PY	399.7	9	7.50105
Se121	ATF6B L119H	HLA-A*11:01	MT	GVGEV[H]HVK	81.54	WT	GVGEV[L]HVK	70.07	9	127.42896
Se121	KMT2C A1590T	HLA-B*15:01	MT	FSAI[T]QSSY	25.18	WT	FSAI[A]QSSY	24.05	9	8.21177
Se121	KMT2C A1590T	HLA-A*31:01	MT	I[T]QSSYPDAR	145.88	WT	I[A]QSSYPDAR	476.54	10	8.21177
Se121	KMT2C A1590T	HLA-C*03:04	MT	FSAI[T]QSSY	390.94	WT	FSAI[A]QSSY	291.7	9	8.21177
Se121	HAUS6 S484T	HLA-A*11:01	MT	[T]AFGGSLPAK	20.82	WT	[S]AFGGSLPAK	12.37	10	7.48812
Se121	HAUS6 S484T	HLA-C*03:04	MT	[T]AFGGSLPA	40.02	WT	[S]AFGGSLPA	31.82	9	7.48812
Se121	HAUS6 S484T	HLA-B*40:02	MT	TES[T]AFGGSL	117.28	WT	TES[S]AFGGSL	90.16	10	7.48812
Se121	HAUS6 S484T	HLA-B*15:01	MT	VAKNTES[T]AF	127.97	WT	VAKNTES[S]AF	101.11	10	7.48812
Se121	CELF2 G40R	HLA-A*31:01	MT	[R]JAVYQINVL	19.9	WT	[G]JAVYQINVL	156.31	10	1.93321
Se121	CELF2 G40R	HLA-C*03:04	MT	[R]JAVYQINVL	32.8	WT	[G]JAVYQINVL	171.35	9	1.93321
Se121	CELF2 G40R	HLA-B*40:02	MT	KELFEPY[R]AV	48.08	WT	KELFEPY[G]AV	48.5	10	1.93321
Se121	CELF2 G40R	HLA-B*15:01	MT	ELFEPY[R]AVY	92.62	WT	ELFEPY[G]AVY	60.52	10	1.93321

Se121	CEL2F G40R	HLA-A*31:01	MT	ELKELFEPY[R]	138.02	WT	ELKELFEPY[G]	29108.61	10	1.93321
Se121	CEL2F G40R	HLA-B*40:02	MT	FEPY[R]AVYQI	269.68	WT	FEPY[G]AVYQI	188.53	10	1.93321
Se121	CEL2F G40R	HLA-A*11:01	MT	[R]AVYQINVLRL	413.04	WT	[G]AVYQINVLRL	1087.26	10	1.93321
Se121	CEL2F G40R	HLA-B*40:02	MT	KELFEPY[R]A	422.88	WT	KELFEPY[G]A	310.13	9	1.93321
Se121	PARPBP L393F	HLA-A*31:01	MT	GTSILT[F]FR	12.52	WT	GTSILT[L]FR	41.36	9	4.90529
Se121	PARPBP L393F	HLA-A*31:01	MT	HGTSILT[F]FR	20.88	WT	HGTSILT[L]FR	51.33	10	4.90529
Se121	PARPBP L393F	HLA-A*11:01	MT	GTSILT[F]FR	24.97	WT	GTSILT[L]FR	27.26	9	4.90529
Se121	PLCB2 R762H	HLA-C*03:04	MT	FLGH[H]IPI	460.8	WT	FLGH[R]IPI	813.92	9	1.63796
Se121	ANKFY1 D284H	HLA-C*03:04	MT	YLIEM[H]SQL	42.21	WT	YLIEM[D]SQL	64.88	9	19.63525
Se121	ANKFY1 D284H	HLA-B*15:01	MT	YLIEM[H]SQL	390.8	WT	YLIEM[D]SQL	540.25	9	19.63525
Se121	ANKFY1 D284H	HLA-B*40:02	MT	IEM[H]SQLPG	426.11	WT	IEM[D]SQLPG	417.09	9	19.63525
Se121	TP53 H61R	HLA-A*31:01	MT	[R]LIRVEGNLR	36.76	WT	[H]LIRVEGNLR	104.76	10	56.64522
Se121	TP53 H61R	HLA-A*31:01	MT	GLAPPQ[R]LIR	243.65	WT	GLAPPQ[H]LIR	157.36	10	56.64522
Se122	ACSL1 M291V	HLA-A*02:06	MT	H[V]FERVVECV	21.32	WT	H[M]FERVVECV	10.62	10	20.80311
Se122	ACSL1 M291V	HLA-A*02:06	MT	ISFLPLAH[V]	61.46	WT	ISFLPLAH[M]	2145.66	9	20.80311
Se122	ACSL1 M291V	HLA-A*02:06	MT	LISFLPLAH[V]	78.24	WT	LISFLPLAH[M]	1162.95	10	20.80311
Se122	ACSL1 M291V	HLA-A*02:13	MT	LISFLPLAH[V]	86.58	WT	LISFLPLAH[M]	3412.4	10	20.80311
Se122	ACSL1 M291V	HLA-B*59:01	MT	LPLAH[V]FERV	215.47	WT	LPLAH[M]FERV	248.1	10	20.80311
Se122	ACSL1 M291V	HLA-A*02:13	MT	H[V]FERVVECV	278.87	WT	H[M]FERVVECV	10.43	10	20.80311
Se122	ACSL1 M291V	HLA-A*02:06	MT	H[V]FERVVECV	433.79	WT	H[M]FERVVECV	119.54	9	20.80311
Se122	SLC35A4 G72A	HLA-A*02:06	MT	FSLLV[A]WQA	147.77	WT	FSLLV[G]WQA	270.88	9	23.54681
Se122	CDK14 D226G	HLA-A*02:06	MT	[G]TWPVGHSL	39.44	WT	[D]TWPVGHSL	549.78	9	8.91042
Se122	AQP3 A44V	HLA-A*02:13	MT	VMFPGCGSV[V]	13.25	WT	VMFPGCGSV[A]	65.08	9	7.56361
Se122	AQP3 A44V	HLA-A*02:06	MT	VMFPGCGSV[V]	59.05	WT	VMFPGCGSV[A]	267.08	9	7.56361
Se122	AQP3 A44V	HLA-A*02:06	MT	LVMFPGCGSV[V]	95.71	WT	LVMFPGCGSV[A]	499.83	10	7.56361
Se122	AQP3 A44V	HLA-A*02:13	MT	LVMFPGCGSV[V]	145.53	WT	LVMFPGCGSV[A]	1186.08	10	7.56361
Se122	VAV2 P617L	HLA-A*02:13	MT	S[L]WVEGRLV	148.47	WT	S[P]WVEGRLV	27104.19	9	11.02223
Se122	VAV2 P617L	HLA-A*02:06	MT	S[L]WVEGRLV	229.43	WT	S[P]WVEGRLV	8186.89	9	11.02223
Se122	PIK3C2A L435I	HLA-A*02:06	MT	FQ[I]PVVFTFC	40.14	WT	FQ[L]PVVFTFC	52.4	9	5.42223
Se122	PIK3C2A L435I	HLA-A*02:06	MT	IDIEGFQ[I]PV	411.59	WT	IDIEGFQ[L]PV	374.58	10	5.42223
Se122	ZNF646 Q349H	HLA-A*02:06	MT	[H]MLNGSAEL	46.44	WT	[Q]MLNGSAEL	52.47	9	3.77447
Se122	ZNF646 Q349H	HLA-A*02:13	MT	[H]MLNGSAEL	53.49	WT	[Q]MLNGSAEL	86.99	9	3.77447
Se122	PPP4R1 S648T	HLA-A*02:06	MT	Y[T]LPGVALT	9.82	WT	Y[S]LPGVALT	40.69	10	16.73278
Se122	PPP4R1 S648T	HLA-A*02:06	MT	Y[T]LPGVALT	84.96	WT	Y[S]LPGVALT	396.9	9	16.73278
Se122	PPP4R1 S648T	HLA-A*02:06	MT	[T]LPGVALT	272.68	WT	[S]LPGVALT	304.95	9	16.73278
Se122	KLK8 R106H	HLA-A*02:06	MT	GVTNLC[H]YL	135.92	WT	GVTNLC[R]YL	917.6	10	16.81575
Se123	GPR153 H129Q	HLA-C*03:04	MT	QAV[Q]TVMGI	489.48	WT	QAV[H]TVMGI	462.14	9	7.09557
Se123	EIF3I K17M	HLA-A*24:02	MT	[M]YNREGDLLF	23.05	WT	[K]YNREGDLLF	45.63	10	85.73384
Se123	EIF3I K17M	HLA-B*40:02	MT	HERSITQ[I]K	162.13	WT	HERSITQ[K]K	7260.79	9	85.73384
Se123	EIF3I K17M	HLA-A*24:02	MT	[M]YNREGDLL	398.14	WT	[K]YNREGDLL	986.6	9	85.73384
Se123	DHCR24 M476R	HLA-A*24:02	MT	CY[R]NREEFW	192.49	WT	CY[M]NREEFW	18.72	9	41.54257
Se123	GBP4 D347E	HLA-C*03:04	MT	RAA[E]HYSQQM	28.95	WT	RAA[D]HYSQQM	32.06	10	11.37174
Se123	GBP4 D347E	HLA-B*40:02	MT	A[E]HYSQQMA	162.19	WT	A[D]HYSQQMA	10492.76	9	11.37174
Se123	TGFBR3 E442D	HLA-B*40:02	MT	REPE[D]VQGSV	395.87	WT	REPE[E]VQGSV	313.72	10	3.11299
Se123	OTUD7B F359Y	HLA-C*03:04	MT	QAH[Y]SALVSM	54.12	WT	QAH[F]SALVSM	76.75	10	4.86829
Se123	OTUD7B F359Y	HLA-B*15:18	MT	AH[Y]SALVSM	169.38	WT	AH[F]SALVSM	207.56	9	4.86829
Se123	OTUD7B F359Y	HLA-B*40:02	MT	YDQAH[Y]SAL	200.31	WT	YDQAH[F]SAL	119.58	9	4.86829
Se123	OTUD7B F359Y	HLA-C*03:04	MT	LAYDQAH[Y]SA	427.9	WT	LAYDQAH[F]SA	449.8	10	4.86829
Se123	ARNT P286L	HLA-B*40:02	MT	GE[L]HFVVVHC	167.97	WT	GE[P]HFVVVHC	2206.72	10	11.75719
Se123	ARNT P286L	HLA-B*40:02	MT	GE[L]HFVVVHC	305.84	WT	GE[P]HFVVVHC	2324.92	9	11.75719
Se123	TMEM63A F210V	HLA-C*03:04	MT	YLFLT[VG]VJM	119.98	WT	YLFLT[VG]FJM	742.3	9	11.84544
Se123	RAB10 Q68E	HLA-B*40:02	MT	G[E]JERFHITTT	295.05	WT	G[Q]JERFHITTT	5633.72	10	48.06869
Se123	RAB10 Q68E	HLA-B*40:02	MT	G[E]JERFHITTT	435.33	WT	G[Q]JERFHITTT	6231.96	9	48.06869
Se123	DNAJC10 V532L	HLA-A*24:02	MT	[L]WVDFYSPW	38.64	WT	[V]WVDFYSPW	25.15	10	50.39384
Se123	NEMP2 N90T	HLA-B*15:18	MT	YIAERH[T]CQY	469.46	WT	YIAERH[N]CQY	778.93	10	2.42283
Se123	BARD1 Q430E	HLA-B*40:02	MT	L[Q]NGSDPNV	484.56	WT	L[Q]NGSDPNV	6573.34	9	2.78897
Se123	ROBO2 L50M	HLA-C*03:04	MT	IVSKGEPTT[M]	120.81	WT	IVSKGEPTT[L]	146.77	10	1.83111
Se123	NSUN7 C476F	HLA-A*24:02	MT	RLSPPV[L]P[F]	328.18	WT	RLSPPV[L]P[C]	25604.76	10	1.4026
Se123	NSUN7 C476F	HLA-A*24:02	MT	LSPPV[L]P[F]	435.09	WT	LSPPV[L]P[C]	21540.88	9	1.4026
Se123	SLC10A7 P27T	HLA-C*03:04	MT	[T]SIGVNGGPL	86.04	WT	[P]SIGVNGGPL	3682.96	10	2.31898
Se123	ELL2 M1L	HLA-C*03:04	MT	[L]AAGGTGGL	48.19	WT	[M]AAGGTGGL	18.87	9	4.47691
Se123	MCC I388M	HLA-C*03:04	MT	TLYSHGSA[M]	24.81	WT	TLYSHGSA[I]	177.79	9	2.74282
Se123	MCC I388M	HLA-B*15:18	MT	TLYSHGSA[M]	116.81	WT	TLYSHGSA[I]	2701.21	9	2.74282
Se123	MCC I388M	HLA-C*03:04	MT	QTLYSHGSA[M]	323.23	WT	QTLYSHGSA[I]	1183.47	10	2.74282
Se123	MLLT4 Q806H	HLA-B*40:02	MT	RQ[H]LGHEAW	181.87	WT	RQ[Q]LGHEAW	384.6	10	11.97665
Se123	MLLT4 Q806H	HLA-A*24:02	MT	YWGAIHQ[H]L	205.91	WT	YWGAIHQ[Q]L	207.46	10	11.97665
Se123	C7orf26 L21W	HLA-B*40:02	MT	KEV[W]YHLDI	29.38	WT	KEV[L]YHLDI	45.41	9	17.20064
Se123	C7orf26 L21W	HLA-A*24:02	MT	V[W]YHLDIYF	190.37	WT	V[L]YHLDIYF	5085.75	9	17.20064
Se123	C7orf26 L21W	HLA-C*03:04	MT	SAAKEV[W]YHL	232.93	WT	SAAKEV[L]YHL	156.3	10	17.20064
Se123	AGR3 P124R	HLA-C*03:04	MT	RIMFVD[R]SL	168.64	WT	RIMFVD[P]SL	224.47	9	3.79324
Se123	AGR3 P124R	HLA-C*03:04	MT	MFVD[R]SLTV	430.53	WT	MFVD[P]SLTV	460.77	9	3.79324
Se123	VPS13B K867I	HLA-C*03:04	MT	LV[I]CASGTM	40.9	WT	LV[K]CASGTM	1117.07	9	4.16473
Se123	VPS13B K867I	HLA-A*24:02	MT	KYCSTSLV[I]	61.72	WT	KYCSTSLV[K]	11307.32	9	4.16473
Se123	PLEC Q1420H	HLA-B*40:02	MT	SEAEI[H]AKA	144.53	WT	SEAEI[Q]AKA	281.97	9	36.33702
Se123	PLEC Q1420H	HLA-B*40:02	MT	AEI[H]AKARQA	246.33	WT	AEI[Q]AKARQA	190.45	10	36.33702
Se123	C10orf128 V109L	HLA-A*24:02	MT	LFS[L]JIGMLF	175.11	WT	LFS[V]JIGMLF	114.82	9	1.57198
Se123	LZTS2 R479W	HLA-C*03:04	MT	VAL[W]EARATL	37.5	WT	VAL[R]EARATL	75.86	10	13.22399
Se123	LZTS2 R479W	HLA-B*40:02	MT	[W]JEARATLRV	85.97	WT	[R]JEARATLRV	72.71	9	13.22399

Se123	B4GALNT4 P714A	HLA-B*40:02	MT	[A]EAEAVDVT	79.16	WT	[P]EAEAVDVT	4184.79	10	4.82637
Se123	B4GALNT4 P714A	HLA-B*40:02	MT	[A]EAEAVDVT	167.97	WT	[P]EAEAVDVT	7226.07	9	4.82637
Se123	EEF1G D393H	HLA-A*24:02	MT	[H]YESYTWRKL	433.56	WT	[D]YESYTWRKL	3068.7	10	606.60246
Se123	B4GAT1 I197S	HLA-C*03:04	MT	VAQPG[S]NYAL	32.43	WT	VAQPG[I]NYAL	46.74	10	7.21073
Se123	NUMA1 A1289G	HLA-C*03:04	MT	RAAERSS[G]L	38.17	WT	RAAERSS[A]L	6.77	9	34.22048
Se123	PEX5 R105T	HLA-C*03:04	MT	[T]APGVADLAL	89.11	WT	[R]APGVADLAL	66.21	10	16.46502
Se123	PEX5 R105T	HLA-C*03:04	MT	Q[T]APGVADL	432.8	WT	Q[R]APGVADL	10626.78	9	16.46502
Se123	CDKN1B V36L	HLA-C*03:04	MT	SACRNLFPGP[L]	209.56	WT	SACRNLFPGP[V]	838.7	10	24.4406
Se123	ATF7IP R1041C	HLA-C*03:04	MT	TTVNVTH[C]PV	404.45	WT	TTVNVTH[R]PV	615.06	10	12.88456
Se123	ATF7IP R1041C	HLA-C*03:04	MT	TVNVTH[C]PV	422.48	WT	TVNVTH[R]PV	796.36	9	12.88456
Se123	NUP107 H545Y	HLA-A*24:02	MT	G[Y]LLRFMTHL	336.85	WT	G[H]LLRFMTHL	16467.21	10	16.8002
Se123	NUP107 H545Y	HLA-C*03:04	MT	[Y]LLRFMTHL	495.63	WT	[H]LLRFMTHL	2328.97	9	16.8002
Se123	KIAA1033 T572A	HLA-C*03:04	MT	LSVGTQMK[A]F	405.37	WT	LSVGTQMK[T]F	575.31	10	10.03088
Se123	TRPV4 Q683P	HLA-C*03:04	MT	WSHWN[P]NLGI	284.16	WT	WSHWN[Q]NLGI	485.02	10	2.9606
Se123	PYGL S775L	HLA-C*03:04	MT	MVLKNIAA[L]	14.79	WT	MVLKNIAA[S]	6466.75	9	24.9836
Se123	PYGL S775L	HLA-C*03:04	MT	TMVLKNIAA[L]	331.69	WT	TMVLKNIAA[S]	23256.51	10	24.9836
Se123	DACT1 M245L	HLA-C*03:04	MT	HAVAVQSP[L]	7.03	WT	HAVAVQSP[M]	8.87	9	3.16073
Se123	DACT1 M245L	HLA-C*03:04	MT	VAVQSP[L]FL	33.29	WT	VAVQSP[M]FL	39.31	9	3.16073
Se123	DACT1 M245L	HLA-C*03:04	MT	HAVAVQSP[L]F	66.99	WT	HAVAVQSP[M]F	62.72	10	3.16073
Se123	DACT1 M245L	HLA-C*03:04	MT	VAVQSP[L]FLL	82.07	WT	VAVQSP[M]FLL	54.6	10	3.16073
Se123	DACT1 M245L	HLA-B*15:18	MT	HAVAVQSP[L]F	367.21	WT	HAVAVQSP[M]F	466.2	10	3.16073
Se123	CCDC88C N48K	HLA-A*24:02	MT	IFL[K]QIMLQI	179.89	WT	IFL[N]QIMLQI	151.89	10	1.80539
Se123	TMEM121 P218T	HLA-C*03:04	MT	MMLY[T]VLSL	79.03	WT	MMLY[P]VLSL	58.42	9	2.77071
Se123	TMEM121 P218T	HLA-C*03:04	MT	Y[T]VLSLATV	82.51	WT	Y[P]VLSLATV	62.49	9	2.77071
Se123	TMEM121 P218T	HLA-C*03:04	MT	KMMLY[T]VLSL	294.42	WT	KMMLY[P]VLSL	256.29	10	2.77071
Se123	TMEM121 P218T	HLA-B*40:02	MT	KMMLY[T]VLSL	381.91	WT	KMMLY[P]VLSL	419.04	10	2.77071
Se123	TMEM121 P218T	HLA-B*15:18	MT	MMLY[T]VLSL	382.44	WT	MMLY[P]VLSL	662.05	9	2.77071
Se123	ATMIN K153N	HLA-C*03:04	MT	FSLV[N]QHFM	54.03	WT	FSLV[K]QHFM	188.52	9	8.24178
Se123	ATMIN K153N	HLA-B*40:02	MT	SQFSLV[N]QHF	155.78	WT	SQFSLV[K]QHF	272.28	10	8.24178
Se123	ATMIN K153N	HLA-A*24:02	MT	QFSLV[N]QHF	279.41	WT	QFSLV[K]QHF	592.88	9	8.24178
Se123	ATMIN K153N	HLA-B*15:18	MT	SQFSLV[N]QHF	354.73	WT	SQFSLV[K]QHF	609.67	10	8.24178
Se123	DPEP1 E327Q	HLA-A*24:02	MT	KYPDLIA[Q]LL	23.27	WT	KYPDLIA[E]LL	34.48	10	2.22939
Se123	DPEP1 E327Q	HLA-A*24:02	MT	KYPDLIA[Q]L	55.01	WT	KYPDLIA[E]L	70.63	9	2.22939
Se123	DPEP1 E327Q	HLA-C*03:04	MT	YPDLIA[Q]LL	320.04	WT	YPDLIA[E]LL	784.36	9	2.22939
Se123	AOC3 I363M	HLA-B*40:02	MT	YE[M]SLQEAL	8.87	WT	YE[I]SLQEAL	19.6	9	1.01586
Se123	AOC3 I363M	HLA-B*40:02	MT	GERLVYE[M]SL	32.01	WT	GERLVYE[I]SL	25.98	10	1.01586
Se123	AOC3 I363M	HLA-B*40:02	MT	YE[M]SLQEALA	85.8	WT	YE[I]SLQEALA	247.01	10	1.01586
Se123	AOC3 I363M	HLA-C*03:04	MT	[M]SLQEALAI	111.81	WT	[I]SLQEALAI	378.49	9	1.01586
Se123	GPATCH8 E312Q	HLA-A*24:02	MT	T[Q]PEYHYI	334.29	WT	T[E]PEYHYI	2265.13	9	6.70502
Se123	LRFN3 G125V	HLA-B*40:02	MT	GE[V]QLRGLV	113.78	WT	GE[G]QLRGLV	291.72	9	4.80889
Se123	LRFN3 G125V	HLA-B*40:02	MT	[V]QLRGLVNL	448.58	WT	[G]QLRGLVNL	237.1	9	4.80889
Se123	GSS R132C	HLA-C*03:04	MT	[C]SADGSPAL	74.94	WT	[R]SADGSPAL	41.03	9	18.42508
Se123	PIGT L269V	HLA-B*40:02	MT	GELST[V]LYNT	96.87	WT	GELST[L]LYNT	88.97	10	45.14225
Se123	DOPEY2 A1412T	HLA-C*03:04	MT	LATAHHGR[T]L	31.54	WT	LATAHHGR[A]L	27.62	10	3.74428
Se123	DOPEY2 A1412T	HLA-C*03:04	MT	ATAHHGR[T]L	124.39	WT	ATAHHGR[A]L	99.43	9	3.74428
Se123	PACSN2 V9L	HLA-C*03:04	MT	MSVYDDSD[V]	96.39	WT	MSVYDDSD[V]	546.41	9	17.4601
Se124	TP73 H17Q	HLA-C*03:04	MT	TTFE[Q]LWSSL	148.16	WT	TTFE[H]LWSSL	62.02	10	2.94398
Se124	TP73 H17Q	HLA-C*12:02	MT	TTFE[Q]LWSSL	248.62	WT	TTFE[H]LWSSL	106.95	10	2.94398
Se124	FAM69A V45A	HLA-C*03:04	MT	Y[A]QYSTYTEL	3.9	WT	Y[V]QYSTYTEL	16.41	10	2.43368
Se124	FAM69A V45A	HLA-C*12:02	MT	Y[A]QYSTYTEL	29.15	WT	Y[V]QYSTYTEL	97.2	10	2.43368
Se124	FAM69A V45A	HLA-B*40:02	MT	[A]QYSTYTEL	106.87	WT	[V]QYSTYTEL	255.86	9	2.43368
Se124	FAM69A V45A	HLA-C*12:02	MT	IY[A]QYSTY	423.74	WT	IY[V]QYSTY	878.5	9	2.43368
Se124	FAM69A V45A	HLA-C*12:02	MT	[A]QYSTYTEL	462.55	WT	[V]QYSTYTEL	488.2	9	2.43368
Se124	FAM69A V45A	HLA-C*03:04	MT	[A]QYSTYTEL	484.3	WT	[V]QYSTYTEL	503.47	9	2.43368
Se124	PRCC F388Y	HLA-B*40:02	MT	QEIAPDAS[Y]I	255.5	WT	QEIAPDAS[F]I	204.74	10	31.52341
Se124	KIF14 I609V	HLA-B*40:02	MT	QEANA[I]SSKL	132.16	WT	QEANA[I]SSKL	110.65	10	1.21003
Se124	WDR26 P589T	HLA-A*24:02	MT	IWHKRSEL[T]I	167.21	WT	IWHKRSEL[P]I	319.94	10	21.25601
Se124	WDR26 P589T	HLA-B*40:02	MT	SEL[T]IAELT	367.01	WT	SEL[P]IAELT	375.39	9	21.25601
Se124	HEATR1 E741Q	HLA-B*40:02	MT	L[Q]SVITAVEI	402.1	WT	L[E]SVITAVEI	52.12	10	5.20859
Se124	CAP2 M405I	HLA-B*40:02	MT	IQV[I]GRVPTI	232.8	WT	IQV[M]GRVPTI	206.01	10	7.01346
Se124	TIAM2 S604R	HLA-B*40:02	MT	LEREF[R]VQSL	62.34	WT	LEREF[S]VQSL	35.6	10	1.81073
Se124	TIAM2 S604R	HLA-B*40:02	MT	REF[R]VQSLT	76.59	WT	REF[S]VQSLT	67.37	9	1.81073
Se124	TIAM2 S604R	HLA-B*40:02	MT	REF[R]VQSLTS	108.22	WT	REF[S]VQSLTS	89.87	10	1.81073
Se124	TIAM2 S604R	HLA-C*12:02	MT	F[R]VQSLTSV	420.74	WT	F[S]VQSLTSV	23.33	9	1.81073
Se124	RSBN1L S21L	HLA-C*03:04	MT	AAAAPTATV[L]	7.97	WT	AAAAPTATV[S]	6414.76	10	16.22781
Se124	RSBN1L S21L	HLA-C*03:04	MT	AAAPTATV[L]	8.45	WT	AAAPTATV[S]	7548.53	9	16.22781
Se124	RSBN1L S21L	HLA-C*12:02	MT	AAAAPTATV[L]	49.11	WT	AAAAPTATV[S]	3548.02	10	16.22781
Se124	RSBN1L S21L	HLA-C*12:02	MT	AAAPTATV[L]	54.7	WT	AAAPTATV[S]	4804.65	9	16.22781
Se124	RSBN1L S21L	HLA-B*40:02	MT	[L]EKEPFGKL	252.55	WT	[S]EKEPFGKL	149.91	9	16.22781
Se124	PREX2 D1142E	HLA-B*40:02	MT	[E]JELPLSVRI	238.2	WT	[D]JELPLSVRI	703.5	9	1.01258
Se124	PREX2 D1142E	HLA-B*40:02	MT	G[E]JELPLSVRI	307.13	WT	G[D]JELPLSVRI	5379.53	10	1.01258
Se124	PREX2 D1142E	HLA-B*40:02	MT	DEMDSG[E]JEL	368.13	WT	DEMDSG[D]JEL	588.51	9	1.01258
Se124	VSTM4 S143Y	HLA-C*12:02	MT	W[Y]NGSSATEM	427.51	WT	W[S]NGSSATEM	103.61	10	1.26922
Se124	VSTM4 S143Y	HLA-C*03:04	MT	TAW[Y]NGSSA	482.28	WT	TAW[S]NGSSA	428.92	9	1.26922
Se124	MGEA5 S19Y	HLA-B*40:02	MT	SELS[Y]NPAA	38.93	WT	SELS[S]NPAA	83.11	9	29.06956
Se124	MGEA5 S19Y	HLA-B*40:02	MT	RESELS[Y]NPA	40.12	WT	RESELS[S]NPA	82.52	10	29.06956
Se124	MGEA5 S19Y	HLA-C*12:02	MT	LS[Y]NPAASA	346.55	WT	LS[S]NPAASA	1240.48	9	29.06956
Se124	MGEA5 S19Y	HLA-B*40:02	MT	RESELS[Y]NPN	428.4	WT	RESELS[S]NPN	1458.25	9	29.06956

Se124	UROS A191T	HLA-C*03:04	MT	YSQQGVP[T]SI	46.73	WT	YSQQGVP[A]SI	45.05	10	29.20649
Se124	UROS A191T	HLA-C*12:02	MT	YSQQGVP[T]SI	210.47	WT	YSQQGVP[A]SI	215.61	10	29.20649
Se124	ANKRD52 D869H	HLA-C*03:04	MT	FA[H]NVSGLRM	6.29	WT	FA[D]NVSGLRM	17.84	10	5.81125
Se124	ANKRD52 D869H	HLA-C*12:02	MT	FA[H]NVSGLRM	8.34	WT	FA[D]NVSGLRM	32.5	10	5.81125
Se124	ANKRD52 D869H	HLA-C*03:04	MT	AAFA[H]NVSGL	15.45	WT	AAFA[D]NVSGL	24.54	10	5.81125
Se124	ANKRD52 D869H	HLA-C*12:02	MT	AAFA[H]NVSGL	84.73	WT	AAFA[D]NVSGL	181.61	10	5.81125
Se124	ANKRD52 D869H	HLA-C*03:04	MT	HAAFA[H]NV	193.14	WT	HAAFA[D]NV	387.4	9	5.81125
Se124	ANKRD52 D869H	HLA-C*12:02	MT	HAAFA[H]NV	213.73	WT	HAAFA[D]NV	365.35	9	5.81125
Se124	TP53 C145F	HLA-C*12:02	MT	NSFEVRVCA[F]	261.52	WT	NSFEVRVCA[C]	9212.85	10	26.80988
Se124	TP53 C145F	HLA-C*03:04	MT	NSFEVRVCA[F]	385.68	WT	NSFEVRVCA[C]	18468.92	10	26.80988
Se124	TP53 C145F	HLA-B*40:02	MT	FEVRVCA[F]PG	406.68	WT	FEVRVCA[C]PG	647.4	10	26.80988
Se124	SMCR8 A237V	HLA-B*40:02	MT	IEKANEL[V]SV	117.28	WT	IEKANEL[A]SV	183.39	10	2.56077
Se124	SMCR8 A237V	HLA-B*40:02	MT	NEL[V]SVEKSI	190.21	WT	NEL[A]SVEKSI	140.78	10	2.56077
Se124	ITGB4 G1383D	HLA-C*03:04	MT	FAFP[D]STNSL	2.06	WT	FAFP[G]STNSL	1.77	10	26.21579
Se124	ITGB4 G1383D	HLA-C*12:02	MT	FAFP[D]STNSL	5.14	WT	FAFP[G]STNSL	4.1	10	26.21579
Se124	GAREM1 R376G	HLA-C*03:04	MT	YA[G]DELTOQSF	39.11	WT	YA[R]DELTOQSF	20.3	10	2.29032
Se124	GAREM1 R376G	HLA-C*12:02	MT	YA[G]DELTOQSF	123.41	WT	YA[R]DELTOQSF	25.18	10	2.29032
Se124	TPGS1 V122M	HLA-C*03:04	MT	AAFNNV[S]M	6.79	WT	AAFNNV[S]V	22.99	9	4.11472
Se124	TPGS1 V122M	HLA-C*03:04	MT	RAAFNNV[S]M	12.86	WT	RAAFNNV[S]V	60.23	10	4.11472
Se124	TPGS1 V122M	HLA-C*12:02	MT	AAFNNV[S]M	36.95	WT	AAFNNV[S]V	54.42	9	4.11472
Se124	TPGS1 V122M	HLA-C*12:02	MT	RAAFNNV[S]M	110.8	WT	RAAFNNV[S]V	169.86	10	4.11472
Se124	TPGS1 V122M	HLA-C*12:02	MT	FNNV[S]M	150.2	WT	FNNV[S]V	166.02	9	4.11472
Se124	TPGS1 V122M	HLA-C*03:04	MT	AAFNNV[S]M	386.43	WT	AAFNNV[S]V	188.59	10	4.11472
Se124	TPGS1 V122M	HLA-C*12:02	MT	AAFNNV[S]M	390.02	WT	AAFNNV[S]V	300.86	10	4.11472
Se125	ASAP3 A668S	HLA-A*02:01	MT	[S]QAGTFAPFL	29.77	WT	[A]QAGTFAPFL	31.29	10	9.52871
Se125	ASAP3 A668S	HLA-B*15:01	MT	EQ[S]QAGTFAF	84.7	WT	EQ[A]QAGTFAF	53.47	10	9.52871
Se125	ASAP3 A668S	HLA-B*15:01	MT	[S]QAGTFAPFL	100.43	WT	[A]QAGTFAPFL	95.25	10	9.52871
Se125	ASAP3 A668S	HLA-B*15:01	MT	[Q]S]QAGTFAF	200.62	WT	[Q]A]QAGTFAF	250.97	9	9.52871
Se125	ASAP3 A668S	HLA-B*15:01	MT	LLEQ[S]QAGTF	305.17	WT	LLEQ[A]QAGTF	294.08	10	9.52871
Se125	BCAS2 R72T	HLA-B*15:01	MT	IMRNEFE[T]JL	152.94	WT	IMRNEFE[R]JL	514.28	9	18.95261
Se125	BCAS2 R72T	HLA-A*02:01	MT	[T]JLAARQPIEL	165.66	WT	[R]JLAARQPIEL	87.58	10	18.95261
Se125	CRIM1 C284Y	HLA-A*02:01	MT	RLTADG[Y]CTL	217.09	WT	RLTADG[C]CTL	443.26	10	24.13733
Se125	CRIM1 C284Y	HLA-B*15:01	MT	TQVRLTADG[Y]	221.25	WT	TQVRLTADG[C]	24272.74	10	24.13733
Se125	STEAP3 R126H	HLA-B*15:01	MT	LQH[H]ESNAEY	19.25	WT	LQH[R]ESNAEY	22.54	10	9.34006
Se125	GOLGA4 E1853Q	HLA-A*11:01	MT	LTCQL[Q]QK	256.89	WT	LTCQL[E]QK	250.56	9	19.38011
Se125	XYLB G235S	HLA-A*02:01	MT	CL[S]ACAPHL	82.05	WT	CL[G]ACAPHL	178.02	9	2.76902
Se125	XYLB G235S	HLA-A*11:01	MT	[S]ACAPHLEEK	88.1	WT	[G]ACAPHLEEK	218.79	10	2.76902
Se125	XYLB G235S	HLA-A*02:01	MT	KVWSQACL[S]A	477.03	WT	KVWSQACL[G]A	584.81	10	2.76902
Se125	FLNB A1218S	HLA-A*11:01	MT	LVPHPF[S]RVK	384.08	WT	LVPHPF[A]RVK	375.75	10	36.00511
Se125	XRN1 L662M	HLA-A*02:01	MT	ALYFCGFPT[M]	67.63	WT	ALYFCGFPT[L]	16.58	10	4.84497
Se125	XRN1 L662M	HLA-B*15:01	MT	ALYFCGFPT[M]	98.78	WT	ALYFCGFPT[L]	511.02	10	4.84497
Se125	XRN1 L662M	HLA-A*11:01	MT	LYFCGFPT[M]K	247.32	WT	LYFCGFPT[L]K	154.18	10	4.84497
Se125	RAP1GDS1 E269Q	HLA-A*11:01	MT	MVDNGIV[Q]K	36.56	WT	MVDNGIV[E]K	43.28	9	3.60222
Se125	RAP1GDS1 E269Q	HLA-A*11:01	MT	HMVDNGIV[Q]K	94.04	WT	HMVDNGIV[E]K	97.64	10	3.60222
Se125	DCDC2 R7M	HLA-A*02:01	MT	A[M]SSHLSQPV	5.72	WT	A[R]SSHLSQPV	18667.71	10	11.07008
Se125	DCDC2 R7M	HLA-B*15:01	MT	A[M]SSHLSQPV	255.75	WT	A[R]SSHLSQPV	20061.26	10	11.07008
Se125	FZD3 D640G	HLA-B*15:01	MT	SIR[G]LSNNPM	205.68	WT	SIR[D]LSNNPM	225.98	10	11.28127
Se125	GRHL2 K118N	HLA-A*02:01	MT	VL[K]TVPVNL	138.89	WT	VL[K]TVPVNL	992.6	9	11.16801
Se125	GRHL2 K118N	HLA-A*02:01	MT	VQVL[N]TVPV	163.21	WT	VQVL[K]TVPV	279.61	9	11.16801
Se125	CNTLN K1289R	HLA-A*11:01	MT	TFVKALA[R]	42.79	WT	TFVKALA[K]	9.73	9	1.5818
Se125	CNTLN K1289R	HLA-A*02:01	MT	ALA[R]JELQNDV	82.15	WT	ALA[K]JELQNDV	63.04	10	1.5818
Se125	RABL6 P170A	HLA-B*15:01	MT	HV[A]JVCVLGNY	148.92	WT	HV[P]JVCVLGNY	1143.51	10	13.63527
Se125	RABL6 P170A	HLA-B*15:01	MT	V[A]JVCVLGNY	268.96	WT	V[P]JVCVLGNY	7809.99	9	13.63527
Se125	RABL6 P170A	HLA-A*11:01	MT	HV[A]JVCVLGNY	404.98	WT	HV[P]JVCVLGNY	5199.07	10	13.63527
Se125	RABL6 P170A	HLA-A*11:01	MT	[A]JVCVLGNYR	448.04	WT	[P]JVCVLGNYR	9721.2	9	13.63527
Se125	DEAF1 L129M	HLA-A*11:01	MT	SISGHV[M]SGR	130.9	WT	SISGHV[L]SGR	162.38	10	5.44144
Se125	DEAF1 L129M	HLA-A*02:01	MT	V[M]SGRTALQI	335.75	WT	V[L]SGRTALQI	400.14	10	5.44144
Se125	OTUB1 ESV	HLA-A*11:01	MT	MAAE[V]PQQQK	200.42	WT	MAAE[E]PQQQK	730.83	10	40.74361
Se125	CLEC7A Q152K	HLA-A*02:01	MT	VIYD[K]LCSV	7.33	WT	VIYD[Q]LCSV	8.52	9	2.41534
Se125	CLEC7A Q152K	HLA-A*02:01	MT	[K]LCSVPSYSI	51.14	WT	[Q]LCSVPSYSI	318.42	10	2.41534
Se125	CLEC7A Q152K	HLA-A*11:01	MT	WIHVSVIYD[K]	135.76	WT	WIHVSVIYD[Q]	28047.08	10	2.41534
Se125	CLEC7A Q152K	HLA-A*02:01	MT	SVIYD[K]LCSV	200.72	WT	SVIYD[Q]LCSV	110.26	10	2.41534
Se125	GALC G355V	HLA-A*02:01	MT	ALTDGL[V]NL	14.11	WT	ALTDGL[G]NL	118.51	9	7.2254
Se125	GALC G355V	HLA-A*02:01	MT	GL[V]NLIII	193.21	WT	GL[G]NLIII	342.08	9	7.2254
Se125	GALC G355V	HLA-A*02:01	MT	ALTDGL[V]NLT	344.61	WT	ALTDGL[G]NLT	2122.82	10	7.2254
Se125	HERC1 A4494V	HLA-A*11:01	MT	FVQI[V]RQVVK	422.94	WT	FVQI[A]RQVVK	583.87	10	6.62619
Se125	HERC1 A4494V	HLA-A*11:01	MT	VQI[V]RQVVK	458.77	WT	VQI[A]RQVVK	228.95	9	6.62619
Se125	CHTF18 V577M	HLA-A*11:01	MT	VQATR[M]GLK	91.55	WT	VQATR[V]GLK	138.51	9	6.38584
Se125	MTSSL R84C	HLA-A*11:01	MT	CM[C]HRSIETK	93.5	WT	CM[R]HRSIETK	394.41	10	6.02611
Se125	MYH10 S1922T	HLA-A*11:01	MT	GLSREV[T]TLK	82.68	WT	GLSREV[S]TLK	91.88	10	16.099
Se125	MYH10 S1922T	HLA-A*11:01	MT	LSREV[T]TLK	140.05	WT	LSREV[S]TLK	156.58	9	16.099
Se125	MYH10 S1922T	HLA-A*11:01	MT	[T]TLKNRLRR	255.19	WT	[S]TLKNRLRR	174.55	9	16.099
Se125	MYH10 S1922T	HLA-A*02:01	MT	GLSREV[M]TL	350.87	WT	GLSREV[S]TL	512.42	9	16.099
Se125	MED25 G298W	HLA-A*02:01	MT	[W]LGPRFSPI	92.63	WT	[G]LGPRFSPI	221.14	9	21.82273
Se125	MED25 G298W	HLA-B*15:01	MT	NQKA[W]LGPRF	117	WT	NQKA[G]LGPRF	114.93	10	21.82273
Se125	ZFP64 F317L	HLA-A*11:01	MT	RIHCTDRP[L]K	171.45	WT	RIHCTDRP[F]K	105.74	10	8.08677
Se125	SGSM3 L254V	HLA-A*11:01	MT	LTLGM[V]HLK	13.98	WT	LTLGM[L]HLK	17.02	9	15.57634
Se125	SGSM3 L254V	HLA-A*02:01	MT	VLFQLTLGM[V]	36.05	WT	VLFQLTLGM[L]	121.17	10	15.57634

Se125	SGSM3 L254V	HLA-A*02:01	MT	FQLTLGM[V]HL	79.89	WT	FQLTLGM[L]HL	96.79	10	15.57634
Se125	SGSM3 L254V	HLA-A*11:01	MT	QLTLGM[V]HLK	179.67	WT	QLTLGM[L]HLK	168.86	10	15.57634
Se125	DOCK11 H1078Q	HLA-B*15:01	MT	E[Q]YIPLNLP	258.77	WT	E[H]YIPLNLP	16034.43	10	1.0611
Se125	DOCK11 H1078Q	HLA-B*15:01	MT	LQTCNHE[Q]Y	288.27	WT	LQTCNHE[H]Y	156.81	10	1.0611
Se126	EHBP1 N218K	HLA-A*31:01	MT	KL[K]FLDEAEK	379.53	WT	KL[N]FLDEAEK	615.67	10	8.69674
Se126	ERBB4 C520W	HLA-A*31:01	MT	[W]LSCRRFSR	20.93	WT	[C]LSCRRFSR	15.52	9	2.33208
Se126	ERBB4 C520W	HLA-A*31:01	MT	Q[W]LSCRRFSR	39.09	WT	Q[C]LSCRRFSR	127.55	10	2.33208
Se126	FAM149A K201E	HLA-A*26:03	MT	[E]VAGNRFPV	120.24	WT	[K]VAGNRFPV	8567.52	10	1.38018
Se126	FAM149A K201E	HLA-A*26:03	MT	[E]VAGNRFPH	219.98	WT	[K]VAGNRFPH	17775.19	9	1.38018
Se126	SCRIB G1424R	HLA-A*31:01	MT	RLALDGETL[R]	146.09	WT	RLALDGETL[G]	32460.88	10	26.43186
Se126	MAP1LC3B2 E14V	HLA-A*31:01	MT	KQRRTF[V]QR	8.77	WT	KQRRTF[E]QR	15.1	9	1.26496
Se126	MAP1LC3B2 E14V	HLA-A*31:01	MT	KTFKQRRTF[V]	392.69	WT	KTFKQRRTF[E]	2210.56	10	1.26496
Se126	ZC3H14 A384T	HLA-A*31:01	MT	KQTLVP[T]PR	27.06	WT	KQTLVP[A]PR	24.18	9	10.23447
Se126	ZC3H14 A384T	HLA-A*31:01	MT	QTLVP[T]PRTR	105.07	WT	QTLVP[A]PRTR	135.25	10	10.23447
Se126	RPAP1 R1289W	HLA-C*14:02	MT	YF[W]TLVTGAL	30.08	WT	YF[R]TLVTGAL	24.57	10	6.34228
Se126	RPAP1 R1289W	HLA-C*14:02	MT	F[W]TLVTGAL	67.02	WT	F[R]TLVTGAL	147.69	9	6.34228
Se126	RPAP1 R1289W	HLA-A*31:01	MT	[W]TLVTGALR	82.09	WT	[R]TLVTGALR	10.85	9	6.34228
Se126	RPAP1 R1289W	HLA-A*31:01	MT	F[W]TLVTGALR	429.73	WT	F[R]TLVTGALR	9600.85	10	6.34228
Se126	ITGB4 E853D	HLA-A*26:03	MT	[D]VYRQISGV	177.01	WT	[E]VYRQISGV	61.68	9	36.17381
Se126	SPEF1 G123S	HLA-C*14:02	MT	RRKQGA[S]SL	381.14	WT	RRKQGA[G]SL	877.36	9	2.43031
Se127	LEPR D475A	HLA-C*08:01	MT	S[A]IPSHP	366.09	WT	S[D]IPSHP	17629.24	9	3.63948
Se127	LEPR N1126Y	HLA-A*26:01	MT	DSCSHFVE[Y]	493.72	WT	DSCSHFVE[N]	38110.08	9	3.63948
Se127	PIK3C2B V923I	HLA-A*02:07	MT	YLPQL[V]QAL	297.95	WT	YLPQL[V]QAL	553.28	9	6.37336
Se127	PIK3C2B V923I	HLA-C*08:01	MT	YLPQL[I]QAL	375.53	WT	YLPQL[V]QAL	357.78	9	6.37336
Se127	SEC61A1 I129V	HLA-A*26:01	MT	S[V]VYVMTGM	20.73	WT	S[I]VYVMTGM	61.88	9	107.1571
Se127	SEC61A1 I129V	HLA-A*26:01	MT	S[V]VYVMTGMY	22.5	WT	S[I]VYVMTGMY	68.88	10	107.1571
Se127	SEC61A1 I129V	HLA-A*26:01	MT	ITIGQS[V]VY	331.63	WT	ITIGQS[I]VY	299.32	9	107.1571
Se127	UHRF1BP1 D474Y	HLA-A*26:01	MT	MVVRVDDL[Y]	214.5	WT	MVVRVDDL[D]	36359.52	9	4.84939
Se127	FBXO10 V29L	HLA-A*02:07	MT	SL[L]CRAWYEL	443.62	WT	SL[L]CRAWYEL	1828.96	10	2.52945
Se127	SYT7 N135Y	HLA-A*26:01	MT	EAHEGCSRE[Y]	150.88	WT	EAHEGCSRE[N]	35761.81	10	4.64836
Se127	SYT7 N135Y	HLA-A*02:07	MT	[Y]LGRIQFSV	176.58	WT	[N]LGRIQFSV	3113.19	9	4.64836
Se127	USP5 S39C	HLA-A*26:01	MT	DTPE[C]EGGLY	42.69	WT	DTPE[S]EGGLY	40.08	10	29.45218
Se127	ZFYVE26 D1470N	HLA-C*08:01	MT	YLFVVK[N]ASL	291.35	WT	YLFVVK[D]ASL	328.12	10	3.4332
Se127	ZFYVE26 D1470N	HLA-A*02:07	MT	YLFVVK[N]ASL	367.92	WT	YLFVVK[D]ASL	536.6	10	3.4332
Se127	CTCFL I398T	HLA-C*08:01	MT	YHDANF[T]PTV	352.8	WT	YHDANF[I]PTV	373.94	10	1.01218
Se128	AGRN G741E	HLA-C*03:02	MT	KARCESQR[E]L	492.7	WT	KARCESQR[G]L	1198.23	10	78.05516
Se128	ZBTB40 V972M	HLA-B*15:01	MT	HIHE[M]HSKEY	181.97	WT	HIHE[V]HSKEY	232.76	10	3.7491
Se128	ZBTB40 V972M	HLA-C*03:02	MT	HIHE[M]HSKEY	310.72	WT	HIHE[V]HSKEY	307.66	10	3.7491
Se128	PDE4B E263K	HLA-C*03:02	MT	FTDL[K]JLAAI	141.44	WT	FTDL[E]JLAAI	120.02	10	1.86005
Se128	PDE4B E263K	HLA-C*03:03	MT	FTDL[K]JLAAI	342.31	WT	FTDL[E]JLAAI	416.25	10	1.86005
Se128	PDE4B E263K	HLA-C*03:02	MT	FTDL[K]JLAA	396.08	WT	FTDL[E]JLAA	451.66	9	1.86005
Se128	POLQ D549N	HLA-B*15:01	MT	[N]MHTYAACF	50.74	WT	[D]MHTYAACF	477.9	10	1.21291
Se128	POLQ D549N	HLA-C*03:02	MT	STSQ[N]MHTY	54.18	WT	STSQ[D]MHTY	128.97	9	1.21291
Se128	POLQ D549N	HLA-C*03:02	MT	[N]MHTYAACF	201.08	WT	[D]MHTYAACF	1183.67	10	1.21291
Se128	POLQ D549N	HLA-B*15:01	MT	STSQ[N]MHTY	230.93	WT	STSQ[D]MHTY	320.84	9	1.21291
Se128	POLQ D549N	HLA-A*26:03	MT	STSQ[N]MHTY	288.59	WT	STSQ[D]MHTY	350.55	9	1.21291
Se128	POLQ D549N	HLA-C*03:02	MT	ASTSQ[N]MHTY	325.83	WT	ASTSQ[D]MHTY	484.97	10	1.21291
Se128	POLQ D549N	HLA-B*58:01	MT	ASTSQ[N]MHTY	405.34	WT	ASTSQ[D]MHTY	451.82	10	1.21291
Se128	POLQ D549N	HLA-B*15:01	MT	ASTSQ[N]MHTY	433.91	WT	ASTSQ[D]MHTY	596.47	10	1.21291
Se128	POLQ D549N	HLA-C*03:02	MT	GVASTSQ[N]M	446.57	WT	GVASTSQ[D]M	538.35	9	1.21291
Se128	POLQ D549N	HLA-B*58:01	MT	STSQ[N]MHTY	471.48	WT	STSQ[D]MHTY	495.46	9	1.21291
Se128	AHR Y468C	HLA-B*15:01	MT	MQQDESI[C]LY	34.28	WT	MQQDESI[Y]LY	46.59	10	15.23351
Se128	AHR Y468C	HLA-C*03:02	MT	MMQQDESI[C]L	497.37	WT	MMQQDESI[Y]L	261.29	10	15.23351
Se128	TRRAP W3205S	HLA-C*03:02	MT	WLA[S]IPQLL	161.4	WT	WLA[W]IPQLL	250.15	9	8.72597
Se128	TRRAP W3205S	HLA-C*03:02	MT	A[S]IPQLLTCL	198.9	WT	A[W]IPQLLTCL	6183.24	10	8.72597
Se128	TRRAP W3205S	HLA-C*03:03	MT	WLA[S]IPQLL	204.57	WT	WLA[W]IPQLL	259.34	9	8.72597
Se128	TRRAP W3205S	HLA-C*03:03	MT	A[S]IPQLLTCL	479.02	WT	A[W]IPQLLTCL	16879.34	10	8.72597
Se128	KIAA1549 Q1487H	HLA-C*03:02	MT	VPSKI[H]LIAM	377.29	WT	VPSKI[Q]LIAM	666.83	10	1.7726
Se128	KRAS G12R	HLA-A*33:03	MT	EYKLVVGA[R]	32.04	WT	EYKLVVGA[G]	23811.84	10	9.97401
Se128	BRI3BP H151Y	HLA-C*03:02	MT	FTFSVL[Y]VVF	8.02	WT	FTFSVL[H]VVF	5.24	10	7.66115
Se128	BRI3BP H151Y	HLA-A*33:03	MT	SVL[Y]VVFGR	11.54	WT	SVL[H]VVFGR	13.92	9	7.66115
Se128	BRI3BP H151Y	HLA-B*15:01	MT	FTFSVL[Y]VVF	44.2	WT	FTFSVL[H]VVF	33.46	10	7.66115
Se128	BRI3BP H151Y	HLA-C*03:02	MT	FTFSVL[Y]VV	49.35	WT	FTFSVL[H]VV	30.05	9	7.66115
Se128	BRI3BP H151Y	HLA-A*33:03	MT	FSVL[Y]VVFGR	50.48	WT	FSVL[H]VVFGR	36.42	10	7.66115
Se128	BRI3BP H151Y	HLA-B*58:01	MT	FTFSVL[Y]VVF	53.92	WT	FTFSVL[H]VVF	39.71	10	7.66115
Se128	BRI3BP H151Y	HLA-B*58:01	MT	[Y]VVFGRFFW	54.57	WT	[H]VVFGRFFW	44.99	9	7.66115
Se128	BRI3BP H151Y	HLA-C*03:03	MT	FTFSVL[Y]VVF	79.69	WT	FTFSVL[H]VVF	37.09	10	7.66115
Se128	BRI3BP H151Y	HLA-B*15:01	MT	TLGFTFSVL[H]	247.93	WT	TLGFTFSVL[H]	6130.38	10	7.66115
Se128	BRI3BP H151Y	HLA-B*15:01	MT	VL[Y]VVFGRF	258.45	WT	VL[H]VVFGRF	260.42	9	7.66115
Se128	BRI3BP H151Y	HLA-C*03:03	MT	FTFSVL[Y]VV	299.06	WT	FTFSVL[H]VV	120.09	9	7.66115
Se128	BRI3BP H151Y	HLA-C*03:02	MT	[Y]VVFGRFFWI	342.24	WT	[H]VVFGRFFWI	2270.47	10	7.66115
Se128	BRI3BP H151Y	HLA-B*15:01	MT	VL[Y]VVFGRFF	369.23	WT	VL[H]VVFGRFF	360.83	10	7.66115
Se128	PIK3R5 D76N	HLA-C*03:02	MT	Y[N]LLTPLAL	59.92	WT	Y[D]LLTPLAL	1313.07	9	3.14964
Se128	PIK3R5 D76N	HLA-C*03:02	MT	GTY[N]LLTPL	88.14	WT	GTY[D]LLTPL	57.98	9	3.14964
Se128	PIK3R5 D76N	HLA-C*03:03	MT	Y[N]LLTPLAL	93.53	WT	Y[D]LLTPLAL	2275.27	9	3.14964
Se128	PIK3R5 D76N	HLA-C*03:03	MT	GTY[N]LLTPL	284.9	WT	GTY[D]LLTPL	162.69	9	3.14964
Se128	PIK3R5 D76N	HLA-C*03:02	MT	Y[N]LLTPLALL	474.35	WT	Y[D]LLTPLALL	6271.54	10	3.14964
Se128	RIPK4 G615V	HLA-A*33:03	MT	HLLAQR[V]HYR	10.23	WT	HLLAQR[G]HYR	19.07	10	4.0364



Se128	RIPK4 G615V	HLA-A*33:03	MT	LAAQR[V]HYR	24.27	WT	LAAQR[G]HYR	52.33	9	4.0364
Se128	RIPK4 G615V	HLA-B*15:01	MT	HAAQR[V]HY	81.71	WT	HAAQR[G]HY	97.24	9	4.0364
Se128	RIPK4 G615V	HLA-C*03:02	MT	LAAQR[V]HYRV	263.48	WT	LAAQR[G]HYRV	221.16	10	4.0364
Se128	RIPK4 G615V	HLA-C*03:02	MT	R[V]HYRVARIL	366.31	WT	R[G]HYRVARIL	2438.87	10	4.0364
Se128	NHSL2 A523T	HLA-C*03:02	MT	KANEAC[T]LPF	4.8	WT	KANEAC[A]LPF	5.53	10	1.10333
Se128	NHSL2 A523T	HLA-C*03:03	MT	KANEAC[T]LPF	18.32	WT	KANEAC[A]LPF	22.97	10	1.10333
Se128	NHSL2 A523T	HLA-B*58:01	MT	KANEAC[T]LPF	27.82	WT	KANEAC[A]LPF	27.45	10	1.10333
Se128	NHSL2 A523T	HLA-B*15:01	MT	KANEAC[T]LPF	41.64	WT	KANEAC[A]LPF	53.59	10	1.10333
Se128	LAGE3 R143H	HLA-B*15:01	MT	MQRFGPPVS[H]	257.01	WT	MQRFGPPVS[R]	5303.43	10	26.46449
Se129	SPEN S1424N	HLA-A*11:01	MT	RLS[N]SLERNK	184.8	WT	RLS[S]SLERNK	157.57	10	10.31651
Se129	SPEN S1424N	HLA-A*11:01	MT	LS[N]SLERNK	465.61	WT	LS[S]SLERNK	592.88	9	10.31651
Se129	PQLC2 S126P	HLA-A*24:02	MT	YYKFRTRP[P]L	149.78	WT	YYKFRTRP[S]L	151.74	10	5.08036
Se129	MEF2D R15Q	HLA-A*11:01	MT	E[R]NRQVTFTK	370.79	WT	E[R]NRQVTFTK	15901.45	10	8.96044
Se129	NID1 P557S	HLA-C*12:02	MT	[S]QIPFGSSV	96.61	WT	[P]QIPFGSSV	5237.02	9	9.41431
Se129	BIRC6 V3258G	HLA-B*35:01	MT	TPV[G]TSLGTY	5.34	WT	TPV[V]TSLGTY	7.42	10	5.70943
Se129	BIRC6 V3258G	HLA-A*11:01	MT	[G]TSLGTYIK	22.66	WT	[V]TSLGTYIK	25.51	9	5.70943
Se129	BIRC6 V3258G	HLA-C*03:03	MT	LSTPV[G]TSGL	230.38	WT	LSTPV[V]TSGL	257.5	10	5.70943
Se129	BIRC6 V3258G	HLA-C*12:02	MT	LSTPV[G]TSGL	384	WT	LSTPV[V]TSGL	259.75	10	5.70943
Se129	UBXN4 A99S	HLA-C*03:03	MT	IAGSV[S]DEL	239.92	WT	IAGSV[S]ADEL	260.17	10	44.04149
Se129	UBXN4 A99S	HLA-A*11:01	MT	SVS[S]DELVTR	368.04	WT	SVS[A]DELVTR	327.39	10	44.04149
Se129	TAMM41 T162I	HLA-C*03:03	MT	SAV[I]AAFLML	48.59	WT	SAV[T]AAFLML	21.46	10	4.5012
Se129	TAMM41 T162I	HLA-C*03:03	MT	SAV[I]AAFLM	113.95	WT	SAV[T]AAFLM	43.3	9	4.5012
Se129	TAMM41 T162I	HLA-C*12:02	MT	SAV[I]AAFLM	331.26	WT	SAV[T]AAFLM	99.37	9	4.5012
Se129	TAMM41 T162I	HLA-C*03:03	MT	AV[I]AAFLML	336.06	WT	AV[T]AAFLML	652.99	9	4.5012
Se129	TAMM41 T162I	HLA-B*35:01	MT	SAV[I]AAFLM	336.22	WT	SAV[T]AAFLM	134.63	9	4.5012
Se129	RAD54L2 S385Y	HLA-C*12:02	MT	KTMA[Y]RAKVM	206.01	WT	KTMA[S]RAKVM	226.76	10	2.92893
Se129	RAD54L2 S385Y	HLA-C*03:03	MT	KTMA[Y]RAKVM	320.76	WT	KTMA[S]RAKVM	275.34	10	2.92893
Se129	RAD54L2 S385Y	HLA-A*24:02	MT	A[Y]RAKVMAD	331.43	WT	A[S]RAKVMADW	17739.39	10	2.92893
Se129	RAD54L2 S385Y	HLA-C*12:02	MT	KTMA[Y]RAKV	486.73	WT	KTMA[S]RAKV	514.9	9	2.92893
Se129	FAM208A T1150A	HLA-B*35:01	MT	NSNS[A]EQDSY	178.09	WT	NSNS[T]EQDSY	214.32	10	19.84774
Se129	PBX3 R304H	HLA-C*12:02	MT	SQVDTL[H]HV	308.1	WT	SQVDTL[R]HV	328.98	9	9.3255
Se129	ARHGAP21 T1114I	HLA-A*11:01	MT	LSKDD[I]SPPK	197.68	WT	LSKDD[T]SPPK	294.34	10	27.708
Se129	TOLLIP P220L	HLA-B*35:01	MT	VPVALP[L]AA	76.57	WT	VPVALP[P]AA	144.06	9	8.09915
Se129	TOLLIP P220L	HLA-B*35:01	MT	VPVALP[L]AA	76.57	WT	VPVALP[P]AA	144.06	9	8.20617
Se129	TOLLIP P220L	HLA-B*35:01	MT	VPVALP[L]AAV	139.58	WT	VPVALP[P]AAV	159.68	10	8.09915
Se129	TOLLIP P220L	HLA-B*35:01	MT	VPVALP[L]AAV	139.58	WT	VPVALP[P]AAV	159.68	10	8.20617
Se129	TOLLIP P220L	HLA-C*03:03	MT	GMVPVALP[L]	192.79	WT	GMVPVALP[P]	26637.28	9	8.09915
Se129	TOLLIP P220L	HLA-C*03:03	MT	GMVPVALP[L]	192.79	WT	GMVPVALP[P]	26637.28	9	8.20617
Se129	TOLLIP P220L	HLA-B*35:01	MT	LP[L]AAVNAQ	203.38	WT	LP[P]AAVNAQ	3092.67	9	8.09915
Se129	TOLLIP P220L	HLA-B*35:01	MT	LP[L]AAVNAQ	203.38	WT	LP[P]AAVNAQ	3092.67	9	8.20617
Se129	TOLLIP P220L	HLA-B*78:02	MT	VPVALP[L]AAV	401.36	WT	VPVALP[P]AAV	541.43	10	8.09915
Se129	TOLLIP P220L	HLA-B*78:02	MT	VPVALP[L]AAV	401.36	WT	VPVALP[P]AAV	541.43	10	8.20617
Se129	ITPR2 R1547H	HLA-C*12:02	MT	VAKN[H]GIAI	442.42	WT	VAKN[R]GIAI	570.82	9	3.43672
Se129	ITPR2 R1547H	HLA-C*03:03	MT	VAKN[H]GIAI	442.78	WT	VAKN[R]GIAI	912.99	9	3.43672
Se129	DIAPH3 P16H	HLA-C*03:03	MT	KAVD[H]RHPNM	77.24	WT	KAVD[P]RHPNM	105.03	10	5.75821
Se129	DIAPH3 P16H	HLA-C*12:02	MT	KAVD[H]RHPNM	135.27	WT	KAVD[P]RHPNM	162.74	10	5.75821
Se129	EIF2AK4 M149V	HLA-A*11:01	MT	KSFHEE[V]LER	107.13	WT	KSFHEE[M]LER	68.2	10	6.90771
Se129	ZNF521 V354I	HLA-A*11:01	MT	S[I]LKLKHK	131.33	WT	S[V]LKLKHK	95.63	10	2.78138
Se129	ZNF521 V354I	HLA-A*11:01	MT	NSPIFNS[V]LK	168.49	WT	NSPIFNS[V]LK	226.65	10	2.78138
Se129	ZNF521 V354I	HLA-B*35:01	MT	SPIFNS[V]LKL	229.21	WT	SPIFNS[V]LKL	242.54	10	2.78138
Se129	THOP1 H391Y	HLA-B*35:01	MT	SAW[Y]EDVRLY	39.35	WT	SAW[H]EDVRLY	51.6	10	10.84428
Se129	THOP1 H391Y	HLA-C*03:03	MT	SAW[Y]EDVRL	424.1	WT	SAW[H]EDVRL	407.81	9	10.84428
Se129	ATP13A1 D541Y	HLA-A*11:01	MT	LTS[Y]SLVVR	362.06	WT	LTS[D]SLVVR	437.88	9	20.0579
Se129	ATP13A1 D541Y	HLA-C*12:02	MT	TS[Y]SLVVRGV	364.48	WT	TS[D]SLVVRGV	5166.13	10	20.0579
Se129	FOXA3 R160H	HLA-A*24:02	MT	YYRENQQ[H]W	72.27	WT	YYRENQQ[R]W	69.83	9	2.41168
Se129	FOXA3 R160H	HLA-B*35:01	MT	FPYRENQQ[H]	262.23	WT	FPYRENQQ[R]	6871.53	10	2.41168
Se129	ZMYND8 T230M	HLA-A*11:01	MT	[M]QIAKVVVK	85.29	WT	[T]QIAKVVVK	110.07	9	8.95143
Se129	CLCN5 R563C	HLA-B*35:01	MT	DAH[I]CJLNGY	174.5	WT	DAH[R]CJLNGY	1144.79	9	1.26737
Se129	CLCN5 R563C	HLA-B*35:01	MT	HI[C]JLNGYPF	243.19	WT	HI[R]CJLNGYPF	232.05	9	1.26737
Se130	GPR161 A141T	HLA-A*11:01	MT	RVARVK[T]RK	64.7	WT	RVARVK[A]RK	57.29	9	6.537
Se130	EPCAM V6I	HLA-C*12:02	MT	MAPPQ[I]LAF	53.34	WT	MAPPQ[V]LAF	48.84	9	134.91812
Se130	FLNB G972V	HLA-C*12:02	MT	FTVDTRGA[V]	18.92	WT	FTVDTRGA[G]	1900.76	9	27.56892
Se130	SORCS2 T893K	HLA-A*11:01	MT	GLNQEVNL[K]	247.22	WT	GLNQEVNL[T]	36093.39	9	2.6874
Se130	TBC1D1 K787M	HLA-A*11:01	MT	RSK[I]M]FDMK	73.29	WT	RSK[K]M]FDMK	222.71	10	20.24046
Se130	KIAA0922 G973V	HLA-A*11:01	MT	ATY[V]HSQKK	10.58	WT	ATY[G]HSQKK	8.7	9	5.31049
Se130	ZNF391 K200I	HLA-C*12:02	MT	[I]AFSRSTNL	37.28	WT	[K]AFSRSTNL	94.07	9	2.71947
Se130	C2 L126P	HLA-B*55:02	MT	L[P]LDLCSQSV	187.07	WT	L[L]LDLCSQSV	10755.88	9	45.87171
Se130	IGF2R T1015S	HLA-C*12:02	MT	LS[S]JEGFITL	216.97	WT	LS[T]JEGFITL	392.24	9	20.9876
Se130	ORC5 L351P	HLA-A*11:01	MT	KTSNH[P]LGPK	17.51	WT	KTSNH[L]LGPK	11.7	10	11.82873
Se130	ORC5 L351P	HLA-A*11:01	MT	TSNH[P]LGPK	18.5	WT	TSNH[L]LGPK	22.38	9	11.82873
Se130	PUF60 V333I	HLA-C*12:02	MT	MAAQAPG[I]I	184.14	WT	MAAQAPG[V]I	93.38	9	133.47491
Se130	PUF60 V333I	HLA-C*12:02	MT	AQAPG[I]ITGV	399.68	WT	AQAPG[V]ITGV	364.33	10	133.47491
Se130	PUF60 V333I	HLA-A*11:01	MT	G[I]ITGVTPAR	492.35	WT	G[V]ITGVTPAR	245.11	10	133.47491
Se130	AQP3 Y104C	HLA-B*55:02	MT	LPI[C]TLAQT	410.22	WT	LPI[Y]TLAQT	515.68	9	2.7769
Se130	RASSF4 L28V	HLA-A*11:01	MT	KSELLGL[L]K	354.08	WT	KSELLGL[L]K	98.06	9	20.58295
Se130	SBF2 I1318V	HLA-A*11:01	MT	AALY[I]FGEK	50.51	WT	AALY[V]FGEK	53.24	9	5.04104
Se130	SBF2 I1318V	HLA-A*11:01	MT	QAALY[V]FGEK	107.18	WT	QAALY[I]FGEK	111.05	10	5.04104
Se130	SBF2 I1318V	HLA-C*12:02	MT	Y[V]FGEKSQL	434.94	WT	Y[I]FGEKSQL	818.37	9	5.04104

Se130	SBF2 I1318V	HLA-A*11:01	MT	Y[V]FGEKSQLR	459.06	WT	Y[I]FGEKSQLR	636.47	10	5.04104
Se130	APLP2 E49V	HLA-C*12:02	MT	FAVA[V]PQIAM	10.39	WT	FAVA[E]PQIAM	22.35	10	175.38837
Se130	APLP2 E49V	HLA-C*12:02	MT	FAVA[V]PQIA	148.04	WT	FAVA[E]PQIA	861.64	9	175.38837
Se130	APLP2 E49V	HLA-C*12:02	MT	VA[V]PQIAMF	179.76	WT	VA[E]PQIAMF	978.08	9	175.38837
Se130	PLEKHG6 E244Q	HLA-A*24:02	MT	R[Q]QQETNPLF	497.1	WT	R[E]QQETNPLF	4848.97	10	3.42479
Se130	ORMDL2 A121S	HLA-A*24:02	MT	KYD[S]AHFLI	18.74	WT	KYD[A]AHFLI	16.69	9	24.50457
Se130	ORMDL2 A121S	HLA-A*24:02	MT	FYTKYD[S]AHF	52.57	WT	FYTKYD[A]AHF	56.77	10	24.50457
Se130	ORMDL2 A121S	HLA-C*12:02	MT	YTKYD[S]AHF	113.23	WT	YTKYD[A]AHF	124.56	9	24.50457
Se130	ORMDL2 A121S	HLA-C*12:02	MT	YTKYD[S]AHFL	114.49	WT	YTKYD[A]AHFL	105.01	10	24.50457
Se130	ZDHHYC17 Y223S	HLA-A*11:01	MT	SVNLGDK[S]JHK	182.6	WT	SVNLGDK[Y]JHK	81.95	10	5.6965
Se130	RNF213 S4922R	HLA-A*11:01	MT	HV[I]R]YEVEER	416.03	WT	HV[I]S]YEVEER	366.43	9	21.12122
Se130	NPLOC4 D111H	HLA-A*11:01	MT	[H]QYLSKQDQK	383.35	WT	[D]QYLSKQDQK	6502.64	10	25.50451
Se130	ANKRD27 H754R	HLA-A*11:01	MT	SSPLHVAAL[R]	343.9	WT	SSPLHVAAL[H]	4683.47	10	12.27031
Se130	ZNF671 R408W	HLA-C*12:02	MT	FS[W]KHTLVL	26.24	WT	FS[R]KHTLVL	26.49	9	2.35972
Se130	ZNF671 R408W	HLA-C*01:02	MT	FS[W]KHTLVL	453.2	WT	FS[R]KHTLVL	855.05	9	2.35972
Se130	PABPC1L P457T	HLA-C*12:02	MT	R[T]PAHISSV	120.94	WT	R[P]PAHISSV	2748.36	9	3.85177
Se130	PABPC1L P457T	HLA-A*11:01	MT	R[T]PAHISSVR	375.28	WT	R[P]PAHISSVR	22353.17	10	3.85177
Se130	LAMA5 E2916D	HLA-C*12:02	MT	YNF[D]RTFQL	73.7	WT	YNF[E]RTFQL	120.01	9	88.27905
Se130	LAMA5 E2916D	HLA-A*11:01	MT	VVSLYNF[D]R	235.01	WT	VVSLYNF[E]R	71.78	9	88.27905
Se130	LAMA5 E2916D	HLA-A*24:02	MT	LYNF[D]RTFQL	252.9	WT	LYNF[E]RTFQL	154.54	10	88.27905
Se130	LAMA5 E2916D	HLA-C*12:02	MT	SLYNF[D]RTF	439.82	WT	SLYNF[E]RTF	1342.22	9	88.27905
Se130	IL17RA D538A	HLA-A*24:02	MT	RQLRAAL[A]RF	366.99	WT	RQLRAAL[D]RF	842.16	10	7.34018
Se130	SNAP29 L31F	HLA-B*55:02	MT	[F]PDGPDAPA	74.92	WT	[L]PDGPDAPA	274.95	9	13.47533
Se130	TMLHE S88F	HLA-A*11:01	MT	RSASCYN[F]K	7.34	WT	RSASCYN[S]K	16.21	9	7.28871
Se130	TMLHE S88F	HLA-C*12:02	MT	YN[F]KTHQRS	431.69	WT	YN[S]KTHQRS	1040.58	10	7.28871
Se131	CACHD1 R150Q	HLA-A*24:02	MT	FYTNLNP[Q]MI	149.17	WT	FYTNLNP[R]MI	434.47	10	3.89138
Se131	CACHD1 R150Q	HLA-C*12:02	MT	YTNLNP[Q]MI	183.7	WT	YTNLNP[R]MI	251.18	9	3.89138
Se131	CACHD1 R150Q	HLA-C*12:02	MT	FYTNLNP[Q]MI	259.69	WT	FYTNLNP[R]MI	218.58	9	3.89138
Se131	CACHD1 R150Q	HLA-A*24:08	MT	FYTNLNP[Q]MI	371.7	WT	FYTNLNP[R]MI	971.33	10	3.89138
Se131	CID T73S	HLA-C*12:02	MT	WVYLA[S]QGV	197.14	WT	WVYLA[T]QGV	133.11	9	9.30985
Se131	PDE1A V219F	HLA-C*12:02	MT	LAM[F]FAAAI	62.86	WT	LAM[V]FAAAI	68.21	9	10.22433
Se131	PDE1A V219F	HLA-B*52:01	MT	LAM[F]FAAAI	483.51	WT	LAM[V]FAAAI	516.93	9	10.22433
Se131	ENTPD4 A160S	HLA-C*12:02	MT	F[S]AEHVPRA	239.74	WT	F[A]AEHVPRA	109.77	9	7.61548
Se131	DEAF1 P204L	HLA-C*12:02	MT	SVYDSEL[L]V	394.03	WT	SVYDSEL[P]V	83.21	9	6.81956
Se131	QSER1 T1248I	HLA-A*24:02	MT	AYKSVS[I]PL	278.39	WT	AYKSVS[T]PL	557.24	9	9.64947
Se131	QSER1 T1248I	HLA-C*12:02	MT	KSVS[I]PLTTL	372.71	WT	KSVS[T]PLTTL	433.96	10	9.64947
Se131	QSER1 T1248I	HLA-C*12:02	MT	DAYKSVS[I]PL	466.13	WT	DAYKSVS[T]PL	308.89	10	9.64947
Se131	UTP20 R1043W	HLA-A*24:02	MT	RMAIVL[W]JF	324.13	WT	RMAIVL[R]JF	2502.64	9	3.56485
Se131	UTP20 R1043W	HLA-A*24:08	MT	RMAIVL[W]JF	379.35	WT	RMAIVL[R]JF	2516.92	9	3.56485
Se131	UBAC2 R90K	HLA-A*24:02	MT	RYGS[K]KFASF	19.32	WT	RYGS[R]KFASF	13.54	10	17.02984
Se131	UBAC2 R90K	HLA-A*24:08	MT	RYGS[K]KFASF	172.96	WT	RYGS[R]KFASF	116.99	10	17.02984
Se131	UBAC2 R90K	HLA-C*12:02	MT	YGS[K]KFASF	287.57	WT	YGS[R]KFASF	453.01	9	17.02984
Se131	TM9SF1 G453V	HLA-C*12:02	MT	LSV[G]STGLF	341.49	WT	LSV[J]STGLF	227.94	9	28.83419
Se131	AP4E1 D965N	HLA-A*24:02	MT	[N]FGKLWLSF	66.79	WT	[D]FGKLWLSF	386.33	9	2.10488
Se131	AP4E1 D965N	HLA-A*24:08	MT	[N]FGKLWLSF	308.53	WT	[D]FGKLWLSF	1907.68	9	2.10488
Se131	AP4E1 D965N	HLA-C*12:02	MT	ISSD[D]FGKL	383.51	WT	ISSD[J]FGKL	1296.1	9	2.10488
Se131	VPS13C E2692A	HLA-A*24:02	MT	TLP[A]FFPVCF	383.35	WT	TLP[E]FFPVCF	702.49	10	4.60838
Se131	IGDCC4 N1145K	HLA-C*12:02	MT	FSASNG[K]PDL	478.04	WT	FSASNG[N]PDL	188.17	10	1.10792
Se131	TMEM208 F118L	HLA-C*12:02	MT	TAIVQVLSL[F]	419.75	WT	TAIVQVLSL[F]	459.15	10	22.70779
Se131	SCRN2 S288R	HLA-C*12:02	MT	TTA[R]MVSVL	373.18	WT	TTA[S]MVSVL	186.49	9	9.93327
Se131	SCRN2 S288R	HLA-C*12:02	MT	RTTA[R]MVSVL	376.15	WT	RTTA[S]MVSVL	416.95	10	9.93327
Se131	SCRN2 S288R	HLA-C*12:02	MT	RTTA[R]MVSV	384.19	WT	RTTA[S]MVSV	386.36	9	9.93327
Se131	CACNG4 V303M	HLA-A*24:02	MT	SFLQ[V]HDFD	36.22	WT	SFLQ[V]HDFD	32.64	9	5.3491
Se131	CACNG4 V303M	HLA-A*24:08	MT	SFLQ[M]HDFD	155.46	WT	SFLQ[V]HDFD	163.81	9	5.3491
Se131	NFATC1 R108S	HLA-C*12:02	MT	HT[R]PDGAPAL	382.55	WT	HT[R]PDGAPAL	536.4	10	1.42682
Se131	TEF K177M	HLA-A*24:02	MT	LFNPRKH[M]F	318.33	WT	LFNPRKH[K]F	481.46	9	3.51723
Se132	UBR4 R2974H	HLA-A*02:06	MT	RLHMV[H]LMLL	387.4	WT	RLHMV[R]LMLL	739.41	10	6.00593
Se132	DNTTIP2 L252I	HLA-A*02:06	MT	LQARS[I]SEI	135.16	WT	LQARS[L]SEI	88.82	9	34.95788
Se132	TOMM40L L73F	HLA-C*03:04	MT	SALG[F]PGYHL	155.33	WT	SALG[L]PGYHL	204.58	10	5.62372
Se132	TOMM40L L73F	HLA-C*03:04	MT	HTIHMSALG[F]	335.03	WT	HTIHMSALG[L]	82.72	10	5.62372
Se132	TOMM40L L73F	HLA-A*02:06	MT	SALG[F]PGYHL	422.43	WT	SALG[L]PGYHL	728.9	10	5.62372
Se132	RGS16 D153H	HLA-C*03:04	MT	[H]AAQGKTRTL	39.32	WT	[D]AAQGKTRTL	2120.12	10	16.75319
Se132	RGS16 D153H	HLA-A*02:06	MT	ATATCF[H]AA	53.83	WT	ATATCF[D]AA	215.59	9	16.75319
Se132	C1orf106 G299S	HLA-A*02:06	MT	WQ[S]RTSAPA	264.85	WT	WQ[G]RTSAPA	822.13	9	24.60138
Se132	ATP2B4 L1002V	HLA-A*02:06	MT	NIIFCSVV[V]	121.15	WT	NIIFCSVV[L]	587.03	9	46.54804
Se132	ATP2B4 L1002V	HLA-A*02:06	MT	VV[V]GTFICQI	282.1	WT	VV[L]GTFICQI	125.33	10	46.54804
Se132	PLXNA2 V1183G	HLA-A*02:06	MT	[G]LIGETPCAV	18.85	WT	[V]LIGETPCAV	16.77	10	2.83442
Se132	PLXNA2 V1183G	HLA-A*02:06	MT	[G]LIGETPCA	180.65	WT	[V]LIGETPCA	174.29	9	2.83442
Se132	ROCK2 C1257F	HLA-A*02:06	MT	YI[F]HKGHEFI	33.53	WT	YI[C]HKGHEFI	386.7	10	7.01295
Se132	ROCK2 C1257F	HLA-C*03:04	MT	YI[F]HKGHEF	45.07	WT	YI[C]HKGHEF	1102.7	9	7.01295
Se132	ROCK2 C1257F	HLA-A*02:06	MT	YI[F]HKGHEF	305.75	WT	YI[C]HKGHEF	3326.89	9	7.01295
Se132	ROCK2 C1257F	HLA-C*03:04	MT	YI[F]HKGHEFI	404.89	WT	YI[C]HKGHEFI	6300.56	10	7.01295
Se132	BIRC6 I2111M	HLA-A*02:06	MT	LL[M]FPQDRV	79.65	WT	LL[I]FPQDRV	251.05	9	8.30844
Se132	BIRC6 I2111M	HLA-C*03:04	MT	L[M]FPQDRVF	306.26	WT	L[I]FPQDRVF	411.08	9	8.30844
Se132	BIRC6 I2111M	HLA-A*02:06	MT	QLL[M]FPQDRV	320.93	WT	QLL[I]FPQDRV	497.56	10	8.30844
Se132	BIRC6 I2111M	HLA-C*03:04	MT	L[M]FPQDRVFM	349.33	WT	L[I]FPQDRVFM	610.45	10	8.30844
Se132	BIRC6 I2111M	HLA-A*02:06	MT	L[M]FPQDRVFM	409.19	WT	L[I]FPQDRVFM	1552.54	10	8.30844
Se132	TMEM131 F632L	HLA-C*03:04	MT	LASGYFAV[L]	15.05	WT	LASGYFAV[F]	24.3	9	10.81397

Se132	TMEM131 F632L	HLA-A*02:06	MT	TLASGYFAV[L]	56.38	WT	TLASGYFAV[F]	372.74	10	10.81397
Se132	TMEM131 F632L	HLA-C*03:04	MT	FAV[L]RVKLT	270.65	WT	FAV[F]RVKLT	216.38	10	10.81397
Se132	TMEM131 F632L	HLA-C*03:04	MT	TLASGYFAV[L]	274.03	WT	TLASGYFAV[F]	716.24	10	10.81397
Se132	REV1 G58A	HLA-A*02:06	MT	YVN[A]YTDPSA	90.39	WT	YVN[G]YTDPSA	111.44	10	10.87433
Se132	SH3RF3 R535L	HLA-C*03:04	MT	VPAGGAGPP[L]	361.42	WT	VPAGGAGPP[R]	35114.27	10	1.36037
Se132	SLC6A6 C112W	HLA-A*02:06	MT	IT[W]WEKICPL	109.99	WT	IT[C]WEKICPL	1051.16	10	7.39484
Se132	SLC6A6 C112W	HLA-C*03:04	MT	YTSEGGIT[W]	358.2	WT	YTSEGGIT[C]	2878.99	9	7.39484
Se132	MITF A57T	HLA-A*02:06	MT	TTLPS[T]TQV	143.86	WT	TTLPS[A]TQV	209.71	9	1.24503
Se132	MITF A57T	HLA-C*03:04	MT	S[T]TQVPMEV	330.53	WT	S[A]TQVPMEV	43.36	10	1.24503
Se132	ABTB1 I38F	HLA-A*02:06	MT	YTGRLD[F]GV	59.88	WT	YTGRLD[I]GV	282.53	9	15.08867
Se132	ABTB1 I38F	HLA-A*02:06	MT	RLD[F]GVEHV	83.62	WT	RLD[I]GVEHV	207.76	9	15.08867
Se132	ABTB1 I38F	HLA-C*03:04	MT	YLYTGRLD[F]	142.7	WT	YLYTGRLD[I]	311.96	9	15.08867
Se132	HPS3 D135H	HLA-A*02:06	MT	FAP[H]ISSYV	6.63	WT	FAP[D]ISSYV	4.09	9	11.28444
Se132	HPS3 D135H	HLA-C*03:04	MT	FAP[H]ISSYVL	7.75	WT	FAP[D]ISSYVL	6.7	10	11.28444
Se132	HPS3 D135H	HLA-C*03:04	MT	FAP[H]ISSYV	39	WT	FAP[D]ISSYV	24.62	9	11.28444
Se132	HPS3 D135H	HLA-A*02:06	MT	LLYRRFAP[H]I	86.18	WT	LLYRRFAP[D]I	416.95	10	11.28444
Se132	HPS3 D135H	HLA-C*08:22	MT	FAP[H]ISSYVL	103.47	WT	FAP[D]ISSYVL	62.57	10	11.28444
Se132	HPS3 D135H	HLA-C*08:22	MT	FAP[H]ISSYV	121.52	WT	FAP[D]ISSYV	57.48	9	11.28444
Se132	HPS3 D135H	HLA-A*02:06	MT	FAP[H]ISSYVL	141.26	WT	FAP[D]ISSYVL	75.87	10	11.28444
Se132	HPS3 D135H	HLA-A*02:06	MT	RFAP[H]ISSYV	473.46	WT	RFAP[D]ISSYV	604.75	10	11.28444
Se132	WWTR1 S5P	HLA-C*03:04	MT	NPA[P]APPL	493.25	WT	NPA[S]APPL	1078.13	9	8.7532
Se132	CHRD D67N	HLA-A*02:06	MT	ALDETWH[P]N[L]	47.65	WT	ALDETWH[P]D[L]	228.71	10	10.0312
Se132	CENPC M647I	HLA-C*03:04	MT	I[I]TAQNVPL	326.08	WT	I[M]TAQNVPL	324.13	9	6.21147
Se132	TMEM192 L178V	HLA-C*03:04	MT	LA[V]JELICSL	11.92	WT	LA[L]JELICSL	22.28	9	6.83705
Se132	TMEM192 L178V	HLA-A*02:06	MT	ILA[V]JELICSL	78.72	WT	ILA[L]JELICSL	103.57	10	6.83705
Se132	TMEM192 L178V	HLA-A*02:06	MT	LILAILA[V]JEL	113.73	WT	LILAILA[L]JEL	118.71	10	6.83705
Se132	TMEM192 L178V	HLA-A*02:06	MT	LA[V]JELICSL	220.61	WT	LA[L]JELICSL	147.32	9	6.83705
Se132	TMEM192 L178V	HLA-A*02:06	MT	ILAILA[V]JELI	328.53	WT	ILAILA[L]JELI	248.11	10	6.83705
Se132	TMEM192 L178V	HLA-A*02:06	MT	ILAILA[V]JEL	331.55	WT	ILAILA[L]JEL	351.13	9	6.83705
Se132	TMEM192 L178V	HLA-C*03:04	MT	LA[V]JELICSLI	346.27	WT	LA[L]JELICSLI	734.66	10	6.83705
Se132	TMEM192 L178V	HLA-A*02:06	MT	DLILAILA[V]	432.53	WT	DLILAILA[L]	1375.22	9	6.83705
Se132	TMEM192 L178V	HLA-C*03:04	MT	LAILA[V]JELI	483.85	WT	LAILA[L]JELI	1212.54	9	6.83705
Se132	IL6ST M804I	HLA-A*02:06	MT	GQ[I]KMFQEV	7.02	WT	GQ[M]KMFQEV	4.31	9	21.00332
Se132	GRAMD3 M238T	HLA-A*02:06	MT	[T]LHHILIFYA	37.27	WT	[M]LHHILIFYA	11.57	10	4.60127
Se132	GRPEL2 R208H	HLA-A*02:06	MT	KLHG[H]TIRL	115.89	WT	KLHG[R]TIRL	474.21	9	8.04462
Se132	GRPEL2 R208H	HLA-A*02:06	MT	[H]TIRLARVEV	256.09	WT	[R]TIRLARVEV	214.9	10	8.04462
Se132	NEDD9 G116V	HLA-A*02:06	MT	YQNQ[V]IYQV	4.42	WT	YQNQ[G]IYQV	3.34	9	10.71745
Se132	ITPR3 F994L	HLA-A*02:06	MT	SV[L]KKEFVEV	30.76	WT	SV[F]KKEFVEV	16.85	10	31.08332
Se132	ITPR3 F994L	HLA-A*02:06	MT	V[L]KKEFVEV	113.44	WT	V[F]KKEFVEV	6759.06	9	31.08332
Se132	ITPR3 F994L	HLA-C*03:04	MT	YRISYLLSV[L]	463.42	WT	YRISYLLSV[F]	1989.67	10	31.08332
Se132	DST V3858F	HLA-A*02:06	MT	[F]QYQDGLQAV	7.12	WT	[V]QYQDGLQAV	33.34	10	4.37954
Se132	DST V3858F	HLA-A*02:06	MT	[F]QYQDGLQA	156.85	WT	[V]QYQDGLQA	1442.44	9	4.37954
Se132	DST V3858F	HLA-C*03:04	MT	[F]QYQDGLQAV	156.99	WT	[V]QYQDGLQAV	1762.59	10	4.37954
Se132	DST V3858F	HLA-C*03:04	MT	AA[F]QYQDGL	370.72	WT	AA[V]QYQDGL	818.56	9	4.37954
Se132	LACE1 F188L	HLA-A*02:06	MT	G[L]MAKSYDPI	37.35	WT	G[F]MAKSYDPI	2465.66	10	1.32768
Se132	LACE1 F188L	HLA-A*02:06	MT	[L]MAKSYDPI	60.19	WT	[F]MAKSYDPI	7.67	9	1.32768
Se132	LACE1 F188L	HLA-A*02:06	MT	[L]MAKSYDPIA	357.23	WT	[F]MAKSYDPIA	31.75	10	1.32768
Se132	MDH2 A202G	HLA-C*03:04	MT	KAG[G]GSATL	143.11	WT	KAG[A]GSATL	119.26	9	112.27126
Se132	ARPC1B D130H	HLA-A*02:06	MT	FEQEN[D]WVW	248.79	WT	FEQEN[I]WVW	433.47	9	81.48526
Se132	KMT2E G1134R	HLA-A*02:06	MT	GLVSGF[R]RTV	407.45	WT	GLVSGF[G]RTV	254.03	10	21.38676
Se132	MAK16 L91M	HLA-C*03:04	MT	KA[M]EQIDENL	90.77	WT	KA[L]EQIDENL	570.98	10	5.62347
Se132	MAK16 L91M	HLA-A*02:06	MT	KA[M]EQIDENL	274.3	WT	KA[L]EQIDENL	714.63	10	5.62347
Se132	CHD7 M7I	HLA-C*03:04	MT	MADPGM[I]SL	7.02	WT	MADPGM[M]SL	5.54	9	2.26167
Se132	CHD7 M7I	HLA-C*03:04	MT	MADPGM[I]SLF	26.07	WT	MADPGM[M]SLF	18.59	10	2.26167
Se132	CHD7 M7I	HLA-C*08:22	MT	MADPGM[I]SL	32.8	WT	MADPGM[M]SL	31.7	9	2.26167
Se132	CHD7 M7I	HLA-A*02:06	MT	MADPGM[I]SL	120.55	WT	MADPGM[M]SL	116.73	9	2.26167
Se132	CHD7 M7I	HLA-C*08:22	MT	MADPGM[I]SLF	151.43	WT	MADPGM[M]SLF	118.7	10	2.26167
Se132	VPS13B A3424S	HLA-C*03:04	MT	CV[S]PGAGPL	95.85	WT	CV[A]PGAGPL	67.93	9	2.85842
Se132	VPS13B A3424S	HLA-A*02:06	MT	NIFLCV[S]PGA	152.07	WT	NIFLCV[A]PGA	143.23	10	2.85842
Se132	GRHL2 F23L	HLA-C*03:04	MT	VPMPSPDP[L]	110.79	WT	VPMPSPDP[F]	162.08	9	5.74723
Se132	GRHL2 F23L	HLA-C*03:04	MT	LVPMPSPDP[L]	164.13	WT	LVPMPSPDP[F]	475.94	10	5.74723
Se132	ENPP2 R203W	HLA-A*02:06	MT	GTHSPYM[W]PV	22.04	WT	GTHSPYM[R]PV	394.76	10	2.35269
Se132	ENPP2 R203W	HLA-A*02:06	MT	YM[W]PVYPTKT	35.26	WT	YM[R]PVYPTKT	2321.76	10	2.35269
Se132	ENPP2 R203W	HLA-A*02:06	MT	THSPYM[W]PV	354.12	WT	THSPYM[R]PV	9983.96	9	2.35269
Se132	TRIM14 V326F	HLA-C*03:04	MT	FATGRHYWE[F]	20.32	WT	FATGRHYWE[V]	51.97	10	5.39607
Se132	ZFAND4 G621R	HLA-A*02:06	MT	[R]VFLSTHGV	11.44	WT	[G]VFLSTHGV	20.25	9	2.381
Se132	PITPNM1 S318L	HLA-C*03:04	MT	WSSSRSSY[L]	80.41	WT	WSSSRSSY[S]	18073.52	10	23.51921
Se132	PITPNM1 S318L	HLA-C*03:04	MT	Y[L]SQHGGAV	134.16	WT	Y[S]SQHGGAV	27.88	9	23.51921
Se132	PITPNM1 S318L	HLA-A*02:06	MT	Y[L]SQHGGAV	205.52	WT	Y[S]SQHGGAV	1171.39	9	23.51921
Se132	PITPNM1 S318L	HLA-C*03:04	MT	SSSRSSY[S]	214.52	WT	SSSRSSY[S]	22199.84	9	23.51921
Se132	NUDT4 C96F	HLA-C*03:04	MT	[F]SPANGNSTV	125.14	WT	[C]SPANGNSTV	2473.81	10	23.02767
Se132	NUDT4 C96F	HLA-A*02:06	MT	[F]SPANGNSTV	144.98	WT	[C]SPANGNSTV	1329.28	10	23.02767
Se132	NUDT4 C96F	HLA-C*08:22	MT	[F]SPANGNSTV	437.99	WT	[C]SPANGNSTV	3279.14	10	23.02767
Se132	GNPTAB I354N	HLA-A*02:06	MT	GQ[N]PSWLNL	401.1	WT	GQ[I]PSWLNL	71.36	9	4.97733
Se132	CENP1 A1183T	HLA-A*02:06	MT	S[T]DGKTTV	241.61	WT	S[A]DGKTTV	623.77	9	3.65936
Se132	HSPH1 G266A	HLA-A*02:06	MT	SAVEIV[A]JGA	64.3	WT	SAVEIV[G]JGA	336.96	9	32.46991
Se132	HSPH1 G266A	HLA-A*02:06	MT	IV[A]GATRIPA	388.56	WT	IV[G]GATRIPA	1663.16	10	32.46991
Se132	PCDH17 W12R	HLA-A*02:06	MT	FLL[R]APALTL	30.98	WT	FLL[W]APALTL	15.53	10	1.0768

Se132	PCDH17 W12R	HLA-C*03:04	MT	FLL[R]APALTL	32.73	WT	FLL[W]APALTL	25.65	10	1.0768
Se132	PCDH17 W12R	HLA-A*02:06	MT	FLL[R]APALT	108.01	WT	FLL[W]APALT	27.53	9	1.0768
Se132	PCDH17 W12R	HLA-C*03:04	MT	LL[R]APALTL	310.12	WT	LL[W]APALTL	252.65	9	1.0768
Se132	PCDH17 W12R	HLA-C*08:22	MT	FLL[R]APALTL	313.84	WT	FLL[W]APALTL	215.91	10	1.0768
Se132	TBC1D4 M992I	HLA-A*02:06	MT	IQ[I]YQLSRL	138.43	WT	IQ[M]YQLSRL	62.97	9	1.91787
Se132	TBC1D4 M992I	HLA-A*02:06	MT	IQ[I]YQLSRL	187.82	WT	IQ[M]YQLSRL	83.62	10	1.91787
Se132	TBC1D4 M992I	HLA-A*02:06	MT	MSLQIQ[I]YQL	344.35	WT	MSLQIQ[M]YQL	306.1	10	1.91787
Se132	TBC1D4 M992I	HLA-A*02:06	MT	SLQIQ[I]YQL	374.06	WT	SLQIQ[M]YQL	778.39	9	1.91787
Se132	ABCC4 I311M	HLA-A*02:06	MT	[M]QTFLLLDEI	38.23	WT	[I]QTFLLLDEI	141.71	10	12.28274
Se132	ABCC4 I311M	HLA-C*03:04	MT	VSIRR[M]QTF	262.07	WT	VSIRR[I]QTF	431.52	9	12.28274
Se132	ABCC4 I311M	HLA-C*03:04	MT	VSIRR[M]QTFL	399.3	WT	VSIRR[I]QTFL	485.7	10	12.28274
Se132	LAMP1 L240V	HLA-C*03:04	MT	LASMGLQ[V]NL	72.66	WT	LASMGLQ[L]NL	67.05	10	97.28725
Se132	LAMP1 L240V	HLA-A*02:06	MT	LLASMGLQ[V]	115.38	WT	LLASMGLQ[L]	412.51	9	97.28725
Se132	LAMP1 L240V	HLA-A*02:06	MT	CLLASMGLQ[V]	143.53	WT	CLLASMGLQ[L]	614.22	10	97.28725
Se132	AKAP6 V1408L	HLA-A*02:06	MT	QMGDAVN[L]L	221.41	WT	QMGDAVN[V]L	733.32	9	1.09165
Se132	ATG2B T1944R	HLA-C*03:04	MT	MAALEL[R]NRM	105.63	WT	MAALEL[T]NRM	38.25	10	2.3557
Se132	PLA2G4F H246N	HLA-A*02:06	MT	RL[N]VELMEL	213.08	WT	RL[H]VELMEL	228.27	9	1.53153
Se132	PLA2G4F H246N	HLA-A*02:06	MT	RL[N]VELMELL	358.45	WT	RL[H]VELMELL	410.87	10	1.53153
Se132	PLA2G4F H246N	HLA-A*02:06	MT	VLSSRL[N]VEL	428.09	WT	VLSSRL[H]VEL	349.99	10	1.53153
Se132	PLA2G4F H246N	HLA-C*03:04	MT	LSSRL[N]VEL	480.74	WT	LSSRL[H]VEL	302.04	9	1.53153
Se132	HAUS2 S194C	HLA-A*02:06	MT	FT[C]KVHVQTI	477.74	WT	FT[S]KVHVQTI	159.22	10	6.15017
Se132	LCMT2 L279V	HLA-A*02:06	MT	DMNEFYHCF[V]	121.21	WT	DMNEFYHCF[L]	683.1	10	7.0414
Se132	TMEM8A V123I	HLA-A*02:06	MT	[I]QPSFQVGV	34.62	WT	[V]QPSFQVGV	52.37	9	15.8092
Se132	TMEM8A V123I	HLA-A*02:06	MT	A[I]QPSFQVGV	88.66	WT	A[V]QPSFQVGV	74.51	10	15.8092
Se132	TMEM8A V123I	HLA-A*02:06	MT	TA[I]QPSFQV	228.71	WT	TA[V]QPSFQV	535.41	9	15.8092
Se132	TMEM8A V123I	HLA-C*03:04	MT	TA[I]QPSFQV	284.28	WT	TA[V]QPSFQV	419.44	9	15.8092
Se132	TMEM8A V123I	HLA-C*03:04	MT	TSFPDDTA[I]	450.27	WT	TSFPDDTA[V]	425.27	9	15.8092
Se132	COG7 R470K	HLA-C*03:04	MT	TAFQNSI[K]I	205.84	WT	TAFQNSI[R]I	124.14	9	10.17545
Se132	COG7 R470K	HLA-C*03:04	MT	TAFQNSI[K]II	320.82	WT	TAFQNSI[R]II	138.8	10	10.17545
Se132	COG7 R470K	HLA-A*02:06	MT	FQNSI[K]IIAT	338.1	WT	FQNSI[R]IIAT	228.71	10	10.17545
Se132	COG7 R470K	HLA-A*02:06	MT	FQNSI[K]IIA	459.53	WT	FQNSI[R]IIA	229.85	9	10.17545
Se132	CMTR2 L708F	HLA-A*02:06	MT	YLQSVNE[F]L	16.76	WT	YLQSVNE[L]L	34.35	9	5.87632
Se132	CMTR2 L708F	HLA-A*02:06	MT	SVNE[F]LSTL	63.86	WT	SVNE[L]LSTL	133.75	9	5.87632
Se132	CMTR2 L708F	HLA-C*03:04	MT	SVNE[F]LSTL	84.02	WT	SVNE[L]LSTL	106.9	9	5.87632
Se132	CMTR2 L708F	HLA-A*02:06	MT	SVNE[F]LSTLL	90.38	WT	SVNE[L]LSTLL	158.73	10	5.87632
Se132	CMTR2 L708F	HLA-C*03:04	MT	SVNE[F]LSTLL	253.52	WT	SVNE[L]LSTLL	298.72	10	5.87632
Se132	CMTR2 L708F	HLA-C*03:04	MT	QSVNE[F]LSTL	279.24	WT	QSVNE[L]LSTL	429.55	10	5.87632
Se132	TP53 C3W	HLA-A*02:06	MT	[W]QLAKTCPV	4.8	WT	[C]QLAKTCPV	13.48	9	26.91538
Se132	FAM83G G665V	HLA-A*02:06	MT	GTFVGPQG[V]	303.75	WT	GTFVGPQG[G]	26212.43	9	1.96197
Se132	PIGW E21K	HLA-A*02:06	MT	[K]ITQGLCFPA	119.54	WT	[E]ITQGLCFPA	1536.17	10	7.19426
Se132	PIGW E21K	HLA-A*02:06	MT	TVL[K]ITQGL	430.49	WT	TVL[E]ITQGL	70.94	9	7.19426
Se132	MIF4GD P128L	HLA-A*02:06	MT	[L]VYDCLFRL	21.73	WT	[P]VYDCLFRL	619.62	9	12.66511
Se132	MIF4GD P128L	HLA-A*02:06	MT	[L]VYDCLFRLA	62.11	WT	[P]VYDCLFRLA	1489.41	10	12.66511
Se132	MIF4GD P128L	HLA-A*02:06	MT	PMMALVN[L]V	139.76	WT	PMMALVN[P]V	42.83	9	12.66511
Se132	MIF4GD P128L	HLA-C*03:04	MT	MPMMALVN[L]	167.5	WT	MPMMALVN[P]	24718.39	9	12.66511
Se132	MIF4GD P128L	HLA-A*02:06	MT	N[L]VYDCLFRL	171.4	WT	N[P]VYDCLFRL	10151.84	10	12.66511
Se132	MIF4GD P128L	HLA-A*02:06	MT	ALVN[L]VYDCL	406.6	WT	ALVN[P]VYDCL	516.76	10	12.66511
Se132	LDLR A603T	HLA-C*03:04	MT	IVTMSHQ[T]L	94.79	WT	IVTMSHQ[A]L	73.21	9	4.77338
Se132	NCCRP1 G238R	HLA-A*02:06	MT	HVFRHY[R]PGV	40.07	WT	HVFRHY[G]PGV	25.16	10	1.17861
Se132	C20orf194 V215I	HLA-C*03:04	MT	N[I]YSKMDPM	307.1	WT	N[V]YSKMDPM	118.85	9	1.51121
Se132	C20orf194 V215I	HLA-A*02:06	MT	N[I]YSKMDPM	419.42	WT	N[V]YSKMDPM	320.59	9	1.51121
Se132	C20orf24 D37H	HLA-C*03:04	MT	AAWE[H]KDEF	358.57	WT	AAWE[D]KDEF	1057.1	9	56.10884
Se132	NDRG3 L272F	HLA-A*02:06	MT	RLNPINTT[F]L	221.87	WT	RLNPINTT[L]L	337.77	10	12.67909
Se132	USP16 P586A	HLA-C*03:04	MT	H[A]DEINIEIL	158.92	WT	H[P]DEINIEIL	2659.24	10	29.94486
Se132	USP16 P586A	HLA-C*08:22	MT	H[A]DEINIEIL	261.23	WT	H[P]DEINIEIL	2583.77	10	29.94486
Se132	USP16 P586A	HLA-C*03:04	MT	H[A]DEINIEI	303.26	WT	H[P]DEINIEI	3989.16	9	29.94486
Se132	USP16 P586A	HLA-C*08:22	MT	H[A]DEINIEI	323.48	WT	H[P]DEINIEI	2957.61	9	29.94486
Se132	DOPEY2 E1559Q	HLA-A*02:06	MT	KQYES[Q]SVKL	46.48	WT	KQYES[E]SVKL	67.56	10	8.77853
Se132	HLCS I648V	HLA-A*02:06	MT	RVVTVLEKL[V]	279.91	WT	RVVTVLEKL[I]	912.55	10	8.79614
Se132	NUP62CL T24M	HLA-C*03:04	MT	TS[M]TTTATF	68.47	WT	TS[T]TTTATF	769.74	9	1.59485
Se132	NUP62CL T24M	HLA-A*02:06	MT	FTTS[M]TTTA	169.18	WT	FTTS[T]TTTA	291.3	9	1.59485
Se132	NUP62CL T24M	HLA-C*03:04	MT	TTS[M]TTTATF	321.03	WT	TTS[T]TTTATF	361.21	10	1.59485
Se132	NUP62CL T24M	HLA-C*03:04	MT	IGLSFTTS[M]	366.74	WT	IGLSFTTS[T]	21690.79	9	1.59485
Se133	NAV1 R284W	HLA-A*02:06	MT	IQYRSLP[W]PA	10.48	WT	IQYRSLP[R]PA	148.08	10	3.05401
Se133	TRAPPC12 G342S	HLA-A*33:03	MT	ENLTMP[S]JLR	62.95	WT	ENLTMP[G]JLR	138.58	9	8.90061
Se133	TRAPPC12 G342S	HLA-B*51:01	MT	MP[S]JLRFDNI	144.08	WT	MP[G]JLRFDNI	338.04	9	8.90061
Se133	SMC6 S1068F	HLA-A*33:03	MT	ILRM[F]DPER	139.01	WT	ILRM[S]DPER	639.93	9	6.75265
Se133	SMC6 S1068F	HLA-A*33:03	MT	RILRM[F]DPER	356.61	WT	RILRM[S]DPER	1303.65	10	6.75265
Se133	CRIM1 D158H	HLA-A*02:06	MT	SQ[H]MCLSAL	87.93	WT	SQ[D]MCLSAL	134.57	9	10.41973
Se133	CRIM1 D158H	HLA-C*14:02	MT	SQ[H]MCLSAL	92.75	WT	SQ[D]MCLSAL	989.65	9	10.41973
Se133	CRIM1 D158H	HLA-A*33:03	MT	[H]MCLSALKR	182.08	WT	[D]MCLSALKR	176.14	9	10.41973
Se133	DNAH1 R4096H	HLA-A*02:06	MT	WVMDLLQ[H]L	6.81	WT	WVMDLLQ[R]L	13.95	9	1.19002
Se133	DNAH1 R4096H	HLA-C*14:02	MT	WVMDLLQ[H]L	349.62	WT	WVMDLLQ[R]L	294.52	9	1.19002
Se133	SIPA1 R1007Q	HLA-A*33:03	MT	EV[Q]SLRHNNR	20.11	WT	EV[R]SLRHNNR	14.66	10	9.3339
Se133	SIPA1 R1007Q	HLA-A*33:03	MT	[Q]SLRHNNRR	208.85	WT	[R]SLRHNNRR	383.35	9	9.3339
Se133	SIPA1 R1007Q	HLA-A*02:06	MT	ALEEEV[Q]SL	473.69	WT	ALEEEV[R]SL	2614.15	9	9.3339
Se133	CTAGE5 K236M	HLA-A*33:03	MT	ESHI[M]TLTER	121.66	WT	ESHI[K]TLTER	147.95	10	6.40365
Se133	CTAGE5 K236M	HLA-A*02:06	MT	HI[M]TLTERL	447.62	WT	HI[K]TLTERL	9651.19	9	6.40365

Se133	CTAGE5 K236M	HLA-A*33:03	MT	[M]TLTERLLK	485.7	WT	[K]TLTERLLK	9327.49	9	6.40365
Se133	EMC8 E97K	HLA-C*14:02	MT	GYQQAN[K]RV	386.76	WT	GYQQAN[E]RV	240.24	9	14.49172
Se133	TP53 R141C	HLA-A*33:03	MT	EV[C]VCACPGR	94.8	WT	EV[R]VCACPGR	62.63	10	45.27501
Se133	MAN2B1 R190H	HLA-C*14:02	MT	[H]VAWHIDPF	156.5	WT	[R]VAWHIDPF	114.72	9	33.18469
Se133	MAN2B1 R190H	HLA-B*15:18	MT	[H]VAWHIDPF	179.89	WT	[R]VAWHIDPF	1403.78	9	33.18469
Se133	MAN2B1 R190H	HLA-A*02:06	MT	[H]VAWHIDPF	472.27	WT	[R]VAWHIDPF	392.82	9	33.18469
Se133	COLGALT1 R453W	HLA-A*02:06	MT	RLMNL[M]W]DV	5.45	WT	RLMNL[M]R]DV	194.53	9	26.34678
Se133	COLGALT1 R453W	HLA-A*33:03	MT	MNL[M]W]DVER	23.21	WT	MNL[M]R]DVER	27.84	9	26.34678
Se133	COLGALT1 R453W	HLA-A*02:06	MT	LM[W]DVEREGL	83.72	WT	LM[R]DVEREGL	3253.87	10	26.34678
Se133	COLGALT1 R453W	HLA-A*33:03	MT	LMNL[M]W]DVER	119.9	WT	LMNL[M]R]DVER	105.31	10	26.34678
Se133	RALGAPA2 V691M	HLA-A*02:06	MT	TT[M]GRSFSL	24.94	WT	TT[V]GRSFSL	107.1	9	6.79981
Se133	RALGAPA2 V691M	HLA-A*33:03	MT	[M]GRSFSLSWR	63.76	WT	[V]GRSFSLSWR	1007.09	10	6.79981
Se133	RALGAPA2 V691M	HLA-C*14:02	MT	TT[M]GRSFSL	131.6	WT	TT[V]GRSFSL	796.96	9	6.79981
Se134	ATP1A2 Q703H	HLA-A*31:01	MT	KLIIVEGC[H]R	99.56	WT	KLIIVEGC[Q]R	147.29	10	2.51974
Se134	ATP1A2 V924M	HLA-C*03:03	MT	TAFFASI[M]VV	57.71	WT	TAFFASI[V]VV	62.33	10	2.51974
Se134	ATP1A2 V924M	HLA-C*03:03	MT	TAFFASI[M]V	134.85	WT	TAFFASI[V]V	51.94	9	2.51974
Se134	ATP1A2 V924M	HLA-A*24:02	MT	FFASI[M]VVQW	137.82	WT	FFASI[V]VVQW	144.28	10	2.51974
Se134	ATP1A2 V924M	HLA-C*03:03	MT	HTAFFASI[M]V	267.54	WT	HTAFFASI[V]V	1211.15	9	2.51974
Se134	ATP1A2 V924M	HLA-C*03:03	MT	[M]VVQWADLII	411.22	WT	[V]VVQWADLII	1935.43	10	2.51974
Se134	ATP1A2 V924M	HLA-C*14:03	MT	AFFASI[M]VV	467.72	WT	AFFASI[V]VV	794.55	9	2.51974
Se134	CDC73 G22A	HLA-C*03:03	MT	K[A]DEVIFGEF	271.06	WT	K[G]DEVIFGEF	6965.31	10	13.42867
Se134	CDC73 G22A	HLA-B*40:01	MT	KEIVVK[A]DEV	283.54	WT	KEIVVK[G]DEV	358.25	10	13.42867
Se134	RBKS C241F	HLA-C*03:03	MT	LGAEG[C]VVL	194.9	WT	LGAEG[V]VVL	398.05	9	4.12282
Se134	SNRNP200 Q1568P	HLA-A*31:01	MT	FVPSRK[P]TR	91.86	WT	FVPSRK[Q]TR	150.65	10	48.82386
Se134	SNRNP200 Q1568P	HLA-C*14:03	MT	FVPSRK[P]TRL	207.32	WT	FVPSRK[Q]TRL	311.29	10	48.82386
Se134	SNRNP200 Q1568P	HLA-C*03:03	MT	FVPSRK[P]TRL	258.76	WT	FVPSRK[Q]TRL	393.4	10	48.82386
Se134	PMS1 L561P	HLA-C*14:03	MT	LRFPD[M]PJM	307.6	WT	LRFPD[L]JM	751.28	9	6.43045
Se134	VGLL3 K44M	HLA-A*31:01	MT	QQK[M]LAVFSK	262.45	WT	QQK[K]LAVFSK	327.17	10	4.15448
Se134	EPHB3 P400R	HLA-B*40:01	MT	VEFV[R]RQLGL	211.67	WT	VEFV[P]RQLGL	68.2	10	16.5888
Se134	TBC1D19 D77N	HLA-B*40:01	MT	NEMGT[N]EPDL	51.87	WT	NEMGT[D]EPDL	84.47	10	2.35842
Se134	TBC1D19 D77N	HLA-C*03:03	MT	GT[N]EPDLSL	316.35	WT	GT[D]EPDLSL	886.82	9	2.35842
Se134	PCDHGB6 S475R	HLA-C*03:03	MT	[R]ASDPDLGL	91.94	WT	[S]ASDPDLGL	53.39	9	15.56633
Se134	FAT2 Q1520R	HLA-C*14:03	MT	SGPS[R]HTLTV	303.65	WT	SGPS[Q]HTLTV	574.18	10	3.21029
Se134	RREB1 V1284L	HLA-B*40:01	MT	AETAAAAGE[L]	9.24	WT	AETAAAAGE[V]	56.61	10	7.27725
Se134	RREB1 V1284L	HLA-C*03:03	MT	TAAAAGE[L]L	108.16	WT	TAAAAGE[V]L	31.7	9	7.27725
Se134	RREB1 V1284L	HLA-C*03:03	MT	AAAAGE[L]LDL	270.07	WT	AAAAGE[V]LDL	194.69	10	7.27725
Se134	RREB1 V1284L	HLA-B*44:03	MT	AETAAAAGE[L]	365.43	WT	AETAAAAGE[V]	549.46	10	7.27725
Se134	FAM160B2 G439R	HLA-A*31:01	MT	HTLYAHLI[R]	36.78	WT	HTLYAHLI[G]	16552.8	9	6.82937
Se134	HNRNPK G248V	HLA-A*31:01	MT	R[V]RPVGFPMR	7.26	WT	R[G]RPVGFPMR	20.43	10	227.9496
Se134	HNRNPK G248V	HLA-A*31:01	MT	MMFDDRR[V]R	17.32	WT	MMFDDRR[G]R	15.13	9	227.9496
Se134	HNRNPK G248V	HLA-A*31:01	MT	TMMFDDRR[V]R	81.29	WT	TMMFDDRR[G]R	77.8	10	227.9496
Se134	HNRNPK G248V	HLA-C*14:03	MT	R[V]RPVGFPM	250.01	WT	R[G]RPVGFPM	327.72	9	227.9496
Se134	HNRNPK G248V	HLA-C*03:03	MT	R[V]RPVGFPM	299.25	WT	R[G]RPVGFPM	1662.92	9	227.9496
Se134	HNRNPK G248V	HLA-A*31:01	MT	R[V]RPVGFPM	308.41	WT	R[G]RPVGFPM	2830.38	9	227.9496
Se134	HNRNPK G248V	HLA-C*14:03	MT	MFDDRR[V]RPV	384.37	WT	MFDDRR[G]RPV	506.24	10	227.9496
Se134	ENG F290L	HLA-C*14:03	MT	IFPEKNIRG[L]	130.61	WT	IFPEKNIRG[F]	195.88	10	46.52133
Se134	FAM208B R2080T	HLA-A*31:01	MT	HNRDL[T]NSQR	449	WT	HNRDL[R]NSQR	388.79	10	6.79684
Se134	ITGA8 V718M	HLA-C*03:03	MT	M[M]SGTNYSL	139.51	WT	M[V]SGTNYSL	77.54	9	1.11409
Se134	ITGA8 V718M	HLA-C*14:03	MT	M[M]SGTNYSL	185.87	WT	M[V]SGTNYSL	692.58	9	1.11409
Se134	LRRC20 F59V	HLA-C*03:03	MT	KAIDLSRNQ[V]	393.85	WT	KAIDLSRNQ[F]	147.13	10	3.98476
Se134	HARB11 P194L	HLA-B*40:01	MT	VETNW[L]GSL	48	WT	VETNW[P]GSL	84.23	9	2.04064
Se134	EHBPI1 I62N	HLA-C*14:03	MT	SWQPG[I]QNPNY	336.65	WT	SWQPG[V]QNPNY	296.53	10	10.96825
Se134	SPTBN2 F1913L	HLA-A*31:01	MT	KFRF[F]KAVR	19.71	WT	KFRF[V]KAVR	9.04	9	7.77639
Se134	SPTBN2 F1913L	HLA-C*14:03	MT	RF[L]KAVREL	33.94	WT	RF[F]KAVREL	14.57	9	7.77639
Se134	SPTBN2 F1913L	HLA-C*14:03	MT	FR[F]KAVREL	47.55	WT	FR[V]KAVREL	32.08	10	7.77639
Se134	SPTBN2 F1913L	HLA-C*14:03	MT	RF[L]KAVRELM	130.72	WT	RF[F]KAVRELM	40.54	10	7.77639
Se134	SPTBN2 F1913L	HLA-C*14:03	MT	F[L]KAVRELM	300.66	WT	F[F]KAVRELM	57.55	9	7.77639
Se134	SPTBN2 F1913L	HLA-A*31:01	MT	TTDKFRF[L]K	482.78	WT	TTDKFRF[F]K	187.24	9	7.77639
Se134	SLC38A2 Q36L	HLA-B*40:01	MT	NEGGSLLYE[L]	87.53	WT	NEGGSLLYE[Q]	20025.8	10	81.07635
Se134	SLC38A2 Q36L	HLA-B*40:01	MT	YE[L]JLGYKAF	88.17	WT	YE[Q]JLGYKAF	96.64	9	81.07635
Se134	SLC38A2 Q36L	HLA-C*14:03	MT	LYE[L]JLGYKAF	210.68	WT	LYE[Q]JLGYKAF	127.12	10	81.07635
Se134	SLC38A2 Q36L	HLA-A*24:02	MT	LYE[L]JLGYKAF	232.62	WT	LYE[Q]JLGYKAF	168.46	10	81.07635
Se134	SLC38A2 Q36L	HLA-B*44:03	MT	YE[L]JLGYKAF	247.27	WT	YE[Q]JLGYKAF	400.9	9	81.07635
Se134	DDX23 E334Q	HLA-A*31:01	MT	K[Q]QEEARLR	338.95	WT	K[E]QEEARLR	12832.45	9	38.39994
Se134	TMEM263 G92R	HLA-C*03:03	MT	SAVA[R]GVTAV	17.31	WT	SAVA[G]GVTAV	12.13	10	21.54883
Se134	TMEM263 G92R	HLA-C*03:03	MT	AVA[R]GVTAV	256.38	WT	AVA[G]GVTAV	141.54	9	21.54883
Se134	TMEM263 G92R	HLA-A*31:01	MT	KGVSVAVA[R]	396.11	WT	KGVSVAVA[G]	40074.36	9	21.54883
Se134	TMEM263 G92R	HLA-C*03:03	MT	SAVA[R]GVTAV	423.95	WT	SAVA[G]GVTAV	237.71	9	21.54883
Se134	RALGAPA1 G1583R	HLA-B*40:01	MT	SEENMPGG[R]L	175.4	WT	SEENMPGG[G]L	125.32	10	4.70237
Se134	DDHD1 P663A	HLA-C*14:03	MT	IFHPTD[A]VAY	103.53	WT	IFHPTD[P]VAY	99.74	10	1.66338
Se134	DDHD1 P663A	HLA-C*03:03	MT	[A]VAYRLEPL	268.04	WT	[P]VAYRLEPL	7412.88	9	1.66338
Se134	DDHD1 P663A	HLA-C*03:03	MT	D[A]VAYRLEPL	463.93	WT	D[P]VAYRLEPL	6631.84	10	1.66338
Se134	RTN1 R513W	HLA-A*31:01	MT	RAEERAPS[W]R	242.48	WT	RAEERAPS[R]R	426.93	10	4.1432
Se134	BRF1 E131Q	HLA-B*40:01	MT	GEEDTEDE[Q]L	181.68	WT	GEEDTEDE[E]L	203.4	10	6.13838
Se134	TBC1D24 L325V	HLA-A*31:01	MT	KQKSVS[V]JSKR	13.34	WT	KQKSVS[L]JSKR	15.24	10	2.49551
Se134	TBC1D24 L325V	HLA-A*31:01	MT	KQKSVS[V]JSK	55.31	WT	KQKSVS[L]JSK	164.97	9	2.49551
Se134	IGSF6 A121V	HLA-A*31:01	MT	I[V]FPSVPEAR	27.74	WT	I[A]FPSVPEAR	57.94	10	2.3442
Se134	IGSF6 A121V	HLA-C*03:03	MT	SAIYICG[V]F	130.59	WT	SAIYICG[A]F	86.3	10	2.3442

Se134	TP53 R148S	HLA-A*31:01	MT	RVCACPG[S]DR	59.51	WT	RVCACPG[R]DR	96.27	10	26.19535
Se134	MAP2K7 V180M	HLA-C*03:03	MT	YI[M]QCFGTF	47.98	WT	YI[V]QCFGTF	154.92	9	9.77544
Se134	MAP2K7 V180M	HLA-A*24:02	MT	PYI[M]QCFGTF	48.8	WT	PYI[V]QCFGTF	54.61	10	9.77544
Se134	MAP2K7 V180M	HLA-C*14:03	MT	YI[M]QCFGTF	72.11	WT	YI[V]QCFGTF	389.2	9	9.77544
Se134	MAP2K7 V180M	HLA-A*24:02	MT	YI[M]QCFGTF	133.51	WT	YI[V]QCFGTF	835.07	9	9.77544
Se134	MAP2K7 V180M	HLA-C*03:03	MT	YI[M]QCFGTFI	235.4	WT	YI[V]QCFGTFI	801.58	10	9.77544
Se134	MICAL3 W1001L	HLA-A*31:01	MT	TSLFG[L]VAR	45.15	WT	TSLFG[W]VAR	29.07	9	7.40165
Se134	MICAL3 W1001L	HLA-C*03:03	MT	FG[L]VARHSL	64.93	WT	FG[W]VARHSL	53.76	9	7.40165
Se134	MICAL3 W1001L	HLA-A*31:01	MT	LTSLFG[L]VAR	108.37	WT	LTSLFG[W]VAR	41.66	10	7.40165
Se134	MICAL3 W1001L	HLA-C*14:03	MT	FG[L]VARHSL	154.02	WT	FG[W]VARHSL	82.36	9	7.40165
Se134	MICAL3 W1001L	HLA-C*03:03	MT	[L]VARHSLGL	215.71	WT	[W]VARHSLGL	106.46	9	7.40165
Se135	VPS13D T1011S	HLA-A*24:02	MT	[S]YGADFDLL	101.17	WT	[T]YGADFDLL	135.84	9	5.59769
Se135	VPS13D T1011S	HLA-A*24:02	MT	[S]YGADFDLLM	321.81	WT	[T]YGADFDLLM	392.34	10	5.59769
Se135	VPS13D T1011S	HLA-C*12:02	MT	LLVDTMQ[S]Y	485.91	WT	LLVDTMQ[T]Y	471.92	9	5.59769
Se135	B4GALT3 A133T	HLA-C*12:02	MT	R[T]REHHLRL	436.77	WT	R[A]REHHLRL	314.7	10	35.86506
Se135	NBAS S1994F	HLA-A*24:02	MT	KYSHLYDL[F]	5.28	WT	KYSHLYDL[S]	3180.43	9	7.95649
Se135	NAGK G38R	HLA-C*12:02	MT	[R]TSSDGSSSM	189.44	WT	[G]TSSDGSSSM	741.66	10	17.32625
Se135	SCRN3 N410K	HLA-A*24:02	MT	IYQS[K]LSVKV	202.36	WT	IYQS[N]LSVKV	129.66	10	2.44747
Se135	DZIP3 R1000G	HLA-C*12:02	MT	SATGQP[G]APL	404.38	WT	SATGQP[R]APL	375.52	10	4.92189
Se135	FGFR3 N191I	HLA-A*24:02	MT	SWLK[I]GREF	185	WT	SWLK[N]GREF	396.09	9	1.57605
Se135	ALDH7A1 L26R	HLA-C*12:02	MT	[R]SMWRLPRAL	265.22	WT	[L]SMWRLPRAL	198.99	10	11.42406
Se135	ALDH7A1 L26R	HLA-C*12:02	MT	LIPSPG[R]SM	393.08	WT	LIPSPG[L]SM	378.92	9	11.42406
Se135	TMEM170B K2M	HLA-C*12:02	MT	M[M]AEGGDHSM	127.41	WT	M[K]AEGGDHSM	2350.08	10	2.41472
Se135	PUS7 M403I	HLA-A*24:02	MT	SWTEV[I]DLI	330.56	WT	SWTEV[M]DLI	433.69	9	11.08748
Se135	FAM171A1 A370V	HLA-C*12:02	MT	LLFSRR[V]SEF	233.53	WT	LLFSRR[A]SEF	273.06	10	17.7163
Se135	FAM171A1 A370V	HLA-A*24:02	MT	LFSRR[V]SEF	255.36	WT	LFSRR[A]SEF	422.85	9	17.7163
Se135	FAM171A1 A370V	HLA-C*12:02	MT	R[V]SEFFGPL	464.8	WT	R[A]SEFFGPL	99.21	9	17.7163
Se135	LATS2 C400Y	HLA-C*12:02	MT	VAFRPD[Y]PV	194.08	WT	VAFRPD[C]PV	203.39	9	2.90913
Se135	LATS2 C400Y	HLA-C*12:02	MT	[Y]PVPSTRNSF	271.33	WT	[C]PVPSTRNSF	2707.54	10	2.90913
Se135	LATS2 C400Y	HLA-C*12:02	MT	HVAFRPD[Y]PV	318.33	WT	HVAFRPD[C]PV	487.01	10	2.90913
Se135	RHBDF2 L721V	HLA-C*12:02	MT	F[V]NLSAIVL	95.41	WT	F[L]NLSAIVL	422.11	9	4.31475
Se135	RHBDF2 L721V	HLA-C*12:02	MT	KAF[V]NLSAI	97.46	WT	KAF[L]NLSAI	141.66	9	4.31475
Se135	RHBDF2 L721V	HLA-C*12:02	MT	F[V]NLSAIVLF	121.2	WT	F[L]NLSAIVLF	566.04	10	4.31475
Se135	RHBDF2 L721V	HLA-C*12:02	MT	KAF[V]NLSAIV	161.99	WT	KAF[L]NLSAIV	218.06	10	4.31475
Se135	CILP2 V513L	HLA-C*12:02	MT	YQGDFTIE[V]	202.2	WT	YQGDFTIE[V]	127	9	1.32853
Se135	CILP2 V513L	HLA-A*24:02	MT	AYQGDFTIE[L]	367.13	WT	AYQGDFTIE[V]	1008.54	10	1.32853
Se135	RYR1 K965N	HLA-C*12:02	MT	MSNGY[N]PAPL	83.59	WT	MSNGY[K]PAPL	193.54	10	2.25118
Se135	RYR1 K965N	HLA-C*12:02	MT	YMMSNGY[N]PA	189.09	WT	YMMSNGY[K]PA	428.62	10	2.25118
Se135	FKRP R154H	HLA-C*12:02	MT	SA[H]LVAAPV	77.31	WT	SA[R]LVAAPV	251.13	9	4.97137
Se135	FKRP R154H	HLA-C*12:02	MT	GSA[H]LVAAPV	481.36	WT	GSA[R]LVAAPV	1036.59	10	4.97137
Se135	IFNAR1 A406P	HLA-C*12:02	MT	YCVK[P]RAHTM	343.49	WT	YCVK[A]RAHTM	456.81	10	20.29303
Se135	TIMM8A A9V	HLA-C*12:02	MT	SS[A]AGLGAV	276.3	WT	SS[A]AGLGAV	226.84	9	7.20272
Se135	TIMM8A A9V	HLA-C*12:02	MT	SSSS[V]AGL	456.09	WT	SSSS[A]AGL	679.29	9	7.20272
Se135	IL13RA2 G47D	HLA-A*24:02	MT	GYL[D]YLQLQW	17.65	WT	GYL[G]YLQLQW	14.77	10	1.10031
Se135	DNASE1L1 P67A	HLA-C*12:02	MT	SAI[A]LLLLREL	158.24	WT	SAI[P]LLLLREL	87.27	10	3.81272
Se136	STAT1 E500K	HLA-A*11:01	MT	CARWAQLS[K]	312.45	WT	CARWAQLS[E]	26893.58	9	389.33043
Se136	LARS2 W455C	HLA-A*24:02	MT	RY[C]GTPIPI	71.04	WT	RY[W]GTPIPI	19.46	9	14.49929
Se136	LARS2 W455C	HLA-C*07:02	MT	QRY[C]GTPIPI	482.26	WT	QRY[W]GTPIPI	303.77	10	14.49929
Se136	CACNA1D R631K	HLA-A*11:01	MT	RLLRIFKV[T]K	87.97	WT	RLLRIFKV[T]R	532.83	10	1.30735
Se136	CACNA1D R631K	HLA-C*03:04	MT	KVT[K]JHWTSL	346.05	WT	KVT[R]JHWTSL	495.56	9	1.30735
Se136	ABCC10 T651I	HLA-C*03:04	MT	FA[I]JRDNIL	8.57	WT	FA[T]JRDNIL	25.33	9	4.38913
Se136	ABCC10 T651I	HLA-C*03:04	MT	FA[I]JRDNILF	35.31	WT	FA[T]JRDNILF	105.23	10	4.38913
Se136	ABCC10 T651I	HLA-B*40:01	MT	QEPWIQFA[I]	40.48	WT	QEPWIQFA[T]	1785.47	9	4.38913
Se136	ABCC10 T651I	HLA-A*11:01	MT	[I]JRDNILFGK	116.48	WT	[T]JRDNILFGK	58.02	10	4.38913
Se136	ABCC10 T651I	HLA-B*40:01	MT	QEPWIQFA[I]I	172.4	WT	QEPWIQFA[T]I	143.05	10	4.38913
Se136	ABCC10 T651I	HLA-B*67:01	MT	FA[I]JRDNIL	328.43	WT	FA[T]JRDNIL	535.86	9	4.38913
Se136	ABCC10 T651I	HLA-B*67:01	MT	EPWIQFA[I]I	366.71	WT	EPWIQFA[T]I	201.77	9	4.38913
Se136	ESR1 L536P	HLA-B*67:01	MT	VP[P]YDLLLEM	247.55	WT	VP[L]YDLLLEM	68.56	10	34.14984
Se136	ESR1 L536P	HLA-B*67:01	MT	P[P]YDLLLEM	261.21	WT	P[L]YDLLLEM	16046.69	9	34.14984
Se136	CREB3L2 T506K	HLA-A*11:01	MT	VSAKLEGNE[K]	326.29	WT	VSAKLEGNE[T]	35702.33	10	8.89206
Se136	OSBPL5 T465A	HLA-A*11:01	MT	TL[A]MPYAHCK	29.73	WT	TL[T]MPYAHCK	59.18	10	3.64826
Se136	OSBPL5 T465A	HLA-A*11:01	MT	L[A]MPYAHCK	41.15	WT	L[T]MPYAHCK	10.3	9	3.64826
Se136	OSBPL5 T465A	HLA-C*03:04	MT	RAEDYTL[A]M	43.05	WT	RAEDYTL[T]M	47.58	9	3.64826
Se136	OSBPL5 T465A	HLA-B*67:01	MT	RAEDYTL[A]M	80.72	WT	RAEDYTL[T]M	307.79	9	3.64826
Se136	ZDHHC13 V390D	HLA-B*67:01	MT	SPW[D]LYILML	17.8	WT	SPW[V]LYILML	35.7	10	19.20753
Se136	ZDHHC13 V390D	HLA-B*67:01	MT	SPW[D]LYILM	37.35	WT	SPW[V]LYILM	110.39	9	19.20753
Se136	ACOT1 T202M	HLA-A*11:01	MT	KTME[M]LHLEY	15.63	WT	KTME[T]LHLEY	15.08	10	3.28366
Se136	ACOT1 T202M	HLA-B*40:01	MT	YEDLPKTM[E]M	100.41	WT	YEDLPKTM[E]T	4340.99	10	3.28366
Se136	ACOT1 T202M	HLA-B*40:01	MT	ME[M]LHLEYF	110.21	WT	ME[T]LHLEYF	446.89	9	3.28366
Se136	ACOT1 T202M	HLA-B*67:01	MT	LPKTM[E]M]LHL	474.2	WT	LPKTM[E]T]LHL	345.53	10	3.28366
Se136	MAP2K3 T10I	HLA-B*67:01	MT	APNP[I]PPRNL	189.35	WT	APNP[T]PPRNL	258.41	10	16.29261
Se136	MAP2K3 T10I	HLA-C*03:04	MT	MSKPPAPNP[I]	362.22	WT	MSKPPAPNP[T]	10788.75	10	16.29261
Se136	ELF4 V247A	HLA-A*11:01	MT	KA[A]SKLWGK	49.31	WT	KA[V]SKLWGK	74.21	9	22.81281
Se136	ELF4 V247A	HLA-A*11:01	MT	KLVDSKA[A]JSK	126.05	WT	KLVDSKA[V]JSK	115.02	10	22.81281
Se136	ELF4 V247A	HLA-A*11:01	MT	LVDSKA[A]JSK	214.37	WT	LVDSKA[V]JSK	146.04	9	22.81281
Se137	IPO13 V774F	HLA-B*35:01	MT	EALFLLVTS[F]	87.23	WT	EALFLLVTS[V]	5126.26	10	16.63503
Se137	IPO13 V774F	HLA-B*35:01	MT	LVTS[F]TLTLF	149.75	WT	LVTS[V]TLTLF	131.78	10	16.63503
Se137	IPO13 V774F	HLA-B*35:01	MT	LVTS[F]TLTL	384.22	WT	LVTS[V]TLTL	285.95	9	16.63503

Se137	AGL R404T	HLA-A*11:01	MT	T[T]KHPLVTR	401.59	WT	T[R]KHPLVTR	26182.68	9	8.53038
Se137	OTUD7B P78T	HLA-A*11:01	MT	R[T]PRPILQR	212.41	WT	R[P]PRPILQR	15305.79	9	7.06476
Se137	CD84 N36T	HLA-A*11:01	MT	[T]VTLTCSVEK	83.09	WT	[N]VTLTCSVEK	492.12	10	1.1358
Se137	CD84 N36T	HLA-B*35:01	MT	MASVNSTC[T]V	121.57	WT	MASVNSTC[N]V	597.68	10	1.1358
Se137	OBSCN T4372I	HLA-A*26:01	MT	EVAAH[I]WLL	25.42	WT	EVAAH[T]WLL	29.15	9	2.50196
Se137	PQLC3 V90L	HLA-A*11:01	MT	CIFHFNGN[L]K	14.68	WT	CIFHFNGN[V]K	31.92	10	13.17029
Se137	LRP2 S608G	HLA-B*35:01	MT	IPHPFGV[G]LF	33.57	WT	IPHPFGV[S]LF	15.31	10	7.1455
Se137	LRP2 S608G	HLA-B*35:01	MT	HPFGV[G]LFEG	178.61	WT	HPFGV[S]LFEG	168.15	10	7.1455
Se137	LRP2 S608G	HLA-B*35:01	MT	IPHPFGV[G]JL	229.19	WT	IPHPFGV[S]JL	45.96	9	7.1455
Se137	HOXD8 K14N	HLA-B*54:01	MT	NPLYSKY[N]AA	242.77	WT	NPLYSKY[K]AA	802.18	10	5.51188
Se137	HOXD8 K14N	HLA-B*35:01	MT	[N]AAAAAAAA	333.81	WT	[K]AAAAAAAA	2137.01	9	5.51188
Se137	HOXD8 K14N	HLA-B*35:01	MT	[N]AAAAAAAA	333.81	WT	[K]AAAAAAAA	2137.01	10	5.51188
Se137	SLC25A38 Q236E	HLA-B*35:01	MT	[E]PADVIKTHM	133.9	WT	[Q]PADVIKTHM	150.92	10	29.32816
Se137	PRICKLE2 M236I	HLA-B*35:01	MT	YI[I]KEGRPY	29.99	WT	YI[M]KEGRPY	14.96	9	2.29329
Se137	PRICKLE2 M236I	HLA-A*26:01	MT	YI[I]KEGRPY	126.67	WT	YI[M]KEGRPY	276.06	9	2.29329
Se137	PRICKLE2 M236I	HLA-A*11:01	MT	VLGGQRY[I]JK	392.31	WT	VLGGQRY[M]JK	205.74	10	2.29329
Se137	TXK T196R	HLA-A*11:01	MT	SVFMGARRS[R]	136.57	WT	SVFMGARRS[T]	17230.37	10	1.72629
Se137	PCDHA4 A731T	HLA-B*35:01	MT	LPTEG[T]CAPG	201.43	WT	LPTEG[A]CAPG	241.01	10	12.18177
Se137	RGL2 D361N	HLA-A*11:01	MT	LVML[N]AASK	31.96	WT	LVML[D]AASK	40.82	9	17.31488
Se137	WDR60 S758L	HLA-B*35:01	MT	FSTDGILT[L]	368.32	WT	FSTDGILT[S]	5212.26	9	6.59643
Se137	SNAI2 S30Y	HLA-B*35:01	MT	[Y]PYLYESYSM	3.47	WT	[S]PYLYESYSM	22.83	10	2.83785
Se137	SNAI2 S30Y	HLA-A*26:01	MT	DTHTVII[Y]PY	20.31	WT	DTHTVII[S]PY	11.48	10	2.83785
Se137	SNAI2 S30Y	HLA-B*35:01	MT	TVIII[Y]PYLY	110.24	WT	TVIII[S]PYLY	75.31	9	2.83785
Se137	SNAI2 S30Y	HLA-B*35:01	MT	DTHTVII[Y]PY	117.97	WT	DTHTVII[S]PY	149.32	10	2.83785
Se137	SNAI2 S30Y	HLA-B*54:01	MT	[Y]PYLYESYSM	124.66	WT	[S]PYLYESYSM	1451.68	10	2.83785
Se137	SNAI2 S30Y	HLA-A*26:01	MT	HTVII[Y]PYLY	146.84	WT	HTVII[S]PYLY	165.02	10	2.83785
Se137	SNAI2 S30Y	HLA-B*35:01	MT	II[Y]PYLYESY	162.76	WT	II[S]PYLYESY	204.95	10	2.83785
Se137	SNAI2 S30Y	HLA-B*35:01	MT	HTVII[Y]PYLY	176.27	WT	HTVII[S]PYLY	92.4	10	2.83785
Se137	SNAI2 S30Y	HLA-A*11:01	MT	TVIII[Y]PYLY	192.38	WT	TVIII[S]PYLY	154.88	9	2.83785
Se137	SNAI2 S30Y	HLA-A*11:01	MT	HTVII[Y]PYLY	254.76	WT	HTVII[S]PYLY	217.78	10	2.83785
Se137	SNAI2 S30Y	HLA-A*26:01	MT	TVIII[Y]PYLY	384.51	WT	TVIII[S]PYLY	455.84	9	2.83785
Se137	SNAI2 S30Y	HLA-B*35:01	MT	ELDTHTVII[Y]	406.18	WT	ELDTHTVII[S]	30115.37	10	2.83785
Se137	SNAI2 S30Y	HLA-A*11:01	MT	II[Y]PYLYESY	491.18	WT	II[S]PYLYESY	1070.14	10	2.83785
Se137	TMEM67 V701A	HLA-A*11:01	MT	LFLE[A]VGFK	233.45	WT	LFLE[V]VGFK	238.98	10	2.63392
Se137	KCNQ3 E5G	HLA-B*35:01	MT	KPA[G]HATMF	101.56	WT	KPA[E]HATMF	43.51	9	1.0093
Se137	WISPI P163L	HLA-B*35:01	MT	TPCLRVRP[L]	212.36	WT	TPCLRVRP[P]	10188.41	10	1.63459
Se137	ENG Y612S	HLA-B*35:01	MT	W[S]IYSHSTREY	22.68	WT	W[Y]IYSHSTREY	354.87	10	35.68533
Se137	ENG Y612S	HLA-B*35:01	MT	[S]IYSHSTREY	38.41	WT	[Y]IYSHSTREY	4.87	9	35.68533
Se137	ENG Y612S	HLA-B*35:01	MT	LTAALW[S]IY	106.97	WT	LTAALW[Y]IY	72.09	9	35.68533
Se137	ENG Y612S	HLA-A*26:01	MT	[S]IYSHSTREY	125.18	WT	[Y]IYSHSTREY	34.01	9	35.68533
Se137	ENG Y612S	HLA-A*26:01	MT	LTAALW[S]IY	145.64	WT	LTAALW[Y]IY	870.24	9	35.68533
Se137	ENG Y612S	HLA-A*11:01	MT	[S]IYSHSTREY	152.91	WT	[Y]IYSHSTREY	581.67	9	35.68533
Se137	ENG Y612S	HLA-A*11:01	MT	ALW[S]IYSHTR	280.65	WT	ALW[Y]IYSHTR	326.74	10	35.68533
Se137	ENG Y612S	HLA-B*35:01	MT	LLTAALW[S]IY	401.16	WT	LLTAALW[Y]IY	509.08	10	35.68533
Se137	ENG Y612S	HLA-A*26:01	MT	W[S]IYSHSTREY	415.12	WT	W[Y]IYSHSTREY	3743.28	10	35.68533
Se137	ENG Y612S	HLA-A*11:01	MT	LTAALW[S]IY	445.73	WT	LTAALW[Y]IY	310.41	9	35.68533
Se137	NAIF1 A42T	HLA-B*35:01	MT	VPL[T]AKSAAW	87.51	WT	VPL[A]AKSAAW	49.71	10	2.74636
Se137	NAIF1 A42T	HLA-B*54:01	MT	VPL[T]AKSAA	450.58	WT	VPL[A]AKSAA	247.93	9	2.74636
Se137	SETX R2340Q	HLA-A*11:01	MT	[Q]NIGIITHYK	240.25	WT	[R]NIGIITHYK	75.94	10	11.88907
Se137	SETX R2340Q	HLA-B*35:01	MT	F[Q]NIGIITHY	296.99	WT	F[R]NIGIITHY	4446.2	10	11.88907
Se137	RALGDS Y813C	HLA-B*35:01	MT	[C]AMNSTANY	9.76	WT	[Y]AMNSTANY	2.39	9	20.80324
Se137	RALGDS Y813C	HLA-B*35:01	MT	F[C]AMNSTANY	52.57	WT	F[Y]AMNSTANY	185.59	10	20.80324
Se137	RALGDS Y813C	HLA-A*11:01	MT	[C]AMNSTANY	386.29	WT	[Y]AMNSTANY	575.49	9	20.80324
Se137	RALGDS Y813C	HLA-A*26:01	MT	ENANVF[C]AM	390.94	WT	ENANVF[Y]AM	294.91	9	20.80324
Se137	PDZD8 R936M	HLA-B*35:01	MT	SVNKT[GLT]R[M]	293.47	WT	SVNKT[GLT]R	26359.42	10	20.89361
Se137	CNIH1 I29V	HLA-B*35:01	MT	FAIWHI[V]AF	3.04	WT	FAIWHI[I]AF	2.66	9	23.23105
Se137	CNIH1 I29V	HLA-A*11:01	MT	HI[V]AFDELK	52.41	WT	HI[I]AFDELK	34.37	9	23.23105
Se137	CNIH1 I29V	HLA-B*35:01	MT	[V]AFDELKTDY	72.42	WT	[I]AFDELKTDY	37.21	10	23.23105
Se137	CNIH1 I29V	HLA-B*35:01	MT	FFAIWHI[V]AF	191.88	WT	FFAIWHI[I]AF	161.62	10	23.23105
Se137	CNIH1 I29V	HLA-A*26:01	MT	FAIWHI[V]AF	246.42	WT	FAIWHI[I]AF	206.79	9	23.23105
Se137	CNIH1 I29V	HLA-B*54:01	MT	FAIWHI[V]AF	351.3	WT	FAIWHI[I]AF	414.29	9	23.23105
Se137	LOC81691 E560A	HLA-B*35:01	MT	EAAQLA[I]EJSL	213.55	WT	EAAQLA[I]EJSL	588.46	10	1.66232
Se137	IRX5 A279S	HLA-B*35:01	MT	SPAGPA[S]ARL	453.64	WT	SPAGPA[A]ARL	385.73	10	1.60446
Se137	NLRP1 A126V	HLA-B*54:01	MT	MPWIHELP[V]	6.7	WT	MPWIHELP[A]	5.58	9	2.3262
Se137	NLRP1 A126V	HLA-B*35:01	MT	MPWIHELP[V]	12.76	WT	MPWIHELP[A]	13.78	9	2.3262
Se137	NLRP1 A126V	HLA-B*35:01	MT	MPWIHELP[V]G	116.16	WT	MPWIHELP[A]G	62.09	10	2.3262
Se137	COLEC12 T230K	HLA-A*11:01	MT	[K]SQAIQRIK	448.23	WT	[T]SQAIQRIK	489.53	9	1.68222
Se137	IER2 N173K	HLA-A*11:01	MT	AQAEGAF[P]K	11.83	WT	AQAEGAF[N]	23669.36	9	26.73577
Se137	PEPD S160N	HLA-A*11:01	MT	[N]LFEHYCYSR	484.32	WT	[S]LFEHYCYSR	46.65	10	18.32067
Se137	ANGPT4 K102N	HLA-A*11:01	MT	LQNNTQWL[N]K	85.74	WT	LQNNTQWL[K]K	130.3	10	19.2573
Se137	TNRC6B E637G	HLA-A*26:01	MT	DTVWDI[G]JEV	178.18	WT	DTVWDI[E]JEV	704.69	9	3.5041
Se137	TNRC6B E637G	HLA-A*11:01	MT	TVWDI[G]JEVPR	215.92	WT	TVWDI[E]JEVPR	392.01	10	3.5041
Se137	BRWD3 W297R	HLA-A*11:01	MT	TICFWQ[R]HVK	63.28	WT	TICFWQ[W]HVK	20.48	10	4.71745
Se138	UBE4B A234T	HLA-A*33:03	MT	TSQPIA[T]AAR	86.18	WT	TSQPIA[A]AAR	81.57	10	18.37027
Se138	AGL K969I	HLA-B*44:03	MT	AEVG[I]WLQAM	41.28	WT	AEVG[K]WLQAM	89.97	10	3.48616
Se138	AGL K969I	HLA-A*24:02	MT	[I]WLQAMFFYL	61.89	WT	[K]WLQAMFFYL	34.17	10	3.48616
Se138	AGL K969I	HLA-B*44:03	MT	AEVG[I]WLQA	348.87	WT	AEVG[K]WLQA	2219.45	9	3.48616
Se138	AGL K969I	HLA-C*14:03	MT	[I]WLQAMFFYL	383.74	WT	[K]WLQAMFFYL	383.48	10	3.48616

Se138	ILDR2 C231Y	HLA-A*24:02	MT	C[Y]PQALYEA	241.65	WT	C[C]PQALYEA	23144.63	9	1.00714
Se138	ILDR2 C231Y	HLA-C*14:03	MT	C[Y]PQALYEA	330.06	WT	C[C]PQALYEA	19008.91	9	1.00714
Se138	ASPM H262L	HLA-C*12:02	MT	[L]SANVSKVSF	263.59	WT	[H]SANVSKVSF	401.52	10	2.34326
Se138	ASPM H262L	HLA-B*44:03	MT	SENRELLNV[L]	334.33	WT	SENRELLNV[H]	770.79	10	2.34326
Se138	AKT3 G231C	HLA-B*44:03	MT	MEYVNG[C]ELF	30.08	WT	MEYVNG[G]ELF	34.04	10	5.43618
Se138	AKT3 G231C	HLA-A*24:02	MT	EYVNG[C]ELF	78.37	WT	EYVNG[G]ELF	300.04	9	5.43618
Se138	AKT3 G231C	HLA-A*24:02	MT	EYVNG[C]ELFF	109.25	WT	EYVNG[G]ELFF	241.09	10	5.43618
Se138	AKT3 G231C	HLA-B*44:03	MT	MEYVNG[C]EL	144.92	WT	MEYVNG[G]EL	460.77	9	5.43618
Se138	SLC1A4 G59A	HLA-C*12:02	MT	L[A]AALRGLSL	128.04	WT	L[G]AALRGLSL	2584.36	10	4.7911
Se138	SLC1A4 G59A	HLA-C*14:03	MT	[A]AALRGLSL	419.39	WT	[G]AALRGLSL	1145.7	9	4.7911
Se138	SLC1A4 G59A	HLA-C*12:02	MT	[A]AALRGLSL	422.08	WT	[G]AALRGLSL	1112.82	9	4.7911
Se138	SLC1A4 G59A	HLA-C*14:03	MT	L[A]AALRGLSL	466.82	WT	L[G]AALRGLSL	1526.46	10	4.7911
Se138	NRP2 R428W	HLA-C*12:02	MT	[W]VTDAPCSNM	366.8	WT	[R]VTDAPCSNM	531.7	10	3.92245
Se138	PASK C925Y	HLA-C*14:03	MT	F[Y]CWLVKDL	94.89	WT	F[C]CWLVKDL	13738.27	9	2.86192
Se138	PASK C925Y	HLA-C*14:03	MT	F[Y]CWLVKDLL	111.98	WT	F[C]CWLVKDLL	12619.65	10	2.86192
Se138	DBR1 S466C	HLA-A*33:03	MT	EFSASF[C]DVR	52.1	WT	EFSASF[S]DVR	55.53	10	9.7554
Se138	DBR1 S466C	HLA-B*44:03	MT	SEFSASF[C]DV	210.71	WT	SEFSASF[S]DV	268.55	10	9.7554
Se138	DBR1 S466C	HLA-A*33:03	MT	FSASF[C]DVR	233.58	WT	FSASF[S]DVR	320.7	9	9.7554
Se138	DBR1 S466C	HLA-C*12:02	MT	FSASF[C]DVRI	329.51	WT	FSASF[S]DVRI	176.02	10	9.7554
Se138	CEP70 D396E	HLA-B*44:03	MT	E[E]LQSHYKL	235.89	WT	E[D]LQSHYKL	13932.49	10	8.96454
Se138	TNIK L915R	HLA-A*33:03	MT	AAALFTSEL[R]	249.03	WT	AAALFTSEL[L]	28612.54	10	1.14445
Se138	EVC2 T1036S	HLA-C*12:02	MT	FA[S]LCSQEL	39.65	WT	FA[T]LCSQEL	75.5	9	5.52584
Se138	EVC2 T1036S	HLA-B*44:03	MT	MEADTFA[S]L	79.36	WT	MEADTFA[T]L	92.49	9	5.52584
Se138	EVC2 T1036S	HLA-C*14:03	MT	TFA[S]LCSQEL	90.46	WT	TFA[T]LCSQEL	147.11	10	5.52584
Se138	EVC2 T1036S	HLA-C*14:03	MT	FA[S]LCSQEL	221.04	WT	FA[T]LCSQEL	320.89	9	5.52584
Se138	EVC2 T1036S	HLA-A*33:03	MT	FA[S]LCSQELR	274.48	WT	FA[T]LCSQELR	332.01	10	5.52584
Se138	MAN2B2 G345R	HLA-C*14:03	MT	YLWPAPR[R]JHL	29.36	WT	YLWPAPR[G]JHL	72.23	10	20.77706
Se138	MAN2B2 G345R	HLA-C*14:03	MT	LWPAPR[R]JHL	112.9	WT	LWPAPR[G]JHL	215.57	9	20.77706
Se138	MAN2B2 G345R	HLA-C*12:02	MT	YLWPAPR[R]JHL	163.6	WT	YLWPAPR[G]JHL	322.87	10	20.77706
Se138	CPEB2 G786C	HLA-C*14:03	MT	SYFPPK[C]YAF	8.02	WT	SYFPPK[G]YAF	7.43	10	1.17094
Se138	CPEB2 G786C	HLA-C*14:03	MT	YFPPK[C]YAFL	16.37	WT	YFPPK[G]YAFL	11.08	10	1.17094
Se138	CPEB2 G786C	HLA-C*14:03	MT	YFPPK[C]YAF	17.01	WT	YFPPK[G]YAF	12.38	9	1.17094
Se138	CPEB2 G786C	HLA-A*24:02	MT	YFPPK[C]YAF	18.53	WT	YFPPK[G]YAF	44.68	9	1.17094
Se138	CPEB2 G786C	HLA-A*24:02	MT	SYFPPK[C]YAF	18.9	WT	SYFPPK[G]YAF	38.44	10	1.17094
Se138	CPEB2 G786C	HLA-A*24:02	MT	YFPPK[C]YAFL	69.09	WT	YFPPK[G]YAFL	100.92	10	1.17094
Se138	CPEB2 G786C	HLA-C*14:03	MT	FPPK[C]YAFL	248.08	WT	FPPK[G]YAFL	184.38	10	1.17094
Se138	CPEB2 G786C	HLA-C*14:03	MT	SYFPPK[C]YA	283.47	WT	SYFPPK[G]YA	448.07	9	1.17094
Se138	CPEB2 G786C	HLA-C*14:03	MT	FPPK[C]YAFL	378.89	WT	FPPK[G]YAFL	258.48	9	1.17094
Se138	N4BP2 A1640S	HLA-A*33:03	MT	YSK[S]KEAYR	26.3	WT	YSK[A]KEAYR	24.44	9	2.1512
Se138	N4BP2 A1640S	HLA-A*33:03	MT	CYSK[S]KEAYR	84.14	WT	CYSK[A]KEAYR	84.62	10	2.1512
Se138	C7 G821S	HLA-A*33:03	MT	MSECEA[S]ALR	292.62	WT	MSECEA[G]ALR	426.71	10	10.69286
Se138	CCDC125 S103L	HLA-C*14:03	MT	YRRQSSD[L]	90.45	WT	YRRQSSD[S]	10700.85	9	5.63376
Se138	CCDC125 S103L	HLA-C*14:03	MT	NYRRQSSD[L]	184.73	WT	NYRRQSSD[S]	14354.02	10	5.63376
Se138	CCDC125 S103L	HLA-C*12:02	MT	SSTD[L]NSEL	444.07	WT	SSTD[S]NSEL	553.14	9	5.63376
Se138	CAP2 F130I	HLA-C*12:02	MT	NM[I]NHLSAV	181.48	WT	NM[F]NHLSAV	122.99	9	8.74336
Se138	CAP2 F130I	HLA-C*14:03	MT	SNM[I]NHLSAV	235	WT	SNM[F]NHLSAV	126.9	10	8.74336
Se138	CAP2 F130I	HLA-C*14:03	MT	NM[I]NHLSAV	395.08	WT	NM[F]NHLSAV	263.33	9	8.74336
Se138	BRD2 D151V	HLA-A*33:03	MT	S[V]SEEEAHR	282.8	WT	S[D]SEEEAHR	13297.57	10	64.75187
Se138	SYNGAP1 A351D	HLA-A*33:03	MT	TVPV[D]TLAGR	401.04	WT	TVPV[A]TLAGR	204.36	10	17.53031
Se138	KCNQ5 W180L	HLA-A*33:03	MT	[L]SAGCCCRYR	175.79	WT	[W]SAGCCCRYR	79.21	10	3.7558
Se138	ADAP1 R131Q	HLA-A*33:03	MT	DWFNAL[Q]AAR	33.17	WT	DWFNAL[R]AAR	24.62	10	17.63369
Se138	ADAP1 R131Q	HLA-A*33:03	MT	WFNAL[Q]AAR	42.8	WT	WFNAL[R]AAR	20.02	9	17.63369
Se138	ADAP1 R131Q	HLA-C*14:03	MT	WFNAL[Q]AARF	185.67	WT	WFNAL[R]AARF	105.39	10	17.63369
Se138	ADAP1 R131Q	HLA-C*14:03	MT	L[Q]AARFHYL	434.33	WT	L[R]AARFHYL	150.08	9	17.63369
Se138	ADAP1 R131Q	HLA-C*12:02	MT	L[Q]AARFHYL	497.74	WT	L[R]AARFHYL	1298.43	9	17.63369
Se138	HIP1 S582T	HLA-A*33:03	MT	DSL[V]TGAHR	108.73	WT	DSL[V]S]GAHR	122.08	10	8.10437
Se138	HIP1 S582T	HLA-A*33:03	MT	SLV[T]GAHR	374.92	WT	SLV[S]GAHR	272.6	9	8.10437
Se138	FBXL13 Q609H	HLA-A*33:03	MT	DL[H]IGCKQLR	240.72	WT	DL[Q]IGCKQLR	473.65	10	2.375
Se138	ZYX V484A	HLA-A*33:03	MT	SFI[A]DQANR	78.08	WT	SFI[V]DQANR	125.6	9	38.57103
Se138	ZYX V484A	HLA-A*33:03	MT	TSFI[A]DQANR	130.66	WT	TSFI[V]DQANR	83.27	10	38.57103
Se138	ADAM9 W724C	HLA-A*33:03	MT	DQL[C]RSYFR	16.67	WT	DQL[W]RSYFR	11.74	9	12.78291
Se138	ADAM9 W724C	HLA-A*33:03	MT	IFIKRDQL[C]R	398.09	WT	IFIKRDQL[W]R	220.35	10	12.78291
Se138	CUBN G1739A	HLA-C*12:02	MT	VSAC[A]GTFYM	149.91	WT	VSAC[G]GTFYM	184.65	10	2.43566
Se138	CUBN G1739A	HLA-C*12:02	MT	SAC[A]GTFYM	178.39	WT	SAC[G]GTFYM	170.98	9	2.43566
Se138	CUBN G1739A	HLA-C*14:03	MT	SAC[A]GTFYM	403.76	WT	SAC[G]GTFYM	406.98	9	2.43566
Se138	CUBN G1739A	HLA-C*14:03	MT	SVSAC[A]GTF	458.68	WT	SVSAC[G]GTF	512.94	9	2.43566
Se138	MMRN2 V239G	HLA-A*24:02	MT	TFLQ[G]HFSPI	73.76	WT	TFLQ[V]HFSPI	67.8	10	2.51583
Se138	MMRN2 V239G	HLA-C*14:03	MT	TFLQ[G]HFSPI	113.09	WT	TFLQ[V]HFSPI	259.58	10	2.51583
Se138	MMRN2 V239G	HLA-C*12:02	MT	FLQ[G]HFSPI	229.45	WT	FLQ[V]HFSPI	543.93	9	2.51583
Se138	MMRN2 V239G	HLA-C*14:03	MT	FLQ[G]HFSPI	268.12	WT	FLQ[V]HFSPI	585.13	9	2.51583
Se138	DYRK4 F175I	HLA-A*33:03	MT	HMKDFFY[I]R	7.02	WT	HMKDFFY[F]R	3.48	9	10.46511
Se138	DYRK4 F175I	HLA-A*24:02	MT	FY[I]RNHFCI	9.65	WT	FY[F]RNHFCI	11.67	9	10.46511
Se138	DYRK4 F175I	HLA-C*14:03	MT	FY[I]RNHFCI	48.99	WT	FY[F]RNHFCI	25.4	9	10.46511
Se138	DYRK4 F175I	HLA-C*14:03	MT	Y[I]RNHFCITF	99.29	WT	Y[F]RNHFCITF	22.95	10	10.46511
Se138	DYRK4 F175I	HLA-C*12:02	MT	Y[I]RNHFCITF	244.23	WT	Y[F]RNHFCITF	1268.14	10	10.46511
Se138	DYRK4 F175I	HLA-C*14:03	MT	[I]RNHFCITF	252.61	WT	[F]RNHFCITF	79.05	9	10.46511
Se138	DYRK4 F175I	HLA-A*24:02	MT	VHMKDFFY[I]	271.83	WT	VHMKDFFY[F]	65.43	9	10.46511
Se138	DYRK4 F175I	HLA-C*14:03	MT	FFY[I]RNHFCI	320.24	WT	FFY[F]RNHFCI	161.57	10	10.46511



Se138	RAB3IP T128I	HLA-A*33:03	MT	DIFPCL[I]FSK	114.03	WT	DIFPCL[T]FSK	101.97	10	4.81
Se138	RAB3IP T128I	HLA-B*44:03	MT	QEDIFPCL[I]F	490.44	WT	QEDIFPCL[T]F	323.35	10	4.81
Se138	ATP8A2 S595P	HLA-C*14:03	MT	AYADL[P]ENEY	274.44	WT	AYADL[S]ENEY	317.39	10	1.35595
Se138	KCNRG V112I	HLA-A*33:03	MT	ALVE[I]HFLSR	193.19	WT	ALVE[V]HFLSR	202.22	10	5.4667
Se138	KCNRG V112I	HLA-A*33:03	MT	LVE[I]HFLSR	365.01	WT	LVE[V]HFLSR	330.86	9	5.4667
Se138	SUPT16H F687I	HLA-A*33:03	MT	NG[I]RFRTSVR	162.95	WT	NG[F]RFRTSVR	67.19	9	44.46929
Se138	SUPT16H F687I	HLA-B*44:03	MT	LEAHVNG[I]RF	190.15	WT	LEAHVNG[F]RF	121.72	10	44.46929
Se138	SUPT16H F687I	HLA-C*12:02	MT	HVNG[I]RFRTSV	413.16	WT	HVNG[F]RFRTSV	327.31	10	44.46929
Se138	ARRDC4 L397V	HLA-C*12:02	MT	FQPPP[V]YSEV	67.9	WT	FQPPP[L]YSEV	115.08	10	2.36212
Se138	ARRDC4 L397V	HLA-C*14:03	MT	FQPPP[V]YSEV	265.99	WT	FQPPP[L]YSEV	348.26	10	2.36212
Se138	ARRDC4 L397V	HLA-C*14:03	MT	FRFQPPP[V]Y	308.99	WT	FRFQPPP[L]Y	303.51	9	2.36212
Se138	ARRDC4 L397V	HLA-C*12:02	MT	FRFQPPP[V]Y	435.75	WT	FRFQPPP[L]Y	671.05	9	2.36212
Se138	MVP D355E	HLA-A*33:03	MT	HQAG[E]HWLIR	294.68	WT	HQAG[D]HWLIR	275.94	10	12.83591
Se138	MVP D355E	HLA-A*24:02	MT	HQAG[E]HWLI	425.14	WT	HQAG[D]HWLI	822.68	9	12.83591
Se138	TLDC1 A334S	HLA-C*12:02	MT	FSICPSM[S]V	10.2	WT	FSICPSM[A]V	9.01	9	3.03036
Se138	TLDC1 A334S	HLA-C*12:02	MT	FSICPSM[S]VY	11.74	WT	FSICPSM[A]VY	12.26	10	3.03036
Se138	TLDC1 A334S	HLA-C*12:02	MT	M[S]VYTHTYG	187.6	WT	M[A]VYTHTYG	120.16	9	3.03036
Se138	TLDC1 A334S	HLA-C*14:03	MT	FSICPSM[S]VY	230.56	WT	FSICPSM[A]VY	202.43	10	3.03036
Se138	LIG1 A724D	HLA-B*44:03	MT	EELQ[D]ICKL	467.86	WT	EELQ[A]ICKL	322.08	9	19.12802
Se138	C20orf194 G1133S	HLA-C*12:02	MT	F[S]DKTDFHPL	256.03	WT	F[G]DKTDFHPL	2036.42	10	1.6006
Se139	CADM3 Y71S	HLA-A*33:03	MT	[S]FGEKRALR	53.01	WT	[Y]FGEKRALR	46.28	9	6.60858
Se139	CADM3 Y71S	HLA-A*33:03	MT	L[S]FGEKRALR	131.32	WT	L[Y]FGEKRALR	70.91	10	6.60858
Se139	CADM3 Y71S	HLA-A*33:03	MT	QTL[S]FGEKR	145.73	WT	QTL[Y]FGEKR	113.31	9	6.60858
Se139	BMPR2 S704C	HLA-C*03:04	MT	STS[C]SLLYPL	214.36	WT	STS[S]SLLYPL	147.29	10	12.71961
Se139	BMPR2 S704C	HLA-C*03:04	MT	LSSTS[C]SLL	426.66	WT	LSSTS[S]SLL	156.9	9	12.71961
Se139	DIS3L2 R794H	HLA-A*03:04	MT	[H]IYCNALAL	13.86	WT	[R]IYCNALAL	34.99	9	3.90187
Se139	DIS3L2 R794H	HLA-A*33:03	MT	[H]IYCNALALR	26.35	WT	[R]IYCNALALR	201.53	10	3.90187
Se139	DIS3L2 R794H	HLA-A*33:03	MT	[H]IYCNALAL	63.65	WT	[R]IYCNALAL	57	9	3.90187
Se139	MLPH S444C	HLA-A*33:03	MT	D[C]FDRKSVYR	56.51	WT	D[S]FDRKSVYR	12.49	10	3.84134
Se139	MLPH S444C	HLA-A*33:03	MT	[C]FDRKSVYR	129.88	WT	[S]FDRKSVYR	181.79	9	3.84134
Se139	TACC3 P353R	HLA-A*33:03	MT	GATSKRAP[R]	153.57	WT	GATSKRAP[P]	37706.48	9	19.44029
Se139	TACC3 P353R	HLA-A*33:03	MT	TSKRAP[R]PRR	267.46	WT	TSKRAP[P]PRR	363.83	10	19.44029
Se139	TACC3 P353R	HLA-A*33:03	MT	TSKRAP[R]PR	300.62	WT	TSKRAP[P]PR	153.26	9	19.44029
Se139	RBM47 S6Y	HLA-C*03:04	MT	MTAED[Y]TAAM	9.62	WT	MTAED[S]TAAM	7.75	10	14.49542
Se139	RBM47 S6Y	HLA-A*26:01	MT	MTAED[Y]TAAM	10.47	WT	MTAED[S]TAAM	16.16	10	14.49542
Se139	RBM47 S6Y	HLA-C*03:04	MT	TAED[Y]TAAM	79.48	WT	TAED[S]TAAM	74.68	9	14.49542
Se139	RBM47 S6Y	HLA-C*14:03	MT	MTAED[Y]TAAM	98.18	WT	MTAED[S]TAAM	122.13	10	14.49542
Se139	SLC4A4 L625W	HLA-A*33:03	MT	TFDWF[A]FWSK	29.08	WT	TFDWF[L]JSK	111.91	10	1.43438
Se139	SLC4A4 L625W	HLA-A*33:03	MT	TFDWF[A]WJSK	267.63	WT	TFDWF[L]JSK	2178.9	9	1.43438
Se139	ZNF827 V920M	HLA-C*03:04	MT	FVSHMSLH[M]	19.07	WT	FVSHMSLH[V]	155.95	9	3.07992
Se139	ZNF827 V920M	HLA-C*14:03	MT	FVSHMSLH[M]	262.85	WT	FVSHMSLH[V]	1367.38	9	3.07992
Se139	ZNF827 V920M	HLA-C*14:03	MT	QFVSHMSLH[M]	361.56	WT	QFVSHMSLH[V]	1414.1	10	3.07992
Se139	SPRY4 V129L	HLA-A*33:03	MT	DQASPR[A]VJR	33.3	WT	DQASPR[A]VJR	119.68	9	6.47199
Se139	SPRY4 V129L	HLA-C*03:04	MT	VADQASPR[A]L	43.76	WT	VADQASPR[A]V	199.5	10	6.47199
Se139	FAM65B P4A	HLA-A*33:03	MT	L[A]SRLHWIR	62.27	WT	L[P]SRLHWIR	440.01	9	2.35894
Se139	FAM65B P4A	HLA-A*33:03	MT	VL[A]SRLHWIR	69.11	WT	VL[P]SRLHWIR	249.62	10	2.35894
Se139	FAM65B P4A	HLA-A*33:03	MT	[A]SRLHWIRNR	340.55	WT	[P]SRLHWIRNR	1698.38	10	2.35894
Se139	ARID1B A1870P	HLA-A*33:03	MT	ATIDDVLS[P]JR	74.26	WT	ATIDDVLS[A]JR	118.25	10	7.84714
Se139	ARID1B A1870P	HLA-A*33:03	MT	TIDDVLS[P]JR	131.5	WT	TIDDVLS[A]JR	236.73	9	7.84714
Se139	ARID1B A1870P	HLA-C*14:03	MT	VLS[P]RPGAL	435.53	WT	VLS[A]RPGAL	1029.16	9	7.84714
Se139	ARID1B A1870P	HLA-C*03:04	MT	VLS[P]RPGAL	451.03	WT	VLS[A]RPGAL	800.2	9	7.84714
Se139	SDK1 D1174V	HLA-C*03:04	MT	[V]VAPTSVTV	182.83	WT	[D]VAPTSVTV	3269.61	9	2.56567
Se139	SDK1 D1174V	HLA-A*33:03	MT	[V]VAPTSVTVR	228.38	WT	[D]VAPTSVTVR	60.6	10	2.56567
Se139	CDK13 R860G	HLA-C*03:04	MT	LADFGLA[G]JL	217.37	WT	LADFGLA[R]JL	218.49	9	9.11206
Se139	CACNA2D1 N154D	HLA-A*33:03	MT	VFIEDA[D]FGR	328.42	WT	VFIEDA[N]FGR	148.21	10	2.44222
Se139	TMEM67 P7L	HLA-A*33:03	MT	MSLSHW[L]YFR	5.75	WT	MSLSHW[P]YFR	5.44	10	2.03195
Se139	TMEM67 P7L	HLA-A*33:03	MT	SLSHW[L]YFR	12.92	WT	SLSHW[P]YFR	13.88	9	2.03195
Se139	TMEM67 P7L	HLA-A*33:03	MT	[L]YFRLVLFNR	26.65	WT	[P]YFRLVLFNR	209.84	10	2.03195
Se139	TMEM67 P7L	HLA-C*03:04	MT	MSLSHW[L]YF	95.26	WT	MSLSHW[P]YF	192.48	9	2.03195
Se139	TMEM67 P7L	HLA-C*14:03	MT	[L]YFRLVLFN	116.2	WT	[P]YFRLVLFN	1058	9	2.03195
Se139	TMEM67 P7L	HLA-C*14:03	MT	MSLSHW[L]YF	125.43	WT	MSLSHW[P]YF	187.22	9	2.03195
Se139	TMEM67 P7L	HLA-C*14:03	MT	HW[L]YFRLVL	346.86	WT	HW[P]YFRLVL	65.41	9	2.03195
Se139	RECQL4 R766G	HLA-C*03:04	MT	RAFMQGQL[G]V	291.1	WT	RAFMQGQL[R]V	318.48	10	7.79825
Se139	EIF3A F184S	HLA-A*33:03	MT	AFK[S]CLQYTR	72.8	WT	AFK[F]CLQYTR	51.67	10	45.84685
Se139	EIF3A F184S	HLA-C*03:04	MT	IAQQAFK[S]JCL	228.07	WT	IAQQAFK[F]JCL	467.13	10	45.84685
Se139	TECPR2 E356A	HLA-C*14:03	MT	SRP[A]GLTSTV	287.37	WT	SRP[E]GLTSTV	382.18	10	2.41773
Se139	TECPR2 E356A	HLA-C*14:03	MT	IRISSRP[A]JGL	454.19	WT	IRISSRP[E]JGL	955.93	10	2.41773
Se139	MLST8 W274R	HLA-C*14:03	MT	RGWM[R]GCAF	175.66	WT	RGWM[W]GCAF	300.6	9	10.16946
Se139	MLST8 W274R	HLA-C*14:03	MT	SRGWM[R]GCAF	455.65	WT	SRGWM[W]GCAF	474.51	10	10.16946
Se139	PKMYT1 L277M	HLA-A*33:03	MT	MMLEPDPK[M]JR	98.7	WT	MMLEPDPK[L]JR	60.36	10	3.73198
Se139	PKMYT1 L277M	HLA-C*14:03	MT	K[M]RATAEAL	262.3	WT	K[L]RATAEAL	793.27	9	3.73198
Se139	PKMYT1 L277M	HLA-C*03:04	MT	MMLEPDPK[M]	476.55	WT	MMLEPDPK[L]	621.48	9	3.73198
Se139	RANBP10 D492N	HLA-A*33:03	MT	SM[N]DRHPRR	34.33	WT	SM[D]DRHPRR	436.72	9	5.06346
Se139	RANBP10 D492N	HLA-A*33:03	MT	SSM[N]DRHPR	40.11	WT	SSM[D]DRHPR	39.85	9	5.06346
Se139	RANBP10 D492N	HLA-A*33:03	MT	SSM[N]DRHPRR	101.73	WT	SSM[D]DRHPRR	120.42	10	5.06346
Se139	RANBP10 D492N	HLA-A*33:03	MT	ESSM[N]DRHPR	130.85	WT	ESSM[D]DRHPR	250.09	10	5.06346
Se139	TP53 Y87H	HLA-C*03:04	MT	SVTCT[H]SPAL	138.75	WT	SVTCT[Y]SPAL	164.27	10	26.15264
Se139	DSC2 P139L	HLA-C*03:04	MT	WA[L]IPCSML	104.2	WT	WA[P]IPCSML	150.59	9	27.06926

Se139	DSC2 P139L	HLA-C*14:03	MT	RWA[L]IPCSM	106.92	WT	RWA[P]IPCSM	42.76	9	27.06926
Se139	DSC2 P139L	HLA-C*14:03	MT	RRAKRRWA[L]	181.53	WT	RRAKRRWA[P]	13201.86	9	27.06926
Se139	DSC2 P139L	HLA-C*14:03	MT	RWA[L]IPCSML	248.17	WT	RWA[P]IPCSML	104.28	10	27.06926
Se139	DSC2 P139L	HLA-C*14:03	MT	RRWA[L]IPCSM	279.15	WT	RRWA[P]IPCSM	307.17	10	27.06926
Se139	DSC2 P139L	HLA-C*14:03	MT	LRRAKRRWA[L]	356.2	WT	LRRAKRRWA[P]	18993.09	10	27.06926
Se139	PARD6G P249R	HLA-A*33:03	MT	IVTVK[R]ANQR	85.69	WT	IVTVK[P]ANQR	180.92	10	1.93436
Se139	PARD6G P249R	HLA-A*33:03	MT	HNLIVTVK[R]	92.89	WT	HNLIVTVK[P]	27712.7	9	1.93436
Se139	PARD6G P249R	HLA-A*33:03	MT	VTVK[R]ANQR	165.48	WT	VTVK[P]ANQR	397.84	9	1.93436
Se139	PARD6G P249R	HLA-C*03:04	MT	[R]ANQRNNVV	432.5	WT	[P]ANQRNNVV	14161.91	9	1.93436
Se139	AP3D1 D146G	HLA-C*03:04	MT	FVTPDLAR[G]L	90.9	WT	FVTPDLAR[D]L	129.31	10	17.2198
Se139	JSRP1 L143P	HLA-C*03:04	MT	SAFQ[P]CRDAV	118.78	WT	SAFQ[L]CRDAV	210.64	10	3.38382
Se139	JSRP1 L143P	HLA-C*14:03	MT	SAFQ[P]CRDAV	485.22	WT	SAFQ[L]CRDAV	596.54	10	3.38382
Se139	JSRP1 L143P	HLA-C*14:03	MT	AFQ[P]CRDAV	499.22	WT	AFQ[L]CRDAV	885.11	9	3.38382
Se139	FZR1 Q218H	HLA-A*33:03	MT	WSACTS[H]VTR	121.8	WT	WSACTS[Q]VTR	394.16	10	6.00873
Se139	FZR1 Q218H	HLA-A*33:03	MT	SACTS[H]VTR	143.35	WT	SACTS[Q]VTR	441.27	9	6.00873
Se139	FZR1 Q218H	HLA-C*03:04	MT	SACTS[H]VTRL	480.02	WT	SACTS[Q]VTRL	985.74	10	6.00873
Se139	CACTIN S67T	HLA-A*33:03	MT	[T]GMRSRSPPR	180.19	WT	[S]GMRSRSPPR	284.99	10	3.86347
Se139	PTPRS M16I	HLA-C*03:04	MT	MVSVVGP[M]GL	142.35	WT	MVSVVGP[M]GL	133.61	10	8.35034
Se139	PTPRS M16I	HLA-A*26:01	MT	SVVGP[I]GLL	227.89	WT	SVVGP[M]GLL	128.39	9	8.35034
Se139	PTPRS M16I	HLA-C*03:04	MT	SVVGP[I]GLL	474.03	WT	SVVGP[M]GLL	313.7	9	8.35034
Se139	DNM2 E588D	HLA-A*33:03	MT	FAIFNT[D]QR	122.36	WT	FAIFNT[E]QR	106.27	9	23.36378
Se139	DNM2 E588D	HLA-A*33:03	MT	[D]QRNVYKDLR	239.84	WT	[E]QRNVYKDLR	169.6	10	23.36378
Se139	DNM2 E588D	HLA-A*33:03	MT	VFAIFNT[D]QR	275.51	WT	VFAIFNT[E]QR	200.33	10	23.36378
Se139	TMED1 Y47H	HLA-C*03:04	MT	[H]QSAPANASL	209.27	WT	[Y]QSAPANASL	16.12	10	9.27877
Se139	SIX5 A117V	HLA-C*14:03	MT	RFLGALPP[V]	195.52	WT	RFLGALPP[A]	1535.38	9	5.93232
Se139	SIX5 A117V	HLA-A*14:03	MT	SRLGALPP[V]	284.79	WT	SRLGALPP[A]	2284.86	10	5.93232
Se139	AP2A1 G202S	HLA-C*03:04	MT	M[S]VVTAAVSL	13.87	WT	M[G]VVTAAVSL	97.7	10	16.31834
Se139	AP2A1 G202S	HLA-C*03:04	MT	[S]VVTAAVSL	36.05	WT	[G]VVTAAVSL	382.39	9	16.31834
Se139	AP2A1 G202S	HLA-C*03:04	MT	HM[S]VVTAAV	391.62	WT	HM[G]VVTAAV	3698.87	9	16.31834
Se139	AP2A1 G202S	HLA-C*03:04	MT	[S]VVTAAVSLI	395.65	WT	[G]VVTAAVSLI	3359.35	10	16.31834
Se139	ATF5 R280L	HLA-C*14:03	MT	VYKARSQRT[L]	35.74	WT	VYKARSQRT[R]	7753.8	10	25.92129
Se139	SIGLEC1 R376W	HLA-A*33:03	MT	HTL[W]LHLATR	7.78	WT	HTL[R]LHLATR	9.46	10	7.09482
Se139	SIGLEC1 R376W	HLA-A*33:03	MT	TL[W]LHLATR	39.03	WT	TL[R]LHLATR	47.74	9	7.09482
Se139	SIGLEC1 R376W	HLA-B*44:03	MT	LEDAHSHTL[W]	62.17	WT	LEDAHSHTL[R]	13841.56	10	7.09482
Se139	CTNBNL1 G523V	HLA-A*33:03	MT	R[V]SSIKIVR	213.49	WT	R[G]SSIKIVR	3871.67	9	15.84773
Se139	HMGB3 S42F	HLA-A*33:03	MT	EF[F]KKCSER	11.22	WT	EF[S]KKCSER	65.83	9	19.09539
Se139	HMGB3 S42F	HLA-A*26:01	MT	EVVPNFAEF[F]	380.75	WT	EVVPNFAEF[S]	11056.01	10	19.09539
Se140	KCNK2 I99R	HLA-A*31:01	MT	IVIQQQTF[R]	33.97	WT	IVIQQQTF[I]	14131.3	9	1.06368
Se140	KCNK2 I99R	HLA-A*31:01	MT	TIVIQQTF[R]	126.03	WT	TIVIQQTF[I]	23581.81	10	1.06368
Se140	UBR3 M405V	HLA-A*02:07	MT	KMVTFLN[V]	418.13	WT	KMVTFLN[M]	7045.27	9	6.44882
Se140	DIS3L2 H81R	HLA-A*31:01	MT	VLRINPKK[F]R	106.32	WT	VLRINPKK[F]H	12703.42	10	4.58074
Se140	CRBN Q172K	HLA-A*31:01	MT	RFKVLRLT[K]	210.56	WT	RFKVLRLT[Q]	15929.84	10	9.74167
Se140	KMT2E S780N	HLA-C*14:02	MT	TY[N]PHVYST	459.46	WT	TY[S]PHVYST	628.72	9	16.40657
Se140	TNPO3 V473I	HLA-C*14:02	MT	RLPET[V]HTAV	489.95	WT	RLPET[I]HTAV	548.54	10	12.73761
Se140	SLC25A29 E116K	HLA-A*31:01	MT	RALGC[K]PGDR	146.32	WT	RALGC[E]PGDR	405.99	10	20.11323
Se140	SMG1 C2738R	HLA-A*31:01	MT	KQEAVTVPV[R]	159.47	WT	KQEAVTVPV[C]	31163.49	10	11.11453
Se140	CNOT1 R1678C	HLA-C*14:02	MT	[C]YRECHLLVL	50.73	WT	[R]YRECHLLVL	21.55	10	16.22133
Se140	CNOT1 R1678C	HLA-C*14:02	MT	[C]YRECHLLV	257.09	WT	[R]YRECHLLV	93.4	9	16.22133
Se140	TP53 P19S	HLA-A*31:01	MT	ST[S]PPGTRVR	279.64	WT	ST[P]PPGTRVR	759.65	10	29.03961
Se140	TP53 P19S	HLA-C*14:02	MT	[S]PPGTRVRAM	381.9	WT	[P]PPGTRVRAM	5634.23	10	29.03961
Se140	CASKIN2 P980L	HLA-C*14:02	MT	LAPSPAMQP[L]	164.79	WT	LAPSPAMQP[P]	16475.08	10	8.98975
Se140	ELL N530S	HLA-C*14:02	MT	SYKNDF[S]AEY	101.79	WT	SYKNDF[N]AEY	115.29	9	3.73314
Se140	ELL N530S	HLA-A*31:01	MT	F[S]AEYSEYR	259.61	WT	F[N]AEYSEYR	869.56	9	3.73314
Se141	INADL T545N	HLA-A*02:01	MT	VMVA[N]LDTQI	173.98	WT	VMVA[T]LDTQI	193.52	10	8.28035
Se141	LRRRC8 Y126F	HLA-A*24:02	MT	WYAK[F]FPYL	28.19	WT	WYAK[Y]FPYL	14.03	9	1.29425
Se141	LRRRC8 Y126F	HLA-A*24:02	MT	WYAK[Y]FPYL	42.69	WT	WYAK[Y]FPYLV	30.61	10	1.29425
Se141	LRRRC8 Y126F	HLA-A*24:02	MT	K[F]FPYLVLI	60.09	WT	K[Y]FPYLVLI	7.7	9	1.29425
Se141	LRRRC8 Y126F	HLA-A*24:02	MT	RALHWYAK[F]	66.63	WT	RALHWYAK[Y]	8715.33	9	1.29425
Se141	LRRRC8 Y126F	HLA-A*24:02	MT	HWYAK[F]FPYL	207.28	WT	HWYAK[Y]FPYL	142.76	10	1.29425
Se141	LRRRC8 Y126F	HLA-A*24:02	MT	RALHWYAK[F]F	303.87	WT	RALHWYAK[Y]F	353.96	10	1.29425
Se141	TROVE2 A494S	HLA-A*02:01	MT	KMDIP[S]KLIV	316.1	WT	KMDIP[A]KLIV	340.18	10	5.18306
Se141	HEATR1 Q247E	HLA-A*02:01	MT	KLFPY[I]E]KGL	23.74	WT	KLFPY[I]Q]KGL	17.22	10	8.46766
Se141	TGFBRAP1 E108D	HLA-A*02:01	MT	LVNMLNL[D]PV	297.54	WT	LVNMLNL[E]PV	208.18	10	7.83668
Se141	CNTN3 D561G	HLA-A*02:01	MT	[G]LMIRNIQL	106.94	WT	[D]LMIRNIQL	3037.65	9	2.89375
Se141	DNAJC13 K1359R	HLA-A*02:01	MT	FLCTKSA[R]I	102.68	WT	FLCTKSA[K]I	99.52	9	10.09728
Se141	DNAJC13 K1359R	HLA-A*02:01	MT	FLCTKSA[R]IV	170.24	WT	FLCTKSA[K]IV	197.87	10	10.09728
Se141	GRSF1 C11W	HLA-A*02:01	MT	VLNFFSD[W]RI	99.41	WT	VLNFFSD[C]RI	380.59	10	18.28174
Se141	FKBP5 L217S	HLA-B*15:01	MT	MQREEQC[S]Y	11.82	WT	MQREEQC[L]Y	20.62	10	3.75456
Se141	FKBP5 L217S	HLA-A*24:02	MT	[S]YLGPRYGF	43.7	WT	[L]YLGPRYGF	50.92	9	3.75456
Se141	FKBP5 L217S	HLA-B*15:01	MT	I[S]YLGPRYGF	421.41	WT	I[L]YLGPRYGF	278.79	10	3.75456
Se141	STK17A T244A	HLA-A*02:01	MT	SMA[A]DMWSI	5.42	WT	SMA[T]DMWSI	6.98	9	6.70582
Se141	STK17A T244A	HLA-A*02:01	MT	MA[A]DMWSIGV	53.41	WT	MA[T]DMWSIGV	391.75	10	6.70582
Se141	STK17A T244A	HLA-A*02:01	MT	ISMA[A]DMWSI	368.36	WT	ISMA[T]DMWSI	447.32	10	6.70582
Se141	STK17A T244A	HLA-B*15:01	MT	SMA[A]DMWSI	439.05	WT	SMA[T]DMWSI	635.22	9	6.70582
Se141	STK17A T244A	HLA-A*02:01	MT	A[A]DMWSIGV	468.88	WT	A[T]DMWSIGV	199.43	9	6.70582
Se141	PLPP6 I183M	HLA-A*02:01	MT	LLLVALL[I]KGL	160.83	WT	LLLVALL[I]KGL	115.51	10	12.51616
Se141	PLPP6 I183M	HLA-A*02:01	MT	LLDLLLVAL[M]	194.34	WT	LLDLLLVAL[I]	77.47	10	12.51616
Se141	PLPP6 I183M	HLA-A*02:01	MT	LLVAL[M]KGLV	317.33	WT	LLVAL[I]KGLV	218.29	10	12.51616

Se141	PLPP6 I183M	HLA-A*02:01	MT	LLVAL[M]KGL	384.37	WT	LLVAL[I]KGL	145.05	9	12.51616
Se141	TEK S41C	HLA-B*40:06	MT	AET[C]LTCIA	280.97	WT	AET[S]LTCIA	373.06	9	1.29784
Se141	WNK2 D2293E	HLA-A*02:01	MT	ASFAAS[E]PV	461.79	WT	ASFAAS[D]PV	683.02	9	5.61775
Se141	RIC8A P360T	HLA-A*02:01	MT	FLKAQGWPP[T]	229.35	WT	FLKAQGWPP[P]	4042.28	10	26.76658
Se141	MRV11 A296D	HLA-A*02:01	MT	RLA[D]RLSSRA	178.04	WT	RLA[A]RLSSRA	591.19	10	1.23412
Se141	NCKAP1L Y88F	HLA-B*24:02	MT	SYLDLIVT[F]	6.18	WT	SYLDLIVT[Y]	463.77	9	3.74143
Se141	NCKAP1L Y88F	HLA-A*02:01	MT	YLDLIVT[F]T	43.2	WT	YLDLIVT[Y]T	26.91	9	3.74143
Se141	NCKAP1L Y88F	HLA-A*02:01	MT	YLDLIVT[F]TS	128.76	WT	YLDLIVT[Y]TS	124.57	10	3.74143
Se141	NCKAP1L Y88F	HLA-B*15:01	MT	RSYLDLIVT[F]	143.6	WT	RSYLDLIVT[Y]	130.69	10	3.74143
Se141	NCKAP1L Y88F	HLA-A*24:02	MT	T[Y]TSVILL	255.65	WT	T[Y]TSVILL	21.08	9	3.74143
Se141	SACS N605S	HLA-B*15:01	MT	RLIKEVM[S]TF	11.06	WT	RLIKEVM[N]TF	16.71	10	2.164
Se141	SACS N605S	HLA-B*15:01	MT	LIKEVM[S]TF	20.4	WT	LIKEVM[N]TF	35.96	9	2.164
Se141	SACS N605S	HLA-A*02:01	MT	RLIKEVM[S]T	263.46	WT	RLIKEVM[N]T	425.29	9	2.164
Se141	SACS N605S	HLA-A*24:02	MT	RLIKEVM[S]TF	373.35	WT	RLIKEVM[N]TF	307.1	10	2.164
Se141	GPATCH2L S452C	HLA-B*40:06	MT	SEWLVRT[C]AA	99.91	WT	SEWLVRT[S]AA	103.96	10	2.0913
Se141	GPATCH2L S452C	HLA-B*40:06	MT	SEWLVRT[C]A	211.86	WT	SEWLVRT[S]A	90.99	9	2.0913
Se141	SEL1L R600T	HLA-A*02:01	MT	FILDQ[T]EASI	23.8	WT	FILDQ[R]EASI	92.83	10	24.19524
Se141	SEL1L R600T	HLA-A*02:01	MT	ILDQ[T]EASIV	117.79	WT	ILDQ[R]EASIV	255.64	10	24.19524
Se141	SEL1L R600T	HLA-A*02:01	MT	ILDQ[T]EASI	210.22	WT	ILDQ[R]EASI	433.32	9	24.19524
Se141	XRCC3 R81L	HLA-A*02:01	MT	Q[Q]LSLGCVPV	21.92	WT	Q[R]LSLGCVPV	20756.11	9	6.67893
Se141	XRCC3 R81L	HLA-A*02:01	MT	Q[Q]LSLGCVPV	99.1	WT	Q[R]LSLGCVPV	22222.92	10	6.67893
Se141	XRCC3 R81L	HLA-A*02:01	MT	[L]LSLGCVPV	161.88	WT	[R]LSLGCVPV	249.65	9	6.67893
Se141	XRCC3 R81L	HLA-A*24:02	MT	RFPTQHQ[R]L	220.36	WT	RFPTQHQ[R]L	489.95	9	6.67893
Se141	XRCC3 R81L	HLA-A*02:01	MT	HQ[Q]LSLGCVPV	225.1	WT	HQ[R]LSLGCVPV	4337.19	10	6.67893
Se141	IGF1R R1337H	HLA-B*15:01	MT	GVLVL[H]JASF	487.42	WT	GVLVL[R]JASF	680.96	9	33.45439
Se141	GRIN2A V820I	HLA-A*02:01	MT	NMAG[I]FYML	9.95	WT	NMAG[V]FYML	9.89	9	8.47523
Se141	GRIN2A V820I	HLA-A*02:01	MT	NMAG[I]FYMLA	41.69	WT	NMAG[V]FYMLA	48.56	10	8.47523
Se141	GRIN2A V820I	HLA-A*02:01	MT	G[V]FYMLAAA	128.81	WT	G[V]FYMLAAA	220.2	9	8.47523
Se141	GRIN2A V820I	HLA-B*15:01	MT	G[V]FYMLAAAM	209.43	WT	G[V]FYMLAAAM	235.4	10	8.47523
Se141	TP53 D127Y	HLA-B*40:06	MT	LE[D]SSGNLL	273.44	WT	LE[D]SSGNLL	2972.21	9	40.72434
Se141	TP53 D127Y	HLA-B*15:01	MT	ILTIITL[Y]	423.15	WT	ILTIITL[D]	33436.8	9	40.72434
Se141	RPS6KB1 P412L	HLA-C*08:01	MT	FSFEPKIRS[L]	465.9	WT	FSFEPKIRS[P]	23447.27	10	2.1833
Se141	DHX34 T556A	HLA-A*02:01	MT	SLE[A]AILYL	56.42	WT	SLE[T]AILYL	112.24	9	5.25454
Se141	TRPC4AP T252S	HLA-B*15:01	MT	ILAV[S]ISEM	112.67	WT	ILAV[T]ISEM	102.23	9	37.84303
Se141	TRPC4AP T252S	HLA-A*02:01	MT	ILAV[S]ISEM	224.99	WT	ILAV[T]ISEM	284.84	9	37.84303
Se141	TRPC4AP T252S	HLA-B*15:01	MT	RILAV[S]ISEM	470.84	WT	RILAV[T]ISEM	577.76	10	37.84303
Se141	PRODH G434D	HLA-B*15:01	MT	GQA[D]YPVYKY	90.86	WT	GQA[G]YPVYKY	84.81	10	1.01439
Se141	PRODH G434D	HLA-B*15:01	MT	ISFPLGQA[D]Y	106.28	WT	ISFPLGQA[G]Y	48.61	10	1.01439
Se141	PRPS2 Q156R	HLA-A*24:02	MT	LYAEPVAVL[R]W	47.88	WT	LYAEPVAVL[Q]W	45.58	10	16.28661
Se141	PRPS2 Q156R	HLA-A*24:02	MT	[R]WIRENIAEW	87.77	WT	[Q]WIRENIAEW	490.17	10	16.28661
Se142	RALGPS2 H482Y	HLA-C*14:03	MT	[Y]FKSTSNKNV	416.4	WT	[H]FKSTSNKNV	2632.83	10	7.94037
Se142	EPAS1 G197A	HLA-A*02:06	MT	KVLHCT[A]QV	21.65	WT	KVLHCT[G]QV	173.77	9	15.75932
Se142	EPAS1 G197A	HLA-A*02:06	MT	ATWKVLHCT[A]	164.96	WT	ATWKVLHCT[G]	8666.92	10	15.75932
Se142	ZDBF2 F1601L	HLA-A*33:03	MT	MTNQCKET[L]K	353.32	WT	MTNQCKET[F]K	179.79	10	1.02019
Se142	ZDBF2 F1601L	HLA-A*33:03	MT	ET[L]KIINRK	403.12	WT	ET[F]KIINRK	136.4	9	1.02019
Se142	MCTP1 H310N	HLA-A*02:06	MT	LQLEEGEG[N]L	333.61	WT	LQLEEGEG[H]L	231.85	10	1.62975
Se142	MCTP1 H310N	HLA-B*44:03	MT	GEG[N]LVLLV	408.94	WT	GEG[H]LVLLV	595.23	9	1.62975
Se142	KDM4C C109F	HLA-A*33:03	MT	NSGKY[F]TPR	52.35	WT	NSGKY[C]TPR	121.31	9	8.84102
Se142	KDM4C C109F	HLA-C*14:03	MT	Y[F]TPRYLDY	55.99	WT	Y[C]TPRYLDY	1809.31	9	8.84102
Se142	KDM4C C109F	HLA-C*14:03	MT	KY[F]TPRYLDY	127.98	WT	KY[C]TPRYLDY	1425.9	10	8.84102
Se142	KDM4C C109F	HLA-A*33:03	MT	ANSGBK[F]TPR	217.38	WT	ANSGBK[C]TPR	541.52	10	8.84102
Se142	GNAQ T96S	HLA-A*02:06	MT	AMIRAMD[S]L	67.06	WT	AMIRAMD[T]L	103.18	9	10.62602
Se142	GNAQ T96S	HLA-A*33:03	MT	MIRAMD[S]LK	300.92	WT	MIRAMD[T]LK	381.75	9	10.62602
Se142	GNAQ T96S	HLA-C*14:03	MT	RAMD[S]LKIPY	370.48	WT	RAMD[T]LKIPY	347.14	10	10.62602
Se142	FRMD4A G887R	HLA-A*33:03	MT	LFKESWRGG[R]	66.96	WT	LFKESWRGG[G]	32184.44	10	2.72038
Se142	SPATA13 E174K	HLA-B*44:03	MT	REIMDT[K]RVY	117.17	WT	REIMDT[E]RVY	98.99	10	6.32587
Se142	SPATA13 E174K	HLA-A*33:03	MT	VIREIMDT[K]R	206.99	WT	VIREIMDT[E]R	209.48	10	6.32587
Se142	MCF2L F806L	HLA-A*02:06	MT	LLMQGS[L]SV	8.88	WT	LLMQGS[F]SV	3.01	9	2.60709
Se142	MCF2L F806L	HLA-A*02:06	MT	KLLMQGS[L]SV	45.1	WT	KLLMQGS[F]SV	13.57	10	2.60709
Se142	MCF2L F806L	HLA-A*33:03	MT	S[L]SVWTDHKR	209.49	WT	S[F]SVWTDHKR	63.85	10	2.60709
Se142	MCF2L F806L	HLA-A*33:03	MT	[L]SVWTDHKR	483.93	WT	[F]SVWTDHKR	119.8	9	2.60709
Se142	AP1G1 R35Q	HLA-A*33:03	MT	CAAI[Q]SSFR	47.79	WT	CAAI[R]SSFR	19.18	9	13.11108
Se142	AP1G1 R35Q	HLA-A*33:03	MT	ECAA[Q]SSFR	83.22	WT	ECAA[R]SSFR	40.52	10	13.11108
Se142	AP1G1 R35Q	HLA-B*44:03	MT	KECAA[Q]SSF	123.18	WT	KECAA[R]SSF	274.13	10	13.11108
Se142	TP53 R141C	HLA-A*33:03	MT	EV[C]VCACPR	94.8	WT	EV[R]VCACPR	62.63	10	50.43608
Se142	PIK3C3 S180L	HLA-C*14:03	MT	VYEEKDGDE[L]	35.07	WT	VYEEKDGDE[S]	4107.78	10	3.7593
Se142	PIK3C3 S180L	HLA-C*14:03	MT	YEEKDGDE[L]	130.26	WT	YEEKDGDE[S]	12409.04	9	3.7593
Se142	PIK3C3 S180L	HLA-B*44:03	MT	DE[L]SPILTSF	139.94	WT	DE[S]SPILTSF	132	10	3.7593
Se142	ZNF430 K149R	HLA-A*02:06	MT	LQLRTGC[R]JSV	201.9	WT	LQLRTGC[K]JSV	255.02	10	3.72201
Se142	YDJC A148P	HLA-A*14:03	MT	VF[P]JEALQAY	181.84	WT	VF[A]JEALQAY	124.93	9	8.82367
Se142	YDJC A148P	HLA-A*02:06	MT	GVCQVF[P]EA	400.45	WT	GVCQVF[A]EA	430.54	9	8.82367
Se142	PANX2 V379D	HLA-C*14:03	MT	MYDNV[D]RQLL	34.12	WT	MYDNV[V]RQLL	14.02	10	2.2917
Se142	PANX2 V379D	HLA-C*14:03	MT	MYDNV[D]RQL	63.83	WT	MYDNV[V]RQL	19.5	9	2.2917
Se142	PANX2 V379D	HLA-C*14:03	MT	LMYDNV[DJ]RQL	164.58	WT	LMYDNV[V]RQL	95.53	10	2.2917
Se142	PANX2 V379D	HLA-A*02:06	MT	LMYDNV[DJ]RQL	190.32	WT	LMYDNV[V]RQL	87.16	10	2.2917
Se142	PANX2 V379D	HLA-A*33:03	MT	DLMYDNV[DJ]R	345.81	WT	DLMYDNV[V]R	120.14	9	2.2917
Se142	TENM1 S95F	HLA-C*14:03	MT	V[F]RHGYQLEM	57.06	WT	V[S]RHGYQLEM	854.76	10	3.2676
Se142	TENM1 S95F	HLA-C*14:03	MT	[F]RHGYQLEM	61.18	WT	[S]RHGYQLEM	252.92	9	3.2676

Se142	TENM1 S95F	HLA-A*33:03	MT	QTDMSV[F]R	79.49	WT	QTDMSV[S]R	248.63	9	3.2676
Se142	TENM1 S95F	HLA-C*14:03	MT	YQTDMSV[F]	95.74	WT	YQTDMSV[S]	10073.04	9	3.2676
Se142	TENM1 S95F	HLA-A*33:03	MT	YQTDMSV[F]R	127.03	WT	YQTDMSV[S]R	483.55	10	3.2676
Se142	TENM1 S95F	HLA-A*02:06	MT	SV[F]RHGYQL	131.11	WT	SV[S]RHGYQL	1435.52	9	3.2676
Se142	TENM1 S95F	HLA-C*14:03	MT	GYQTDMSV[F]	178.54	WT	GYQTDMSV[S]	9428.91	10	3.2676
Se142	TENM1 S95F	HLA-A*02:06	MT	YQTDMSV[F]	315.1	WT	YQTDMSV[S]	5091.64	9	3.2676
Se143	MOV10 V417M	HLA-A*02:89	MT	F[M]HKVELDRV	25.06	WT	F[V]HKVELDRV	448.31	10	9.59379
Se143	MOV10 V417M	HLA-A*02:89	MT	ITYKGF[M]HKV	124.67	WT	ITYKGF[V]HKV	153.25	10	9.59379
Se143	MOV10 V417M	HLA-C*14:02	MT	TYKGF[M]HKV	377.97	WT	TYKGF[V]HKV	403.18	9	9.59379
Se143	POLR3GL E190A	HLA-B*40:02	MT	HE[A]ETDYIM	96.89	WT	HE[E]ETDYIM	395.55	9	22.85753
Se143	POLR3GL E190A	HLA-B*40:02	MT	[A]ETDYIMSYF	147.46	WT	[E]ETDYIMSYF	1860.6	10	22.85753
Se143	ELMOD3 H110P	HLA-C*14:02	MT	SFSEALQ[P]F	33.79	WT	SFSEALQ[H]F	115.67	9	3.39618
Se143	ELMOD3 H110P	HLA-B*40:02	MT	SEALQ[P]FQTV	74.26	WT	SEALQ[H]FQTV	38.05	10	3.39618
Se143	ELMOD3 H110P	HLA-C*03:04	MT	ISFSEALQ[P]F	90.04	WT	ISFSEALQ[H]F	819.4	10	3.39618
Se143	ELMOD3 H110P	HLA-A*02:89	MT	ALQ[P]FQTVDL	240.83	WT	ALQ[H]FQTVDL	352.92	10	3.39618
Se143	ELMOD3 H110P	HLA-C*14:02	MT	ISFSEALQ[P]F	318.09	WT	ISFSEALQ[H]F	1205.03	10	3.39618
Se143	CD8A E108Q	HLA-C*14:02	MT	FRR[Q]NEGYF	236.28	WT	FRR[E]NEGYF	197.2	10	1.51466
Se143	PSD4 G421R	HLA-B*40:02	MT	RE[R]GHPQESL	67.9	WT	RE[G]GHPQESL	151.42	10	9.12701
Se143	PLEKHM3 E634D	HLA-B*40:02	MT	R[D]YLLQIHL	43.1	WT	R[E]YLLQIHL	8.44	10	1.93664
Se143	PLEKHM3 E634D	HLA-A*02:89	MT	RIFPR[D]YLL	97.07	WT	RIFPR[E]YLL	122.94	9	1.93664
Se143	PLEKHM3 E634D	HLA-B*51:01	MT	FPR[D]YLLQI	207.71	WT	FPR[E]YLLQI	163.75	10	1.93664
Se143	PLEKHM3 E634D	HLA-C*14:02	MT	RIFPR[D]YLL	411.35	WT	RIFPR[E]YLL	1016.25	9	1.93664
Se143	PTH2R A49D	HLA-A*26:01	MT	[D]VAILIYG	35.38	WT	[A]VAILIYG	1567.87	9	2.68203
Se143	PTH2R A49D	HLA-A*26:01	MT	[D]VAILIYG	80.38	WT	[A]VAILIYG	3263.8	10	2.68203
Se143	PTH2R A49D	HLA-C*03:04	MT	YSISFGSL[D]V	112.5	WT	YSISFGSL[A]V	16.7	10	2.68203
Se143	PTH2R A49D	HLA-C*03:04	MT	FGSL[D]VAIL	260.36	WT	FGSL[A]VAIL	73.56	9	2.68203
Se143	PTH2R A49D	HLA-C*03:04	MT	ISFGSL[D]VAI	410.59	WT	ISFGSL[A]VAI	239.61	10	2.68203
Se143	SST A11G	HLA-C*03:04	MT	[G]ALSIVLAL	71.31	WT	[A]ALSIVLAL	20.37	9	366.19666
Se143	SST A11G	HLA-C*03:04	MT	CAL[G]ALSIVL	98.52	WT	CAL[A]ALSIVL	96.83	10	366.19666
Se143	SST A11G	HLA-A*02:89	MT	AL[G]ALSIVL	144.86	WT	AL[A]ALSIVL	23.99	9	366.19666
Se143	SST A11G	HLA-A*02:89	MT	AL[G]ALSIVLA	163.9	WT	AL[A]ALSIVLA	40.76	10	366.19666
Se143	SST A11G	HLA-A*02:89	MT	RLQCAL[G]AL	256.82	WT	RLQCAL[A]AL	33.49	9	366.19666
Se143	SST A11G	HLA-B*40:02	MT	LQCAL[G]ALSI	398.46	WT	LQCAL[A]ALSI	347.49	10	366.19666
Se143	SST A11G	HLA-C*03:04	MT	L[G]ALSIVLAL	421.11	WT	L[A]ALSIVLAL	11.99	10	366.19666
Se143	PTPN13 A1012E	HLA-B*40:02	MT	[E]ESLAGVTKL	355.44	WT	[A]ESLAGVTKL	39.77	10	2.24969
Se143	TENM3 N1582I	HLA-B*51:01	MT	MPVRVSPD[I]	290.06	WT	MPVRVSPD[N]	22191.11	10	2.41018
Se143	SRFBP1 A197S	HLA-B*40:02	MT	MEHGPK[S]VTI	67.78	WT	MEHGPK[A]VTI	58.33	10	4.54534
Se143	PCDHGB4 E359D	HLA-B*40:02	MT	A[D]LGTHIAL	114.89	WT	A[E]LGTHIAL	7.33	9	21.54735
Se143	PCDHGB4 E359D	HLA-B*40:02	MT	A[D]LGTHIAL	338.22	WT	A[E]LGTHIAL	16.42	10	21.54735
Se143	PCDHGB4 E359D	HLA-B*40:02	MT	MEDA[D]LGTHI	473.29	WT	MEDA[E]LGTHI	375.15	10	21.54735
Se143	HECW1 T717M	HLA-C*03:04	MT	FASH[M]RFSSV	12.46	WT	FASH[T]RFSSV	10.73	10	1.50199
Se143	HECW1 T717M	HLA-C*14:02	MT	FASH[M]RFSSV	168.32	WT	FASH[T]RFSSV	171.97	10	1.50199
Se143	HECW1 T717M	HLA-A*02:89	MT	FASH[M]RFSSV	326.67	WT	FASH[T]RFSSV	389.83	10	1.50199
Se143	HECW1 T717M	HLA-C*14:02	MT	NRFASH[M]RF	416.54	WT	NRFASH[T]RF	444.13	9	1.50199
Se143	ZP3 P22H	HLA-B*40:02	MT	TELCY[H]QPL	9.85	WT	TELCY[P]QPL	16.51	9	2.60305
Se143	ZP3 P22H	HLA-C*14:02	MT	CY[H]QPLWLL	88.12	WT	CY[P]QPLWLL	70.45	9	2.60305
Se143	FAM200A S254A	HLA-B*40:02	MT	KEI[A]PSLMDV	48.29	WT	KEI[S]PSLMDV	49.79	10	8.03525
Se143	FAM200A S254A	HLA-C*03:04	MT	LVSKEI[A]PSL	170.58	WT	LVSKEI[S]PSL	148.46	10	8.03525
Se143	FAM200A S254A	HLA-B*40:02	MT	REALVSKIE[A]	185.64	WT	REALVSKIE[S]	82.79	10	8.03525
Se143	FAM200A S254A	HLA-C*03:04	MT	I[A]PSLMDVL	196.44	WT	I[S]PSLMDVL	2115.39	9	8.03525
Se143	XPO7 F553S	HLA-C*03:04	MT	LAMLS[S]FEQF	31.46	WT	LAMLS[F]FEQF	67.3	10	21.33041
Se143	XPO7 F553S	HLA-B*40:02	MT	LELAML[S]F	53.31	WT	LELAML[F]F	131.17	9	21.33041
Se143	SPIDR E600Q	HLA-A*02:89	MT	LLEQR[E]IWL	38.87	WT	LLEQR[E]IWL	49.61	10	12.69574
Se143	SPIDR E600Q	HLA-B*40:02	MT	LEQR[Q]IWL	44.1	WT	LEQR[E]IWL	68.69	9	12.69574
Se143	SPIDR E600Q	HLA-A*02:89	MT	R[Q]IWLVTDV	105.77	WT	R[E]IWLVTDV	879.42	10	12.69574
Se143	SPIDR E600Q	HLA-B*40:02	MT	LEQR[Q]IWL	152.66	WT	LEQR[E]IWL	164.13	10	12.69574
Se143	SPIDR E600Q	HLA-A*02:89	MT	LLEQR[Q]IWL	181.3	WT	LLEQR[E]IWL	233.11	10	12.69574
Se143	SPIDR E600Q	HLA-B*40:02	MT	R[Q]IWLVTDV	190.08	WT	R[E]IWLVTDV	18.01	10	12.69574
Se143	RIPK2 R247P	HLA-C*03:04	MT	YSVSGQH[P]PV	19.23	WT	YSVSGQH[R]PV	33.31	10	14.65227
Se143	RIPK2 R247P	HLA-C*14:02	MT	YSVSGQH[P]PV	253.39	WT	YSVSGQH[R]PV	269.18	10	14.65227
Se143	RIPK2 R247P	HLA-C*03:04	MT	SVSQGH[P]PV	276.8	WT	SVSQGH[R]PV	299.2	9	14.65227
Se143	RIPK2 R247P	HLA-A*02:89	MT	SVSQGH[P]PV	373.88	WT	SVSQGH[R]PV	5436.97	9	14.65227
Se143	RIPK2 R247P	HLA-C*03:04	MT	SVSQGH[P]PVI	496	WT	SVSQGH[R]PVI	819.87	10	14.65227
Se143	LRSAM1 R315C	HLA-A*02:89	MT	GLSEHQ[C]HL	40.69	WT	GLSEHQ[R]HL	503.07	9	3.68505
Se143	LRSAM1 R315C	HLA-B*40:02	MT	SEHQ[C]HLNA	104.18	WT	SEHQ[R]HLNA	332.15	9	3.68505
Se143	VSTM4 R299Q	HLA-B*40:02	MT	LELIKPH[Q]AA	280.13	WT	LELIKPH[R]AA	336.53	10	1.85453
Se143	PPP1CA K190Q	HLA-C*03:04	MT	FGAEVVA[Q]JFL	72.58	WT	FGAEVVA[K]JFL	246.51	10	71.07127
Se143	PPP1CA K190Q	HLA-C*03:04	MT	FGAEVVA[Q]JF	119.13	WT	FGAEVVA[K]JF	410.18	9	71.07127
Se143	PPP1CA K190Q	HLA-C*14:02	MT	FGAEVVA[Q]JF	269.44	WT	FGAEVVA[K]JF	329.22	9	71.07127
Se143	PPP1CA K190Q	HLA-B*40:02	MT	A[Q]JFLHKHDL	373.4	WT	A[K]JFLHKHDL	4407.74	9	71.07127
Se143	PPP1CA K190Q	HLA-C*14:02	MT	FGAEVVA[Q]JFL	431.63	WT	FGAEVVA[K]JFL	1210.16	10	71.07127
Se143	PPP1CA K190Q	HLA-A*26:01	MT	EVVA[Q]JFLHKH	441.84	WT	EVVA[K]JFLHKH	588.99	10	71.07127
Se143	EXPH5 A890E	HLA-B*40:02	MT	S[E]NECSKVL	75.05	WT	S[A]NECSKVL	27651.3	9	1.17434
Se143	MON2 P453R	HLA-B*40:02	MT	FEYRGTWI[R]I	23.5	WT	FEYRGTWI[P]I	7.51	10	4.44956
Se143	MON2 P453R	HLA-C*14:02	MT	YRGTWI[R]I	110.99	WT	YRGTWI[P]I	191.71	9	4.44956
Se143	MON2 P453R	HLA-C*14:02	MT	EYRGTWI[R]I	306.43	WT	EYRGTWI[P]I	260.97	10	4.44956
Se143	SBNO1 P220A	HLA-C*14:02	MT	SFSPTMKV[A]V	300.37	WT	SFSPTMKV[P]V	282.43	10	16.09248
Se143	AJUBA D27E	HLA-A*02:89	MT	FTV[E]FSNQV	20.64	WT	FTV[D]FSNQV	18.28	9	7.23468

Se143	AJUBA D27E	HLA-A*26:01	MT	FTV[E]FSNQVY	29.97	WT	FTV[D]FSNQVY	29.88	10	7.23468
Se143	AJUBA D27E	HLA-B*40:02	MT	V[E]FSNQVYCV	61.83	WT	V[D]FSNQVYCV	1221.96	10	7.23468
Se143	AJUBA D27E	HLA-C*03:04	MT	FTV[E]FSNQV	184.05	WT	FTV[D]FSNQV	125.09	9	7.23468
Se143	AJUBA D27E	HLA-C*03:04	MT	FTV[E]FSNQVY	211.74	WT	FTV[D]FSNQVY	185.49	10	7.23468
Se143	AJUBA D27E	HLA-C*14:02	MT	FTV[E]FSNQVY	326.75	WT	FTV[D]FSNQVY	318.44	10	7.23468
Se143	NUBPL K65E	HLA-B*40:02	MT	C[E]HKTHIFGA	218.38	WT	C[K]HKTHIFGA	11826.7	10	4.20495
Se143	CEP170B P1503L	HLA-C*03:04	MT	RASCGP[L]SL	23.64	WT	RASCGP[P]SL	47.67	9	11.3442
Se143	CEP170B P1503L	HLA-C*03:04	MT	FPQRASCGP[L]	231.85	WT	FPQRASCGP[P]	27062.24	10	11.3442
Se143	CEP170B P1503L	HLA-C*03:04	MT	[L]SLPDPFTL	270.23	WT	[P]SLPDPFTL	9654.95	9	11.3442
Se143	CEP170B P1503L	HLA-C*14:02	MT	RASCGP[L]SL	418.84	WT	RASCGP[P]SL	808.4	9	11.3442
Se143	ATP10A A804V	HLA-C*03:04	MT	Y[V]AEGLRTL	5.45	WT	Y[A]AEGLRTL	2.53	9	2.38668
Se143	ATP10A A804V	HLA-A*02:89	MT	YLNVDY[V]AEGL	13.28	WT	YLNVDY[A]AEGL	19.52	10	2.38668
Se143	ATP10A A804V	HLA-C*14:02	MT	Y[V]AEGLRTL	18.76	WT	Y[A]AEGLRTL	19.17	9	2.38668
Se143	ATP10A A804V	HLA-C*14:02	MT	VY[V]AEGLRTL	31.79	WT	VY[A]AEGLRTL	20.31	10	2.38668
Se143	ATP10A A804V	HLA-A*02:89	MT	Y[V]AEGLRTL	58.27	WT	Y[A]AEGLRTL	768.75	9	2.38668
Se143	ATP10A A804V	HLA-A*02:89	MT	KTQNYLNVY[V]	170.31	WT	KTQNYLNVY[A]	2173.47	10	2.38668
Se143	ATP10A A804V	HLA-A*02:89	MT	TQNYLNVY[V]	196.31	WT	TQNYLNVY[A]	3291.76	9	2.38668
Se143	ATP10A A804V	HLA-C*03:04	MT	YLNVDY[V]AEGL	313.37	WT	YLNVDY[A]AEGL	210.79	10	2.38668
Se143	ATP10A A804V	HLA-A*26:01	MT	Y[V]AEGLRTL	364.76	WT	Y[A]AEGLRTL	2812.12	9	2.38668
Se143	ACSF3 R53H	HLA-A*02:89	MT	FL[H]AVCEEKI	58.93	WT	FL[R]AVCEEKI	351.39	10	2.95719
Se143	ACSF3 R53H	HLA-C*03:04	MT	HAQDFL[H]AV	216.29	WT	HAQDFL[R]AV	299.68	9	2.95719
Se143	ACSF3 R53H	HLA-A*02:89	MT	HAQDFL[H]AV	481.83	WT	HAQDFL[R]AV	4546.22	9	2.95719
Se143	TP53 M105I	HLA-C*14:02	MT	YNY[I]CNSSCM	70.63	WT	YNY[M]CNSSCM	37.88	10	29.45133
Se143	TP53 M105I	HLA-C*14:02	MT	NY[I]CNSSCM	82.33	WT	NY[M]CNSSCM	35.65	9	29.45133
Se143	TP53 M105I	HLA-C*03:04	MT	YNY[I]CNSSCM	299.55	WT	YNY[M]CNSSCM	134.49	10	29.45133
Se143	RNF213 C4348W	HLA-C*03:04	MT	KAVLE[W]KPL	242.85	WT	KAVLE[C]KPL	333.42	9	12.25829
Se143	RNF213 C4348W	HLA-B*40:02	MT	LE[W]KPLGIKT	270.04	WT	LE[C]KPLGIKT	1682.25	10	12.25829
Se143	RNF213 C4348W	HLA-A*02:89	MT	AVLE[W]KPLGI	413.95	WT	AVLE[C]KPLGI	993.7	10	12.25829
Se143	COLGALT1 A189V	HLA-B*40:02	MT	AENKTVV[V]PM	19	WT	AENKTVV[A]PM	23.23	10	40.84382
Se143	COLGALT1 A189V	HLA-A*02:89	MT	LIAENKTVV[V]	346.75	WT	LIAENKTVV[A]	3477.18	10	40.84382
Se143	ZBTB45 H8Y	HLA-B*40:02	MT	AEAV[Y]HHHL	16.87	WT	AEAV[H]HHHL	24.28	9	5.63241
Se143	ZBTB45 H8Y	HLA-C*14:02	MT	V[Y]HHHLQNF	73.79	WT	V[H]HHHLQNF	1248.52	9	5.63241
Se143	ZBTB45 H8Y	HLA-C*03:04	MT	MAAAEAV[Y]HI	77.51	WT	MAAAEAV[H]HI	79.1	10	5.63241
Se143	ZBTB45 H8Y	HLA-C*03:04	MT	AAAEAV[Y]HI	261.08	WT	AAAEAV[H]HI	188.6	9	5.63241
Se143	ZBTB45 H8Y	HLA-B*51:01	MT	MAAAEAV[Y]HI	457.95	WT	MAAAEAV[H]HI	493.45	10	5.63241
Se143	ITCH P456A	HLA-A*02:89	MT	FLLSHEVLN[A]	8.9	WT	FLLSHEVLN[P]	548.41	10	13.46458
Se143	ITCH P456A	HLA-A*02:89	MT	[A]MYCLFEYA	9.47	WT	[P]MYCLFEYA	829.64	9	13.46458
Se143	ITCH P456A	HLA-B*40:02	MT	HEVLN[A]MYCL	32.13	WT	HEVLN[P]MYCL	51.35	10	13.46458
Se143	ITCH P456A	HLA-C*03:04	MT	LSHEVLN[A]M	51.79	WT	LSHEVLN[P]M	35.8	9	13.46458
Se143	ITCH P456A	HLA-A*26:01	MT	EVLN[A]MYCLF	138.74	WT	EVLN[P]MYCLF	237.38	10	13.46458
Se143	ITCH P456A	HLA-A*02:89	MT	LLSHEVLN[A]	147.31	WT	LLSHEVLN[P]	10424.53	9	13.46458
Se143	ITCH P456A	HLA-A*02:89	MT	LLSHEVLN[A]M	205.41	WT	LLSHEVLN[P]M	119.13	10	13.46458
Se143	ITCH P456A	HLA-C*03:04	MT	LLSHEVLN[A]M	350.06	WT	LLSHEVLN[P]M	233.64	10	13.46458
Se143	RBL1 S1011F	HLA-C*14:02	MT	LYKFNKSP[F]	15.97	WT	LYKFNKSP[S]	1824.29	9	2.07907
Se143	RBL1 S1011F	HLA-C*03:04	MT	LLYKFNKSP[F]	214.62	WT	LLYKFNKSP[S]	11073.31	10	2.07907
Se143	RBL1 S1011F	HLA-C*14:02	MT	KFNKSP[F]KSL	225.88	WT	KFNKSP[S]KSL	276.46	10	2.07907
Se143	RBL1 S1011F	HLA-C*14:02	MT	LLYKFNKSP[F]	240.73	WT	LLYKFNKSP[S]	9099.13	10	2.07907
Se143	C22orf39 H68D	HLA-A*02:89	MT	FL[H]HYVYVHG	452.69	WT	FL[H]HYVYVHG	1509	9	7.24986
Se143	MED12 A1137V	HLA-C*03:04	MT	VAILI[V]RQCL	180.58	WT	VAILI[A]RQCL	125.7	10	3.90178
Se143	MED12 A1137V	HLA-A*02:89	MT	ILI[V]RQCLL	292.8	WT	ILI[A]RQCLL	80.69	10	3.90178
Se143	MED12 A1137V	HLA-A*02:89	MT	ILI[V]RQCLL	378.73	WT	ILI[A]RQCLL	85.8	9	3.90178
Se144	CYP4B1 D359V	HLA-A*02:06	MT	FQWD[V]LGKM	26.53	WT	FQWD[D]LGKM	29.91	9	3.9696
Se144	CYP4B1 D359V	HLA-A*02:01	MT	FQWD[V]LGKM	173.82	WT	FQWD[D]LGKM	285.6	9	3.9696
Se144	CYP4B1 D359V	HLA-A*02:06	MT	FQWD[V]LGKMT	204.24	WT	FQWD[D]LGKMT	198.63	10	3.9696
Se144	ADGRL4 I163V	HLA-A*02:06	MT	LSPTDIITY[V]	100.87	WT	LSPTDIITY[I]	739.14	10	3.86682
Se144	ADGRL4 I163V	HLA-B*54:01	MT	SPTDIITY[V]	205.73	WT	SPTDIITY[I]	828.08	9	3.86682
Se144	VCAM1 R407K	HLA-B*15:01	MT	KQ[K]QSTQTLY	29.48	WT	KQ[R]QSTQTLY	22.45	10	2.77807
Se144	VCAM1 R407K	HLA-A*02:06	MT	[K]QSTQTLYV	33.91	WT	[R]QSTQTLYV	63.24	9	2.77807
Se144	VCAM1 R407K	HLA-A*02:01	MT	[K]QSTQTLYV	132.28	WT	[R]QSTQTLYV	356.45	9	2.77807
Se144	VCAM1 R407K	HLA-B*15:01	MT	KQ[K]QSTQTL	147.52	WT	KQ[R]QSTQTL	104.67	9	2.77807
Se144	IGSF3 R805C	HLA-A*02:01	MT	KLAEEVSG[C]	231.6	WT	KLAEEVSG[R]	9703.65	9	3.40232
Se144	IGSF3 R805C	HLA-A*02:06	MT	KLAEEVSG[C]	451.16	WT	KLAEEVSG[R]	9606.5	9	3.40232
Se144	RGS16 A78V	HLA-B*15:01	MT	SSKNGVA[V]F	21	WT	SSKNGVA[A]F	22.13	9	4.26263
Se144	RGS16 A78V	HLA-B*15:01	MT	LSSKNGVA[V]F	22.17	WT	LSSKNGVA[A]F	22.56	10	4.26263
Se144	RGS16 A78V	HLA-C*03:03	MT	LSSKNGVA[V]F	70.65	WT	LSSKNGVA[A]F	40.39	10	4.26263
Se144	RGS16 A78V	HLA-A*02:01	MT	LSSKNGVA[V]	131.98	WT	LSSKNGVA[A]	1295.94	10	4.26263
Se144	RGS16 A78V	HLA-C*03:03	MT	LSSKNGVA[V]	177.17	WT	LSSKNGVA[A]	1359.24	9	4.26263
Se144	RGS16 A78V	HLA-A*02:06	MT	GVA[V]FHAFL	341.71	WT	GVA[A]FHAFL	80.46	9	4.26263
Se144	RGS16 A78V	HLA-A*02:06	MT	LSSKNGVA[V]	371.13	WT	LSSKNGVA[A]	2405.12	10	4.26263
Se144	CAD G485A	HLA-C*03:03	MT	TALNC[A]VEL	24.29	WT	TALNC[G]VEL	28.08	9	4.59739
Se144	CAD G485A	HLA-A*02:06	MT	GQTALNC[A]V	231.56	WT	GQTALNC[G]V	237.61	9	4.59739
Se144	CAD G485A	HLA-C*03:03	MT	QTALNC[A]VEL	328.7	WT	QTALNC[G]VEL	551.22	10	4.59739
Se144	THADA C1042Y	HLA-A*02:06	MT	KT[Y]DVTAQMV	30.41	WT	KT[C]DVTAQMV	189.52	10	2.98152
Se144	THADA C1042Y	HLA-C*03:03	MT	KT[Y]DVTAQMV	74.94	WT	KT[C]DVTAQMV	1217.39	9	2.98152
Se144	THADA C1042Y	HLA-A*02:01	MT	KT[Y]DVTAQMV	103.53	WT	KT[C]DVTAQMV	1209.53	10	2.98152
Se144	THADA C1042Y	HLA-A*02:06	MT	KT[Y]DVTAQMV	277.2	WT	KT[C]DVTAQMV	1382.26	9	2.98152
Se144	THADA C1042Y	HLA-B*15:01	MT	KT[Y]DVTAQMV	488.62	WT	KT[C]DVTAQMV	1069.84	9	2.98152
Se144	TMBIM1 A118T	HLA-A*02:06	MT	[T]IFTFVEPV	5.21	WT	[A]IFTFVEPV	3.73	9	84.44829

Se144	TMBIM1 A118T	HLA-A*02:06	MT	AII[T]IFTFV	5.62	WT	AII[A]IFTFV	4.29	9	84.44829
Se144	TMBIM1 A118T	HLA-A*02:06	MT	I[T]IFTFVEPV	6.88	WT	I[A]IFTFVEPV	15.96	10	84.44829
Se144	TMBIM1 A118T	HLA-A*02:01	MT	[T]IFTFVEPV	7.39	WT	[A]IFTFVEPV	4.24	9	84.44829
Se144	TMBIM1 A118T	HLA-A*02:01	MT	AII[T]IFTFV	12.57	WT	AII[A]IFTFV	8	9	84.44829
Se144	TMBIM1 A118T	HLA-A*02:06	MT	V AII[T]IFTFV	48.76	WT	V AII[A]IFTFV	41.54	10	84.44829
Se144	TMBIM1 A118T	HLA-A*02:01	MT	I[T]IFTFVEPV	61.89	WT	I[A]IFTFVEPV	203.72	10	84.44829
Se144	TMBIM1 A118T	HLA-A*02:01	MT	LLITV AII[T]I	70.26	WT	LLITV AII[A]I	53.96	10	84.44829
Se144	TMBIM1 A118T	HLA-B*15:01	MT	ITV AII[T]IF	166.53	WT	ITV AII[A]IF	175.47	9	84.44829
Se144	TMBIM1 A118T	HLA-B*15:01	MT	V AII[T]IFTF	212.56	WT	V AII[A]IFTF	270.11	9	84.44829
Se144	TMBIM1 A118T	HLA-C*03:03	MT	V AII[T]IFTF	226.57	WT	V AII[A]IFTF	244.31	9	84.44829
Se144	TMBIM1 A118T	HLA-A*02:06	MT	LLITV AII[T]I	231.99	WT	LLITV AII[A]I	144.46	10	84.44829
Se144	TMBIM1 A118T	HLA-A*02:01	MT	V AII[T]IFTFV	363.75	WT	V AII[A]IFTFV	387.25	10	84.44829
Se144	TMBIM1 A118T	HLA-C*03:03	MT	I[T]IFTFVEPV	452.54	WT	I[A]IFTFVEPV	35.29	10	84.44829
Se144	TMBIM1 A118T	HLA-B*15:01	MT	LITV AII[T]IF	491.36	WT	LITV AII[A]IF	421.41	10	84.44829
Se144	DZIP3 R357T	HLA-C*03:03	MT	GASY[T]KLISL	460.92	WT	GASY[R]KLISL	851.24	10	7.01772
Se144	WWC2 E325V	HLA-C*03:03	MT	RSMANLK[I]V[L	148.38	WT	RSMANLK[I]E]L	134.57	10	2.88214
Se144	WWC2 E325V	HLA-A*02:01	MT	SMANLKI[V]L	221.67	WT	SMANLKI[E]L	90.14	9	2.88214
Se144	WWC2 E325V	HLA-A*02:06	MT	RSMANLK[I]V	313.25	WT	RSMANLK[I]E	24970.79	9	2.88214
Se144	WWC2 E325V	HLA-B*15:01	MT	SMANLKI[V]L	338.52	WT	SMANLKI[E]L	1375.11	9	2.88214
Se144	WWC2 E325V	HLA-A*02:06	MT	I[V]LSKLDSEA	407.34	WT	I[E]LSKLDSEA	17192.9	10	2.88214
Se144	SLF1 K20N	HLA-A*02:01	MT	KMEE[N]EALV	62.29	WT	KMEE[K]EALV	86.17	9	2.47776
Se144	SLF1 K20N	HLA-A*02:06	MT	KMEE[N]EALV	179.98	WT	KMEE[K]EALV	339.79	9	2.47776
Se144	SLF1 K20N	HLA-A*02:06	MT	FKMEE[N]EALV	410.25	WT	FKMEE[K]EALV	1225.28	10	2.47776
Se144	ZNF354B K364Q	HLA-B*15:01	MT	F[Q]SSSSLRY	20.24	WT	F[K]SSSSLRY	864.92	9	3.77768
Se144	ZNF354B K364Q	HLA-C*03:03	MT	NTF[Q]SSSSL	70.51	WT	NTF[K]SSSSL	85.69	9	3.77768
Se144	PHACTR1 S50Y	HLA-B*15:01	MT	LLPPTLMAA[Y]	56.68	WT	LLPPTLMAA[S]	12105.63	10	1.00749
Se144	PHACTR1 S50Y	HLA-A*02:01	MT	LMAA[Y]SEDDI	294.26	WT	LMAA[S]SEDDI	683.38	10	1.00749
Se144	EGFL8 G233A	HLA-C*03:03	MT	A[A]AWVRAVL	27.12	WT	A[G]AWVRAVL	1764.39	9	3.47587
Se144	EGFL8 G233A	HLA-A*02:06	MT	GQA[A]AWVRAV	30.28	WT	GQA[G]AWVRAV	23.8	10	3.47587
Se144	EGFL8 G233A	HLA-C*03:03	MT	QA[A]AWVRAVL	31.93	WT	QA[G]AWVRAVL	425.68	10	3.47587
Se144	EGFL8 G233A	HLA-A*02:06	MT	[A]AWVRAVLPV	73.42	WT	[G]AWVRAVLPV	166.06	10	3.47587
Se144	EGFL8 G233A	HLA-C*03:03	MT	QA[A]AWVRAV	115.37	WT	QA[G]AWVRAV	1395.35	9	3.47587
Se144	EGFL8 G233A	HLA-C*03:03	MT	[A]AWVRAVLPV	123.11	WT	[G]AWVRAVLPV	577.32	10	3.47587
Se144	EGFL8 G233A	HLA-A*02:06	MT	GQA[A]AWVRA	226.42	WT	GQA[G]AWVRA	128.03	9	3.47587
Se144	EGFL8 G233A	HLA-A*02:01	MT	GQA[A]AWVRAV	297.65	WT	GQA[G]AWVRAV	232.77	10	3.47587
Se144	EGFL8 G233A	HLA-A*02:06	MT	QA[A]AWVRAV	361.45	WT	QA[G]AWVRAV	1986.78	9	3.47587
Se144	EGFL8 G233A	HLA-A*02:01	MT	[A]AWVRAVLPV	433.33	WT	[G]AWVRAVLPV	748.84	10	3.47587
Se144	EGFL8 G233A	HLA-B*15:01	MT	GQA[A]AWVRAV	458.76	WT	GQA[G]AWVRAV	698.85	10	3.47587
Se144	PKHD1L1 G1179C	HLA-B*15:01	MT	LLTSLSGF[C]F	353.14	WT	LLTSLSGF[G]F	345.58	9	1.18398
Se144	FBXW5 C114Y	HLA-B*15:01	MT	YQFASCSD[Y]	23.22	WT	YQFASCSD[C]	5174.76	10	33.95253
Se144	FBXW5 C114Y	HLA-C*03:03	MT	FASCSD[Y]TV	45.62	WT	FASCSD[C]TV	47.6	10	33.95253
Se144	FBXW5 C114Y	HLA-C*03:03	MT	[Y]TVKIWSNDL	85.9	WT	[C]TVKIWSNDL	3702.43	10	33.95253
Se144	FBXW5 C114Y	HLA-A*02:06	MT	FASCSD[Y]TV	110.85	WT	FASCSD[C]TV	521.76	10	33.95253
Se144	FBXW5 C114Y	HLA-A*02:06	MT	[Y]TVKIWSNDL	256.1	WT	[C]TVKIWSNDL	1931.09	10	33.95253
Se144	FBXW5 C114Y	HLA-A*02:01	MT	FASCSD[Y]TV	462.92	WT	FASCSD[C]TV	2536.76	10	33.95253
Se144	NMT2 P126L	HLA-A*02:06	MT	YQFWDTQ[L]V	2.82	WT	YQFWDTQ[P]V	1.86	9	2.09485
Se144	NMT2 P126L	HLA-A*02:01	MT	YQFWDTQ[L]V	5.34	WT	YQFWDTQ[P]V	3	9	2.09485
Se144	NMT2 P126L	HLA-A*02:06	MT	Q[L]VPKLDEV	24.03	WT	Q[P]VPKLDEV	6610.29	9	2.09485
Se144	NMT2 P126L	HLA-A*02:01	MT	Q[L]VPKLDEV	30.84	WT	Q[P]VPKLDEV	21007.34	9	2.09485
Se144	NMT2 P126L	HLA-A*02:06	MT	TQ[L]VPKLDEV	121.87	WT	TQ[P]VPKLDEV	936.17	10	2.09485
Se144	CHD4 K1184E	HLA-A*02:06	MT	[E]MMLTHLVV	262.43	WT	[K]MMLTHLVV	49.1	9	59.51367
Se144	CHD4 K1184E	HLA-A*02:01	MT	[E]MMLTHLVV	326.36	WT	[K]MMLTHLVV	19.16	9	59.51367
Se144	CHD4 K1184E	HLA-A*02:06	MT	K[E]MMLTHLV	404.9	WT	K[K]MMLTHLV	758.26	9	59.51367
Se144	PRSS21 Q252E	HLA-A*02:06	MT	Y[E]IGVVSXGV	41.3	WT	Y[Q]IGVVSXGV	1.79	10	11.40713
Se144	PRSS21 Q252E	HLA-A*02:01	MT	GLWY[E]IGVV	78.81	WT	GLWY[Q]IGVV	88.48	9	11.40713
Se144	PRSS21 Q252E	HLA-A*02:06	MT	GLWY[E]IGVV	366.59	WT	GLWY[Q]IGVV	411.09	9	11.40713
Se144	PRSS21 Q252E	HLA-A*02:01	MT	Y[E]IGVVSXGV	381.57	WT	Y[Q]IGVVSXGV	2.66	10	11.40713
Se144	BFAR E75G	HLA-A*02:06	MT	[G]KWEGFPKV	294.34	WT	[E]KWEGFPKV	4024.58	9	21.14457
Se144	ARHGDI A V204L	HLA-C*03:03	MT	SADRPS[L]PL	31.49	WT	SADRPS[V]PL	38.5	9	83.94252
Se144	ARHGDI A V204L	HLA-C*03:03	MT	QSADRPS[L]PL	70.81	WT	QSADRPS[V]PL	75.76	10	83.94252
Se144	ARHGDI A V204L	HLA-A*02:06	MT	YQSADRPS[L]	75.62	WT	YQSADRPS[V]	19.57	9	83.94252
Se144	ARHGDI A V204L	HLA-C*03:03	MT	YQSADRPS[L]	110.39	WT	YQSADRPS[V]	691.65	9	83.94252
Se144	ARHGDI A V204L	HLA-C*03:03	MT	[L]PLPPWSASL	225.59	WT	[V]PLPPWSASL	247.33	10	83.94252
Se144	ARHGDI A V204L	HLA-A*02:01	MT	S[L]PLPPWSA	266	WT	S[V]PLPPWSA	3118.65	9	83.94252
Se144	ARHGDI A V204L	HLA-B*54:01	MT	[L]PLPPWSASL	297.81	WT	[V]PLPPWSASL	1554.03	10	83.94252
Se144	ARHGDI A V204L	HLA-A*02:06	MT	S[L]PLPPWSA	298.74	WT	S[V]PLPPWSA	360.48	9	83.94252
Se144	ARHGDI A V204L	HLA-B*15:01	MT	YQSADRPS[L]	348.53	WT	YQSADRPS[V]	1602.09	9	83.94252
Se144	RAD23A V3I	HLA-C*03:03	MT	MA[I]TITLKT	10.62	WT	MA[V]TITLKT	13.22	10	58.82365
Se144	RAD23A V3I	HLA-A*02:06	MT	MA[I]TITLKT	456.98	WT	MA[V]TITLKT	848.42	10	58.82365
Se144	ZNF568 S101I	HLA-A*02:06	MT	KVAKIFPL[I]	25.42	WT	KVAKIFPL[S]	1942.34	9	1.58486
Se144	ZNF568 S101I	HLA-A*02:06	MT	KIFPL[I]SDIV	69.03	WT	KIFPL[S]SDIV	123.92	10	1.58486
Se144	ZNF568 S101I	HLA-A*02:01	MT	KIFPL[I]SDIV	77.77	WT	KIFPL[S]SDIV	156.28	10	1.58486
Se144	ZNF568 S101I	HLA-A*02:01	MT	KVAKIFPL[I]	149.53	WT	KVAKIFPL[S]	10172.71	9	1.58486
Se144	ZNF568 S101I	HLA-B*54:01	MT	FPL[I]SDIVT	152.91	WT	FPL[S]SDIVT	196.31	9	1.58486
Se144	ZNF568 S101I	HLA-A*02:01	MT	KIFPL[I]SDI	226.61	WT	KIFPL[S]SDI	536.97	9	1.58486
Se144	ZNF568 S101I	HLA-A*02:06	MT	KIFPL[I]SDI	282.44	WT	KIFPL[S]SDI	551.07	9	1.58486
Se144	ZNF568 S101I	HLA-B*54:01	MT	FPL[I]SDIVTS	319.89	WT	FPL[S]SDIVTS	364.98	10	1.58486
Se144	NINL Q624K	HLA-B*15:01	MT	LMME[K]VKEHY	16.72	WT	LMME[Q]VKEHY	16.63	10	2.99133

Se144	NINL Q624K	HLA-B*15:01	MT	MME[K]VKEHY	375.73	WT	MME[Q]VKEHY	376.84	9	2.99133
Se144	PRDM15 V538I	HLA-A*02:01	MT	KMFYRKD[I]ML	108.06	WT	KMFYRKD[V]ML	101.99	10	4.11373
Se144	PRDM15 V538I	HLA-A*02:06	MT	KMFYRKD[I]ML	277.36	WT	KMFYRKD[V]ML	252.62	10	4.11373
Se145	HPDL P254Q	HLA-A*02:06	MT	FLARHKG[Q]GL	306.55	WT	FLARHKG[P]GL	94.26	10	3.17168
Se145	MUTYH D238Y	HLA-A*02:06	MT	GA[Y]PSSTLV	246.52	WT	GA[D]PSSTLV	946.72	9	12.04112
Se145	LRRC8C C322S	HLA-A*02:06	MT	LSF[S]YLCFV	8.4	WT	LSF[C]YLCFV	9.93	9	2.66469
Se145	LRRC8C C322S	HLA-A*02:06	MT	KLSF[S]YLCFV	11.26	WT	KLSF[C]YLCFV	10.24	10	2.66469
Se145	LRRC8C C322S	HLA-A*02:06	MT	F[S]YLCFVSI	98.08	WT	F[C]YLCFVSI	2224.09	9	2.66469
Se145	LRRC8C C322S	HLA-A*24:02	MT	SF[S]YLCFVSI	277.1	WT	SF[C]YLCFVSI	604.42	10	2.66469
Se145	LRRC8C C322S	HLA-A*02:06	MT	HLFSKLSF[S]	473.11	WT	HLFSKLSF[C]	527.12	9	2.66469
Se145	PTGFRN N540D	HLA-A*24:02	MT	VFSKPV[D]IF	269.4	WT	VFSKPV[N]IF	242.29	9	17.15123
Se145	PTGFRN N540D	HLA-A*02:06	MT	KPV[D]IFWAL	441.74	WT	KPV[N]IFWAL	980.39	9	17.15123
Se145	PTGFRN N540D	HLA-B*54:01	MT	KPV[D]IFWAL	492.7	WT	KPV[N]IFWAL	805.59	9	17.15123
Se145	TRAPPC12 E579D	HLA-A*24:02	MT	YYPEQ[D]PQLL	128.26	WT	YYPEQ[E]PQLL	106.73	10	10.98347
Se145	TRAPPC12 E579D	HLA-A*24:02	MT	KYYPEQ[D]PQL	291.03	WT	KYYPEQ[E]PQL	263.63	10	10.98347
Se145	TET3 Q330H	HLA-A*02:06	MT	LLSSEVP[H]I	36.13	WT	LLSSEVP[Q]I	60.91	9	4.22534
Se145	MFSD6 F456I	HLA-A*02:06	MT	W[I]MGFGYGFV	8.87	WT	W[F]MGFGYGFV	268.47	10	14.43912
Se145	MFSD6 F456I	HLA-A*02:06	MT	[I]MGFGYGFV	105.27	WT	[F]MGFGYGFV	15.23	9	14.43912
Se145	MFSD6 F456I	HLA-A*24:02	MT	[I]MGFGYGFV	166.4	WT	[F]MGFGYGFV	310.07	10	14.43912
Se145	MFSD6 F456I	HLA-A*24:02	MT	AW[I]MGFGYGF	207.36	WT	AW[F]MGFGYGF	190.43	10	14.43912
Se145	MFSD6 F456I	HLA-A*24:02	MT	LFVAW[I]MGF	211.3	WT	LFVAW[F]MGF	87.25	9	14.43912
Se145	MFSD6 F456I	HLA-A*02:06	MT	W[I]MGFGYGF	262.71	WT	W[F]MGFGYGF	2855.29	9	14.43912
Se145	STAT1 S508F	HLA-A*02:06	MT	VLSWQFS[F]V	17.86	WT	VLSWQFS[S]V	32.86	9	135.74229
Se145	STAT1 S508F	HLA-A*02:06	MT	EVLSWQFS[F]V	33.16	WT	EVLSWQFS[S]V	79.35	10	135.74229
Se145	STAT1 S508F	HLA-A*02:06	MT	[F]VTKRGLNV	321.18	WT	[S]VTKRGLNV	2184.5	9	135.74229
Se145	PSMD2 L657P	HLA-B*54:01	MT	Q[L]MSQVAVA	237.46	WT	Q[L]MSQVAVA	13994.81	9	120.43078
Se145	PSMD2 L657P	HLA-A*02:06	MT	RQ[P]MSQVAV	466.87	WT	RQ[L]MSQVAV	30.39	9	120.43078
Se145	TBCCD1 P367H	HLA-A*02:06	MT	QLL[P]H]CEFYV	7.33	WT	QLL[P]P]CEFYV	11.53	10	8.23011
Se145	TBCCD1 P367H	HLA-A*02:06	MT	LLP[H]CEFYV	13.45	WT	LLP[P]CEFYV	8.94	9	8.23011
Se145	TBCCD1 P367H	HLA-A*24:02	MT	VFQLL[P]H]CEF	71.84	WT	VFQLL[P]P]CEF	127.84	10	8.23011
Se145	TBCCD1 P367H	HLA-B*59:01	MT	LP[H]CEFYVFI	178.53	WT	LP[P]CEFYVFI	397.82	10	8.23011
Se145	TBCCD1 P367H	HLA-B*54:01	MT	LP[H]CEFYVFI	312.64	WT	LP[P]CEFYVFI	1797.71	10	8.23011
Se145	TBCCD1 P367H	HLA-A*02:06	MT	FQLL[P]H]CEF	313.66	WT	FQLL[P]P]CEF	241.63	9	8.23011
Se145	TBCCD1 P367H	HLA-A*24:02	MT	LLP[H]CEFYVF	446.74	WT	LLP[P]CEFYVF	266.59	10	8.23011
Se145	BMPR1B D384Y	HLA-A*02:06	MT	YMPPEVL[Y]ES	95.44	WT	YMPPEVL[D]ES	633.37	10	7.19103
Se145	BMPR1B D384Y	HLA-A*24:02	MT	L[D]YESLNRNH	201.21	WT	L[D]YESLNRNH	25087.96	10	7.19103
Se145	BMPR1B D384Y	HLA-B*54:01	MT	MPPEVL[Y]ES	465.44	WT	MPPEVL[D]ES	1813.74	9	7.19103
Se145	FBXW7 L170V	HLA-A*02:06	MT	LLPKE[V]ALYV	21.07	WT	LLPKE[L]ALYV	17.52	10	3.26088
Se145	FBXW7 L170V	HLA-B*54:01	MT	LPKE[V]ALYV	154.53	WT	LPKE[L]ALYV	169.69	9	3.26088
Se145	FBXW7 L170V	HLA-A*02:06	MT	FISLLPKE[V]	330.17	WT	FISLLPKE[L]	1549.08	9	3.26088
Se145	FBXW7 L170V	HLA-A*02:06	MT	SLLPKE[V]AL	363.83	WT	SLLPKE[L]AL	465.93	9	3.26088
Se145	CDH18 I634V	HLA-A*02:06	MT	ILLAIVVLF[V]	27.35	WT	ILLAIVVLF[I]	80.59	10	2.12814
Se145	CDH18 I634V	HLA-A*02:06	MT	LLAIVVLF[V]	112.48	WT	LLAIVVLF[I]	626.54	9	2.12814
Se145	CDH18 I634V	HLA-A*02:06	MT	AIVVLF[V]I	335.78	WT	AIVVLF[I]I	412.5	9	2.12814
Se145	CREBRF S37L	HLA-A*02:06	MT	S[S]DPDFMYEL	12.71	WT	S[S]DPDFMYEL	425.87	10	10.33317
Se145	CREBRF S37L	HLA-A*02:06	MT	MSTDLLANS[L]	393.33	WT	MSTDLLANS[S]	12480.31	10	10.33317
Se145	GUSB Y198C	HLA-A*02:06	MT	FLINGKPF[C]F	80.61	WT	FLINGKPF[Y]F	17.56	10	17.6885
Se145	GUSB Y198C	HLA-A*02:06	MT	FLINGKPF[C]	238.34	WT	FLINGKPF[Y]	740.76	9	17.6885
Se145	EPPK1 V1290L	HLA-A*02:06	MT	AQVASGFL[L]	28.59	WT	AQVASGFL[V]	8.76	9	15.94372
Se145	EPPK1 V1290L	HLA-A*02:06	MT	L[V]DPLNNQRL	267.79	WT	L[V]DPLNNQRL	1027.54	10	15.94372
Se145	C10orf88 G203V	HLA-A*02:06	MT	SMGSKLSP[V]	25.77	WT	SMGSKLSP[G]	8166.01	9	6.07266
Se145	C10orf88 G203V	HLA-A*02:06	MT	KLSP[V]AQQ	94.41	WT	KLSP[G]AQQ	139.99	9	6.07266
Se145	C10orf88 G203V	HLA-A*02:06	MT	KLSP[V]AQQLM	341.55	WT	KLSP[G]AQQLM	401.87	10	6.07266
Se145	C10orf88 G203V	HLA-A*02:06	MT	ESMGSKLSP[V]	384.67	WT	ESMGSKLSP[G]	25871.54	10	6.07266
Se145	EXPH5 S803C	HLA-A*02:06	MT	KLSKTE[C]ISV	143.39	WT	KLSKTE[S]ISV	147.76	10	1.22721
Se145	CLEC12A S115R	HLA-A*24:02	MT	YFL[RD]DDVQTW	64.52	WT	YFL[S]DDVQTW	62.81	10	3.18752
Se145	ERP27 L96P	HLA-A*02:06	MT	FQGKILFI[P]V	5.05	WT	FQGKILFI[L]V	12.52	10	35.24937
Se145	PAPOLA M226L	HLA-A*02:06	MT	AINSK[L]FEV	9.25	WT	AINSK[M]FEV	14.27	9	41.58622
Se145	PAPOLA M226L	HLA-A*02:06	MT	K[L]FEVDMKI	15.06	WT	K[M]FEVDMKI	10.27	9	41.58622
Se145	PAPOLA M226L	HLA-A*02:06	MT	QAINSK[L]FEV	95.76	WT	QAINSK[M]FEV	96.44	10	41.58622
Se145	PAPOLA M226L	HLA-A*02:06	MT	K[L]FEVDMKIA	204.37	WT	K[M]FEVDMKIA	135.52	10	41.58622
Se145	PAPOLA M226L	HLA-A*24:02	MT	VYRQAINSK[L]	260.55	WT	VYRQAINSK[M]	1103.5	10	41.58622
Se145	IFT140 A349T	HLA-A*02:06	MT	[T]MWRKVPDFL	177.09	WT	[A]MWRKVPDFL	132.14	10	6.00914
Se145	LAT C29W	HLA-A*02:06	MT	MALCVH[W]HRL	117.57	WT	MALCVH[C]HRL	363.7	10	2.10697
Se145	SLC38A7 V60I	HLA-A*02:06	MT	STLGAIFI[I]V	16.24	WT	STLGAIFI[V]V	10.69	10	4.26961
Se145	SLC38A7 V60I	HLA-A*02:06	MT	STLGAIFI[I]	19.01	WT	STLGAIFI[V]	8.1	9	4.26961
Se145	SLC38A7 V60I	HLA-A*02:06	MT	FI[I]VNACLGA	63.97	WT	FI[V]VNACLGA	161.06	10	4.26961
Se145	SLC38A7 V60I	HLA-A*02:06	MT	TLGAIFI[I]V	187.14	WT	TLGAIFI[V]V	113.03	9	4.26961
Se145	SLC38A7 V60I	HLA-A*02:06	MT	[I]VNACLGAGL	396.42	WT	[V]VNACLGAGL	648.28	10	4.26961
Se145	TP53 C9Y	HLA-A*02:06	MT	CQLAKT[C]PV	5.19	WT	CQLAKT[C]PV	13.48	9	51.02865
Se145	TP53 C9Y	HLA-A*02:06	MT	KT[Y]PVQLWV	46.92	WT	KT[C]PVQLWV	255.27	9	51.02865
Se145	TP53 C9Y	HLA-B*54:01	MT	[Y]PVQLWVDST	197.68	WT	[C]PVQLWVDST	494.1	10	51.02865
Se145	TOP3A C296W	HLA-A*02:06	MT	RLFNHTA[W]LV	4.82	WT	RLFNHTA[C]LV	15.89	10	4.44972
Se145	TOP3A C296W	HLA-A*02:06	MT	RLFNHTA[W]L	26.9	WT	RLFNHTA[C]L	106.98	9	4.44972
Se145	TOP3A C296W	HLA-A*02:06	MT	HTA[W]LVLYQL	63.88	WT	HTA[C]LVLYQL	80.42	10	4.44972
Se145	TOP3A C296W	HLA-A*02:06	MT	[W]LVLYQLCV	297.42	WT	[C]LVLYQLCV	719.62	9	4.44972
Se145	TOP3A C296W	HLA-A*02:06	MT	TA[W]LVLYQL	390.13	WT	TA[C]LVLYQL	2833.54	9	4.44972
Se145	SUPT6H H792Y	HLA-A*02:06	MT	FSSARD[Y]PV	22.21	WT	FSSARD[H]PV	56.81	9	15.82869

Se145	MISP A617T	HLA-A*02:06	MT	HLHSNV[T]WTV	37.8	WT	HLHSNV[A]WTV	51.55	10	10.76699
Se145	MISP A617T	HLA-A*02:06	MT	V[T]WTVEDPV	115.23	WT	V[A]WTVEDPV	332.27	9	10.76699
Se145	MISP A617T	HLA-A*02:06	MT	NV[T]WTVEDPV	357.44	WT	NV[A]WTVEDPV	79.92	10	10.76699
Se145	CCDC22 A398T	HLA-A*02:06	MT	LLPDGT[T]NLA	22.71	WT	LLPDGT[A]NLA	13.59	9	6.03011
Se145	CCDC22 A398T	HLA-A*02:06	MT	LLPDGT[T]NLA	96.66	WT	LLPDGT[A]NLA	107.64	10	6.03011
Se145	CCDC22 A398T	HLA-B*54:01	MT	LPDGT[T]NLA	104.87	WT	LPDGT[A]NLA	204.58	9	6.03011
Se146	FOLH1 M361L	HLA-A*24:02	MT	RMMNDQL[L]F	50.1	WT	RMMNDQL[M]F	122.04	9	7.18455
Se146	FOLH1 M361L	HLA-B*15:18	MT	RMMNDQL[L]F	297.6	WT	RMMNDQL[M]F	396.98	9	7.18455
Se146	FOLH1 M361L	HLA-C*12:02	MT	MMNDQL[L]FL	362.96	WT	MMNDQL[M]FL	266.92	9	7.18455
Se146	ARNTL2 A353V	HLA-C*12:02	MT	FVYVDQRAT[V]	29.23	WT	FVYVDQRAT[A]	190.44	10	1.56064
Se146	ARNTL2 A353V	HLA-C*08:01	MT	YVDQRAT[V]JL	111.5	WT	YVDQRAT[A]JL	95.57	10	1.56064
Se146	ARNTL2 A353V	HLA-C*12:02	MT	YVDQRAT[V]JL	216.3	WT	YVDQRAT[A]JL	154.76	10	1.56064
Se146	ARNTL2 A353V	HLA-C*12:02	MT	YVDQRAT[V]I	285.97	WT	YVDQRAT[A]I	221.75	9	1.56064
Se146	ARNTL2 A353V	HLA-C*08:01	MT	YVDQRAT[V]I	362.85	WT	YVDQRAT[A]I	238.62	9	1.56064
Se146	TP53 R43H	HLA-A*31:01	MT	VVR[H]CPHHER	18.39	WT	VVR[R]CPHHER	15.79	10	18.64553
Se146	GID4 S126P	HLA-A*31:01	MT	LLYSG[P]KFR	43.56	WT	LLYSG[S]KFR	50.62	9	2.5715
Se146	GID4 S126P	HLA-A*31:01	MT	SLLYSG[P]KFR	63.75	WT	SLLYSG[S]KFR	66.34	10	2.5715
Se146	DIP2A L968V	HLA-C*12:02	MT	IAQASGRE[V]	408.89	WT	IAQASGRE[L]	359.26	9	5.35052
Se147	AP4B1 C214S	HLA-B*39:01	MT	DQ[S]VQILTEL	193.63	WT	DQ[C]VQILTEL	1169.86	10	5.78468
Se147	AP4B1 C214S	HLA-C*07:02	MT	TYTDQ[S]VQIL	424	WT	TYTDQ[C]VQIL	389.9	10	5.78468
Se147	COPA D998Y	HLA-C*07:02	MT	YGYPNRNWK[Y]	175.58	WT	YGYPNRNWK[D]	13106.76	10	53.88712
Se147	COPA D998Y	HLA-B*39:01	MT	NRNWK[Y]AGL	183.52	WT	NRNWK[D]AGL	170.19	9	53.88712
Se147	COPA D998Y	HLA-B*54:01	MT	YPNRNWK[Y]A	248.48	WT	YPNRNWK[D]A	1268.52	9	53.88712
Se147	SWT1 S366T	HLA-B*54:01	MT	LPGELM[T]MEI	406.94	WT	LPGELM[S]MEI	584.5	10	1.95501
Se147	HMCN1 S5611Y	HLA-C*07:02	MT	YRMRVRAS[Y]	24	WT	YRMRVRAS[S]	2305.83	9	1.61736
Se147	HMCN1 S5611Y	HLA-C*07:02	MT	YRMRVRAS[Y]Y	24.95	WT	YRMRVRAS[S]Y	29.39	10	1.61736
Se147	HMCN1 S5611Y	HLA-A*24:02	MT	S[Y]YSANGTI	71.63	WT	S[S]YSANGTI	11094.28	9	1.61736
Se147	HMCN1 S5611Y	HLA-C*07:02	MT	[Y]YSANGTIEY	82.86	WT	[S]YSANGTIEY	542.26	10	1.61736
Se147	HMCN1 S5611Y	HLA-C*07:02	MT	S[Y]YSANGTI	213.11	WT	S[S]YSANGTI	9393.12	9	1.61736
Se147	TLR5 G10A	HLA-B*39:01	MT	DHLDLLL[A]V	81.89	WT	DHLDLLL[G]V	732.84	9	1.68495
Se147	TLR5 G10A	HLA-B*39:01	MT	DHLDLLL[A]VV	127.99	WT	DHLDLLL[G]VV	299.41	10	1.68495
Se147	TLR5 G10A	HLA-B*39:01	MT	HLDLLL[A]VVL	311.13	WT	HLDLLL[G]VVL	502.22	10	1.68495
Se147	AHCTF1 P1672T	HLA-B*54:01	MT	LPYVPE[T]IKV	62.3	WT	LPYVPE[P]IKV	115.25	10	9.13968
Se147	NCKAP1 I720V	HLA-C*07:02	MT	IRFTKS[V]VGM	123.29	WT	IRFTKS[I]VGM	128.52	10	39.68986
Se147	DHTKD1 G104R	HLA-B*39:01	MT	FHTA[R]LLNM	136.29	WT	FHTA[G]LLNM	65.99	9	7.05308
Se147	EXT2 P558L	HLA-B*39:01	MT	NKLSNRFF[L]	125.12	WT	NKLSNRFF[P]	21206.02	9	15.15225
Se147	EXT2 P558L	HLA-B*39:01	MT	NRFF[L]YDEI	336.4	WT	NRFF[P]YDEI	666.1	9	15.15225
Se147	MAP3K11 C686Y	HLA-B*39:01	MT	[Y]PTEPPPSPL	37.02	WT	[C]PTEPPPSPL	441.86	10	14.50594
Se147	MAP3K11 C686Y	HLA-B*54:01	MT	[Y]PTEPPPSPL	460.09	WT	[C]PTEPPPSPL	1272.88	10	14.50594
Se147	MCF2L L730P	HLA-B*39:01	MT	HKLS[P]DSYLL	337.83	WT	HKLS[L]DSYLL	196.96	10	1.22321
Se147	INO80E E152K	HLA-B*39:01	MT	LQLP[K]PSPL	171.02	WT	LQLP[E]PSPL	175.81	9	14.74807
Se147	TP53 L125Q	HLA-B*39:01	MT	T[Q]JEDSSGNLL	455.37	WT	T[L]JEDSSGNLL	5562.02	10	10.73066
Se147	IRGQ R483K	HLA-B*39:01	MT	LRAGAW[K]PAL	100.3	WT	LRAGAW[R]PAL	60.95	10	1.72038
Se147	IRGQ R483K	HLA-B*54:01	MT	[K]PALLASLAA	199.51	WT	[R]PALLASLAA	107.06	10	1.72038
Se147	SIGLEC7 R253T	HLA-B*54:01	MT	[T]PVSGVLLGA	200.24	WT	[R]PVSGVLLGA	596.5	10	3.78276
Se147	ZNF470 V553F	HLA-A*24:02	MT	AFSQIAHL[V]	30.35	WT	AFSQIAHL[V]	1371.12	9	1.08214
Se147	ATP9A A89T	HLA-A*24:02	MT	YFLLL[T]CSQF	61.62	WT	YFLLL[A]CSQF	89.23	10	7.76951
Se150	PTGS2 V87A	HLA-A*24:02	MT	FWN[A]VNNIPF	210.62	WT	FWN[V]VNNIPF	374.13	10	3.46914
Se150	ASPM Q2844E	HLA-B*40:01	MT	I[E]JFFLQMAV	32.69	WT	I[Q]JFFLQMAV	1737.79	9	3.34351
Se150	ASPM Q2844E	HLA-B*15:01	MT	I[E]JFFLQMAVY	201.27	WT	I[Q]JFFLQMAVY	16.15	10	3.34351
Se150	ASPM Q2844E	HLA-A*26:01	MT	[E]JFFLQMAVY	219.15	WT	[Q]JFFLQMAVY	3951.19	9	3.34351
Se150	ASPM Q2844E	HLA-B*15:01	MT	ALRI[E]JFFLQM	419.21	WT	ALRI[Q]JFFLQM	443.86	10	3.34351
Se150	CAMSAP2 L737V	HLA-B*40:01	MT	SEMVH[V]RMKL	26.31	WT	SEMVH[L]RMKL	29.37	10	9.81998
Se150	CYP26B1 F389I	HLA-B*40:01	MT	VELASTSR[I]	457.55	WT	VELASTSR[F]	819.12	9	7.51098
Se150	SESTD1 L359I	HLA-B*15:01	MT	LQQQ[I]SDVCY	90.9	WT	LQQQ[L]SDVCY	87.42	10	3.43547
Se150	SESTD1 L359I	HLA-B*15:01	MT	QQQ[I]SDVCY	313.24	WT	QQQ[L]SDVCY	392.58	9	3.43547
Se150	SESTD1 L359I	HLA-B*40:01	MT	VELKSLQQQ[I]	388.76	WT	VELKSLQQQ[L]	101.48	10	3.43547
Se150	EPHA3 E872Q	HLA-A*24:02	MT	KF[Q]QIVSIL	335.02	WT	KF[E]QIVSIL	2048.38	9	1.55131
Se150	MATR3 L28F	HLA-B*15:01	MT	[F]LAAATQSL	80.44	WT	[L]LAAATQSL	52.8	9	50.66043
Se150	NDST1 P221S	HLA-B*15:01	MT	VL[S]GEDWTVF	119.41	WT	VL[P]GEDWTVF	1213.8	10	20.18812
Se150	NDST1 P221S	HLA-B*15:01	MT	L[S]GEDWTVF	374.66	WT	L[P]GEDWTVF	9326.49	9	20.18812
Se150	SIMC1 P159H	HLA-B*40:01	MT	TE[H]NCSSATF	189.34	WT	TE[P]NCSSATF	971.5	10	4.77901
Se150	HERPUD2 H200Q	HLA-B*15:01	MT	QQMYA[Q]QYY	21.4	WT	QQMYA[H]QYY	17	9	11.38539
Se150	HERPUD2 H200Q	HLA-B*15:01	MT	QQMYA[Q]QYY	47.59	WT	QQMYA[H]QYYM	38.34	10	11.38539
Se150	HERPUD2 H200Q	HLA-B*15:01	MT	WQQMYA[Q]QY	52.07	WT	WQQMYA[H]QYY	51.4	10	11.38539
Se150	HERPUD2 H200Q	HLA-B*15:01	MT	WQQMYA[Q]QY	63.34	WT	WQQMYA[H]QY	73.86	9	11.38539
Se150	HERPUD2 H200Q	HLA-B*15:01	MT	QMYA[Q]QYYM	90.54	WT	QMYA[H]QYYM	47.46	9	11.38539
Se150	HERPUD2 H200Q	HLA-B*15:01	MT	YA[Q]QYYMQY	149.33	WT	YA[H]QYYMQY	86.84	9	11.38539
Se150	HERPUD2 H200Q	HLA-A*24:02	MT	MYA[Q]QYYMQ	207.18	WT	MYA[H]QYYMQY	215.64	10	11.38539
Se150	CLDN15 P149L	HLA-B*15:01	MT	ITRDFD[P]LY	342.98	WT	ITRDFD[P]LY	386.43	10	3.00978
Se150	CLDN15 P149T	HLA-B*15:01	MT	ITRDFD[T]LY	236.88	WT	ITRDFD[P]LY	386.43	10	3.00978
Se150	CLDN15 P149T	HLA-A*26:01	MT	D[T]LYPGTKY	446.22	WT	D[P]LYPGTKY	20366.57	9	3.00978
Se150	RAB11FIP1 V5I	HLA-B*15:01	MT	LM[V]SAGRGL	104.71	WT	LM[V]SAGRGL	194.78	9	3.24423
Se150	RAB18 E173V	HLA-B*40:01	MT	[V]EPPVVIAL	16.88	WT	[E]EPPVVIAL	38.5	10	23.24097
Se150	RHOBTB1 D674G	HLA-B*40:01	MT	REREKE[G]IAL	41.62	WT	REREKE[D]IAL	44.96	10	6.14222
Se150	SCD A159V	HLA-B*40:01	MT	YEWARHR[V]	400.09	WT	YEWARHR[A]	3179.43	9	38.93841
Se150	FJX1 R149C	HLA-B*40:01	MT	LEAA[C]GARM	92.58	WT	LEAA[R]GARM	888.9	9	5.23972
Se150	FJX1 R149C	HLA-B*40:01	MT	LEAA[C]GARMV	250.2	WT	LEAA[R]GARMV	1232.64	10	5.23972



Se150	MPEG1 L121H	HLA-B*15:01	MT	YSINTELS[H]F	14.96	WT	YSINTELS[L]F	35.71	10	11.70516
Se150	MPEG1 L121H	HLA-B*15:01	MT	SINTELS[H]F	49.12	WT	SINTELS[L]F	200.2	9	11.70516
Se150	SYT12 G27R	HLA-A*24:02	MT	VYAA[R]ALALL	42.01	WT	VYAA[G]ALALL	43.9	10	4.30419
Se150	SYT12 G27R	HLA-A*24:02	MT	VYAA[R]ALAL	166	WT	VYAA[G]ALAL	171.9	9	4.30419
Se150	CAPRIN2 C867W	HLA-B*15:01	MT	SQRDNFQQ[W]Y	24.94	WT	SQRDNFQQ[C]Y	34.99	10	3.32066
Se150	CAPRIN2 C867W	HLA-B*15:01	MT	SQRDNFQQ[W]	312.7	WT	SQRDNFQQ[C]	4426.66	9	3.32066
Se150	SERPINA5 L79V	HLA-B*15:01	MT	SMSLAM[V]SL	287.29	WT	SMSLAM[L]SL	212.49	9	1.31422
Se150	SERPINA5 L79V	HLA-B*15:01	MT	ISMSLAM[V]SL	446.98	WT	ISMSLAM[L]SL	366.7	10	1.31422
Se150	RPS27L T74A	HLA-B*15:01	MT	KARL[A]EGCSF	249.24	WT	KARL[T]EGCSF	336.23	10	29.59643
Se150	USP31 G522R	HLA-B*15:01	MT	RVVSVV[R]ITY	123.26	WT	RVVSVV[G]ITY	82.29	10	3.15506
Se150	ITGAM C776R	HLA-B*40:01	MT	[R]QDDL[SITF	416.51	WT	[C]QDDL[SITF	1505.26	9	4.49477
Se150	ITGAM C776R	HLA-B*15:01	MT	[R]QDDL[SITF	477.12	WT	[C]QDDL[SITF	867.76	9	4.49477
Se150	RYR1 K2360T	HLA-B*15:01	MT	LLIR[T]PECF	97.48	WT	LLIR[K]PECF	313.53	9	3.39768
Se150	MAP3K10 A316S	HLA-B*15:01	MT	ALAVAYGV[S]M	68.3	WT	ALAVAYGV[A]M	79.58	10	2.42613
Se150	MAP3K10 A316S	HLA-B*15:01	MT	[S]MKNKLTLP	96	WT	[A]MKNKLTLP	78.67	9	2.42613
Se150	MAP3K10 A316S	HLA-B*15:01	MT	LAVAYGV[S]M	129.59	WT	LAVAYGV[A]M	122.99	9	2.42613
Se151	MTMR12 I264T	HLA-A*24:02	MT	RFQGHGIP[T]W	101.05	WT	RFQGHGIP[I]W	215.49	10	6.22305
Se152	LHX9 E108D	HLA-C*03:04	MT	LALES[D]LTCF	84.47	WT	LALES[E]LTCF	152.87	10	1.56466
Se152	BIRC6 A2681V	HLA-B*40:01	MT	KENG[V]DIFL	8.81	WT	KENG[A]DIFL	9	9	6.21017
Se152	FBXO41 S411F	HLA-C*03:04	MT	GASSRVPAA[F]	153.3	WT	GASSRVPAA[S]	18544.78	10	1.12819
Se152	NCKAP5 L439F	HLA-C*03:04	MT	SA[F]SAVSSM	5.14	WT	SA[L]SAVSSM	7.29	9	1.19077
Se152	NCKAP5 L439F	HLA-A*31:01	MT	SA[F]SAVSSMR	38.47	WT	SA[L]SAVSSMR	90.45	10	1.19077
Se152	NCKAP5 L439F	HLA-A*31:01	MT	A[F]SAVSSMR	46.02	WT	A[L]SAVSSMR	101.45	9	1.19077
Se152	NCKAP5 L439F	HLA-C*14:02	MT	SA[F]SAVSSM	50.3	WT	SA[L]SAVSSM	105.59	9	1.19077
Se152	NCKAP5 L439F	HLA-C*03:04	MT	QSA[F]SAVSSM	214.49	WT	QSA[L]SAVSSM	198.87	10	1.19077
Se152	NCKAP5 L439F	HLA-B*51:01	MT	LPLQSA[F]SAV	249.38	WT	LPLQSA[L]SAV	366.38	10	1.19077
Se152	NCKAP5 G829A	HLA-C*03:04	MT	TTLPS[A]L	80.41	WT	TTLPS[G]L	694.62	9	1.19077
Se152	NCKAP5 G829A	HLA-C*03:04	MT	LPSS[A]LVTL	221.64	WT	LPSS[G]LVTL	232.15	9	1.19077
Se152	NCKAP5 G829A	HLA-C*03:04	MT	ATTLPS[A]L	277.44	WT	ATTLPS[G]L	1805.76	10	1.19077
Se152	NCKAP5 G829A	HLA-C*14:02	MT	LLPSS[A]LVTL	296.16	WT	LLPSS[G]LVTL	324.26	10	1.19077
Se152	NCKAP5 G829A	HLA-C*03:04	MT	LLPSS[A]LVTL	471.83	WT	LLPSS[G]LVTL	508.04	10	1.19077
Se152	SCRN3 N410K	HLA-A*24:02	MT	IYQS[K]LSVKV	202.36	WT	IYQS[N]LSVKV	129.66	10	4.81877
Se152	SCRN3 N410K	HLA-C*14:02	MT	IYQS[K]LSVKV	249.79	WT	IYQS[N]LSVKV	102.6	10	4.81877
Se152	SCRN3 N410K	HLA-B*40:01	MT	DEIQYQS[K]L	342.26	WT	DEIQYQS[N]L	294.39	10	4.81877
Se152	TTC14 K463N	HLA-A*31:01	MT	KLRKLL[N]EEK	291.93	WT	KLRKLL[K]EEK	466.3	10	10.3467
Se152	PCDH18 V201I	HLA-C*03:04	MT	YAELIV[I]REL	24.89	WT	YAELIV[V]REL	19.76	10	3.87863
Se152	PCDH18 V201I	HLA-B*40:01	MT	AELIV[I]REL	30.09	WT	AELIV[V]REL	30.74	9	3.87863
Se152	PCDH18 V201I	HLA-A*31:01	MT	KYAELIV[I]R	44.73	WT	KYAELIV[V]R	32.73	9	3.87863
Se152	MDN1 R2012C	HLA-A*24:02	MT	PYMGTRLF[C]I	36.81	WT	PYMGTRLF[R]I	24.88	10	2.69131
Se152	SPAG1 G773R	HLA-B*40:01	MT	[R]JEVSMGCLA	349.22	WT	[G]JEVSMGCLA	755.16	9	1.07399
Se152	DGKZ R44C	HLA-A*24:02	MT	RY[C]SWDVPQI	24.47	WT	RY[R]SWDVPQI	57.19	10	8.91775
Se152	DGKZ R44C	HLA-A*24:02	MT	RQMWRV[C]SW	105.54	WT	RQMWRV[R]SW	223.73	9	8.91775
Se152	DGKZ R44C	HLA-C*14:02	MT	RY[C]SWDVPQI	486.27	WT	RY[R]SWDVPQI	233.39	10	8.91775
Se152	MTCH2 A62V	HLA-C*14:02	MT	SYAQHI[V]SI	16.15	WT	SYAQHI[A]SI	12.44	9	23.32261
Se152	MTCH2 A62V	HLA-A*24:02	MT	SYAQHI[V]SI	25.3	WT	SYAQHI[A]SI	29.21	9	23.32261
Se152	MTCH2 A62V	HLA-C*03:04	MT	FSYAQHI[V]SI	28.32	WT	FSYAQHI[A]SI	19.13	10	23.32261
Se152	MTCH2 A62V	HLA-A*31:01	MT	HI[V]SIDGRR	198.34	WT	HI[A]SIDGRR	118.28	9	23.32261
Se152	MTCH2 A62V	HLA-A*31:01	MT	AQHI[V]SIDGR	270.68	WT	AQHI[A]SIDGR	428.31	10	23.32261
Se152	MTCH2 A62V	HLA-C*14:02	MT	FSYAQHI[V]SI	302.33	WT	FSYAQHI[A]SI	192.64	10	23.32261
Se152	MTCH2 A62V	HLA-C*03:04	MT	[V]SIDGRRGL	421.74	WT	[A]SIDGRRGL	539.25	9	23.32261
Se152	KCNJ5 L141P	HLA-C*03:04	MT	FVSAF[P]FSI	45.44	WT	FVSAF[L]FSI	376.82	9	11.75767
Se152	KCNJ5 L141P	HLA-A*24:02	MT	GFVSAF[P]FSI	260.73	WT	GFVSAF[L]FSI	284.03	10	11.75767
Se152	KCNJ5 L141P	HLA-C*14:02	MT	SGFVSAF[P]F	347.73	WT	SGFVSAF[L]F	966.58	9	11.75767
Se152	DYNC1H1 E1034K	HLA-B*40:01	MT	[K]JESYSAVMGI	46.5	WT	[E]JESYSAVMGI	350.11	10	14.72545
Se152	DYNC1H1 E1034K	HLA-C*03:04	MT	VAL[K]JESYSAV	183.69	WT	VAL[E]JESYSAV	105.07	10	14.72545
Se152	DYNC1H1 E1034K	HLA-A*31:01	MT	RMPDGPVAL[K]	186.23	WT	RMPDGPVAL[E]	20115.75	10	14.72545
Se152	CNOT1 E879K	HLA-A*31:01	MT	RFKDISTIKR[K]	280.68	WT	RFKDISTIKR[E]	20598.61	10	25.12001
Se152	TP53 G112S	HLA-A*31:01	MT	SSCM[S]GMNR	88.49	WT	SSCM[G]GMNR	110.57	9	49.38192
Se152	TP53 G112S	HLA-A*31:01	MT	SSCM[S]GMNRR	124.2	WT	SSCM[G]GMNRR	172.56	10	49.38192
Se152	TP53 G112S	HLA-C*14:02	MT	[S]GMNRRPIL	224.15	WT	[G]GMNRRPIL	1455.53	9	49.38192
Se152	PIEZO2 R399I	HLA-C*03:04	MT	YATHYPTDE[I]	21.33	WT	YATHYPTDE[R]	26714.36	10	1.80248
Se152	PIEZO2 R399I	HLA-C*14:02	MT	HYPTDE[I]KLL	261.27	WT	HYPTDE[R]KLL	370.7	10	1.80248