

Supplementary Table S3 Neopeptides from insertion/deletion and non-stop mutations in 80 HGSC patients

Patient ID	Gene	Alteration	Mutant protein	HLA	Epitope(MT)	Peptid	IC50 (nM)	FPKM	Mutation type
Se001	APBA3	NM_004886.3c.896delA	DHALHTISYTAASAACWC	HLA-A*24:02	SYTAASAACW	10	200.6	7.12672	frameshift deletion
Se001	APBA3	NM_004886.3c.896delA	DHALHTISYTAASAACWC	HLA-C*12:02	ISYTAASAA	9	412.2	7.12672	frameshift deletion
Se001	APBA3	NM_004886.3c.896delA	DHALHTISYTAASAACWC	HLA-C*12:02	YTAASAACW	9	490.1	7.12672	frameshift deletion
Se001	DICER1	NM_177438.2c.1311_1317delTTTACC	KEKPETNFPSPFCAELFLWKEDTQQLS	HLA-A*24:02	TFCAELFLW	9	271.5	8.09055	frameshift deletion
Se001	DICER1	NM_001291628.1c.1311_1317delTTTACC	KEKPETNFPSPFCAELFLWKEDTQQLS	HLA-C*14:03	LWKEDTQQL	9	208.8	8.09055	frameshift deletion
Se001	PLXNB2	NM_012401.3c.2404_2410delCCGCCCG	EALCNTTSECPSSPGSSLRAPWVGASASP SWGPIWASKQGTSRGSLWPAGTAPFSRNV TPCPPGSCV	HLA-A*24:02	LWPAGTAPF	9	97.5	20.1964	frameshift deletion
Se001	PLXNB2	NM_012401.3c.2404_2410delCCGCCCG	EALCNTTSECPSSPGSSLRAPWVGASASP SWGPIWASKQGTSRGSLWPAGTAPFSRNV TPCPPGSCV	HLA-A*24:02	SLWPAGTAPF	10	387.1	20.1964	frameshift deletion
Se001	PLXNB2	NM_012401.3c.2404_2410delCCGCCCG	EALCNTTSECPSSPGSSLRAPWVGASASP SWGPIWASKQGTSRGSLWPAGTAPFSRNV TPCPPGSCV	HLA-C*14:03	LWPAGTAPF	9	51.4	20.1964	frameshift deletion
Se001	SCAF11	NM_004719.2c.2599_2613delCCAAAAAGGGATACT	ARERRQSQSRSTRESRRSELS	HLA-A*33:03	QSRSTRESR	9	110.2	17.3825	inframe deletion
Se001	RALGAP1	NM_001330075.1c.1534_1545delTCTGAAGAAGCC	NGSYQGALHNATEQNIRAGTQA	HLA-C*14:03	SYQGALHNA	9	179.2	6.78143	inframe deletion
Se004	KIAA1551	NM_018169.3c.4612_4615delGAAA	SKTYNILRNVKKLVGSSLIKYGLIRLN	HLA-A*31:01	TYNILRNVK	9	296.7	25.0253	frameshift deletion
Se004	KIAA1551	NM_018169.3c.4612_4615delGAAA	SKTYNILRNVKKLVGSSLIKYGLIRLN	HLA-A*31:01	KTYNILRNVK	10	69.9	25.0253	frameshift deletion
Se004	KIAA1551	NM_018169.3c.4612_4615delGAAA	SKTYNILRNVKKLVGSSLIKYGLIRLN	HLA-A*31:01	SSLIKYGLIR	10	116.6	25.0253	frameshift deletion
Se004	KIAA1551	NM_018169.3c.4612_4615delGAAA	SKTYNILRNVKKLVGSSLIKYGLIRLN	HLA-A*31:01	SLIKYGLIR	9	204.2	25.0253	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-C*03:04	KSMCLHYWM	9	494.3	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-A*33:03	HYWMLTWKVR	10	22.2	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-A*31:01	HYWMLTWKVR	10	24.2	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-B*40:02	KERTKSMCL	9	283	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-A*33:03	YWMLTWKVR	9	154.5	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-A*31:01	YWMLTWKVR	9	191.2	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-A*31:01	KSMCLHYWM	9	150.2	6.9482	frameshift deletion
Se004	MLK4	NM_032435.2c.2983delC	QFLAAKERTKSMCLHYWMLTWKVRAGT TLCHCAE	HLA-A*31:01	KSMCLHYWML	10	276.4	6.9482	frameshift deletion

Se004	PTPRC	NM_002838.4c.3765_3785del AAAGCAGGATGCTAATTG TGT	KIEFDNEVDKVNPLGAPEKLPE	HLA-B*40:02	NEVDKVNPL	9	97.9	2.0091	inframe deletion
Se004	PTPRC	NM_002838.4c.3765_3785del AAAGCAGGATGCTAATTG TGT	KIEFDNEVDKVNPLGAPEKLPE	HLA-A*31:01	KVNPLGAPEK	10	245.4	2.0091	inframe deletion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	VVWRWQVLR	9	9.4	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	RWQVLRGLCR	10	64.7	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	PVVWRWQVLR	10	84.8	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	HAVGPVVWR	9	97	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	QGEGVWNR	9	239.9	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	KDQGLLLVAR	10	241.2	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	YQGWEGVWNR	10	254.1	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*31:01	VVWRWQVLRG	10	310.9	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	VVWRWQVLR	9	17.5	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	HAVGPVVWR	9	48.8	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	EGVWNRGPR	9	62.6	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	PVVWRWQVLR	10	182.9	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	QGEGVWNR	9	314.2	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	YQGWEGVWNR	10	321.2	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-A*33:03	WEGVWNRGPR	10	405.5	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-B*40:02	SEYQGWEGV	9	15.9	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-B*40:02	SSEYQGWEGV	10	203.4	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-B*44:03	SEYQGWEGVW	10	18.9	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-B*44:03	SEYQGWEGV	9	158.7	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-B*44:03	LEGLHATGY	10	482.6	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRV GKDDQGLLLVARHGGVLEGLH LQATGYVWHAVGPPV VWRWQVLRGLCRQTGGT GAVQPAL	HLA-C*03:04	YVWHAVGPPV	9	60.1	6.09989	frameshift insertion

Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRVVKDQGLLLVARHGGVLEGLHQLATGYVWHAVGPVVWRWQVLRGLCRQTGGTGAVQPAL	HLA-C*03:04	LVARHGGVL	9	81.4	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRVVKDQGLLLVARHGGVLEGLHQLATGYVWHAVGPVVWRWQVLRGLCRQTGGTGAVQPAL	HLA-C*14:03	VWHAVGPVV	9	138.1	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRVVKDQGLLLVARHGGVLEGLHQLATGYVWHAVGPVVWRWQVLRGLCRQTGGTGAVQPAL	HLA-C*14:03	YVWHAVGPV	9	227.9	6.09989	frameshift insertion
Se004	DNMT3B	NM_006892.3c.653_654insA	SGDGSSEYQGWEGVWNRGPRVVKDQGLLLVARHGGVLEGLHQLATGYVWHAVGPVVWRWQVLRGLCRQTGGTGAVQPAL	HLA-C*14:03	WRWQVLRGL	9	411.6	6.09989	frameshift insertion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	EPTPGLLAPR	10	90.9	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	PTPGLLAPR	9	354	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-C*14:03	HRVPLWQAL	9	106.8	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	CTGHREPHR	9	472.7	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-B*44:03	EEGWLLRRTTW	10	32.1	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	LAPRPVAAHR	10	163.1	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	NGRSGTGHR	9	320.3	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-C*14:03	RVPLWQALL	9	312.1	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	WLLRRTTWLR	9	26.3	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*24:02	LWQALLTTSI	10	398.3	6.59104	frameshift deletion
Se005	GLIS3	NM_001042413.1c.20_32delGCATGAGTCTCCA	MNGRSGTGHREPHRGLGWSVVITFLPSEPTPGLLAPRPVAAHRVPLWQALLTTSISRCPQEEGWLLRRTTWLRAASICLP	HLA-A*33:03	GWLLRRTTWLR	10	247.9	6.59104	frameshift deletion
Se005	LURAP1	NM_001013615.2c.469_497delGATGAACAGGGCCACC TGGGGCTCCACG	SFLDTPAPSELFDRDLGKSYSWWREGQD	HLA-A*33:03	GLGKSYSWWR	10	480.5	2.91834	frameshift deletion
Se005	LURAP1	NM_001013615.2c.469_497delGATGAACAGGGCCACC TGGGGCTCCACG	SFLDTPAPSELFDRDLGKSYSWWREGQD	HLA-A*33:03	LGKSYSWWR	9	49	2.91834	frameshift deletion
Se005	LURAP1	NM_001013615.2c.469_497delGATGAACAGGGCCACC TGGGGCTCCACG	SFLDTPAPSELFDRDLGKSYSWWREGQD	HLA-A*33:03	DTVAPSELFR	10	146.2	2.91834	frameshift deletion
Se005	LURAP1	NM_001013615.2c.469_497delGATGAACAGGGCCACC TGGGGCTCCACG	SFLDTPAPSELFDRDLGKSYSWWREGQD	HLA-A*33:03	TVAPSELFR	9	73.6	2.91834	frameshift deletion
Se005	XPR1	NM_004736.3c.19_30delCTC TCCGCGCAC	MKFAEHITPEWRKQYIQ	HLA-A*24:02	KFAEHITPEW	10	423.9	6.91713	inframe deletion
Se008	ANGEL1	NM_015305.3c.1280_1284del CCATC	KVARLSDGSHCHLVRGPKFCP	HLA-C*03:04	LSDGSCHL	9	304.3	3.32727	frameshift deletion
Se008	ANGEL1	NM_015305.3c.1280_1284del CCATC	KVARLSDGSHCHLVRGPKFCP	HLA-A*02:01	RLSDGSCHL	10	399.7	3.32727	frameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSPGFVLLPT KVRVPGATPEGKGSFSP	HLA-A*02:01	LLTSPSPGFV	10	90	7.07572	frameshift deletion

Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-B*54:01	LPASLLTSPS	10	100.9	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-C*03:04	LLTSPSGPF	9	432	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-B*54:01	SGPFVVLVLT	10	358.2	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-C*03:04	LTSPSGPFV	9	447.7	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-C*03:04	KVVPLPASL	9	53.5	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-B*54:01	GPVVLVLT	9	366.1	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-B*54:01	LPASLLTSP	9	360.8	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-B*54:01	SPSGPFVLV	9	134.4	7.07572	flameshift deletion
Se008	RPA1	NM_002945.3c.558delC	TSGGTQSKVVPLPASLLTSPSGPFVVLVLT KVRVSPGATPEGKGSFSP	HLA-A*02:01	FVLVLTQV	9	96.7	7.07572	flameshift deletion
Se008	CCDC127	NM_145265.2c.352_354delA AG	ISQGRKLVEEKLLEQERAQVMQ	HLA-A*02:01	KLLEQERAQV	10	134.6	8.62407	inframe deletion
Se011	MKNK1	NM_001135553.2c.284_285d eITG	AGHSRSRVFREGDAVSVSGKQEHFGAD	HLA-C*14:03	AGHSRSRVF	9	473.5	24.7116	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*02:01	YLQVVMSLV	9	14.6	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*02:01	VMSLVWLT	9	132.3	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*02:01	VVMSLVWLT	10	96.6	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*02:01	GYLVVMSLV	10	184.8	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*02:01	YLQVVMSLVW	10	428.1	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*02:01	VVMSLVWLT	9	125.3	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*24:02	HGYLVVMSL	10	164.6	1.70835	flameshift deletion
Se015	DPYD	NM_000110.3c.1411delA	GLPEVDPETMQLVKHGYLVVMSLVWLT LQWNR	HLA-A*24:02	GYLVVMSL	9	106.2	1.70835	flameshift deletion
Se015	ETNK2	NM_001297762.1c.14delC	MAVPLRPLSRARPFT	HLA-B*07:02	RPLSRARP	9	4.3	7.51746	flameshift deletion
Se015	ETNK2	NM_001297762.1c.14delC	MAVPLRPLSRARPFT	HLA-B*07:02	VPLRPLSRA	9	439.7	7.51746	flameshift deletion
Se015	ETNK2	NM_001297760.1c.14delC	MAVPLRPLSRARPFT	HLA-B*07:02	RPLSRARPFT	10	64.5	7.51746	flameshift deletion
Se015	ETNK2	NM_001297762.1c.14delC	MAVPLRPLSRARPFT	HLA-B*07:02	LRPLSRARP	10	28.9	7.51746	flameshift deletion

Se015	ETNK2	NM_001297762.1c.14delC	MAVPLRPLSRARPFT	HLA-B*55:02	VPLRPLSRA	9	90.3	7.51746	flameshift deletion
Se015	MYPOP	NM_001012643.3c.1093delG	GVIIAPRSEEGHPQPQRSLRTTPPHTSGE KVSLHGKGAADGNLREIYYL	HLA-B*07:02	HPGPPQPRSL	10	57	1.81718	flameshift deletion
Se020	BCL2L11	NM_138621.4c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-B*07:02	LLPDRPFSSL	10	99.3	6.73969	flameshift deletion
Se020	BCL2L11	NM_001204108.1c.172_199d eGGCAGCCCTCAGGGCCC GCTGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-B*07:02	LPDRPFSSL	9	19.1	6.73969	flameshift deletion
Se020	BCL2L11	NM_001204108.1c.172_199d eGGCAGCCCTCAGGGCCC GCTGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-B*40:02	GEGDSCPHL	9	211.3	6.73969	flameshift deletion
Se020	BCL2L11	NM_138621.4c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-C*03:04	LPDRPFSSL	9	458.3	6.73969	flameshift deletion
Se020	BCL2L11	NM_138621.4c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-A*31:01	ALALLPDPR	10	401.5	6.73969	flameshift deletion
Se020	BCL2L11	NM_138621.4c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-B*07:02	CPHLPALALL	10	51.4	6.73969	flameshift deletion
Se020	BCL2L11	NM_138621.4c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-B*07:02	CPHLPALAL	9	13.9	6.73969	flameshift deletion
Se020	BCL2L11	NM_138621.4c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-A*31:01	LALLPDPR	9	233.2	6.73969	flameshift deletion
Se020	BCL2L11	NM_138622.3c.172_199delG GCAGCCCTCAGGGCCCGC TGGCCCCAC	NHGGEGDSCPHLPALALLPDRPFSSL	HLA-B*07:02	SCPHLPALAL	10	15.5	6.73969	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	SWLAKLLHR	10	89.9	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	RSLKLILFK	10	122.6	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	KLLHRSLLK	9	99.2	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	ISCSWLALK	10	298.9	9.41008	flameshift deletion
Se020	DYRK1A	NM_130436.2c.1678_1682del TCAGG	VRQQFPAPLGWH	HLA-C*07:02	VRQQFPAPL	9	152.9	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-C*07:02	HRSLLKLIL	9	199.8	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	LLKLILFKK	9	311.9	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	SLLKLILFK	9	405.7	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-A*31:01	WLAKLLHR	9	462	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-C*03:04	SAISSWL	9	26	9.41008	flameshift deletion
Se020	DYRK1A	NM_130438.2c.1580_1584del TCAGG	GASAISSWLAKLLHRSLLKLILFKKQPF M	HLA-C*03:04	ISCSWLAL	9	421.9	9.41008	flameshift deletion
Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRATPGLCH	HLA-A*31:01	LARNYITSR	9	21.5	5.93497	flameshift deletion

Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRSATPGLCH	HLA-A*31:01	IVMTVKLARN	10	338.2	5.93497	flameshift deletion
Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRSATPGLCH	HLA-C*03:04	KAAGIVMTV	9	39.8	5.93497	flameshift deletion
Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRSATPGLCH	HLA-A*31:01	IVMTVKLAR	9	15.2	5.93497	flameshift deletion
Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRSATPGLCH	HLA-A*31:01	KLARNYITSR	10	15.9	5.93497	flameshift deletion
Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRSATPGLCH	HLA-A*31:01	GIVMTVKLAR	10	76.1	5.93497	flameshift deletion
Se020	WHSC1L1	NM_023034.1c.2813_2828del TAAGCATAGAAATGCC	ESCPASFHPECQKAAGIVMTVKLARNYITS RLFGSNWEITDGGQQRSATPGLCH	HLA-C*07:02	ARNYITSRL	9	377.2	5.93497	flameshift deletion
Se020	ZNF274	NM_133502.2c.1087_1110del TCCTCTACATTAGAAGAT ACCTTG	KVQESSRDCALQGGVQEVQDTV	HLA-B*40:02	QESSRDCAL	9	479.5	4.8168	inflammation deletion
Se023	EBAG9	NM_198120.2c.139_145delG ATTATT	SGDQITLPTTVHQFLSRQMLKSGLPGMKM HPPV	HLA-A*02:06	MLKSGLPGM	9	209.5	23.8453	flameshift deletion
Se023	EBAG9	NM_198120.2c.139_145delG ATTATT	SGDQITLPTTVHQFLSRQMLKSGLPGMKM HPPV	HLA-B*55:02	LPTTVHQFLS	10	376.4	23.8453	flameshift deletion
Se023	EBAG9	NM_198120.2c.139_145delG ATTATT	SGDQITLPTTVHQFLSRQMLKSGLPGMKM HPPV	HLA-B*55:02	LPGMKMHPPV	10	37.2	23.8453	flameshift deletion
Se023	EBAG9	NM_198120.2c.139_145delG ATTATT	SGDQITLPTTVHQFLSRQMLKSGLPGMKM HPPV	HLA-A*02:06	QMLKSGLPGM	10	366.5	23.8453	flameshift deletion
Se023	EBAG9	NM_198120.2c.139_145delG ATTATT	SGDQITLPTTVHQFLSRQMLKSGLPGMKM HPPV	HLA-B*40:02	HQFLSRQML	9	263.4	23.8453	flameshift deletion
Se023	EBAG9	NM_198120.2c.139_145delG ATTATT	SGDQITLPTTVHQFLSRQMLKSGLPGMKM HPPV	HLA-A*24:02	TLPTTVHQF	9	271.6	23.8453	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-C*03:03	CSFAFQPSL	9	69.5	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	NAAWVWPMV	9	97.4	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	SLVTFNAA	9	37	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	WVWPMVWCL	9	33.5	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	FNAAWVWPM	9	13.5	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	PMVWCLLGV	9	338.1	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	CSFAFQPSL	9	392.3	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-B*55:02	WPMVWCLLGV	10	40.2	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-B*55:02	QPSLVTFNA	10	424.2	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delT CCTGGGCCA	GCSFAFQPSLVTFNAAWVWPMVWCLLG VAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*24:02	AWVWPMVWCL	10	369.5	5.96938	flameshift deletion

Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	FNAAWVWPMV	10	11.6	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-C*03:03	FNAAWVWPM	9	134.4	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	WPMVWCLLGV	10	175.4	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	CSFAFQPSLV	10	257.1	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	FAFQPSLVTTF	10	279.1	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	LVTTFNAAWV	10	325.5	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	AWVWPMVWCL	10	428.7	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	MVWCLLGV	9	135.5	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*24:02	AFQPSLVTTF	10	75	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	WVWPMVWCLL	10	136.3	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*24:02	WVWPMVWCLL	10	429.5	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-C*03:03	FAFQPSLVT	9	54.6	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-B*55:02	MVWCLLGV	9	411.7	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-B*55:02	WPMVWCLLGV	9	102.4	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*24:02	FQPSLVTTF	9	416	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*24:02	VWPMVWCLL	9	35.6	5.96938	flameshift deletion
Se023	SLC16A2	NM_006517.4c.656_665delTCTGGGCCA	GCSFAFQPSLVTTFNAAWVWPMVWCLLGVAFSPCPSPSSSECWIRSSWPKPSRC	HLA-A*02:06	FQPSLVTTF	9	439.5	5.96938	flameshift deletion
Se023	ZNF396	NM_001322290.1c.691delA	MNGSQSSTYRGP MNKMVGLKRDKETLLGKNNRNMNVAKSLVRAQPLFYIRESTVER NLMHVTSVQRHSAEAQF	HLA-B*40:02	VERNLMHVT	9	385.1	1.20368	flameshift deletion
Se023	ZNF396	NM_145756.2c.691delA	MNGSQSSTYRGP MNKMVGLKRDKETLLGKNNRNMNVAKSLVRAQPLFYIRESTVER NLMHVTSVQRHSAEAQF	HLA-A*02:06	STVERNLMHV	10	33.2	1.20368	flameshift deletion
Se023	ZNF396	NM_145756.2c.691delA	MNGSQSSTYRGP MNKMVGLKRDKETLLGKNNRNMNVAKSLVRAQPLFYIRESTVER NLMHVTSVQRHSAEAQF	HLA-C*03:03	KSLVRAQPL	9	383.5	1.20368	flameshift deletion
Se023	ZNF396	NM_145756.2c.691delA	MNGSQSSTYRGP MNKMVGLKRDKETLLGKNNRNMNVAKSLVRAQPLFYIRESTVER NLMHVTSVQRHSAEAQF	HLA-B*40:02	RESTVERNLM	9	84.2	1.20368	flameshift deletion
Se023	ZNF396	NM_001322290.1c.691delA	MNGSQSSTYRGP MNKMVGLKRDKETLLGKNNRNMNVAKSLVRAQPLFYIRESTVER NLMHVTSVQRHSAEAQF	HLA-B*40:02	RESTVERNLM	10	152.8	1.20368	flameshift deletion
Se023	ZNF396	NM_001322290.1c.691delA	MNGSQSSTYRGP MNKMVGLKRDKETLLGKNNRNMNVAKSLVRAQPLFYIRESTVER NLMHVTSVQRHSAEAQF	HLA-A*02:06	LVRAQPLFYI	10	138.4	1.20368	flameshift deletion

Se023	PCDHA3	NM_018906.2c.505_506insC	ADIGTNSLLTLQS	HLA-C*03:03	IGTNSLLTL	9	242.5	3.85798		frameshift insertion
Se024	HS1BP3	NM_022460.3c.470_473delA CAG	TSRDSSVLDGTVRQGMKRLSTFLRSKTK WQKRVRSRA	HLA-A*02:06	GMMKRLSTFL	10	207.4		7.33743	frameshift deletion
Se024	HS1BP3	NM_022460.3c.470_473delA CAG	TSRDSSVLDGTVRQGMKRLSTFLRSKTK WQKRVRSRA	HLA-A*24:02	GMMKRLSTF	9	308.7		7.33743	frameshift deletion
Se024	HS1BP3	NM_022460.3c.470_473delA CAG	TSRDSSVLDGTVRQGMKRLSTFLRSKTK WQKRVRSRA	HLA-C*12:02	MMKRLSTFL	9	381.7		7.33743	frameshift deletion
Se024	HS1BP3	NM_022460.3c.470_473delA CAG	TSRDSSVLDGTVRQGMKRLSTFLRSKTK WQKRVRSRA	HLA-A*02:06	MMKRLSTFL	9	364.9		7.33743	frameshift deletion
Se024	SEC24A	NM_021982.2c.2151_2158del CTCTTACC	YSAGSVYYYSSAQPSPSTEITEGTEIPYS EDWL	HLA-C*12:02	SVYYYSSA	9	356.3		2.44107	frameshift deletion
Se024	SEC24A	NM_021982.2c.2151_2158del CTCTTACC	YSAGSVYYYSSAQPSPSTEITEGTEIPYS EDWL	HLA-C*12:02	YSAGSVYYY	9	49.6		2.44107	frameshift deletion
Se024	SEC24A	NM_021982.2c.2151_2158del CTCTTACC	YSAGSVYYYSSAQPSPSTEITEGTEIPYS EDWL	HLA-A*02:06	SVYYYSSA	9	328.5		2.44107	frameshift deletion
Se024	ARHGAP21	NM_020824.3c.3550_3552del AGA	EERGLEYTGIVPGNNAISSM	HLA-A*02:06	YVPGNNAI	9	219.9	9.46415		inframe deletion
Se024	ARHGAP21	NM_020824.3c.3550_3552del AGA	EERGLEYTGIVPGNNAISSM	HLA-C*08:01	YVPGNNAI	9	474.7	9.46415		inframe deletion
Se024	ARHGAP21	NM_020824.3c.3550_3552del AGA	EERGLEYTGIVPGNNAISSM	HLA-C*12:02	YVPGNNAI	9	309	9.46415		inframe deletion
Se026	PCGF3	NM_006315.5c.99_102delT TG	YLIDATTVTECTPSAGAAW	HLA-C*03:04	YLIDATTVT	9	469.1		12.6523	frameshift deletion
Se034	GEMIN5	NM_015465.4c.2560_2570del AGCCTGGACCA	RKARSLPLSTQIQRGASSGLFGTSNCKAL QRAE	HLA-A*33:03	TSNCKALQR	9	388.7		4.82677	frameshift deletion
Se034	GEMIN5	NM_015465.4c.2560_2570del AGCCTGGACCA	RKARSLPLSTQIQRGASSGLFGTSNCKAL QRAE	HLA-C*14:03	FGTSNCKAL	9	477.4		4.82677	frameshift deletion
Se034	GEMIN5	NM_001252156.1c.2557_256 7delAGCCTGGACCA	RKARSLPLSTQIQRGASSGLFGTSNCKAL QRAE	HLA-B*39:01	RKARSLPL	9	241.4		4.82677	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-A*33:03	VMEIHSKYWR	10	108.4		1.75335	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-C*14:03	KYWRPQRGV	9	458.5		1.75335	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-C*14:03	YWRPQRGVL	9	36		1.75335	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-C*07:02	YWRPQRGVL	9	461.4		1.75335	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-A*33:03	MEIHSKYWR	9	269.6		1.75335	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-A*33:03	HSKYWRPQR	9	12.9		1.75335	frameshift deletion
Se034	HDAC4	NM_006037.3c.3088_3106del TGCTGCAGCGCACAAACC T	KVMEIHSKYWRPQRGVL	HLA-A*33:03	IHSKYWRPQR	10	213.1		1.75335	frameshift deletion
Se034	LRFN4	NM_024036.4c.780_795delG CCCGCCGTGGCCGGC	RPDDLETCASPATSGQCPRASSPVSRLP ATRSASGCWKASGPRCAGPWWTPRLPCT GSVLTGTWLATPPEPLSPTGP	HLA-C*14:03	RLPCTGSVL	9	152.5		17.9247	frameshift deletion



Se034	LRFN4	NM_024036.4c.780_795delG CCCGCCTGGCCGGC	RPDDLETASPATSGQCPRASSPVSRLP ATRSASGCWKASGPRCGAGPWVTPRLPCT GSVLTGWLATPPEGLSPTGP	HLA-A*33:03	CGAGPWVTPR	10	127.2	17.9247	flameshift deletion
Se034	LRFN4	NM_024036.4c.780_795delG CCCGCCTGGCCGGC	RPDDLETASPATSGQCPRASSPVSRLP ATRSASGCWKASGPRCGAGPWVTPRLPCT GSVLTGWLATPPEGLSPTGP	HLA-A*33:03	VSRPSLPATR	10	462.3	17.9247	flameshift deletion
Se034	LRFN4	NM_024036.4c.780_795delG CCCGCCTGGCCGGC	RPDDLETASPATSGQCPRASSPVSRLP ATRSASGCWKASGPRCGAGPWVTPRLPCT GSVLTGWLATPPEGLSPTGP	HLA-A*33:03	GAGPWVTPR	9	331.8	17.9247	flameshift deletion
Se035	MZF1	NM_198055.1c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	HQLTHTEER	9	245.3	4.14964	flameshift deletion
Se035	MZF1	NM_198055.1c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-C*03:03	SAHGRTAFPL	10	445.4	4.14964	flameshift deletion
Se035	MZF1	NM_198055.1c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*26:01	ESAHGRTAF	9	330.6	4.14964	flameshift deletion
Se035	MZF1	NM_003422.2c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	GLRAQRAAPGR	10	231.9	4.14964	flameshift deletion
Se035	MZF1	NM_003422.2c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	RLWPLRAQR	10	13.3	4.14964	flameshift deletion
Se035	MZF1	NM_003422.2c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	RASESAHGR	9	82.2	4.14964	flameshift deletion
Se035	MZF1	NM_198055.1c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-B*35:01	ESAHGRTAF	9	270.1	4.14964	flameshift deletion
Se035	MZF1	NM_003422.2c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	HGRTAFPLR	9	40.7	4.14964	flameshift deletion
Se035	MZF1	NM_198055.1c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	AHGRTAFPLR	10	200	4.14964	flameshift deletion
Se035	MZF1	NM_003422.2c.1232_1245del CGTTCGTGTGCCGC	LRHQLTHTEERRLWPLRAQRAAPGRASES AHGRTAFPLR	HLA-A*31:01	RHQLTHTEER	10	208.7	4.14964	flameshift deletion
Se035	EWSR1	NM_013986.3c.1356_1370del GAAGCCTCCAATGAA	QGSKLVSLARNSMRGLPPRE	HLA-A*31:01	SMRGLPPR	9	13	23.421	inframe deletion
Se035	EWSR1	NM_013986.3c.1356_1370del GAAGCCTCCAATGAA	QGSKLVSLARNSMRGLPPRE	HLA-A*31:01	VSLARNSMR	9	20.1	23.421	inframe deletion
Se035	EWSR1	NM_013986.3c.1356_1370del GAAGCCTCCAATGAA	QGSKLVSLARNSMRGLPPRE	HLA-A*31:01	KVSLARNSMR	10	17.3	23.421	inframe deletion
Se035	EWSR1	NM_013986.3c.1356_1370del GAAGCCTCCAATGAA	QGSKLVSLARNSMRGLPPRE	HLA-A*31:01	NSMRGLPPR	10	91	23.421	inframe deletion
Se035	EWSR1	NM_013986.3c.1356_1370del GAAGCCTCCAATGAA	QGSKLVSLARNSMRGLPPRE	HLA-A*31:01	GSKLVSLAR	10	119.6	23.421	inframe deletion
Se035	EWSR1	NM_013986.3c.1356_1370del GAAGCCTCCAATGAA	QGSKLVSLARNSMRGLPPRE	HLA-A*31:01	SMRGLPPRE	10	343.4	23.421	inframe deletion
Se037	ZNF821	NM_001201552.1c.245_253d eTCAAAGTGG	SSHTSEEDGGVEKELENTEQPV	HLA-B*40:02	KELENTEQPV	10	89.8	1.73446	inframe deletion
Se037	DNASE1L1	NM_001009932.2c.291_302d eGACGTATGTGTA	SSPQLGRSTYMDFYRSHKTQVL	HLA-C*12:02	YRSHKTQVL	9	263	6.15656	inframe deletion
Se039	TP53	NM_001276761.1c.56delC	PDDIEQWFTEDQVQMKLPECQRLLPPWPL HQQLLHRRPLHQPPPGCHLLSLPRKPTRA ATVSVWASCILGQPSL	HLA-B*55:02	LPPWPLHQQL	10	349.6	7.57655	flameshift deletion
Se039	TP53	NM_001126114.2c.173delC	PDDIEQWFTEDQVQMKLPECQRLLPPWPL HQQLLHRRPLHQPPPGCHLLSLPRKPTRA ATVSVWASCILGQPSL	HLA-A*02:06	ATVSVWASCI	10	486.6	7.57655	flameshift deletion

Se039	TP53	NM_001276696.1c.56delC	PDDIEQWFTEDQVQMKLPECQRLPPWPL HQQLHRRPLHQPPGCHLLSLPRKPTRA ATVSVWASCILGQPSL	HLA-B*40:02	QQLHRRPL	9	265.2	7.57655	flameshift deletion
Se039	TP53	NM_001276696.1c.56delC	PDDIEQWFTEDQVQMKLPECQRLPPWPL HQQLHRRPLHQPPGCHLLSLPRKPTRA ATVSVWASCILGQPSL	HLA-B*55:02	LPRKPTRAA	9	31.5	7.57655	flameshift deletion
Se039	TP53	NM_001276696.1c.56delC	PDDIEQWFTEDQVQMKLPECQRLPPWPL HQQLHRRPLHQPPGCHLLSLPRKPTRA ATVSVWASCILGQPSL	HLA-A*02:06	CQRLPPWPL	10	422.3	7.57655	flameshift deletion
Se039	TP53	NM_001276696.1c.56delC	PDDIEQWFTEDQVQMKLPECQRLPPWPL HQQLHRRPLHQPPGCHLLSLPRKPTRA ATVSVWASCILGQPSL	HLA-B*55:02	LPRKPTRAA	10	203.9	7.57655	flameshift deletion
Se039	USP15	NM_001252078.1c.2773_278 8delGCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	FLLTEKLV	10	368.9	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:19	FLLTEKLV	10	384.3	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-B*40:02	TEKLVQL	9	323.5	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:19	FLLTEKLV	10	413.4	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	LSVELAFFL	9	35.6	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	FLLTEKLV	9	41.5	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	SVELAFFL	9	446.9	9.11953	flameshift deletion
Se039	USP15	NM_001252078.1c.2773_278 8delGCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	LSVELAFFL	10	146.9	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-B*40:02	VELAFFLT	9	96.6	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	LSVELAFFL	10	71.2	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	FLLTEKLV	10	230.8	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:06	SVELAFFLT	10	427.4	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:19	LSVELAFFL	10	20.2	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-A*02:19	FLLTEKLV	9	36.7	9.11953	flameshift deletion
Se039	USP15	NM_006313.2c.2686_2701del GCATATGTACTCTTCT	TASEQIVSKATRDKTLSELAFLLTEKL KVLQPLASH	HLA-B*40:02	SVELAFFLT	10	136.9	9.11953	flameshift deletion
Se039	CAND1	NM_018448.4c.2852_2854del TTG	CEAEEGTRNVAECLGKLTLD	HLA-B*40:02	AECLGKLT	9	35.3	36.0129	inframe deletion
Se039	CAND1	NM_018448.4c.2852_2854del TTG	CEAEEGTRNVAECLGKLTLD	HLA-B*40:02	AECLGKLT	10	219.8	36.0129	inframe deletion
Se039	MCTP2	NM_018349.3c.1083_1084ins	QLWNGIISITFVGREELRRKHDRDVCVPK TGRSEV	HLA-A*02:06	QLWNGIIS	9	20	1.11272	frameshift insertion
Se039	MCTP2	NM_018349.3c.1083_1084ins	QLWNGIISITFVGREELRRKHDRDVCVPK TGRSEV	HLA-A*02:19	QLWNGIIS	9	19.8	1.11272	frameshift insertion

Se039	MCTP2	NM_018349.3c.1083_1084ins	QLWNGIISITFVGREELRRKHDRDVCVK TGRSEV	HLA-B*55:02	CPVKTGRSEV	10	308.7	1.11272	frameshift insertion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	TSSGIQTSR	9	114.5	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	VFQGSWSWR	9	29.4	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	ASRARSCTR	10	37.3	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	KVFQGSWSWR	10	9.9	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	SGRQPGALR	9	88	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	SSGIQTSRR	9	350.6	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-C*03:04	SAPLWMCTL	9	114.3	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	WSWRASRAR	9	57	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	GSWSWRASR	9	4.7	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	TTSSGIQTSR	10	319.8	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	CSGRQPGALR	10	170.7	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	GSWSWRASRA	10	82.7	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	SWSWRASRAR	10	65.1	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*24:02	IFGVSACGTW	10	389.4	109.468	frameshift deletion
Se044	AGRN	NM_001305275.1c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	RARSCTRPR	10	22.2	109.468	frameshift deletion
Se044	AGRN	NM_198576.3c.3408delC	SNCPATKVFQGSWSWRASRARSCTRPR WLTPSQNSGSRQPGALRAPWTTSSGIQTS RRIFGVSACGTWGPANPSAPLWMCTLTPP QPSGHPTWPGPCSGRSRCPGAGPWG	HLA-A*31:01	QGSWSWRASR	10	16.9	109.468	frameshift deletion
Se044	RAI14	NM_001145522.1c.2345_2346delTG	VSVLASKLKEREREGPFRGCPD	HLA-A*31:01	ASKLKERER	9	92	11.5451	frameshift deletion
Se044	RAI14	NM_001145521.1c.2432_2433delTG	VSVLASKLKEREREGPFRGCPD	HLA-A*31:01	KLKERERER	9	66.5	11.5451	frameshift deletion
Se044	SHROOM3	NM_020859.3c.4785_4805delGACTGGCTTCCAGACTCCA	PGAHVVSQTSIKGSEAEESTP	HLA-C*03:04	HVVVSQTSI	9	254.7	7.25097	inframe deletion
Se044	FBXO21	NM_033624.2c.935_955delCTCGGCAGTTGGGAGTCCAC	PISMSLLYLITIVPVNFPESHFL	HLA-A*24:02	LYLITIVPV	9	266.4	13.6141	inframe deletion
Se044	FBXO21	NM_033624.2c.935_955delCTCGGCAGTTGGGAGTCCAC	PISMSLLYLITIVPVNFPESHFL	HLA-B*52:01	ISMSLLYLTI	10	485.7	13.6141	inframe deletion
Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYCYKCRKAYFG	HLA-A*24:02	CYKCRKAYF	9	266.6	5.39712	inframe deletion

Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYVYKCRKAYFG	HLA-A*31:01	AMNRYVYK	9	15.3	5.39712	inframe deletion
Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYVYKCRKAYFG	HLA-A*31:01	RYVYKCRK	9	57.5	5.39712	inframe deletion
Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYVYKCRKAYFG	HLA-C*03:04	YAMNRYVY	9	205.3	5.39712	inframe deletion
Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYVYKCRKAYFG	HLA-C*12:02	YAMNRYVY	9	32.7	5.39712	inframe deletion
Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYVYKCRKAYFG	HLA-A*31:01	YAMNRYVYK	10	39	5.39712	inframe deletion
Se044	MYCBP2	NM_015057.4c.13619_13627delCATATTATG	NDPAGYAMNRYVYKCRKAYFG	HLA-A*31:01	MNRYVYKCR	10	46.9	5.39712	inframe deletion
Se050	ARHGEF7	NM_001113512.2c.493_512delCGTGTGGAGAGGGGAGGCTG	SFSKGDVIHVTGGHTQRPDLVPPQLRARGQGQREACVSQIRNTEEPSQRI	HLA-B*07:02	RPDLVPPQL	10	17.6	4.94892	flameshift deletion
Se050	CA11	NM_001217.4c.420_424delCAGACG	LSELRLIFGARSRLGTSDQPPGLLC	HLA-C*03:04	LLFGARSRL	9	369.5	3.46632	flameshift deletion
Se050	IQGAP1	NM_003870.3c.1180_1195delCTGATTAATGCTGCAA	QQYQRRLAAVASRRVLLRRLFWN	HLA-C*07:02	RRVLLRRLF	9	126.3	27.7298	flameshift deletion
Se050	IQGAP1	NM_003870.3c.1180_1195delCTGATTAATGCTGCAA	QQYQRRLAAVASRRVLLRRLFWN	HLA-B*07:02	AAVASRRVL	9	130.1	27.7298	flameshift deletion
Se050	IQGAP1	NM_003870.3c.1180_1195delCTGATTAATGCTGCAA	QQYQRRLAAVASRRVLLRRLFWN	HLA-C*03:04	AAVASRRVL	9	76.2	27.7298	flameshift deletion
Se050	IQGAP1	NM_003870.3c.1180_1195delCTGATTAATGCTGCAA	QQYQRRLAAVASRRVLLRRLFWN	HLA-C*03:04	LAASRRV	9	379	27.7298	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-B*07:02	HPHPLINPWA	10	484.5	3.41291	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-B*07:02	INPWAAVRAA	10	379.4	3.41291	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-B*07:02	NPWAAVRAA	9	101.7	3.41291	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-B*07:02	HPHPLINPW	9	353.4	3.41291	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-C*03:04	CSLPHPHPL	9	21.1	3.41291	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-B*07:02	HPLINPWA	10	48.1	3.41291	flameshift deletion
Se050	IRS1	NM_005544.2c.3587_3599delCCCCTGAACCGCA	VKDFKQCPQECSLPHPHLINPWAAVRAAPPAAQVRI	HLA-C*03:04	RAAPPAAQV	9	33.5	3.41291	flameshift deletion
Se050	ROBO4	NM_019055.5c.1570_1607delTGGTTGGCAGACACTTGGCGTTCACCTCTGGCTCTCG	LKHRMDHSDSQPEQQQQPQASGGGCGPTRLSSLLALLGLPKPRRAPASRHQHLWLPHR	HLA-B*07:02	APASRHQHF	9	62.7	1.42142	flameshift deletion
Se050	ROBO4	NM_001301088.1c.1135_1172delTGGTTGGCAGACACTTGGCGTTCACCTCTGGCTCTCG	LKHRMDHSDSQPEQQQQPQASGGGCGPTRLSSLLALLGLPKPRRAPASRHQHLWLPHR	HLA-B*07:02	LPKPRRAPA	9	29.2	1.42142	flameshift deletion
Se050	ROBO4	NM_001301088.1c.1135_1172delTGGTTGGCAGACACTTGGCGTTCACCTCTGGCTCTCG	LKHRMDHSDSQPEQQQQPQASGGGCGPTRLSSLLALLGLPKPRRAPASRHQHLWLPHR	HLA-B*07:02	GTRLSSLL	9	50.7	1.42142	flameshift deletion
Se050	ROBO4	NM_001301088.1c.1135_1172delTGGTTGGCAGACACTTGGCGTTCACCTCTGGCTCTCG	LKHRMDHSDSQPEQQQQPQASGGGCGPTRLSSLLALLGLPKPRRAPASRHQHLWLPHR	HLA-C*07:02	SRHQHLWL	9	27.4	1.42142	flameshift deletion

Se050	ROBO4	NM_019055.5c.1570_1607del TGGTTGGCAGACACTTGG CGTTCACCTCTGGCTCT CG	LKHRMDHSDSQPEQQQQPQASAGGGCP GPTRLSSLLALLGLPKPRRAPASRHQHFLW LPHR	HLA-B*07:02	GLPKPRRAPA	10	423	1.42142	flameshift deletion
Se050	ROBO4	NM_019055.5c.1570_1607del TGGTTGGCAGACACTTGG CGTTCACCTCTGGCTCT CG	LKHRMDHSDSQPEQQQQPQASAGGGCP GPTRLSSLLALLGLPKPRRAPASRHQHFLW LPHR	HLA-B*07:02	RAPASRHQHF	10	132.6	1.42142	flameshift deletion
Se050	ROBO4	NM_019055.5c.1570_1607del TGGTTGGCAGACACTTGG CGTTCACCTCTGGCTCT CG	LKHRMDHSDSQPEQQQQPQASAGGGCP GPTRLSSLLALLGLPKPRRAPASRHQHFLW LPHR	HLA-B*07:02	APASRHQHF	10	41.5	1.42142	flameshift deletion
Se050	ROBO4	NM_019055.5c.1570_1607del TGGTTGGCAGACACTTGG CGTTCACCTCTGGCTCT CG	LKHRMDHSDSQPEQQQQPQASAGGGCP GPTRLSSLLALLGLPKPRRAPASRHQHFLW LPHR	HLA-B*07:02	CPGPTRLSSL	10	19	1.42142	flameshift deletion
Se050	ROBO4	NM_019055.5c.1570_1607del TGGTTGGCAGACACTTGG CGTTCACCTCTGGCTCT CG	LKHRMDHSDSQPEQQQQPQASAGGGCP GPTRLSSLLALLGLPKPRRAPASRHQHFLW LPHR	HLA-C*07:02	TRLSSLLAL	9	137.9	1.42142	flameshift deletion
Se050	ZBTB44	NM_001301099.1c.1228delC	FQCPTCGVRFTVFRT	HLA-B*07:02	CPTCGVRFTV	10	401.8	7.45391	flameshift deletion
Se050	TNS1	NM_022648.5c.4477_4500del TTCCGAGGCGGTACGGG CTGGCC	PGAFIIRDShSMKVSSPPPTIM	HLA-C*03:04	FIIRDShSM	9	11	3.62945	inflammation deletion
Se050	TNS1	NM_022648.5c.4477_4500del TTCCGAGGCGGTACGGG CTGGCC	PGAFIIRDShSMKVSSPPPTIM	HLA-C*03:04	VSSPPPTIM	9	58.7	3.62945	inflammation deletion
Se050	TNS1	NM_022648.5c.4477_4500del TTCCGAGGCGGTACGGG CTGGCC	PGAFIIRDShSMKVSSPPPTIM	HLA-C*07:02	IRDShSMKV	9	425.3	3.62945	inflammation deletion
Se051	BRCA1	NM_007300.3c.803delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-C*03:04	YSMRTAVYY	9	300.6	1.02829	flameshift deletion
Se051	BRCA1	NM_007297.3c.662delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-B*07:02	MPAHYSMRTA	10	120.1	1.02829	flameshift deletion
Se051	BRCA1	NM_007300.3c.803delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-A*24:02	MWSHVAQIL	9	296.1	1.02829	flameshift deletion
Se051	BRCA1	NM_007297.3c.662delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-C*07:02	HYSMRTAVY	9	139.4	1.02829	flameshift deletion
Se051	BRCA1	NM_007300.3c.803delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-C*03:04	WSHVAQILM	9	138.8	1.02829	flameshift deletion
Se051	BRCA1	NM_007297.3c.662delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-C*07:02	MRTAVYYSL	9	86.3	1.02829	flameshift deletion
Se051	BRCA1	NM_007300.3c.803delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-B*07:02	HPEKYQGSSV	10	61	1.02829	flameshift deletion
Se051	BRCA1	NM_007300.3c.803delA	HPEKYQGSSVSTCMWSHVAQILMPAHYS MRTAVYYSLKTE	HLA-C*03:04	ILMPAHYSM	9	27	1.02829	flameshift deletion
Se051	KIAA1161	NM_020702.4c.1263_1284del GCTGGTGCGCTGGTGGAA CGGC	FVREPTGRLPASARC	HLA-C*03:04	FVREPTGRL	9	144.7	9.34659	flameshift deletion
Se051	KIAA1161	NM_020702.4c.1263_1284del GCTGGTGCGCTGGTGGAA CGGC	FVREPTGRLPASARC	HLA-B*40:02	REPTGRLPA	9	414.4	9.34659	flameshift deletion
Se051	KIAA1161	NM_020702.4c.1263_1284del GCTGGTGCGCTGGTGGAA CGGC	FVREPTGRLPASARC	HLA-B*07:02	FVREPTGRL	9	134.7	9.34659	flameshift deletion
Se051	POLR3C	NM_001303456.1c.493_518del eIGCAGACACACTTTGT ACAACGCTG	YAEVSNFVRLPFGTYH	HLA-C*03:04	YAEVSNFV	9	230.1	12.326	flameshift deletion
Se051	POLR3C	NM_006468.7c.454_479delG CAGACACACACTTTGTAC AACGCTG	YAEVSNFVRLPFGTYH	HLA-B*40:02	AEVSNFVRL	10	30.2	12.326	flameshift deletion
Se051	POLR3C	NM_006468.7c.454_479delG CAGACACACACTTTGTAC AACGCTG	YAEVSNFVRLPFGTYH	HLA-A*26:01	FVRLPFGTY	9	159.1	12.326	flameshift deletion

Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-A*24:02	LYSRRFFPY	9	358.2	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-B*40:02	KERGLYAL	9	16.6	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-C*03:04	YSRRFFPYL	9	113.2	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-C*07:02	SRRFFPYLM	9	38.2	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-C*07:02	LYSRRFFPY	9	186.1	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-C*07:02	YSRRFFPYL	9	347.4	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-A*24:02	LYSRRFFPYL	10	112.3	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-B*40:02	KKERGLYAL	10	85.8	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-B*40:02	KERGLYALI	10	121.9	29.872	flameshift deletion
Se051	PSMB1	NM_002793.3c.398_422delA TGTTTACAACATCATCGG TGGACT	TILYSRRFFPYLMKKERGLYALIQ	HLA-C*07:02	YSRRFFPYLM	10	181.2	29.872	flameshift deletion
Se054	PLEKHG5	NM_001265592.1c.2222_224 8delACACGTTCCAGGCCA GTGGCCAGGCCT	YLNHFHSAVGALCRGWVDTIYN	HLA-A*33:03	HSAVGALCR	9	482.5	4.77545	inflammation deletion
Se054	PLEKHG5	NM_001265592.1c.2222_224 8delACACGTTCCAGGCCA GTGGCCAGGCCT	YLNHFHSAVGALCRGWVDTIYN	HLA-C*14:02	YLNHFHSAV	9	72.7	4.77545	inflammation deletion
Se054	PLEKHG5	NM_001265592.1c.2222_224 8delACACGTTCCAGGCCA GTGGCCAGGCCT	YLNHFHSAVGALCRGWVDTIYN	HLA-C*14:02	EFHSAVGAL	9	98.7	4.77545	inflammation deletion
Se054	PLEKHG5	NM_001265592.1c.2222_224 8delACACGTTCCAGGCCA GTGGCCAGGCCT	YLNHFHSAVGALCRGWVDTIYN	HLA-C*14:03	YLNHFHSAV	9	72.7	4.77545	inflammation deletion
Se054	PLEKHG5	NM_001265592.1c.2222_224 8delACACGTTCCAGGCCA GTGGCCAGGCCT	YLNHFHSAVGALCRGWVDTIYN	HLA-C*14:03	EFHSAVGAL	9	98.7	4.77545	inflammation deletion
Se059	MTOR	NM_004958.3c.3674_3678del AAGAG	CRIVKGYTLADGGSFDPASDA	HLA-B*39:02	CRIVKGYTL	9	273.9	3.98083	flameshift deletion
Se059	MTOR	NM_004958.3c.3674_3678del AAGAG	CRIVKGYTLADGGSFDPASDA	HLA-C*07:02	CRIVKGYTL	9	201.5	3.98083	flameshift deletion
Se059	MTOR	NM_004958.3c.3674_3678del AAGAG	CRIVKGYTLADGGSFDPASDA	HLA-C*03:04	LADGGSFDP	9	316	3.98083	flameshift deletion
Se059	MTOR	NM_004958.3c.3674_3678del AAGAG	CRIVKGYTLADGGSFDPASDA	HLA-C*03:04	YTLADGGSF	9	24.5	3.98083	flameshift deletion
Se059	PER2	NM_022817.2c.1209delG	FDYSPIRFRARTESTSRWTPAGPASSTHGA GKSPSSLGGTKSGWAL	HLA-A*31:01	YSPIRFRAR	9	198	2.51843	flameshift deletion
Se059	PER2	NM_022817.2c.1209delG	FDYSPIRFRARTESTSRWTPAGPASSTHGA GKSPSSLGGTKSGWAL	HLA-A*31:01	RARTESTSR	9	33.9	2.51843	flameshift deletion
Se059	PER2	NM_022817.2c.1209delG	FDYSPIRFRARTESTSRWTPAGPASSTHGA GKSPSSLGGTKSGWAL	HLA-A*31:01	DYSPIRFRAR	10	312.1	2.51843	flameshift deletion
Se067	KMT2D	NM_003482.3c.1044delG	NHVAAGSGQERVLVIPPSPVTRPLLLRE	HLA-A*02:06	LVIPPSPVPT	10	184	13.7806	flameshift deletion

Se067	KMT2D	NM_003482.3c.10446delG	NHVAAGSGQERVLVIPPSLVPTRPLLRE	HLA-A*02:06	SLVPTRPLL	9	480.6	13.7806	flameshift deletion
Se067	KMT2D	NM_003482.3c.10446delG	NHVAAGSGQERVLVIPPSLVPTRPLLRE	HLA-A*02:06	RVLVIPPSL	9	325	13.7806	flameshift deletion
Se067	KMT2D	NM_003482.3c.10446delG	NHVAAGSGQERVLVIPPSLVPTRPLLRE	HLA-A*02:06	RVLVIPPSLV	10	397.1	13.7806	flameshift deletion
Se067	KMT2D	NM_003482.3c.10446delG	NHVAAGSGQERVLVIPPSLVPTRPLLRE	HLA-A*02:06	VIPPSLVPT	9	389.3	13.7806	flameshift deletion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*02:06	MQGYSLPSL	9	31.1	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*02:06	LMQGYSLPSL	10	158.2	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*02:06	VSTRFLTWV	9	205.5	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*02:06	MQGYSLPSLA	10	339.9	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*02:06	RVFSHEVLM	9	384.1	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*02:06	LTWVAFGGRV	10	429.5	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-A*24:02	TWVAFGGRVF	10	320.4	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-B*40:06	GENSAFPCPV	10	96	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-B*40:06	CEVSTRFLT	9	483.7	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-C*12:02	WVAFGGRVF	9	308.8	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-C*12:02	RVFSHEVLM	9	401.2	3.94194	frameshift insertion
Se067	TRAF6	NM_145803.2c.1509_1510ins	LVRCEVSTRFLTWFVAFGGRVFSHEVLMQ GYSLPSLAQKQLPGENSAFPCPVLNNMQT NKPREICNIY	HLA-C*12:02	FSHEVLMQGY	10	436.5	3.94194	frameshift insertion
Se068	CUX1	NM_001202543.1c.309_323del eACCAGCTTTGGATCT	YKRLIDVDPVGGQQLKLVQRL	HLA-A*31:01	QQLKLVQRL	9	259.2	2.58061	inframe deletion
Se068	ZRSR2	NM_005089.3c.1032_1055del AGACATCTACTTGCTCC AGATCG	NPNNFEWEANRTGSSFGKNSER	HLA-A*31:01	SSFGKNSER	9	18.5	7.80586	inframe deletion
Se068	ZRSR2	NM_005089.3c.1032_1055del AGACATCTACTTGCTCC AGATCG	NPNNFEWEANRTGSSFGKNSER	HLA-A*31:01	GSSFGKNSER	10	174.4	7.80586	inframe deletion
Se068	ZRSR2	NM_005089.3c.1032_1055del AGACATCTACTTGCTCC AGATCG	NPNNFEWEANRTGSSFGKNSER	HLA-B*15:01	WEANRTGSSF	10	84.1	7.80586	inframe deletion
Se071	TDRD7	NM_014290.2c.2472_2477del CTTCCC	IAHVYLFTPKNDPHRSINRQIT	HLA-A*31:01	LFTPKNDPHR	10	474.9	3.65031	inframe deletion
Se102	LMTK2	NM_014916.3c.814_836delT TTCTCACTCCGACTTAA ATGT	FLHSDLALRNCESGRLRNRIQQVQGGLY	HLA-A*33:03	FLHSDLALR	9	154.4	2.23482	flameshift deletion
Se102	LMTK2	NM_014916.3c.814_836delT TTCTCACTCCGACTTAA ATGT	FLHSDLALRNCESGRLRNRIQQVQGGLY	HLA-B*15:01	IQQVQGGLY	9	66.5	2.23482	flameshift deletion

Se102	LMTK2	NM_014916.3c.814_836delT TTCTCACCTCCGACTTAA ATGT	FLHSDLALRNCESGRLRNRIQVQGGLY	HLA-B*15:01	RIQVQGGLY	10	86.4	2.23482	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-C*14:03	MRASLWAAAL	9	28.9	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	PSSWMVPAER	10	481.4	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-B*15:01	SMRASLWAAAL	10	53.4	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-B*15:01	GTRIALTL	10	180.7	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-B*15:01	TLFSSTSM	10	229.9	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	LLFSSTSMR	10	280	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	STRCTATS	10	107.1	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*11:01	ATSRPSGPR	10	167.6	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-C*14:03	SSPWHSWL	9	429.6	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-C*14:03	LLFSSTSM	9	294.8	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-C*14:03	TRIALTL	9	183.5	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	TSRPSGPR	9	246.4	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*11:01	SSWMVPAER	9	135.9	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*11:01	LLFSSTSMR	9	176.4	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	SSWMVPAER	9	28.8	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-C*14:03	SWLTGGTRI	9	241.7	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	LLFSSTSMR	9	59.9	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-B*44:03	AERSSAVQM	9	417	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-B*15:01	LLFSSTSM	9	30.4	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-B*15:01	SMRASLWAA	9	238.4	4.95255	flameshift deletion
Se102	SMO	NM_005631.4c.663_675delC TTCACAGAGGCT	EGCGIQCQNPLSTRCTATS RSPWPHSWLTGGTRIALTL LFSSTSMRASLWAALAGW PSSWMVPAERSSAVQMAP	HLA-A*33:03	HSWLTGGTR	9	42.3	4.95255	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGACGCTTCTCCAGAG GCTG	AITLMLHSPDRHARGAVH ASLLPLGQRQAPEGTDL PGLLLPPGGRRQPAGAL CPGYPTAERGPTAALHGD CETVAPLLLETVLMWTQ GTGSTYCPGAFSAI	HLA-B*07:02	APLLETTVL	10	67.5	6.17157	flameshift deletion



Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	PPDRHARGAV	10	283.7	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	CPIGAFSAI	9	16.8	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	AVHASLLPL	9	264.4	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	APLLETTV	9	325	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-C*12:02	STYCPIGAF	9	131.6	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-C*12:02	WTQGTGSTY	9	321.6	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	YCPIGAFSAI	10	40.6	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	RGPQPAGALC	10	310.3	6.17157	flameshift deletion
Se104	ARMC7	NM_024585.3c.386_408delG CCGCAGCTTTCTCCAGAG GCTG	AITTLMHLSPPDRHARGAVHASLLPLGQR QAPEPGTDLPGGLLLPPGGRRGPAGALC PGYPTAERGPTAALHGDCEVAPLLETT TVLMWTQGTGSTYCPIGAFSAI	HLA-B*07:02	HARGAVHASL	10	56.7	6.17157	flameshift deletion
Se104	BRD7	NM_001173984.2c.830_831d eLAG	GEDGGCWQRERGLWRCRSTRLOESQQRK	HLA-A*24:02	CWQRERGLW	9	452.1	30.7135	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	FGGQSLPPF	9	313.8	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	IYSCSSLTGF	10	175	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-A*24:02	IYISYISIL	9	33.5	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-A*24:02	RFGGQSLPPF	10	143.8	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-A*24:02	RYWFAATVAV	10	168.9	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-A*24:02	IYSCSSLTGF	10	21.3	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-A*24:02	WFAATVAVPW	10	312.2	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	FISLWVQEL	9	202.4	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	RYWFAATVA	9	73.8	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	YWFAATVAV	9	12.6	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	AFRFGGQSL	9	43.2	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-C*14:02	SIYISYISIL	10	124.1	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIAFRFGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYS CSSLTGF AS	HLA-A*24:02	SIYISYISIL	10	118.3	9.57852	flameshift deletion

Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-A*24:02	SYISILRDL	9	90.2	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-C*12:02	FISLWVQEL	9	156.8	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-C*14:02	RYWFAATVAV	10	98.7	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-A*24:02	SLPPFISLW	9	149.1	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-A*24:02	IWSIYISYI	9	168.8	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-A*24:02	LWVQELDF	9	234.8	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-B*40:06	QELDFFIWSI	10	76.8	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-C*12:02	YSCSSLTGF	9	473.7	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-C*14:02	IYISYISIL	9	9.9	9.57852	flameshift deletion
Se105	DERL1	NM_024295.5c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-C*14:02	SYISILRDL	9	9.8	9.57852	flameshift deletion
Se105	DERL1	NM_001134671.2c.78delC	RYWFAATVAVPWSANSASSARPTSSSGPK PSFIARFRGGQSLPPFISLWVQELDFFIWSIY ISYISILRDLKQELLMGGQQTYYSCSSLTGF AS	HLA-C*12:02	FAATVAVPW	9	167.7	9.57852	flameshift deletion
Se105	ZBTB7B	NM_001256455.1c.419_420ins	PCVIAACMEISAGQWARSSQPGRG	HLA-B*40:06	MEISAGQWA	9	366.7	14.4855	frameshift insertion
Se108	KNTC1	NM_014708.4c.5465_5466delAA	NLEKVVWDMLEAMAMPFNKTW	HLA-A*11:01	LLEMAMPFNK	10	26.5	3.40901	flameshift deletion
Se108	KNTC1	NM_014708.4c.5465_5466delAA	NLEKVVWDMLEAMAMPFNKTW	HLA-A*02:01	KVWDMLEMA	10	137.9	3.40901	flameshift deletion
Se108	KNTC1	NM_014708.4c.5465_5466delAA	NLEKVVWDMLEAMAMPFNKTW	HLA-C*15:02	KVWDMLEMA	9	237.6	3.40901	flameshift deletion
Se108	KNTC1	NM_014708.4c.5465_5466delAA	NLEKVVWDMLEAMAMPFNKTW	HLA-B*40:01	LEKVVWDMLL	9	333.4	3.40901	flameshift deletion
Se108	KNTC1	NM_014708.4c.5465_5466delAA	NLEKVVWDMLEAMAMPFNKTW	HLA-A*02:01	KVWDMLEMA	9	54.6	3.40901	flameshift deletion
Se108	KNTC1	NM_014708.4c.5465_5466delAA	NLEKVVWDMLEAMAMPFNKTW	HLA-A*02:01	MLEAMAMPF	9	46.7	3.40901	flameshift deletion
Se108	SLC30A6	NM_001193513.1c.753_764delTCTTTGTATTAC	FVLIDLAFAYMLIEINNYFA	HLA-A*02:01	MLIEINNYF	9	50.6	10.5397	inframe deletion
Se108	SLC30A6	NM_001193513.1c.753_764delTCTTTGTATTAC	FVLIDLAFAYMLIEINNYFA	HLA-A*02:01	FVLIDLAGA	9	83.2	10.5397	inframe deletion
Se108	SLC30A6	NM_001193513.1c.753_764delTCTTTGTATTAC	FVLIDLAFAYMLIEINNYFA	HLA-A*02:01	MLIEINNYFA	10	13	10.5397	inframe deletion
Se108	SLC30A6	NM_001193513.1c.753_764delTCTTTGTATTAC	FVLIDLAFAYMLIEINNYFA	HLA-A*02:01	VLIDLAFAGA	10	74.1	10.5397	inframe deletion
Se108	SLC30A6	NM_001193513.1c.753_764delTCTTTGTATTAC	FVLIDLAFAYMLIEINNYFA	HLA-A*02:01	IDLAFAYM	10	93.4	10.5397	inframe deletion

Se108	SLC30A6	NM_001193513.1c.753_764delTCTCTTTGTATTAC	FVLIDLAFAYMLIEINNYFA	HLA-A*02:01	YMLIEINNYF	10	156.6	10.5397	inframe deletion
Se108	RRP9	NM_004704.4c.1279_1293delCTCAAGTCTCCAGC	CDIPLVGFINSSGDFLVAGVGQ	HLA-A*02:01	FINSSGDFL	9	263	13.3939	inframe deletion
Se108	RRP9	NM_004704.4c.1279_1293delCTCAAGTCTCCAGC	CDIPLVGFINSSGDFLVAGVGQ	HLA-A*02:01	FINSSGDFLV	10	35.9	13.3939	inframe deletion
Se108	HOOK3	NM_032410.3c.591_599delAAGATGCCA	NEALSAKEEIAHELDQMVAALQ	HLA-C*15:02	IAHELDMQV	9	387.8	3.21499	inframe deletion
Se108	HOOK3	NM_032410.3c.591_599delAAGATGCCA	NEALSAKEEIAHELDQMVAALQ	HLA-B*40:01	HELDQMVAAL	10	32.5	3.21499	inframe deletion
Se110	RASA1	NM_002890.2c.943_965delGATGGATGGATGTGGGTTCACAAA	GDMFIVHNELEFKNR	HLA-C*12:02	FIVHNELEF	9	244.3	3.03187	flameshift deletion
Se110	RASA1	NM_022650.2c.412_434delGATGGATGGATGTGGGTTCACAAA	GDMFIVHNELEFKNR	HLA-A*24:02	MFIVHNELEF	10	137.9	3.03187	flameshift deletion
Se111	TP53	NM_001276698.1c.191delC	FRHSVVVPYEPLRLALTVPPSTTTTCVTVPAWAA	HLA-B*40:06	YEPLRLALTV	10	100.5	5.01064	flameshift deletion
Se111	TP53	NM_001276761.1c.551delC	FRHSVVVPYEPLRLALTVPPSTTTTCVTVPAWAA	HLA-C*07:02	FRHSVVVPY	9	51.8	5.01064	flameshift deletion
Se111	ATXN3	NM_001164774.1c.199_201delAAA	EDYRTFLQAAAAATAAAAAAAG	HLA-A*02:01	FLQAAAAAT	9	299.1	5.2384	inframe deletion
Se111	ATXN3	NM_001164774.1c.199_201delAAA	EDYRTFLQAAAAATAAAAAAAG	HLA-A*02:01	FLQAAAAATA	10	326.9	5.2384	inframe deletion
Se111	ATXN3	NM_001164776.1c.244_246delAAA	DSGFFSIQAAAAATAAAAAAAG	HLA-A*26:02	FSIQTAAAA	9	415.6	5.2384	inframe deletion
Se111	ATXN3	NM_001164776.1c.244_246delAAA	DSGFFSIQAAAAATAAAAAAAG	HLA-C*08:01	FSIQTAAAA	9	354.4	5.2384	inframe deletion
Se112	EPHA1	NM_005232.4c.102_112delCAAGGCACAGG	ARAKEVTLMDTRRAGLAAGSPKRWVE	HLA-A*33:03	EVTLMDTRR	9	170.9	4.13806	flameshift deletion
Se112	EPHA1	NM_005232.4c.102_112delCAAGGCACAGG	ARAKEVTLMDTRRAGLAAGSPKRWVE	HLA-A*11:01	AGLAAGSPK	9	179.6	4.13806	flameshift deletion
Se112	EPHA1	NM_005232.4c.102_112delCAAGGCACAGG	ARAKEVTLMDTRRAGLAAGSPKRWVE	HLA-A*11:01	RAGLAAGSPK	10	135.2	4.13806	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-C*14:03	TLRSCALPL	9	193	8.33716	flameshift deletion
Se112	GALT	NM_001258332.1c.603_612delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-A*33:03	SWLATKCLLR	10	382	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-A*33:03	ATKCLLRLR	9	74.6	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-A*33:03	SCTLITTLR	9	489.5	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-B*35:01	LPLSGNSWL	9	138.6	8.33716	flameshift deletion
Se112	GALT	NM_001258332.1c.603_612delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-A*33:03	LATKCLLRLR	10	192.7	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delGGCAACTGG	WHGAPTGEAGTIGSCTLITTLRSCALPLSGNSWLATKCLLRLRGTSPSRLQRD	HLA-C*14:03	LRLRGTSP	9	113.8	8.33716	flameshift deletion

Se112	GALT	NM_000155.3c.930_939delG GCCAACTGG	WHGAPTGSEAGTIGSCTLITTLRSCALPLS GNSWLATKCLLRRLRGTSPLSRLQRD	HLA-A*11:01	SGNSWLATK	9	65.7	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delG GCCAACTGG	WHGAPTGSEAGTIGSCTLITTLRSCALPLS GNSWLATKCLLRRLRGTSPLSRLQRD	HLA-A*11:01	LSGNSWLATK	10	107.2	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delG GCCAACTGG	WHGAPTGSEAGTIGSCTLITTLRSCALPLS GNSWLATKCLLRRLRGTSPLSRLQRD	HLA-A*11:01	GTPLSRLQR	10	160.3	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delG GCCAACTGG	WHGAPTGSEAGTIGSCTLITTLRSCALPLS GNSWLATKCLLRRLRGTSPLSRLQRD	HLA-A*11:01	GSCTLITTLR	10	308.9	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delG GCCAACTGG	WHGAPTGSEAGTIGSCTLITTLRSCALPLS GNSWLATKCLLRRLRGTSPLSRLQRD	HLA-C*14:03	SWLATKCLL	9	105.2	8.33716	flameshift deletion
Se112	GALT	NM_000155.3c.930_939delG GCCAACTGG	WHGAPTGSEAGTIGSCTLITTLRSCALPLS GNSWLATKCLLRRLRGTSPLSRLQRD	HLA-A*33:03	WLATKCLLR	9	221.2	8.33716	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-A*33:03	SSPFSVIETR	10	356.9	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-A*33:03	TPYNTHREL	10	218.3	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-C*14:03	LNRYRGGTPY	9	250.7	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-A*11:01	SSPFSVIETR	10	299.9	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-C*14:03	HRELSSPFS	9	186.9	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-A*33:03	SPFSVIETR	9	481.4	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-B*35:01	TTSGGTPAM	9	98.9	21.0117	flameshift deletion
Se112	IGF2R	NM_000876.3c.2150_2159del ATGAAAGACA	QLNYRGGTPYNTHRELSSPFSVIETREWA SLNIRKRITPPTTSGGTPAMPARRSPWNA	HLA-C*14:03	TTSGGTPAM	9	436.9	21.0117	flameshift deletion
Se112	TP53	NM_001126113.2c.578_581d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-A*33:03	VVWCPMSRLR	10	160.7	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-A*33:03	IVWCPMSR	9	25.7	14.2036	flameshift deletion
Se112	TP53	NM_001126115.1c.182_185d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-B*35:01	CPMSRLRLAL	10	397.5	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-A*11:01	IVWCPMSR	9	79.8	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-B*44:03	SEWKEICVWS	10	150	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-A*33:03	WWCPMSRLR	9	479.7	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-B*44:03	KEICVWSIW	9	10.7	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-B*44:03	SEWKEICVW	9	12.3	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464d eLATCT	CSDSDGLAPPQSEWKEICVWSIWMETL FDIVWCPMSRLRLALTVPPSTTTTCVTV PAWAA	HLA-B*44:03	TETLFDIVW	9	45.3	14.2036	flameshift deletion

Se112	TP53	NM_001276695.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-C*08:01	WSIWMETL	9	84.5	14.2036	flameshift deletion
Se112	TP53	NM_001276695.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-C*14:03	VWVCPMSRL	9	257.2	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-A*33:03	DIVWVCPMSR	10	46.9	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-B*44:03	WKEICVWSIW	10	27.1	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-B*44:03	KEICVWSIWM	10	52.8	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-B*44:03	TETLFDIVWW	10	69.7	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-B*44:03	MTETLFDIVW	10	69.8	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-B*44:03	LSEWKEICVW	10	81.9	14.2036	flameshift deletion
Se112	TP53	NM_001126118.1c.461_464delATCT	CSDSDDLAPPQSEWKEICVWSIWMETLFDIVWCPMSRLRLALTVPPSTTTTCVTVPAWAA	HLA-C*14:03	WSIWMETL	9	311	14.2036	flameshift deletion
Se112	ZCWPW1	NM_001258008.1c.106delT	KSYLLPCSPNPLRRRPRGSVPQRQRP	HLA-C*14:03	LLPCSPNPL	9	197.6	1.14403	flameshift deletion
Se112	SRA1	NM_001035235.3c.14_22delCCGCTGGCC	MTRCQAEVEMAELYV	HLA-B*44:03	AEVEMAELY	9	7.6	10.1833	inframe deletion
Se112	SRA1	NM_001035235.3c.14_22delCCGCTGGCC	MTRCQAEVEMAELYV	HLA-B*44:03	QAEVEMAELY	10	29.2	10.1833	inframe deletion
Se112	SRA1	NM_001035235.3c.14_22delCCGCTGGCC	MTRCQAEVEMAELYV	HLA-B*44:03	AEVEMAELYV	10	51.6	10.1833	inframe deletion
Se112	TBC1D32	NM_152730.5c.1128_1133delATATAA	RTTVLRLLLETKSLVTTAIQQCV	HLA-A*11:01	TVLRLLLETK	9	26.4	1.16682	inframe deletion
Se112	TBC1D32	NM_152730.5c.1128_1133delATATAA	RTTVLRLLLETKSLVTTAIQQCV	HLA-A*11:01	TTVLRLLLETK	10	35.3	1.16682	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-A*33:03	PSQPYMFPR	9	214.6	22.4975	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-B*35:01	FPRMLITDL	9	137.8	22.4975	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-C*14:03	SQPYMFPRM	9	349	22.4975	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-C*14:03	PYMFPRMLI	9	480	22.4975	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-A*11:01	ITDLRGISTK	10	63.5	22.4975	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-A*33:03	FPRMLITDLR	10	420.8	22.4975	inframe deletion
Se112	RARG	NM_000966.5c.1143_1148delGAAAAT	PSQPYMFPRMLITDLRGISTKG	HLA-C*14:03	MFPRMLITDL	10	454.4	22.4975	inframe deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMSHTSALLALVKLWKGCLGKAGTRKKRKRQESMQVGKNLVWRAQRKR	HLA-A*02:01	KLWKGCLGKA	10	270.4	3.09233	flameshift deletion

Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	GSVAAGIMGV	10	269.6	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	GVMWSHTSAL	10	191.5	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-C*01:02	VMWSHTSAL	9	333.1	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*24:02	MWSHTSALL	9	272.1	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	HTSALLALV	9	119.7	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	VMWSHTSAL	9	14.5	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	SV AAGIMGV	9	13.9	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	VMWSHTSALL	10	62	3.09233	flameshift deletion
Se114	APOBR	NM_018690.3c.2300delG	QTGSVAAGIMGVMWSHTSALLALVKLWK GCLGKAGTRKKRRKQQESMQVGKNLV WRAQQRKR	HLA-A*02:01	GIMGVMWSHT	10	177	3.09233	flameshift deletion
Se114	CCDC88B	NM_032251.5c.298delC	WRVWNLNHLWGD	HLA-A*24:02	RVWNLNHLW	9	339.7	2.82615	flameshift deletion
Se114	EXD3	NM_017820.4c.1334_1358del TTTCCCGGCTGGTGGCC AGCTCCT	SQPPTGGAQASRTPLSPSWATGWWGTC KNWARPAPPWPMWRSRFFAAWTCCWCT DRCGWRACQPQWTGPGS	HLA-A*24:02	RFWAAWTCCW	10	72.3	2.85454	flameshift deletion
Se114	EXD3	NM_017820.4c.1355delT	GAQAFSRLVAQPSRTPLSPSWATGWWGT CKNWARPAPPWPMWRSRFFAAWTCCW CTDRCGWRACQPQWTGPGS	HLA-B*54:01	WPMWRSRFFWA	10	20	2.85454	flameshift deletion
Se114	EXD3	NM_017820.4c.1355delT	GAQAFSRLVAQPSRTPLSPSWATGWWGT CKNWARPAPPWPMWRSRFFAAWTCCW CTDRCGWRACQPQWTGPGS	HLA-A*24:02	MWRSRFFAAW	10	108.9	2.85454	flameshift deletion
Se114	EXD3	NM_017820.4c.1355delT	GAQAFSRLVAQPSRTPLSPSWATGWWGT CKNWARPAPPWPMWRSRFFAAWTCCW CTDRCGWRACQPQWTGPGS	HLA-A*02:01	WPMWRSRFFWA	10	292.4	2.85454	flameshift deletion
Se114	EXD3	NM_017820.4c.1355delT	GAQAFSRLVAQPSRTPLSPSWATGWWGT CKNWARPAPPWPMWRSRFFAAWTCCW CTDRCGWRACQPQWTGPGS	HLA-B*54:01	TPLSPSWAT	9	283.2	2.85454	flameshift deletion
Se114	EXD3	NM_017820.4c.1355delT	GAQAFSRLVAQPSRTPLSPSWATGWWGT CKNWARPAPPWPMWRSRFFAAWTCCW CTDRCGWRACQPQWTGPGS	HLA-A*24:02	FWAAWTCCW	9	244.6	2.85454	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*02:01	GLYMELWYP	9	288.6	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*02:01	TLCGEYLP	9	155.5	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*02:01	YLPLQGLYM	9	475.3	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*24:02	LWYPPSDSF	9	81.5	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-B*54:01	EPICKGWKA	9	366.6	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*24:02	SYSCEDPWNF	10	64.5	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQG LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*02:01	LPLQGLYMEL	10	136.4	10.9813	flameshift deletion

Se114	PPA2	NM_006903.4c.342_358delG AATCCCAATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQQ LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*24:02	WYPPSDSFLW	10	27.6	10.9813	flameshift deletion
Se114	PPA2	NM_006903.4c.342_358delG AATCCCAATTAACAAT	NAKMEIATKEPICKGWKATLCGEYLPQQ LYMELWYPPSDSFLWRSYSCEDPWNFGSY	HLA-A*02:01	ATLCGEYLP	10	460.3	10.9813	flameshift deletion
Se114	PHF3	NM_015153.3c.3851_3853del CTT	RFTPVTEEDQIYTLLFAYFSSR	HLA-A*24:02	IYTLLFAYF	9	26.3	9.82966	inframe deletion
Se114	PHF3	NM_015153.3c.3851_3853del CTT	RFTPVTEEDQIYTLLFAYFSSR	HLA-A*24:02	QIYTLLFAYF	10	100.5	9.82966	inframe deletion
Se114	PHF3	NM_015153.3c.3851_3853del CTT	RFTPVTEEDQIYTLLFAYFSSR	HLA-A*24:02	IYTLLFAYFS	10	465	9.82966	inframe deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	WPPAAQAAAA	10	303.9	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	KAPRPTWCSF	10	24.9	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	RPPWRWSWQI	10	193.8	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	APRPTWCSFS	10	205.7	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	VPWPSGRSSW	10	464.5	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*55:02	WPPAAQAAAA	10	138.1	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*55:02	RPTWCSFSSM	10	294.1	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*55:02	MAAWPPAAQA	10	491.6	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPLP TSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	APRGP SILTV	10	20.7	8.13653	flameshift deletion

Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*07:02	RPTWCSFSSM	10	5.4	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-A*24:02	CWWKTWAEPL	10	376.4	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-C*07:02	RRPPWRWSW	9	446.4	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*55:02	AAMAAWPPA	9	439	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*55:02	WSWQIRRAA	9	401	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*55:02	RPTWCSFSS	9	238.2	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*55:02	VPWPSGRSS	9	215.8	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*07:02	TSYTGRMAL	9	280.8	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*07:02	RPTWCSFSS	9	207.9	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*07:02	SGRSSWTSL	9	202.6	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*07:02	APRPTWCSF	9	6.8	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delT CTCCGGCTTGGTCCGCTG TCAGGCCGGGATCACCGT GTA	SSASSDAAQGDPAAMGGCWWKTWAEPL EPTSYTGRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA VAVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AV WPSGRSSWTSLCA	HLA-B*55:02	WPPAAQAAA	9	216.4	8.13653	flameshift deletion



Se115	ABHD8	NM_024527.4c.215_254delTCTCCGGCTTGGTCCGCTGTCAGCGCCGGATCACCGTGTA	SSASSDAAQGDPAAMGGCWKWTWAEPLP TSYTGRRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA AVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	APRGPSSILT	9	138.5	8.13653	flameshift deletion
Se115	ABHD8	NM_024527.4c.215_254delTCTCCGGCTTGGTCCGCTGTCAGCGCCGGATCACCGTGTA	SSASSDAAQGDPAAMGGCWKWTWAEPLP TSYTGRRMALGSRPPWRWSWQIRRAAMA AWPPAAQAAAAA AVVGGGGEPGAPRGP SILTVRSASLAAPRPTWCSFSSMVS AVP WPSGRSSWTSLCA	HLA-B*07:02	TVRSASLAA	9	365.9	8.13653	flameshift deletion
Se115	AHNAK2	NM_138420.2c.1993_1994delGA	EKRLKKEQILTKGSGHQVQNAQVQD AIVRGVSPRVHGGGLGGVC AEGGRRREP PLHAGGPQDH	HLA-B*07:02	SPRVHGGGL	9	4.8	4.71252	flameshift deletion
Se115	AHNAK2	NM_138420.2c.1993_1994delGA	EKRLKKEQILTKGSGHQVQNAQVQD AIVRGVSPRVHGGGLGGVC AEGGRRREP PLHAGGPQDH	HLA-B*07:02	SPRVHGGGLG	10	132.2	4.71252	flameshift deletion
Se115	AHNAK2	NM_138420.2c.1993_1994delGA	EKRLKKEQILTKGSGHQVQNAQVQD AIVRGVSPRVHGGGLGGVC AEGGRRREP PLHAGGPQDH	HLA-B*07:02	VSPRVHGGGL	10	38.5	4.71252	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*07:02	APAVRLLPA	9	29.8	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*07:02	IAPAVRLLPA	10	328.1	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*55:02	LPARPQRMWI	10	446.9	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*55:02	LIPFGMTAT	10	142.7	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*55:02	IAPAVRLLPA	10	84	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*55:02	HPQIAWIAPA	10	25.6	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*07:02	HPQIAWIAPA	10	134.9	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*07:02	LPARPQRMWI	10	52.6	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*07:02	IPFGMTAT	9	361.9	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-A*24:02	RMWTHKSSF	10	375	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-A*26:01	ETSQCLIPF	9	67.6	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-A*24:02	MWTHKSSF	9	196.3	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*55:02	IPFGMTAT	9	66.6	86.6022	flameshift deletion
Se115	C1orf186	NM_001007544.3c.224_227delGAGA	AVKEMKETQTETSQCLIPFGMTATHPQIA WIAPAVRLLPARPQRMWTHKSSFLTLEN	HLA-B*55:02	APAVRLLPA	9	54.4	86.6022	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885delAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPLPRT	HLA-B*07:02	VPHAAERLLA	10	441.9	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885delAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPLPRT	HLA-B*55:02	LALPLGVPA	9	204.2	11.3808	flameshift deletion

Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*55:02	VPACVPAAL	9	246.5	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*55:02	VPHAAERLLA	10	188.4	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*07:02	GVPACVPAAL	10	68.6	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*07:02	VPACVPAALL	10	40.9	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-C*07:02	HAAERLLAL	9	491.6	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*07:02	VPACVPAAL	9	10.2	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*07:02	VPHAAERLL	9	63.6	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*07:02	VPAALLPGL	9	84.7	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*07:02	HAAERLLAL	9	140.1	11.3808	flameshift deletion
Se115	CCDC85C	NM_001144995.1c.884_885d eLAG	DKLLAQAGSGVPHAAERLLALPLGVPA VPAALLPGLPAERPGLPRT	HLA-B*55:02	LPLGVPA CV	9	80.3	11.3808	flameshift deletion
Se115	CRNKL1	NM_001278625.1c.125_138d eITGACCTGGGGATGC	LVLAWSSQFRRRRPGRPAPQSLRRC	HLA-B*07:02	RGRPAPQSL	10	6.1	8.36229	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-B*55:02	MAWTGSATM	9	480	3.27312	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-B*07:02	RPPSVRRMTL	10	7.1	3.27312	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-C*07:02	SRPPSVRRM	9	52.6	3.27312	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-B*07:02	MAWTGSATM	9	362	3.27312	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-B*07:02	TPSSRPPSV	9	200.1	3.27312	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-C*07:02	WRRPSRKPL	9	392.8	3.27312	flameshift deletion
Se115	L3MBTL2	NM_031488.4c.1398delG	GYLMICVDGGPPQMAWTGSATMPLPTSS RPPSVRRMTLSSHRQKVMRHRLSTGRIT WRRPSRKPLHRDSL TWIAQTMASRWA	HLA-B*07:02	PPSVRRMTL	9	156.9	3.27312	flameshift deletion
Se115	SEMA3B	NM_001290061.1c.732_734d eCTT	ENPDDDKIYFFRETAVEAAPAL	HLA-C*07:02	IYFFRETAV	9	428.2	12.3211	inflammation deletion
Se115	DOCK4	NM_014705.3c.1501_1503del AAG	RHCSTKEKGEKLFGFSFVPLMQ	HLA-C*07:02	FGFSFVPLM	9	415.3	5.82885	inflammation deletion
Se115	FBXO32	NM_058229.3c.884_886delA GA	ILSDKGQLDWMKYFKLVRCYPR	HLA-C*07:02	MYFKLVRCY	9	250.1	41.9243	inflammation deletion
Se115	ZC3H12C	NM_033390.1c.1705_1707del CAT	QYPSMMMATKNGTPMPYEQYPK	HLA-B*07:02	MATKNGTPM	9	327.1	2.25859	inflammation deletion
Se115	MMP14	NM_004995.3c.1288_1290del TTC	LFWMPNGKTYFRGNKYRFNEE	HLA-C*07:02	FRGNKYRF	9	89.1	80.7675	inflammation deletion

Se115	MMP14	NM_004995.3c.1288_1290delTTC	LFWMPNGKTYFRGNKYRFNEE	HLA-C*07:02	TYFRGNKY	9	180.4	80.7675	inframe deletion
Se115	MMP14	NM_004995.3c.1288_1290delTTC	LFWMPNGKTYFRGNKYRFNEE	HLA-C*07:02	FWMPNGKTY	9	200.9	80.7675	inframe deletion
Se115	MMP14	NM_004995.3c.1288_1290delTTC	LFWMPNGKTYFRGNKYRFNEE	HLA-A*24:02	YFRGNKYRF	10	22.9	80.7675	inframe deletion
Se115	MMP14	NM_004995.3c.1288_1290delTTC	LFWMPNGKTYFRGNKYRFNEE	HLA-A*24:02	FWMPNGKTYF	10	63.1	80.7675	inframe deletion
Se116	EGFR	NM_201282.1c.1357delC	SLNITSLGLRSSRR	HLA-A*11:01	SLNITSLGLR	10	362.3	6.86523	frameshift deletion
Se116	EGFR	NM_005228.3c.1357delC	SLNITSLGLRSSRR	HLA-A*02:01	SLNITSLGL	9	249.7	6.86523	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-C*03:04	KMSHAGLVL	9	180	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-C*03:04	LVLELQLLL	9	420.2	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-A*11:01	GSTIHAQQK	9	229.7	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-A*02:01	KMSHAGLVL	9	217.5	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-A*02:01	GLVLELQLLL	10	27.3	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-A*11:01	STIHAQQKTK	10	68.5	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-C*03:04	MSHAGLVLEL	10	380.1	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-A*02:01	LVLELQLLL	9	65.1	2.25986	frameshift deletion
Se116	ITGA1	NM_181501.1c.1652delC	MSLEPIKQTCYLGSTIHAQQTKMSHAGLVLELQLLL	HLA-A*02:01	GLVLELQLL	9	305.5	2.25986	frameshift deletion
Se116	ZNF679	NM_153363.2c.78_109delTCTGGAGGAGTGGCAATGCC TGGATCACGCTC	LTFRDVIIEFSAEFI	HLA-A*02:01	VVIEFSAEFI	10	173.5	2.43207	frameshift deletion
Se116	ZNF679	NM_153363.2c.78_109delTCTGGAGGAGTGGCAATGCC TGGATCACGCTC	LTFRDVIIEFSAEFI	HLA-C*03:04	VVIEFSAEF	9	50.4	2.43207	frameshift deletion
Se116	TJP2	NM_004817.3c.2539_2540insA	KLFDQANKLKKNVCTPFYSYNQPKFSQ	HLA-A*02:01	KLFDQANKL	9	20	10.0317	frameshift insertion
Se116	TJP2	NM_004817.3c.2539_2540insA	KLFDQANKLKKNVCTPFYSYNQPKFSQ	HLA-A*11:01	KLFDQANKLK	10	77	10.0317	frameshift insertion
Se116	TJP2	NM_004817.3c.2539_2540insA	KLFDQANKLKKNVCTPFYSYNQPKFSQ	HLA-A*11:01	KNVCTPFYSY	10	370.9	10.0317	frameshift insertion
Se117	EXOC8	NM_175876.4c.308_344delTTACGTTGCTGCCTGCCCGCTGCTGCCCGGAGCCGC	TEQKSSLESIPPPLEGRRESVGRGAETTSEARPAFSPPPGVPPATAPVQARKESSALSPCLRRLRWKAAGICWRRRDSTWCTMG	HLA-A*24:02	RWKAAGICW	9	256.9	3.45664	frameshift deletion

Se117	LMF2	NM_033200.2c.1397_1398delAG	FRRMTGLGGRPGGAGGQLRRPPLDGDV HVQAWPEPAAPGCGAPPATPGLADVCS PGPHTAQPVVHKPGLAPAAGQGASDPPCP EPSGQVSLPQAAHLRSPALQVVLPAW GAGPVVAAPVGGGVLPIRVPGPHAGDAA QAVWTTGKPTSHPRQHQHPGPPPLDSL SAVSPGGPRPALGAPHGRGGCQCASPAST LFSPVLPAGTSQRGEAQSLPERLRSLRT GHRSPQLLQ	HLA-C*15:02	CASPASTLF	9	251.5	4.50961	flameshift deletion
Se117	LMF2	NM_033200.2c.1397_1398delAG	FRRMTGLGGRPGGAGGQLRRPPLDGDV HVQAWPEPAAPGCGAPPATPGLADVCS PGPHTAQPVVHKPGLAPAAGQGASDPPCP EPSGQVSLPQAAHLRSPALQVVLPAW GAGPVVAAPVGGGVLPIRVPGPHAGDAA QAVWTTGKPTSHPRQHQHPGPPPLDSL SAVSPGGPRPALGAPHGRGGCQCASPAST LFSPVLPAGTSQRGEAQSLPERLRSLRT GHRSPQLLQ	HLA-C*15:02	ASTLFSPVL	9	340.1	4.50961	flameshift deletion
Se117	LMF2	NM_033200.2c.1397_1398delAG	FRRMTGLGGRPGGAGGQLRRPPLDGDV HVQAWPEPAAPGCGAPPATPGLADVCS PGPHTAQPVVHKPGLAPAAGQGASDPPCP EPSGQVSLPQAAHLRSPALQVVLPAW GAGPVVAAPVGGGVLPIRVPGPHAGDAA QAVWTTGKPTSHPRQHQHPGPPPLDSL SAVSPGGPRPALGAPHGRGGCQCASPAST LFSPVLPAGTSQRGEAQSLPERLRSLRT GHRSPQLLQ	HLA-C*15:02	VAAPVGGGV	9	495.3	4.50961	flameshift deletion
Se117	RBM15	NM_022768.4c.21_46delCCC TGTGCCGCGGAGTCC AAGAT	MRTAGREAACGSAV	HLA-B*40:06	REAACGSAV	9	76.5	5.6175	flameshift deletion
Se118	PDGFC	NM_016205.2c.500_512delT CACAGAAGCTGT	FCIHYNIVMPQ	HLA-C*03:04	FCIHYNIVM	9	287	5.09692	flameshift deletion
Se118	WNT7A	NM_004625.3c.781_797delC GGAAGCCATGGACAC	TFLKIKKPLSYGPGVHREVAQLLRGGPGD RQCGHPGRLQDQDGPQRL	HLA-A*11:01	LSYGPVHR	9	125.3	3.18129	flameshift deletion
Se118	PLEKHG4	NM_001129727.2c.3036_307 7delGGCTATCAAGCAGGC CTGGACAGCTGACATCTC CCACCTGCT	RDTFVLQASSLWRQAVHNKEVR	HLA-A*11:01	VLQASSLWR	9	341.2	6.77211	inflammation deletion
Se118	PLEKHG4	NM_001129727.2c.3036_307 7delGGCTATCAAGCAGGC CTGGACAGCTGACATCTC CCACCTGCT	RDTFVLQASSLWRQAVHNKEVR	HLA-A*11:01	SLWRQAVHNK	10	86.9	6.77211	inflammation deletion
Se118	PLEKHG4	NM_001129727.2c.3036_307 7delGGCTATCAAGCAGGC CTGGACAGCTGACATCTC CCACCTGCT	RDTFVLQASSLWRQAVHNKEVR	HLA-A*11:01	FVLQASSLWR	10	352.1	6.77211	inflammation deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-B*40:02	RLQLPLRLLL	10	476.2	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-A*02:06	HLTGHLFHV	9	8.1	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-A*02:06	RLQLPLRLLL	10	225.8	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-B*40:02	LQLPLRLLL	9	362.2	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-B*40:02	AQHLTGHLF	9	320.2	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-B*35:01	LPLRLLQL	9	260.5	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-A*02:06	QHLTGHLFHV	10	134.3	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-A*02:06	MILLERMRGA	9	39.1	4.08375	flameshift deletion
Se119	MAMSTR	NM_182574.2c.305_317delG CGCGCCGCCCG	TKSMILLERMRGASGRSGARTVPRVLPGR ASSPRPWQPPGVRARSSPAQHLTGHLFHV PRIPRGRRLQLPLRLLQLQP	HLA-A*02:06	LQLPLRLLL	9	67.9	4.08375	flameshift deletion
Se120	INPP5A	NM_001321042.1c.261delT	ESTPMLEKEFRRTTSPSANGQEKASSGR GGALQTVPLTW	HLA-C*03:03	ASSGRGGAL	9	292.6	4.64	flameshift deletion

Se120	LPIN1	NM_001261427.1c.2604delC	LLKRSHSDFPVRIPSVTSPFGESHCHLLKTRTFILPQRKMSQAASCQCRAWLSPIKG	HLA-C*03:03	RIPSVTSPF	9	384.6	3.51952	flameshift deletion
Se120	LPIN1	NM_001261428.1c.2841delC	LLKRSHSDFPVRIPSVTSPFGESHCHLLKTRTFILPQRKMSQAASCQCRAWLSPIKG	HLA-B*35:01	FPVRIPSVT	9	90.4	3.51952	flameshift deletion
Se120	LPIN1	NM_001261428.1c.2841delC	LLKRSHSDFPVRIPSVTSPFGESHCHLLKTRTFILPQRKMSQAASCQCRAWLSPIKG	HLA-B*35:01	SPFGESHCH	9	290.7	3.51952	flameshift deletion
Se120	LPIN1	NM_001261427.1c.2604delC	LLKRSHSDFPVRIPSVTSPFGESHCHLLKTRTFILPQRKMSQAASCQCRAWLSPIKG	HLA-A*24:02	RIPSVTSPF	9	302.2	3.51952	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	SAQPVTSSF	9	31.2	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	LALPVWTSTL	10	82	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*08:01	IAASHTSCV	9	419	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*08:01	CAVVSSLAL	9	209.1	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	CGVTGRASL	9	483.2	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	SSFHPTSYS	9	395.1	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	VVSSLALPV	9	305.9	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	TSYSTCGV	9	254.9	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	ASLSAPCAV	9	89	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	IAASHTSCV	9	36.6	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-C*03:03	CAVVSSLAL	9	15.4	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-B*35:01	QPVTSSFSH	9	343.6	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-B*35:01	LPVWTSTLE	9	276.9	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVTSCAMVKPLGGIAGGAGPGGTTVEKQAGQPHRSSSAQPVTSSFSHPTSYSSTCGVTGRASLSAPCAVVSSLALPVWTSTLETIAAASHTSCV	HLA-B*35:01	CAVVSSLAL	9	204.4	9.42623	flameshift deletion

Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVT SCAMVKPLGGIAGGAGPGGTTVEKQAGQP HRSSSAQPVTSFSHPTSYSSTCGVTGRAS LSAPCAVVSSLALPVWTSTLETIAAHSHTSC V	HLA-B*35:01	LTTVTSCAM	9	86.4	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVT SCAMVKPLGGIAGGAGPGGTTVEKQAGQP HRSSSAQPVTSFSHPTSYSSTCGVTGRAS LSAPCAVVSSLALPVWTSTLETIAAHSHTSC V	HLA-B*35:01	SSFHPTS	9	52.8	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVT SCAMVKPLGGIAGGAGPGGTTVEKQAGQP HRSSSAQPVTSFSHPTSYSSTCGVTGRAS LSAPCAVVSSLALPVWTSTLETIAAHSHTSC V	HLA-B*35:01	SAQPVTS	9	34.1	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVT SCAMVKPLGGIAGGAGPGGTTVEKQAGQP HRSSSAQPVTSFSHPTSYSSTCGVTGRAS LSAPCAVVSSLALPVWTSTLETIAAHSHTSC V	HLA-A*24:02	VWTSTLETI	9	97.5	9.42623	flameshift deletion
Se120	ZNF574	NM_022752.5c.773delC	PALQQEVQASSLQRCLCLSLTPCQLLTTVT SCAMVKPLGGIAGGAGPGGTTVEKQAGQP HRSSSAQPVTSFSHPTSYSSTCGVTGRAS LSAPCAVVSSLALPVWTSTLETIAAHSHTSC V	HLA-C*03:03	LTTVTSCAM	9	48.9	9.42623	flameshift deletion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	LSWATTFPR	9	31.8	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	CPMSWSPFMK	10	39.5	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	PMSWSPFMK	9	98.1	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	SSSPGILMCR	10	112.8	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	SSPGILMCR	9	309	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	ITDIFRAPAR	10	398.1	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*11:01	PLSWATTFPR	10	435.9	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	LSWATTFPR	9	7.2	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	PLSWATTFPR	10	47	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	ILMCRLECR	9	49.9	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	RLECRQNWIR	10	55	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	ITDIFRAPAR	10	74.6	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	GILMCRLECR	10	117.9	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	SSSPGILMCR	10	127.7	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	LSWATTFPRT	10	139	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTDIFRAPARTPCPPRCGCGSSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWSPFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	APARTPCPPR	10	157.8	59.2412	frameshift insertion

Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-A*31:01	SSPGILMCR	9	206.8	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	FMKPCASPAL	10	44	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	FLMPPLPTPL	10	137.2	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	FMKPCASPA	9	160.9	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	WVTSPTCPM	9	230.1	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	LMPPLPTPL	9	355.9	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	TTFPRTLWF	9	403.5	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-B*15:01	ASPALCLSLF	10	412.3	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	WVTSPTCPM	9	13.6	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	WATTFPRTL	9	15	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	FLMPPLPTPL	10	35.5	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	LMPPLPTPL	9	66	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	LSLFLMPPL	9	73.5	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	RSWGGTVCL	9	132.6	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	SSSPGILM	9	133.4	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	CPMSWPSFM	9	241.3	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	FMKPCASPAL	10	347.5	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	TTFPRTLWF	9	378.6	59.2412	frameshift insertion
Se121	CYP1B1	NM_000104.3c.984_985insAG	NVPATTTDFRAPARTPCPPRCSSGSSSPGI LMCRLECRQNWIRSWGVTCLVWVTSPT CPMSWPSFMKPCASPALCLSLFLMPPLPTP LSWATTFPRTLWFLSTSGL	HLA-C*03:04	CSSSPGIL	9	466.7	59.2412	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPWVRVWVAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*11:01	VISALQTLR	9	220.6	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPWVRVWVAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*11:01	GVISALQTLR	10	244.6	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPWVRVWVAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*11:01	GTVPVGVWGR	10	282.8	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPWVRVWVAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*11:01	LSSSPSSRR	9	396.4	20.3566	frameshift insertion

Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*11:01	ALSSSPSSRR	10	422.7	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	VISALQTLR	9	44.6	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	SSRRSTAVR	9	45.7	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	GTVPVGVWGR	10	90.1	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	TLRCWEPPWR	10	106.8	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	LSSSPSSRR	9	139.3	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	GVISALQTLR	10	185	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	ALSSSPSSR	9	216.5	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	GVWGRAGQGR	10	323.7	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	TVPVGVWGR	9	417.6	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-A*31:01	AALSSSPSSR	10	428.5	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-B*40:02	REGKGGAGV	9	148.5	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-C*03:04	GVISALQTL	9	124.4	20.3566	frameshift insertion
Se121	ZFYVE19	NM_001077268.1c.113_114ins	RGGTVPVGVWGRAGQGREGKGGAGVRV QGAQDLAGVISALQTLRCWEPPWRVGGAT AALSSSPSSRRSTAVRIVAGPSVQAA	HLA-C*03:04	WRVGATAAL	9	349.7	20.3566	frameshift insertion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:06	VLRDVIYTL	9	78.6	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:06	LVLRDVIYT	9	410	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:13	VLRDVIYTL	9	43.1	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:13	LLKDIKSGL	9	475.9	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:06	LVLRDVIYTL	10	86.7	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:13	LLLKDIKSGL	10	229.2	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:13	LLKDIKSGLV	10	259.1	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:13	VLRDVIYTLI	10	332.8	5.67494	inframe deletion
Se122	ATM	NM_000051.3c.4373_4390del GAGGAGCTTGGGCCTTTG	SLLKDIKSGLVLRDVIYTLIH	HLA-A*02:13	LVLRDVIYTL	10	414.5	5.67494	inframe deletion



Se123	ADAMTSL4	NM_001288607.1c.1343delG	GSQRCELNCRPLASASMSVTLKRSRMGPCVSLEPLTSVWLDVA	HLA-C*03:04	LASASMSVTL	10	167	2.82634	flameshift deletion
Se123	ADAMTSL4	NM_019032.5c.1274delG	GSQRCELNCRPLASASMSVTLKRSRMGPCVSLEPLTSVWLDVA	HLA-B*40:02	CELNCRPLA	9	165.4	2.82634	flameshift deletion
Se123	ADAMTSL4	NM_001288608.1c.1343delG	GSQRCELNCRPLASASMSVTLKRSRMGPCVSLEPLTSVWLDVA	HLA-B*40:02	RCELNCRPLA	10	285.7	2.82634	flameshift deletion
Se123	ADAMTSL4	NM_001288608.1c.1343delG	GSQRCELNCRPLASASMSVTLKRSRMGPCVSLEPLTSVWLDVA	HLA-C*03:04	VSLEPLTSV	9	91.9	2.82634	flameshift deletion
Se123	ADAMTSL4	NM_001288608.1c.1343delG	GSQRCELNCRPLASASMSVTLKRSRMGPCVSLEPLTSVWLDVA	HLA-C*03:04	ASASMSVTL	9	38.9	2.82634	flameshift deletion
Se123	SYK	NM_003177.6c.905delG	SRIKSYSPKRPATESPPLPKGTGKRVLCHSIRMSQNLHPGLQTKAPREKPYWTRQCTRAPTRTPRRSGPRRFTWTESC	HLA-C*03:04	HSIRMSQNL	9	158.7	11.8855	flameshift deletion
Se123	SYK	NM_001174167.2c.905delG	SRIKSYSPKRPATESPPLPKGTGKRVLCHSIRMSQNLHPGLQTKAPREKPYWTRQCTRAPTRTPRRSGPRRFTWTESC	HLA-C*03:04	RVLCHSIRM	9	372.3	11.8855	flameshift deletion
Se123	SYK	NM_001174167.2c.905delG	SRIKSYSPKRPATESPPLPKGTGKRVLCHSIRMSQNLHPGLQTKAPREKPYWTRQCTRAPTRTPRRSGPRRFTWTESC	HLA-C*03:04	MSQNLHPGL	9	307.2	11.8855	flameshift deletion
Se123	COL6A6	NM_001102608.1c.1184_1192delACCTGGCTG	EQYVSKLKTFAAHNQTFLLKCLR	HLA-A*24:02	QYVSKLKT	9	70.7	7.0894	inframe deletion
Se123	COL6A6	NM_001102608.1c.1184_1192delACCTGGCTG	EQYVSKLKTFAAHNQTFLLKCLR	HLA-A*24:02	TFAAHNQTF	9	81.5	7.0894	inframe deletion
Se123	COL6A6	NM_001102608.1c.1184_1192delACCTGGCTG	EQYVSKLKTFAAHNQTFLLKCLR	HLA-C*03:04	FAAHNQTF	9	3.3	7.0894	inframe deletion
Se123	COL6A6	NM_001102608.1c.1184_1192delACCTGGCTG	EQYVSKLKTFAAHNQTFLLKCLR	HLA-A*24:02	KTFAAHNQTF	10	207.2	7.0894	inframe deletion
Se123	COL6A6	NM_001102608.1c.1184_1192delACCTGGCTG	EQYVSKLKTFAAHNQTFLLKCLR	HLA-C*03:04	TFAAHNQTF	10	327.6	7.0894	inframe deletion
Se124	NLRP7	NM_001127255.1c.864_901delGAGGAAGATGTTACCCA GGGCAGCCTTGCTGGTCA CCA	KPVPVLLGSLNAAQTEGPPAPGAAADLRKGGGLPGGGQEGLPETLWRRGPHACL	HLA-B*40:02	QEGLPETL	9	71.9	1.05995	flameshift deletion
Se124	NLRP7	NM_001127255.1c.864_901delGAGGAAGATGTTACCCA GGGCAGCCTTGCTGGTCA CCA	KPVPVLLGSLNAAQTEGPPAPGAAADLRKGGGLPGGGQEGLPETLWRRGPHACL	HLA-B*40:02	GQEGLPETL	10	314.9	1.05995	flameshift deletion
Se125	CTSA	NM_000308.3c.108_110delGCT	PLFLLLLLLLLVSWASRGEAAP	HLA-A*02:01	FLLLLLLLL	9	94.6	42.0562	inframe deletion
Se125	CTSA	NM_000308.3c.108_110delGCT	PLFLLLLLLLLVSWASRGEAAP	HLA-A*02:01	LLLLLVSWA	9	167	42.0562	inframe deletion
Se125	CTSA	NM_000308.3c.108_110delGCT	PLFLLLLLLLLVSWASRGEAAP	HLA-A*02:01	LLLLLLLLLV	9	183.3	42.0562	inframe deletion
Se125	CTSA	NM_000308.3c.108_110delGCT	PLFLLLLLLLLVSWASRGEAAP	HLA-A*02:01	LLLLVSWAS	9	452.3	42.0562	inframe deletion
Se125	CTSA	NM_000308.3c.108_110delGCT	PLFLLLLLLLLVSWASRGEAAP	HLA-A*02:01	FLLLLLLLL	10	289.8	42.0562	inframe deletion
Se125	CTSA	NM_000308.3c.108_110delGCT	PLFLLLLLLLLVSWASRGEAAP	HLA-A*02:01	LLLLLVSWA	10	473.1	42.0562	inframe deletion
Se126	BORA	NM_024808.3c.374delT	GKFRWSIDQLAE	HLA-C*14:02	KFRWSIDQL	9	91.3	4.56069	flameshift deletion
Se126	SYNGAP1	NM_006772.2c.2037_2054delTGAGGGTTACATCGACTT	SNLDLTLNSSLGRELSTLHAL	HLA-A*31:01	LTNSSLGR	9	122.6	7.05474	inframe deletion

Se127	ATP13A2	NM_022089.3c.3071_3076del TGGCCC	TGVQLGGYFLTQPWFVPLNRTV	HLA-C*08:01	LTQPWFVPL	9	287.5	11.4509	inframe deletion
Se127	ATP13A2	NM_022089.3c.3071_3076del TGGCCC	TGVQLGGYFLTQPWFVPLNRTV	HLA-A*02:07	FLTQPWFVPL	10	344.3	11.4509	inframe deletion
Se128	SIPA1	NM_006747.3c.2697_2721del GGCCTCCTTTCTGCCACG TACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*58:01	LPLLATPFW	9	187.2	18.3759	flameshift deletion
Se128	SIPA1	NM_006747.3c.2697_2721del GGCCTCCTTTCTGCCACG TACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*58:01	RLPLLATPFW	10	73	18.3759	flameshift deletion
Se128	SIPA1	NM_006747.3c.2697_2721del GGCCTCCTTTCTGCCACG TACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*58:01	GTSQRRLTW	10	62.9	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-A*33:03	LLATPFWSR	9	44.4	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-A*33:03	PFWSRCPER	9	318.2	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-A*33:03	RTSGRPSRR	9	450.6	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*15:01	RLPLLATPF	9	69	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-A*33:03	AVGPWRTSGR	10	366.5	18.3759	flameshift deletion
Se128	SIPA1	NM_006747.3c.2697_2721del GGCCTCCTTTCTGCCACG TACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*58:01	TSQRRLTW	9	27	18.3759	flameshift deletion
Se128	SIPA1	NM_006747.3c.2697_2721del GGCCTCCTTTCTGCCACG TACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-A*33:03	TPFWSRCPER	10	46.2	18.3759	flameshift deletion
Se128	SIPA1	NM_006747.3c.2697_2721del GGCCTCCTTTCTGCCACG TACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*15:01	SQRVETLREL	10	349.2	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-A*33:03	CSGSCRTRCR	10	395.6	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*15:01	LQNLMLSQL	10	122	18.3759	flameshift deletion
Se128	SIPA1	NM_153253.29c.2697_2721d eGGCCTCCTTTCTGCCAC GTACCTTG	SEDKGNPAPELSCGTPSAGSCRRAVGP WRTSGRPSRRLPLLATPFWSRCPERDPSQ RVETLRELQNLMLSQLGTSSRRSLTWSP CSGSCRTRRRRRRTGRPWRRRCGA	HLA-B*15:01	RRLPLLATPF	10	147.7	18.3759	flameshift deletion
Se129	AFDN	NM_001291964.1c.953delT	PDHIPKTKKHKWKARHPRERRELTGLAM APPFLRRSCHI	HLA-A*11:01	LAMAPPFLRR	10	86.7	17.7512	flameshift deletion
Se129	AFDN	NM_001291964.1c.953delT	PDHIPKTKKHKWKARHPRERRELTGLAM APPFLRRSCHI	HLA-A*11:01	GLAMAPPFLR	10	49.4	17.7512	flameshift deletion
Se129	AFDN	NM_001291964.1c.953delT	PDHIPKTKKHKWKARHPRERRELTGLAM APPFLRRSCHI	HLA-A*11:01	LAMAPPFLR	9	28	17.7512	flameshift deletion
Se129	AFDN	NM_001207008.1c.1073delT	PDHIPKTKKHKWKARHPRERRELTGLAM APPFLRRSCHI	HLA-A*11:01	AMAPPFLRR	9	30.1	17.7512	flameshift deletion
Se129	ZNF585B	NM_152279.3c.136delC	DFSREEWRLDPLRETCTGM	HLA-C*12:02	FLRETCTGM	9	293.3	1.87291	flameshift deletion
Se129	ZNF585B	NM_152279.3c.136delC	DFSREEWRLDPLRETCTGM	HLA-C*03:03	FLRETCTGM	9	466	1.87291	flameshift deletion
Se130	DTX3L	NM_138287.3c.1474_1475del TT	VHFVLNQESMTDWFASKPCKGEAVCSKR RRNVFIGWKEIERGS	HLA-A*11:01	ESMTDWFASK	9	73.1	23.9939	flameshift deletion

Se130	DTX3L	NM_138287.3c.1474_1475delTT	VHFVNLQESMTDWFASKPCKGEAVCSKR RRNVFIGWKEIERS	HLA-A*11:01	QESMTDWFASK	10	45.3	23.9939	flameshift deletion
Se130	TRERF1	NM_001297573.1c.2821delG	IFVQKMKVSKTWSAWSTTTRGKRSCGW GGNTGHAWQKSSTIV	HLA-A*11:01	SAWSTTTRGK	10	57.1	1.06368	flameshift deletion
Se130	TRERF1	NM_001297573.1c.2821delG	IFVQKMKVSKTWSAWSTTTRGKRSCGW GGNTGHAWQKSSTIV	HLA-A*11:01	LSAWSTTTR	9	169.3	1.06368	flameshift deletion
Se130	TRERF1	NM_001297573.1c.2821delG	IFVQKMKVSKTWSAWSTTTRGKRSCGW GGNTGHAWQKSSTIV	HLA-C*12:02	HAWQKSSTI	9	178.6	1.06368	flameshift deletion
Se130	KIRREL	NM_018240.6c.2032_2052del ACAACCAGCCAGCTGTCC TAC	PPGPAAPAGTDENYEKFNHPF	HLA-A*24:02	NYEKFNSHPF	10	245.6	18.1675	inframe deletion
Se130	YIPF5	NM_001024947.3c.214_237d eGGCATATACTCCAGCTTC ACCTCAG	PYTGQIYQTPQPFYGNFEDEP	HLA-A*11:01	QIYQTPQPFY	10	419.3	26.2426	inframe deletion
Se131	MDN1	NM_014611.2c.6530_6546del TGTATTGCTTATGCAG	ITMEIVNKLEAATQQ	HLA-C*12:02	ITMEIVNKL	9	236.3	2.29244	flameshift deletion
Se131	ZNF467	NM_207336.2c.1200_1233del CAAGCCCTGGCCAGCGC GCCTGGCCGACCGGGC	ALGATVDAPAAAQDPIPWCPSAPPRASGP SSARTAGAASPMGSTWRGTRACTRANGPS PARSVTAASARGLIWSPTPGPTAAPGLSPA LSAAAASAASRTWAATRCTLAAAPTPAP SAPAASAPKPT	HLA-C*12:02	WAATRCTL	9	234.9	7.47269	flameshift deletion
Se131	ZNF467	NM_207336.2c.1200_1233del CAAGCCCTGGCCAGCGC GCCTGGCCGACCGGGC	ALGATVDAPAAAQDPIPWCPSAPPRASGP SSARTAGAASPMGSTWRGTRACTRANGPS PARSVTAASARGLIWSPTPGPTAAPGLSPA LSAAAASAASRTWAATRCTLAAAPTPAP SAPAASAPKPT	HLA-C*12:02	RTAGAASPM	9	150.1	7.47269	flameshift deletion
Se132	CXorf40B	NM_001013845.1c.68_69del TG	YAGFVLNGIKTGDALASSAEQPAELYHRR PHCSQGLGRRCLSGAAGGETRDDSCSDSG LAQERGVWSRSDSGTR	HLA-C*03:04	SSAEQPAEL	9	59.4	18.0044	flameshift deletion
Se132	CXorf40B	NM_001013845.1c.68_69del TG	YAGFVLNGIKTGDALASSAEQPAELYHRR PHCSQGLGRRCLSGAAGGETRDDSCSDSG LAQERGVWSRSDSGTR	HLA-C*03:04	YAGFVLNGI	9	421.6	18.0044	flameshift deletion
Se132	CXorf40B	NM_001013845.1c.68_69del TG	YAGFVLNGIKTGDALASSAEQPAELYHRR PHCSQGLGRRCLSGAAGGETRDDSCSDSG LAQERGVWSRSDSGTR	HLA-A*02:06	YAGFVLNGI	9	93.2	18.0044	flameshift deletion
Se132	TDRD5	NM_001199085.1c.97_99del AAG	TKDGLSPQELEEYLLMVGNHLP	HLA-A*02:06	YLLMVG NHL	9	46.8	1.45442	inframe deletion
Se132	TDRD5	NM_001199085.1c.97_99del AAG	TKDGLSPQELEEYLLMVGNHLP	HLA-A*02:06	ELEEYLLMV	9	240.3	1.45442	inframe deletion
Se132	TDRD5	NM_001199085.1c.97_99del AAG	TKDGLSPQELEEYLLMVGNHLP	HLA-C*03:04	YLLMVG NHL	9	445.4	1.45442	inframe deletion
Se132	DCLK2	NM_001040261.4c.1134_113 6delTTC	LKQISAHGRSSNVNGPELDRC	HLA-C*03:04	SAHGRSSNV	9	311.9	3.95933	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAMVLLIETSISVLLVA	HLA-A*02:06	LLIETSISV	9	7.7	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAMVLLIETSISVLLVA	HLA-A*02:06	MVLLIETSI	9	136.5	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAMVLLIETSISVLLVA	HLA-A*02:06	LVYPAMVVL	9	181.4	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAMVLLIETSISVLLVA	HLA-A*02:06	AVMVLLIET	9	190.6	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAMVLLIETSISVLLVA	HLA-A*02:06	TSISVLLVA	9	202.4	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAMVLLIETSISVLLVA	HLA-C*03:04	LVYPAMVVL	9	10.8	12.4849	inframe deletion

Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-C*03:04	LIETISISVL	9	339.2	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-C*03:04	LLIETISISV	9	373.1	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-C*03:04	YPAVMVLLI	9	468.3	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-C*08:22	LVYPAVMVL	9	211.2	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-A*02:06	VLLIETISISV	10	76	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-A*02:06	LLIETISISVL	10	127.2	12.4849	inframe deletion
Se132	LMBR1	NM_022458.3c.904_906delC TT	NLVYPAVMVLLIETISISVLLVA	HLA-A*02:06	LVYPAVMVLL	10	262.7	12.4849	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-A*02:06	SIAGLYALV	9	14.6	31.521	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-A*02:06	VSIAGLYAL	9	25.1	31.521	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-C*03:04	VSIAGLYAL	9	12.7	31.521	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-C*08:22	VSIAGLYAL	9	112.5	31.521	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-A*02:06	VSIAGLYALV	10	26.5	31.521	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-A*02:06	LVSIAGLYAL	10	53.4	31.521	inframe deletion
Se132	B3GAT3	NM_012200.3c.61_63delCTC	LAYFLVSIAGLYALVQLGQPCD	HLA-A*02:06	FLVSIAGLYA	10	121.3	31.521	inframe deletion
Se132	ZFPM1	NM_153813.2c.1777_1779del TAC	CEITFSNVNNYVHKRLYCSGRR	HLA-A*02:06	ITFSNVNNYV	10	125.4	1.07327	inframe deletion
Se132	TK1	NM_003258.5c.G704C:p.X23	QILQCSPANGTCEGRPLPSCHCRLLDAAL HAAQPLQEEVGRRGG	HLA-A*02:06	LLDAALHAA	9	34.1	41.316	stoploss SNV
Se132	TK1	NM_003258.5c.G704C:p.X23	QILQCSPANGTCEGRPLPSCHCRLLDAAL HAAQPLQEEVGRRGG	HLA-A*02:06	RLLDAALHAA	10	39.5	41.316	stoploss SNV
Se132	TK1	NM_003258.5c.G704C:p.X23	QILQCSPANGTCEGRPLPSCHCRLLDAAL HAAQPLQEEVGRRGG	HLA-A*02:06	RLLDAALHA	9	56.3	41.316	stoploss SNV
Se132	TK1	NM_003258.5c.G704C:p.X23	QILQCSPANGTCEGRPLPSCHCRLLDAAL HAAQPLQEEVGRRGG	HLA-C*03:04	AALHAAQPL	9	11.6	41.316	stoploss SNV
Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLLKRLHIMLFPLPGT	HLA-C*14:02	RRSRGSLTL	9	179	22.2053	flameshift deletion
Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLLKRLHIMLFPLPGT	HLA-A*33:03	TLGSIRRSR	9	127.6	22.2053	flameshift deletion
Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLLKRLHIMLFPLPGT	HLA-A*02:06	IMLFPLPGT	9	189.4	22.2053	flameshift deletion
Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLLKRLHIMLFPLPGT	HLA-A*02:06	RLHIMLFPL	9	75	22.2053	flameshift deletion

Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLKRLHIMLFLPLPGT	HLA-A*02:06	HIMLFLPLPGT	10	322.6	22.2053	flameshift deletion
Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLKRLHIMLFLPLPGT	HLA-A*33:03	LPITRRALIR	10	399.6	22.2053	flameshift deletion
Se133	GRHL2	NM_024915.3c.956delA	KNRDEQLKYWKSGLTGSIRRSRGLTLPT RRALIRLETLKRLHIMLFLPLPGT	HLA-C*14:02	TLPTIRRAL	9	435.6	22.2053	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-A*33:03	FSLPPTASR	9	67.1	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-A*33:03	PTASRRGFR	9	102	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-B*15:18	KHGSCAGAY	9	257.4	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-C*08:01	SSAPAGFSL	9	108.5	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-C*14:02	AYSSAPAGF	9	57.4	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-C*14:02	SSAPAGFSL	9	279	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-A*02:06	YSSAPAGFSL	10	440.6	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-A*33:03	GFSLPPTASR	10	410.9	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-C*08:01	YSSAPAGFSL	10	295.8	4.97739	flameshift deletion
Se133	PLAT	NM_033011.3c.859_877delA GGAGGTCGCCCGGAGAGC	HPWQAAIFAKHGSCAGAYSSAPAGFSLPPT ASRRGFRPTT	HLA-A*33:03	FSLPPTASRR	10	227.9	4.97739	flameshift deletion
Se133	WSB1	NM_134265.2c.395delC	DGALLATASYDIEYISGIHIMETF	HLA-A*02:06	ATASYDIEYI	10	224.5	32.0852	flameshift deletion
Se133	WSB1	NM_134265.2c.395delC	DGALLATASYDIEYISGIHIMETF	HLA-C*14:02	EYISGIHIM	9	30.2	32.0852	flameshift deletion
Se133	WSB1	NM_134265.2c.395delC	DGALLATASYDIEYISGIHIMETF	HLA-A*02:06	LLATASYDI	9	147.6	32.0852	flameshift deletion
Se133	WSB1	NM_134265.2c.395delC	DGALLATASYDIEYISGIHIMETF	HLA-A*02:06	YDIEYISGI	9	110.7	32.0852	flameshift deletion
Se133	WSB1	NM_015626.8c.833delC	DGALLATASYDIEYISGIHIMETF	HLA-C*14:02	IEYISGIHIM	10	137.8	32.0852	flameshift deletion
Se134	TMX2	NM_015959.3c.257_258delT G	IVMMKNRRSITGATYRQHFHV	HLA-A*31:01	RSITGATYRQ	10	170.9	54.9107	flameshift deletion
Se134	TMX2	NM_015959.3c.257_258delT G	IVMMKNRRSITGATYRQHFHV	HLA-A*31:01	RRSITGATYR	10	26.5	54.9107	flameshift deletion
Se134	TMX2	NM_015959.3c.257_258delT G	IVMMKNRRSITGATYRQHFHV	HLA-A*31:01	RSITGATYR	9	7.7	54.9107	flameshift deletion
Se134	TMX2	NM_015959.3c.257_258delT G	IVMMKNRRSITGATYRQHFHV	HLA-A*31:01	ATYRQHFHV	9	433.9	54.9107	flameshift deletion
Se134	TMX2	NM_015959.3c.257_258delT G	IVMMKNRRSITGATYRQHFHV	HLA-C*14:03	VMMKNRRSI	9	179.7	54.9107	flameshift deletion

Se134	TMX2	NM_015959.3c.257_258delTG	IVMMKNRRSITGATYRQHFHV	HLA-C*14:03	RRSITGATY	9	478.1	54.9107	flameshift deletion
Se134	TPRN	NM_001128228.2c.1443_1460delTCTGCACCCTGCCAGGCC	KLPYLPHPARPGCVAELQPRGS	HLA-C*14:03	ARPGCVAEL	9	351.1	8.46133	inframe deletion
Se134	TPRN	NM_001128228.2c.1443_1460delTCTGCACCCTGCCAGGCC	KLPYLPHPARPGCVAELQPRGS	HLA-A*31:01	KLPYLPHPAR	10	49.5	8.46133	inframe deletion
Se135	CRISPLD1	NM_001286777.1c.868_886delTTTCAGAATGGAATCTTCT	PVDKRKTYIASQKVYRILQERHSECLLLCETEYLEEDHKDYSKCNISEFCIKL	HLA-C*12:02	YSKCNISEF	9	42.6	8.3693	flameshift deletion
Se135	ZNF232	NM_001320955.1c.1162_1177delATATGTAAAGAATGTG	HRRIHSGEKPFGKLDGQAQSSLDIGEFMPEKSLPIELKGRTPDRILHRSNLL	HLA-C*12:02	FMPEKSLPI	9	90.3	8.93406	flameshift deletion
Se136	AFDN	NM_001291964.1c.846delG	KGAKEILDDDDVLYKSSNGQVTKGF	HLA-A*11:01	SSNGQVTK	9	68.1	5.00562	flameshift deletion
Se136	AFDN	NM_001291964.1c.846delG	KGAKEILDDDDVLYKSSNGQVTKGF	HLA-A*11:01	KSSNGQVTK	10	127.2	5.00562	flameshift deletion
Se136	AFDN	NM_001291964.1c.846delG	KGAKEILDDDDVLYKSSNGQVTKGF	HLA-A*11:01	ILDDDDVLYK	10	456.2	5.00562	flameshift deletion
Se137	USP13	NM_003940.2c.370_390delGACGATTAAATAGCAGCAT	NSKIFLDLDTDYEYEDEAKLVI	HLA-B*35:01	FLDLDTDYEY	10	352.4	7.96561	inframe deletion
Se138	EPPK1	NM_031308.3c.5565_5574delAGCTGCAGAC	IKVAAIRGEVTCSTPGSSIRRPCTHFVWGLGDRHSARWSV	HLA-A*33:03	FVWGGLGDR	9	109.7	12.7844	flameshift deletion
Se138	EPPK1	NM_031308.3c.5565_5574delAGCTGCAGAC	IKVAAIRGEVTCSTPGSSIRRPCTHFVWGLGDRHSARWSV	HLA-A*33:03	HFVWGGLGDR	10	134.3	12.7844	flameshift deletion
Se138	EPPK1	NM_031308.3c.5565_5574delAGCTGCAGAC	IKVAAIRGEVTCSTPGSSIRRPCTHFVWGLGDRHSARWSV	HLA-A*33:03	CSTPGSSIR	9	423.1	12.7844	flameshift deletion
Se138	GALNT11	NM_022087.3c.881delT	AYSSSPVVRGGSTGDCTSNGLSPFLS	HLA-C*14:03	TSNGILSPF	9	261.7	7.23323	flameshift deletion
Se138	GALNT11	NM_022087.3c.881delT	AYSSSPVVRGGSTGDCTSNGLSPFLS	HLA-C*12:02	TSNGILSPF	9	145	7.23323	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	ACSRPAPWGR	10	478.9	7.55075	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	SAGFAIPRRR	10	389.3	7.55075	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	CSRPAWGR	9	32.3	7.55075	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	RSAGFAIPR	9	92.9	7.55075	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	RAQRRWGR	9	271.2	7.55075	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	GARGSPIPR	9	403.2	7.55075	flameshift deletion
Se138	PANK1	NM_148977.2c.137delG	GDQKGAGGGSPAGGARGSPIPRPLGACSRPAPWGRRAGGRAQRRWGSRQEGRSAGFAIPRRRLCGC	HLA-A*33:03	CSRPAWGRR	10	124.5	7.55075	flameshift deletion
Se138	TGFBRAP1	NM_001142621.2c.408_428delAGAAAGTTGCATCATCTCTGT	ENPVSGDPFCVKRRITQIMFLVY	HLA-C*12:02	RTIQMFLVY	9	439.3	6.33235	inframe deletion
Se138	REST	NM_001193508.1c.1906_1929delCATGCTCAGATGGAGGGTGCCAG	PVQVEPPPPMEIRPAPDEPVQM	HLA-C*12:02	VQVEPPPPM	9	468	7.12751	inframe deletion

Se138	RAB11FIP1	NM_001002814.2c.1788_1790delCTC	TQSESPSVFSLSSPIAAPIST	HLA-B*44:03	SESPSVFSL	9	179.3	3.66787	inframe deletion
Se138	RAB11FIP1	NM_001002814.2c.1788_1790delCTC	TQSESPSVFSLSSPIAAPIST	HLA-C*12:02	LSSPIAAPI	9	66.6	3.66787	inframe deletion
Se138	RAB11FIP1	NM_001002814.2c.1788_1790delCTC	TQSESPSVFSLSSPIAAPIST	HLA-C*12:02	SVFSLSSPI	9	145.4	3.66787	inframe deletion
Se138	RAB11FIP1	NM_001002814.2c.1788_1790delCTC	TQSESPSVFSLSSPIAAPIST	HLA-C*12:02	FSLSSPIAA	9	386.2	3.66787	inframe deletion
Se138	RAB11FIP1	NM_001002814.2c.1788_1790delCTC	TQSESPSVFSLSSPIAAPIST	HLA-C*14:03	SVFSLSSPI	9	106.6	3.66787	inframe deletion
Se138	RAB11FIP1	NM_001002814.2c.1788_1790delCTC	TQSESPSVFSLSSPIAAPIST	HLA-C*14:03	LSSPIAAPI	9	472.1	3.66787	inframe deletion
Se138	FAM155B	NM_015686.2c.72_74delCTG	AAALTIACCCWAPRPSDKPCA	HLA-A*33:03	CCCCWAPR	9	295.1	5.64492	inframe deletion
Se139	BRD7	NM_001173984.2c.830_831delAG	GEDGGCWQREGLWRCRSTRLQESQQRK	HLA-C*14:03	LWRCRSTRL	9	179.5	23.8021	flameshift deletion
Se139	BRD7	NM_001173984.2c.830_831delAG	GEDGGCWQREGLWRCRSTRLQESQQRK	HLA-A*33:03	GLWRCRSTR	9	249.8	23.8021	flameshift deletion
Se139	BRD7	NM_013263.4c.830_831delAG	GEDGGCWQREGLWRCRSTRLQESQQRK	HLA-A*33:03	RGLWRCRSTR	10	460.1	23.8021	flameshift deletion
Se139	SKIV2L2	NM_015360.4c.1622_1642delAAAAGATGAGCCCAACAAATTG	DDRGIVILMVDGKQLLKGSADP	HLA-C*03:04	LMVDGKQLL	9	310.8	17.72	inframe deletion
Se139	SKIV2L2	NM_015360.4c.1622_1642delAAAAGATGAGCCCAACAAATTG	DDRGIVILMVDGKQLLKGSADP	HLA-C*14:03	LMVDGKQLL	9	450.4	17.72	inframe deletion
Se139	ZNF311	NM_001010877.3c.983_1015delAGAAGCCTCAGAGTGCAGGGACTGTGGGAAGG	ALCRHKKTHSGAFKTRNRLCMH	HLA-A*33:03	HSGAFKTRNR	10	303.1	1.69033	inframe deletion
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-A*33:03	LMRHPVYHR	9	16.3	16.4836	stoploss SNV
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-A*33:03	ILMRHPVYHR	10	53.6	16.4836	stoploss SNV
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-B*40:06	TEILMRHPV	9	62.3	16.4836	stoploss SNV
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-B*40:06	CTEILMRHPV	10	246.4	16.4836	stoploss SNV
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-B*44:03	TEILMRHPVY	10	115	16.4836	stoploss SNV
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-C*03:04	YLLSLLPCL	9	356	16.4836	stoploss SNV
Se139	RNF26	AB055622.1:c.G1301T:p.X434	CLCQACTEILMRHPVYHRNCLCRRGILQTLNVYLLSLLPCLPTPPCSTQALTLGQH	HLA-C*14:03	CRRGILQTL	9	316.3	16.4836	stoploss SNV
Se140	LARP1	NM_015315.4c.1699delC	YEIDDRDVKISLSPRHITCAGTQGGTAQATTPRVPR	HLA-A*31:01	QATTPRVPR	9	99	31.856	flameshift deletion
Se140	LARP1	NM_015315.4c.1699delC	YEIDDRDVKISLSPRHITCAGTQGGTAQATTPRVPR	HLA-A*31:01	VNKISLSPR	9	100.3	31.856	flameshift deletion
Se140	LARP1	NM_015315.4c.1699delC	YEIDDRDVKISLSPRHITCAGTQGGTAQATTPRVPR	HLA-A*31:01	GTAQATTPR	9	136.5	31.856	flameshift deletion

Se140	LARP1	NM_015315.4c.1699delC	YEIDDRDVKISLSPRHITCAGTQGGTAQ ATTPRVPR	HLA-A*31:01	AQATTPRVPR	10	69.6	31.856	flameshift deletion
Se140	NF1	NM_000267.3c.5758_5762del TTGAA	CISGFSKSSIETPLFGIHDSMAVKSSSFLQA	HLA-C*14:02	FGIHDSMAV	9	301	6.27017	flameshift deletion
Se140	NF1	NM_000267.3c.5758_5762del TTGAA	CISGFSKSSIETPLFGIHDSMAVKSSSFLQA	HLA-C*14:02	MAVKSSSFL	9	197.3	6.27017	flameshift deletion
Se140	NF1	NM_001042492.2c.5821_582 5delTTGAA	CISGFSKSSIETPLFGIHDSMAVKSSSFLQA	HLA-C*14:02	SMAVKSSSF	9	150.6	6.27017	flameshift deletion
Se140	USP19	NM_001199162.1c.1804_180 5delGT	VNLGNTCFMNSHSVSVQHSPTGLLP	HLA-A*02:07	FMNSHSVSV	9	329	13.5271	flameshift deletion
Se140	USP19	NM_001199161.1c.1840_184 1delGT	VNLGNTCFMNSHSVSVQHSPTGLLP	HLA-C*14:02	FMNSHSVSV	9	26.8	13.5271	flameshift deletion
Se141	JUN	NM_002228.3c.153_178delG CACCTCCGCGCCAAGAAC TCGGACC	NLADPVGSLKPPHLARRGAAQAGVARAG APDNPVQRAHHHHADPHVVPVQERDR	HLA-C*08:01	HADPHVVPV	9	31.4	47.9843	flameshift deletion
Se141	JUN	NM_002228.3c.153_178delG CACCTCCGCGCCAAGAAC TCGGACC	NLADPVGSLKPPHLARRGAAQAGVARAG APDNPVQRAHHHHADPHVVPVQERDR	HLA-A*02:01	NLADPVGSL	9	352.4	47.9843	flameshift deletion
Se141	RRNAD1	NM_015997.3c.361_374delC GACTAACAGCTCC	SEFLENPSQSSIPETCQAQEA	HLA-A*02:01	FLENPSQSI	10	306	11.2464	flameshift deletion
Se141	SETD9	NM_153706.3c.820_828delC GATGTGTT	IAYSYDKQSPLVVALRDINQG	HLA-C*08:01	YSYDKQSPL	9	56.7	4.0402	inframe deletion
Se141	SETD9	NM_153706.3c.820_828delC GATGTGTT	IAYSYDKQSPLVVALRDINQG	HLA-B*15:01	KQSPLVVAL	10	173.8	4.0402	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-A*33:03	NSLPFKDGR	9	126.8	3.4609	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-A*33:03	EMANSLPFK	9	439.2	3.4609	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-B*44:03	QEMANSLPF	9	10.5	3.4609	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-C*14:03	HLQEMANSL	9	157.3	3.4609	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-A*02:06	LQEMANSLPF	10	197.2	3.4609	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-B*44:03	LQEMANSLPF	10	39.3	3.4609	inframe deletion
Se142	SYNE2	NM_182914.2c.4486_4488del CAC	RHLQEMANSLPFKDGREKTVNQ	HLA-B*44:03	QEMANSLPFK	10	97.4	3.4609	inframe deletion
Se142	U2AF1L4	NM_144987.3c.59_88delTTT ACTTTAAGATCGGGTCT GCCGGCACG	FGTEKDKVNCSDRCSRLHNKP	HLA-B*44:03	TEKDKVNCSSW	10	302.2	3.0133	inframe deletion
Se143	MED26	NM_004831.3c.202delG	INDVRKKTKNESPSGPRSCCGAGRSSSR HTSMRRRCGGWRGPPALPTGAHTTAGRR WGLAHPGASMT	HLA-C*14:02	RLAHPGASM	9	273.5	5.56254	flameshift deletion
Se143	MED26	NM_004831.3c.202delG	INDVRKKTKNESPSGPRSCCGAGRSSSR HTSMRRRCGGWRGPPALPTGAHTTAGRR WGLAHPGASMT	HLA-C*03:04	SSSRHTSM	9	162.2	5.56254	flameshift deletion
Se143	MED26	NM_004831.3c.202delG	INDVRKKTKNESPSGPRSCCGAGRSSSR HTSMRRRCGGWRGPPALPTGAHTTAGRR WGLAHPGASMT	HLA-C*03:04	RLAHPGASM	9	100.3	5.56254	flameshift deletion
Se143	MED26	NM_004831.3c.202delG	INDVRKKTKNESPSGPRSCCGAGRSSSR HTSMRRRCGGWRGPPALPTGAHTTAGRR WGLAHPGASMT	HLA-C*14:02	SSSRHTSM	9	383.8	5.56254	flameshift deletion



Se143	SLC6A6	NM_001134367.3c.2084delG	REPNRWAVEREEPHLTTLAPS	HLA-B*40:02	EREPHLTTL	10	265.9	10.6477	flameshift deletion
Se143	SLC6A6	NM_003043.5c.1781delG	REPNRWAVEREEPHLTTLAPS	HLA-B*40:02	REEPHLTTLA	10	379	10.6477	flameshift deletion
Se143	SLC6A6	NM_003043.5c.1781delG	REPNRWAVEREEPHLTTLAPS	HLA-B*40:02	REEPHLTTL	9	21	10.6477	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	VTECHQLTL	9	452.8	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	VSHGLRGEM	9	473	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-A*02:89	AMFNPLHLV	9	4.6	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-A*02:89	LIMAMFNPL	9	27.3	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-A*02:89	TLQTL SLLI	9	100.1	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-A*02:89	TLSLLIMAM	9	343.6	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	MAMFNPLHL	9	3.4	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	LIMAMFNPL	9	34.2	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	RSLGKATAM	9	56.2	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*14:02	MAMFNPLHL	9	34.2	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	WV NPMGKGL	9	298.8	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*14:02	MFNPLHLVPV	10	481.8	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*14:02	WRRTRSPLF	9	107.3	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*14:02	RSLGKATAM	9	168.5	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-A*02:89	QLTLQTL SLL	10	482.9	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	IMAMFNPLHL	10	304.1	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*03:04	LTLQTL SLL	9	139.5	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-B*40:02	HQLTLQTL SLL	10	343	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-C*14:02	CHQLTLQTL	9	204.6	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTL SLLIMAMFNPLHLVPVLRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWV NPMGKGL	HLA-A*02:89	LTLQTL SLLI	10	171.3	8.94209	flameshift deletion

Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-A*02:89	AMFNPLHLVP	10	104.3	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-A*02:89	LLIMAMFNPL	10	36.8	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-A*02:89	IMAMFNPLHL	10	29.7	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-A*02:89	MAMFNPLHLV	10	12.2	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-C*14:02	SPLFHTRSL	9	345.3	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-C*14:02	LIMAMFNPL	9	283.2	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-C*14:02	LGKATAMPF	9	243.8	8.94209	flameshift deletion
Se143	TCEB3	NM_003198.2c.524delA	ELERPHKVS HGLRGEMRERGVTECHQLTL QTLSELLIMAMFNPLHLVPLIRCTSTTDP WRRTRSPLFHTRSLGKATAMPFRDTS GPA KNDTWVNP MGKGL	HLA-C*03:04	MAMFNPLHLV	10	241.8	8.94209	flameshift deletion
Se144	SH3D19	NM_001009555.3c.1114_112 2delGATCTTCAG	KLPFNRSSSDMKKQSNLATGLS	HLA-A*02:06	KQSNLATGL	9	210.5	10.3476	inframe deletion
Se144	SH3D19	NM_001009555.3c.1114_112 2delGATCTTCAG	KLPFNRSSSDMKKQSNLATGLS	HLA-B*15:01	KQSNLATGL	9	468.3	10.3476	inframe deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	MSLFLPLPV	9	13.5	1.07906	flameshift deletion
Se145	ANGPT1	NM_001146.4c.1031delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-B*54:01	LPLPVRGST	9	122	1.07906	flameshift deletion
Se145	ANGPT1	NM_001146.4c.1031delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	WGMSLFLPL	9	112.6	1.07906	flameshift deletion
Se145	ANGPT1	NM_00119859.2c.1028delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-B*54:01	FLPLPVRGST	10	108.1	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-B*54:01	LPLPVRGSTC	10	470.3	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*24:02	GWGMSLFLPL	10	420.9	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	MSLFLPLPVR	10	374	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	NIGWGMSLFL	10	343.7	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	WVLEIPPVNI	10	299.7	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	GMSLFLPLPV	10	26.5	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-B*54:01	MSLFLPLPV	9	428	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	IGWGMSLFL	9	467.9	1.07906	flameshift deletion
Se145	ANGPT1	NM_001314051.1c.431delA	GSLDFQRGWKELKVVLEIPPVNIWGMSL FLPLPVRGSTC	HLA-A*02:06	KVLEIPPV	9	316	1.07906	flameshift deletion

Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	ALSLLFFAV	9	19	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	LLFAVLSRA	9	45.9	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	EALSLLFFA	9	386.8	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	AVLSRAAAL	9	496.6	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-B*54:01	FAVLSRAAA	9	190.2	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	LLFAVLSRAA	10	110.3	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	EALSLLFFAV	10	137	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	LLLFAVLSRA	10	219.4	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	SEALSLLFFA	10	237.5	2.97384	inframe deletion
Se145	DMPK	NM_001288764.1c.1867_1869delGTT	SEALSLLFFAVLSRAAALGCIG	HLA-A*02:06	ALSLLFFAVL	10	418.5	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-A*02:06	CLVPPPWAA	9	129.8	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-A*02:06	LVPPPWAAL	9	217.2	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-A*02:06	CSCSPFCLV	9	328.2	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-A*24:02	RFPCSCSPF	9	55.8	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-B*54:01	FPCSCSPFC	9	422	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-B*54:01	SPFCLVPPP	9	464.3	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-C*01:02	LVPPPWAAL	9	340.1	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-A*02:06	FCLVPPPWAA	10	57.9	2.97384	inframe deletion
Se145	DMPK	NM_001288765.1c.1518_1520delGTT	YRRRFPCSCSPFCLVPPPWAAL	HLA-A*24:02	RRFPCSCSPF	10	201.1	2.97384	inframe deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAIGCHAEGIRVPRPLTRSIRRLR WKNIESTKCSWSPRAVTSVGAVLQALP SAVDFFLWMMVAGTQFSAKVAAPLTPH DSPRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	WPRAVTSVG	9	332.2	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAIGCHAEGIRVPRPLTRSIRRLR WKNIESTKCSWSPRAVTSVGAVLQALP SAVDFFLWMMVAGTQFSAKVAAPLTPH DSPRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	FPSAKVAAP	9	269.3	75.4709	flameshift deletion

Se147	EIF4G1	NM_198241.2c.2794delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	WPRAVTSVGA	10	43.2	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	LPSAVDFPL	9	151.2	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-A*24:02	LWMMVAGTQF	10	46	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*39:01	FPSAKVAAPL	10	180.9	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	FPLWMMVAGT	10	22.3	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	FPLWMMVAG	9	25.4	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*39:01	NHDEESLSA	9	457	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*54:01	FPSAKVAAPL	10	161.3	75.4709	flameshift deletion
Se147	EIF4G1	NM_001194946.1c.2815delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-C*07:02	RRRHPASAL	9	228.9	75.4709	flameshift deletion
Se147	EIF4G1	NM_198241.2c.2794delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-A*24:02	EWISISTRW	9	499.7	75.4709	flameshift deletion
Se147	EIF4G1	NM_198244.2c.2533delC	KLLKNHDEESLSAFVVCSPPLAKTWTLKK PSPEWISISTRWKKSLKRRRHPASALCCR TCWICEGAI GCHAE GIRVPRPLTRSIRRLR WKNIESTSKCSSSWPRAVTSVGAVLQALP SAVDFPLWMMVAGTQFPSAKVAAPLTPH DSRSPSLAPSILTTSSLHLEGD	HLA-B*39:01	LPSAVDFPL	9	125.7	75.4709	flameshift deletion
Se147	EPC2	NM_015630.3c.971_986delA AGAAGAGGCTTCTGA	CKTKHPHLLSLMWFVKRRRSTQSLKQRL	HLA-C*07:02	TKHPHLLSL	9	399.3	9.98948	flameshift deletion
Se147	EPC2	NM_015630.3c.971_986delA AGAAGAGGCTTCTGA	CKTKHPHLLSLMWFVKRRRSTQSLKQRL	HLA-C*07:02	KHPHLLSLM	9	188.3	9.98948	flameshift deletion
Se147	EPC2	NM_015630.3c.971_986delA AGAAGAGGCTTCTGA	CKTKHPHLLSLMWFVKRRRSTQSLKQRL	HLA-B*39:01	HLLSLMWFV	9	311.6	9.98948	flameshift deletion

Se147	EPC2	NM_015630.3c.971_986delA AGAAGAGGCTTCTGA	CKTKHPHLLSLMWFVKRRSTQRSLKQRL	HLA-B*39:01	TKHPHLLSL	9	174.2	9.98948	flameshift deletion
Se147	RAB6A	NM_001243718.1c.309delC	QEQPVSEGGCSANLPCHLQPSSEAHCFGPL TLSLTAV	HLA-B*39:01	AHCFGPLTL	9	244.6	41.4734	flameshift deletion
Se147	RAB6A	NM_001243719.1c.522delC	QEQPVSEGGCSANLPCHLQPSSEAHCFGPL TLSLTAV	HLA-B*39:01	SEAHCFGPL	9	274.4	41.4734	flameshift deletion
Se147	RAB6A	NM_001243719.1c.522delC	QEQPVSEGGCSANLPCHLQPSSEAHCFGPL TLSLTAV	HLA-B*54:01	GPLTLSLTA	9	390	41.4734	flameshift deletion
Se147	RAB6A	NM_001243718.1c.309delC	QEQPVSEGGCSANLPCHLQPSSEAHCFGPL TLSLTAV	HLA-B*54:01	FGPLTLSLTA	10	11.5	41.4734	flameshift deletion
Se147	RAB6A	NM_002869.4c.621delC	QEQPVSEGGCSANLPCHLQPSSEAHCFGPL TLSLTAV	HLA-A*24:02	CFGPLTLSL	9	444.6	41.4734	flameshift deletion
Se147	PCDHGA1 1	NM_018914.2c.49_51delCTG	QRGDRSRLLLLCIFLGTLRGFR	HLA-A*24:02	IFLGTLRGF	9	321.6	17.0247	inflammation deletion
Se147	PCDHGA1 1	NM_018914.2c.49_51delCTG	QRGDRSRLLLLCIFLGTLRGFR	HLA-C*07:02	QRGDRSRL	9	420.6	17.0247	inflammation deletion
Se150	CDS2	NM_003818.3c.786delC	IKLSPKKTWEGSLGASLLWCLAFCCPM	HLA-B*40:01	WEGSLGASLL	10	20.8	12.9103	flameshift deletion
Se150	CDS2	NM_003818.3c.786delC	IKLSPKKTWEGSLGASLLWCLAFCCPM	HLA-B*40:01	TWEGSLGASL	10	183.4	12.9103	flameshift deletion
Se150	CDS2	NM_003818.3c.786delC	IKLSPKKTWEGSLGASLLWCLAFCCPM	HLA-B*40:01	WEGSLGASL	9	10	12.9103	flameshift deletion
Se150	CDS2	NM_003818.3c.786delC	IKLSPKKTWEGSLGASLLWCLAFCCPM	HLA-B*15:01	ASLLWCLAF	10	469.7	12.9103	flameshift deletion
Se150	IRS1	NM_005544.2c.1159_1174del ACCAGCCCGGTCAGTC	PMPASRCSPSACRPVAVVAMAPPRIVSSHG DLVLRCLVPPAMAVSSPRMSMAPVPAISG VPSAVSLRIPWATPHQPAVRRS	HLA-B*15:01	RMSMAPVPA	9	390.7	3.46986	flameshift deletion
Se150	IRS1	NM_005544.2c.1159_1174del ACCAGCCCGGTCAGTC	PMPASRCSPSACRPVAVVAMAPPRIVSSHG DLVLRCLVPPAMAVSSPRMSMAPVPAISG VPSAVSLRIPWATPHQPAVRRS	HLA-B*15:01	MAVSSPRMS	10	125.3	3.46986	flameshift deletion
Se150	IRS1	NM_005544.2c.1159_1174del ACCAGCCCGGTCAGTC	PMPASRCSPSACRPVAVVAMAPPRIVSSHG DLVLRCLVPPAMAVSSPRMSMAPVPAISG VPSAVSLRIPWATPHQPAVRRS	HLA-B*15:01	VLRCLVPPAM	10	160.8	3.46986	flameshift deletion
Se150	IRS1	NM_005544.2c.1159_1174del ACCAGCCCGGTCAGTC	PMPASRCSPSACRPVAVVAMAPPRIVSSHG DLVLRCLVPPAMAVSSPRMSMAPVPAISG VPSAVSLRIPWATPHQPAVRRS	HLA-B*15:01	MSMAPVPAI	9	301	3.46986	flameshift deletion
Se150	IRS1	NM_005544.2c.1159_1174del ACCAGCCCGGTCAGTC	PMPASRCSPSACRPVAVVAMAPPRIVSSHG DLVLRCLVPPAMAVSSPRMSMAPVPAISG VPSAVSLRIPWATPHQPAVRRS	HLA-B*15:01	AMAVSSPRM	9	90.4	3.46986	flameshift deletion
Se150	IRS1	NM_005544.2c.1159_1174del ACCAGCCCGGTCAGTC	PMPASRCSPSACRPVAVVAMAPPRIVSSHG DLVLRCLVPPAMAVSSPRMSMAPVPAISG VPSAVSLRIPWATPHQPAVRRS	HLA-B*15:01	RMSMAPVPAI	10	121.9	3.46986	flameshift deletion
Se150	KBTBD2	NM_015483.2c.1083delT	YWFDAQNTWFQRQCFLSA	HLA-A*24:02	TWFQRQCF	9	47.4	23.2616	flameshift deletion
Se150	KBTBD2	NM_015483.2c.1083delT	YWFDAQNTWFQRQCFLSA	HLA-B*15:01	FQRQCFLSA	10	441.6	23.2616	flameshift deletion
Se150	KBTBD2	NM_015483.2c.1083delT	YWFDAQNTWFQRQCFLSA	HLA-A*24:02	YWFDAQNTW	10	88.9	23.2616	flameshift deletion
Se150	LMBRD1	NM_018368.3c.1572_1593del AGATGAAGATTCAGACAT AAGT	CKGKKSIVIEGVMMSPILLSLSLS	HLA-B*40:01	IEGVMMSP	9	48.7	29.7134	flameshift deletion
Se150	LMBRD1	NM_018368.3c.1572_1593del AGATGAAGATTCAGACAT AAGT	CKGKKSIVIEGVMMSPILLSLSLS	HLA-B*15:01	GVMMSPSIL	10	233.5	29.7134	flameshift deletion

Se150	LMBRD1	NM_018368.3c.1572_1593del AGATGAAGATTCAGACAT AAGT	CKGKKSVIEGVMMSPILLSLLS	HLA-B*15:01	VMMSPILLS	10	95.3		29.7134	flameshift deletion
Se150	LMBRD1	NM_018368.3c.1572_1593del AGATGAAGATTCAGACAT AAGT	CKGKKSVIEGVMMSPILLSLLS	HLA-B*15:01	MMSPLSILL	9	44.4		29.7134	flameshift deletion
Se150	LMBRD1	NM_018368.3c.1572_1593del AGATGAAGATTCAGACAT AAGT	CKGKKSVIEGVMMSPILLSLLS	HLA-B*15:01	VMMSPILLS	9	34.4		29.7134	flameshift deletion
Se150	PTK2B	NM_004103.4c.2394_2399del GGCTGA	SSREEAQLWEVKMRQILDQK	HLA-B*40:01	WEVKMRQIL	10	162.4	3.4396		inframe deletion
Se150	TMEM184B	NM_012264.5c.A1223T;p.X4	LLSSDDEFLVRAAAVEVLAP	HLA-B*15:01	LLSSDDEF	9	201.5	23.3045		stoploss SNV
Se150	TMEM184B	NM_012264.5c.A1223T;p.X4	LLSSDDEFLVRAAAVEVLAP	HLA-B*15:01	LVRAAAVEVL	10	440.4	23.3045		stoploss SNV
Se152	SPRTN	NM_032018.6c.246_247delA G	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRDP	HLA-A*24:02	CSYEEGWNVF	10	225	2.55771		flameshift deletion
Se152	SPRTN	NM_032018.6c.246_247delA G	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRDP	HLA-A*31:01	GWNVFHPSQR	10	155.5	2.55771		flameshift deletion
Se152	SPRTN	NM_032018.6c.246_247delA G	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRDP	HLA-A*24:02	SYEEGWNVF	9	60.1	2.55771		flameshift deletion
Se152	SPRTN	NM_032018.6c.246_247delA G	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRDP	HLA-C*14:02	SYEEGWNVF	9	25.5	2.55771		flameshift deletion
Se152	SPRTN	NM_001261462.2c.246_247d elAG	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRIPYFSR	HLA-A*31:01	SCRGIPYFSR	10	115.2	2.55771		flameshift deletion
Se152	SPRTN	NM_001261462.2c.246_247d elAG	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRIPYFSR	HLA-C*14:02	FHPSQRTPF	9	63.8	2.55771		flameshift deletion
Se152	SPRTN	NM_032018.6c.246_247delA G	MTLCAGICSYEEGWNVFHPSQRTPFVEVA KKGSCRDP	HLA-C*14:02	VFHPSQRTPF	10	156.2	2.55771		flameshift deletion