

## Olerup SSP<sup>®</sup> HLA-A-B-C SSP Combi Tray

Product number:	101.702-24/06 – including Taq pol.
Lot number:	45M
Expiry date:	2014-February-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. 45M.**

### CHANGES COMPARED TO THE PREVIOUS OLERUP SSP<sup>®</sup> 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<sup>®</sup> HLA-A-B-C SSP Combi Tray lot was made (**Lot No. 17M**).

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

Well	5'-primer	3'-primer	rationale
12	Added	-	Increased yield of HLA-specific PCR product.

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

The HLA-B low primer set is unchanged compared to the previous lot.

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

The HLA-C low primer set is unchanged compared to the previous lot.

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.

Change in revision R05 compared to R04:

1. Primer mix 43 does not amplify the B\*44:10 allele. This has been corrected in the Specificity and Interpretation Tables.

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Well 96 contains Negative Control primer pairs, that will amplify more than 95% of the Olerup SSP<sup>®</sup> 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
<b>5'-primer<sup>1</sup></b>	<b>164</b>	<b>340</b>	<b>440</b>	<b>45</b>	<b>45</b>	<b>43</b>
	5'-CAC <sup>3'</sup>	5'-Agg <sup>3'</sup>	5'-TTA <sup>3'</sup>	5'-Tg g <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-Tgg <sup>3'</sup>
<b>3'-primer<sup>2</sup></b>	<b>231</b>	<b>2<sup>nd</sup> I</b>	<b>507</b>	<b>59</b>	<b>58</b>	<b>57</b>
	5'-TgC <sup>3'</sup>	5'-AAA <sup>3'</sup>	5'-TTg <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CTC <sup>3'</sup>
<b>A*</b>	<b>+</b>	<b>+</b>	<b>+</b>			
<b>B*</b>	<b>+</b>	<b>+</b>	<b>+</b>			
<b>C*</b>	<b>+</b>	<b>+</b>	<b>+</b>			
<b>DRB1</b>				<b>+</b>	<b>+</b>	
<b>DRB3</b>				<b>+</b>	<b>+</b>	
<b>DRB5</b>				<b>+</b>		
<b>DQB1</b>					<b>+</b>	
<b>DPB1</b>						<b>+</b>

<sup>1</sup>The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2<sup>nd</sup> or 3<sup>rd</sup> 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](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>2</sup>The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2<sup>nd</sup> or 3<sup>rd</sup> exon or the 2<sup>nd</sup> 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](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

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## 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. '45M'.

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

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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 be 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 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<sup>1</sup> 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<sup>2</sup>.

All the HLA-B alleles, i.e. **B\*07:02 to B\*83:01**, recognized by the HLA Nomenclature Committee in October 2010<sup>1</sup> 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<sup>3</sup>.

All the HLA-C alleles, i.e. **C\*01:02 to C\*18:04**, recognized by the HLA Nomenclature Committee in October 2010<sup>1</sup> 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<sup>4</sup>.

<sup>1</sup>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](http://www.ebi.ac.uk/imgt/hla).

<sup>2</sup>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.

<sup>3</sup>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.

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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 with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

<sup>4</sup>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.

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## 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 <sup>1</sup>	Size of control band <sup>2</sup>	HLA-A serology <sup>3</sup>	Amplified HLA-A alleles <sup>4,6</sup>
1 <sup>7,8</sup>	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 <sup>8,12</sup>	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 <sup>w</sup> , 02:79:01-02:97:02, 02:99, 02:101:01-02:128, 02:130-02:282
3 <sup>9</sup>	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 <sup>13</sup>	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 <sup>10</sup>	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>B*18:27</b>
7	175 bp, 200 bp	1070 bp	A2, A3, A9, A23, A24, A2403, A26	*02:17:01 <sup>w</sup> -02:17:02 <sup>w</sup> , 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 <sup>7</sup>	75 bp	800 bp	A3, A25, A32	*25:01:01-25:13, 32:01:01-32:02, 32:04, 32:06-32:30

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<b>10<sup>7</sup></b>	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
<b>11<sup>7,8</sup></b>	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
<b>12</b>	185 bp	<b>800 bp</b>	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
<b>13<sup>12</sup></b>	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 <sup>w</sup> , 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
<b>14<sup>7</sup></b>	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
<b>15<sup>7,8,12</sup></b>	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
<b>16</b>	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
<b>17</b>	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
<b>18</b>	200 bp	1070 bp	A33, A68	*02:243, 33:01:01-33:01:05, 33:03:01-33:34, 68:29
<b>19</b>	160 bp, 200 bp	<b>800 bp</b>	A74	*29:19, 74:01-74:14N
<b>20<sup>10</sup></b>	220 bp, 245 bp	<b>800 bp</b>	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
<b>21</b>	240 bp, 375 bp	<b>800 bp</b>	A2, A26, A28, A68, A69	*02:55, 02:243, 24:82, 26:22, 33:22, 66:09, 68:29, 69:01
<b>22<sup>7,11</sup></b>	85 bp, 240 bp	<b>800 bp</b>	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
<b>23<sup>7,10</sup></b>	75 bp, 160 bp, 240 bp, 495 bp	<b>800 bp</b>	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
<b>24<sup>12</sup></b>	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

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<sup>1</sup>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 inherent 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.

<sup>2</sup>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.

<sup>3</sup>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.

<sup>4</sup>For several HLA-A alleles only partial 1<sup>st</sup> 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.

<sup>5</sup>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.

<sup>6</sup>Primer mix 6 will amplify the B\*18:27 allele.

<sup>7</sup>Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

<sup>8</sup>The primer pairs in wells 1, 2, 11 and 15 will in many samples give rise to two or three HLA-specific PCR fragments.

<sup>9</sup>Primer mix 3 may faintly amplify the A\*30:04, 30:06, 30:17 and 30:29 alleles.

<sup>10</sup>Primer mixes 6, 20 and 23 may have a tendency of primer dimer formation.

<sup>11</sup>Primer mix 22 might faintly amplify most A\*11 alleles.

<sup>12</sup>Primer mixes 2, 13, 15 and 24 may yield less specific PCR product than the other HLA-A low primer mixes.

<sup>13</sup>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.



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## 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 <sup>1</sup>	Size of control band <sup>2</sup>	HLA-B serol. <sup>3</sup>	Amplified HLA-B alleles <sup>4-6</sup>
<b>25<sup>7,11</sup></b>	110 bp	<b>800 bp</b>	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, <b>C*02:23, C*04:77</b>
<b>26</b>	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
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<b>50</b>	290 bp	1070 bp	21, 4005, 41, 50, 60, 61	40:137-40:141, 40:146-40:147, 40:149-40:156, 44:31, 46:06, 48:03:01-48:03:02, 48:17, 48:23 *18:48, 40:02:01-40:06:03, 40:08, 40:09 <sup>?</sup> -40:11:02 <sup>?</sup> , 40:13, 40:14:01 <sup>?</sup> -40:15 <sup>?</sup> , 40:18 <sup>?</sup> -40:19 <sup>?</sup> , 40:20, 40:22N <sup>?</sup> , 40:24 <sup>?</sup> -40:38 <sup>?</sup> , 40:39, 40:42 <sup>?</sup> -40:45 <sup>?</sup> , 40:47 <sup>?</sup> -40:50 <sup>?</sup> , 40:52 <sup>?</sup> -40:58 <sup>?</sup> , 40:61 <sup>?</sup> -40:65 <sup>?</sup> , 40:67 <sup>?</sup> -40:69 <sup>?</sup> , 40:70, 40:71 <sup>?</sup> , 40:72:02 <sup>?</sup> , 40:74 <sup>?</sup> -40:76 <sup>?</sup> , 40:78 <sup>?</sup> , 40:80 <sup>?</sup> -40:82 <sup>?</sup> , 40:84 <sup>?</sup> -40:88 <sup>?</sup> , 40:89, 40:90 <sup>?</sup> -40:92 <sup>?</sup> , 40:94, 40:95 <sup>?</sup> -40:96 <sup>?</sup> , 40:97, 40:98 <sup>?</sup> -40:121 <sup>?</sup> , 40:122, 40:123 <sup>?</sup> , 40:124:02 <sup>?</sup> -40:136 <sup>?</sup> , 40:141 <sup>?</sup> , 40:142N-40:144N, 40:145 <sup>?</sup> , 40:148 <sup>?</sup> -40:149 <sup>?</sup> , 40:151 <sup>?</sup> , 40:154 <sup>?</sup> , 40:156 <sup>?</sup> -40:158 <sup>?</sup> , 47:01:01:01-47:07
<b>51<sup>7</sup></b>	105 bp	1070 bp	7, 8, 22, 41, 42	*07:04, 07:25, 08:01:01-08:05, 08:07-08:12:03, 08:14-08:19N, 08:21-08:24, 08:26-08:39, 08:41-08:54, 08:56-08:66, 35:87, 40:136, 41:01-41:08, 41:10-41:16, 42:01:01-42:02, 42:04-42:07, 42:09-42:14, 55:20
<b>52</b>	325 bp	1070 bp	7, 22, 27, 2708, 35, 42, 45, 46, 54, 55, 56, 67, 73, 78, 81, 82	*07:02:01-07:02:20, 07:04-07:07, 07:09-07:15, 07:17-07:26, 07:28-07:31, 07:33-07:36, 07:39-07:46, 07:47 <sup>w</sup> , 07:48-07:49N, 07:51-07:68:02, 07:70-07:84, 07:86-07:117, 15:76, 15:101, 27:01-27:11, 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, 38:26, 42:01:01-42:02, 42:04-42:06, 42:08-42:10, 42:12-42:14, 44:90, 44:97, 45:06, 46:01:01-46:01:05, 46:02 <sup>w</sup> , 46:03-46:26, 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, 67:01:01-67:03, 73:01-73:02, 81:01-81:05, 82:01-82:03, 83:01
<b>53<sup>7</sup></b>	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, <b>C*15:25</b>
<b>54</b>	215 bp	<b>800 bp</b>	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
<b>55</b>	130 bp, 270 bp	1070 bp	17, 18, 22, 35, 37, 46, 51, 53, 62, 78	*14:10, 15:57 <sup>w</sup> , 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, <b>C*15:39</b>

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<b>56<sup>7,14</sup></b>	90 bp, 410 bp	1070 bp	15, 22, 27, 35, 47, 54, 55, 56, 78, 81, 82	*07:65, 27:01 <sup>w</sup> , 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
<b>57<sup>7</sup></b>	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 <sup>w</sup> , 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
<b>58</b>	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
<b>59<sup>7</sup></b>	120 bp, 210 bp	<b>800 bp</b>	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 <sup>w</sup> , 15:04 <sup>w</sup> , 15:16:01, 15:42, 15:67, 15:95, 15:137 <sup>w</sup> , 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 <sup>w</sup> , 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 <sup>w</sup> , 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
<b>60</b>	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
<b>61</b>	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 <sup>?</sup> , 41:06-41:16, 44:09, 44:46, 44:75, 44:90, 45:01-45:13, 47:02, 47:03 <sup>w</sup> , 50:01:01-50:02, 50:04-50:05, 50:07-50:12
<b>62</b>	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,

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			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
<b>63<sup>9,10</sup></b>	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
<b>64</b>	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, <b>C*15:02:04</b>
<b>65</b>	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, <b>C*03:12, C*03:19, C*03:102</b>
<b>66<sup>7,11</sup></b>	90 bp, 240 bp	<b>800 bp</b>	57	*55:14, 57:01:01-57:37



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<b>67<sup>7,14</sup></b>	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, <b>C*02:06<sup>W</sup></b>
<b>68<sup>7,9</sup></b>	95 bp	1070 bp	8, 18, 22, 35, 37, 38, 39, 44, 51, 5102, 5103, 53, 78	*07:65 <sup>W</sup> , 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 <sup>W</sup> , 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 <sup>W</sup> , 78:01- 78:04, 78:07
<b>69<sup>7</sup></b>	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, <b>A*68:56, C*06:20, C*12:50</b>
<b>70<sup>15</sup></b>	360 bp	1070 bp	Bw4	
<b>71</b>	350 bp	1070 bp	Bw6	
<b>72</b>	285 bp	<b>800 bp</b>	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

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<sup>1</sup>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 inherent 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.

<sup>2</sup>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.

<sup>3</sup>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.

<sup>4</sup>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.

<sup>5</sup>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 with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

<sup>6</sup>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 be 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.

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<sup>7</sup>Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

<sup>8</sup>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.

<sup>9</sup>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.

<sup>10</sup>Primer mixes 33, 34, 44 and 63 may give rise to nonspecific amplifications, most pronounced in primer mix 33.

<sup>11</sup>Primer mixes 25, 43, 44, 46 and 66 may give rise to a primer oligomer artifact.

<sup>12</sup>The B\*57 and B\*58 alleles might be faintly amplified by primer mix 33.

<sup>13</sup>The C\*17:01 to C\*17:04 alleles might be faintly amplified by primer mix 49.

<sup>14</sup>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.

<sup>15</sup>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 <sup>1</sup>	Size of control band <sup>2</sup>	Amplified HLA class I <sup>3,4</sup> alleles
73 <sup>13</sup>	155 bp	800 bp	*01:02:01-01:45, <b>B*54:18</b>
74 <sup>6,12</sup>	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 <sup>13</sup>	280 bp	800 bp	*02:02:01-02:02:03, 02:02:05-02:03, 02:04 <sup>w</sup> , 02:05-02:13, 02:14 <sup>w</sup> , 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 <sup>7</sup>	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 <sup>w</sup> , 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 <sup>12</sup>	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 <sup>11</sup>	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 <sup>8,11</sup>	245 bp, 425 bp	800 bp	*07:01:01-07:33N, 07:35-07:160
82 <sup>5,9,13</sup>	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,

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			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
<b>84</b> <sup>5,11</sup>	100 bp, 160 bp, 220 bp	<b>800 bp</b>	*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
<b>85</b> <sup>5,12,13</sup>	120 bp, 250 bp	<b>800 bp</b>	*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>B*67:02</b>
<b>86</b> <sup>13,14</sup>	160 bp, 220 bp	<b>800 bp</b>	*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
<b>87</b> <sup>13</sup>	130 bp, 255 bp, 555 bp	1070 bp	*02:02:01 <sup>w</sup> , 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
<b>88</b> <sup>12,13</sup>	255 bp	1070 bp	*04:11, 04:29, 04:36, 04:55, 07:64, 14:02:01-14:11, 14:13-14:25
<b>89</b> <sup>5,10,11,13</sup>	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
<b>90</b> <sup>12</sup>	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

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<b>91</b>	225 bp, 250 bp	<b>800 bp</b>	*04:58, 05:23, 08:07, 12:14:01-12:14:02, 14:17, 15:25, 17:01:01:01-17:08
<b>92</b>	215 bp, 425 bp	<b>800 bp</b>	*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>B*14:03</b>
<b>93</b>	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
<b>94<sup>12,13</sup></b>	135 bp	1070 bp	*03:02:01-03:17, 03:19-03:38:02, 03:40-03:66, 03:67 <sup>w</sup> , 03:68-03:98, 03:100-03:102, 04:32, 04:77, 06:03, 07:96, 14:25, 15:43, 18:03
<b>95</b>	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, <b>A*24:106, B*46:25</b>
<b>96<sup>15</sup></b>	<b>Negative control</b>		-

<sup>1</sup>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 inherent 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.

<sup>2</sup>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

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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.

<sup>3</sup>For several HLA-C alleles only partial 1<sup>st</sup> and 4<sup>th</sup> 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.

<sup>4</sup>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.

<sup>5</sup>Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

<sup>6</sup>Primer mix 74 will for most C\*02 alleles give rise to two specific PCR fragments.

<sup>7</sup>Primer mix 76 will for most C\*03 alleles give rise to two specific PCR fragments.

<sup>8</sup>Primer mix 81 will for most C\*07 alleles give rise to two specific PCR fragments.

<sup>9</sup>Primer mix 82 will for most C\*08 alleles give rise to multiple specific PCR fragments.

<sup>10</sup>Primer mix 89 will for most C\*15 alleles give rise to two specific PCR fragments.

<sup>11</sup>Primer mixes 80, 81, 84 and 89 may give rise to unspecific amplification.

<sup>12</sup>Primer mixes 74, 78, 85, 88, 90 and 94 have a tendency of giving rise to primer oligomer artifacts.

<sup>13</sup>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.

<sup>14</sup>Primer mix 86 might faintly amplify most C\*01 and the C\*14 alleles.

<sup>15</sup>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.

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<b>INTERPRETATION TABLE</b>																									
<b>HLA-A low resolution SSP typing</b>																									
<b>Amplification patterns of the A*01:01 to A*80:02 alleles</b>																									
	<b>Well<sup>6</sup></b>																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
<b>Length of spec.</b>																									
<b>PCR product(s)</b>	225 140 120	415 365 255 210	235 205	190	535 160	210 175 135	200 175	200 165	75	85	500 175 80	185	225 175	240 200 100	205 135 90	395 370 240	180 140	200	200 160	245 220	375 240	240 85	495 240 160 75	360	
<b>Length of int. pos. control<sup>1</sup></b>	800	800	1070	800	800	800	1070	800	800	1070	1070	800	1070	1070	1070	1070	1070	1070	800	800	800	800	800	1070	
<b>5'-primer(s)<sup>2</sup></b>	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	413	317	368	368	102	266	259	302	423	423	238	362	355	203	203	106	261	527	261	261	341	
	5'-CCT 3'	5'-TCT 3'	5'-CCg 3'	5'-ACA 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'-AgC 3'	5'-CCA 3'	5'-CCA 3'	5'-AAC 3'	5'-TgC 3'	5'-AAC 3'	5'-ggA 3'	
	123	106						413		261	385			355	363				2 <sup>nd</sup>				341		
	5'-AgT 3'	5'-CCA 3'						5'-CCg 3'		5'-AAC 3'	5'-ggC 3'			5'-CCg 3'	5'-ATA 3'				5'-CCT 3'	5'-CCT 3'	5'-AAC 3'	5'-TgC 3'	5'-ggA 3'		
	363																								
	5'-ATA 3'																						355		
<b>3'-primer(s)<sup>3</sup></b>	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'-TCg 3'	5'-TCA 3'	5'-TCA 3'	5'-CAA 3'	5'-CCC 3'	5'-CCA 3'	5'-ggT 3'	5'-CCC 3'	5'-gTg 3'	5'-gTC 3'	
	545	292	527	559	570	502	502	538	559	521	559	282	299	411	265	317	256	299	341	282	355	282	292	418	
	5'-AgA 3'	5'-gTg 3'	5'-CCT 3'	5'-CCg 3'	5'-CCg 3'	5'-CTg 3'	5'-CTT 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'-CCA 3'	5'-gAC 3'	5'-gAC 3'	5'-gAC 3'	5'-gTt 3'	5'-gTC 3'	
	555	555	555	555	555	538	539	538	559	559	559	559	559	555	555	555	555	555	555	555	555	555	555	555	
	5'-CCA 3'	5'-gCA 3'				5'-Cag 3'	5'-TCT 3'	5'-TCT 3'	5'-CCA 3'	5'-ggT 3'	5'-CTC 3'	5'-CCg 3'	5'-gTC 3'	5'-CCA 3'	5'-CCA 3'	5'-CCA 3'	5'-CCA 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-gAC 3'	5'-gAC 3'	5'-CCA 3'	5'-gTC 3'	
	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	502	
	5'-TgT 3'	5'-CTT 3'																							
<b>Well No.</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	





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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 <sup>4</sup>	ser <sup>5</sup>																								
*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

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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 <sup>4</sup>	ser <sup>5</sup>																								
*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 <sup>7</sup>	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

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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 <sup>4</sup>	ser <sup>5</sup>																								
*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

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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 <sup>4</sup>	ser <sup>5</sup>																								
*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

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<sup>1</sup>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.

<sup>2</sup>The nucleotide position, in the 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the [www.ebi.ac.uk, imgt, hla](http://www.ebi.ac.uk, imgt, hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>3</sup>The nucleotide position, in the 2<sup>nd</sup> or 3<sup>rd</sup> 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](http://www.ebi.ac.uk, imgt, hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>4</sup>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.

<sup>5</sup>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.

<sup>6</sup>The primer pairs in wells 1, 2, 11 and 15 will in many samples give rise to two or three HLA-specific PCR fragments.

<sup>7</sup>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			330 220	390 190		195			435 395	150				400 245					425																						
Length of int. pos. control <sup>1</sup>		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) <sup>2</sup>		5'-TgA <sup>3'</sup> 527	5'-TCg <sup>3'</sup> 97	5'-ggC <sup>3'</sup> 209	5'-CCg <sup>3'</sup> 103	5'-CCT <sup>3'</sup> 103	5'-CCg <sup>3'</sup> 103	5'-ggA <sup>3'</sup> 45	5'-ggA <sup>3'</sup> 45	5'-ggA <sup>3'</sup> 45	5'-TTA <sup>3'</sup> 420	5'-AgA <sup>3'</sup> 206	5'-gTC <sup>3'</sup> 419	5'-TCT <sup>3'</sup> 142	5'-ggA <sup>3'</sup> 45	5'-Cgg <sup>3'</sup> 161	5'-gCT <sup>3'</sup> 167	5'-TCA <sup>3'</sup> 355	5'-gAC <sup>3'</sup> 206	5'-ggA <sup>3'</sup> 45	5'-TCT <sup>3'</sup> 142	5'-ggC <sup>3'</sup> 409	5'-gAA <sup>3'</sup> 246	5'-ggC <sup>3'</sup> 44																							
		5'-gAC <sup>3'</sup> 540		5'-AgC <sup>3'</sup> 363	5'-CCg <sup>3'</sup> 103	5'-CCT <sup>3'</sup> 103	5'-Agg <sup>3'</sup> 418		5'-Tgg <sup>3'</sup> 357	5'-AAA <sup>3'</sup> 435	5'-TTA <sup>3'</sup> 420	5'-TTA <sup>3'</sup> 420	5'-gTC <sup>3'</sup> 419	5'-gAC <sup>3'</sup> 540						5'-gTT <sup>3'</sup> 368	5'-gTC <sup>3'</sup> 368	5'-TTA <sup>3'</sup> 420		5'-Tgg <sup>3'</sup> 357																							
				5'-AgC <sup>3'</sup> 363	5'-AgT <sup>3'</sup> 361	5'-AAT <sup>3'</sup> 363			5'-ATA <sup>3'</sup> 412												5'-ggA <sup>3'</sup> 557																										
3'-primer(s) <sup>3</sup>		5'-gCT <sup>3'</sup> 605	5'-TgA <sup>3'</sup> 272	5'-gTg <sup>3'</sup> 309	5'-CgT <sup>3'</sup> 193	5'-TAT <sup>3'</sup> 246	5'-TAT <sup>3'</sup> 246	5'-Tgg <sup>3'</sup> 165	5'-CCT <sup>3'</sup> 206	5'-TCC <sup>3'</sup> 266	5'-CTC <sup>3'</sup> 559	5'-TgC <sup>3'</sup> 272	5'-TAT <sup>3'</sup> 3rd	5'-gTC <sup>3'</sup> 301	5'-TgC <sup>3'</sup> 272	5'-TCT <sup>3'</sup> 234	5'-TCT <sup>3'</sup> 204	5'-gCT <sup>3'</sup> 463	5'-ggC <sup>3'</sup> 302	5'-gTT <sup>3'</sup> 259	5'-ggg <sup>3'</sup> 311	5'-ggT <sup>3'</sup> 544	5'-gga <sup>3'</sup> 317	5'-TgC <sup>3'</sup> 272																							
			5'-CAG <sup>3'</sup> 559	5'-CgT <sup>3'</sup> 193	5'-gTg <sup>3'</sup> 583	5'-TAT <sup>3'</sup> 246	5'-gCC <sup>3'</sup> 572		5'-gTC <sup>3'</sup> 538	5'-CAG <sup>3'</sup> 559		5'-gCg <sup>3'</sup> 572		5'-gTC <sup>3'</sup> 570	5'-ATC <sup>3'</sup> 605	5'-TgA <sup>3'</sup> 272				5'-gTT <sup>3'</sup> 259	5'-gga <sup>3'</sup> 557		5'-gCg <sup>3'</sup> 572																								
				5'-gTg <sup>3'</sup> 583		5'-CTC <sup>3'</sup> 559			5'-gTg <sup>3'</sup> 583	5'-gTg <sup>3'</sup> 583				5'-gCg <sup>3'</sup> 572	5'-gTC <sup>3'</sup> 570	5'-TgA <sup>3'</sup> 272				5'-gTC <sup>3'</sup> 266	5'-gTC <sup>3'</sup> 538		5'-gCg <sup>3'</sup> 477																								
														5'-gCg <sup>3'</sup> 572	5'-gTC <sup>3'</sup> 570	5'-TgA <sup>3'</sup> 272				5'-TCC <sup>3'</sup> 272	5'-gTC <sup>3'</sup> 538																										
															5'-gTC <sup>3'</sup> 570	5'-TgA <sup>3'</sup> 272				5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																										
																5'-TgA <sup>3'</sup> 272				5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																										
																	5'-gCg <sup>3'</sup> 572			5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																										
																		5'-gCg <sup>3'</sup> 572			5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																									
																			5'-gCg <sup>3'</sup> 572		5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																									
																			5'-gCg <sup>3'</sup> 572		5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																									
																			5'-gCg <sup>3'</sup> 572		5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																									
																			5'-gCg <sup>3'</sup> 572		5'-gTT <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538																									
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																						

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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	175	145	430	210	430	145	300	160	180	180	90	95	115	360	350	285	Length of spec. PCR product(s)							
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 <sup>1</sup>							
5'-Agg <sup>3'</sup> 363	5'-TCA <sup>3'</sup> 355	5'-gCT <sup>3'</sup> 72	5'-gAC <sup>3'</sup> 540	5'-TCA <sup>3'</sup> 355	5'-ATT <sup>3'</sup> 141	5'-ggC <sup>3'</sup> 209	5'-CTg <sup>3'</sup> 41	5'-AgC <sup>3'</sup> 363	5'-ggC <sup>3'</sup> 209	5'-gAA <sup>3'</sup> 206	5'-gCC <sup>3'</sup> 48	5'-Tgg <sup>3'</sup> 357	5'-Cag <sup>3'</sup> 49	5'-gAA <sup>3'</sup> 206	5'-Cag <sup>3'</sup> 1st I	5'-Agg <sup>3'</sup> 418	5'-gCA <sup>3'</sup> 15	5'-TTA <sup>3'</sup> 420	5'-ATT <sup>3'</sup> 141	5'-TTA <sup>3'</sup> 420	5'-ggC <sup>3'</sup> 209	5'-TAC <sup>3'</sup> 369	5'-gGA <sup>3'</sup> 209	5'-gAC <sup>3'</sup> 206	5'-ACC <sup>3'</sup> 165	5'-Cag <sup>3'</sup> 1st I	5'-Cag <sup>3'</sup> 1st I	5'-TCA <sup>3'</sup> 355	5'-AgC <sup>3'</sup> 363	5'-TCA <sup>3'</sup> 355	5'-primer(s) <sup>2</sup>
5'-ggA <sup>3'</sup> 499	5'-TgT <sup>3'</sup> 193	5'-gCT <sup>3'</sup> 605	5'-gTg <sup>3'</sup> 603	5'-gCg <sup>3'</sup> 572	5'-gTC <sup>3'</sup> 538	5'-ATC <sup>3'</sup> 309	5'-gTC <sup>3'</sup> 299	5'-gCg <sup>3'</sup> 499	5'-gTT <sup>3'</sup> 259	5'-ATC <sup>3'</sup> 309	5'-CCT <sup>3'</sup> 527	5'-TCT <sup>3'</sup> 435	5'-ATC <sup>3'</sup> 309	5'-ggT <sup>3'</sup> 311	5'-CTC <sup>3'</sup> 259	5'-gTC <sup>3'</sup> 538	5'-CCg <sup>3'</sup> 175	5'-CgT <sup>3'</sup> 559	5'-ggT <sup>3'</sup> 311	5'-Cag <sup>3'</sup> 559	5'-CTT <sup>3'</sup> 259	5'-CCC <sup>3'</sup> 256	5'-CTC <sup>3'</sup> 256	5'-gTT <sup>3'</sup> 259	5'-CCA <sup>3'</sup> 538	5'-TgC <sup>3'</sup> 272	5'-ggA <sup>3'</sup> 317	5'-ggT <sup>3'</sup> 311	5'-gCT <sup>3'</sup> 605	5'-gTg <sup>3'</sup> 603	3'-primer(s) <sup>3</sup>
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.							

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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 <sup>4</sup>	ser. <sup>5</sup>																									
*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						48
*07:28	B7	25					30																			48
*07:36, 07:81	B7, -	25																								48
*07:38	-	25																								48
*07:47	B7	25																								48
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HLA-B allele <sup>4</sup>	ser. <sup>5</sup>																									
*39:18	B39					29																	45		47	48
*39:19:01	B39																		42				45		47	48
*39:19:02	B39					29													42				45		47	48
*39:22	B39					29																	45		47	48
*39:36	-					29																			47	48
*39:39	B39					29						35											45			48
*39:42	B39					29													41				45		47	48
*39:43	-					29							36												47	48
*39:58	-					29																	45			48
*40:01:01-40:01:06, 40:01:08-40:01:10, 40:01:12-40:01:17, 40:07, 40:51, 40:66, 40:73, 40:79, 40:124:01, 40:139- 40:140, 40:146-40:147, 40:150, 40:152-40:153, 40:155N	B60, -, -, Null					28																				48
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*40:01:11	-					28																				48
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*40:03, 40:20	B61												36													
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*40:06:01:01-40:06:03, 40:70	B61, -																									48
*40:08	B61, -																									
*40:09, 40:11:01- 40:11:02, 40:18, 40:24, 40:27:01, 40:29, 40:35, 40:37, 40:50, 40:56- 40:57, 40:64, 40:78, 40:82, 40:85, 40:90- 40:91, 40:99, 40:104, 40:107, 40:111, 40:115, 40:119-40:120, 40:133Q, 40:145	B61, -																									?
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	

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																				69	71			B39	*39:18		
																			68			71			B39	*39:19:01	
																			68				71		B39	*39:19:02	
												62											71		B39	*39:22	
																				69			71		–	*39:36	
																							71		B39	*39:39	
																							71		B39	*39:42	
																							71		–	*39:43	
																							71		–	*39:58	
49												61	62										71		B60, –, –, Null	*40:01:01-40:01:06, 40:01:08-40:01:10, 40:01:12-40:01:17, 40:07, 40:51, 40:66, 40:73, 40:79, 40:124:01, 40:139- 40:140, 40:146-40:147, 40:150, 40:152-40:153, 40:155N	
												61	62										71		B60	*40:01:07, 40:72:01, 40:77	
49												61	62	64									71		–	*40:01:11	
50												61	62										71		B61, B41, Null, –	*40:02:01-40:02:11, 40:04, 40:39, 40:89, 40:94, 40:97, 40:122, 40:142N-40:144N	
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50												61	62										71		B61, –	*40:06:01:01-40:06:03, 40:70	
50												61											71		B61, –	*40:08	
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HLA-B allele <sup>4</sup>	ser. <sup>5</sup>																									
*40:10:01-40:10:02, 40:22N, 40:33, 40:36, 40:42-40:43, 40:49, 40:54- 40:55, 40:61-40:63, 40:65, 40:67, 40:81, 40:84, 40:87:01-40:88, 40:92, 40:100-40:102, 40:108, 40:112-40:114, 40:116, 40:118N, 40:123, 40:124:02-40:126, 40:128, 40:130, 40:134, 40:141, 40:151, 40:154, 40:156	B60, Null, –				28																					?
*40:12	B60, B48								32			35								43						
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*40:14:01-40:14:03, 40:121, 40:129	B60, –				28																					?
*40:15, 40:32	B40, –	25			28																					?
*40:16	B61	25			28																					48
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*40:28	–										33								41							?
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*40:31, 40:45, 40:80	B60, –				28																					?
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*40:40	B61																									
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*40:58	B40				28																					?
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*40:71	B61				27																					?
*40:74, 40:149	B60, –																									?
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	?											61	62									71		B60, –	*40:14:01-40:14:03, 40:121, 40:129
	?											61	62									71	72	B40, –	*40:15, 40:32
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49	?											61										71		B40, B60, –	*40:25, 40:69, 40:106
	?											61	62									71		B21	*40:26
	?				55							61	62									71		–	*40:28
49	?											61	62									71	72	B60	*40:30, 40:34
	?							57				61	62									71	72	B60, –	*40:31, 40:45, 40:80
49	?											61	62									71		B60	*40:38, 40:52
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	?											61	62									71		B61, –	*40:44, 40:75, 40:86, 40:103, 40:127, 40:131
49													62									71		B60	*40:46
49	?												62									70		B40	*40:47
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	?											61	62									71		B61, B60	*40:53, 40:72:02
	?											61	62		64							71		B40	*40:58
49												61	62									71	72	B40	*40:59
49												61	62									71		–	*40:60
	?											61										71		–	*40:68
	?											61	62			65	67					71		B61	*40:71
49	?											61	62									71		B60, –	*40:74, 40:149

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HLA-B allele <sup>4</sup>	ser. <sup>5</sup>																								
*40:76	B60				28																				
*40:83	-																								48
*40:93	-											35					40								48
*40:95	-																								?
*40:96	-																								48
*40:98	-	25																							?
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*40:109	-																								48
*40:110	-				28																				48
*40:117	-				28																				
*40:132	-				28																				?
*40:135	-				28																				
*40:136	-	25			28				32								38								?
*40:137	-																								?
*40:138	-																								48
*40:148	-																								48
*40:157	-																								
*40:158	-	25			28								36												?
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*41:04, 41:10	B41, -				28																				48
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*41:08	B41	25			28				32								38								48
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*42:01:01-42:02, 42:06, 42:10, 42:12	B42, -								32																48
*42:04	B42								32																48
*42:05:01-42:05:02	B42	25							32								38								48
*42:08	B42								32																48
*42:09	B42												36												48
*42:11	-								32			35													48
*42:13	-								32																48
*42:14	-								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

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																				ser. <sup>5</sup>		HLA-B allele <sup>4</sup>			
49	?											62												B60	*40:76
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												62										71		-	*40:93
	?								59			61	62									71		-	*40:95
	?											62							70					-	*40:96
	?											61	62									71	72	-	*40:98
	?											61	62									71		-	*40:105
	?								58	60		62										70		-	*40:109
	?											62										70		-	*40:110
49	?								58	60		62										70		-	*40:117
49	?			53								61	62									71		-	*40:132
49	?											61	62									71		-	*40:135
	?	51										61	62									71		-	*40:136
49												62										71	72	-	*40:137
49												61	62									71		-	*40:138
	?								59			61	62									71		-	*40:148
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	51			54								61	62									71		B41, -	*41:01, 41:06-41:07, 41:12, 41:14, 41:16
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	51											61	62									71	72	B41, -	*41:04, 41:10
	51			54								? 62										71		B41	*41:05
	51											61	62									71		B41	*41:08
				54								61	62									71		B45, -	*41:09, 45:02-45:03 <sup>9</sup>
	51	52																				71	72	B42, -	*42:01:01-42:02, 42:06, 42:10, 42:12
	51	52		54																		71		B42	*42:04
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	51	52																				71	72	B42	*42:09
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	51	52	53																			71	72	-	*42:13
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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.	

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HLA-B allele <sup>4</sup>	ser. <sup>5</sup>																									
*44:02:01:01-44:02:14, 44:11, 44:19N, 44:21- 44:24, 44:27:01, 44:33- 44:34, 44:48, 44:52N, 44:55, 44:59, 44:63, 44:66- 44:68, 44:71-44:74, 44:80, 44:84, 44:86- 44:87, 44:89, 44:93, 44:101-44:102, 44:104, 44:112-44:113	B44, Null, -				28													41								
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*44:06	B44																	41								
*44:08	B44			w														41								
*44:09	B45				28													41								
*44:10	B44				28							35						41								
*44:12	B44				28													41								
*44:14	B44				28				32									41								
*44:15	B12				28				32			35														
*44:16, 44:91	B47, B44, -				28	30												41								
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*44:18	B44				28				32		35															
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*44:25, 44:50	B44				28													41								
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*44:44	B44											35					40	41								
*44:46, 44:75	B12, -				28													41								
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				53								62									70			B44, –	*44:03:07, 44:07, 44:81, 44:103, 44:111
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				53								62	63								70			B44	*44:08
				53							61	62	63									71		B45	*44:09
				53								62				65					70			B44	*44:10
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				53								62				65					70			B44	*44:14
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				53								62									70			B44, –	*44:17, 44:43:01-44:43:02
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HLA-B allele <sup>4</sup>	ser. <sup>5</sup>																									
*44:49	B44		26		28													41								
*44:54	B44				27	28																				
*44:57	-				w													41								
*44:60, 44:110	-				27	28												41								
*44:62	-				28				32	33								41								
*44:83	-																	41								
*44:90	-				28													41								
*44:95	-				28													41								
*44:97	-				28													41								
*44:106	-				27	28																				
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*45:04	B21				28				32																	48
*45:06	B45				28				32		35															48
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*45:09	-				28				32			36	37													48
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*46:02	B46								31			36														
*46:03, 46:08, 46:13:01- 46:13:03, 46:19, 46:21:01- 46:21:02, 46:25-46:26	B46, -								31			36														
*46:06	-								31			36														
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*46:12, 46:20	-				27				31			36														
*46:17	-								31			36	37													
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*47:01:01:01-47:01:01:02, 47:06-47:07	B47, -				28																					
*47:02	B47				28																					
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*47:04-47:05	B17, -				28	29																				
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*48:04, 48:24	B48, -										35															48
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			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.	

Lot No.: 45M

Lot-specific information

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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 <sup>4</sup>	ser. <sup>5</sup>																								
*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 <sup>4</sup>	ser. <sup>5</sup>																								
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

Lot No.: **45M**

Lot-specific information

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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. <sup>5</sup>	HLA-B allele <sup>4</sup>	
											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. <sup>5</sup>	HLA-B allele <sup>4</sup>	
																									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.	

Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

<sup>1</sup>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.

<sup>2</sup>The nucleotide position, in the 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> exon or in the 1<sup>st</sup> intron, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the [www.ebi.ac.uk, imgt, hla](http://www.ebi.ac.uk, imgt, hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>3</sup>The nucleotide position, in the 2<sup>nd</sup>, or 3<sup>rd</sup> exon or the 1<sup>st</sup> or 3<sup>rd</sup> 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](http://www.ebi.ac.uk, imgt, hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>4</sup>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.

<sup>5</sup>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.

<sup>6</sup>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.

<sup>7</sup>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.

<sup>8</sup>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.

<sup>9</sup>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.

<sup>10</sup>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.

<sup>11</sup>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.

Lot No.: **45M**

Lot-specific information

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	<b>Well<sup>5</sup></b>																																		
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96											
<b>Length of spec.</b>	155				280					425	245					255																			
<b>PCR product(s)</b>		300	270	200	130																														
<b>Length of int. pos. control<sup>1</sup></b>	800	800	800	800	1070	800	800	390	355	130	800	800	800	800	1070	1070	1070	1070	800	800	1070	1070	1070	1070											
<b>5'-primer(s)<sup>2</sup></b>	5'-gAA <sup>3'</sup> 89	5'-Agg <sup>3'</sup> 47	5'-gCT <sup>3'</sup> 105	5'-TCA <sup>3'</sup> 355	5'-gCT <sup>3'</sup> 105	5'-Agg <sup>3'</sup> 47	5'-CgA <sup>3'</sup> 1st I 1070	5'-TCA <sup>3'</sup> 28	5'-CAC <sup>3'</sup> 648	5'-Agg <sup>3'</sup> 47	5'-CgA <sup>3'</sup> 1st I 1070	5'-gCA <sup>3'</sup> 176	5'-CCA <sup>3'</sup> 201	5'-TCg <sup>3'</sup> 97	5'-CTA <sup>3'</sup> 98	5'-CTC <sup>3'</sup> 98	5'-ggC <sup>3'</sup> 409	5'-CCA <sup>3'</sup> 201	5'-CCA <sup>3'</sup> 2nd I 361	5'-CCA <sup>3'</sup> 2nd I 361	5'-AgT <sup>3'</sup> 361	5'-ATA <sup>3'</sup> 412	5'-TCA <sup>3'</sup> 355	5'-gAT <sup>3'</sup> 459	5'-gCT <sup>3'</sup> 105	5'-TCg <sup>3'</sup> 97									
<b>3'-primer(s)<sup>3</sup></b>	5'-CTT <sup>3'</sup> 201	5'-CTC <sup>3'</sup> 176	5'-C <sup>3'</sup> 343	5'-CTT <sup>3'</sup> 589	5'-T <sup>3'</sup> 343	5'-CTT <sup>3'</sup> 201	5'-ggT <sup>3'</sup> 302	5'-Cgg <sup>3'</sup> 213	5'-CAT <sup>3'</sup> 853	5'-ggC <sup>3'</sup> 302	5'-CCg <sup>3'</sup> 175	5'-CAA <sup>3'</sup> 304	5'-ggT <sup>3'</sup> 289	5'-AgC <sup>3'</sup> 289	5'-CCA <sup>3'</sup> 538	5'-gCT <sup>3'</sup> 218	5'-CCA <sup>3'</sup> 361	5'-AgT <sup>3'</sup> 312	5'-ggT <sup>3'</sup> 311	5'-CTC <sup>3'</sup> 3rd I 270	5'-T <sup>3'</sup> 343	5'-g <sup>3'</sup> 343	5'-gTC <sup>3'</sup> 538	5'-CCA <sup>3'</sup> 512	5'-CCg <sup>3'</sup> 527	5'-ggT <sup>3'</sup> 302	5'-CTC <sup>3'</sup> 3rd I	5'-CTC <sup>3'</sup> 559	5'-CTC <sup>3'</sup> 201	5'-TCT <sup>3'</sup> 539	5'-AgC <sup>3'</sup> 289	5'-Cgg <sup>3'</sup> 213	5'-gTC <sup>3'</sup> 419	5'-Agg <sup>3'</sup> 418	5'-TTg <sup>3'</sup> 97
<b>Well No.</b>	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



Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

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 <sup>4</sup>																								
*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 <sup>5</sup>	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



Lot No.: **45M**

Lot-specific information

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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 <sup>4</sup>																								
*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

Lot No.: 45M

Lot-specific information

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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 <sup>4</sup>																								
*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

Lot No.: 45M

Lot-specific information

www.olerup-ssp.com

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 <sup>4</sup>																								
*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

Lot No.: **45M**

Lot-specific information

www.olerup-ssp.com

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 <sup>4</sup>																								
*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

Lot No.: 45M

Lot-specific information

www.olerup-ssp.com

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 <sup>4</sup>																								
*17:01:04		74									83		85		87				91		93			
*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	96
HLA-C allele <sup>4</sup>																								
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

Negative Control

<sup>1</sup>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.

<sup>2</sup>The nucleotide position, in the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> exon or the 1<sup>st</sup> or 2<sup>nd</sup> intron, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the [www.ebi.ac.uk, imgt, hla](http://www.ebi.ac.uk, imgt, hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>3</sup>The nucleotide position, in the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> exon or the 3<sup>rd</sup> 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](http://www.ebi.ac.uk, imgt, hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>4</sup>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 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\*0601 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.

<sup>5</sup>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.

Lot No.: **45M**

Lot-specific information

www.olerup-ssp.com

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
				201078701	201078702	201073303	201073304	201073305	201078706	201188507	201073308	201073309	201078710	201078711	201187512	201073313	201078714	201073315	201078716
	IHWC cell line	A*	A*	Lot No.:															
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	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-

Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

CELL LINE VALIDATION SHEET														
HLA-A low resolution primer set														
				Lot No.:	Well									
					17	18	19	20	21	22	23	24		
					201078717	201073318	201073319	201078720	201073321	201078722	201188523	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		-	-	-	-	-	-	-	-	-	-

Lot No.: 45M

Lot-specific information

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				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
IHC 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	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-	-



<b>CELL LINE VALIDATION SHEET</b>																			
<b>HLA-B low resolution SSP kit</b>																			
			Prod. No.:	Well															
				41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
				201073417	201073418	201078819	201182320	201073421	201073422	201073423	201078824	201078825	201182326	201073427	201073428	201185829	201073430	201188631	201073432
	<b>IHWC cell line</b>	<b>B*</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	+	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-

<b>CELL LINE VALIDATION SHEET</b>																				
<b>HLA-B low resolution SSP kit</b>																				
				Well																
				57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
				201182333	201073434	201073435	201078836	201073437	201078838	201073439	201073440	201073441	201073442	201073443	201073444	201073445	201073446	201073447	201188648	
	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	-	-	-	-	-	+	-	-	-	-	+	-	+	+	+	-

Lot No.: 45M

Lot-specific information

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CELL LINE VALIDATION SHEET				Well															
HLA-C low resolution SSP primer set				73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
			Prod. No.:	201188801	201188802	201188803	201188804	201188805	201188806	201188807	201188808	201188809	201188810	201188811	201188812	201188813	201188814	201188815	201188816
	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	-	-	-	-	-	+	-	-	-	+	-	+	-	-	-

Lot No.: 45M

Lot-specific information

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CELL LINE VALIDATION SHEET														
HLA-C low resolution SSP primer set														
				Prod. No.:	Well									
					89	90	91	92	93	94	95			
					201188817	201188818	201188819	201188820	201188821	201188822	201188823			
	<b>IHWC cell line</b>	<b>C*</b>												
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		-	+	-	-	+	-	-	-	-	+

Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

## CERTIFICATE OF ANALYSIS

### Olerup SSP® HLA-A-B-C SSP Combi Tray

**Product number:** 101.702-24/06 – including Taq pol.  
**Lot number:** 45M  
**Expiry date:** 2014-February-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	2011-875-12	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	2011-885-07	15	2010-733-15	23	2011-885-23
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	2011-886-31	71	2010-734-47
40	2010-734-16	56	2010-734-32	72	2011-886-48

Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

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	2011-888-01	81	2011-888-09	89	2011-888-17
74	2011-888-02	82	2011-888-10	90	2011-888-18
75	2011-888-03	83	2011-888-11	91	2011-888-19
76	2011-888-04	84	2011-888-12	92	2011-888-20
77	2011-888-05	85	2011-888-13	93	2011-888-21
78	2011-888-06	86	2011-888-14	94	2011-888-22
79	2011-888-07	87	2011-888-15	95	2011-888-23
80	2011-888-08	88	2011-888-16		

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, 85 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

Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

## Declaration of Conformity

**Product name:** *Olerup* SSP® HLA-A-B-C SSP Combi Tray  
**Product number:** 101.702-24/06  
**Lot number:** 45M

**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  
**Phone:** +46-8-717 88 27  
**Fax:** +46-8-717 88 18

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

Lot No.: **45M**

Lot-specific information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

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**E-mail:** [support-at@olerup.com](mailto:support-at@olerup.com)

**Web page:** <http://www.olerup.com>

**Olerup Inc.**, 901 S. Bolmar St., Suite R, West Chester, PA 19382

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For information on *Olerup* SSP distributors worldwide, contact **Olerup GmbH**.