Olerup SSP® HLA-A-B-C SSP Combi Tray

Product number:	**101.702-24/06 – including *Taq* pol.**
Lot number:	**17M**
Expiry date:	**2013-October-01**
Number of tests:	**24 tests – Product No. 101.702-24**
	6 tests – Product No. 101.702-06
Number of wells per test:	**95 +1**
Storage - pre-aliquoted primers:	**dark at -20°C**
- PCR Master Mix:	**-20°C**
- Adhesive PCR seals	**RT**
- Product Insert	**RT**

This Product Description is only valid for Lot No. 17M.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP® HLA-A-B-C SSP COMBI TRAY LOT

The **HLA-A low resolution** specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup* SSP® HLA-A-B-C SSP Combi Tray lot was made **(Lot No. 17K)**.

One or both primers of the wells detailed below have been exchanged, modified or added compared to the previous lot.

Well	5'-primer	3'-primer	rationale
1	Added	Added	Primer pair added for the A*01:69 allele.
2	Exchanged	-	Exchanged 5'-primer for improved allelic resolution, exchanged positive control primer pair.
10	Added	-	Primer added for the A*26:31 allele.
11	Added	-	Primer added for the A*66:11 allele.
14	Removed, added	Removed, added	Removed primer pair for improved allelic resolution. Primer pairs added for the A*03:95 and A*26:19 alleles.
16	Removed, added	Removed, added	Removed primer pair for improved allelic resolution. Primer pairs added for the A*03:95 and A*31:44 alleles.
17	Added	Added	Exchanged 3'-primer to amplify the A*03.82 allele, primer pair added for the A*31:35 allele.
20	Exchanged	Added	Exchanged 5'-primer and primer added to amplify the A*68:50 allele.
24	Exchanged	Exchanged	New primer pair for the A*66:12 allele.

The **HLA-B low resolution** specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup* SSP® HLA-A-B-C SSP Combi Tray lot was made **(Lot No. 17K)**.

One or both primers of the wells detailed below have been exchanged, modified or added compared to the previous lot.

Well	5'-primer	3'-primer	rationale
29	Added	-	Increased yield of specific PCR product.
39	-	Added	Primer added for the B*18:48 and B*18:01:09 alleles.
48	Added	Added	Primer pair added for the B*40:110 allele.
49	Added	-	Primer added for the B*40:137 allele.
50	Exchanged	-	Improved allelic resolution.

The **HLA-C low resolution** specificity and interpretation tables have been updated for the HLA-DRB alleles described since the previous *Olerup* SSP® HLA-A-B-C SSP Combi Tray lot was made **(Lot No. 17K)**.

The primers of the wells detailed below have been exchanged, added or modified compared to the previous lot.

Well	5'-primer	3'-primer	rationale
74	Added	Added	Primer pairs added for the C*01:43, C*02:43 and C*07:101 alleles.
76	Exchanged	-	Increased resolution.
78	-	Added	Primer added for the C*04:01:23 and C*07:125 alleles.
83	-	Added	Primer added for the C*02:02:12 allele.
84	Added	Added	Exchanged positive control primer pair, primer pair added for the C*05:46 allele.
85	Added	-	Primer added for the C*04:01:23 allele.
87	-	Added	Primer added for the C*03:99 allele.
88	Removed	Removed	Increased resolution.
90	-	Added	Primers added for the C*04:52, C*04:55 and C*16:22 alleles.
91	Removed	Added, removed	Removed primer pair for improved specificity, 3'-primer added for the C*15:25 allele.
92	-	Added, modified	Improved specificity, primer added for improved resolution of the C*06.31 allele.
95	Added	Added	Primer added for the C*06:44 and C*06:02:06 alleles.

Change in revision R01 compared to R00:
1. Primer mix 2 may give a lower yield of HLA-specific PCR product than the other HLA-A low primer mixes.
Changes in revision R02 compared to R01:
1. Primer mix 43 does not amplify the B*15:101 allele. This has been corrected in the Specificity and Interpretation tables.
Changes in revision R03 compared to R02:
1. In primer mix 5, the specific PCR product of 535 base pairs may be difficult to distinguish from the internal control band. A foot note has been added to the Specificity Table.
2. Primer mix 17 does not amplify the HLA-A*36:02 allele. This has been corrected in the Specificity and Interpretation Tables.

Well 96 contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup* SSP® HLA Class I, DRB, DQB1 and DPB1 amplicons as well as the amplicons generated by control primer pairs.

PCR product sizes range from 75 to 430 base pairs.
The PCR product generated by the control primer pair is 430 base pairs.

Length of PCR product	**105**	**200**	**105**	**80**	**75**	**80**
5'-primer[1]	**164**	**340**	**440**	**45**	**45**	**43**
	5'-CAC3'	**5'-Agg3'**	**5'-TTA3'**	**5'-Tg g3'**	**5'-Tgg3'**	**5'-Tgg3'**
3'-primer[2]	**231**	**2nd I**	**507**	**59**	**58**	**57**
	5'-TgC3'	**5'-AAA3'**	**5'-TTg3'**	**5'-CTC3'**	**5'-ggC3'**	**5'-CTC3'**
A*	**+**	**+**	**+**			
B*	**+**	**+**	**+**			
C*	**+**	**+**	**+**			
DRB1				**+**	**+**	
DRB3				**+**	**+**	
DRB5				**+**		
DQB1					**+**	
DPB1						**+**

[1]The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide and codon numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[2]The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd exon or the 2nd intron, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide and codon numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

PRODUCT DESCRIPTION

HLA-A-B-C SSP Combi Tray

CONTENT

The primer set contains 5'- and 3'-primers for grouping the HLA-A*01:01 to A*80:02 alleles into the corresponding serological groups A1 to A80.
The primer set contains 5'- and 3'-primers for grouping the B*07:02 to B*83:01 alleles into the corresponding serological groups B7 to B81 as well as primer pairs for recognizing the Bw4 and Bw6 sequence motifs.
The primer set contains 5'- and 3'-primers for grouping the HLA-C*01:02 to C*18:04 alleles into the groups C*01:xx to C*18:xx.

PLATE LAYOUT

Each test consists of 96 PCR reactions in a 96 well PCR plate.

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
9	**10**	**11**	**12**	**13**	**14**	**15**	**16**
17	**18**	**19**	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**	**31**	**32**
33	**34**	**35**	**36**	**37**	**38**	**39**	**40**
41	**42**	**43**	**44**	**45**	**46**	**47**	**48**
49	**50**	**51**	**52**	**53**	**54**	**55**	**56**
57	**58**	**59**	**60**	**61**	**62**	**63**	**64**
65	**66**	**67**	**68**	**69**	**70**	**71**	**72**
73	**74**	**75**	**76**	**77**	**78**	**79**	**80**
81	**82**	**83**	**84**	**85**	**86**	**87**	**88**
89	**90**	**91**	**92**	**93**	**94**	**95**	**ctrl**

Wells 1 to 24 – HLA-A low resolution primers.
Wells 25 to 72 – HLA-B low resolution primers.
Wells 73 to 95 – HLA-C low resolution primers.
Well 96 – Negative Control.
The 96 well PCR plate is marked with 'A-B-C' in silver/gray ink.
Well No. 1 is marked with the Lot No. '17M'.
A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.
The PCR plates are covered with a PCR-compatible foil.

INTERPRETATION

Only HLA-A alleles will be amplified by the 24 wells of the HLA-A low resolution primer set, **wells 1 to 24**, except that primer mix 6 will amplify the B*18:27 allele. Thus, the interpretation of HLA-A low resolution is only influenced by this HLA-B allele and not by other HLA Class I genes.

Only HLA-B alleles will be amplified by the 48 wells of the HLA-B low resolution, primer set, **wells 25 to 72**, except that the A*23:31, A*24:106 and C*16:10 alleles will be amplified by primer mix 30, the A*68:56, C*06:20 and C*12:50 alleles will

be amplified by primer mix 69, the C*01:30 allele will be amplified by primer mix 28, the C*02:06 allele will be weakly amplified by primer mix 67, the C*02:23 and C*04:77 alleles will be amplified by primer mix 25, the C*03:05, 03:25 and 03:27 alleles will be amplified by primer mix 27, the C*03:12 and 03:19 alleles will be amplified by primer mix 65, the C*03:102 allele will be amplified by primer mixes 41 and 65, the C*07:46 allele will be amplified by primer mix 32, the C*15:02:04 allele will amplified by primer mix 64, the C*15:25 allele will be amplified by primer mix 53 and the C*15:39 allele will be amplified by primer mix 55. Thus, the interpretation of HLA-B low resolution typings is only influenced by these alleles and not by other alleles of other HLA class I genes.

Only HLA-C alleles will be amplified by the HLA-C low resolution primer set, **wells 73 to 95**, except that primer mix 73 will amplify the B*54:18 allele, primer mix 85 will amplify the B*67:02 allele, primer mix 92 will amplify the B*14:03 allele and primer mix 95 will amplify the A*24:106 and B*46:25 alleles. Thus, the interpretation of HLA-C low resolution typings is only influenced by these alleles and not by other HLA class I genes.

UNIQUELY IDENTIFIED ALLELES

All the HLA-A alleles, i.e. **A*01:01 to A*80:02**, recognized by the HLA Nomenclature Committee in October 2010[1] will be amplified by the primers in the HLA-A low resolution primer set, **wells 1 to 24**. The HLA-A alleles will be grouped into their corresponding serological specificities[2].

All the HLA-B alleles, **i.e. B*07:02 to B*83:01**, recognized by the HLA Nomenclature Committee in October 2010[1] will be amplified by the primers in the HLA-B low resolution primer set, **wells 25 to 72**. The HLA-B alleles will be grouped into their corresponding serological specificities[3].

All the HLA-C alleles, i.e. **C*01:02 to C*18:04**, recognized by the HLA Nomenclature Committee in October 2010[1] will be amplified by the primers in the HLA-C low resolution primer set, **wells 73 to 95**. The HLA-C alleles will be grouped into the C*01:xx to C*18:xx groups[4].

[1]HLA-A, HLA-B and HLA-C alleles listed on the IMGT/HLA web page 2010-October-20, release 3.2.0, www.ebi.ac.uk/imgt/hla.
[2]The A*23:14, 24:05, 24:13:02 and 24:24 alleles will give rise to identical amplification patterns. These four alleles can be separated by the respective high resolution SSP primer sets.
[3]The B*08:26, 08:50 and 08:62 and B*42:07 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*14:08 and the B*39:25N, 39:30, 39:32-39:34, 39:47 and 39:50 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*18:29 and the B*35:32, 35:37, 35:53N, 35:64, 35:68:01-35:68:02, 35:99 and 35:118-35:119 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*41:09 and the B*45:02 and 45:03 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*55:04, 55:08, 55:13, 55:27 and 55:46 and the B*56:15, 56:19N and 56:22 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*55:23 and 55:32 and the B*56:18 alleles give rise to identical amplification patterns wih the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[4]The C*01:05, 01:22, 01:35 and 01:36 and the B*54:18 alleles give rise to identical amplification patterns with the HLA-C low resolution primer set. These alleles are separated by the HLA-B low primer set.

SPECIFICITY TABLE

HLA-A low resolution primer set

Specificities and sizes of the PCR products of the 24 primer mixes used for HLA-A low resolution SSP typing

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	HLA-A serology[3]	Amplified HLA-A alleles[4-6]
1[7,8]	120 bp, 140 bp, 225 bp	**800 bp**	A1, A36	*01:01:01:01-01:04N, 01:06-01:33, 01:01:38L, 01:35-01:81, 03:18, 36:01-36:05
2[8,12]	210 bp, 255 bp, 365 bp, 415 bp	**800 bp**	A2, A203, A210, A19, A28	*02:01:01:01-02:01:15, 02:01:17-02:01:19, 02:01:21-02:22:02, 02:24:01-02:35:01, 02:35:03-02:47, 02:49-02:77, 02:78[w], 02:79:01-02:97:02, 02:99, 02:101:01-02:128, 02:130-02:282
3[9]	205 bp, 235 bp	1070 bp	A1, A3, A11, A32, A34, A36	*01:12, 01:19, 01:21, 03:01:01:01-03:17, 03:19-03:74, 03:76-03:94, 03:96-03:112, 11:25, 11:60, 24:92, 32:04, 34:02:01-34:04, 34:07-34:09, 36:02
4	190 bp	**800 bp**	A1, A3, A11, A30, A36	*01:01:01:01-01:01:22, 01:01:24-01:04N, 01:06-01:07, 01:09-01:11N, 01:13, 01:16N-01:18N, 01:20-01:29, 01:31N-01:33, 01:01:38L, 01:35-01:78, 01:80-01:81, 02:78, 02:169, 03:12, 03:18, 03:88, 11:01:01-11:27, 11:29-11:80, 26:19, 30:08, 36:04, 68:66
5[10,13]	160 bp, 535 bp	**800 bp**	A3, A9, A23, A24, A2403, A31, A32	*03:30, 23:01:01-23:31, 24:02:01:01-24:11N, 24:13:01-24:15, 24:17-24:64, 24:66-24:88, 24:90N-24:128, 24:130-24:155N, 31:08, 32:05, 32:13
6[10]	135 bp, 175 bp, 210 bp	**800 bp**	A2, A9, A23, A24, A29, A80	*23:01:01-23:31, 24:05, 24:13:02, 24:24, 29:07, 31:29, 80:01-80:02, **B*18:27**
7	175 bp, 200 bp	1070 bp	A2, A3, A9, A23, A24, A2403, A26	*02:17:01[w]-02:17:02[w], 23:14, 24:02:01:01-24:11N, 24:13:01-24:13:02, 24:17-24:50, 24:54-24:56, 24:58-24:63, 24:66-24:91, 24:93, 24:95-24:113, 24:115-24:137, 24:139-24:155N, 26:16, 33:19, 68:45
8	165 bp, 200 bp	**800 bp**	A2, A3, A10, A11, A25, A26, A28, A32, A34, A66, A68, A69	*01:51, 02:55, 03:24, 03:50, 11:10, 25:01:01-25:13, 26:01:01-26:06, 26:08-26:15, 26:17-26:18, 26:20-26:43:02, 26:45-26:56, 32:15, 34:01:01-34:09, 66:01-66:15, 68:01:01:01-68:66, 69:01
9[7]	75 bp	**800 bp**	A3, A25, A32	*25:01:01-25:13, 32:01:01-32:02, 32:04, 32:06-32:30

10[7,12]	85 bp	1070 bp	A10, A26	*01:51, 02:146, 26:01:01-26:02, 26:04, 26:07:01-26:18, 26:20, 26:22-26:29, 26:31-26:43:02, 26:45-26:56, 33:13
11[7,8,12]	80 bp, 175 bp, 500 bp	1070 bp	A1, A9, A10, A11, A26, A31, A34, A66	*01:13, 01:28, 03:63, 03:88, 11:01:01-11:27, 11:29-11:80, 24:19, 24:44, 26:03:01-26:03:02, 26:06, 26:21, 31:03, 34:01:01-34:08, 66:01, 66:04-66:11, 66:13-66:15, 80:02
12	185 bp	**800 bp**	A10, A25, A26, A31, A34, A43, A66	*03:01:19, 11:11, 25:06, 26:09, 31:03-31:04, 34:01:01-34:09, 43:01, 66:02-66:03
13[12]	175 bp, 225 bp	1070 bp	A1, A2, A3, A10, A25, A26, A34, A43, A66	*01:13, 02:34-02:35:03, 02:56:01-02:56:02, 02:62, 02:103, 02:135, 03:01:01:01-03:01:22, 03:02-03:07, 03:09-03:11N, 03:13-03:31, 03:33-03:35, 03:37-03:40, 03:42-03:56, 03:58, 03:60-03:71, 03:73-03:87, 03:90-03:106, 03:109-03:110, 03:112, 25:01:01-25:05, 25:07-25:13, 26:01:01-26:01:18, 26:02[w], 26:03:01-26:03:02, 26:05-26:08, 26:10-26:33, 26:35-26:43:02, 26:45-26:56, 34:08, 43:01, 66:01, 66:04-66:15, 74:13
14[7]	100 bp, 200 bp, 240 bp	1070 bp	A2, A29	*02:237, 03:95, 26:19, 26:22, 29:01:01:01-29:27, 31:03-31:04, 33:13, 34:04, 66:09
15[7,8,12]	90 bp, 135 bp, 205 bp	1070 bp	A1, A30	*01:13, 01:28, 03:43, 03:82, 30:01:01-30:04:02, 30:06-30:20, 30:22-30:46, 31:35
16	240 bp, 370 bp, 395 bp	1070 bp	A2, A24, A31, A32	*02:237, 03:95, 29:14, 31:01:02-31:46, 32:05
17	140 bp, 180 bp	1070 bp	A32	*03:43, 03:82, 29:13, 31:35, 32:01:01-32:03, 32:05-32:30, 74:07
18	200 bp	1070 bp	A33, A68	*02:243, 33:01:01-33:01:05, 33:03:01-33:34, 68:29
19[12]	160 bp, 200 bp	**800 bp**	A74	*29:19, 74:01-74:14N
20[10]	220 bp, 245 bp	**800 bp**	A2, A210, A25, A68	*02:34-02:35:03, 02:46, 02:48, 02:56:01-02:56:02, 02:62, 02:70, 02:78, 02:103, 02:129, 25:05, 26:54, 68:01:01:01-68:66
21	240 bp, 375 bp	**800 bp**	A2, A26, A28, A68, A69	*02:55, 02:243, 24:82, 26:22, 33:22, 66:09, 68:29, 69:01
22[7,11]	85 bp, 240 bp	**800 bp**	A2, A36	*02:34-02:35:03, 02:46, 02:48, 02:56:01-02:56:02, 02:62, 02:70, 02:78, 02:103, 02:129, 36:01-36:05
23[7,10,12]	75 bp, 160 bp, 240 bp, 495 bp	**800 bp**	A2, A26, A28, A36, A68, A80	*02:55, 03:41, 03:63, 03:75, 03:88, 24:18, 26:03:01-26:03:02, 26:05-26:06, 26:21, 26:30, 33:24, 36:02, 68:05, 68:15, 68:20, 80:01
24	360 bp	1070 bp	A10, A26, A31, A66	*02:135, 03:01:19, 25:13, 26:30, 31:04, 34:09, 66:02-66:03, 66:12

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-A low resolution SSP typings.
When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.
Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.
PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.
PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.
Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherit feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.
[2]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-A low resolution typing.
In addition, wells 2, 4, 5, 6, 8, 9, 12 and 19 to 23 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
In the presence of a specific amplification the intensity of the control band often decreases.
[3]The serological reactivity of all HLA-A alleles is not known. In this table we use the expert-assigned serological grouping in Tissue Antigens (2009) **73**:95-170 and the serological grouping of the sequence-defined allele.
[4]For several HLA-A alleles only partial 1st exon nucleotide sequences are available. We assume that unknown sequences are conserved within allelic groups.
Nucleotide sequence information is available for only exons 2 and 3 of many HLA Class I alleles and for only exon 2 of many HLA Class II alleles and not for other exons or for the introns of these alleles. We assume that unknown sequences in these exons and in the introns are conserved within loci and within allelic groups.
[5]The A*23:14, 24:05, 24:13:02 and 24:24 alleles will give rise to identical amplification patterns. These four alleles can be separated by the respective high resolution SSP primer sets.
[6]Primer mix 6 will amplify the B*18:27 allele.
[7]Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.
[8]The primer pairs in wells 1, 2, 11 and 15 will in many samples give rise to two or three HLA-specific PCR fragments.
[9]Primer mix 3 may faintly amplify the A*30:04, 30:06, 30:17 and 30:29 alleles.
[10]Primer mixes 5, 6, 20 and 23 may have a tendency of primer dimer formation.
[11]Primer mix 22 might faintly amplify most A*11 alleles.
[12]Primer mixes 2, 10, 11, 13, 15, 19 and 23 may yield less specific PCR product than the other HLA-A low primer mixes.
[13]In primer mix 5, the specific PCR product of 535 base pairs may be difficult to distinguish from the internal control band. The alleles giving rise to a product of this size are the following:
A*23:09, 24:02:06, 24:02:27, 24:08, 24:24, 24:29 , 24:42, 24:67, 24:116, 24:137, 24:140 and 24:145.
'w', might be weakly amplified.

SPECIFICITY TABLE

HLA-B low resolution primer set

Specificities and sizes of the PCR products of the 48 primer mixes used for HLA-B low resolution SSP typing

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	HLA-B serol.[3]	Amplified HLA-B alleles[4,5]
25[6,10]	110 bp	**800 bp**	7, 703, 40, 41, 42, 48, 61	*07:02:01-07:18:02, 07:20-07:32, 07:34-07:39, 07:41-07:47, 07:49N-07:50, 07:52, 07:54-07:59, 07:61-07:99, 07:101-07:117, 15:138, 37:07, 40:15-40:16, 40:23, 40:32, 40:98, 40:136, 40:158, 41:08, 42:05:01-42:05:02, 48:05, 48:08, 48:15, **C*02:23, C*04:77**
26	215 bp	1070 bp	8, 44	*08:01:01-08:05, 08:07-08:25, 08:27-08:49, 08:51-08:61, 08:63-08:64, 08:66, 15:142, 15:180, 44:49, 51:68
27	140 bp, 235 bp	1070 bp	7, 8, 13, 15, 35, 4005, 44, 49, 61, 62, 77	*07:20, 07:24, 07:60, 07:100, 08:21, 08:25, 13:01:01-13:04, 13:06-13:08Q, 13:10-13:23, 13:25-13:38, 13:40, 15:07:01-15:07:02, 15:36[w], 15:45, 15:55, 15:68, 15:89[w], 15:126, 15:205, 15:207, 35:05:01-35:05:02, 35:16-35:17, 35:22, 35:30, 35:51, 35:58, 35:72, 35:89, 35:97, 35:113-35:114, 35:125, 40:05, 40:71, 44:08[w], 44:54, 44:57[w], 44:60, 44:106, 44:110, 46:12, 46:20, 51:64, 53:14, 58:18, **C*03:05, C*03:25, C*03:27**
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53[6]	115 bp, 195 bp, 225 bp, 260 bp	1070 bp	35, 37, 44, 47, 57	*08:49, 08:60, 35:38, 35:45, 35:71, 35:115, 37:01:01-37:01:07, 37:03N-37:06, 37:08, 37:10-37:25, 40:132, 42:13, 44:02:01:01-44:14, 44:16-44:17, 44:19N-44:36, 44:38-44:63, 44:65-44:115, 51:42, 53:22, 57:07, 57:09, 57:24, 83:01, **C*15:25**
54	215 bp	**800 bp**	5, 8, 12, 17, 21, 22, 41, 42, 44, 45, 51, 5102, 5103, 52, 53, 56, 62	*08:09, 15:83, 41:01, 41:05-41:07, 41:09, 41:12, 41:14, 41:16, 42:04, 44:06, 44:15, 44:18, 44:20, 44:100, 45:01-45:13, 51:01:01, 51:01:03-51:01:08, 51:01:10-51:02:01, 51:02:03-51:04, 51:06:01-51:07:01, 51:08-51:09:01, 51:10-51:14, 51:16-51:24:04, 51:26-51:46, 51:48-51:53, 51:55-51:77, 51:79-51:88, 51:90-51:92, 51:94-51:102, 51:104-51:106, 52:01:02, 52:01:04, 52:02-52:03, 52:06:01-52:06:02, 52:09, 52:19, 52:21, 53:06, 55:20, 56:13, 58:08
55	130 bp, 270 bp	1070 bp	17, 18, 22, 35, 37, 46, 51, 53, 62, 78	*14:10, 15:57[w], 18:22, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 37:04:01-37:04:02, 40:28, 46:01:01-46:26, 51:04, 51:46, 51:56:01, 53:02, 53:06, 57:14, 58:09, **C*15:39**

56[6,13]	90 bp, 410 bp	1070 bp	15, 22, 27, 35, 47, 54, 55, 56, 78, 81, 82	*07:65, 27:01[w], 27:02-27:11, 27:13-27:15, 27:17, 27:19-27:21, 27:24-27:28, 27:30-27:38, 27:40-27:58, 27:60-27:73, 35:76, 44:90, 44:97, 47:01:01:01-47:03, 47:06-47:07, 54:01:01-54:23, 55:01:01-55:05, 55:07-55:17, 55:19-55:48, 56:01:01-56:16, 56:18-56:22, 56:24-56:30, 81:01, 82:01-82:03, 83:01
57[6]	90 bp, 175 bp	1070 bp	15, 27, 35, 48, 60, 62, 75, 77, 81	*13:36, 15:02:01-15:02:05, 15:08, 15:11:01-15:11:05, 15:13, 15:15, 15:21, 15:31, 15:44, 15:55, 15:76[w], 15:88-15:89, 15:112, 15:121, 15:139, 15:144, 15:148, 15:170, 15:189, 15:191, 15:194, 15:209N, 27:24, 35:46, 40:31, 40:45, 40:80, 48:01:01-48:01:03, 48:04, 48:06-48:07, 48:09, 48:11, 48:15-48:16, 48:18-48:20, 48:22, 48:24, 81:01-81:05
58	145 bp, 430 bp	1070 bp	44, 49, 59, 61	*40:13, 40:19, 40:109, 40:117, 44:18, 44:25, 44:50, 44:95, 49:01:01-49:01:02, 49:04-49:15, 54:12, 56:21, 59:01:01:01-59:05
59[6]	120 bp, 210 bp	**800 bp**	5, 13, 15, 17, 22, 35, 45, 49, 50, 51, 5102, 5103, 52, 55, 56, 62, 63, 78	*07:78, 07:84, 13:16, 13:31[w], 15:04[w], 15:16:01, 15:42, 15:67, 15:95, 15:137[w], 40:95, 40:148, 49:01:01, 49:02-49:10, 49:12-49:15, 50:01:01-50:02, 50:04-50:11, 51:01:01-51:03, 51:05, 51:07:01-51:09:02, 51:11N-51:14, 51:16-51:24:04, 51:26-51:41N, 51:43-51:44N, 51:48-51:55, 51:57-51:58, 51:60, 51:61[w], 51:63, 51:65-51:80, 51:82-51:106, 52:01:01:01-52:22, 54:20, 55:01:01-55:01:06, 55:03, 55:05, 55:09, 55:11, 55:15, 55:17, 55:21[w], 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 56:05:01-56:06, 56:21, 56:25, 58:08, 78:01-78:07
60	430 bp	1070 bp	5, 17, 27, 44, 51, 5102, 5103, 52, 53, 57, 58, 61	*27:02, 27:30, 27:53, 27:57, 27:62, 27:65N, 40:13, 40:19, 40:109, 40:117, 44:06, 44:25, 44:50, 44:95, 51:01:01-51:24:04, 51:26-51:46, 51:48-51:53, 51:55-51:77, 51:79-51:106, 52:01:01:01-52:19, 52:21-52:22, 53:01:01-53:02, 53:04-53:08:02, 53:10, 53:14-53:24, 57:01:01-57:11, 57:13-57:37, 58:01:01-58:02, 58:04-58:16, 58:18-58:31N
61	145 bp	1070 bp	12, 21, 35, 40, 4005, 41, 45, 47, 50, 60, 61	*15:46, 15:53, 15:106, 15:143, 18:48, 35:19, 35:47, 35:63, 40:01:01-40:11:02, 40:14:01-40:16, 40:18, 40:20, 40:22N-40:40, 40:42-40:45, 40:48-40:75, 40:77-40:92, 40:94-40:95, 40:97-40:108, 40:111-40:116, 40:118N-40:136, 40:138-40:156, 40:158, 41:01-41:04, 41:05[?], 41:06-41:16, 44:09, 44:46, 44:75, 44:90, 45:01-45:13, 47:02, 47:03[w], 50:01:01-50:02, 50:04-50:05, 50:07-50:12
62	300 bp	1070 bp	7, 12, 13, 15, 17, 18, 21, 27, 2708, 35,	*07:54, 08:17, 08:38, 08:54, 13:01:01-13:04, 13:06, 13:08Q-13:23, 13:25-13:35, 13:37-13:40, 15:01:01:01-15:01:04, 15:01:06-15:01:18, 15:01:20, 15:03:01-15:07:02, 15:12, 15:14,

			37, 38, 39, 3902, 40, 4005, 41, 44, 45, 47, 48, 49, 50, 52, 60, 61, 62, 70, 72, 76	15:19-15:20, 15:24-15:27:03, 15:30, 15:32-15:36, 15:38:01-15:40, 15:42-15:43, 15:45-15:50, 15:53-15:54, 15:56-15:58, 15:60-15:63, 15:65-15:66, 15:68-15:71, 15:73-15:75, 15:77-15:79N, 15:81-15:87, 15:91-15:92, 15:94N, 15:96-15:98, 15:101-15:107, 15:109-15:111N, 15:113, 15:116-15:118, 15:122-15:123, 15:125-15:129, 15:131-15:132, 15:135-15:138, 15:140-15:142, 15:145-15:147, 15:150-15:152, 15:154-15:160, 15:163-15:167, 15:169, 15:171-15:175, 15:178-15:179, 15:181N-15:185, 15:187-15:188, 15:190N, 15:192-15:193, 15:195, 15:199, 15:201-15:207, 18:12, 27:01-27:21, 27:24-27:73, 35:10, 35:13, 35:16, 35:28, 35:63, 35:69, 35:80, 37:01:01-37:07, 37:09-37:25, 38:03-38:04, 38:25, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:22-39:23, 39:49, 40:01:01-40:07, 40:09-40:16, 40:18-40:24, 40:26-40:40, 40:42-40:67, 40:70-40:105, 40:107-40:158, 41:01-41:16, 42:11, 44:02:01:01-44:05:02, 44:07-44:11, 44:13-44:115, 45:01-45:13, 47:01:01:01-47:07, 48:01:01-48:05, 48:07-48:15, 48:17-48:24, 49:01:01-49:15, 50:01:01-50:02, 50:04-50:12, 52:01:01:01-52:22, 53:17:01, 55:18, 55:34, 55:40, 78:05-78:06
63[8]	160 bp, 330 bp	1070 bp	22, 44, 45, 47, 54	*44:02:01:01-44:02:14, 44:06, 44:08-44:09, 44:11-44:12, 44:16, 44:19N-44:24, 44:27:01, 44:33-44:34, 44:41:01, 44:44, 44:48-44:49, 44:52N-44:53, 44:55, 44:59, 44:63, 44:66-44:68, 44:71-44:74, 44:80, 44:83-44:84, 44:86-44:87, 44:89-44:91, 44:93, 44:95, 44:97, 44:99-44:102, 44:104, 44:106, 44:112-44:113, 54:01:01-54:23, 83:01
64	180 bp, 210 bp	1070 bp	13, 15, 18, 35, 39, 40, 54, 55, 56, 59, 78	*07:65, 13:06, 15:42, 15:86, 18:04, 35:42:02, 35:43:02, 35:60, 39:17, 40:01:11, 40:58, 45:08, 46:18, 54:01:01-54:02, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:16-54:23, 55:01:01-55:03, 55:05, 55:07, 55:10-55:12, 55:15-55:16, 55:18-55:19, 55:21, 55:25-55:26, 55:29-55:31, 55:33-55:45, 55:47-55:48, 56:05:01, 56:06, 56:10, 56:23, 59:01:01:01, 59:05, 78:01, 78:02:02-78:03, 78:07, **C*15:02:04**
65	180 bp	1070 bp	12, 15, 21, 22, 44, 45, 49, 50, 51, 56, 61, 62, 82	*13:03, 15:73, 40:71, 44:10, 44:15, 44:18, 45:01, 45:04-45:07, 45:11-45:13, 46:11, 49:01:01-49:03, 49:06, 49:08-49:15, 50:01:01-50:02, 50:04-50:08, 50:10-50:12, 51:15, 51:62, 51:106, 54:03, 56:01:01-56:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:20, 56:24-56:30, 59:04, 82:01-82:03, **C*03:12, C*03:19, C*03:102**
66[6,10]	90 bp, 240 bp	**800 bp**	57	*55:14, 57:01:01-57:37

67[6,13]	90 bp	1070 bp	5, 13, 15, 17, 39, 55, 56, 58, 60, 61, 62, 71	*13:11, 15:18:03, 15:73, 39:17, 40:48, 40:71, 51:62, 56:02, 56:04, 56:10, 58:01:01-58:02, 58:04-58:31N, **C*02:06**[w]
68[6,8]	95 bp	1070 bp	8, 18, 22, 35, 37, 38, 39, 44, 51, 5102, 5103, 53, 78	*07:65[w], 08:32, 18:01:01-18:11, 18:13-18:15, 18:17N-18:36, 18:38-18:47, 18:49-18:52, 35:01:01:01-35:09:02, 35:11:01-35:12:02, 35:14:01-35:15, 35:17-35:18, 35:20:01-35:24:02, 35:27, 35:29-35:45, 35:48, 35:50-35:62, 35:64-35:68:02, 35:70-35:72, 35:74-35:75, 35:76[w], 35:77-35:79, 35:81-35:151, 37:08, 38:06-38:07, 39:19:01-39:19:02, 44:06, 51:01:01-51:24:04, 51:26-51:46, 51:48-51:103, 51:105-51:106, 53:01:01-53:16, 53:18-53:24, 56:06[w], 78:01-78:04, 78:07
69[6]	115 bp, 150 bp	1070 bp	15, 18,22, 27, 35, 39, 46, 55, 62, 72, 73, 75, 76	*07:100, 13:31, 15:01:01:01-15:01:04, 15:01:06-15:01:16, 15:01:18-15:01:20, 15:04, 15:07:01-15:08, 15:11:01-15:12, 15:14-15:15, 15:19, 15:24, 15:26N-15:28, 15:30, 15:32, 15:34-15:35, 15:38:01-15:38:02, 15:43, 15:45-15:46, 15:50, 15:53-15:54, 15:56-15:58, 15:60, 15:63, 15:66, 15:68, 15:70-15:71, 15:73, 15:75-15:77, 15:79N, 15:81-15:82, 15:85, 15:87, 15:92, 15:94N, 15:96-15:97, 15:101-15:102, 15:104-15:105, 15:109-15:111N, 15:113, 15:117-15:118, 15:120, 15:122, 15:125-15:126, 15:128-15:129, 15:135, 15:137, 15:140, 15:142-15:149N, 15:152, 15:154, 15:157, 15:159-15:160, 15:163-15:167, 15:169, 15:171-15:172, 15:174-15:175, 15:178, 15:180-15:184, 15:187, 15:189-15:193, 15:201-15:203, 15:205-15:207, 15:209N, 18:19, 27:25, 35:14:01-35:14:02, 35:43:01-35:44, 35:62, 35:67, 35:79, 35:86, 35:102, 35:117, 35:135, 39:18, 39:36, 46:01:01-46:02, 46:04-46:05, 46:07N, 46:09-46:10, 46:12, 46:14-46:17, 46:20, 46:22-46:24, 51:61, 52:21, 54:06, 55:21, 56:03, 73:01-73:02, **A*68:56, C*06:20, C*12:50**
70[15]	360 bp	1070 bp	Bw4	
71	350 bp	1070 bp	Bw6	
72[10,14]	285 bp	**800 bp**	7, 703, 8, 35, 40, 41, 42, 48, 53, 60, 61, 81	*07:02:01-07:06, 07:08-07:18:02, 07:20-07:32, 07:34-07:39, 07:41-07:52, 07:54-07:59, 07:61-07:76, 07:79-07:83, 07:85-07:99, 07:101-07:117, 08:01:01-08:05, 08:07-08:08N, 08:10-08:11, 08:13-08:15, 08:17-08:66, 35:66, 35:87, 37:07, 40:15-40:16, 40:30-40:32, 40:34, 40:45, 40:59, 40:80, 40:98, 40:137, 41:02:01-41:02:03, 41:04, 41:10-41:11, 41:13, 42:01:01-42:02, 42:05:01-42:07, 42:09-42:13, 48:01:01-48:01:03, 48:05-48:12, 48:14-48:20, 48:22, 53:15, 81:01-81:05

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B low resolution SSP typings.
When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.
Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.
PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.
PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.
Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherit feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.
[2]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 25 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B low resolution typing.
In addition, wells number 28 to 30, 34, 41, 44, 45, 54, 59, 66 and 72 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
In the presence of a specific amplification the intensity of the control band often decreases.
[3]The serological reactivity of all HLA-B alleles is not known. In this table we use the expert-assigned serological grouping in Tissue Antigens (2009) **73**:95-170 and the serological grouping of the sequence-defined allele.
[4]Nucleotide sequence information is available for only exons 2 and 3 of many HLA Class I alleles and for only exon 2 of many HLA Class II alleles and not for other exons or for the introns of these alleles. We assume that unknown sequences in these exons and in the introns are conserved within loci and within allelic groups.
The B*08:26, 08:50 and 08:62 and B*42:07 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*14:08 and the B*39:25N, 39:30, 39:32-39:34, 39:47 and 39:50 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*18:29 and the B*35:32, 35:37, 35:53N, 35:64, 35:68:01-35:68:02, 35:99 and 35:118-35:119 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*41:09 and the B*45:02 and 45:03 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*55:04, 55:08, 55:13, 55:27 and 55:46 and the B*56:15, 56:19N and 56:22 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
The B*55:23 and 55:32 and the B*56:18 alleles give rise to identical amplification patterns wih the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[5]The A*23:31, A*24:106 and C*16:10 alleles will be amplified by primer mix 30, the A*68:56, C*06:20 and C*12:50 alleles will be amplified by primer mix 69, the C*01:30 allele will be amplified by primer mix 28, the C*02:06 allele will be weakly amplified by primer mix 67, the C*02:23 and C*04:77 alleles will be amplified by primer mix 25, the C*03:05, 03:25 and 03:27 alleles will be amplified by primer mix 27, the C*03:12 and 03:19 alleles will be amplified by primer mix 65, the C*03:102 allele will be amplified by primer mixes 41 and 65, the C*07:46 allele will be amplified by primer mix 32, the C*15:02:04 allele will amplified by primer mix 64, the C*15:25 allele will be amplified by primer mix 53 and the C*15:39 allele will be amplified by primer mix 55.

[6]Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.
[7]Primer mix 28 may yield less specific PCR product than the other HLA-B low resolution primer mixes in B*40, B*41, B*45, B*49 and B*50 alleles.
[8]Primer mixes 28, 29, 33, 42, 45, 46, 63 and 68 give a lower yield of specific PCR product than the other HLA-B low resolution primer mixes.
[9]Primer mixes 33, 34 and 44 may give rise to nonspecific amplifications, most pronounced in primer mix 33.
[10]Primer mixes 25, 43, 44, 46, 66 and 72 may give rise to a primer oligomer artifact.
[11]The B*57 and B*58 alleles might be faintly amplified by primer mix 33.
[12]The C*17:01 to C*17:04 alleles might be faintly amplified by primer mix 49.
[13]Primer mixes 56 and 67 may generate a false positive band of about 800 base pairs. This band should be disregarded when interpreting HLA-B low resolution typings.
[14]In primer mix 72, the positive control band may be weaker than for other HLA-B low primer mixes. However, the amplification of the HLA-specific bands is of comparable strength to other HLA B low primer mixes.
[15]The Bw4-associated HLA-A specificities A9, A23, A24, A2403, A25 and A32 are not amplified by the primer pair in primer mix 70.
'w', might be weakly amplified.
'?', nucleotide sequence information not available for the primer matching sequence.

SPECIFICITY TABLE

HLA-C low resolution SSP typing

Specificities and sizes of the PCR products of the 23 primer mixes used for HLA-C low resolution SSP typing

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA class I [3,4] alleles
73[13]	155 bp	**800 bp**	*01:02:01-01:45, **B*54:18**
74[6,12]	130 bp, 200 bp, 270 bp, 300 bp	**800 bp**	*01:10, 01:43, 02:02:01-02:02:03, 02:02:05-02:40, 02:42-02:46, 04:32, 04:77, 06:08, 07:101, 07:148, 08:31, 14:25, 15:42, 16:29, 17:01:01:01-17:06, 17:08, 18:03
75[13]	280 bp	**800 bp**	*02:02:01-02:02:03, 02:02:05-02:03, 02:04[w], 02:05-02:13, 02:14[w], 02:15-02:25Q, 02:26:02-02:40, 02:42-02:46, 03:02:01-03:02:06, 03:04:01:01-03:10, 03:14-03:17, 03:19, 03:23-03:29, 03:32-03:38:02, 03:40-03:42, 03:44-03:48, 03:51, 03:54, 03:57, 03:60, 03:63-03:65, 03:70-03:74, 03:77-03:78, 03:80, 03:82, 03:84, 03:87, 03:89-03:95, 03:98, 03:100-03:101, 04:03, 04:06, 04:16, 04:80, 06:03, 07:96, 15:02:01-15:09, 15:10:02-15:11, 15:13, 15:15-15:22, 15:24-15:35, 15:37-15:45
76[7]	170 bp, 275 bp	1070 bp	*03:02:01-03:04:06, 03:04:08-03:15, 03:17-03:40, 03:42-03:57, 03:59-03:79, 03:81-03:85, 03:87-03:93, 03:95-03:98, 03:100-03:102
77	280 bp	**800 bp**	*03:03:01-03:03:13, 03:11:01-03:13, 03:20N-03:22Q, 03:30-03:31, 03:43:01-03:43:02, 03:49-03:50, 03:52-03:53, 03:55-03:56, 03:58-03:59, 03:61-03:62, 03:66, 03:67[w], 03:68-03:69, 03:75-03:76, 03:79, 03:81, 03:83, 03:85-03:86, 03:88, 03:96-03:97, 03:102, 15:12
78[12]	130 bp, 335 bp	**800 bp**	*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:20, 02:22-02:25Q, 02:27:01-02:38N, 02:40, 02:42-02:44, 02:46, 04:01:01:01-04:01:26, 04:03-04:15:02, 04:17-04:20, 04:23-04:41, 04:43-04:81, 05:26, 07:02:09, 07:125, 15:11, 15:36
79	390 bp	1070 bp	*05:01:01:01-05:01:15, 05:03-05:51Q, 08:10
80[11,14]	130 bp, 355 bp	**800 bp**	*02:06, 06:02:01:01-06:02:01:02, 06:02:03-06:16N, 06:18-06:31, 06:33-06:55, 12:03:09, 12:15, 15:02:01-15:03, 15:07-15:08, 15:10:01-15:13, 15:15-15:18, 15:21, 15:26, 15:28, 15:31-15:35, 15:37-15:39, 15:41-15:45
81[8,11,14]	245 bp, 425 bp	**800 bp**	*07:01:01-07:33N, 07:35-07:160
82[5,9,13]	115 bp, 165 bp, 265 bp, 390 bp	**800 bp**	*01:43, 07:101, 07:148, 08:01:01-08:44
83	340 bp	1070 bp	*01:14, 02:02:01-02:02:03, 02:02:05-02:11, 02:13-02:26:02, 02:28-02:40, 02:42-02:46, 03:07, 03:15,

			03:45, 04:01:01:01-04:01:26, 04:03-04:10, 04:12-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:54, 04:56-04:81, 05:01:01:01-05:01:15, 05:03-05:51Q, 06:02:01:01-06:02:01:02, 06:02:03-06:10, 06:12-06:51, 06:53-06:55, 07:07, 07:09, 07:49, 07:76, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 14:04, 14:12, 15:02:01-15:06:03, 15:08-15:13, 15:15-15:20, 15:22-15:24, 15:26-15:42, 15:44-15:45, 16:02:01-16:02:05, 16:09, 16:12, 16:19, 16:25, 17:01:01:01-17:08, 18:01-18:04
84[5,11]	100 bp, 160 bp, 220 bp	**800 bp**	*01:04, 01:21, 05:42, 05:46, 07:101, 07:148, 08:05, 08:21, 12:02:01-12:03:01:02, 12:03:03-12:03:07, 12:03:09-12:03:14, 12:04:02-12:08, 12:10:01-12:13, 12:14:02-12:25, 12:27-12:32, 12:34-12:50, 16:15:02, 17:05
85[5,12,13]	120 bp, 250 bp	**800 bp**	*01:21, 02:12, 04:01:01:01-04:01:26, 04:03-04:09N, 04:12-04:20, 04:23-04:35, 04:37-04:54, 04:56-04:81, 05:42, 05:46, 07:02:09, 07:125, 08:05, 08:21, 08:25, 12:02:01-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:14, 12:04:02, 12:06-12:08, 12:10:01-12:20, 12:22-12:32, 12:34-12:48, 12:50, 15:03, 15:16, 15:25, 16:01:01-16:02:05, 16:06-16:28, 16:30N-16:32, 17:01:04, **B*67:02**
86[13-15]	160 bp, 220 bp	**800 bp**	*01:04, 01:09, 02:05, 02:17, 04:42, 06:02:01:01-06:02:01:02, 06:02:03-06:03, 06:07-06:13, 06:15-06:34, 06:36-06:39, 06:41-06:55, 07:125, 12:03:01:01-12:07, 12:11-12:13, 12:15, 12:19, 12:23, 12:25-12:26, 12:28-12:29, 12:31-12:35, 12:37-12:39N, 12:42Q-12:43, 12:45-12:48, 12:50, 14:16, 16:04:01, 16:29
87[13]	130 bp, 255 bp, 555 bp	1070 bp	*02:02:01[w], 02:02:02-02:02:03, 02:02:05-02:13, 02:15-02:26:02, 02:28-02:40, 02:42-02:46, 03:07, 03:10, 03:15, 03:29, 03:45, 03:58, 03:86, 03:94, 03:99, 04:03, 04:06, 04:16, 04:37, 04:80, 05:01:01:01-05:01:15, 05:03-05:19, 05:21-05:42, 05:44-05:51Q, 06:03, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 15:02:01-15:06:03, 15:08-15:13, 15:15-15:22, 15:24, 15:26-15:35, 15:37-15:42, 15:44-15:45, 16:02:01-16:02:05, 16:09, 16:12, 16:18-16:19, 16:25, 17:01:01:01-17:08
88[12,13]	255 bp	1070 bp	*04:11, 04:29, 04:36, 04:55, 07:64, 14:02:01-14:11, 14:13-14:25
89[5,10,11,13]	110 bp, 325 bp	1070 bp	*02:06, 03:81, 05:36, 07:123, 12:08, 12:15, 15:02:01-15:13, 15:15-15:24, 15:26-15:45, 16:20
90[12]	180 bp, 210 bp, 240 bp	1070 bp	*02:13, 02:18, 02:33, 04:01:01:01-04:01:22, 04:01:24-04:01:26, 04:03-04:10, 04:12-04:20, 04:23-04:32, 04:34-04:81, 05:17, 05:25, 05:42, 06:05, 06:31, 07:02:09, 07:31, 08:01:01-08:01:03, 08:03:01-08:03:02, 08:06, 08:08-08:11, 08:14, 08:16, 08:20-08:22, 08:24, 08:26N, 08:28, 08:36N, 08:38, 08:40-08:42, 08:44, 12:14:01-12:14:02, 12:28, 14:10, 14:15, 15:12, 15:25, 16:01:01-16:02:05, 16:04:01, 16:06-16:32

91	225 bp, 250 bp	**800 bp**	*04:58, 05:23, 08:07, 12:14:01-12:14:02, 14:17, 15:25, 17:01:01:01-17:08
92	215 bp, 425 bp	**800 bp**	*01:02:01-01:03, 01:06-01:08, 01:10-01:20, 01:23-01:34, 01:37N-01:45, 03:58, 03:86, 03:94, 03:99, 04:37, 05:16, 06:05-06:06, 06:17, 06:31, 07:07, 07:09, 07:49, 07:76, 08:12, 12:09, 12:24, 14:02:01-14:05, 14:07N, 14:10-14:14, 14:17-14:25, 16:04:01, 16:29, 18:01-18:04, **B*14:03**
93	325 bp, 380 bp	1070 bp	*01:03, 01:24, 01:34, 02:22, 03:03:01-03:04:19, 03:06-03:12, 03:14, 03:18-03:24, 03:26, 03:28-03:32, 03:34, 03:37-03:59, 03:61-03:70, 03:72-03:83, 03:85, 03:87-03:88, 03:90-03:93, 03:96, 03:98, 03:100-03:102, 04:01:01:01-04:01:15, 04:01:17-04:01:26, 04:03-04:20, 04:24-04:53, 04:55-04:71, 04:73-04:81, 05:01:01:01-05:01:15, 05:03, 05:05-05:21, 05:23-05:51Q, 06:09, 06:14, 06:35, 07:10, 07:28, 07:41, 07:43, 08:01:01-08:08, 08:10, 08:12-08:44, 12:31, 12:44, 15:02:01-15:13, 15:15-15:21, 15:23-15:36, 15:38-15:45, 17:01:01:01-17:08, 18:01-18:04
94[12,13]	135 bp	1070 bp	*03:02:01-03:17, 03:19-03:38:02, 03:40-03:66, 03:67[w], 03:68-03:98, 03:100-03:102, 04:32, 04:77, 06:03, 07:96, 14:25, 15:43, 18:03
95	160 bp, 235 bp	1070 bp	*04:42, 06:02:01:01-06:02:01:02, 06:02:03-06:02:11, 06:04-06:55, 07:01:01-07:02:07, 07:02:09-07:25, 07:27:01-07:32N, 07:35-07:38, 07:41-07:63, 07:65-07:91, 07:93-07:95, 07:97-07:138, 07:140-07:151, 07:153-07:155, 07:157-07:160, 12:16, 16:01:01-16:02:05, 16:06-16:28, 16:30N-16:32, 18:01-18:04, **A*24:106, B*46:25**
96[16]	**Negative control**		-

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-C low resolution SSP typings.
When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.
Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.
PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.
PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.
Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherit feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.
[2]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 73 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-C low resolution typing.
In addition, wells number 74, 75, 77, 78, 80 to 82, 84 to 86, 91 and 92 contain the primer pair

giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

[3]For several HLA-C alleles only partial 1st and 4th exon nucleotide sequences are available. In these instances it is not known whether some of the primers of the HLA-C low resolution SSP sets are completely matched with the target sequences or not. We assume that unknown sequences in these exons and in the introns are conserved within loci and within allelic groups.

[4]Due to sharing of sequence motifs, primer mix 73 will amplify the B*54:18 allele, primer mix 85 will amplify the B*67:02 allele, primer mix 92 will amplify the B*14:03 allele and primer mix 95 will amplify the A*24:106 and B*46:25 alleles.

The C*01:05, 01:22, 01:35 and 01:36 and the B*54:18 alleles give rise to identical amplification patterns with the HLA-C low resolution primer set. These alleles are separated by the HLA-B low primer set.

[5]Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

[6]Primer mix 74 will for most C*02 alleles give rise to two specific PCR fragments.

[7]Primer mix 76 will for most C*03 alleles give rise to two specific PCR fragments.

[8]Primer mix 81 will for most C*07 alleles give rise to two specific PCR fragments.

[9]Primer mix 82 will for most C*08 alleles give rise to multiple specific PCR fragments.

[10]Primer mix 89 will for most C*15 alleles give rise to two specific PCR fragments.

[11]Primer mixes 80, 81, 84 and 89 may give rise to unspecific amplification.

[12]Primer mixes 74, 78, 85, 88, 90 and 94 have a tendency of giving rise to primer oligomer artifacts.

[13]Primer mixes 73, 75, 82, 85 to 89 and 94 may yield less HLA-specific PCR fragments than the other HLA-C low resolution primer mixes.

[14]In primer mixes 80, 81 and 86, the positive control band may be weaker than for other HLA-C low primer mixes, most pronounced in primer mix 86.

[15]Primer mix 86 might faintly amplify most C*01 and the C*14 alleles.

[16]Primer mix 96 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the control primer pair is 430 base pairs.

'w', might be weakly amplified.

INTERPRETATION TABLE

HLA-A low resolution SSP typing

Amplification patterns of the A*01:01 to A*80:02 alleles

	Well[6]																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec.	120	210	205	190	160	135	175	165	75	85	80	185	175	100	90	240	140	200	160	220	240	85	75	360
PCR product(s)	140	255	235		535	175	200	200			175		225	200	135	370	180		200	245	375	240	160	
	225	365				210					500			240	205	395							240	
		415																					495	
Length of int.	800	800	1070	800	800	800	1070	800	800	1070	1070	800	1070	1070	1070	1070	1070	1070	800	800	800	800	800	1070
pos. control[1]																								
5'-primer(s)[2]	98	48	363	98	144	176	98	98	266	257	301	103	98	98	203	41	180	98	180	78	28	78	176	341
	5'-CTT 3'	5'-gCT 3'	5'-ATA 3'	5'-CTA 3'	5'-gCC 3'	5'-gCA 3'	5'-CTC 3'	5'-CTA 3'	5'-ACg 3'	5'-Cgg 3'	5'-Cgg 3'	5'-CCT 3'	5'-CTT 3'	5'-CAC 3'	5'-gAA 3'	5'-CTT 3'	5'-TTT 3'	5'-CAC 3'	5'-TTT 3'	5'-TCT 3'	5'-TCg 3'	5'-TCT 3'	5'-gCA 3'	5'-ggC 3'
	103	78		413	317	368	368	102	266	259	302	423	423	238	362	355	203			106	261	527	261	
	5'-CCT 3'	5'-TCT 3'		5'-CCg 3'	5'-gCT 3'	5'-gTT 3'	5'-gTT 3'	5'-ACA 3'	5'-ACg 3'	5'-CgA 3'	5'-ggA 3'	5'-gCT 3'	5'-gCT 3'	5'-AgA 3'	5'-ggT 3'	5'-CCg 3'	5'-gAA 3'			5'-CCA 3'	5'-AAC 3'	5'-TgC 3'	5'-AAC 3'	
	123	106						413		261	385			355	363		418			2nd I			341	
	5'-AgT 3'	5'-CCA 3'						5'-CCg 3'		5'-AAC 3'	5'-ggC 3'			5'-CCg 3'	5'-ATA 3'		5'-AgC 3'			5'-CCT 3'			5'-ggA 3'	
	363																						355	
	5'-ATA 3'																						5'-CCC 3'	
3'-primer(s)[3]	203	240	527	256	265	270	259	259	302	299	341	257	282	257	299	238	290	256	299	265	97	265	292	418
	5'-TCT 3'	5'-ggA 3'	5'-CCA 3'	5'-CTg 3'	5'-CCC 3'	5'-ACA 3'	5'-gTT 3'	5'-gTT 3'	5'-ggC 3'	5'-TCg 3'	5'-CgT 3'	5'-gCA 3'	5'-gAC 3'	5'-gCA 3'	5'-CCA 3'	5'-CCT 3'	5'-CAA 3'	5'-CCC 3'	5'-CCA 3'	5'-CCC 3'	5'-ggT 3'	5'-CCC 3'	5'-gTg 3'	5'-gTC 3'
	545	292	527	559	570	502	502	538			521	559	282	299	411	243	317	256	299	282	355	282	292	
	5'-AgA 3'	5'-gTg 3'	5'-CCT 3'	5'-CCg 3'	5'-CCg 3'	5'-CTg 3'	5'-CTT 3'	5'-CCA 3'			5'-ggg 3'	5'-CTC 3'	5'-gAC 3'	5'-TCg 3'	5'-TCA 3'	5'-TCA 3'	5'-ggA 3'	5'-CTC 3'	5'-CCA 3'	5'-gAC 3'	5'-gAC 3'	5'-gAC 3'	5'-gTT 3'	
			555		555	538	539					559	559	418	526	265	555	259	341	282		282	299	
			5'-gCA 3'		5'-CCg 3'	5'-CAg 3'	5'-TCT 3'					5'-CgT 3'	5'-CCg 3'	5'-gTC 3'	5'-CCA 3'	5'-CCC 3'	5'-CCA 3'	5'-gTT 3'	5'-CgT 3'	5'-gAC 3'		5'-gAC 3'	5'-TCT 3'	
			555		555									555		555				502		570	555	
			5'-CCA 3'											5'-CCA 3'		5'-CCA 3'				5'-CTT 3'		5'-CAC 3'	5'-CCA 3'	
																				506				
																				5'-TgT 3'				
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HLA-A allele[4]	ser[5]																								
*01:01:01:01-01:01:22, 01:01:24-01:04N, 01:06-01:07, 01:09-01:11N, 01:16N-01:18N, 01:20, 01:22N-01:27N, 01:29, 01:31N-01:33, 01:01:38L, 01:35-01:50, 01:52N-01:78, 01:80-01:81	A1, Null, –	1			4																				
*01:01:23, 01:08, 01:14-01:15N, 01:30, 01:79	A1, Null, –	1																							
*01:12, 01:19	A1, –	1		3																					
*01:13	A1	1			4							11		13		15									
*01:21	A1	1		3	4																				
*01:28	–	1			4							11				15									
*01:51	–	1			4				8		10														
*02:01:01:01-02:01:15, 02:01:17-02:01:19, 02:01:21-02:16, 02:18-02:22:02, 02:24:01-02:33, 02:36-02:45, 02:47, 02:49-02:54, 02:57-02:61, 02:63-02:69, 02:71-02:77, 02:79:01-02:97:02, 02:99, 02:101:01-02:102, 02:104-02:128, 02:130-02:134, 02:136-02:145, 02:147-02:168, 02:170-02:236, 02:238-02:242, 02:244-02:282	A2, A19, A203, A210, Null, –		2																						
*02:17:01-02:17:02	A2		2					w																	
*02:34-02:35:01, 02:35:03, 02:56:01-02:56:02, 02:62, 02:103	A2		2											13							20		22		
*02:35:02	A2													13							20		22		
*02:46, 02:70	A2		2																		20		22		
*02:48, 02:129	A2, –																				20		22		
*02:55	A2, A28		2						8													21		23	
*02:78	–		w		4																20		22		
*02:135	–		2											13											24
*02:146	–		2								10														
*02:169	–		2		4																				
*02:237	–		2												14		16								
*02:243	–		2																18			21			
Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HLA-A allele[4]	ser[5]																								
*03:01:01:01-03:01:18, 03:01:20-03:01:22, 03:02-03:07, 03:09-03:11N, 03:13-03:17, 03:19-03:23:01, 03:25-03:29, 03:31, 03:33-03:35, 03:37-03:40, 03:42, 03:44-03:49, 03:51-03:56, 03:58, 03:60-03:62, 03:64-03:71, 03:73-03:74, 03:76-03:81, 03:83-03:87, 03:90-03:94, 03:96-03:106, 03:109-03:110, 03:112	A3, Null, –			3										13											
*03:01:19	–			3									12	13											24
*03:01:23, 03:08, 03:32, 03:36N, 03:57, 03:59, 03:72, 03:89, 03:107-03:108, 03:111	A3, Null, –			3																					
*03:12	A3			3	4																				
*03:18	–	1			4									13											
*03:24, 03:50	A3, –			3					8					13											
*03:30	A3			3		5								13											
*03:41	–			3																				23	
*03:43, 03:82	–			3										13		15		17							
*03:63	–			3								11		13										23	
*03:75	–													13										23	
*03:88	–			3	4							11												23	
*03:95	–													13	14		16								
*11:01:01-11:09, 11:12-11:24:02, 11:26-11:27, 11:29-11:59, 11:61-11:80	A11, Null, –				4							11													
*11:10	A11				4				8			11													
*11:11	–				4							11	12												
*11:25, 11:60	A11, –			3	4							11													
*23:01:01-23:13, 23:15-23:31	A23, Null, –					5	6																		
*23:14, 24:05, 24:13:02, 24:24[7]	A23, A9, A24					5	6	7																	
*24:02:01:01-24:04, 24:06-24:11N, 24:13:01, 24:17, 24:20-24:23, 24:25-24:43, 24:45N-24:50, 24:54-24:56, 24:58-24:63, 24:66-24:81, 24:83N-24:88, 24:90N-24:91, 24:93, 24:95-24:113, 24:115-24:128, 24:130-24:137, 24:139-24:155N	A24, A9, A2403, Null, –					5		7																	
Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HLA-A allele[4]	ser[5]																								
*24:14-24:15, 24:51-24:53, 24:57, 24:64, 24:94, 24:114, 24:138	A24, –					5																			
*24:18	A24, A3					5		7																23	
*24:19, 24:44	A9					5		7				11													
*24:82	–					5		7														21			
*24:89, 24:129	–							7																	
*24:92	–			3		5																			
*25:01:01-25:04, 25:07-25:12N	A25, Null, –								8	9				13											
*25:05	A25								8	9				13							20				
*25:06	A25								8	9			12												
*25:13	–								8	9				13											24
*26:01:01-26:01:18, 26:08, 26:10-26:15, 26:17-26:18, 26:20, 26:23-26:29, 26:31-26:33, 26:35-26:43:02, 26:45-26:53, 26:55-26:56	A26, A10, Null, –								8		10			13											
*26:02	A26								8		10			w											
*26:03:01-26:03:02, 26:06, 26:21	A26, –								8			11		13										23	
*26:04, 26:34	A26								8		10														
*26:05	A26								8					13										23	
*26:07:01-26:07:02	A26										10			13											
*26:09	A26								8		10		12												
*26:16	A26							7			10			13											
*26:19	–				4									13	14										
*26:22	A26								8		10			13	14							21			
*26:30	A26								8					13										23	24
*26:54	–								8		10			13							20				
*29:01:01:01-29:06, 29:08N-29:12, 29:15-29:18, 29:20-29:27	A29, Null, –														14										
*29:07	A29						6								14										
*29:13	–														14			17							
*29:14	–														14		16								
*29:19	–														14					19					
*30:01:01-30:04:02, 30:06-30:07, 30:09-30:20, 30:22-30:46	A30, Null, –															15									
*30:08	A30				4											15									
*31:01:02-31:02, 31:05-31:07, 31:09-31:28, 31:30-31:34, 31:36-31:46	A31, Null, –																16								
*31:03	A31											11	12		14		16								
*31:04	A31												12		14		16								24
*31:08	A31, A24					5											16								
Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HLA-A allele[4]	ser[5]																								
*31:29	–						6										16								
*31:35	–															15	16	17							
*32:01:01-32:02, 32:06-32:12, 32:14, 32:16-32:30	A32, Null, –									9								17							
*32:03	A32																	17							
*32:04	A32, A3			3						9															
*32:05	A32					5											16	17							
*32:13	A32					5				9								17							
*32:15	A32								8	9								17							
*33:01:01-33:01:05, 33:03:01-33:12, 33:14-33:18, 33:20-33:21, 33:23, 33:25-33:34	A33, –																		18						
*33:13	–										10				14				18						
*33:19	–							7											18						
*33:22	–																		18			21			
*33:24	–																		18					23	
*34:01:01-34:01:02, 34:05-34:06	A34, A10								8			11	12												
*34:02:01-34:03, 34:07	A34			3					8			11	12												
*34:04	A34			3					8			11	12		14										
*34:08	A34			3					8			11	12	13											
*34:09	–			3					8				12												24
*36:01, 36:03, 36:05	A36, –	1																					22		
*36:02	A36	1		3																			22	23	
*36:04	A36	1			4																		22		
*43:01	A43												12	13											
*66:01, 66:04-66:08, 66:10-66:11, 66:13-66:15	A66, A26, –								8			11		13											
*66:02-66:03	A66, A10								8				12												24
*66:09	–								8			11		13	14							21			
*66:12	–								8					13											24
*68:01:01:01-68:04, 68:06-68:14, 68:16-68:19, 68:21:01-68:28, 68:30-68:44, 68:46-68:65	A68, A28, Null, –								8												20				
*68:05, 68:15, 68:20	A68								8												20			23	
*68:29	A68								8										18		20	21			
*68:45	–							7	8												20				
*68:66	–				4				8												20				
*69:01	A69								8													21			
*74:01-74:06, 74:08-74:12N, 74:14N	A74, Null, –																			19					
*74:07	A74																	17		19					
*74:13	–													13						19					
*80:01	A80						6																	23	
*80:02	–						6					11													
*B*18:27*							6																		
Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

[1]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-A low resolution SSP typing.
In addition, wells number 2, 4, 5, 6, 8, 9, 12 and 19 to 23 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
[2]The nucleotide position, in the 1st, 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk, imgt, hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[3]The nucleotide position, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk, imgt, hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[4]The sequence of the A*0105N has been shown to be identical to A*01:04N.
The A*01:34N allele has been renamed A*01:01:38L.
The A*020116 allele has been renamed to A*02:134.
The A*020120 allele has been shown to be identical to A*02:01:18.
The sequence of the A*0223 allele has been shown to be identical to A*02:22:01.
The sequence of the A*0298 allele has been shown to be identical to A*02:96.
The A*02:100 allele has never been assigned.
The A*1128 allele has been renamed to A*11:15:02.
The sequence of the A*2401 allele has been shown to be in error.
The sequence of the A*2412 allele has been shown to be identical to A*24:08.
The A*2416 allele has been renamed to A*31:08.
The A*2465 allele has been renamed to A*24:13:02.
The A*26:44 allele has been renamed to A*26:43:02.
The sequence of the A*3005 allele has been shown to be identical to A*30:04.
The A*3021 allele has been renamed to A*30:11:02.
The sequence of the A*31011 allele has been shown to be identical to A*31:01:02.
The sequence of the A*3302 allele has been shown to be identical to A*33:03:01.
[5]The serological reactivity of all HLA-A alleles is not known. In this table we use the expert-assigned serological grouping in Tissue Antigens (2009) **73**:95-170 and the serological grouping of the sequence-defined allele.
[6]The primer pairs in wells 1, 2, 11 and 15 will in many samples give rise to two or three HLA-specific PCR fragments.
[7]The A*23:14, 24:05, 24:13:02 and 24:24 alleles will give rise to identical amplification patterns. These four alleles can be separated by the respective high resolution SSP primer sets.
'w', may be weakly amplified.

INTERPRETATION TABLE

HLA-B low resolution SSP

Amplification patterns of the B*07:02 to B*83:01 alleles

	Well																							
	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec.	110	215	140	130	185	190	290	165	165	180	105	280	195	105	115	80	150	135	60	210	170	110	395	160
PCR product(s)			235	265	235			220	190		195			395	150				245					425
								330	390					435					400					
Length of int. pos. control[1]	800	1070	1070	800	800	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	800	800	1070	1070	1070
5'-primer(s)[2]	527	97	209	103	103	103	45	45	45	420	206	419	142	45	161	167	355	206	45	142	409	246	44	44
	5'-TgA 3'	5'-TCg 3'	5'-ggC 3'	5'-CCg 3'	5'-CCT 3'	5'-CCg 3'	5'-ggA 3'	5'-ggA 3'	5'-ggA 3'	5'-TTA 3'	5'-AgA 3'	5'-gTC 3'	5'-TCT 3'	5'-ggA 3'	5'-Cgg 3'	5'-gCT 3'	5'-TCA 3'	5'-gAC 3'	5'-ggA 3'	5'-TCT 3'	5'-ggC 3'	5'-gAA 3'	5'-ggC 3'	5'-ggC 3'
	540		363	103	103	418		357	435		420		419	540					368	368	420			357
	5'-gAC 3'		5'-AgC 3'	5'-CCg 3'	5'-CCT 3'	5'-Agg 3'		5'-Tgg 3'	5'-AAA 3'		5'-TTA 3'		5'-gTC 3'	5'-gAC 3'					5'-gTT 3'	5'-gTC 3'	5'-TTA 3'			5'-Tgg 3'
			363	361	363			412											557					
			5'-AgC 3'	5'-AgT 3'	5'-AAT 3'			5'-ATA 3'											5'-ggA 3'					
3'-primer(s)[3]	605	272	309	193	246	246	165	206	266	559	272	3rd	301	272	234	204	463	302	259	311	544	317	272	302
	5'-gCT 3'	5'-Tgg 3'	5'-gTg 3'	5'-CgT 3'	5'-TAT 3'	5'-TAT 3'	5'-Tgg 3'	5'-CCT 3'	5'-TCC 3'	5'-CTC 3'	5'-Tgg 3'	5'-TAT 3'	5'-gTC 3'	5'-TgC 3'	5'-TCT 3'	5'-TCT 3'	5'-gCT 3'	5'-ggC 3'	5'-gTT 3'	5'-ggg 3'	5'-ggT 3'	5'-ggA 3'	5'-TgC 3'	5'-ggC 3'
		272	559	193	246	572		538	559		572		301	309	272				259	311				
		5'-TgA 3'	5'-CAg 3'	5'-CgT 3'	5'-TAT 3'	5'-gCC 3'		5'-gTC 3'	5'-CAg 3'		5'-gCg 3'		5'-gTC 3'	5'-ATC 3'	5'-TgA 3'				5'-gTT 3'	5'-ggg 3'				
				583	559				583				570	605	272				266	538				
				5'-gTg 3'	5'-CTC 3'				5'-gTg 3'				5'-CCg 3'	5'-gCT 3'	5'-Tgg 3'				5'-TCC 3'	5'-gTC 3'				5'-gCg 3'
													572						272					
													5'-gCg 3'						5'-Tgg 3'					
																			292					
																			5'-gTA 3'					
																			572					
																			5'-gCg 3'					
Well No.	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

INTERPRETATION TABLE

HLA-B low resolution SSP

Amplification patterns of the B*07:02 to B*83:01 alleles

Well																								
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
180	290	105	325	115	215	130	90	90	145	120	430	145	300	160	180	180	90	90	95	115	360	350	285	Length of spec.
				195		270	410	175	430	210				330	210		240			150				PCR product(s)
				225																				
				260																				
1070	1070	1070	1070	1070	800	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	800	Length of int. pos. control[1]
355	72	540	1st l	355	141	209	41	209	48	357	49	206	1st l	15	141	420	209	209	206	165	1st l	1st l	355	5'-primer(s)[2]
5' -TCA 3'	5' -gCT 3'	5' -gAC 3'	5' -CAg 3'	5' -TCA 3'	5' -ATT 3'	5' -ggC 3'	5' -CTg 3'	5' -ggC 3'	5' -gCC 3'	5' -Tgg 3'	5' -CAg 3'	5' -gAA 3'	5' -CAg 3'	5' -gCA 3'	5' -ATT 3'	5' -TTA 3'	5' -ggC 3'	5' -ggA 3'	5' -gAC 3'	5' -ACC 3'	5' -CAg 3'	5' -CAg 3'	5' -TCA 3'	
363				418	357	209	368	363	206					418	420		209	369		463			363	
5' -Agg 3'				5' -Agg 3'	5' -Tgg 3'	5' -ggg 3'	5' -gTT 3'	5' -AgC 3'	5' -gAA 3'					5' -Agg 3'	5' -TTA 3'		5' -ggA 3'	5' -TAC 3'		5' -TgA 3'			5' -AgC 3'	
				499		355											362							
				5' -TCT 3'		5' -TCA 3'											5' -ggT 3'							
499	193	603	282	538	309	299	282	259	309	435	309	311	259	175	311	559	256	256	259	272	317	311	603	3'-primer(s)[3]
5' -ggA 3'	5' -CgT 3'	5' -gTg 3'	5' -gCC 3'	5' -gTC 3'	5' -ATC 3'	5' -TCA 3'	5' -gCC 3'	5' -gTT 3'	5' -ATC 3'	5' -TCT 3'	5' -ATC 3'	5' -ggT 3'	5' -CTC 3'	5' -CCg 3'	5' -ggT 3'	5' -CAg 3'	5' -CCC 3'	5' -CCC 3'	5' -gTT 3'	5' -TgC 3'	5' -ggA 3'	5' -ggT 3'	5' -gTg 3'	
	193	605		572	538	583	418	499		527			259	538	559		259	256		538			605	
	5' -TgT 3'	5' -gCT 3'		5' -gCg 3'	5' -gTC 3'	5' -gTg 3'	5' -gTC 3'	5' -ggA 3'		5' -CCT 3'			5' -CTC 3'	5' -gTC 3'	5' -CgT 3'		5' -CTT 3'	5' -CTC 3'		5' -CCA 3'			5' -gCT 3'	
													262				559	420						
													5' -TgC 3'				5' -CgT 3'	5' -gCT 3'						
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	Well No.

Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
HLA-B allele[4]	**ser.**[5]																								
*07:02:01-07:02:20, 07:05:01-07:06, 07:10, 07:12-07:15, 07:18:01-07:18:02, 07:21-07:23, 07:26, 07:29-07:31, 07:34-07:35, 07:39, 07:41-07:46, 07:49N, 07:52, 07:55-07:59, 07:61-07:64, 07:66-07:68:02, 07:70-07:72, 07:74-07:76, 07:79-07:80, 07:82-07:83, 07:86-07:99, 07:101-07:117	B7, B42, Null, –	25																							48
*07:03, 07:08, 07:16, 07:32, 07:37	B703, B7, –	25																							48
*07:04, 07:25	B7	25													38										48
*07:07, 07:77	B7, –	25																							48
*07:09, 07:11, 07:17	B7	25											36												48
*07:19, 07:33, 07:40, 07:53	B7, 42																								48
*07:20, 07:24	B7, –	25		27																					48
*07:27	–	25										35									44				
*07:28	B7	25					30																		48
*07:36, 07:81	B7, –	25																							
*07:38	–	25																							
*07:47	B7	25																							48
*07:48, 07:51	B7																								48
*07:50	–	25										35													48
*07:54	B7	25																							48
*07:60	–			27																					48
*07:65	–	25																	42						
*07:69, 07:85	–	25																						47	48
*07:73	–	25															40								48
*07:78	–	25									34														48
*07:84	–	25																							48
*07:100	–			27																					48
*08:01:01-08:01:13, 08:05, 08:08N, 08:10-08:11, 08:15, 08:18-08:19N, 08:22-08:24, 08:27, 08:29-08:31, 08:33-08:34, 08:39, 08:41-08:48, 08:51, 08:53, 08:56-08:59, 08:61, 08:63-08:64, 08:66	B8, Null, –		26						32																48
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.
																								ser.[5]	HLA-B allele[4]
			52																			71	72	B7, B42, Null, –	*07:02:01-07:02:20, 07:05:01-07:06, 07:10, 07:12-07:15, 07:18:01-07:18:02, 07:21-07:23, 07:26, 07:29-07:31, 07:34-07:35, 07:39, 07:41-07:46, 07:49N, 07:52, 07:55-07:59, 07:61-07:64, 07:66-07:68:02, 07:70-07:72, 07:74-07:76, 07:79-07:80, 07:82-07:83, 07:86-07:99, 07:101-07:117
																						71	72	B703, B7, –	*07:03, 07:08, 07:16, 07:32, 07:37
		51	52																			71	72	B7	*07:04, 07:25
			52																			71		B7, –	*07:07, 07:77
			52																			71	72	B7	*07:09, 07:11, 07:17
			52																			71		B7, 42	*07:19, 07:33, 07:40, 07:53
			52																			71	72	B7, –	*07:20, 07:24
																					70		72	–	*07:27
			52																			71	72	B7	*07:28
			52																		70		72	B7, –	*07:36, 07:81
																					70		72	–	*07:38
			w																			71	72	B7	*07:47
			52																			71	72	B7	*07:48, 07:51
																						71	72	–	*07:50
			52										62									71	72	B7	*07:54
			52																			71		–	*07:60
			52				56								64				w			71	72	–	*07:65
																						71	72	–	*07:69, 07:85
			52																			71	72	–	*07:73
			52							59												71		–	*07:78
			52							59												71		–	*07:84
			52																	69		71		–	*07:100
		51																				71	72	B8, Null, –	*08:01:01-08:01:13, 08:05, 08:08N, 08:10-08:11, 08:15, 08:18-08:19N, 08:22-08:24, 08:27, 08:29-08:31, 08:33-08:34, 08:39, 08:41-08:48, 08:51, 08:53, 08:56-08:59, 08:61, 08:63-08:64, 08:66
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.

Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
HLA-B allele[4]	ser.[5]																								
*08:02-08:03, 08:52	B8, –		26						32																
*08:04	B8, –		26						32			35													48
*08:07, 08:14	B8		26																						48
*08:09	B8		26						32																48
*08:12:01-08:12:03, 08:16	B8		26						32																48
*08:13, 08:20, 08:40	B8, –		26																						48
*08:17, 08:54	–, –		26						32			35													48
*08:21	B8		26	27					32																48
*08:25	B8		26	27																					48
*08:26, 08:50, 08:62, 42:07[6]	B8, –								32																48
*08:28, 08:37	B8, –		26										36												48
*08:32	B8		26						32										42						48
*08:35	–		26						32				36												48
*08:36	–		26						32																
*08:38	–		26						32																48
*08:49	–		26															41			44				48
*08:55	–		26																			45			48
*08:60	–		26						32																48
*08:65	–								32															47	48
*13:01:01-13:01:05, 13:17, 13:20, 13:22:01-13:23, 13:25, 13:28-13:29	B13, –			27	28						34							41							
*13:02:01-13:02:09, 13:08Q, 13:15, 13:18-13:19, 13:27, 13:30, 13:32-13:34, 13:37-13:38, 13:40	B13, –			27	28						34														
*13:03	B49, B15			27	28																				
*13:04, 13:10	B49, B15, B13			27	28								36												
*13:06	B13			27	28													41							
*13:07N	Null			27	28						34							41							
*13:09	–				28						34														
*13:11	B13			27	28						34														
*13:12-13:13	B13			27	28													41							
*13:14	B13			27							34														
*13:16	B13			27	28						34														
*13:21, 13:35	–			27	28																				
*13:26	–			27	28								36					41							
*13:31	–			27	28						34														
*13:36	–			27	28						34							41							
*13:39	–				28						34							41							
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	ser.[5]	Well No. HLA-B allele[4]
		51																			70		72	B8, –	*08:02-08:03, 08:52
		51																				71	72	B8, –	*08:04
		51																				71	72	B8	*08:07, 08:14
		51			54																	71		B8	*08:09
		51																				71		B8	*08:12:01-08:12:03, 08:16
																						71	72	B8, –	*08:13, 08:20, 08:40
		51											62									71	72	–, –	*08:17, 08:54
		51																				71	72	B8	*08:21
																						71	72	B8	*08:25
		51																				71	72	B8, –	*08:26, 08:50, 08:62, 42:07[6]
		51																				71	72	B8, –	*08:28, 08:37
		51																	68			71	72	B8	*08:32
		51																				71	72	–	*08:35
		51																				71	72	–	*08:36
		51											62									71	72	–	*08:38
		51		53																		71	72	–	*08:49
																						71	72	–	*08:55
		51		53																		71	72	–	*08:60
		51																				71	72	–	*08:65
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*51:24:02	B51																								48
*51:24:03-51:24:04	B51, –									33															48
*51:36	B51								32																
*51:37, 51:63	B51, –									33			36												
*51:42	–																	41							
*51:45	–												36												
*51:54, 51:78	–									33															
*51:61	–									33															
*51:62	–																								
*51:64	–			27						33															
*51:68	–		26							33															
*51:81	–																								
*51:93	–																								
*51:97	–								32	33			36												
*51:101	–									33												45			
*51:104	–									33															
*51:106	–									33															
*52:01:01:01, 52:01:03, 52:01:06, 52:04-52:05, 52:07-52:08, 52:10-52:13, 52:15, 52:17-52:18, 52:22	B52, –									33															
*52:01:02, 52:01:04, 52:02-52:03, 52:06:01-52:06:02, 52:09	B52									33															
*52:01:05, 52:14	B52, –																								
*52:16	–									33		35													
*52:19	–								32	33															
*52:20	–									33															
*52:21	–									33															
*53:01:01-53:01:05, 53:05, 53:08:01-53:08:02, 53:10, 53:16, 53:18, 53:20-53:21, 53:23-53:24	B53, –												36					41							
*53:02	B53												36					41							
*53:03, 53:09, 53:11-53:13	B53, B35												36					41							
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.
																								ser.[5]	HLA-B allele[4]
										59	60								68		70			B51	*51:01:09
					54	55					60								68		70			B51, –	*51:04, 51:46, 51:56:01
					54						60								68		70			B51, –	*51:06:01, 51:59
					54					59	60								68		70			B51, Null	*51:08, 51:20, 51:44N
					54						60								68		70			B51	*51:10
											60					65			68		70			–	*51:15
					54					59	60								68		70			B51	*51:24:02
					54					59	60								68		70			B51, –	*51:24:03-51:24:04
					54					59	60								68		70			B51	*51:36
					54					59	60								68		70			B51, –	*51:37, 51:63
				53	54						60								68		70			–	*51:42
					54						60								68		70			–	*51:45
										59									68		70			–	*51:54, 51:78
					54					w	60								68	69	70			–	*51:61
					54						60					65		67	68		70			–	*51:62
					54						60								68		70			–	*51:64
					54					59	60								68		70			–	*51:68
					54						60								68		70			–	*51:81
										59	60								68		70			–	*51:93
					54					59	60								68		70			–	*51:97
					54					59	60								68		70			–	*51:101
					54					59	60										70			–	*51:104
					54					59	60					65			68		70			–	*51:106
										59	60		62								70			B52, –	*52:01:01:01, 52:01:03, 52:01:06, 52:04-52:05, 52:07-52:08, 52:10-52:13, 52:15, 52:17-52:18, 52:22
					54					59	60		62								70			B52	*52:01:02, 52:01:04, 52:02-52:03, 52:06:01-52:06:02, 52:09
										59	60		62								70			B52, –	*52:01:05, 52:14
										59	60		62								70			–	*52:16
					54					59	60		62								70			–	*52:19
										59			62								70			–	*52:20
					54					59	60		62							69	70			–	*52:21
											60								68		70			B53, –	*53:01:01-53:01:05, 53:05, 53:08:01-53:08:02, 53:10, 53:16, 53:18, 53:20-53:21, 53:23-53:24
						55					60								68		70			B53	*53:02
																			68		70			B53, B35	*53:03, 53:09, 53:11-53:13
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.

Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
HLA-B allele[4]	**ser.[5]**																								
*53:04, 53:07, 53:19	B53, –																	41							
*53:06	B53, B51												36					41							
*53:14	–			27									36												
*53:15	–												36					41							
*53:17:01	–												36					41							
*53:22	–												36	37				41							
*54:01:01-54:02, 54:05N, 54:07-54:08N, 54:10, 54:13, 54:16-54:19, 54:21-54:23	B54, Null, –																								
*54:03	B22																								
*54:04, 54:15	B54, –																								
*54:06	–												36												
*54:09, 54:14	–												36												
*54:11	B54																								48
*54:12	–																								
*54:20	–																								
*55:01:01-55:01:06, 55:03, 55:05, 55:11, 55:15, 55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:44-55:45	B55, –																								
*55:02:01-55:02:06, 55:07, 55:10, 55:12, 55:16, 55:19, 55:26, 55:30, 55:35, 55:37, 55:39, 55:41-55:43, 55:47-55:48	B55, B54, –																								
*55:04, 55:08, 55:13, 55:27, 55:46, 56:15, 56:19N, 56:22[10]	B55, B56, Null, –																								
*55:09, 55:24	B22, B55										34														
*55:14	–												36					41							
*55:17, 55:28	B55, –																								
*55:18	–											35													
*55:20	B22								32																
*55:21	B55																								
*55:22	B22										34														
*55:23, 55:32, 56:18[11]	B55, –												36												
*55:34	–																								
*55:40	–																								
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	ser.[5]	Well No. HLA-B allele[4]
											60								68		70			B53, –	*53:04, 53:07, 53:19
					54	55					60								68		70			B53, B51	*53:06
											60								68		70			–	*53:14
											60								68		70		72	–	*53:15
											60		62								70			–	*53:17:01
				53							60								68		70			–	*53:22
			52				56							63	64							71		B54, Null, –	*54:01:01-54:02, 54:05N, 54:07-54:08N, 54:10, 54:13, 54:16-54:19, 54:21-54:23
			52				56							63		65						71		B22	*54:03
			52				56							63								71		B54, –	*54:04, 54:15
			52				56							63						69		71		–	*54:06
			52				56							63								71		–	*54:09, 54:14
			52				56							63								71		B54	*54:11
			52				56		58					63	64						70			–	*54:12
			52				56			59				63	64							71		–	*54:20
			52				56			59					64							71		B55, –	*55:01:01-55:01:06, 55:03, 55:05, 55:11, 55:15, 55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:44-55:45
			52				56								64							71		B55, B54, –	*55:02:01-55:02:06, 55:07, 55:10, 55:12, 55:16, 55:19, 55:26, 55:30, 55:35, 55:37, 55:39, 55:41-55:43, 55:47-55:48
			52				56															71		B55, B56, Null, –	*55:04, 55:08, 55:13, 55:27, 55:46, 56:15, 56:19N, 56:22[10]
			52				56			59												71		B22, B55	*55:09, 55:24
			52				56										66					71		–	*55:14
			52				56			59												71		B55, –	*55:17, 55:28
													62		64							71		–	*55:18
		51	52		54		56															71		B22	*55:20
			52				56			w					64					69		71		B55	*55:21
			52				56															71		B22	*55:22
			52				56															71		B55, –	*55:23, 55:32, 56:18[11]
			52				56						62		64							71		–	*55:34
			52				56			59			62		64							71		–	*55:40
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.

Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
HLA-B allele[4]	**ser.[5]**																								
*56:01:01-56:01:04, 56:08, 56:14, 56:16, 56:20, 56:24, 56:26-56:30	B56, Null, –																								
*56:02, 56:04	B56																								
*56:03	B22, 15												36												
*56:05:01	B56									33															
*56:05:02	B56									33															
*56:06	B78									33									42						
*56:07	B56																								
*56:09	B56												36					41							
*56:10	B55																								
*56:11-56:12	B56, B22																	41							
*56:13	B56								32																
*56:17	B56																								
*56:21	–									33															
*56:23	–																								
*56:25	–																								
*57:01:01-57:01:04, 57:01:06-57:01:10, 57:06, 57:08, 57:10, 57:15-57:16, 57:18-57:20, 57:22-57:23, 57:25-57:27, 57:29-57:30, 57:33-57:37	B57, –												36					41							
*57:01:05, 57:11, 57:13, 57:21, 57:31	B57, –												36												
*57:02:01-57:03:02, 57:05, 57:17, 57:28N, 57:32	B57, Null, –																	41							
*57:04	B57						30											41							
*57:07	B57																	41							
*57:09	B57								32									41							
*57:12	B57																	41							
*57:14	–												36					41							
*57:24	–												36					41							
*58:01:01-58:01:02, 58:01:04-58:01:08, 58:04-58:05, 58:10N-58:15, 58:19, 58:21-58:24, 58:29-58:31N	B58, Null, –												36					41							
*58:01:03, 58:02, 58:06, 58:16, 58:25-58:26	B58, –												36												
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.
																								ser.[5]	HLA-B allele[4]
			52				56									65						71		B56, Null, –	*56:01:01-56:01:04, 56:08, 56:14, 56:16, 56:20, 56:24, 56:26-56:30
			52				56									65		67				71		B56	*56:02, 56:04
			52				56													69		71		B22, 15	*56:03
			52				56			59					64							71		B56	*56:05:01
			52				56			59												71		B56	*56:05:02
			52				56			59					64				w			71		B78	*56:06
			52				56									65					70			B56	*56:07
			52				56															71		B56	*56:09
			52				56								64			67				71		B55	*56:10
			52				56															71		B56, B22	*56:11-56:12
			52		54		56									65						71		B56	*56:13
																65						71		B56	*56:17
			52				56		58	59											70			–	*56:21
															64							71		–	*56:23
			52				56			59						65						71		–	*56:25
											60						66				70			B57, –	*57:01:01-57:01:04, 57:01:06-57:01:10, 57:06, 57:08, 57:10, 57:15-57:16, 57:18-57:20, 57:22-57:23, 57:25-57:27, 57:29-57:30, 57:33-57:37
											60						66				70			B57, –	*57:01:05, 57:11, 57:13, 57:21, 57:31
											60						66				70			B57, Null, –	*57:02:01-57:03:02, 57:05, 57:17, 57:28N, 57:32
											60						66				70			B57	*57:04
				53							60						66				70			B57	*57:07
				53							60						66				70			B57	*57:09
																	66					71		B57	*57:12
						55					60						66				70			–	*57:14
				53							60						66				70			–	*57:24
											60							67			70			B58, Null, –	*58:01:01-58:01:02, 58:01:04-58:01:08, 58:04-58:05, 58:10N-58:15, 58:19, 58:21-58:24, 58:29-58:31N
											60							67			70			B58, –	*58:01:03, 58:02, 58:06, 58:16, 58:25-58:26
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.

Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
HLA-B allele[4]	ser.[5]																								
*58:07	B58												36	37											
*58:08	B17, B5									33															
*58:09	B17												36					41							
*58:17N	Null												36					41							
*58:18	–			27									36												
*58:20	–																					45			
*58:27	–																								
*58:28	–																	41							
*59:01:01:01, 59:05	B59, –																								
*59:02-59:03	B59, –																								
*59:04	–																								
*67:01:01, 67:03	B67, –					29																45			48
*67:01:02-67:02	B67, –																					45			48
*73:01-73:02	B73, –																								48
*78:01, 78:02:02-78:03, 78:07	B78, –									33									42						
*78:02:01, 78:04	B78, B35									33									42						
*78:05	–									33									42						
*78:06	–									33															
*81:01	B81																								
*81:02	B81																								48
*81:03-81:05	Null, –																								
*82:01-82:03	B82, –								32			35								43					
*83:01	–																	41							
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
HLA-B allele[4]	ser.[5]																								
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
*A*23:31, A*24:106, C*16:10*							30																		
*A*68:56, C*06:20, C*12:50*																									
*C*01:30*	–				28																				
*C*02:06*																									
*C*02:23, C*04:77*		25																							
*C*03:05, 03:25, 03:27*				27																					
*C*03:12, 03:19*																									
*C*03:102*																		41							
*C*07:46*									32																
*C*15:02:04*																									
*C*15:25*																									
*C*15:39*																									
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.
																								ser.[5]	HLA-B allele[4]
											60							67			70			B58	*58:07
					54					59	60							67			70			B17, B5	*58:08
						55					60							67			70			B17	*58:09
																		67			70			Null	*58:17N
											60							67			70			–	*58:18
											60							67			70			–	*58:20
											60							67			70			–	*58:27
											60							67			70			–	*58:28
									58						64						70			B59, –	*59:01:01:01, 59:05
									58												70			B59, –	*59:02-59:03
									58							65					70			–	*59:04
			52																			71		B67, –	*67:01:01, 67:03
			52																			71		B67, –	*67:01:02-67:02
			52																	69		71		B73, –	*73:01-73:02
										59					64				68			71		B78, –	*78:01, 78:02:02-78:03, 78:07
										59									68			71		B78, B35	*78:02:01, 78:04
										59			62									71		–	*78:05
										59			62									71		–	*78:06
			52				56	57														71	72	B81	*81:01
			52					57														71	72	B81	*81:02
			52					57														71	72	Null, –	*81:03-81:05
			52				56									65						71		B82, –	*82:01-82:03
			52	53			56							63								71		–	*83:01
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.
																								ser.[5]	HLA-B allele[4]
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.
																									*A*23:31, A*24:106, C*16:10*
																				69					*A*68:56, C*06:20, C*12:50*
																								–	*C*01:30*
																		w							*C*02:06*
																									*C*02:23, C*04:77*
																									*C*03:05, 03:25, 03:27*
																65									*C*03:12, 03:19*
																65									*C*03:102*
																									*C*07:46*
															64										*C*15:02:04*
				53																					*C*15:25*
						55																			*C*15:39*
49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72		Well No.

[1]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 25 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B low resolution typing.
In addition, wells number 28 to 30, 34, 41, 44, 45, 54, 59, 66 and 72 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
[2]The nucleotide position, in the 1st, 2nd or 3rd exon or in the 1st intron, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk, imgt, hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[3]The nucleotide position, in the 2nd, or 3rd exon or the 1st or 3rd introns, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk, imgt, hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[4]The sequence of the B*0701 allele has been shown to be in error.
The sequence of the B*08:06 allele has been shown to be identical to B*08:20.
The sequence of the B*1305 allele has been shown to be identical to B*13:04.
The B*1324 allele has been renamed B*13:22:02
The B*150105 allele has been corrected and renamed B*15:120
The B*1522 allele has been renamed B*35:43.
The sequence of the B*1541 allele has been shown to be identical to B*15:39.
The B*1559 allele has been renamed B*35:44.
The B*15:100 allele has never been assigned.
The sequence of the B*1816 allele has been shown to be identical to B*18:14.
The sequence of the B*27051 allele has been shown to be identical to B*27:05:02.
The sequence of the B*2722 allele has been shown to be identical to the corrected B*27:06 sequence.
The B*3573 allele has been renamed B*35:08:03.
The sequence of the B*39012 allele has been shown to be identical to B*39:01:01:01.
The sequence of the B*3921 allele has been shown to be identical to B*39:24.
The sequence of the B*4017 allele has been shown to be identical to B*40:16.
The sequence of the B*4041 allele has been shown to be identical to B*40:40.
The sequence of the B*4203 allele has never been assigned.
The sequence of the B*4401 allele has been shown to be identical to B*44:02:01:01.
The sequence of the B*5003 allele has been shown to be identical to B*50:02.
The sequence of the B*5125 allele has been shown to be identical to B*51:22.
The B*5147 allele has been renamed B*51:09:02.
The sequence of the B*5506 allele has been shown to be identical to B*55:04.
The sequence of the B*5803 allele has never been assigned.
The B*7901 allele has been renamed B*15:18:01.
The B*9530 allele has been renamed B*15:27:02.
[5]The serological reactivity of all HLA-B alleles is not known. In this table we use the expert-assigned serological grouping in Tissue Antigens (2009) **73**:95-170 and the serological grouping of the sequence-defined allele.
[6]The B*08:26, 08:50 and 08:62 and B*42:07 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[7]The B*14:08 and the B*39:25N, 39:30, 39:32-39:34, 39:47 and 39:50 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[8]The B*18:29 and the B*35:32, 35:37, 35:53N, 35:64, 35:68:01-35:68:02, 35:99 and 35:118-35:119 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[9]The B*41:09 and the B*45:02 and 45:03 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[10]The B*55:04, 55:08, 55:13, 55:27 and 55:46 and the B*56:15, 56:19N and 56:22 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
[11]The B*55:23 and 55:32 and the B*56:18 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.
'ser', serological HLA specificity. 'w', might be weakly amplified.
'?', nucleotide sequence information not available for the primer matching sequence.

INTERPRETATION TABLE

HLA-C low resolution SSP typing

Amplification patterns of the C*01:02 to C*18:04 alleles

	Well[5]																								
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	
Length of spec.	155	130	280	170	280	130	390	130	245	115	340	100	120	160	130	255	110	180	225	215	325	135	160		
PCR product(s)		200		275		335		355	425	165		160	250	220	255		325	210	250	425	380		235		
		270								265		220			555			240							
		300								390															
Length of int. pos. control[1]	800	800	800	1070	800	800	1070	800	800	800	1070	800	800	800	1070	1070	1070	1070	800	800	1070	1070	1070		
5'-primer(s)[2]	89	47	105	355	105	47	1st I	28	47	1st I	1st I	176	201	97	98	98	201	201	2nd I	47	355	105	97		
	5' -gAA 3'	5' -Agg 3'	5' -gCT 3'	5' -TCA 3'	5' -gCT 3'	5' -Agg 3'	5' -CgA 3'	5' -TCA 3'	5' -Agg 3'	5' -CgA 3'	5' -CgA 3'	5' -gCA 3'	5' -CCA 3'	5' -TCg 3'	5' -CTA 3'	5' -CTC 3'	5' -CCA 3'	5' -CCA 3'	5' -CCA 3'	5' -Agg 3'	5' -TCA 3'	5' -gCT 3'	5' -TCg 3'		
		89		459		112		2nd I	648	176		361	218	361	368		409	2nd I		361	412	459	97		
		5' -gAA 3'		5' -gAT 3'		5' -CCT 3'		5' -CCA 3'	5' -CAC 3'	5' -gCA 3'		5' -AgT 3'	5' -ggA 3'	5' -AgT 3'	5' -gTg 3'		5' -ggC 3'	5' -CCA 3'		5' -AgT 3'	5' -ATA 3'	5' -gAT 3'	5' -TTg 3'		
		2nd I				118				527		419	2nd I					361				418			
		5' -CCA 3'				5' -CCA 3'				5' -TAC 3'		5' -gTC 3'	5' -CCA 3'					5' -AgT 3'					5' -Agg 3'		
		703																					419		
		5' -CTA 3'			5' -T 3'																		5' -gTC 3'		
3'-primer(s)[3]	201	176	343	589	343	201	302	213	302	175	302	289	289	218	312	311	270	341	512	302	3rd I	201	213		
	5' -CTC 3'	5' -ACT 3'	5' -C 3'	5' -CTT 3'		5' -CTT 3'	5' -ggT 3'	5' -Cgg 3'	5' -ggC 3'	5' -CCg 3'	5' -ggT 3'	5' -AgC 3'	5' -AgC 3'	5' -gCT 3'	5' -AgT 3'	5' -ggT 3'	5' -TAg 3'	5' -CgT 3'	5' -CCA 3'	5' -ggT 3'	5' -CTC 3'	5' -CTC 3'	5' -Cgg 3'		
	201	559	343			218		420	853	302	304	289	289	538	361		3rd I	343	538	527		559	289		
	5' -CTT 3'	5' -CTC 3'	5' -g 3'			5' -gCT 3'		5' -gCT 3'	5' -CAT 3'	5' -ggC 3'	5' -CAA 3'	5' -AgC 3'	5' -AgC 3'	5' -CCA 3'	5' -CCA 3'		5' -CTC 3'	5' -T 3'	5' -gTC 3'	5' -CCg 3'		5' -CTC 3'	5' -AgC 3'		
		861								601		474	539	538	459			343		538					
		5' -TCg 3'								5' -CTT 3'		5' -gCA 3'	5' -TCT 3'	5' -gCA 3'	5' -AgA 3'			5' -g 3'		5' -CCg 3'			5' -AgC 3'		
												477								527			539		
												5' -gCA 3'								5' -CCg 3'			5' -TCT 3'		
												538								527					
												5' -gCA 3'								5' -CCg 3'					
																				527					
																				5' -CCg 3'					
																				530					
																				5' -CCA 3'					
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	

Negative Control

Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
HLA-C allele[4]																								
*01:02:01-01:02:13, 01:06-01:08, 01:11-01:13, 01:15-01:20, 01:23, 01:25-01:33, 01:37N-01:42, 01:44-01:45	73																			92				
*01:03, 01:24, 01:34	73																			92	93			
*01:04	73											84		86										
*01:05, 01:22, 01:35-01:36, *B*54:18*[5]	73																							
*01:09	73													86										
*01:10	73	74																		92				
*01:14	73										83									92				
*01:21	73											84	85											
*01:43	73	74								82										92				
*02:02:01		74	75			78					83				w									
*02:02:02-02:02:03, 02:02:05-02:02:12, 02:02:14-02:03, 02:07-02:11, 02:15-02:16:02, 02:19-02:20, 02:23-02:25Q, 02:28-02:32, 02:34-02:38N, 02:40, 02:42-02:44, 02:46		74	75			78					83				87									
*02:02:13, 02:21, 02:26:02, 02:39, 02:45		74	75								83				87									
*02:04		74	w			78					83				87									
*02:05, 02:17		74	75			78					83			86	87									
*02:06		74	75			78		80			83				87		89							
*02:12		74	75			78							85		87									
*02:13, 02:18, 02:33		74	75			78					83				87			90						
*02:14		74	w			78					83													
*02:22		74	75			78					83				87						93			
*02:26:01		74									83				87									
*02:27:01-02:27:02		74	75			78																		
*03:02:01-03:02:06, 03:05, 03:17, 03:25, 03:27, 03:33, 03:35-03:36, 03:60, 03:71, 03:84, 03:89, 03:95			75	76																		94		
*03:03:01-03:03:13, 03:11:01-03:12, 03:20N-03:22Q, 03:30-03:31, 03:43:01-03:43:02, 03:49-03:50, 03:52-03:53, 03:55-03:56, 03:59, 03:61-03:62, 03:66, 03:68-03:69, 03:75-03:76, 03:79, 03:83, 03:85, 03:88, 03:96, 03:102				76	77																93	94		
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96

Neg. Control

Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
HLA-C allele[4]																								
*03:04:01:01-03:04:06, 03:04:08-03:04:19, 03:06, 03:08-03:09, 03:14, 03:19, 03:23-03:24, 03:26, 03:28, 03:32, 03:34, 03:37-03:38:02, 03:40, 03:42, 03:44, 03:46-03:48, 03:51, 03:54, 03:57, 03:63-03:65, 03:70, 03:72-03:74, 03:77-03:78, 03:82, 03:87, 03:90-03:93, 03:98, 03:100-03:101			75	76																	93	94		
*03:04:07, 03:41, 03:80			75																		93	94		
*03:07, 03:45			75	76							83				87						93	94		
*03:10, 03:29			75	76											87						93	94		
*03:13, 03:97				76	77																	94		
*03:15			75	76							83				87							94		
*03:16			75																			94		
*03:18, 03:39				76																	93			
*03:58					77										87					92	93	94		
*03:67				76	w																93	w		
*03:81				76	77												89				93	94		
*03:86					77										87					92		94		
*03:94			75												87					92		94		
*03:99															87					92				
*04:01:01:01-04:01:15, 04:01:17-04:01:22, 04:01:24-04:01:26, 04:04:01-04:05, 04:07-04:09N, 04:12-04:15:02, 04:17-04:20, 04:24-04:28, 04:30-04:31, 04:34-04:35, 04:38-04:41, 04:43-04:53, 04:56-04:57, 04:59Q-04:71, 04:73-04:76, 04:78-04:79, 04:81						78					83		85					90			93			
*04:01:16, 04:23, 04:54, 04:72						78					83		85					90						
*04:01:23, 04:33						78					83		85								93			
*04:03, 04:06, 04:80			75			78					83		85		87			90			93			
*04:10						78					83							90			93			
*04:11						78										88					93			
*04:16			75								83		85		87			90			93			
*04:29						78							85			88		90			93			
*04:32, 04:77		74				78					83		85					90			93	94		
*04:36, 04:55						78										88		90			93			
*04:37						78					83		85		87			90		92	93			
*04:42											83		85	86				90			93		95	
*04:58						78					83		85					90	91		93			
*05:01:01:01-05:01:15, 05:03, 05:05-05:15, 05:18-05:19, 05:21, 05:24, 05:27-05:35, 05:37-05:41, 05:44-05:45, 05:47-05:51Q							79				83				87						93			
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96

Negative Control

Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
HLA-C allele[4]																								
*05:04, 05:22							79				83				87									
*05:16							79				83				87					92	93			
*05:17, 05:25							79				83				87			90			93			
*05:20, 05:43							79				83										93			
*05:23							79				83				87				91		93			
*05:26						78	79				83				87						93			
*05:36							79				83				87		89				93			
*05:42							79				83	84	85		87			90			93			
*05:46							79				83	84	85		87						93			
*06:02:01:01-06:02:01:02, 06:02:03-06:02:11, 06:07, 06:10, 06:12-06:13, 06:15-06:16N, 06:18-06:30, 06:33-06:34, 06:36-06:39, 06:41-06:51, 06:53-06:55								80			83			86									95	
*06:03			75					80			83			86	87							94		
*06:04, 06:40								80			83												95	
*06:05								80			83							90		92			95	
*06:06								80			83									92			95	
*06:08		74						80			83			86									95	
*06:09								80			83			86							93		95	
*06:11, 06:52								80						86									95	
*06:14, 06:35								80			83										93		95	
*06:17											83			86						92			95	
*06:31								80			83			86				90		92			95	
*06:32											83			86									95	
*07:01:01-07:02:07, 07:02:10-07:06, 07:08, 07:11-07:25, 07:27:01-07:27:02, 07:29-07:30, 07:32N, 07:35-07:38, 07:42, 07:44-07:48, 07:50-07:63, 07:65-07:75, 07:77-07:91, 07:93-07:95, 07:97-07:100, 07:102-07:122, 07:124, 07:126-07:138, 07:140-07:147, 07:149-07:151, 07:153-07:155, 07:157-07:160									81														95	
*07:02:08, 07:26, 07:33N, 07:39-07:40, 07:92, 07:139, 07:152N, 07:156									81															
*07:02:09						78			81				85					90					95	
*07:07, 07:09, 07:49, 07:76									81		83									92			95	
*07:10, 07:28, 07:41, 07:43									81												93		95	
*07:31									81									90					95	
*07:64									81							88								
*07:96			75						81													94		
*07:101, 07:148		74							81	82		84											95	
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96

Negative Control

Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
HLA-C allele[4]																								
***07:123**									81								89						95	
***07:125**						78			81				85	86									95	
***08:01:01-08:01:03, 08:03:01-08:03:02, 08:06, 08:08, 08:14, 08:16, 08:20, 08:22, 08:24, 08:26N, 08:28, 08:36N, 08:38, 08:40-08:42, 08:44**										82								90			93			
***08:02:01-08:02:05, 08:04, 08:13, 08:15:01, 08:17-08:19, 08:23, 08:27, 08:29-08:30, 08:32-08:35, 08:37, 08:39, 08:43**										82											93			
***08:05**										82		84	85								93			
***08:07**										82									91		93			
***08:09, 08:11**										82								90						
***08:10**							79			82	83				87			90			93			
***08:12**										82										92	93			
***08:21**										82		84	85					90			93			
***08:25**										82			85								93			
***08:31**		74								82											93			
***12:02:01-12:02:06, 12:10:01-12:10:02, 12:17-12:18, 12:20, 12:22, 12:27, 12:30, 12:36, 12:40**												84	85											
***12:03:01:01-12:03:01:02, 12:03:03, 12:03:05-12:03:07, 12:03:10-12:03:14, 12:06-12:07, 12:11-12:13, 12:19, 12:23, 12:25, 12:29, 12:32, 12:34-12:35, 12:37-12:39N, 12:42Q-12:43, 12:45-12:48, 12:50**												84	85	86										
***12:03:02, 12:03:08, 12:26**													85	86										
***12:03:04**												84		86										
***12:03:09**								80				84		86										
***12:04:01, 12:33**											83			86	87									
***12:04:02**											83	84	85	86	87									
***12:05**											83	84		86	87									
***12:08**												84	85				89							
***12:09**											83				87					92				
***12:14:01**													85					90	91					
***12:14:02**												84	85					90	91					
***12:15**								80				84	85	86			89							
***12:16**												84	85										95	
***12:21**											83	84			87									
***12:24**												84	85							92				
***12:28**												84	85	86				90						
***12:31**												84	85	86							93			
***12:41**											83	84	85		87									
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96

Negative Control

Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
HLA-C allele[4]																								
*12:44												84	85								93			
*12:49												84												
*14:02:01-14:03, 14:05, 14:07N, 14:11, 14:13-14:14, 14:18-14:24																88				92				
*14:04											83					88				92				
*14:06, 14:08-14:09																88								
*14:10																88		90		92				
*14:12											83									92				
*14:15																88		90						
*14:16														86		88								
*14:17																88			91	92				
*14:25		74														88				92		94		
*15:02:01-15:02:07, 15:08, 15:10:02, 15:13, 15:15, 15:17-15:18, 15:26, 15:28, 15:31-15:35, 15:38-15:39, 15:41, 15:44-15:45			75					80			83				87		89				93			
*15:03, 15:16			75					80			83		85		87		89				93			
*15:04-15:06:03, 15:09, 15:19-15:20, 15:24, 15:27, 15:29-15:30, 15:40			75								83				87		89				93			
*15:07			75					80									89				93			
*15:10:01								80			83				87		89				93			
*15:11			75			78		80			83				87		89				93			
*15:12					77			80			83				87		89	90			93			
*15:21			75					80							87		89				93			
*15:22			75								83				87		89							
*15:23											83						89				93			
*15:25			75										85					90	91		93			
*15:36						78					83						89				93			
*15:37			75					80			83				87		89							
*15:42		74	75					80			83				87		89				93			
*15:43			75					80									89				93	94		
*16:01:01-16:01:05, 16:06-16:08, 16:10-16:11, 16:13-16:15:01, 16:16Q-16:17, 16:21-16:24, 16:26-16:28, 16:30N-16:32													85					90					95	
*16:02:01-16:02:05, 16:09, 16:12, 16:19, 16:25											83		85		87			90					95	
*16:04:01														86				90		92				
*16:15:02												84	85					90					95	
*16:18													85		87			90					95	
*16:20													85				89	90					95	
*16:29		74												86				90		92				
*17:01:01:01-17:01:03, 17:01:05-17:04, 17:06, 17:08		74									83				87				91		93			
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96

Negative Control

Well No.	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	
HLA-C allele[4]																									
***17:01:04**		**74**									**83**		**85**		**87**				**91**		**93**				**Negative Control**
***17:05**		**74**									**83**	**84**			**87**				**91**		**93**				
***17:07**											**83**				**87**				**91**		**93**				
***18:01-18:02, 18:04**											**83**									**92**	**93**		**95**		
***18:03**		**74**									**83**									**92**	**93**	**94**	**95**		
Well No.	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**		
HLA-C allele[4]																									
A*24:106, B*46:25																							**95**		
B*14:03																				**92**					
B*67:02													**85**												
Well No.	**73**	**74**	**75**	**76**	**77**	**78**	**79**	**80**	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	

[1]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-C low resolution SSP typing.
In addition, wells number 74, 75, 77, 78, 80 to 82, 84 to 86, 91 and 92 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
[2]The nucleotide position, in the 1st, 2nd, 3rd or 4th exon or the 1st or 2nd intron, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk, imgt, hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[3]The nucleotide position, in the 1st, 2nd, 3rd or 4th exon or the 3rd intron, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk, imgt, hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[4]The sequence of the Cw*0101 allele has been shown to be identical to C*01:02:01.
The sequence of the Cw*0201 allele has been shown to be identical to C*02:02:02.
The sequence of the Cw*020204 allele has been shown to be identical to C*02:10.
The sequence of the Cw*021603 allele has has been shown to be identical to C*02:16:02.
The sequence of the Cw*0301 allele has been shown to be identical to C*03:04:01:01.
The sequence of the Cw*0402 allele has been shown to be identical to C*04:01:01:01.
The sequence of the Cw*0421 allele has been renamed to C*04:15:02.
The sequence of the Cw*0422 allele has been renamed to C*04:21.
The sequence of the Cw*0502 allele has been shown to be identical to C*05:09.
The sequence of the Cw*06:01 allele has been shown to be identical to C*06:02:01:01.
The sequence of the Cw*060202 allele has been renamed to C*06:17.
The sequence of the C*0734 allele has been renamed to C*07:27:02.
The sequence of the Cw*1101 allele has been shown to be in error.
The sequence of the Cw*1201 allele has been shown to be identical to C*12:02:02.
The sequence of Cw*1301 has been shown to be in error.
The sequence of the Cw*1401 allele has been shown to be identical to C*14:02:01.
The sequence of the Cw*1501 allele has been shown to be identical to C*15:02:01.
The sequence of the Cw*1514 allele has been shown to be identical to C*15:10:02.
The sequence of the Cw*1603 allele has been shown to be identical to C*14:03.
The sequence of the Cw*16042 allele has been shown to be identical to C*16:04:01.
The sequence of the Cw*1605 allele has been shown to be identical to C*16:04:01.
[5]The C*01:05, 01:22, 01:35 and 01:36 and the B*54:18 alleles give rise to identical amplification patterns with the HLA-C low resolution primer set. These alleles are separated by the HLA-B low primer set.
'w', might be weakly amplified.

CELL LINE VALIDATION SHEET

HLA-A low resolution primer set

					Well													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Lot No.:	201078701	201078702	201073303	201073304	201073305	201078706	201073307	201073308	201073309	201078710	201078711	201073312	201073313	201078714	201073315	201078716
	IHWC cell line		A*	A*																
1	9001	SA	*24:02		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
5	9009	KAS011	*01:01		+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	+	-	-	-	-	-	+	-	-	+	-	+	-	-	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
9	9026	YAR	*26:01		-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
12	9052	DBB	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
15	9075	DKB	*24:02		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	+	-	-	+	-	-	-	-	-	-	+	-	-	-
18	9257	32367	*33:03	*74:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	+	-	-	-	-	W	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	+	-	-	-	-	-	+	-	-	+	+	-	-	-	-
24	9035	JBUSH	*32:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:05		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	+	-	+	-	-	-	-	-	-	+	-	-
28	9320	BEL5GB	*02:01	*29:02	-	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
32	9297	HAG	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
35	9302	SSTO	*32:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
38	9099	LZL	*02:17		-	+	-	-	-	-	W	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	+	-	+	+	-	-	-	-	-	-	-	-	+	-	-	-
40	9134	WHONP199	*02:07	*30:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-
41	9055	H0301	*03:01		-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
42	9066	TAB089	*02:07		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	+	-	-	+	-	+	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
47	9045	TUBO	*02:16	*03:01	-	+	+	-	-	-	-	-	-	-	-	-	+	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-

CELL LINE VALIDATION SHEET

HLA-A low resolution primer set

					Well							
					17	18	19	20	21	22	23	24
				Lot No.:	201078717	201073318	201073319	201078720	201073321	201078722	201078723	201078724
	IHWC cell line		A*	A*								
1	9001	SA	*24:02		-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	-	-
5	9009	KAS011	*01:01		-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	-	-	-	-	-	+	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-
9	9026	YAR	*26:01		-	-	-	-	-	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-
12	9052	DBB	*02:01		-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-
15	9075	DKB	*24:02		-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	-	-	-	-	+	-
18	9257	32367	*33:03	*74:01	-	+	+	-	-	-	-	-
19	9038	BM16	*02:01		-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	-	-	-	-	-	-	-
24	9035	JBUSH	*32:01		+	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	+	-	-	-	-	-	-
26	9285	WT49	*02:05		-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*02:01	*29:02	-	-	-	-	-	-	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	+	-	-	-	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	-	-
32	9297	HAG	*02:01		-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-
35	9302	SSTO	*32:01		+	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	-	-	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	-	-	-	-	-	-
38	9099	LZL	*02:17		-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	-	-	-	-	-	-	-	-
40	9134	WHONP199	*02:07	*30:01	-	-	-	-	-	-	-	-
41	9055	H0301	*03:01		-	-	-	-	-	-	-	-
42	9066	TAB089	*02:07		-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	-	-	-	-	-	-
47	9045	TUBO	*02:16	*03:01	-	-	-	-	-	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET

HLA-B low resolution SSP kit

					Well															
					25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
				Prod. No.:	201073401	201073402	201078803	201073404	201185805	201073406	201073407	201073408	201073409	201073410	201073411	201073412	201073413	201073414	201078815	201073416
	IHWC cell line		B*																	
1	9001	SA	*07:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	+	-	-	-	+	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	+
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
15	9075	DKB	*40:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	+	-	-	-	-	-	+	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
20	9059	SLE005	*40:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
27	9191	CH1007	*07:05	*51:01	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
32	9297	HAG	*41:02		-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
37	9065	HHKB	*07:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
39	9315	CML	*08:01	*27:05	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-	+
40	9134	WHONP199	*13:02	*46:01	-	-	+	+	-	-	+	-	-	+	-	+	-	-	-	-
41	9055	H0301	*14:02		-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-

CELL LINE VALIDATION SHEET

HLA-B low resolution SSP kit

					Well															
					41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
				Prod. No.:	201073417	201073418	201078819	201182320	201073421	201073422	201073423	201078824	201078825	201182326	201073427	201073428	201185829	201073430	201182331	201073432
	IHWC cell line		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		+	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	+	-	+	+	-	-	-	-	-	+	-	-
7	9020	QBL	*18:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
11	9051	PITOUT	*44:03		+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
12	9052	DBB	*57:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
14	9071	OLGA	*15:01	*15:20	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	+
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-	+
19	9038	BM16	*18:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	+
24	9035	JBUSH	*38:01		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
28	9320	BEL5GB	*44:02	*44:03	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
29	9050	MOU	*44:03		+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
31	9019	DUCAF	*18:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
36	9024	KT17	*15:01	*35:01	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
38	9099	LZL	*15:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	+
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
41	9055	H0301	*14:02		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
44	9057	TEM	*38:01		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
48	9303	TER-ND	*35:01	*44:03	+	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-

CELL LINE VALIDATION SHEET

HLA-B low resolution SSP kit

					Well													
					57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
				Prod. No.:	201182333	201073434	201073435	201078836	201073437	201078838	201073439	201073440	201073441	201073442	201073443	201073444	201073445	201073446	201073447	200963348
	IHWC cell line		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
2	9280	LK707	*52:01	*73:01	-	-	+	+	-	+	-	-	-	-	-	-	+	+	+	-
3	9011	E4181324	*52:01		-	-	+	+	-	+	-	-	-	-	-	-	-	+	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	+	-	-	-	-	-	-	-	+	-	+	+	-
5	9009	KAS011	*37:01		-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-
6	9353	SM	*39:01	*51:01	-	-	+	+	-	-	-	-	-	-	-	+	-	+	+	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	+	+	-	-	-	-	-	-	+	-
11	9051	PITOUT	*44:03		-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-
12	9052	DBB	*57:01		-	-	-	+	-	-	-	-	-	+	-	-	-	+	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	+	-	-	-	-	-	-	+	-	+	-
15	9075	DKB	*40:01		-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	-
16	9037	SWEIG007	*40:02		-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	-
17	9282	CTM3953540	*08:01	*55:01	-	-	+	-	-	-	-	+	-	-	-	-	-	-	+	+
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	+	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
20	9059	SLE005	*40:01		-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	-
21	9064	AMALA	*15:01		-	-	-	-	-	+	-	-	-	-	-	-	+	-	+	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	+	+	-	-	+	-	+	-	-	-	+	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
26	9285	WT49	*58:01		-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	-
27	9191	CH1007	*07:05	*51:01	-	-	+	+	-	-	-	-	-	-	-	+	-	+	+	+
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	+	+	-	-	-	-	-	-	+	-	-
29	9050	MOU	*44:03		-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
32	9297	HAG	*41:02		-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	+
33	9098	MT14B	*40:01		-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	+	+	-	-	-	-	-	-	+	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	+	-	-	-	-	-	+	+	-	+	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
38	9099	LZL	*15:01		-	-	-	-	-	+	-	-	-	-	-	-	+	-	+	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	+	-	-	-	-	-	-	-	+	+	+
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	+	-	-	-	-	-	-	+	+	+	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
45	9239	SHJO	*42:01	*50:01	-	-	+	-	+	+	-	-	+	-	-	-	-	-	+	+
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
47	9045	TUBO	*51:01		-	-	+	+	-	-	-	-	-	-	-	+	-	+	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	+	-	-	-	-	-	+	-	+	+	-

CELL LINE VALIDATION SHEET

HLA-C low resolution SSP primer set

					Well														
					73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
				Prod. No.:	200963101	201181102	201185903	201181104	201185905	201185906	200963107	200963108	200963109	201185910	201181111	201185912	201181113	200963114	201181115	201181116
	IHWC cell line		C*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
2	9280	LK707	*07:01	*15:05	-	-	+	-	-	-	-	-	+	-	+	-	-	-	+	-
3	9011	E4181324	*12:02		-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
4	9275	GU373	*03:04	*04:01	-	-	+	+	-	+	-	-	-	-	+	-	+	-	-	-
5	9009	KAS011	*06:02		-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-
6	9353	SM	*03:04	*07:02	-	-	+	+	-	-	-	-	+	-	-	-	-	-	-	-
7	9020	QBL	*05:01		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
8	9007	DEM	*04:01		-	-	-	-	-	+	-	-	-	-	+	-	+	-	-	-
9	9026	YAR	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
10	9107	LKT3	*01:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*16:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
12	9052	DBB	*06:02		-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-
13	9004	JESTHOM	*01:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*01:02	*03:04	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*03:04		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*02:02		-	+	+	-	-	+	-	-	-	-	+	-	-	-	+	-
17	9282	CTM3953540	*03:03	*07:01	-	-	-	+	+	-	-	-	+	-	-	-	-	-	-	-
18	9257	32367	*01:02	*07:05	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
19	9038	BM16	*07:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
20	9059	SLE005	*03:04		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*03:03		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
23	9124	IHL	*01:02	*15:02	+	-	+	-	-	-	-	+	-	-	+	-	-	-	+	-
24	9035	JBUSH	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
25	9049	IBW9	*08:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
26	9285	WT49	*07:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:05	-	-	+	-	-	-	-	-	+	-	+	-	-	-	+	-
28	9320	BEL5GB	*05:01	*16:01	-	-	-	-	-	-	+	-	-	-	+	-	+	-	+	-
29	9050	MOU	*16:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
30	9021	RSH	*17:01		-	+	-	-	-	-	-	-	-	-	+	-	-	-	+	-
31	9019	DUCAF	*05:01		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
32	9297	HAG	*17:01	*17:03	-	+	-	-	-	-	-	-	-	-	+	-	-	-	+	-
33	9098	MT14B	*03:04		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
35	9302	SSTO	*05:01		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
36	9024	KT17	*03:03	*04:01	-	-	-	+	+	+	-	-	-	-	+	-	+	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
38	9099	LZL	*03:03		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*02:02	*07:01	-	+	+	-	-	+	-	-	+	-	+	-	-	-	+	-
40	9134	WHONP199	*01:02	*06:02	+	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-
41	9055	H0301	*08:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
42	9066	TAB089	*01:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*01:02	*08:01	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
44	9057	TEM	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
45	9239	SHJO	*06:02	*17:01	-	+	-	-	-	-	-	+	-	-	+	-	-	+	+	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
47	9045	TUBO	*07:04	*15:02	-	-	+	-	-	-	-	+	+	-	+	-	-	-	+	-
48	9303	TER-ND	*04:01	*16:01	-	-	-	-	-	+	-	-	-	-	+	-	+	-	-	-

CELL LINE VALIDATION SHEET

HLA-C low resolution SSP primer set

					Well						
					89	90	91	92	93	94	95
				Prod. No.:	200963117	201181118	201185919	201185920	200963121	200963122	201185923
	IHWC cell line		C*								
1	9001	SA	*07:02		-	-	-	-	-	-	+
2	9280	LK707	*07:01	*15:05	+	-	-	-	+	-	+
3	9011	E4181324	*12:02		-	-	-	-	-	-	-
4	9275	GU373	*03:04	*04:01	-	+	-	-	+	+	-
5	9009	KAS011	*06:02		-	-	-	-	-	-	+
6	9353	SM	*03:04	*07:02	-	-	-	-	+	+	+
7	9020	QBL	*05:01		-	-	-	-	+	-	-
8	9007	DEM	*04:01		-	+	-	-	+	-	-
9	9026	YAR	*12:03		-	-	-	-	-	-	-
10	9107	LKT3	*01:02		-	-	-	+	-	-	-
11	9051	PITOUT	*16:01		-	+	-	-	-	-	+
12	9052	DBB	*06:02		-	-	-	-	-	-	+
13	9004	JESTHOM	*01:02		-	-	-	+	-	-	-
14	9071	OLGA	*01:02	*03:04	-	-	-	+	+	+	-
15	9075	DKB	*03:04		-	-	-	-	+	+	-
16	9037	SWEIG007	*02:02		-	-	-	-	-	-	-
17	9282	CTM3953540	*03:03	*07:01	-	-	-	-	+	+	+
18	9257	32367	*01:02	*07:05	-	-	-	+	-	-	+
19	9038	BM16	*07:01		-	-	-	-	-	-	+
20	9059	SLE005	*03:04		-	-	-	-	+	+	-
21	9064	AMALA	*03:03		-	-	-	-	+	+	-
22	9056	KOSE	*12:03		-	-	-	-	-	-	-
23	9124	IHL	*01:02	*15:02	+	-	-	+	+	-	-
24	9035	JBUSH	*12:03		-	-	-	-	-	-	-
25	9049	IBW9	*08:02		-	-	-	-	+	-	-
26	9285	WT49	*07:01		-	-	-	-	-	-	+
27	9191	CH1007	*07:04	*15:05	+	-	-	-	+	-	+
28	9320	BEL5GB	*05:01	*16:01	-	+	-	-	+	-	+
29	9050	MOU	*16:01		-	+	-	-	-	-	+
30	9021	RSH	*17:01		-	-	+	-	+	-	-
31	9019	DUCAF	*05:01		-	-	-	-	+	-	-
32	9297	HAG	*17:01	*17:03	-	-	+	-	+	-	-
33	9098	MT14B	*03:04		-	-	-	-	+	+	-
34	9104	DHIF	*12:03		-	-	-	-	-	-	-
35	9302	SSTO	*05:01		-	-	-	-	+	-	-
36	9024	KT17	*03:03	*04:01	-	+	-	-	+	+	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	+
38	9099	LZL	*03:03		-	-	-	-	+	+	-
39	9315	CML	*02:02	*07:01	-	-	-	-	-	-	+
40	9134	WHONP199	*01:02	*06:02	-	-	-	+	-	-	+
41	9055	H0301	*08:02		-	-	-	-	+	-	-
42	9066	TAB089	*01:02		-	-	-	+	-	-	-
43	9076	T7526	*01:02	*08:01	-	+	-	+	+	-	-
44	9057	TEM	*12:03		-	-	-	-	-	-	-
45	9239	SHJO	*06:02	*17:01	-	-	+	-	+	-	+
46	9013	SCHU	*07:02		-	-	-	-	-	-	+
47	9045	TUBO	*07:04	*15:02	+	-	-	-	+	-	+
48	9303	TER-ND	*04:01	*16:01	-	+	-	-	+	-	+

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-A-B-C SSP Combi Tray

Product number: **101.702-24/06 – including *Taq* pol.**
Lot number: **17M**
Expiry date: **2013-October-01**
Number of tests: **24 tests – Product No. 101.702-24**
6 tests – Product No. 101.702-06
Number of wells per test: **95 + 1**

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-787-01	9	2010-733-09	17	2010-787-17
2	2010-787-02	10	2010-787-10	18	2010-733-18
3	2010-733-03	11	2010-787-11	19	2010-733-19
4	2010-733-04	12	2010-733-12	20	2010-787-20
5	2010-733-05	13	2010-733-13	21	2010-733-21
6	2010-787-06	14	2010-787-14	22	2010-787-22
7	2010-733-07	15	2010-733-15	23	2010-787-23
8	2010-733-08	16	2010-787-16	24	2010-787-24

The specificity of each primer solution of the kit has been tested against 48 well characterized IHWC cell line DNAs.

Additional 5'- and 3'-primers in primer solutions 4, 5, 7 8, 12, 14 to 17 and 20 to 23 were tested by separately adding one 3'-primer, respectively one 5'-primer. Additional 5'-primers in primer solutions 1 and 10 were tested by separately adding one 3'-primer. Additional 3'-primers in primer solutions 3, 6, 18 and 19 were tested by separately adding one 5'-primer.
In primer solutions 2, 10, 11 and 15 one 5'-primer was not possible to test, and in primer solutions 3, 18 and 19 one 3'-primer was not possible to test.

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
25	2010-734-01	41	2010-734-17	57	2011-823-33
26	2010-734-02	42	2010-734-18	58	2010-734-34
27	2010-788-03	43	2010-788-19	59	2010-734-35
28	2010-734-04	44	2011-823-20	60	2010-788-36
29	2011-858-05	45	2010-734-21	61	2010-734-37
30	2010-734-06	46	2010-734-22	62	2010-788-38
31	2010-734-07	47	2010-734-23	63	2010-734-39
32	2010-734-08	48	2010-788-24	64	2010-734-40
33	2010-734-09	49	2010-788-25	65	2010-734-41
34	2010-734-10	50	2011-823-26	66	2010-734-42
35	2010-734-11	51	2010-734-27	67	2010-734-43
36	2010-734-12	52	2010-734-28	68	2010-734-44
37	2010-734-13	53	2011-858-29	69	2010-734-45
38	2010-734-14	54	2010-734-30	70	2010-734-46
39	2010-788-15	55	2011-823-31	71	2010-734-47
40	2010-734-16	56	2010-734-32	72	2009-633-48

The specificity of each primer solution of the kit has been tested against 48 well characterized IHWC cell line DNAs.

Additional 5'-primers and 3'-primers in primer solutions 27, 30, 38, 43, 53, 55 and 64 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer. Additional 3'-primers in primer solutions 26, 37, 39 and 59 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solutions 25, 45, 49 and 72 were tested by separately adding one additional 3'-primer.
In primer mixes 55 and 66 one 5'-primer was not possible to test, and in primer mixes 62 and 66 one 3'-primer was not possible to test.

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
73	2009-631-01	81	2009-631-09	89	2009-631-17
74	2011-811-02	82	2011-859-10	90	2011-811-18
75	2011-859-03	83	2011-811-11	91	2011-859-19
76	2011-811-04	84	2011-859-12	92	2011-859-20
77	2011-859-05	85	2011-811-13	93	2009-631-21
78	2011-859-06	86	2009-631-14	94	2009-631-22
79	2009-631-07	87	2011-811-15	95	2011-859-23
80	2009-631-08	88	2011-811-16		

The specificity of each primer solution of the kit has been tested against 48 well characterized IHWC cell line DNAs.

Additional 5'-primers and 3'-primers in primer solutions 74, 84, 86, 87 and 94 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer. Additional 3'-primers in primer solution 82, 90 and 91 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solutions 78 and 95 were tested by separately adding one additional 3'-primer.
In primer solution 95 one 5'-primer was not possible to test, and in primer solutions 75, 83, 84, 86 and 90 one or two 3'-primers were not possible to test.

The negative control primer pairs, **Production No. 2010-760-01**, can detect contamination with PCR products diluted 10^{-7}.

Results: No false positive or false negative amplifications were obtained.

Date of approval: 2011-October-06

Approved by:

Production Quality Control

Declaration of Conformity

Product name: *Olerup* SSP® HLA-A-B-C SSP Combi Tray
Product number: 101.702-24/06
Lot number: 17M

Intended use: HLA-A, HLA-B and HLA-C low resolution histo-compatibility testing

Manufacturer: *Olerup* SSP AB
Franzengatan 5
SE-112 51 Stockholm, Sweden
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We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

The Technical Documentation File is maintained at *Olerup* SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

The Authorized Representative located within the Community is: *Olerup* SSP AB.

Notified Body: Lloyd's Register Quality Assurance Limited, Hiramford, Middlemarch Office Village, Siskin Drive, Coventry CV3 4FJ, United Kingdom. (Notified Body number: 0088.)

Stockholm, Sweden
2011-October-06

Ann-Cathrin Jareman
Head of QA and Regulatory Affairs

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