

Supplement Table 1. T cell epitopes prediction on potential peptide-HLA complexes of major allergens-derived peptides with percentile rank < 3% (Low percentile rank = good binders) through IEDB. (ALA with percentile rank < 5%)

Protein	Allele	Start	End	Peptide	Percentile Rank
BLG	HLA-DPA1*02:01/DPB1*14:01	135	149	KFDKALKALPMHIRL	0.41
	HLA-DPA1*02:01/DPB1*14:01	136	150	FDKALKALPMHIRLS	0.45
	HLA-DPA1*02:01/DPB1*14:01	134	148	EKFDKALKALPMHIR	0.73
	HLA-DPA1*02:01/DPB1*14:01	137	151	DKALKALPMHIRLSF	0.76
	HLA-DRB1*03:01	91	105	KVLVLDTDYKKYLLF	0.87
	HLA-DRB1*03:01	90	104	NKVLVLDTDYKKYLL	0.87
	HLA-DRB1*09:01	16	30	AGTWYSLAMAASDIS	0.89
	HLA-DPA1*02:01/DPB1*14:01	138	152	KALKALPMHIRLSFN	0.91
	HLA-DRB1*03:01	89	103	ENKVLVLDTDYKKYL	0.94
	HLA-DRB1*09:01	17	31	GTWYSLAMAASDISL	1.10
	HLA-DPA1*02:01/DPB1*14:01	133	147	LEKFDKALKALPMHI	1.10
	HLA-DRB1*04:01	142	156	ALPMHIRLSFNPTQL	1.20
BLG	HLA-DRB1*04:01	143	157	LPMHIRLSFNPTQLE	1.20

Protein	Allele	Start	End	Peptide	Percentile Rank
BLG	HLA-DRB1*04:01	145	159	MHIRLSFNPTQLEEQ	1.20
	HLA-DRB1*04:01	144	158	PMHIRLSFNPTQLEE	1.20
	HLA-DPA1*02:01/DPB1*05:01	97	111	TDYKKYLLFCMENZA	1.30
	HLA-DRB1*09:01	18	32	TWYSLAMAASDISLL	1.30
	HLA-DRB1*09:01	15	29	VAGTWYSLAMAASDI	1.30
	HLA-DQA1*03:01/DQB1*03:02	14	28	KVAGTWYSLAMAASD	1.50
	HLA-DPA1*02:01/DPB1*05:01	93	107	LVLDTDYKKYLLFCM	1.50
	HLA-DPA1*02:01/DPB1*05:01	96	110	DTDYKKYLLFCMENS	1.60
	HLA-DRB1*04:01	146	160	HIRLSFNPTQLEEQC	1.60
	HLA-DRB1*01:01	18	32	TWYSLAMAASDISLL	1.60
	HLA-DRB1*04:05	100	114	KKYLLFCMENSAEPE	1.70
	HLA-DRB1*01:01	17	31	GTWYSLAMAASDISL	1.90
	HLA-DRB1*09:01	14	28	KVAGTWYSLAMAASD	1.90
	HLA-DQA1*03:01/DQB1*03:02	15	29	VAGTWYSLAMAASDI	1.90
	HLA-DPA1*02:01/DPB1*05:01	94	108	VLDTDYKKYLLFCME	2.00
	HLA-DRB1*04:05	99	113	YKKYLLFCMENSAEP	2.10

Protein	Allele	Start	End	Peptide	Percentile Rank
BLG	HLA-DQA1*01:01/DQB1*05:01	96	110	DTDYKKYLLFCMENS	2.20
	HLA-DQA1*01:01/DQB1*05:01	98	112	DYKKYLLFCMENSAE	2.20
	HLA-DQA1*01:01/DQB1*05:01	100	114	KKYLLFCMENSAEPE	2.20
	HLA-DPA1*02:01/DPB1*05:01	95	109	LDTDYKKYLLFCMEN	2.20
	HLA-DQA1*01:01/DQB1*05:01	97	111	TDYKKYLLFCMENZA	2.20
	HLA-DQA1*01:01/DQB1*05:01	99	113	YKKYLLFCMENSAEP	2.20
	HLA-DRB1*04:05	101	115	KYLLFCMENSAEPEQ	2.30
	HLA-DRB3*02:02	145	159	MHIRLSFNPTQLEEQ	2.30
	HLA-DQA1*03:01/DQB1*03:02	16	30	AGTWYSLAMAASDIS	2.40
	HLA-DQA1*01:02/DQB1*06:02	14	28	KVAGTWYSLAMAASD	2.40
	HLA-DRB1*03:01	93	107	LVLDTDYKKYLLFCM	2.40
	HLA-DRB3*02:02	144	158	PMHIRLSFNPTQLEE	2.40
	HLA-DQA1*01:02/DQB1*06:02	13	27	QKVAGTWYSLAMAAS	2.40
	HLA-DRB1*03:01	92	106	VLVLDTDYKKYLLFC	2.40
	HLA-DRB1*04:05	17	31	GTWYSLAMAASDISL	2.50
	HLA-DRB1*04:01	141	155	KALPMHIRLSFNPTQ	2.50

Protein	Allele	Start	End	Peptide	Percentile Rank
BLG	HLA-DRB3*02:02	143	157	LPMHIRLSFNPTQLE	2.50
	HLA-DQA1*01:02/DQB1*06:02	15	29	VAGTWYSLAMAASDI	2.50
	HLA-DRB1*01:01	19	33	WYSLAMAASDISLLD	2.50
	HLA-DQA1*03:01/DQB1*03:02	17	31	GTWYSLAMAASDISL	2.60
	HLA-DQA1*04:01/DQB1*04:02	14	28	KVAGTWYSLAMAASD	2.60
	HLA-DRB1*03:01	88	102	NENKVLVLDTDYKKY	2.60
	HLA-DRB1*04:05	16	30	AGTWYSLAMAASDIS	2.70
	HLA-DRB3*01:01	79	93	PAVFKIDALNENKVL	2.70
	HLA-DQA1*04:01/DQB1*04:02	18	32	TWYSLAMAASDISLL	2.70
	HLA-DQA1*04:01/DQB1*04:02	15	29	VAGTWYSLAMAASDI	2.70
	HLA-DRB1*09:01	19	33	WYSLAMAASDISLLD	2.70
	HLA-DRB3*01:01	80	94	AVFKIDALNENKVLV	2.80
	HLA-DQA1*03:01/DQB1*03:02	18	32	TWYSLAMAASDISLL	2.80
	HLA-DRB1*04:05	18	32	TWYSLAMAASDISLL	2.80
	HLA-DRB1*04:05	15	29	VAGTWYSLAMAASDI	2.80
	HLA-DQA1*03:01/DQB1*03:02	102	116	YLLFCMENSAPPEQS	2.80

Protein	Allele	Start	End	Peptide	Percentile Rank
	HLA-DRB3*01:01	78	92	IPAVFKIDALNENKV	2.90
	HLA-DRB3*01:01	77	91	KIPAVFKIDALNENK	2.90
	HLA-DRB3*01:01	76	90	TKIPAVFKIDALNEN	2.90
	HLA-DQA1*04:01/DQB1*04:02	16	30	AGTWYSLAMAASDIS	3.00
	HLA-DRB1*01:01	16	30	AGTWYSLAMAASDIS	3.00
	HLA-DPA1*02:01/DPB1*14:01	139	153	ALKALPMHIRLSFNP	3.00
	HLA-DRB1*04:05	14	28	KVAGTWYSLAMAASD	3.00
	HLA-DRB4*01:01	143	157	LPMHIRLSFNPTQLE	3.00
Protein	Allele	Start	End	Peptide	Percentile Rank
ALA	HLA-DRB1*07:01	98	112	KVGINYWLAHKALCS	2.80
	HLA-DRB1*07:01	101	115	INYWLAHKALCSEKL	3.00
	HLA-DRB1*15:01	10	24	RELKDLKGYGGVSLP	3.10
	HLA-DRB1*07:01	99	113	VGINYWLAHKALCSE	3.10
	HLA-DRB3*02:02	49	63	EYGLFQINNKIWCKN	3.30
	HLA-DRB1*07:01	100	114	GINYWLAHKALCSEK	3.60
	HLA-DRB1*15:01	11	25	ELKDLKGYGGVSLPE	3.80

Protein	Allele	Start	End	Peptide	Percentile Rank
ALA	HLA-DRB3*02:02	50	64	YGLFQINNKIWCKND	3.80
	HLA-DRB3*02:02	48	62	TEYGLFQINNKIWCK	3.90
	HLA-DRB1*07:01	102	116	NYWLAHKALCSEKLD	4.20
	HLA-DRB1*15:01	9	23	FRELKDLKGYGGVSL	4.30
	HLA-DRB1*15:01	12	26	LKDLKGYGGVSLPEW	4.30
	HLA-DRB3*02:02	101	115	INYWLAHKALCSEKL	4.40
	HLA-DPA1*02:01/DPB1*05:01	1	15	EQLTKCEVFRELKDL	4.60
	HLA-DQA1*03:01/DQB1*03:02	31	45	FHTSGYDTEAIVQNN	4.70
	HLA-DRB3*02:02	100	114	GINYWLAHKALCSEK	4.80
	HLA-DQA1*03:01/DQB1*03:02	33	47	TSGYDTEAIVQNNS	4.80
Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DPA1*01:03/DPB1*04:01	141	155	ELAYFYPELFRQFYQ	0.01
	HLA-DPA1*01:03/DPB1*04:01	18	32	ENLLRFFVAPFPEVF	0.01
	HLA-DPA1*01:03/DPB1*04:01	142	156	LAYFYPELFRQFYQL	0.01
	HLA-DPA1*01:03/DPB1*04:01	139	153	NQELAYFYPELFRQF	0.01
α_{S1}-casein	HLA-DPA1*01:03/DPB1*04:01	140	154	QELAYFYPELFRQFY	0.01

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DPA1*01:03/DPB1*04:01	20	34	LLRFFVAPFPEVFGK	0.02
	HLA-DPA1*01:03/DPB1*04:01	19	33	NLLRFFVAPFPEVFG	0.02
	HLA-DPA1*01:03/DPB1*04:01	143	157	AYFYPELFRQFYQLD	0.06
	HLA-DPA1*01:03/DPB1*04:01	17	31	NENLLRFFVAPFPEV	0.06
	HLA-DPA1*01:03/DPB1*04:01	21	35	LRFFVAPFPEVFGKE	0.10
	HLA-DPA1*01:03/DPB1*04:01	138	152	VNQELAYFYPELFRQ	0.10
	HLA-DPA1*02:01/DPB1*14:01	20	34	LLRFFVAPFPEVFGK	0.20
	HLA-DPA1*02:01/DPB1*14:01	18	32	ENLLRFFVAPFPEVF	0.23
	HLA-DPA1*02:01/DPB1*14:01	19	33	NLLRFFVAPFPEVFG	0.24
	HLA-DPA1*02:01/DPB1*05:01	140	154	QELAYFYPELFRQFY	0.24
	HLA-DPA1*01:03/DPB1*04:01	144	158	YFYPELFRQFYQLDA	0.26
	HLA-DPA1*01:03/DPB1*02:01	18	32	ENLLRFFVAPFPEVF	0.30
	HLA-DPA1*01:03/DPB1*02:01	19	33	NLLRFFVAPFPEVFG	0.30
	HLA-DPA1*02:01/DPB1*05:01	142	156	LAYFYPELFRQFYQL	0.31
	HLA-DPA1*01:03/DPB1*02:01	20	34	LLRFFVAPFPEVFGK	0.32
	HLA-DPA1*01:03/DPB1*02:01	17	31	NENLLRFFVAPFPEV	0.32

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DPA1*02:01/DPB1*05:01	141	155	ELAYFYPELFRQFYQ	0.33
	HLA-DPA1*02:01/DPB1*05:01	139	153	NQELAYFYPELFRQF	0.35
	HLA-DQA1*01:01/DQB1*05:01	137	151	GVNQELAYFYPELFR	0.38
	HLA-DQA1*01:01/DQB1*05:01	138	152	VNQELAYFYPELFRQ	0.38
	HLA-DQA1*01:01/DQB1*05:01	139	153	NQELAYFYPELFRQF	0.41
	HLA-DPA1*02:01/DPB1*01:01	142	156	LAYFYPELFRQFYQL	0.42
	HLA-DPA1*02:01/DPB1*01:01	141	155	ELAYFYPELFRQFYQ	0.44
	HLA-DPA1*02:01/DPB1*01:01	139	153	NQELAYFYPELFRQF	0.44
	HLA-DQA1*01:01/DQB1*05:01	147	161	PELFRQFYQLDAYPS	0.44
	HLA-DPA1*02:01/DPB1*01:01	140	154	QELAYFYPELFRQFY	0.44
	HLA-DQA1*01:01/DQB1*05:01	146	160	YPELFRQFYQLDAYP	0.44
	HLA-DQA1*01:01/DQB1*05:01	148	162	ELFRQFYQLDAYPSG	0.45
	HLA-DPA1*01:03/DPB1*04:01	22	36	RFFVAPFPEVFGKEK	0.46
	HLA-DQA1*01:01/DQB1*05:01	136	150	IGVNQELAYFYPEL	0.51
	HLA-DQA1*01:01/DQB1*05:01	140	154	QELAYFYPELFRQFY	0.51
	HLA-DPA1*01:03/DPB1*04:01	137	151	GVNQELAYFYPELFR	0.52

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DPA1*02:01/DPB1*01:01	138	152	VNQELAYFYPELFRQ	0.55
	HLA-DPA1*02:01/DPB1*14:01	21	35	LRFFVAPFPEVFGKE	0.60
	HLA-DQA1*01:01/DQB1*05:01	18	32	ENLLRFFVAPFPEVF	0.66
	HLA-DPA1*01:03/DPB1*02:01	142	156	LAYFYPELFRQFYQL	0.67
	HLA-DPA1*01:03/DPB1*02:01	21	35	LRFFVAPFPEVFGKE	0.69
	HLA-DRB1*15:01	96	110	EQLLRLKKYKVPQLE	0.70
	HLA-DQA1*01:01/DQB1*05:01	145	159	FYPELFRQFYQLDAY	0.71
	HLA-DQA1*01:01/DQB1*05:01	17	31	NENLLRFFVAPFPEV	0.75
	HLA-DPA1*02:01/DPB1*05:01	143	157	AYFYPELFRQFYQLD	0.79
	HLA-DRB1*15:01	95	109	LEQLLRLKKYKVPQL	0.84
	HLA-DPA1*01:03/DPB1*02:01	139	153	NQELAYFYPELFRQF	0.84
	HLA-DPA1*01:03/DPB1*02:01	140	154	QELAYFYPELFRQFY	0.84
	HLA-DPA1*02:01/DPB1*14:01	17	31	NENLLRFFVAPFPEV	0.85
	HLA-DPA1*01:03/DPB1*02:01	141	155	ELAYFYPELFRQFYQ	0.86
	HLA-DQA1*01:01/DQB1*05:01	19	33	NLLRFFVAPFPEVFG	0.95
	HLA-DQA1*01:01/DQB1*05:01	16	30	LNENLLRFFVAPFPE	0.97

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DRB1*12:01	92	106	LGYLEQLLRLKKYKV	1.06
	HLA-DPA1*01:03/DPB1*02:01	143	157	AYFYPELFRQFYQLD	1.10
	HLA-DQA1*01:01/DQB1*05:01	149	163	LFRQFYQLDAYPSGA	1.10
	HLA-DPA1*01:03/DPB1*04:01	145	159	FYPELFRQFYQLDAY	1.20
	HLA-DPA1*01:03/DPB1*04:01	16	30	LNENLLRFFVAPFPE	1.20
	HLA-DPA1*02:01/DPB1*01:01	143	157	AYFYPELFRQFYQLD	1.30
	HLA-DPA1*02:01/DPB1*01:01	89	103	ERYLGYLEQLLRLKK	1.30
	HLA-DPA1*02:01/DPB1*01:01	88	102	SERYLGYLEQLLRLK	1.30
	HLA-DPA1*02:01/DPB1*05:01	138	152	VNQELAYFYPELFRQ	1.30
	HLA-DPA1*02:01/DPB1*01:01	18	32	ENLLRFFVAPFPEVF	1.40
	HLA-DPA1*02:01/DPB1*01:01	20	34	LLRFFVAPFPEVFGK	1.40
	HLA-DPA1*02:01/DPB1*01:01	21	35	LRFFVAPFPEVFGKE	1.40
	HLA-DPA1*02:01/DPB1*01:01	19	33	NLLRFFVAPFPEVFG	1.40
	HLA-DQA1*05:01/DQB1*02:01	139	153	NQELAYFYPELFRQF	1.40
	HLA-DRB1*15:01	97	111	QLLRLKKYKVPQLEI	1.40
	HLA-DPA1*01:03/DPB1*04:01	88	102	SERYLGYLEQLLRLK	1.40

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DQA1*05:01/DQB1*02:01	138	152	VNQELAYFYPELFRQ	1.40
	HLA-DPA1*01:03/DPB1*02:01	144	158	YFYPELFRQFYQLDA	1.40
	HLA-DPA1*02:01/DPB1*01:01	144	158	YFYPELFRQFYQLDA	1.40
	HLA-DQA1*01:01/DQB1*05:01	141	155	ELAYFYPELFRQFYQ	1.50
	HLA-DPA1*03:01/DPB1*04:02	89	103	ERYLGYLEQLLRLKK	1.50
	HLA-DQA1*05:01/DQB1*02:01	137	151	GVNQELAYFYPELFR	1.50
	HLA-DQA1*03:01/DQB1*03:02	57	71	IKQMEAESISSSEEI	1.50
	HLA-DQA1*03:01/DQB1*03:02	58	72	KQMEAESISSSEEIV	1.50
	HLA-DPA1*01:03/DPB1*04:01	87	101	PSERYLGYLEQLLRL	1.50
	HLA-DPA1*02:01/DPB1*01:01	87	101	PSERYLGYLEQLLRL	1.50
	HLA-DQA1*03:01/DQB1*03:02	59	73	QMEAESISSSEEIVP	1.50
	HLA-DPA1*03:01/DPB1*04:02	88	102	SERYLGYLEQLLRLK	1.50
	HLA-DRB1*04:05	162	176	GAWYYVPLGTQYTDA	1.60
	HLA-DQA1*05:01/DQB1*02:01	136	150	IGVNQELAYFYPELF	1.60
	HLA-DRB1*01:01	149	163	LFRQFYQLDAYPSGA	1.60
	HLA-DRB1*15:01	98	112	LLRLKKYKVPQLEIV	1.60

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DPA1*03:01/DPB1*04:02	87	101	PSERYLGYLEQLLRL	1.60
	HLA-DPA1*03:01/DPB1*04:02	90	104	RYLGYLEQLLRLKKY	1.60
	HLA-DRB1*04:05	163	177	AWYYVPLGTQYTDAP	1.70
	HLA-DQA1*05:01/DQB1*02:01	18	32	ENLLRFFVAPFPEVF	1.70
	HLA-DPA1*01:03/DPB1*04:01	89	103	ERYLGYLEQLLRLKK	1.70
	HLA-DPA1*01:03/DPB1*04:01	136	150	IGVNQELAYFYPELF	1.70
	HLA-DPA1*02:01/DPB1*01:01	17	31	NENLLRFFVAPFPEV	1.70
	HLA-DQA1*05:01/DQB1*02:01	19	33	NLLRFFVAPFPEVFG	1.70
	HLA-DRB1*04:05	161	175	SGAWYYVPLGTQYTD	1.70
	HLA-DRB1*01:01	148	162	ELFRQFYQLDAYPSG	1.80
	HLA-DRB1*01:01	150	164	FRQFYQLDAYPSGAW	1.80
	HLA-DRB1*04:05	147	161	PELFRQFYQLDAYPS	1.80
	HLA-DRB1*01:01	151	165	RQFYQLDAYPSGAWY	1.80
	HLA-DPA1*03:01/DPB1*04:02	91	105	YLGYLEQLLRLKKYK	1.80
	HLA-DRB1*04:05	148	162	ELFRQFYQLDAYPSG	1.90
	HLA-DRB1*04:05	105	119	KVPQLEIVPNSAEER	1.90

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DRB1*04:05	103	117	KYKVPQLEIVPNSAE	1.90
	HLA-DRB1*04:05	107	121	PQLEIVPNSAEERLH	1.90
	HLA-DPA1*01:03/DPB1*02:01	138	152	VNQELAYFYPELFRQ	1.90
	HLA-DRB1*04:05	106	120	VPQLEIVPNSAEERL	1.90
	HLA-DRB1*04:05	104	118	YKVPQLEIVPNSAEE	1.90
	HLA-DQA1*01:01/DQB1*05:01	150	164	FRQFYQLDAYPSGAW	2.00
	HLA-DPA1*01:03/DPB1*02:01	145	159	FYPELFRQFYQLDAY	2.00
	HLA-DQA1*01:01/DQB1*05:01	20	34	LLRFFVAPFPEVFGK	2.00
	HLA-DQA1*01:01/DQB1*05:01	87	101	PSERYLGYLEQLLRL	2.00
	HLA-DPA1*02:01/DPB1*01:01	90	104	RYLGYLEQLLRLKKY	2.00
	HLA-DQA1*01:01/DQB1*05:01	88	102	SERYLGYLEQLLRLK	2.00
	HLA-DQA1*05:01/DQB1*02:01	20	34	LLRFFVAPFPEVFGK	2.10
	HLA-DPA1*01:03/DPB1*04:01	90	104	RYLGYLEQLLRLKKY	2.10
	HLA-DRB1*15:01	94	108	YLEQLLRLKKYKVPQ	2.10
	HLA-DQA1*03:01/DQB1*03:02	56	70	DIKQMEAESISSEE	2.20
	HLA-DRB1*11:01	94	108	YLEQLLRLKKYKVPQ	2.20

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S1}-casein	HLA-DRB1*12:01	93	107	GYLEQLLRLKKYKVP	2.27
	HLA-DRB1*11:01	93	107	GYLEQLLRLKKYKVP	2.30
	HLA-DQA1*01:01/DQB1*05:01	15	29	VLNENLLRFFVAPFP	2.30
	HLA-DQA1*05:01/DQB1*02:01	140	154	QELAYFYPELFRQFY	2.40
	HLA-DPA1*02:01/DPB1*14:01	22	36	RFFVAPFPEVFGKEK	2.40
	HLA-DQA1*01:01/DQB1*05:01	86	100	VPSERYLGYLEQLLR	2.40
	HLA-DRB1*12:01	94	108	YLEQLLRLKKYKVPQ	2.47
	HLA-DQA1*01:01/DQB1*05:01	85	99	DVPSERYLGYLEQLL	2.50
	HLA-DRB1*09:01	18	32	ENLLRFFVAPFPEVF	2.50
	HLA-DQA1*04:01/DQB1*04:02	57	71	IKQMEAESISSSEEI	2.50
	HLA-DQA1*04:01/DQB1*04:02	58	72	KQMEAESISSSEEIV	2.50
	HLA-DRB1*11:01	95	109	LEQLLRLKKYKVPQL	2.50
	HLA-DRB1*09:01	19	33	NLLRFFVAPFPEVFG	2.50
	HLA-DRB1*04:05	164	178	WYYVPLGTQYTDAPS	2.60
	HLA-DQA1*01:01/DQB1*05:01	89	103	ERYLGYLEQLLRLKK	2.70
	HLA-DQA1*05:01/DQB1*02:01	21	35	LRFFVAPFPEVFGKE	2.70

Protein	Allele	Start	End	Peptide	Percentile Rank
	HLA-DQA1*01:01/DQB1*05:01	90	104	RYLGYLEQLLRLKKY	2.70
	HLA-DRB1*12:01	14	28	EVLNENLLRFFVAPF	2.75
	HLA-DRB1*04:05	18	32	ENLLRFFVAPFPEVF	2.80
	HLA-DPA1*01:03/DPB1*04:01	14	28	EVLNENLLRFFVAPF	2.80
	HLA-DRB1*15:01	93	107	GYLEQLLRLKKYKVP	2.80
	HLA-DPA1*01:03/DPB1*02:01	22	36	RFFVAPFPEVFGKEK	2.80
	HLA-DQA1*05:01/DQB1*02:01	86	100	VPSELYLGYLEQLLR	2.80
	HLA-DRB1*04:01	150	164	FRQFYQLDAYPSGAW	2.90
	HLA-DQA1*03:01/DQB1*03:02	60	74	MEAESISSSEEIVPN	2.90
	HLA-DQA1*04:01/DQB1*04:02	59	73	QMEAESISSSEEIVP	2.90
	HLA-DPA1*01:03/DPB1*04:01	15	29	VLNENLLRFFVAPFP	2.90
	HLA-DRB1*12:01	91	105	YLGYLEQLLRLKKYK	2.90
	HLA-DRB1*11:01	92	106	LGYLEQLLRLKKYKV	3.00
	HLA-DPA1*01:03/DPB1*02:01	146	160	YPELFRQFYQLDAYP	3.00
Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S2}-casein	HLA-DQA1*03:01/DQB1*03:02	55	69	GSSSEESAEVATEEV	0.09

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S2}-casein	HLA-DQA1*03:01/DQB1*03:02	57	71	SSEESAEVATEEVKI	0.10
	HLA-DQA1*03:01/DQB1*03:02	56	70	SSSEESAEVATEEVK	0.10
	HLA-DQA1*04:01/DQB1*04:02	55	69	GSSSEESAEVATEEV	0.11
	HLA-DQA1*04:01/DQB1*04:02	54	68	IGSSSEESAEVATEE	0.11
	HLA-DQA1*03:01/DQB1*03:02	54	68	IGSSSEESAEVATEE	0.16
	HLA-DQA1*04:01/DQB1*04:02	56	70	SSSEESAEVATEEVK	0.16
	HLA-DQA1*04:01/DQB1*04:02	57	71	SSEESAEVATEEVKI	0.19
	HLA-DQA1*04:01/DQB1*04:02	58	72	SEESAEVATEEVKIT	0.40
	HLA-DPA1*01:03/DPB1*04:01	170	184	RYQKFALPQYLKTVY	0.43
	HLA-DRB1*12:01	158	172	KNRLNFLKKISQRYQ	0.44
	HLA-DRB1*11:01	158	172	KNRLNFLKKISQRYQ	0.52
	HLA-DQA1*03:01/DQB1*03:02	58	72	SEESAEVATEEVKIT	0.53
	HLA-DRB1*11:01	159	173	NRLNFLKKISQRYQK	0.57
	HLA-DQA1*03:01/DQB1*03:02	59	73	EESAEVATEEVKITV	0.60
	HLA-DRB1*12:01	159	173	NRLNFLKKISQRYQK	0.61
	HLA-DPA1*01:03/DPB1*04:01	171	185	YQKFALPQYLKTVYQ	0.61

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S2} -casein	HLA-DPA1*01:03/DPB1*04:01	169	183	QRYQKFALPQYLKTV	0.62
	HLA-DRB1*04:01	18	32	ETYKQEKNNMAINPSK	0.71
	HLA-DRB1*04:01	14	28	IISQETYKQEKNNMAI	0.71
	HLA-DRB1*04:01	15	29	ISQETYKQEKNNMAIN	0.71
	HLA-DRB1*04:01	17	31	QETYKQEKNNMAINPS	0.71
	HLA-DRB1*04:01	16	30	SQETYKQEKNNMAINP	0.71
	HLA-DRB1*04:01	19	33	TYKQEKNNMAINPSKE	0.71
	HLA-DRB1*11:01	157	171	EKNRLNFLKKISQRY	0.73
	HLA-DRB1*12:01	157	171	EKNRLNFLKKISQRY	0.76
	HLA-DQA1*03:01/DQB1*03:02	53	67	SIGSSSEESAEEVATE	0.86
	HLA-DRB1*12:01	160	174	RLNFLKKISQRYQKF	0.87
	HLA-DRB1*11:01	155	169	EEEKNRLNFLKKISQ	0.90
	HLA-DRB1*11:01	156	170	EEKNRLNFLKKISQR	0.90
	HLA-DRB1*11:01	160	174	RLNFLKKISQRYQKF	0.90
	HLA-DQA1*04:01/DQB1*04:02	59	73	EESAEEVATEEEVKITV	1.10
	HLA-DQA1*04:01/DQB1*04:02	53	67	SIGSSSEESAEEVATE	1.20

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S2}-casein	HLA-DRB1*11:01	161	175	LNFLKKISQRYQKFA	1.30
	HLA-DPA1*01:03/DPB1*04:01	168	182	SQRYQKFALPQYLKT	1.40
	HLA-DRB1*12:01	161	175	LNFLKKISQRYQKFA	1.47
	HLA-DQA1*03:01/DQB1*03:02	6	20	HVSSSEESIISQETY	1.50
	HLA-DQA1*03:01/DQB1*03:02	8	22	SSSEESIISQETYKQ	1.60
	HLA-DQA1*03:01/DQB1*03:02	7	21	VSSSEESIISQETYK	1.60
	HLA-DQA1*03:01/DQB1*03:02	5	19	EHVSSSEESIISQET	1.80
	HLA-DPA1*01:03/DPB1*04:01	172	186	QKFALPQYLKTVYQH	2.00
	HLA-DPA1*03:01/DPB1*04:02	172	186	QKFALPQYLKTVYQH	2.40
	HLA-DPA1*03:01/DPB1*04:02	169	183	QRYQKFALPQYLKTV	2.40
	HLA-DPA1*03:01/DPB1*04:02	170	184	RYQKFALPQYLKTVY	2.40
	HLA-DPA1*03:01/DPB1*04:02	171	185	YQKFALPQYLKTVYQ	2.40
	HLA-DRB1*08:02	161	175	LNFLKKISQRYQKFA	2.50
	HLA-DRB1*08:02	159	173	NRLNFLKKISQRYQK	2.60
	HLA-DRB4*01:01	160	174	RLNFLKKISQRYQKF	2.60
	HLA-DRB1*08:02	160	174	RLNFLKKISQRYQKF	2.70

Protein	Allele	Start	End	Peptide	Percentile Rank
α_{S2}-casein	HLA-DQA1*03:01/DQB1*03:02	49	63	EEEYSIGSSSEESAE	2.80
	HLA-DRB1*08:02	158	172	KNRLNFLKKISQRYQ	2.80
	HLA-DRB1*08:02	162	176	NFLKKISQRYQKFAL	2.80
	HLA-DPA1*02:01/DPB1*01:01	169	183	QRYQKFALPQYLKTV	2.80
	HLA-DQA1*04:01/DQB1*04:02	50	64	EEYSIGSSSEESAEV	2.90
	HLA-DQA1*03:01/DQB1*03:02	48	62	NEEEYSIGSSSEESA	2.90
	HLA-DRB1*01:01	93	107	PQYLQYLYQGPIVLN	2.90
	HLA-DPA1*02:01/DPB1*01:01	168	182	SQRYQKFALPQYLKT	2.90
Protein	Allele	Start	End	Peptide	Percentile Rank
β-casein	HLA-DRB1*07:01	159	173	PQSVLSLSQSKVLPV	0.40
	HLA-DRB1*07:01	160	174	QSVLSLSQSKVLPVP	0.41
	HLA-DRB1*07:01	161	175	SVLSLSQSKVLPVPQ	0.51
	HLA-DRB1*07:01	162	176	VLSSLSQSKVLPVPQK	0.80
	HLA-DPA1*01:03/DPB1*04:01	185	199	MPIQAFLLYQEPVLG	0.87
	HLA-DPA1*01:03/DPB1*04:01	184	198	DMPIQAFLLYQEPVL	0.88
	HLA-DRB1*07:01	113	127	KYPVEPFTESQSLTL	0.94

Protein	Allele	Start	End	Peptide	Percentile Rank
β-casein	HLA-DPA1*01:03/DPB1*04:01	186	200	PIQAFLLYQEPVLGP	0.95
	HLA-DQA1*01:01/DQB1*05:01	185	199	MPIQAFLLYQEPVLG	1.00
	HLA-DQA1*01:01/DQB1*05:01	184	198	DMPIQAFLLYQEPVL	1.10
	HLA-DRB1*07:01	157	171	FPPQSVLSLSQSKVL	1.10
	HLA-DPA1*01:03/DPB1*04:01	187	201	IQAFLLYQEPVLGPV	1.10
	HLA-DRB1*07:01	158	172	PPQSVLSLSQSKVLP	1.10
	HLA-DRB1*09:01	159	173	PQSVLSLSQSKVLPV	1.40
	HLA-DRB1*07:01	114	128	YPVEPFTESQSLTLT	1.50
	HLA-DRB1*09:01	160	174	QSVLSLSQSKVLPVP	1.70
	HLA-DQA1*01:01/DQB1*05:01	183	197	RDMPIQAFLLYQEPV	1.80
	HLA-DRB1*07:01	115	129	PVEPFTESQSLTLTD	2.00
	HLA-DRB1*09:01	161	175	SVLSLSQSKVLPVPQ	2.00
	HLA-DQA1*01:01/DQB1*05:01	187	201	IQAFLLYQEPVLGPV	2.10
	HLA-DRB1*01:01	188	202	QAFLLYQEPVLGPVR	2.10
	HLA-DRB1*07:01	116	130	VEPFTESQSLTLTDV	2.10
	HLA-DRB1*09:01	157	171	FPPQSVLSLSQSKVL	2.20

Protein	Allele	Start	End	Peptide	Percentile Rank
β-casein	HLA-DQA1*01:01/DQB1*05:01	186	200	PIQAFLLYQEPVLGP	2.30
	HLA-DRB1*09:01	158	172	PPQSVLSLSQSKVLP	2.30
	HLA-DPA1*03:01/DPB1*04:02	123	137	QSLTLTDVENLHLPL	2.30
	HLA-DPA1*02:01/DPB1*01:01	184	198	DMPIQAFLLYQEPVL	2.40
	HLA-DPA1*02:01/DPB1*01:01	185	199	MPIQAFLLYQEPVLG	2.50
	HLA-DPA1*01:03/DPB1*04:01	183	197	RDMPIQAFLLYQEPV	2.50
	HLA-DRB1*07:01	117	131	EPFTESQSLTLTDVE	2.60
	HLA-DPA1*01:03/DPB1*04:01	188	202	QAFLLYQEPVLGPVR	2.60
	HLA-DPA1*03:01/DPB1*04:02	122	136	SQSLTLTDVENLHLP	2.60
	HLA-DRB1*15:01	184	198	DMPIQAFLLYQEPVL	2.70
	HLA-DRB1*07:01	163	177	LSLSQSKVLPVPQKA	2.70
	HLA-DRB1*01:01	187	201	IQAFLLYQEPVLGPV	2.80
	HLA-DRB1*15:01	187	201	IQAFLLYQEPVLGPV	2.80
	HLA-DRB1*04:05	9	23	PGEIVESLSSSEESI	2.80
	HLA-DQA1*05:01/DQB1*02:01	184	198	DMPIQAFLLYQEPVL	2.90
	HLA-DRB1*04:05	10	24	GEIVESLSSSEESIT	2.90

Protein	Allele	Start	End	Peptide	Percentile Rank
β-casein	HLA-DRB1*15:01	185	199	MPIQAFLLYQEPVLG	2.90
	HLA-DQA1*04:01/DQB1*04:02	9	23	PGEIVESLSSEESI	2.90
	HLA-DQA1*05:01/DQB1*02:01	186	200	PIQAFLLYQEPVLGP	2.90
Protein	Allele	Start	End	Peptide	Percentile Rank
κ-casein	HLA-DRB3*01:01	12	26	EKDERFFSDKIAKYI	0.13
	HLA-DRB3*01:01	14	28	DERFFSDKIAKYIPI	0.15
	HLA-DRB3*01:01	13	27	KDERFFSDKIAKYIP	0.18
	HLA-DRB3*01:01	15	29	ERFFSDKIAKYIPIQ	0.20
	HLA-DRB1*15:01	26	40	IPIQYVLSRYPSYGL	0.22
	HLA-DRB1*15:01	28	42	IQYVLSRYPSYGLNY	0.28
	HLA-DRB1*15:01	27	41	PIQYVLSRYPSYGLN	0.29
	HLA-DRB1*15:01	29	43	QYVLSRYPSYGLNYY	0.33
	HLA-DRB1*15:01	30	44	YVLSRYPSYGLNYYQ	0.33
	HLA-DRB3*01:01	11	25	CEKDERFFSDKIAKY	0.34
	HLA-DRB4*01:01	20	34	DKIAKYIPIQYVLSR	0.38
	HLA-DRB4*01:01	21	35	KIAKYIPIQYVLSRY	0.38

Protein	Allele	Start	End	Peptide	Percentile Rank
κ-casein	HLA-DRB4*01:01	19	33	SDKIAKYIPIQYVLS	0.45
	HLA-DRB5*01:01	102	116	HLSFMAIPPKKNQDK	0.48
	HLA-DRB5*01:01	100	114	HPHLSFMAIPPKKNQ	0.48
	HLA-DRB5*01:01	103	117	LSFMAIPPKKNQDKT	0.48
	HLA-DRB5*01:01	101	115	PHLSFMAIPPKKNQD	0.48
	HLA-DRB5*01:01	99	113	PHPHLSFMAIPPKKN	0.48
	HLA-DRB3*01:01	16	30	RFFSDKIAKYIPIQY	0.58
	HLA-DRB4*01:01	22	36	IAKYIPIQYVLSRYP	0.63
	HLA-DRB4*01:01	18	32	FSDKIAKYIPIQYVL	0.68
	HLA-DRB4*01:01	17	31	FFSDKIAKYIPIQYV	0.75
	HLA-DRB3*02:02	73	87	ILQWQVLSNTVPAKS	1.30
	HLA-DRB3*02:02	74	88	LQWQVLSNTVPAKSC	1.30
	HLA-DRB4*01:01	68	82	RSPAQILQWQVLSNT	1.50
	HLA-DRB3*02:02	75	89	QWQVLSNTVPAKSCQ	1.60
	HLA-DRB4*01:01	69	83	SPAQILQWQVLSNTV	1.70
	HLA-DRB5*01:01	55	69	FLPYPPYYAKPAAVRS	2.00

Protein	Allele	Start	End	Peptide	Percentile Rank
κ-casein	HLA-DRB5*01:01	58	72	YPYYAKPAAVRSPAQ	2.00
	HLA-DRB4*01:01	23	37	AKYIPIQYVLSRYPS	2.10
	HLA-DRB1*03:01	14	28	DERFFSDKIAKYIPI	2.10
	HLA-DRB1*03:01	12	26	EKDERFFSDKIAKYI	2.10
	HLA-DRB5*01:01	56	70	LPYPYYAKPAAVRSP	2.10
	HLA-DRB5*01:01	57	71	PYPYYAKPAAVRSPA	2.10
	HLA-DRB1*03:01	13	27	KDERFFSDKIAKYIP	2.20
	HLA-DRB3*02:02	76	90	WQVLSNTVPAKSCQA	2.20
	HLA-DRB3*02:02	72	86	QILQWQVLSNTVPAK	2.30
	HLA-DRB4*01:01	67	81	VRSPAQILQWQVLSN	2.30
	HLA-DRB1*15:01	31	45	VLSRYPSYGLNYYQQ	2.40
	HLA-DRB1*15:01	32	46	LSRYPSYGLNYYQQK	2.50
	HLA-DRB5*01:01	104	118	SFMAIPPKNQDKTE	2.60
	HLA-DRB1*03:01	11	25	CEKDERFFSDKIAKY	2.80
	HLA-DRB1*03:01	15	29	ERFFSDKIAKYIPIQ	2.90
	HLA-DRB5*01:01	54	68	QFLPYPYYAKPAAVR	2.90

