

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

Product number:	101.702-24/06 – including <i>Taq</i> pol.
Lot number:	85F
Expiry date:	2011-June-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. 85F.**

### 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. 04F**).

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

Well	5'-primer	3'-primer	rationale
15	Added	Added	Primers added for the A*3026 and A*3028 alleles.
17	Added	Added	Primer pair added for improved resolution.
18	-	Added	Primer added for the A*3321 allele.
20		Modified	Primer modified to increase specificity.

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. 04F**).

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

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Well	5'-primer	3'-primer	rationale
33	Exchanged	-	Exchanged positive control primer pair and 5'-primer to increase specificity.
37	-	Modified	Primer modified to increase specificity.
41	-	-	Exchanged positive control primer pair.
44	Exchanged	Exchanged	Exchanged primer pair to improve specificity.
51	Exchanged	Exchanged	Exchanged primer pair to decrease formation of primer dimers.
58	Added	-	Primer added for the B*5903 allele.
64	Modified	-	Primer modified to increase specificity.

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. 04F**).

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

Well	5'-primer	3'-primer	rationale
73	Removed	Removed	Increased resolution.
79	Exchanged	-	Increased resolution.
80	-	Removed	Removed primer to increase resolution..
82	Added	Added	Exchanged positive control primer pair and added primer pair for the Cw*0520 allele.
87	Added	Added	Exchanged positive control primer pair and added primer pair for the Cw*0437 allele.

Change in revision R01 compared to R00:

1. The HLA-B\*5150 allele is amplified in primer mix 60.

Changes in revision R02 compared to R01:

1. Primer mix 3 may faintly amplify the A\*30:04, 30:06, 30:17 and 30:29 alleles.

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'-Tg g <sup>3'</sup>	5'-Tg g <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>Cw*</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.

## PRODUCT DESCRIPTION

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

#### CONTENT

The primer set contains 5'- and 3'-primers for grouping the HLA-A\*0101 to A\*8001 alleles into the corresponding serological groups A1 to A80.

The primer set contains 5'- and 3'-primers for grouping the B\*0702 to B\*8301 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-Cw\*0102 to Cw\*1803 alleles into the groups Cw\*01xx to Cw\*18xx.

#### 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-Cw 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. '85F'.

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\*1827 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 HLA-Cw\*0223 allele will be amplified by primer mix 25, the HLA-Cw\*0305, 0325 and 0327 alleles will be amplified by primer mix 27, that the Cw\*0746 allele will be amplified by primer mix 32, the Cw\*150204 allele will be amplified by primer mix 64, the Cw\*0206 allele will be weakly amplified by primer mix 67 and the HLA-Cw\*0206 allele will be amplified

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by primer mix 69. Thus, the interpretation of HLA-B low resolution typings is only influenced by these eight HLA-Cw alleles and not by other alleles of other HLA class I genes.

Only HLA-Cw alleles will be amplified by the HLA-C low resolution primer set, **wells 73 to 95**, except that primer mix 85 will amplify the B\*6702 allele and primer mix 92 will amplify the B\*1403 allele. Thus, the interpretation of HLA-C low resolution typings is only influenced by these HLA-B alleles and not by other HLA class I genes.

### UNIQUELY IDENTIFIED ALLELES

All the HLA-A alleles<sup>2</sup>, i.e. **A\*0101 to A\*8001**, recognized by the HLA Nomenclature Committee in May 2009<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>3</sup>.

All the HLA-B alleles<sup>2</sup>, i.e. **B\*0702 to B\*8301**, recognized by the HLA Nomenclature Committee in May 2009<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>4</sup>.

All the HLA-Cw alleles<sup>2</sup>, i.e. **Cw\*0102 to Cw\*1803**, recognized by the HLA Nomenclature Committee in May 2009<sup>1</sup> will be amplified by the primers in the HLA-C low resolution primer set, **wells 73 to 95**. The HLA-Cw alleles will be grouped into the Cw\*01xx to Cw\*18xx groups.

<sup>1</sup>HLA-A, HLA-B and HLA-Cw alleles listed on the IMGT/HLA web page 2009-May-11, release 2.25.2, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

<sup>2</sup>The nucleotide sequences of some alleles are not yet retrievable from the GenBank or EMBL data banks, see [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

<sup>3</sup>The A\*0318 and A\*2619 alleles will give rise to identical amplification patterns. These two alleles can be separated by the respective high resolution SSP primer sets.

The A\*2314, A\*2405, A\*241302 and A\*2424 alleles will give rise to identical amplification patterns. These four alleles can be separated by the respective high resolution SSP primer sets.

<sup>4</sup>The B\*0826 and the B\*4207 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\*1408 and the B\*3925N, B\*3930, B\*3932 to 3934 and B\*3947 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\*1829 and the B\*3532, B\*3537, B\*3553N, B\*3564, B\*356801-356802 and B\*3599 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\*5504, B\*5508, B\*5513, B\*5527 and the B\*5615, B\*5619N and B\*5622 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\*5523, B\*5532 and the B\*5618 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.

## 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>4,11</sup>
1 <sup>5</sup>	120, 145 bp	<b>800 bp</b>	A1, A36	01010101-0104N, 0106-0135, 3601-3604
2 <sup>6</sup>	135, 200, 255 bp	1070 bp	A2	02010101-020115, 020117-020119, 020121-0222, 0224-023501, 023503-0247, 0249-0297, 0299, 9201-9221, 9223-9228, 9230-9257
3 <sup>12</sup>	205, 235 bp	1070 bp	A1, A3, A11, A32, A34, A36	0112, 0119, 0121, 03010101-0317, 0319-0347, 0350, 0351, 1125, 2492, 3204, 3402-3404, 3407, 3408, 3602
4	190 bp	<b>800 bp</b>	A1, A2, A3, A11, A26, A30, A36	01010101-0104N, 0106, 0107, 0109-0111N, 0113, 0116N-0118N, 0120-0129, 0131N-0135, 0278, 0312, 0318, 110101-1127, 1129-1142, 2619, 3008, 3604
5	160, 535 bp	<b>800 bp</b>	A3, A23, A24, A31, A32	0330, 2301-2321, 24020101-2411N, 241301-2415, 2417-2464, 2466-2488, 2490N-2499, 3108, 3205, 3213
6	165, 200 bp	<b>800 bp</b>	A2, A23, A24, A29, A80	9222, 2301-2321, 2405, 241302, 2424, 2907, 8001, <b>B*1827</b>
7	175, 205 bp	1070 bp	A2, A23, A24, A26, A33	021701-021702 <sup>weakly</sup> , 2314, 24020101-2411N, 241301-241302, 2417-2450, 2454-2456, 2458-2463, 2466-2491, 2493, 2495-2499, 2616, 3319, 6845
8	165, 200 bp	<b>800 bp</b>	A2, A3, A11, A25, A26, A32, A34, A66, A68, A69	0255, 0324, 0350, 1110, 250101-2508, 260101-2606, 2608-2615, 2617, 2618, 2620-2638, 3215, 340101-3408, 6601-6609, 680101-6847, 6901
9 <sup>5</sup>	75 bp	<b>800 bp</b>	A25, A32	250101-2508, 320101-3202, 3204, 3206-3218

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<b>10<sup>5,7</sup></b>	85 bp	1070 bp	A2, A26, A33	9246, 260101-2602, 2604, 260701-2618, 2620, 2622-2629, 2632-2638, 3313
<b>11<sup>5,8</sup></b>	80, 175, 500 bp	1070 bp	A1, A11, A24, A26, A31, A34, A66	0113, 0128, 110101-1127, 1129-1142, 2419, 2444, 2603, 2606, 2621, 3103, 340101-3408, 6601, 6604-6609
<b>12</b>	185 bp	<b>800 bp</b>	A11, A25, A26, A31, A34, A43, A66	1111, 2506, 2609, 3103, 3104, 340101-3408, 4301, 6602, 6603
<b>13</b>	175, 225 bp	1070 bp	A1, A2, A3, A25, A26, A34, A43, A66	0113, 0234-023503, 025601-025602, 0262, 9203, 9235, 03010101-0307, 0309-0311N, 0313-0331, 0333-0335, 0337-0340, 0342-0347, 0350, 0351, 250101-2505, 2507, 2508, 260101-260107, 2602 <sup>weakly</sup> , 2603, 2605-2608, 2610-2633, 2635-2638, 3408, 4301, 6601, 6604-6609, 7413
<b>14</b>	200, 240 bp	1070 bp	A29, A33	29010101-2919, 3313
<b>15<sup>5</sup></b>	90, 135, 205 bp	1070 bp	A1, A30	0113, 0128, 0343, 300101-3004, 3006-3020, 3022-3028
<b>16</b>	370, 400 bp	1070 bp	A31, A32	2914, 310102-3124, 3205
<b>17</b>	150, 180 bp	1070 bp	A29, A32	0343, 2913, 320101-3203, 3205-3218
<b>18</b>	200 bp	1070 bp	A33, A68	3301, 330301-3323, 6829
<b>19</b>	160, 200 bp	<b>800 bp</b>	A74	2919, 7401-7413
<b>20</b>	155, 240 bp	<b>800 bp</b>	A2, A210, A25, A30, A68	0210, 0234-023503, 0239, 0246, 0248, 0250, 0252, 025601-025602, 0262, 0270, 0273, 0278, 0293, 0295, 9203, 9210, 9214, 9217, 9222, 9229, 9256, 2494, 2505, 3008, 680101-6847
<b>21</b>	240, 375 bp	<b>800 bp</b>	A2, A24, A26, A68, A69	0255, 2482, 2622, 3322, 6609, 6829, 6901
<b>22<sup>5,9</sup></b>	85, 240 bp	<b>800 bp</b>	A2, A30, A36	0234-023503, 0246, 0248, 025601-025602, 0262, 0270, 0278, 9203, 9229, 3008, 3601-3604
<b>23<sup>5,7</sup></b>	75, 160 bp	<b>800 bp</b>	A2, A26,	0255, 2603, 2605, 2606, 2621,

24	360 bp	1070 bp	A68, A80	2630, 6805, 6815, 6820, 8001
			A1, A11, A33, A36, A74, A80	01010101-0104N, 0106, 0108- 0129, 0131N-0135, 0341, 110101-1111, 1113-1117, 1119- 1127, 1129-1140, 1142, 3313, 3601-3604, 7410, 8001

<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 number 4 to 6, 8, 9, 12, 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 information in the HLA Dictionary 2004 on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site and the information available at the [www.worldmarrow.org](http://www.worldmarrow.org) web site and have also inferred the serological grouping from the naming 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> Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

<sup>6</sup> The primer pairs in vial 2 will in most samples give rise to two specific PCR fragments.

<sup>7</sup> Primer mixes 10 and 23 may yield less specific PCR product than the other primer mixes.

<sup>8</sup> The primer pairs in vial 11 will in most samples give rise to two to three specific PCR fragments.

<sup>9</sup> Primer mix 22 might faintly amplify most A\*11 alleles.

<sup>10</sup> The A\*0318 and A\*2619 alleles will give rise to identical amplification patterns. These two alleles can be separated by the respective high resolution SSP primer sets.

The A\*2314, A\*2405, A\*241302 and A\*2424 alleles will give rise to identical amplification patterns. These four alleles can be separated by the respective high resolution SSP primer sets.

<sup>11</sup> Primer mix 6 will amplify the B\*1827 allele.

<sup>12</sup> Primer mix 3 may faintly amplify the A\*30:04, 30:06, 30:17 and 30:29 alleles.

‘w’, might be weakly amplified.



## SPECIFICITY TABLE

### HLA-B low resolution primer set

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

Primer Mix	Size of spec. PCR product <sup>1</sup>	Size of control band <sup>2</sup>	HLA-B serol. <sup>3</sup>	Amplified HLA-B alleles <sup>4</sup>
<b>25<sup>5,10</sup></b>	110 bp	<b>800 bp</b>	7, 15, 37, 40, 41, 42, 48	070201-071802, 0720-0732, 0734-0739, 0741-0747, 0749N, 0750, 0752, 0754-0759, 0761-0772, 0775, 0776, 9538, 3707, 4015, 4016, 4023, 4032, 4108, 420501-420502, 4805, 4808, 4815, <b>Cw*0223</b>
<b>26</b>	215 bp	1070 bp	8, 15, 44	080101-0825, 0827-0838, 0840, 9542, 4449
<b>27<sup>10</sup></b>	140, 235 bp	1070 bp	7, 8, 13, 15, 35, 40, 4005, 44, 46, 53, 57, 58	0720, 0724, 0760, 0821, 0825, 1301-1304, 1306-1308Q, 1310-1324, 1507, 1536 <sup>weakly</sup> , 1545, 1555, 1568, 1589 <sup>weakly</sup> , 9526, 3505, 3516, 3517, 3522, 3530, 3551, 3558, 3572, 3589, 3597, 4005, 4071, 4408 <sup>weakly</sup> , 4454, 4457 <sup>weakly</sup> , 4460, 4612, 5164, 5314, 5818, <b>Cw*0305, Cw*0325, Cw*0327</b>
<b>28<sup>9</sup></b>	130, 265 bp	1070 bp	13, 14, 15, 35, 40, 41, 44, 45, 47, 49, 50	1301-1304, 1306-1313, 1315-1324, 1401-1404, 1407N, 1409, 1546, 1553, 9506, 3546, 3547, 3563, 400101-400106, 4007, 4010, 401401-4016, 4022N, 4023, 4025, 4030-4034, 4036, 4038, 4042, 4043, 4045, 4047-4049, 4051-4055, 4058-4063, 4065-4067, 4069, 407201-4073, 4076, 4077, 4079-4081, 4084, 4087, 4088, 4092, 4101-4108, 44020101-4405, 4409-4439, 4441-4443, 4445-4456N, 4458N-4467, 4469, 4501-4509, 47010101-4705, 490101-4902, 4904, 4905, 5001, 5002, 5004
<b>29<sup>6</sup></b>	185, 235 bp	1070 bp	14, 16, 27, 37, 38, 39,	1401, 1407N, 1408, 1410, 2701-270402, 270502-2706, 2708-2710,

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			47, 64, 67	2712, 2713, 2716-2718, 2720, 2723, 2726, 2727, 2729, 2731, 2735-2737, 2739-2742, 2744-2746, 2750, 3702, 380101-3803, 3807-3819, 39010101-39010102L, 390103-390201, 3903, 3905-390602, 3907 <sup>?</sup> , 3908, 3909, 3911, 3914, 3915, 3918, 391902, 3922, 3924-3944, 3946-3948, 4704, 4705, 670101
<b>30<sup>6</sup></b>	185 bp	<b>800 bp</b>	14, 35, 38, 39, 65	140201-140602, 1409, 3526, 3805, 3904, 3907 <sup>?</sup>
<b>31</b>	290 bp	1070 bp	15, 62, 63, 75, 76, 77, 46	15010101-150103, 150106-1502, 1504-1508, 151101-1515, 15170101-151702, 1519-1521, 1524-1528, 1530-1536, 1538-1540, 1542-1546, 1548, 1550, 1555-1558, 1560, 1563, 1565, 1566, 1568, 1570, 1571, 1573, 1575-1579N, 1581-1589, 1592, 1594N, 1596, 1597, 9501, 9502, 9504-9507, 9509-9513, 9516-9518, 9520-9522, 9525, 9526, 9528, 9529, 9535-9550, 9552, 9554, 9555, 9557, 9559, 9560, 460101-4618
<b>32<sup>10</sup></b>	165, 220, 330 bp	1070 bp	8, 15, 35, 37, 40, 41, 42, 44, 45, 51, 56, 57, 70, 71, 72	080101-0805, 0808N-0812, 0815-0819N, 0821-0824, 0826, 0827, 0829-0836, 0838, 1503, 1509, 1510, 1518, 1523, 1529, 1537, 1546, 1547, 1549, 1551-1554, 1561, 1562, 1564, 1568, 1569, 1572, 1574, 1580, 1583, 1590, 1591, 1593, 1598, 1599, 9503, 9506, 9508, 9514, 9515, 9519, 9523, 9524, 9527, 9531-9534, 9543, 9551, 9553, 9556, 9558, 3587, 3712, 4012, 4101-410302, 4105-4108, 4201, 4202, 4204-4208, 4216, 4414, 4415, 4418, 4420, 4462, 4501-4509, 5108, 5120, 5136, 5144N, 5520, 5613, 5709, 8201, 8202, <b>Cw*0746</b>
<b>33<sup>7,11</sup></b>	165, 390 bp	1070 bp	15, 35, 40, 44, 51, 52, 56, 58, 62,	150102, 1509, 1516-151702, 1567, 1595, 350402, 4026, 4028, 4462, 510101-510103, 510105-510203,

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			63, 70, 78	5103-510902, 5111N, 5112, 511302, 5114, 5117-5120, 5122, 5123, 5126-5130, 5132, 5133, 5137-5141N, 5143, 5144N, 5146, 5148-5161, 5163-5165, 520101-5207, 5209-5213, 560501-5606, 5621, 5808, 7801-7806
<b>34<sup>7</sup></b>	180, 400 bp	<b>800 bp</b>	13, 15, 40, 55, 62, 70, 71, 72, 75	1301-130205, 1307N-1309, 1311, 1314-1320, 1322-1324, 1509, 1510, 1518, 1521, 1523, 1537, 1544, 1551, 1552, 1566, 1572, 1580, 1590, 1593, 1599, 9508, 9514, 9515, 9519, 9524, 9533, 9534, 9553, 4048, 5509, 5522, 5524
<b>35<sup>5</sup></b>	105, 195 bp	1070 bp	7, 8, 15, 27, 38, 39, 40, 44, 45, 48, 55, 72	0727, 0750, 0804, 0817, 1503, 1547, 1549, 1554, 1561, 1562, 1564, 1568, 1569, 1591, 1598, 9503, 9523, 9527, 9531, 9532, 9551, 9556, 9558, 2718, 2729, 2750, 3803, 390201-390202, 3908, 391301-391302, 3923, 3939, 4012, 4046, 4093, 4410, 4415, 4418, 4440, 4444, 4501, 4505-4507, 480101-4805, 4807-4819, 5002, 5518, 8201, 8202
<b>36</b>	280 bp	1070 bp	7, 8, 13, 15, 18, 27, 35, 39, 40, 42, 44, 46, 48, 49, 51, 53, 54, 55, 56, 57, 58, 62, 63, 70, 71, 72, 75, 76, 77	0709, 0711, 0717, 0828, 0835, 0837, 1304, 1310, 15010101-150104, 150106-1508, 151101-1516, 1518-1521, 1523-1529, 1531-1536, 1538-1540, 1543, 1544, 1546, 1547, 1549-1557, 1560-1562, 1564-1572, 1574-1576, 1578-1582, 1584, 1585, 1587-1589, 1591-1598, 9501-9529, 9531, 9532, 9534-9536, 9538-9549N, 9551-9560, 180101-1815, 1817N-1825, 1827-1833, 2741, 350101-350107, 3505, 3507-350803, 3510, 3511, 351401-3517, 3519-3521, 3523-3530, 3532, 3535, 3537, 3540N-3543, 3545-3554, 3557, 3558, 3561-3564, 3566-3569, 3571, 3572, 3576-3580, 3582, 3586, 3589-3594, 3597, 3599, 3907, 3943, 4003, 4020, 4038, 4052, 4059, 4060, 4209, 4417, 4443, 4509, 460101-

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				4610, 4612-4617, 4802, 4814, 4904, 4905, 5137, 5145, 5163, 530101-5303, 5305, 5306, 5308-5318, 5406, 5409, 5414, 5514, 5523, 5532, 5603, 5609, 5618, 570101-570103, 5706, 5708, 5710, 5711, 5713-5716, 5718, 5719, 580101-5802, 5804-5807, 5809-5819, 5821
<b>37</b>	195 bp	1070 bp	15, 35, 37, 38, 44, 45, 58, 76	1512, 1514, 1519, 1591, 9531, 3545, 3571, 370101-3709, 3712, 3713, 3817, 4417, 4443, 4509, 4617, 5807
<b>38<sup>5</sup></b>	105, 435	1070 bp	7, 15, 41, 42, 59, 62, 63, 77	0704, 0725, 1513, 1516-151702, 1523, 1524, 1567, 1587, 1595, 9557, 4108, 420501-420502
<b>39<sup>5,6</sup></b>	115 bp	1070 bp	18	180101-1815, 1817N-1828, 1830-1833
<b>40<sup>5</sup></b>	80 bp	1070 bp	27, 40, 44	2701-270402, 270502-2721, 2723-2746, 2750, 4046, 4093, 4440, 4444
<b>41</b>	150 bp	<b>800 bp</b>	13, 15, 18, 27, 35, 37, 39, 40, 44, 48, 51, 53, 55, 56, 57, 58, 62, 75, 77	1301, 1306, 1307N, 1312, 1313, 1317, 1320, 1322-1324, 1410, 1502, 1513, 1520, 1521, 1525, 1536, 1544, 1562, 1577, 1580, 1585, 1588, 1589, 9506, 9512, 9521, 9539, 9544, 9554, 1822, 2719, 2730, 350101-350403, 3506-350803, 3510-3517, 3519-3521, 3523-3530, 3533-3536, 3538-3542, 3545-3550, 3552, 3554-3557, 3559, 3561-3563, 3565Q, 3569-3571, 3574, 3576-3578, 3580-3585, 3590-3595, 370101-370104, 3703N-3706, 3708, 3710, 3711, 3713, 3942, 4028, 44020101-4414, 4416, 4417, 4419N, 4421-4430, 4432-4440, 4442-4446, 4448-4452N, 4455-446402, 4466, 4467, 4469, 4802, 5104, 5142, 5146, 5156, 530101-5313, 5315-5318, 5514, 5609, 5611, 5612, 570101-5710, 5712, 5714-5719, 580101-580102, 5804, 5805, 5809-5815, 5817N, 5819, 5821, 8301
<b>42</b>	135 bp	1070 bp	7, 8, 18, 35, 37, 39,	0765, 0832, 180101-1808, 1810-1815, 1817N-1833, 350101-3518,

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			56, 78	352001-3524, 3528-3545, 3548, 3550-3555, 3557-3562, 3564-3572, 3774-3595, 3597, 3599, 3711, 391901-391902, 5606, 7801-7805
<b>43</b>	245, 400 bp	1070 bp	15, 62, 63, 70, 71, 72, 75, 76, 77, 40, 44	15010101-150104, 150106-1521, 1523-1540, 1542-1558, 1560-1575, 1576 <sup>weakly</sup> , 1577-1599, 9501-9529, 9531-9560, 4012, 4410, 8201, 8202
<b>44</b>	210 bp	<b>800 bp</b>	7, 8, 15, 18, 37, 38	0727, 370101-3714, 3817
<b>45</b>	170 bp	<b>800 bp</b>	15, 35, 38, 39, 67	1569, 3535, 380101-3809, 3811-3819, 39010101-39010102L, 390103-3920, 3922-3924, 3926-3929, 3931, 3935, 3937-3942, 3944-3946, 3948, 5820, 670101-6702
<b>46<sup>5</sup></b>	110 bp	1070 bp	38	380101-3803, 3805, 3808-3819
<b>47</b>	400 bp	1070 bp	14, 38, 39, 64, 65	0769, 1401-1410, 380101-380202, 3804, 3805, 3808-3819, 39010101-39010102L, 390103-390106, 3903-3907, 3909, 3911, 3912, 3914, 3915, 3918-391902, 3922, 3924-3938Q, 3940N- 3948
<b>48</b>	430 bp	1070 bp	7, 8, 14, 39, 40, 41, 42, 45, 48, 50, 60, 64, 65, 67, 73	070201-0726, 0728-0735, 0737, 0739-0764, 0766-0772, 0775, 0776, 080101-080106, 0804-0835, 0837, 0838, 0840, 1401-1410, 39010101-39010102L, 390103-3920, 3922-3948, 400101-400106, 4007, 4009-4011 <sup>?</sup> , 401401-4015 <sup>?</sup> , 4016, 4018 <sup>?</sup> , 4021 <sup>?</sup> , 4022N <sup>?</sup> , 4023, 4024-4038 <sup>?</sup> , 4040 <sup>?</sup> , 4042-4046 <sup>?</sup> , 4048-4050 <sup>?</sup> , 4051, 4052-4058 <sup>?</sup> , 4059, 4060, 4061-4065 <sup>?</sup> , 4066, 4067-4069 <sup>?</sup> , 4071 <sup>?</sup> , 407201-4073, 4074 <sup>?</sup> , 4075 <sup>?</sup> , 4077, 4078 <sup>?</sup> , 4079, 4080-4088 <sup>?</sup> , 4090-4093 <sup>?</sup> , 4095 <sup>?</sup> , 4101-4108, 4201, 4202, 4204-4210, 4501-4509, 480101-4817, 4819, 5001, 5002, 5004, 670101-6702, 7301, 8102
<b>49<sup>10</sup></b>	175 bp	1070 bp	15, 40, 44, 46, 48, 60	9516, 9524, 400101-400106, 4007, 4010, 4012, 4021-4023, 4025, 4033, 4036, 4038, 4042, 4043, 4046-4049, 4051, 4052, 4054, 4055, 4060-4063, 4065-4067, 4069, 4073, 4074, 4076, 4079,

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<b>50</b>	130 bp	1070 bp	40, 61	4081, 4084, 4087, 4088, 4092, 4431, 4606, 480301-480302 400201-400602, 4008, 4009, 4011, 4013, 4018-4020, 4024, 4026-4029, 4035, 4037, 4039, 4040, 4044, 4050, 4056, 4057, 4064, 4068, 4070, 4071, 4074, 4075, 4078, 4082, 4085, 4086, 4089-4091, 4094-4096
<b>51<sup>5</sup></b>	105 bp	1070 bp	7, 8, 35, 41, 42, 55	0704, 0725, 080101-0805, 0807-0812, 0814-0819N, 0821-0824, 0826-0838, 3587, 4101-4108, 4201, 4202, 4204-4207, 4209, 4210, 5520
<b>52</b>	325 bp	1070 bp	7, 15, 27, 35, 42, 45, 46, 54, 55, 56, 67, 73, 81	070201-070207, 0704-0707, 0709-0712, 0713 <sup>weakly</sup> , 0714, 0715 <sup>weakly</sup> , 0717-0726, 0728-0731, 0733-0736, 0739-0749N, 0751-0768, 0770-0772, 0775, 0776, 1576, 9501, 2701-270402, 270502-2711, 2713-2715, 2717, 2719-2721, 2724-2728, 2730-2738, 2740-2746, 2750, 3576, 4201, 4202, 4204-4206, 4208-4210, 4506, 460101-460102, 4602 <sup>weakly</sup> , 4603-4618, 5401-5417, 550101-5505, 5507-5517, 5519-5534, 5601-5616, 5618-5622, 5624, 670101-670102, 6702 <sup>weakly</sup> , 7301, 8101-8104N, 8201, 8202, 8301
<b>53<sup>5,12</sup></b>	115, 195, 225, 260 bp	1070 bp	35, 37, 44, 47, 51, 57	3538, 3545, 3571, 370101-370105, 3703N-3706, 3708, 3710-3713, 44020101-4414, 4416, 4417, 4419N-4436, 4438-4463, 4465-4467, 4469, 5142, 5707, 5709, 8301
<b>54</b>	215 bp	<b>800 bp</b>	8, 12, 15, 41, 42, 44, 45, 51, 52, 53, 55, 56, 58	0809, 1583, 4101, 4105-4107, 4204, 4406, 4415, 4418, 4420, 4501-4509, 510101, 510103-510108, 510201, 510203-5104, 5106-510901, 5110-5114, 5116-512402, 5126-5146, 5148, 5149, 5151-5153, 5155-5165, 520102, 520104-5203, 520601-520602, 5209, 5306, 5520, 5613, 5808
<b>55</b>	130, 270 bp	1070 bp	18, 35, 37, 40, 46, 51, 53, 57, 58	1410, 1557 <sup>weakly</sup> , 1822, 3521, 3524, 3581, 3704, 4028, 460101-4618, 5104, 5146, 5156, 5302, 5306,

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<b>56<sup>5</sup></b>	90, 410 bp	1070 bp	7, 27, 35, 47, 54, 55, 56, 81	5714, 5809 0765, 2702-270402, 270502-2711, 2713-2715, 2717, 2719-2721, 2724-2728, 2730-2738, 2740-2746, 2750, 3576, 47010101-4703, 5401-5417, 550101-5505, 5507- 5517, 5519-5534, 5601-5616, 5618-5622, 5624, 8101, 8201, 8202, 8301
<b>57<sup>5</sup></b>	90, 175 bp	1070 bp	15, 27, 35, 40, 48, 62, 75, 77, 81	1502, 1508, 151101-151103, 1513, 1515, 1521, 1531, 1544, 1555, 1576 <sup>weakly</sup> , 1588, 1589, 9512, 9521, 9539, 9544, 9548, 2724, 3546, 4031, 4045, 4080, 480101-480102, 4804, 4806, 4807, 4809, 4811, 4815, 4816, 4818, 4819, 8101- 8104N
<b>58</b>	145, 430 bp	1070 bp	40, 44, 49	4013, 4019, 4418, 4425, 4450, 490101-490102, 4904, 4905, 5412, 5621, 5901-5904
<b>59<sup>5</sup></b>	120, 210 bp	<b>800 bp</b>	13, 15, 45, 49, 50, 51, 52, 55, 56, 58, 62, 63, 78	1316, 1504 <sup>weakly</sup> , 1516, 1542, 1567, 1595, 9537 <sup>weakly</sup> , 4095, 490101, 4902-4905, 5001, 5002, 5004, 510101-5103, 5105, 5107-510902, 5111N-5114, 5116-152402, 5126- 5141N, 5143, 5144N, 5148-5155, 5157, 5158, 5160, 5161, 5163, 5165, 520101-5214, 550101- 550104, 5503, 5505, 5509, 5511, 5515, 5517, 5521 <sup>weakly</sup> , 5524, 5525, 5528, 5529, 5531, 5533, 560501- 5606, 5621, 5808, 7801-7806
<b>60</b>	430 bp	1070 bp	27, 40, 44, 45, 51, 52, 53, 57, 58, 59	2702, 2730, 4013, 4019, 4406, 4425, 4450, 510101-512402, 5126- 5146, 5148-5153, 5155-5165, 520101-5214, 530101-5302, 5304- 5308, 5310, 5314-5318, 570101- 5711, 5713-5719, 580101-5802, 5804-5816, 5818-5821
<b>61</b>	145 bp	1070 bp	15, 35, 40, 41, 44, 45, 47, 50, 72	1546, 1553, 9506, 9543, 3519, 3547, 3563, 400101-4011, 401401- 4016, 4018, 4020, 4022N-4040, 4042-4045, 4048-4075, 4077-4092, 4094, 4095, 4101-4104, 4105 <sup>?</sup> , 4106-4108, 4409, 4446, 4501- 4509, 4702, 4703 <sup>weakly</sup> , 5001, 5002, 5004

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<b>62</b>	300 bp	1070 bp	7, 8, 13, 15, 18, 27, 35, 37, 38, 39, 40, 41, 44, 45, 46, 47, 48, 49, 50, 52, 55, 57, 58, 62, 72, 76, 78	0754, 0817, 0838, 1301-1304, 1306, 1308Q-1324, 15010101- 150104, 150106-150108, 1503- 1507, 1512, 1514, 1519, 1520, 1524-152703, 1530, 1532-1536, 1538-1540, 1542, 1543, 1545- 1550, 1553, 1554, 1556-1558, 1560-1563, 1565, 1566, 1568- 1571, 1573-1575, 1577-1579N, 1581-1587, 1591, 1592, 1594N, 1596-1598, 9501-9507, 9509- 9511N, 9513, 9516-9518, 9522, 9523, 9525-9529, 9531, 9532, 9535-9538, 9540-9542, 9545-9547, 9550-9552, 9554-9560, 1812, 2701-270402, 270502-2721, 2724- 2746, 2750, 3510, 3513, 3516, 3528, 3563, 3569, 3580, 370101- 3707, 3709-3714, 3803, 3804, 390201-390202, 3908, 391301- 391302, 3922, 3923, 400101-4007, 4009-4016, 4018-4024, 4026-4040, 4042-4067, 4070-4096, 4101-4108, 44020101-4405, 4407-4411, 4413- 4467, 4469, 4501-4509, 47010101- 4705, 480101-4805, 4807-4815, 4817-4819, 490101-4905, 5001, 5002, 5004, 520101-5214, 5317, 5518, 5534, 7805, 7806
<b>63</b>	160, 215 bp	1070 bp	15, 37, 44, 54	150104, 370104, 4094, 44020101- 440205, 4406, 4408, 4409, 4411, 4412, 4416, 4419N-4424, 4427, 4433, 4434, 4441, 4444, 4448, 4449, 4452, 4453, 4455, 4459, 4463, 4466, 4467, 5401-5417, 8301
<b>64<sup>10</sup></b>	180, 210 bp	1070 bp	7, 13, 15, 18, 35, 39, 40, 45, 54, 55, 56, 59, 78	0765, 1306, 1542, 1586, 1804, 3560, 3917, 4058, 4508, 4618, 5401, 5402, 5405N, 5407, 5408N, 5410, 5412, 5413, 5416, 5417, 550101-5503, 5505, 5507, 5510- 5512, 5515, 5516, 5518, 5519, 5521, 5525, 5526, 5529-5531, 5533, 5534, 560501, 5606, 5610, 5623, 5901, 7801, 780202, 7803, <b>Cw*150204</b>
<b>65<sup>10</sup></b>	180 bp	1070 bp	13, 15, 40, 44, 45,	1303, 1573, 4071, 4410, 4415, 4418, 4501, 4504-4507, 4611,



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			46, 49, 50, 51, 54, 56	490101-4903, 5001, 5002, 5004, 5115, 5162, 5403, 5601, 5602, 5604, 5607, 5608, 5613, 5614, 5616, 5617, 5620, 5624, 5904, 8201, 8202
<b>66</b> <sup>5,8</sup>	90, 240 bp	<b>800 bp</b>	55, 57	5514, 570101-5715, 5717-5719
<b>67</b> <sup>5,10</sup>	90 bp	1070 bp	13, 15, 39, 40, 56, 58	1311, 1573, 3917, 4048, 4071, 5162, 5602, 5604, 5610, 580101- 5802, 5804-5821, <b>Cw*0206</b> <sup>weakly</sup>
<b>68</b> <sup>5</sup>	95 bp	1070 bp	7, 8, 18, 35, 37, 38, 39, 44, 51, 52, 53, 78	0765 <sup>weakly</sup> , 0832, 180101-1811, 1813-1815, 1817N-1833, 350101- 350902, 3511, 3512, 351401-3515, 3517, 3518, 352001-3524, 3527, 3529-3545, 3548, 3550-3562, 3564-356802, 3570-3572, 3574, 3575, 3576 <sup>weakly</sup> , 3577-3579, 3581-3595, 3597, 3599, 3708, 3806, 3807, 391901-391902, 4406, 510101-512402, 5126-5146, 5148- 5165, 530101-5316, 5318, 7801- 7804
<b>69</b> <sup>5,10</sup>	115, 150 bp	1070 bp	15, 18, 27, 35, 39, 46, 54, 55, 56, 62, 73, 75, 76	15010101-150104, 150106- 150108, 1504, 1507, 1508, 151101- 1512, 1514, 1515, 1519, 1524, 1526N-1528, 1530, 1532, 1534, 1535, 1538, 1543, 1545, 1546, 1550, 1553, 1554, 1556-1558, 1560, 1563, 1566, 1568, 1570, 1571, 1573, 1575-1577, 1579N, 1581, 1582, 1585, 1587, 1592, 1594N, 1596, 1597, 9501, 9502, 9504, 9505, 9509-9511N, 9513, 9517, 9518, 9520, 9522, 9525, 9526, 9528, 9529, 9535, 9537, 9540, 9542-9549N, 9552, 9554, 9557, 9559, 9560, 1819, 2725, 351401-351402, 3543, 3544, 3562, 3567, 3579, 3586, 3918, 3936, 460101-4602, 4604, 4605, 4607N, 4609, 4610, 4612, 4614-4617, 5161, 5406, 5521, 5603, 7301, <b>Cw*0620</b>
<b>70</b> <sup>13</sup>	360 bp	1070 bp	<b>Bw4</b> <sup>16</sup>	
<b>71</b>	350 bp	1070 bp	<b>Bw6</b>	
<b>72</b> <sup>8</sup>	290 bp	<b>800 bp</b>	7, 8, 35, 37, 40, 41,	070201-0706, 0708-0732, 0734- 0741, 0743-0752, 0754-0759, 0761-

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	42, 48, 53, 81	0772, 0775, 0776, 080101-0808N, 0810, 0811, 0813-0815, 0817- 0830N, 0832-0838, 0840, 3566, 3587, 3707, 4015, 4016, 4030-4032, 4034, 4045, 4059, 4080, 4102, 4104, 4201, 4202, 420501-4207, 4209, 4210, 480101-480102, 4805- 4812, 4814-4819, 5315, 8101- 8104N
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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 length 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-B low resolution typing.

In addition, wells number 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 information in the HLA Dictionary 2004 on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site and the information available at the [www.worldmarrow.org](http://www.worldmarrow.org) web site and have also inferred the serological grouping from the naming 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.

The B\*0826 and the B\*4207 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\*1408 and the B\*3925N, B\*3930, B\*3932 to 3934 and B\*3947 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\*1829 and the B\*3532, B\*3537, B\*3553N, B\*3564, B\*356801-356802 and B\*3599 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\*5504, B\*5508, B\*5513, B\*5527 and the B\*5615, B\*5619N and B\*5622 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\*5523, B\*5532 and the B\*5618 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>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 mixes 29, 30 and 39 may yield less specific PCR product than the other HLA-B low resolution primer mixes.

<sup>7</sup>Primer mixes 33 and 34 have a higher tendency than other primer mixes to give rise to nonspecific amplifications.

<sup>8</sup>Primer mixes 66 and 72 may give rise to a primer oligomer artifact.

<sup>9</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>10</sup>Primer mix 25 will amplify the Cw\*0223 allele, primer mix 27 will amplify the Cw\*0305, Cw\*0325 and Cw\*0327 alleles, primer mix 32 will amplify the Cw\*0746 allele, primer mix 64 will amplify the Cw\*150201 allele, primer mix 67 will amplify the Cw\*0206 allele and primer mix 69 will amplify the Cw\*0620 allele, the Cw\*1701 to Cw\*1704 alleles might be faintly amplified by primer mix 49 and the Cw\*0312 allele might be faintly amplified by primer mix 65.

<sup>11</sup>The B\*57 and B\*58 alleles might be faintly amplified by primer mix 33.

<sup>12</sup>Primer mix 53 might generate a false band of about 500 base pairs. This band should be disregarded when interpreting HLA-B low resolution typings.

<sup>13</sup>The Bw4-associated HLA-A specificities A23, A24, A2403, A25 and A32 are not amplified by the primer pair in primer mix 70.

‘?’ 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</sup> alleles
<b>73<sup>6</sup></b>	155 bp	<b>800 bp</b>	010201-0127
<b>74</b>	270 bp	<b>800 bp</b>	0110, 020201-020203, 020205-0223, 0226, 0227, 0432, 0608, 1701-1705, 1803
<b>75</b>	280 bp	<b>800 bp</b>	020201-020203, 020205-0203, 0204 <sup>weakly</sup> , 0205-0213, 0214 <sup>weakly</sup> , 0215-0223, 0227, 030201-030203, 030401-0310, 0314-0317, 0319, 0323-0329, 0332-033802, 0340-0342, 0344-0348, 0357, 0403, 0406, 0416, 0603, 150201-1509, 151002, 1511, 1513, 1515-1521
<b>76</b>	155 bp	1070 bp	030201-030406, 0305-0315, 0317-0340, 0342-0350, 0357
<b>77</b>	280 bp	<b>800 bp</b>	030301-030305, 031101-0313, 0320N-0322Q, 0330, 0331, 034301-034302, 0349, 0350, 0358, 1512
<b>78<sup>5</sup></b>	125 bp	1070 bp	020201-020203, 020205-0220, 0222, 0223, 0227, 04010101-040106, 0403-041502, 0417-0420, 0423-0438, 0440, 1511
<b>79</b>	390 bp	1070 bp	05010101-050104, 0503-0525, 0810
<b>80<sup>4,7</sup></b>	130, 355 bp	<b>800 bp</b>	0206, 06020101-06020102, 060203-0616N, 0618-0620, 0622, 0623, 1215, 150201-1503, 1507, 1508, 151001-1513, 1515-1518, 1521
<b>81<sup>4</sup></b>	245, 425 bp	<b>800 bp</b>	070101-0733N, 0735-0764, 0766-0772
<b>82<sup>4,5</sup></b>	115, 165, 260, 390 bp	1070 bp	080101-0823
<b>83</b>	340 bp	1070 bp	0114, 020201-020203, 020205-0211, 0213-0223, 0226, 0307, 0315, 0345, 04010101-040106,

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			0403-0410, 0412-0420, 0423-0428, 0430-0435, 0437, 0438, 0440, 05010101-050104, 0503-0525, 06020101-06020102, 060203-0610, 0612-0620, 0622, 0623, 0707, 0709, 0749, 0810, 120401-1205, 1209, 1221, 1404, 150201-1506, 1508-1513, 1515-1520, 1602, 1609, 1612, 1701-1705, 1801-1803
<b>84<sup>5</sup></b>	100, 160, 220 bp	1070 bp	0104, 0121, 120201-12030102, 120303-120306, 120402-1208, 1210-1213, 121402-1221
<b>85<sup>7</sup></b>	130, 250 bp	<b>800 bp</b>	0121, 0212, 04010101-040106, 0403-0409N, 0412-0420, 0423-0435, 0437, 0438, 0440, 0805, 0821, 120201-120303, 120305-120306, 120402, 1206-1208, 1210-1220, 1503, 1516, 160101-1602, 1606-1612, <b>B*6702</b>
<b>86<sup>9</sup></b>	220 bp	<b>800 bp</b>	0104, 0109, 0205, 0217, 06020101-06020102, 060203, 0603, 0607-0613, 0615-0620, 0622, 0623, 12030101-1207, 1211-1213, 1215, 1219, 160401
<b>87<sup>6</sup></b>	130, 255 bp	1070 bp	020201 <sup>weakly</sup> , 020202-020203, 020205-0213, 0215-0223, 0226, 0307, 0310, 0315, 0329, 0345, 0403, 0406, 0416, 0437, 05010101-050104, 0503-0519, 0521-0525, 0603, 0810, 120401-1205, 1209, 1221, 150201-1506, 1508-1513, 1515-1521, 1602, 1609, 1612, 1701-1705
<b>88<sup>5,8</sup></b>	95, 255 bp	1070 bp	0411, 0429, 0436, 0511, 0517, 0764, 0804, 0813, 140201-1411
<b>89<sup>5</sup></b>	110, 325 bp	1070 bp	0206, 0223, 1208, 1215, 150201-1513, 1515-1521
<b>90</b>	190, 250 bp	1070 bp	0213, 0218, 04010101-040106, 0403-0410, 0412-0420, 0423-0432, 0434-0438, 0440, 0517, 0525, 0605, 0731, 080101-080102, 0803, 0806, 0808-0811, 0814, 0816, 0820-0822, 121401-121402, 160101-1602, 160401, 1606-1612
<b>91</b>	225, 270 bp	<b>800 bp</b>	0411, 0433, 0523, 0807, 121401-

<b>92</b>	220, 425 bp	<b>800 bp</b>	121402, 1701-1705 010201-0103, 0106-0108, 0110-0120, 0123-0127, 0358, 0437, 0516, 0605, 0606, 0617, 0707, 0709, 0749, 0812, 1209, 140201-1405, 1407N, 1410, 1411, 1801-1803, <b>B*1403</b>
<b>93</b>	325, 380 bp	1070 bp	0103, 0124, 0222, 030301-030407, 0306-0312, 0314, 0318-0324, 0326, 0328-0332, 0334, 0337-0350, 0357, 0358, 04010101-040106, 0403-0420, 0424-0438, 0440, 05010101-050104, 0503, 0505-0521, 0523-0525, 0609, 0614, 0710, 0728, 0741, 0743, 080101-0808, 0810, 0812-0823, 150201-1513, 1515-1521, 1701-1705, 1801-1803
<b>94</b>	135 bp	1070 bp	030201-0317, 0319-033802, 0340-0350, 0357, 0358, 0432, 0603, 1803
<b>95</b>	160, 235 bp	1070 bp	06020101-06020102, 060203, 0604, 0606-0620, 0622, 0623, 070101-0725, 072701-0732N, 0735-0738, 0741-0763, 0766-0772, 1216, 160101-1602, 1606-1612, 1801-1803

<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-Cw 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 length 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, 80, 81, 85, 86, 91 and 92 contain the primer pair giving rise

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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>The primer pairs in vials 80, 81 and 82 will in most samples give rise to two specific PCR fragments.

<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 mixes 73 and 87 yield somewhat less intense specific PCR fragments than the other HLA-C low resolution primer mixes.

<sup>7</sup>Primer mixes 80 and 85 may give rise to nonspecific amplifications.

<sup>8</sup>Primer mix 88 has a tendency of giving rise to primer oligomer artifacts.

<sup>9</sup>Primer mix 86 might faintly amplify the Cw\*010201 to 0103, the Cw\*0105 to Cw\*0121 and the Cw\*140201 to 1408 alleles.

INTERPRETATION TABLE																									
HLA-A low resolution SSP typing																									
Amplification patterns of the A*0101 to A*8001 alleles																									
		Well <sup>6</sup>																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec.		145	120															180	150						
PCR product(s)		200	135	235	205	190		535	160	200	165	205	175	200	165			75	85						
Length of int.		800	1070	1070	800	800	800	1070	800	800	1070	800	1070	1070	1070	1070	1070	1070	1070	800	800	800	800	800	1070
pos. control <sup>1</sup>																									
5'-primer(s) <sup>2</sup>		98	78	363	98	144	106	98	98	266	257	302	103	98	98	203	41	180	98	180	78	28	78	176	341
		5'-CTT <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-ATA <sup>3'</sup>	5'-CTA <sup>3'</sup>	5'-gCC <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-CTA <sup>3'</sup>	5'-ACg <sup>3'</sup>	5'-Cgg <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-CTT <sup>3'</sup>	5'-CAC <sup>3'</sup>	5'-gAA <sup>3'</sup>	5'-CTT <sup>3'</sup>	5'-TTT <sup>3'</sup>	5'-CAC <sup>3'</sup>	5'-TTT <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-TCg <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-ggA <sup>3'</sup>
		123	106		413	317	176	368	102	266	261	385	423	423		362		418			391	261	527	261	
		5'-AgT <sup>3'</sup>	5'-CCA <sup>3'</sup>		5'-CCg <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-ACA <sup>3'</sup>	5'-ACg <sup>3'</sup>	5'-AAC <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-gCT <sup>3'</sup>		5'-ggT <sup>3'</sup>		5'-AgC <sup>3'</sup>			5'-ACg <sup>3'</sup>	5'-AAC <sup>3'</sup>	5'-TgC <sup>3'</sup>	5'-AAC <sup>3'</sup>	
			144				368		413							363					391				
			5'-gCA <sup>3'</sup>				5'-gTT <sup>3'</sup>		5'-CCg <sup>3'</sup>							5'-ATA <sup>3'</sup>					5'-ACg <sup>3'</sup>				
			144																						
			5'-TCA <sup>3'</sup>																						
3'-primer(s) <sup>3</sup>		203	240	527	256	265	256	259	259	302	299	341	257	282	257	299	238	317	256	299	265	97	265	292	418
		5'-TCT <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CTg <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-TCg <sup>3'</sup>	5'-CgT <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-gTg <sup>3'</sup>	5'-gTC <sup>3'</sup>
			292	527	559	570	292	502	538			521	559	282	299	411	265	527	256	299	282	355	282	292	
			5'-gTg <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-CTT <sup>3'</sup>	5'-CCA <sup>3'</sup>			5'-ggg <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-TCg <sup>3'</sup>	5'-TCA <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-gTT <sup>3'</sup>	
				555			502	539				559	559			526			259	341	282		282	299	
				5'-gCA <sup>3'</sup>			5'-CTg <sup>3'</sup>	5'-TCT <sup>3'</sup>				5'-CgT <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-CCA <sup>3'</sup>					5'-gTT <sup>3'</sup>	5'-CgT <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-TCT <sup>3'</sup>		
				555			538														506		570		
				5'-CCA <sup>3'</sup>			5'-CAg <sup>3'</sup>														5'-TgT <sup>3'</sup>		5'-CAC <sup>3'</sup>		
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>																								
*01010101-0104N, 0106, 0109-0111N, 0116N-0118N, 0120, 0122N-0127N, 0129, 0131N-0135	A1, null	1			4																				24
*0107	-	1			4																				
*0108, 0114, 0115N	-	1																							24
*0112, 0119	-	1		3																					24
Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24



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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
*0113	-	1			4							11		13		15									24
*0121	-	1		3	4																				24
*0128	-	1			4							11				15									24
*0130	-	1																							
*02010101-020115, 020117-020119, 020121- 0209, 0211-0216, 0218- 0222, 0224-0233, 0236- 0238, 0240-0245, 0247, 0249, 0251, 0253N, 0254, 0257-0261, 0263- 0269, 0271, 0272, 027401-0277, 0279- 0292, 0294N, 0296, 0297, 0299, 9201, 9202, 9204-9209, 9211- 9213N, 9215, 9216, 9218-9221, 9223-9228, 9230-9234, 9236-9245, 9247-9255, 9257	A2, A203, null		2																						
*0210, 0239, 0250, 0252, 0273, 0293, 0295, 9210, 9214, 9217, 9256	A210		2																		20				
*021701-021702	A2		2					w																	
*0234, 023501, 023503, 025601-025602, 0262, 9203	-		2											13							20		22		
*023502	-													13							20		22		
*0246, 0270	-		2																		20		22		
*0248, 9229	-																				20		22		
*0255	-		2						8													21		23	
*0278	-		2		4																20		22		
*9222	-						6														20				
*9235	-		2											13											
*9246	-		2								10														
*03010101-0307, 0309- 0311N, 0313-0317, 0319- 0323, 0325-0329, 0331, 0333-0335, 0337-0340, 0342, 0344-0347, 0351	A3			3										13											
*0308, 0332, 0336N	-			3																					
*0312	-			3	4																				
*0318, 2619 <sup>7</sup>	-				4									13											
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
*0324, 0350	-			3					8					13											
*0330	-			3		5								13											
*0341	-			3																					24
*0343	-			3										13	15		17								
*110101-1109, 1113-1117, 1119-112402, 1126, 1127, 1129-1140, 1142	A11				4							11													24
*1110	-				4				8			11													24
*1111	-				4							11	12												24
*1112, 1118, 1141	-				4							11													
*1125	-			3	4							11													24
*2301-2313, 2315-2321	A23					5	6																		
*2314, 2405, 241302, 2424	-					5	6	7																	
*24020101-2404, 2406-2411N, 241301, 2417, 2418, 2420-2423, 2425-2443, 2445N-2450, 2454-2456, 2458-2463, 2466-2481, 2483N-2488, 2490N, 2491, 2493, 2495-2499	A24					5		7																	
*2414, 2415, 2451-2453, 2457, 2464	A24					5																			
*2419, 2444	-					5		7				11													
*2482	-					5		7																	21
*2489	-							7																	
*2492	-				3	5																			
*2494	-					5																			20
*250101-2504, 2507, 2508	A25								8	9				13											
*2505	-								8	9				13											20
*2506	-								8	9			12												
*260101-260107, 2608, 2610-2615, 2617, 2618, 2620, 2623-2629, 2632, 2633, 2635-2638	A26, null								8			10		13											
*2602	-								8			10		w											
*2603, 2606, 2621	A26								8			11		13											23
*2604, 2634	A26								8			10													
*2605, 2630	A26								8					13											23
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
*260701-260702	A26										10			13											
*2609	-								8		10		12												
*2616	-							7			10			13											
*2622	-								8		10			13								21			
*2631	-								8					13											
*29010101-2906, 2908N-2912, 2915-2918	A29														14										
*2907	-							6							14										
*2913	-														14			17							
*2914	-														14		16								
*2919	-														14					19					
*300101-3004, 3006, 3007, 3009-3020, 3022-3028	A30															15									
*3008	-				4											15					20		22		
*310102-3102, 3105-3107, 3109-3124	A31																16								
*3103	-											11	12				16								
*3104	A31												12				16								
*3108	-					5											16								
*320101-3202, 3206-3212, 3214, 3216-3218	A32										9										17				
*3203	-																				17				
*3204	-				3						9														
*3205	-					5											16				17				
*3213	-					5					9										17				
*3215	-								8		9										17				
*3301, 330301-3312, 3314-3318, 3320, 3321, 3323	A33																				18				
*3313	-										10				14						18				24
*3319	-								7												18				
*3322	-																				18		21		
*340101-340102, 3405, 3406	A34								8			11	12												
*3402-3404, 3407	A34				3				8			11	12												
*3408	-				3				8			11	12	13											
*3601, 3603	A36	1																					22		24
*3602	-	1		3																			22		24
*3604	-	1			4																		22		24
*4301	A43												12	13											
*6601, 6604-6608	A66								8			11		13											
*6602, 6603	A66								8				12												
*6609	-								8			11		13									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
*680101-6804, 6806-6814, 6816-6819, 6821-6828, 6830-6844, 6846, 6847	A68								8												20				
*6805, 6815, 6820	-								8												20			23	
*6829	-								8										18		20	21			
*6845	-							7	8												20				
*6901	A69								8																21
*7401-7409, 7411, 7412N	A74																				19				
*7410	-																				19				24
*7413	-													13							19				
*8001	A80								6																23 24
HLA-A allele <sup>4</sup>	ser <sup>5</sup>																								
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
B*1827	-								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

<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 4 to 6, 8, 9, 12, 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\*0104N.

The A\*020116 allele has been renamed to A\*9234.

The A\*020120 has been renamed to A\*020118.

The sequence of the A\*0223 allele has been shown to be identical to A\*0222.

The sequence of the A\*0298 allele has been shown to be identical to A\*0296.

The A\*1128 allele has been renamed to A\*111502.

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\*2408.

The A\*2416 allele has been renamed to A\*3108.

The A\*2465 allele has been renamed to A\*241302.

The sequence of the A\*3005 allele has been shown to be identical to A\*3004.

The A\*3021 allele has been renamed to A\*301102.

The sequence of the A\*31011 allele has been shown to be identical to A\*310102.

The sequence of the A\*3302 allele has been shown to be identical to A\*3303.

<sup>5</sup>The serological reactivity of all HLA-A alleles is not known. In this table we use the information in the HLA Dictionary 2004 on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site and the information available at the [www.worldmarrow.org](http://www.worldmarrow.org) web site and have also inferred the serological grouping from the naming of the sequence-defined allele.

<sup>6</sup>The primer pairs in vials 2 and 11 will in most samples give rise to multiple specific PCR fragments.

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<sup>7</sup>The A\*0318 and A\*2619 alleles will give rise to identical amplification patterns. These two alleles can be separated by the respective high resolution SSP primer sets.

<sup>8</sup>The A\*2314, A\*2405, A\*2424 and A\*2465 alleles will give rise to identical amplification patterns. These two 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*0702 to B*8301 alleles <sup>6</sup>																																															
		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	185	290	165	165	180	105	280	195	105	115	80	150	135	245	210	170	110	400	430																						
PCR product(s)				235	265	235			220	390	400	195			435					400																											
									330																																						
Length of int. pos. control <sup>1</sup>		800	1070	1070	1070	1070	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>		527	97	209	103	103	103	45	45	45	45	206	419	142	45	161	167	355	206	45	142	409	246	44	44																						
		5'-TgA <sup>3'</sup>	5'-TCg <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-CCt <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-AgA <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-Cgg <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-TCA <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-gAA <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-ggC <sup>3'</sup>																						
		540		363	103	363			357	435	420	420		419	540					368	368	420																									
		5'-gAC <sup>3'</sup>		5'-AgC <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-AAT <sup>3'</sup>			5'-Tgg <sup>3'</sup>	5'-AAA <sup>3'</sup>	5'-TTA <sup>3'</sup>	5'-TTA <sup>3'</sup>		5'-gTC <sup>3'</sup>	5'-gAC <sup>3'</sup>					5'-gTT <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-TTA <sup>3'</sup>																									
				363	361				412																																						
				5'-AgC <sup>3'</sup>	5'-AgT <sup>3'</sup>				5'-ATA <sup>3'</sup>																																						
3'-primer(s) <sup>3</sup>		605	272	309	193	246	246	165	206	266	272	272	3rd	301	309	234	204	463	302	259	311	544	317	272	301																						
		5'-gCT <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-gTg <sup>3'</sup>	5'-CgT <sup>3'</sup>	5'-TAT <sup>3'</sup>	5'-TAT <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-TCC <sup>3'</sup>	5'-TgC <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-TAT <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-ATC <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-ggg <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-TgC <sup>3'</sup>	5'-ggT <sup>3'</sup>																						
			272	559	193	246			538	559	559	572		301	605					266	311				302																						
			5'-TgA <sup>3'</sup>	5'-Cag <sup>3'</sup>	5'-CgT <sup>3'</sup>	5'-TAT <sup>3'</sup>			5'-gTC <sup>3'</sup>	5'-Cag <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-gCg <sup>3'</sup>		5'-gTC <sup>3'</sup>	5'-gCT <sup>3'</sup>					272	538				5'-ggT <sup>3'</sup>																						
					583	559								570							272	538																									
					5'-gTg <sup>3'</sup>	5'-CTC <sup>3'</sup>								5'-CCg <sup>3'</sup>						5'-Tgg <sup>3'</sup>	5'-gTC <sup>3'</sup>																										
														572						292																											
														5'-gCg <sup>3'</sup>						5'-gTA <sup>3'</sup>																											
																				572																											
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48																						

INTERPRETATION TABLE																								
HLA-B low resolution SSP																								
Amplification patterns of the B*0702 to B*8301 alleles <sup>6</sup>																								
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	
175	130	105	325	115	215	130	90	90	145	120	430	145	300	160	180	180	90	90	95	115	360	350	290	Length of spec. PCR product(s)
				195		270	410	175	430	210				215	210		240			150				
				225																				
				260																				
1070	1070	1070	1070	1070	800	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	800	Length of int. pos. control <sup>1</sup>
363	106	540	1 <sup>st</sup>	355	141	209	41	209	48	357	49	206	1 <sup>st</sup>	1 <sup>st</sup>	141	420	209	209	206	165	1 <sup>st</sup>	1 <sup>st</sup>	355	5'-primer(s) <sup>2</sup>
5'-Agg <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-gAc <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-TCA <sup>3'</sup>	5'-ATT <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CTg <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-gCC <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-gAA <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-ATT <sup>3'</sup>	5'-TTA <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-gAC <sup>3'</sup>	5'-ACC <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-TCA <sup>3'</sup>	
				418	357	209	368	363	206					418	420		362	369		463			363	
				5'-Agg <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-ggg <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-AGC <sup>3'</sup>	5'-gAA <sup>3'</sup>					5'-Agg <sup>3'</sup>	5'-TTA <sup>3'</sup>		5'-ggT <sup>3'</sup>	5'-TAC <sup>3'</sup>		5'-TgA <sup>3'</sup>			5'-AgC <sup>3'</sup>	
				499		355																		
				5'-TCT <sup>3'</sup>		5'-TCA <sup>3'</sup>																		
499	193	603	282	538	309	299	282	259	309	435	309	311	259	175	311	559	256	256	259	272	317	311	610	3'-primer(s) <sup>3</sup>
5'-ggA <sup>3'</sup>	5'-CgT <sup>3'</sup>	5'-gTg <sup>3'</sup>	5'-gCC <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-ATC <sup>3'</sup>	5'-TCA <sup>3'</sup>	5'-gCC <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-ATC <sup>3'</sup>	5'-TCT <sup>3'</sup>	5'-ATC <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-CAg <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-CCC <sup>3'</sup>	5'-gTT <sup>3'</sup>	5'-TgC <sup>3'</sup>	5'-ggA <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-CTC <sup>3'</sup>	
		605		572	538	583	418	499		527			259	538	559		559	256		538				
		5'-gCT <sup>3'</sup>		5'-gCg <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-gTg <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-ggA <sup>3'</sup>		5'-CCT <sup>3'</sup>			5'-CTC <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-CgT <sup>3'</sup>		5'-CgT <sup>3'</sup>	5'-CTC <sup>3'</sup>		5'-CCA <sup>3'</sup>				
																		420						
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>																								
*070201-070207, 070501-0706, 0710, 0712, 0714, 071801, 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741, 0743-0747, 0749N, 0752, 0755- 0759, 0761-0764, 0766- 0768, 0770-0772, 0775, 0776	B7	25																							48
*0703, 0708, 0716, 0732, 0737	B7, B703	25																							48
*0704, 0725	B7	25													38										48
*0707, 0742	B7	25																							48
*0709, 0711, 0717	B7	25											36												48
*0713, 0715	-	25																							48
*0719, 0740, 0748, 0751	-																								48
*0720, 0724	-	25		27																					48
*0727	-	25										35									44				
*0733, 0753	-																								48
*0736	-	25																							
*0738	-	25																							
*0750	-	25										35													48
*0754	-	25																							48
*0760	-			27																					48
*0765	-	25																	42						
*0769	-	25																						47	48
*080101-080106, 0805, 0808N, 0810, 0811, 0815, 0818, 0819N, 0822-0824, 0827, 0829, 0830N, 0833, 0834	B8, Null		26						32																48
*0802, 0803	B8		26						32																
*0804	-		26						32			35													48
*0806, 0813, 0820, 0840	B8		26																						48
*0807, 0814	B8		26																						48
*0809	-		26						32																48
*0812, 0816, 0831	-		26						32																48
*0817	-		26						32			35													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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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>
			52																			71	72	B7	*070201-070207, 070501-0706, 0710, 0712, 0714, 071801, 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741, 0743-0747, 0749N, 0752, 0755- 0759, 0761-0764, 0766 0768, 0770-0772, 0775, 0776
																						71	72	B7, B703	*0703, 0708, 0716, 0732, 0737
		51	52																			71	72	B7	*0704, 0725
			52																			71		B7	*0707, 0742
			52																			71	72	B7	*0709, 0711, 0717
			w																			71	72	-	*0713, 0715
			52																			71	72	-	*0719, 0740, 0748, 0751
			52																			71	72	-	*0720, 0724
																						70	72	-	*0727
			52																			71		-	*0733, 0753
			52																			70	72	-	*0736
																						70	72	-	*0738
																						71	72	-	*0750
			52									62										71	72	-	*0754
			52																			71		-	*0760
			52				56					64								w		71	72	-	*0765
																						71	72	-	*0769
		51																				71	72	B8, Null	*080101-080106, 0805, 0808N, 0810, 0811, 0815, 0818, 0819N, 0822-0824, 0827, 0829, 0830N, 0833, 0834
		51																				70	72	B8	*0802, 0803
		51																				71	72	-	*0804
																						71	72	B8	*0806, 0813, 0820, 0840
		51																				71	72	B8	*0807, 0814
		51		54																		71		-	*0809
		51																				71		-	*0812, 0816, 0831
		51										62										71	72	-	*0817
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
*0821			26	27					32																48
*0825	-		26	27																					48
*0826, 4207	-								32																48
*0828, 0837	-		26									36													48
*0832	-		26						32										42						48
*0835	-		26						32			36													48
*0836	-		26						32																48
*0838	-		26						32																48
*1301, 1317, 1320, 1322-1324	B13			27	28						34							41							
*130201-130205, 1308Q, 1315, 1318, 1319	B13			27	28						34														
*1303	-			27	28																				
*1304, 1310	-			27	28							36													
*1306	-			27	28													41							
*1307N	Null			27	28						34							41							
*1309	-				28						34														
*1311	-			27	28						34														
*1312, 1313	-			27	28													41							
*1314	-			27							34														
*1316	-			27	28						34														
*1321	-			27	28																				
*1401, 1407N	B64				28	29																		47	48
*140201-1404, 1409	B65				28		30																	47	48
*1405-140602	-						30																	47	48
*1408, 3925N, 3930, 3932-3934, 3947	-					29																		47	48
*1410	-					29												41						47	48
*15010101, 15010102N, 150103, 150106-150108, 1526N- 152703, 1532, 1534, 1535, 1538, 1550, 1556, 1560, 1570, 1571, 1575, 1579N, 1581, 1582, 1592, 1594N, 1596, 1597, 9502, 9504, 9505, 9509- 9511N, 9513, 9517, 9518, 9522, 9525, 9528, 9529, 9535, 9540, 9545-9547, 9552, 9559, 9560	B62, Null, B15							31				36							43						
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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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.	
		51																				71	72			*0821	
																						71	72	-		*0825	
		51																				71	72	-		*0826, 4207	
		51																				71	72	-		*0828, 0837	
		51																	68			71	72	-		*0832	
		51																				71	72	-		*0835	
		51																				71	72	-		*0836	
		51											62									71	72	-		*0838	
													62									70			B13	*1301, 1317, 1320, 1322-1324	
													62									70			B13	*130201-130205, 1308Q, 1315, 1318, 1319	
													62			65						70			-	*1303	
													62									70			-	*1304, 1310	
													62	64								70			-	*1306	
																						70			Null	*1307N	
													62									71			-	*1309	
													62						67			70			-	*1311	
													62									70			-	*1312, 1313	
													62									70			-	*1314	
										59			62									70			-	*1316	
													62									70			-	*1321	
																						71			B64	*1401, 1407N	
																						71			B65	*140201-1404, 1409	
																						71			-	*1405-140602	
																						71			-	*1408, 3925N, 3930, 3932-3934, 3947	
							55															71			-	*1410	
																											*15010101, 15010102N, 150103, 150106-150108, 1526N 152703, 1532, 1534, 1535, 1538, 1550, 1556, 1560, 1570, 1571, 1575, 1579N, 1581, 1582, 1592, 1594N, 1596, 1597, 9502, 9504, 9505, 9509 9511N, 9513, 9517, 9518, 9522, 9525, 9528, 9529, 9535, 9540, 9545-9547, 9552, 9559, 9560
													62									69	71		B62, Null, B15		
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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*150102	B62							31		33			36							43						
*150104	B62												36							43						
*1502, 1588, 9512, 9521, 9539	B75							31					36					41		43						
*1503, 1547, 1549, 1561, 1598, 9503, 9523, 9527, 9532, 9551, 9556, 9558	B72								32			35	36							43						
*1504								31					36							43						
*1505, 1506, 1533, 1539, 1540, 1565, 1578, 1584, 9507, 9536, 9541, 9555	B62, B15							31					36							43						
*1507, 9526				27				31					36							43						
*1508, 151101-151103, 1515, 9548	B75							31					36							43						
*1509	B70								32	33	34									43						
*1510, 1537, 1590, 1599, 9533	B71								32		34									43						
*1512, 1514, 1519	B76							31					36	37						43						
*1513	B77							31					36		38			41		43						
*1516, 1567, 1595	B63									33			36		38					43						
*15170101-151702	B63							31		33					38					43						
*1518, 1551, 1552, 1572, 1593, 9508, 9514, 9519, 9534, 9553	B71								32		34		36							43						
*1520, 1525	B62							31					36					41		43						
*1521, 1544	B75							31			34		36					41		43						
*1523	-								32		34		36		38					43						
*1524, 1587, 9557	B62							31					36		38					43						
*1528, 9520, 9549N	B15							31					36							43						
*1529	B15								32				36							43						
*1530, 1558, 1563	B62, B15							31												43						
*1531	B75							31					36							43						
*1536	-			w				31					36					41		43						
*1542	-							31												43						
*1543	-							31					36							43						
*1545	B62			27				31												43						
*1546	B72				28			31	32				36							43						
*1548, 9550	B62							31												43						
*1553	-				28				32				36							43						
*1554	-								32			35	36							43						
*1555	-			27				31					36							43						

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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.		
													62							69	71			B62	*150102		
													62	63						69	71			B62	*150104		
								57														71			B75	*1502, 1588, 9512, 9521, 9539	
													62										71		B72	*1503, 1547, 1549, 1561, 1598, 9503, 9523, 9527, 9532, 9551, 9556, 9558	
									w				62							69	71					*1504	
													62										71		B62, B15	*1505, 1506, 1533, 1539, 1540, 1565, 1578, 1584, 9507, 9536, 9541, 9555	
													62							69	71					*1507, *9526	
								57												69	71			B75	*1508, 151101-151103, 1515, *9548		
																						71			B70	*1509	
																						71			B71	*1510, 1537, 1590, 1599, *9533	
													62							69	71			B76	*1512, 1514, 1519		
								57													70			B77	*1513		
									59												70			B63	*1516, 1567, 1595		
																					70			B63	*15170101-151702		
																							71		B71	*1518, 1551, 1552, 1572, 1593, 9508, 9514, 9519, 9534, 9553	
													62										71		B62	*1520, 1525	
								57															71		B75	*1521, 1544	
																					70			-		*1523	
													62							69	70			B62	*1524, 1587, 9557		
																				69	71			B15	*1528, 9520, 9549N		
																							71		B15	*1529	
													62							69	71			B62, B15	*1530, 1558, 1563		
								57															71		B75	*1531	
													62								70			-		*1536	
									59				62	64									71		-		*1542
													62							69	70			-		*1543	
													62							69	71			B62	*1545		
												61	62							69	71			B72	*1546		
													62										71		B62	*1548, 9550	
												61	62							69	71			-		*1553	
													62							69	71			-		*1554	
								57															71		-		*1555
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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*1557	-							31				36							43						
*1562	-								32			35	36					41		43					
*1564	-								32			35	36							43					
*1566	-							31			34		36							43					
*1568	-			27				31	32			35	36							43					
*1569	-								32			35	36							43		45			
*1573	-							31												43					
*1574	-								32				36							43					
*1576	-							31					36							w					
*1577	-							31											41		43				
*1580	-								32		34		36						41		43				
*1583	-							31	32											43					
*1585, 9554	-							31					36						41		43				
*1586	-							31												43					
*1589	-			w				31					36						41		43				
*1591, 9531	-								32			35	36	37						43					
*9501	-							31					36							43					
*9506	-				28			31	32				36						41		43				
*9515	-								32		34		36							43					
*9516	-							31					36							43					
*9524	-								32		34		36							43					
*9537	-							31												43					
*9538	-			25				31					36							43					
*9542	-			26				31					36							43					
*9543	-							31	32				36							43					
*9544	-							31					36						41		43				
*180101-1803, 1805-1808, 1810, 1811, 1813, 1815, 1817N, 1818, 1820, 1821, 1823N-1825, 1827, 1828, 1830, 1833	B18												36			39				42					
*1804	-												36			39				42					
*1809	-												36			39									
*1812	-												36			39				42					
*1819	-												36			39				42					
*1822	-												36			39			41	42					
*1826	-															39				42					
*1829, 3532, 3537, 3553N, 3564, 356801-356802, 3599	-												36								42				
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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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.		
													62								69	71			-	*1557	
													62									71			-	*1562	
																						71			-	*1564	
													62								69	71			-	*1566	
													62								69	71			-	*1568	
													62									71			-	*1569	
													62			65	67				69	71			-	*1573	
													62									71			-	*1574	
			52					w													69	71			-	*1576	
													62								69	71			-	*1577	
																						71			-	*1580	
					54								62									71			-	*1583	
													62								69	71			-	*1585, 9554	
													62		64							71			-	*1586	
								57														70			-	*1589	
													62									71			-	*1591, 9531	
			52										62								69	71			-	*9501	
												61	62									71			-	*9506	
																						70			-	*9515	
49													62									71			-	*9516	
49																						71			-	*9524	
										w			62								69	71			-	*9537	
													62									71			-	*9538	
													62								69	71			-	*9542	
												61									69	71			-	*9543	
								57													69	71			-	*9544	
																					68		71				*180101-1803, 1805-1808, 1810, 1811, 1813, 1815, 1817N, 1818, 1820, 1821, 1823N-1825, 1827, 1828, 1830, 1833
														64							68		71		-	*1804	
																					68		70		-	*1809	
													62									71			-	*1812	
																					68	69	71		-	*1819	
																					68		71		-	*1822	
																					68		71		-	*1826	
																						71			-	*1829, 3532, 3537, 3553N, 3564, 356801, 356802, 3599	
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
*2701	B27					29											40								
*2702	B27					29											40								
*2703-2706, 2709, 2710, 2713, 2717, 2720, 2727, 2731, 2735, 2737, 2745, 2746	B27					29											40								
*2707, 2711, 2714, 2715, 2721, 2728, 2732, 2734, 2738, 2743	B27																40								
*2708, 2726, 2740, 2742, 2744	B2708					29											40								
*2712	-					29											40								
*2716, 2739	-					29											40								
*2718	-					29						35					40								
*2719	-																40	41							
*2723	-					29											40								
*2724	-																40								
*2725	-																40								
*2729	-					29						35					40								
*2730	-																40	41							
*2733	-																40								
*2741	-					29							36				40								
*2750	-					29						35					40								
*350101-350107, 3507- 350803, 3511, 3515, 352001, 352002, 3523, 3529, 3540N-3542, 3548, 3550, 3552, 3554, 3557, 3561, 3577, 3578, 3582, 3590, 3594	B35											36						41	42						
*350201-350401, 350403, 3506, 3512, 3533, 3534, 3536, 3539, 3555, 3559, 3565Q, 3570, 3574, 3583-3585, 3595	B35																	41	42						
*350402	-									33								41	42						
*3505, 3551, 3558, 3572, 3589, 3597	B35			27								36							42						
*350901-350902, 3518, 3531, 3575, 3588	B35																		42						
*3510, 3528, 3569, 3580	-											36						41	42						
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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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.	
			52										62									70			B27	*2701
			52				56				60		62									70			B27	*2702
			52				56						62									70			B27	*2703-2706, 2709, 2710, 2713, 2717, 2720, 2727, 2731, 2735 2737, 2745, 2746
			52				56						62									70			B27	*2707, 2711, 2714, 2715, 2721, 2728, 2732, 2734, 2738, 2743
			52				56						62									71			B2708	*2708, 2726, 2740, 2742, 2744
													62									71			-	*2712
													62									70			-	*2716, 2739
													62									71			-	*2718
			52				56						62									70			-	*2719
																						70			-	*2723
			52				56	57					62									70			-	*2724
			52				56						62								69	70			-	*2725
													62									70			-	*2729
			52				56				60		62									70			-	*2730
			52				56						62									71			-	*2733
			52				56						62									70			-	*2741
			52				56						62									70			-	*2750
																				68			71		B35	*350101-350107, 3507- 350803, 3511, 3515, 352001, 352002, 3523, 3529, 3540N-3542, 3548, 3550, 3552, 3554, 3557, 3561, 3577, 3578, 3582, 3590 3594
																				68			71		B35	*350201-350401, 350403, 3506, 3512, 3533, 3534, 3536, 3539, 3555, 3559, 3565Q, 3570, 3574, 3583-3585, 3595
																				68			71		-	*350402
																				68			71		B35	*3505, 3551, 3558, 3572, 3589, 3597
																				68			71		B35	*350901-350902, 3518, 3531, 3575, 3588
												62											71		-	*3510, 3528, 3569, 3580
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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*3513	B35																	41	42						
*351401-351402, 3562	B35											36						41	42						
*3516	-			27									36					41	42						
*3517, 3530	B35			27									36					41	42						
*3519	B35												36					41							
*3521, 3524	-												36					41	42						
*3522	-			27															42						
*3525, 3549	-												36					41							
*3526	-						30						36					41							
*3527	B35												36					41							
*3535	-												36					41	42			45			
*3538	-																	41	42						
*3543, 3567, 3579, 3586	-												36						42						
*3544	-																	42							
*3545, 3571	-												36	37				41	42						
*3546	-				28								36					41							
*3547	-				28								36					41							
*3556	-																	41							
*3560	-																		42						
*3563	-				28								36					41							
*3566	-												36						42						
*3576	-												36					41	42						
*3581	-																	41	42						
*3587	-								32										42						
*370101-370103, 3703N, 3706, 3713	B37, Null													37				41			44				
*370104	B37													37				41			44				
*370105	B37													37							44				
*3702	-					29								37							44				
*3704	-													37				41			44				
*3705	-													37				41			44				
*3707	-	25												37							44				
*3708	-													37				41			44				
*3709	-													37							44				
*3710	-																	41			44				
*3711	-																	41	42		44				
*3712	-								32					37							44				
*3714	-																				44				
*380101-380202, 3808, 3809, 3811-3816, 3818, 3819	B38					29																	45	46	47
*3803	B16					29						35										45	46		
*3804	-																					45		47	
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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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.
													62									71		B35	*3513
																			68	69		71		B35	*351401-351402, 3562
													62									71		-	*3516
																			68			71		B35	*3517, 3530
												61										71		B35	*3519
						55													68			71		-	*3521, 3524
																			68			71		-	*3522
																						71		-	*3525, 3549
																						71		-	*3526
																			68			71		B35	*3527
																			68			71		-	*3535
						53													68			71		-	*3538
																			68	69		71		-	*3543, 3567, 3579, 3586
																			68	69		71		-	*3544
						53													68			71		-	*3545, 3571
								57														71		-	*3546
												61										71		-	*3547
																			68			71		-	*3556
															64				68			71		-	*3560
												61	62									71		-	*3563
																			68			71	72	-	*3566
						52														w		71		-	*3576
							55													68		71		-	*3581
						51														68		71	72	-	*3587
							53						62									70		B37, Null	*370101-370103, 3703N, 3706, 3713
							53						62	63								70		B37	*370104
							53						62									70		B37	*370105
													62									70		-	*3702
							53	55					62									70		-	*3704
							53						62									71		-	*3705
													62									70	72	-	*3707
							53												68			70		-	*3708
													62									70		-	*3709
							53						62									70		-	*3710
							53						62									71		-	*3711
							53						62									70		-	*3712
													62									70	w	-	*3714
																						70		B38	*380101-380202, 3808, 3809, 3811-3816, 3818, 3819
													62									70		B16	*3803
													62									70		-	*3804
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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*3805	-						30															45	46	47	
*3806	-																					45			
*3807	-					29																45			
*3810	-					29																	46	47	
*3817	-					29								37								44	45	46	47
*39010101-390106, 3903, 3905-390602, 3909, 3911, 3914, 3915, 3924, 3926- 3929, 3931, 3935, 3937, 3938Q, 3940N, 3941, 3944, 3946, 3948	B3901, B39					29																	45		47 48
*390201, 3908	B3902, B39					29						35											45		48
*390202, 391301- 391302, 3923	B3902, B39											35											45		48
*3904	B39						30																45	47	48
*3907	-					? ?							36										45	47	48
*3910, 3916, 3920	B39																						45		48
*3912, 3945	B39																						45	47	48
*3917	-																						45		48
*3918	-					29																	45	47	48
*391901	-																		42				45	47	48
*391902	-					29													42				45	47	48
*3922	-					29																	45	47	48
*3936	-					29																		47	48
*3939	-					29							35										45		48
*3942	-					29													41				45	47	48
*3943	-					29							36												47 48
*400101-400106, 4007, 4051, 4066, 4073, 4079	B60, B40				28																				48
*400201-400204, 4004, 40060101-400602, 4039, 4070, 4089	B61, B40																								
*4003, 4020	B40												36												
*4005	B4005			27																					
*4008	-																								
*4009, 4011, 4018, 4024, 4027, 4029, 4035, 4037, 4040, 4044, 4050, 4056, 4057, 4064, 4075, 4078, 4082, 4085, 4086, 4090, 4091	B61, B40																								?
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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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.	
																					70			-	*3805	
																			68		70			-	*3806	
																			68		70			-	*3807	
																					70			-	*3810	
																					70			-	*3817	
																						71		B3901, B39	*39010101-390106, 3903, 3905-390602, 3909, 3911, 3914, 3915, 3924, 3926- 3929, 3931, 3935, 3937, 3938Q, 3940N, 3941, 3944, 3946, 3948	
												62										71		B3902, B39	*390201, 3908	
												62										71		B3902, B39	*390202, 391301- 391302, 3923	
																						71		B39	*3904	
																						71		-	*3907	
																						71		B39	*3910, 3916, 3920	
																						71		B39	*3912, 3945	
													64				67					71		-	*3917	
																					69	71		-	*3918	
																					68		71	-	*391901	
																					68		71	-	*391902	
												62										71		-	*3922	
																						69	71	-	*3936	
																						71		-	*3939	
																						71		-	*3942	
																						71		-	*3943	
49												61	62									71		B60, B40	*400101-400106, 4007, 4051, 4066, 4073, 4079	
	50											61	62									71		B61, B40	*400201-400204, 4004, 40060101-400602, 4039, 4070, 4089	
	50											61	62									71		B40	*4003, 4020	
	50											61	62									71		B4005	*4005	
	50											61										71		-	*4008	
													61	62									71		B61, B40	*4009, 4011, 4018, 4024, 4027, 4029, 4035, 4037, 4040, 4044, 4050, 4056, 4057, 4064, 4075, 4078, 4082, 4085, 4086, 4090, 4091
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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*4010, 4022N, 4033, 4036, 4042, 4043, 4049, 4054, 4055, 4061, 4063, 4065, 4067, 4081, 4084, 4087, 4088, 4092	B60, B40				28																				48	
*4012	-								32			35								43						
*4013, 4019	-																									
*401401-401403, 4053	-				28																				?	
*4015, 4032	B61	25			28																				?	
*4016	B61	25			28																				48	
*4021	-																								?	
*4023	-	25			28																				48	
*4025, 4069	-				28																				?	
*4026	B21									33															?	
*4028	-									33								41							?	
*4030, 4034	-				28																				?	
*4031, 4045, 4080	-				28																				?	
*4038, 4052	-				28								36												?	
*4046	-											35					40								?	
*4047	-				28																				?	
*4048	-				28					34															?	
*4058	-				28																				?	
*4059	-				28							36													48	
*4060	-				28							36													48	
*4068	-																								?	
*4071	-			27																					?	
*407201-407202, 4077	-				28																				48	
*4074	-																								?	
*4076	-				28																				?	
*4083	-																								?	
*4093	-											35					40								?	
*4094	-																								?	
*4095	-																								?	
*4096	-																								?	
*4101, 4106, 4107	B41				28				32																48	
*4102	B41				28				32																48	
*410301-410302	B41				28				32																48	
*4104	-				28																				48	
*4105	B41				28				32																48	
*4108	-	25			28				32						38										48	
*4201, 4202, 4206, 4210	B42								32																48	
*4204	-								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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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.	
49												61	62									71		B60, B40	*4010, 4022N, 4033, 4036, 4042, 4043, 4049, 4054, 4055, 4061 4063, 4065, 4067, 4081, 4084, 4087, 4088, 4092
49													62										71	-	*4012
	50							58	60				62									70		-	*4013, 4019
												61	62										71	-	*401401-401403, 4053
												61	62										71 72	B61	*4015, 4032
												61	62										71 72	B61	*4016
49													62										71	-	*4021
49												61	62										71	-	*4023
49												61											71	-	*4025, 4069
	50											61	62										71	B21	*4026
	50				55							61	62										71	-	*4028
												61	62										71 72	-	*4030, 4034
								57				61	62										71 72	-	*4031, 4045, 4080
49												61	62										71	-	*4038, 4052
49													62										71	-	*4046
49													62									70		-	*4047
49												61	62			67							71	-	*4048
												61	62		64								71	-	*4058
												61	62										71 72	-	*4059
49												61	62										71	-	*4060
	50											61											71	-	*4068
	50											61	62			65	67						71	-	*4071
												61	62										71	-	*407201-407202, 4077
49	50											61	62										71	-	*4074
49													62											-	*4076
												61	62										71	-	*4083
													62										71	-	*4093
	50											61	62	63									71	-	*4094
	50							59				61	62										71	-	*4095
	50												62									70		-	*4096
	51			54								61	62										71	B41	*4101, 4106, 4107
	51											61	62										71 72	B41	*4102
	51											61	62										71	B41	*410301-410302
	51											61	62										71 72	-	*4104
	51			54								61	62										71	B41	*4105
	51											61	62										71	-	*4108
	51	52																					71 72	B42	*4201, 4202, 4206, 4210
	51	52		54																			71	-	*4204
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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*420501-420502	-	25							32						38											48
*4208	-								32																	48
*4209	-											36														48
*44020101-440205, 4411, 4416, 4419N, 4421-4424, 4427, 4433, 4434, 4448, 4452N, 4455, 4459, 4463, 4466, 4467	B44, Null				28													41								
*440301-4405, 4413, 4426, 442801-4430, 4432, 4435, 4436, 4438, 4439, 4442, 4445, 4451, 4456N, 4458N, 4461N, 4469	B44				28													41								
*4406	B44																	41								
*4407																		41								
*4408	B44			w														41								
*4409	B12				28													41								
*4410	-				28							35						41		43						
*4412	-				28													41								
*4414	-				28				32									41								
*4415	-				28				32			35														
*4417, 4443	-				28								36	37				41								
*4418	-				28				32			35														
*4420	-				28				32																	
*4425, 4450	-				28													41								
*4431	-				28																					
*4437, 446401-446402	-				28													41								
*4440	-											35					40	41								
*4441, 4453	-				28																					
*4444	-											35					40	41								
*4446	-				28													41								
*4447, 4465	-				28																					
*4449	-			26	28													41								
*4454	-				27	28																				
*4457	-				w													41								
*4460	-				27	28												41								
*4462	-				28				32	33								41								
*4501, 4505, 4507	B45				28				32			35														48
*4502, 4503	-				28				32																	48
*4504	-				28				32																	48
*4506	-				28				32			35														48
*4508	-				28				32																	48
*4509	-				28				32				36	37												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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		51	52																			71	72	-	*420501-420502	
			52																				71		-	*4208
		51	52																				71	72	-	*4209
				53									62	63									70		B44, Null	*44020101-440205, 4411, 4416, 4419N, 4421-4424, 4427, 4433, 4434, 4448, 4452N, 4455, 4459, 4463, 4466, 4467
				53									62										70		B44	*440301-4405, 4413, 4426, 442801-4430, 4432, 4435, 4436, 4438, 4439, 4442, 4445, 4451, 4456N, 4458N, 4461N, 4469
				53	54						60			63						68		70		B44	*4406	
				53									62									70				*4407
				53									62	63								70		B44	*4408	
				53								61	62	63								71		B12	*4409	
				53									62			65						70		-	*4410	
				53										63								70		-	*4412	
				53									62									70		-	*4414	
					54								62			65						70		-	*4415	
				53									62				65					70		-	*4417, 4443	
					54					58			62				65					70		-	*4418	
				53	54								62	63								70		-	*4420	
				53						58	60		62									70		-	*4425, 4450	
49				53									62									70		-	*4431	
													62									70		-	*4437, 446401-446402	
				53									62									70		-	*4440	
				53									62	63								70		-	*4441, 4453	
				53									62	63								70		-	*4444	
				53								61	62									71		-	*4446	
				53									62									70		-	*4447, 4465	
				53									62	63								70		-	*4449	
				53									62									70		-	*4454	
				53									62									70		-	*4457	
				53									62									70		-	*4460	
				53									62									70		-	*4462	
					54							61	62			65						71		B45	*4501, 4505, 4507	
					54							61	62									71		-	*4502, 4503	
					54							61	62			65						71		-	*4504	
			52		54							61	62			65						71		-	*4506	
					54							61	62		64							71		-	*4508	
					54							61	62									71		-	*4509	
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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*460101-460102, 4604, 4605, 4607N, 4609, 4610, 4614-4616	B46							31					36													
*4602	B46							31					36													
*4603, 4608, 461301-461302	-							31					36													
*4606	-							31					36													
*4611	-							31																		
*4612	-			27				31					36													
*4617	-							31					36	37												
*4618	-							31																		
*47010101-47010102	B47				28																					
*4702	-				28																					
*4703	-				28																					
*4704, 4705	-				28	29																				
*480101-480102, 4807, 4809, 4811, 4819	B48												35													48
*4802	-												35	36				41								48
*480301-480302	B48												35													48
*4804	-												35													48
*4805, 4808	B48	25											35													48
*4806	-																									48
*4810, 4812, 4817	-												35													48
*4813	-												35													48
*4814	-												35	36												48
*4815	-	25											35													48
*4816	-												35													48
*4818	-												35													48
*490101	B49				28																					
*490102	B49				28																					
*4902	-				28																					
*4903	-																									
*4904, 4905	-				28									36												
*5001, 5004	B50				28																					48
*5002	B45				28								35													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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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.	
			52			55														69		71		B46	*460101-460102, 4604, 4605, 4607N, 4609, 4610, 4614-4616	
			w			55														69		71		B46	*4602	
			52			55																	71	-	*4603, 4608, 461301-461302	
49			52			55																	71	-	*4606	
			52			55										65							71	-	*4611	
			52			55														69		71		-	*4612	
			52			55														69		71		-	*4617	
			52			55									64								71	-	*4618	
							56						62								70			B47	*47010101-47010102	
							56					61	62										71	-	*4702	
							56					w	62								70	w		-	*4703	
													62								70			-	*4704, 4705	
								57					62										71	72	B48	*480101-480102, 4807, 4809, 4811, 4819
													62										71		-	*4802
49													62										71		B48	*480301-480302
								57					62										71		-	*4804
													62										71	72	B48	*4805, 4808
								57															71	72	-	*4806
													62										71	72	-	*4810, 4812, 4817
													62										71		-	*4813
													62										71	72	-	*4814
								57					62										71	72	-	*4815
								57															71	72	-	*4816
								57					62									70	72	-	*4818	
									58	59			62			65						70		B49	*490101	
									58				62			65						70		B49	*490102	
										59			62			65						70		-	*4902	
										59			62			65						70		-	*4903	
									58	59			62									70		-	*4904, 4905	
										59			61	62		65							71		B50	*5001, 5004
										59			61	62		65							71		B45	*5002
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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*510101, 510103, 510105-510108, 510201, 510203, 5103, 5107, 510901, 5111N, 5112, 511302, 5114, 5117-5119, 5122, 5123, 5126- 5130, 5132, 5133, 5138-5141N, 5143, 5148-5153, 5155, 5157, 5158, 5160, 5165	B51, B5102, B5103, Null									33																
*510102, 510109, 510202, 5105, 510902	B51									33																
*510104, 510204, 511301, 5116, 5121, 512401, 512402, 5131, 5134, 5135	B51, B52																									
*5104, 5146, 5156	B51									33								41								
*5106, 5159	B51									33																
*5108, 5120, 5144N	B51								32	33																
*5110	-																									
*5115	-																									
*5136	-								32																	
*5137, 5163	-									33			36													
*5142	-																	41								
*5145	-												36													
*5154	-									33																
*5161	-									33																
*5162	-																									
*5164	-			27						33																
*520101, 520103, 5204, 5205, 5207, 5210-5213	B52									33																
*520102, 520104- 5203, 520601-520602, *5208, 5214	B52, -									33																
*530101-530104, 5305, 5308, 5310, *5302	B53												36					41								
*5303, 5309, 5311- 5313	-												36					41								
*5304, 5307	-																	41								
*5306	-												36					41								
Well No.		25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	

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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.	
					54					59	60								68		70			B51, B5102, B5103, Null	*510101, 510103, 510105-510108, 510201, 510203, 5103, 5107, 510901, 5111N, 5112, 511302, 5114, 5117-5119, 5122, 5123, 5126-5130, 5132, 5133, 5138-5141N, 5143, 5148-5153, 5155, 5157, 5158, 5160, 5165
										59	60								68		70			B51	*510102, 510109, 510202, 5105, 510902
					54					59	60								68		70			B51, B52	*510104, 510204, 511301, 5116, 5121, 512401, 512402, 5131, 5134, 5135
					54	55					60								68		70			B51	*5104, 5146, 5156
					54						60								68		70			B51	*5106, 5159
					54					59	60								68		70			B51	*5108, 5120, 5144N
					54						60								68		70			-	*5110
											60					65			68		70			-	*5115
					54					59	60								68		70			-	*5136
					54					59	60								68		70			-	*5137, 5163
					53	54					60								68		70			-	*5142
					54						60								68		70			-	*5145
										59									68		70			-	*5154
					54					59	60								68		69	70		-	*5161
					54						60					65	67	68		68		70		-	*5162
					54						60								68		70		-	*5164	
										59	60		62									70		B52	*520101, 520103, 5204, 5205, 5207, 5210-5213
					54					59	60		62									70		B52	*520102, 520104-5203, 520601-520602, *5208, 5214
										59	60		62									70		-	
											60								68		70			B53	*530101-530104, 5305, 5308, 5310, *5302
						55					60								68		70			-	*5303, 5309, 5311-5313
											60								68		70			-	*5304, 5307
					54	55					60								68		70			-	*5306
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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*5314	-			27									36													
*5315	-												36					41								
*5317	-												36					41								
*5401, 5402, 5405N, 5407, 5408N, 5410, 5413, 5416, 5417	B54																									
*5403	-																									
*5404, 5411, 5415	-																									
*5406	-												36													
*5409, 5414	-												36													
*5412	-																									
*550101-550104, 5503, 5505, 5511, 5515, 5525, 5529, 5531, 5533	B55																									
*550201-550203, 5507, 5510, 5512, 5516, 5519, 5526, 5530	B54, B55																									
*5504, 5508, 5513, 5527, 5615, 5619N, 5622	B55																									
*5509, 5524	-											34														
*5514	-												36					41								
*5517, 5528	-																									
*5518	-												35													
*5520	-								32																	
*5521	-																									
*5522	-												34													
*5523, 5532, 5618	-												36													
*5534	-																									
*5601, 5608, 5614, 5616, 5620, 5624	B56																									
*5602, 5604	B56																									
*5603	B56												36													
*560501	-											33														
*560502	-											33														
*5606	-											33							42							
*5607	-																									
*5609	-												36						41							
*5610	-																									
*5611, 5612	-																		41							
*5613	-								32																	
*5617	-																									
*5621	-												33													
*5623	-																									
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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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.		
											60								68			70			-	*5314	
											60								68			70	72		-	*5315	
											60		62									70			-	*5317	
			52				56							63	64								71		B54	*5401, 5402, 5405N, 5407, 5408N, 5410, 5413, 5416, 5417	
			52				56							63		65							71		-	*5403	
			52				56							63									71		-	*5404, 5411, 5415	
			52				56							63							69		71		-	*5406	
			52				56							63									71		-	*5409, 5414	
			52				56	58						63	64								70		-	*5412	
			52				56			59					64								71		B55	*550101-550104, 5503, 5505, 5511, 5515, 5525, 5529, 5531, 5533	
			52				56								64								71		B54, B55	*550201-550203, 5507, 5510, 5512, 5516, 5519, 5526, 5530	
			52				56																71		B55	*5504, 5508, 5513, 5527, *5615, 5619N, 5622	
			52				56			59													71		-	*5509, 5524	
			52				56												66				71		-	*5514	
			52				56			59													71		-	*5517, 5528	
													62		64								71		-	*5518	
			51	52		54	56																71		-	*5520	
			52				56			w					64							69		71		-	*5521
			52				56																71		-	*5522	
			52				56																71		-	*5523, 5532, *5618	
			52				56						62		64								71		-	*5534	
			52				56										65						71		B56	*5601, 5608, 5614, 5616, 5620, 5624	
			52				56										65		67				71		B56	*5602, 5604	
			52				56															69		71		B56	*5603
			52				56			59					64								71		-	*560501	
			52				56			59													71		-	*560502	
			52				56			59					64								71		-	*5606	
			52				56										65						70		-	*5607	
			52				56																71		-	*5609	
			52				56								64				67				71		-	*5610	
			52				56																71		-	*5611, 5612	
			52			54	56										65						71		-	*5613	
																	65						71		-	*5617	
			52				56			58	59												70		-	*5621	
															64								71		-	*5623	
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
*570101-570103, 5706, 5708, 5710, 5715, 5718, 5719	B57												36					41							
*5702-5705, 5717	B57																	41							
*5707	-																	41							
*5709	-								32									41							
*5711, 5713	-												36												
*5712	-																	41							
*5714	-												36					41							
*5716	-												36					41							
*580101, 580102, 5804, 5805, 5810N-5815, 5819, 5821	B58												36					41							
*5802, 5806, 5816	B58												36												
*5807	-												36	37											
*5808	-									33															
*5809	-												36					41							
*5817N	-												36					41							
*5818	-			27									36												
*5820	-																						45		
*5901	B59																								
*5902, 5903	-																								
*5904	-																								
*670101	B67					29																	45		48
*670102	B67																						45		48
*6702	B67																						45		48
*7301	B73																								48
*7801, 780202, 7803	B78											33							42						
*780201, 7804	B78											33							42						
*7805	-											33							42						
*7806	-											33													
*8101	B81																								
*8102	-																								48
*8103, 8104N	-																								
*8201, 8202	-								32			35							43						
*8301	-																	41							
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
Cw*0206																									
Cw*0223		25																							
Cw*0305, 0325, 0327				27																					
Cw*0746									32																
Cw*150204																									
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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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.
											60						66				70			B57	*570101-570103, 5706, 5708, 5710, 5715, 5718, 5719
											60						66				70			B57	*5702-5705, 5717
				53							60						66				70			-	*5707
				53							60						66				70			-	*5709
											60						66				70			-	*5711, 5713
																	66				71			-	*5712
						55					60						66				70			-	*5714
											60										70			-	*5716
											60							67			70			B58	*580101, 580102, 5804, 5805, 5810N-5815, 5819, 5821
											60						67				70			B58	*5802, 5806, 5816
											60						67				70			-	*5807
				54						59	60						67				70			-	*5808
						55					60						67				70			-	*5809
																	67				70			-	*5817N
											60						67				70			-	*5818
											60						67				70			-	*5820
									58						64						70			B59	*5901
									58												70			-	*5902, 5903
									58							65					70			-	*5904
			52																		71			B67	*670101
			52																		71			B67	*670102
			w																		71			B67	*6702
			52																		69	71		B73	*7301
										59					64						71			B78	*7801, 780202, 7803
										59											68	71		B78	*780201, 7804
										59				62							71			-	*7805
										59				62							71			-	*7806
			52				56	57													71	72		B81	*8101
			52					57													71	72		-	*8102
			52					57													71	72		-	*8103, 8104N
			52				56									65					71			-	*8201, 8202
			52	53		56									63						71			-	*8301
																								ser. <sup>5</sup>	HLA-B allele <sup>4</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.
																		w							Cw*0206
																									Cw*0223
																									Cw*0305, 0325, 0327
																									Cw*0746
															64										Cw*150204
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.

<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-B low resolution typing.

In addition, wells number 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 nucleotide sequences of the B\*3589 and B\*4093 alleles are not yet retrievable from the GenBank or EMBL data banks.

The sequence of the B\*0701 allele has been shown to be in error.

The sequence of the B\*1305 allele has been shown to be identical to B\*1304.

The B\*150105 allele has been renamed B\*9520.

The B\*1522 allele has been renamed B\*3543.

The sequence of the B\*1541 allele has been shown to be identical to B\*1539.

The B\*1559 allele has been renamed B\*3544.

The sequence of the B\*1816 allele has been shown to be identical to B\*1814.

The sequence of the B\*27051 allele has been shown to be identical to B\*270502.

The sequence of the B\*2722 allele has been shown to be identical to the corrected B\*2706 sequence.

The B\*3573 allele has been renamed B\*350803.

The sequence of the B\*39012 allele has been shown to be identical to B\*390101.

The sequence of the B\*3921 allele has been shown to be identical to B\*3924.

The sequence of the B\*4017 allele has been shown to be identical to B\*4016.

The sequence of the B\*4041 allele has been shown to be identical to B\*4040.

The sequence of the B\*4203 allele has been shown to be in error.

The sequence of the B\*4401 allele has been shown to be identical to B\*4402.

The sequence of the B\*5003 allele has been shown to be identical to B\*5002.

The sequence of the B\*5125 allele has been shown to be identical to B\*5122.

The B\*5147 allele has been renamed B\*510902.

The sequence of the B\*5506 allele has been shown to be identical to B\*5504.

The sequence of the B\*5803 allele has never been assigned.

The B\*7901 allele has been renamed B\*1518.

The B\*9530 allele has been renamed B\*152702.

The B\*0826 and the B\*4207 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\*1408 and the B\*3925N, B\*3930 and B\*3932 to 3934 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\*1829 and the B\*3523, B\*3537, B\*3553N, B\*3564, B\*3566 and B\*356801-356802 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\*5504, B\*5508, B\*5513, B\*5527 and the B\*5615, B\*5619N and B\*5622 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\*5523, B\*5532 and the B\*5618 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>5</sup>The serological reactivity of all HLA-B alleles is not known. In this table we use the information in the HLA Dictionary 2004 on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site and the information available at the [www.worldmarrow.org](http://www.worldmarrow.org) web site and have also inferred the serological grouping from the naming of the sequence-defined allele.

'ser', serological HLA specificity.

'w', might be weakly amplified.

'?', nucleotide sequence information not available for the primer matching sequence.

INTERPRETATION TABLE																								
HLA-Cw low resolution SSP typing																								
Amplification patterns of the Cw*0102 to Cw*1803 alleles																								
	Well																							
	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
Length of spec.	155	270	280	155	280	125	390	130	245	115	340	100	130	220	130	95	110	190	225	220	325	135	160	
PCR product(s)								355	425	165		160	250		255	255	325	250	270	425	380		235	
										260		220												
										390														
Length of int.	800	800	800	1070	800	1070	1070	800	800	1070	1070	1070	800	800	1070	1070	1070	1070	800	800	1070	1070	1070	
pos. control <sup>1</sup>																								
5'-primer(s) <sup>2</sup>	89	2 <sup>nd</sup>	105	477	105	112	1 <sup>st</sup>	28	47	1 <sup>st</sup>	1 <sup>st</sup>	361	201	361	98	98	201	201	112	47	355	105	97	
	5'-gAA <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-gCC <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-CgA <sup>3'</sup>	5'-TCA <sup>3'</sup>	5'-Agg <sup>3'</sup>	5'-CgA <sup>3'</sup>	5'-CgA <sup>3'</sup>	5'-AgT <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-AgT <sup>3'</sup>	5'-CTA <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CCT <sup>3'</sup>	5'-Agg <sup>3'</sup>	5'-TCA <sup>3'</sup>	5'-gCT <sup>3'</sup>	5'-TCg <sup>3'</sup>	
						118		2 <sup>nd</sup>	648	176		419	2 <sup>nd</sup>		368	485	409	2 <sup>nd</sup>	2 <sup>nd</sup>	361	412	459	418	
							5'-CCA <sup>3'</sup>		5'-CCA <sup>3'</sup>	5'-CAC <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-gTC <sup>3'</sup>	5'-CCA <sup>3'</sup>		5'-gTg <sup>3'</sup>	5'-CAA <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-AgT <sup>3'</sup>	5'-ATA <sup>3'</sup>	5'-gAT <sup>3'</sup>	5'-Agg <sup>3'</sup>	
										527								361					419	
										5'-TAC <sup>3'</sup>								5'-AgT <sup>3'</sup>					5'-gTC <sup>3'</sup>	
3'-primer(s) <sup>3</sup>	201	559	343	589	343	201	302	213	302	175	302	474	289	538	312	311	270	341	341	302	3 <sup>rd</sup>	201	289	
	5'-CTC <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-C <sup>3'</sup>	5'-CTT <sup>3'</sup>	5'-T <sup>3'</sup>	5'-CTT <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-Cgg <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-AgC <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-AgT <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-TAG <sup>3'</sup>	5'-CgT <sup>3'</sup>	5'-Cgg <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-AgC <sup>3'</sup>	
	201							420	853	302		477	289	538	459	538	3 <sup>rd</sup>	341	512	538		559	289	
	5'-CTT <sup>3'</sup>							5'-gCT <sup>3'</sup>	5'-CAT <sup>3'</sup>	5'-ggC <sup>3'</sup>		5'-gCA <sup>3'</sup>	5'-AgC <sup>3'</sup>	5'-gCA <sup>3'</sup>	5'-AgA <sup>3'</sup>	5'-Cag <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ggT <sup>3'</sup>	5'-CCA <sup>3'</sup>	5'-CCg <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-AgC <sup>3'</sup>		
									601		538	539						527					539	
									5'-CTT <sup>3'</sup>		5'-gCA <sup>3'</sup>	5'-TCT <sup>3'</sup>						5'-CCg <sup>3'</sup>					5'-TCT <sup>3'</sup>	
Well No.	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
HLA-Cw allele <sup>4</sup>																								
*010201-010206, 0106-0108, 0111-0113, 0115-0120, 0123, 0125-0127	73																			92				
*0103, 0124	73																			92	93			
*0104	73											84		86										
*0105, 0122	73																							
*0109	73														86									
*0110	73	74																			92			
*0114	73										83										92			
*0121	73											84	85											
*020201		74	75			78					83				w									
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	

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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	
*020202-020203, 020205-0203, 0207-0211, 0215-021602, 0219, 0220	74 75				78						83				87									
*0204	74	w			78						83				87									
*0205, 0217	74 75				78						83		86		87									
*0206	74	75			78		80				83				87		89							
*0212	74 75				78								85		87									
*0213, 0218	74	75			78						83				87		90							
*0214	74 w				78						83													
*0221	74	75									83				87									
*0222	74 75				78						83				87								93	
*0223	74	75			78						83				87		89							
*0226	74										83				87									
*0227	74	75			78																			
*030201-030203, 0305, 0317, 0325, 0327, 0333, 0335, 0336	75 76																						94	
*030301-030305, 031101-0312, 0320N-0322Q, 0330, 0331, 034301-034302, 0349, 0350			76		77																		93 94	
*030401-030406, 0306, 0308, 0309, 0314, 0319, 0323, 0324, 0326, 0328, 0332, 0334, 0337-033802, 0340, 0342, 0344, 0346-0348, 0357	75 76																						93 94	
*030407, 0341			75																				93 94	
*0307, 0345	75 76										83				87								93 94	
*0310, 0329			75 76												87								93 94	
*0313			76		77																		94	
*0315			75 76								83				87								94	
*0316	75																						94	
*0318, 0339			76																				93	
*0358					77														92				93 94	
*04010101-040106, 040401-0405, 0407-0409N, 0412-041502, 0417-0420, 0424-0428, 0430, 0431, 0434, 0435, 0438, 0440					78						83		85				90						93	
*0403, 0406	75				78						83		85		87		90						93	
*0410					78						83						90						93	
*0411					78										88		91						93	
*0416			75								83		85		87		90						93	
*0423					78						83		85				90							
*0429					78								85		88		90						93	
*0432	74				78						83		85				90						93 94	
*0433					78						83		85						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	

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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	
*0436						78										88		90			93			
*0437						78					83		85		87			90		92	93			
*05010101-050104, 0503, 0505-0510, 0512-0515, 0518, 0519, 0521, 0524							79				83					87							93	
*0504, 0522								79			83					87								
*0511								79			83					87 88							93	
*0516								79			83					87					92	93		
*0517								79			83					87 88		90					93	
*0520								79			83												93	
*0523								79			83					87				91			93	
*0525								79			83					87		90					93	
*06020101-06020102, 060203, 0607, 0610, 0612, 0613, 0615, 0616N, 0618-0620, 0622, 0623									80			83				86								95
*0603			75					80			83			86	87								94	
*0604								80			83													95
*0605								80			83							90		92				
*0606								80			83										92			95
*0608		74						80			83			86										95
*0609								80			83			86									93	95
*0611								80						86										95
*0614								80			83												93	95
*0617											83			86							92			95
*070101-0706, 0708, 0711-0725, 072701-072702, 0729, 0730, 0732N, 0735-0738, 0742, 0744-0748, 0750-0763, 0766-0772										81														95
*0707, 0709, 0749										81	83										92			95
*0710, 0728, 0741, 0743										81													93	95
*0726, 0733N, 0739, 0740										81														
*0731										81									90					95
*0764										81						88								
*080101-080102, 0803, 0806, 0808, 0814, 0816, 0820, 0822											82								90					93
*0802, 0815, 0817-0819, 0823											82													93
*0804, 0813											82					88								93
*0805											82		85											93
*0807											82									91				93
*0809, 0811											82								90					
*0810							79				82 83					87		90						93
*0812											82										92			93
*0821											82		85						90					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	

Lot No.: **85F**

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	
*120201-120203, 1210, 1217, 1218, 1220												84	85											
*12030101-12030102, 120303, 120305-120306, 1206, 1207, 1211-1213, 1219												84	85	86										
*120302													85	86										
*120304												84		86										
*120401											83			86	87									
*120402											83	84	85	86	87									
*1205											83	84		86	87									
*1208												84	85				89							
*1209											83				87					92				
*121401													85				90	91						
*121402												84	85				90	91						
*1215								80				84	85	86			89							
*1216												84	85											95
*1221											83	84			87									
*140201-1403, 1405, 1407N, 1410, 1411																88				92				
*1404											83					88				92				
*1406, 1408, 1409																88								
*150201-150204, 1508, 151002, 1513, 1515, 1517, 1518			75					80			83			87			89						93	
*1503, 1516			75					80			83		85	87			89					93		
*1504-1506, 1509, 1519, 1520			75								83			87			89					93		
*1507			75					80									89					93		
*151001								80			83			87			89					93		
*1511			75			78		80			83			87			89					93		
*1512					77			80			83			87			89					93		
*1521			75					80						87			89					93		
*160101-160103, 1606-1608, 1610, 1611													85				90						95	
*1602, 1609, 1612											83		85	87			90							95
*160401														86			90							
*1701-1705		74									83				87				91		93			
*1801, 1802											83									92	93		95	
*1803		74									83									92	93	94	95	
HLA-Cw allele <sup>4</sup>																								
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	
B*1403																				92				
B*6702													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	

Lot No.: **85F**

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 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, 80, 81, 85, 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 Cw\*0102.

The sequence of the Cw\*0201 allele has been shown to be identical to Cw\*02022.

The sequence of the Cw\*020204 allele has been shown to be identical to Cw\*0210.

The sequence of the Cw\*021603 allele has been shown to be identical to Cw\*021602.

The sequence of the Cw\*0301 allele has been shown to be identical to Cw\*0304.

The sequence of the Cw\*0402 allele has been shown to be identical to Cw\*04011.

The sequence of the Cw\*0421 allele has been shown to be identical to Cw\*041502.

The sequence of the Cw\*0422 allele has been shown to be identical to Cw\*0421.

The sequence of the Cw\*0601 allele has been shown to be identical to Cw\*0602.

The sequence of the Cw\*060202 allele has been renamed Cw\*0617.

The sequence of the Cw\*0734 allele has been shown to be identical to Cw\*072702.

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 Cw\*12022.

The nucleotide 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 Cw\*1402.

The sequence of the Cw\*1501 allele has been shown to be identical to Cw\*1502.

The sequence of the Cw\*1514 allele has been shown to be identical to Cw\*151002.

The sequence of the Cw\*1603 allele has been shown to be identical to Cw\*1403.

The sequence of the Cw\*16042 allele has been shown to be identical to Cw\*16041.

The sequence of the Cw\*1605 allele has been shown to be identical to Cw\*16041.

CELL LINE VALIDATION SHEET																				
HLA-A low resolution primer set																				
				Lot No.:	Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					200855001	200855002	200855003	200855004	200855005	200855006	200855007	200855008	200855009	200855010	200855011	200855012	200959313	200855014	200855015	200855016
	IHWC cell line	A*	A*																	
1	9001 SA	*2402			-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
2	9280 LK707	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*0101			+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*3001			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
5	9009 KAS011	*0101			+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*0201	*2603		-	+	-	-	-	-	-	-	-	-	+	-	+	-	-	-
7	9020 QBL	*2601			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
8	9025 DEU	*3101			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
9	9026 YAR	*2601			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
10	9107 LKT3	*2402			-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*2902			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
12	9052 DBB	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*3101			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*2402			-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*2902			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
17	9282 CTM3953540	*0301	*8001		-	-	+	-	-	+	-	-	-	-	-	-	+	-	-	-
18	9257 32367	*3303	*7401		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA	*0217			-	+	-	-	-	-	W	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*0201	*3401		-	+	-	-	-	-	-	+	-	-	+	+	-	-	-	-
24	9035 JBUSH	*3201			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
25	9049 IBW9	*3301			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*0205			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*2410	*2901		-	-	-	-	+	-	+	-	-	-	-	-	+	-	-	-
28	9320 BEL5GB	*0201	*2902		-	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-
29	9050 MOU	*2902			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
30	9021 RSH	*3001	*6802		-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	+
31	9019 DUCAF	*3002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
32	9297 HAG	*0201			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B	*3101			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*3101			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*3201			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
36	9024 KT17	*0206	*1101		-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-
37	9065 HHKB	*0301			-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
38	9099 LZL	*0217			-	+	-	-	-	-	W	-	-	-	-	-	-	-	-	-
39	9315 CML	*0101	*0301		+	-	+	+	-	-	-	-	-	-	-	-	+	-	-	-
40	9134 WHONP199	*0207	*3001		-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	+
41	9055 H0301	*0301			-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
42	9066 TAB089	*0207			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526	*0207			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*6601			-	-	-	-	-	-	-	+	-	-	+	-	+	-	-	-
45	9239 SHJO	*2301	*2402		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*0301			-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
47	9045 TUBO	*0216	*0301		-	+	+	-	-	-	-	-	-	-	-	-	+	-	-	-
48	9303 TER-ND	*0201	*1101		-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-



Lot No.: **85F**

Lot-specific information

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CELL LINE VALIDATION SHEET												
HLA-A low resolution primer set												
					Well							
					17	18	19	20	21	22	23	24
					Lot No.:							
					200855017	200855018	200855019	200855020	200855021	200855022	200855023	200739724
	IHC cell line		A*	A*								
1	9001	SA	*2402		-	-	-	-	-	-	-	-
2	9280	LK707	*0201		-	-	-	-	-	-	-	-
3	9011	E4181324	*0101		-	-	-	-	-	-	-	+
4	9275	GU373	*3001		-	-	-	-	-	-	-	-
5	9009	KAS011	*0101		-	-	-	-	-	-	-	+
6	9353	SM	*0201	*2603	-	-	-	-	-	-	+	-
7	9020	QBL	*2601		-	-	-	-	-	-	-	-
8	9025	DEU	*3101		-	-	-	-	-	-	-	-
9	9026	YAR	*2601		-	-	-	-	-	-	-	-
10	9107	LKT3	*2402		-	-	-	-	-	-	-	-
11	9051	PITOUT	*2902		-	-	-	-	-	-	-	-
12	9052	DBB	*0201		-	-	-	-	-	-	-	-
13	9004	JESTHOM	*0201		-	-	-	-	-	-	-	-
14	9071	OLGA	*3101		-	-	-	-	-	-	-	-
15	9075	DKB	*2402		-	-	-	-	-	-	-	-
16	9037	SWEIG007	*2902		-	-	-	-	-	-	-	-
17	9282	CTM3953540	*0301	*8001	-	-	-	-	-	-	+	+
18	9257	32367	*3303	*7401	-	+	+	-	-	-	-	-
19	9038	BM16	*0201		-	-	-	-	-	-	-	-
20	9059	SLE005	*0201		-	-	-	-	-	-	-	-
21	9064	AMALA	*0217		-	-	-	-	-	-	-	-
22	9056	KOSE	*0201		-	-	-	-	-	-	-	-
23	9124	IHL	*0201	*3401	-	-	-	-	-	-	-	-
24	9035	JBUSH	*3201		+	-	-	-	-	-	-	-
25	9049	IBW9	*3301		-	+	-	-	-	-	-	-
26	9285	WT49	*0205		-	-	-	-	-	-	-	-
27	9191	CH1007	*2410	*2901	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*0201	*2902	-	-	-	-	-	-	-	-
29	9050	MOU	*2902		-	-	-	-	-	-	-	-
30	9021	RSH	*3001	*6802	-	-	-	+	-	-	-	-
31	9019	DUCAF	*3002		-	-	-	-	-	-	-	-
32	9297	HAG	*0201		-	-	-	-	-	-	-	-
33	9098	MT14B	*3101		-	-	-	-	-	-	-	-
34	9104	DHIF	*3101		-	-	-	-	-	-	-	-
35	9302	SSTO	*3201		+	-	-	-	-	-	-	-
36	9024	KT17	*0206	*1101	-	-	-	-	-	-	-	+
37	9065	HHKB	*0301		-	-	-	-	-	-	-	-
38	9099	LZL	*0217		-	-	-	-	-	-	-	-
39	9315	CML	*0101	*0301	-	-	-	-	-	-	-	+
40	9134	WHONP199	*0207	*3001	-	-	-	-	-	-	-	-
41	9055	H0301	*0301		-	-	-	-	-	-	-	-
42	9066	TAB089	*0207		-	-	-	-	-	-	-	-
43	9076	T7526	*0207		-	-	-	-	-	-	-	-
44	9057	TEM	*6601		-	-	-	-	-	-	-	-
45	9239	SHJO	*2301	*2402	-	-	-	-	-	-	-	-
46	9013	SCHU	*0301		-	-	-	-	-	-	-	-
47	9045	TUBO	*0216	*0301	-	-	-	-	-	-	-	-
48	9303	TER-ND	*0201	*1101	-	-	-	-	-	-	-	+

<b>CELL LINE VALIDATION SHEET</b>																					
<b>HLA-B low resolution SSP kit</b>																					
				Prod. No.:	Well																
					25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
	IHWC cell line	B*			200959401	200959402	200959403	200959404	200959405	200959406	200959407	200959408	200959409	200959410	200959411	200959412	200959413	200959414	200959415	200959416	
1	9001 SA	*0702			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*5201	*7301		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
3	9011 E4181324	*52011			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
4	9275 GU373	*1510	*5301		-	-	-	-	-	-	-	+	-	+	-	+	-	-	-	-	-
5	9009 KAS011	*3701			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
6	9353 SM	*3901	*5101		-	-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-
7	9020 QBL	*1801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-
8	9025 DEU	*3501			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
9	9026 YAR	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*5401			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*4403			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*5701			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
13	9004 JESTHOM	*2705			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	+
14	9071 OLGA	*1501	*1520		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-
15	9075 DKB	*4001			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*4002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*0801	*5501		-	+	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
18	9257 32367	*1401	*5601		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*1801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-
20	9059 SLE005	*4001			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA	*1501			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-
22	9056 KOSE	*3503			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*4002	*5602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*1402			-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*5801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
27	9191 CH1007	*0705	*5101		+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*4402	*4403		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*4403			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*4201			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*1801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-
32	9297 HAG	*4102			-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-
33	9098 MT14B	*4001			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*4402			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*1501	*3501		-	-	-	-	-	-	+	-	-	-	+	-	-	-	-	-	-
37	9065 HHKB	*0702			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*1501			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-
39	9315 CML	*0801	*2705		-	+	-	-	+	-	-	+	-	-	-	-	-	-	-	-	+
40	9134 WHONP199	*1302	*4601		-	-	+	+	-	-	+	-	-	+	-	+	-	-	-	-	-
41	9055 H0301	*1402			-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*4601			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-
43	9076 T7526	*4601			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-	-
44	9057 TEM	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*4201	*5001		-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*0702			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*5101			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
48	9303 TER-ND	*3501	*4403		-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-	-

<b>CELL LINE VALIDATION SHEET</b>																				
<b>HLA-B low resolution SSP kit</b>																				
				<b>Well</b>																
				41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	
				Prod. No.:	200959417	200959418	200959419	200959420	200959421	200959422	200959423	200959424	200959425	200959426	200959427	200959428	200959429	200959430	200959431	200959432
<b>IHWC cell line</b>		<b>B*</b>																		
1	9001	SA	*0702	-	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
2	9280	LK707	*5201	*7301	-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
3	9011	E4181324	*52011		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*1510	*5301	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*3701		+	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-
6	9353	SM	*3901	*5101	-	-	-	-	+	-	+	+	-	-	-	-	-	+	-	-
7	9020	QBL	*1801		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*3501		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*3801		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*5401		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
11	9051	PITOUT	*4403		+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
12	9052	DBB	*5701		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*2705		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
14	9071	OLGA	*1501	*1520	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*4001		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
16	9037	SWEIG007	*4002		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
17	9282	CTM3953540	*0801	*5501	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	+
18	9257	32367	*1401	*5601	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-	+
19	9038	BM16	*1801		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*4001		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
21	9064	AMALA	*1501		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*3503		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*4002	*5602	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	+
24	9035	JBUSH	*3801		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*1402		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
26	9285	WT49	*5801		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*0705	*5101	-	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
28	9320	BEL5GB	*4402	*4403	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
29	9050	MOU	*4403		+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
30	9021	RSH	*4201		-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
31	9019	DUCAF	*1801		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*4102		-	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
33	9098	MT14B	*4001		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
34	9104	DHIF	*3801		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*4402		+	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
36	9024	KT17	*1501	*3501	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*0702		-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
38	9099	LZL	*1501		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*0801	*2705	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	+
40	9134	WHONP199	*1302	*4601	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
41	9055	H0301	*1402		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
42	9066	TAB089	*4601		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
43	9076	T7526	*4601		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
44	9057	TEM	*3801		-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*4201	*5001	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
46	9013	SCHU	*0702		-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
47	9045	TUBO	*5101		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
48	9303	TER-ND	*3501	*4403	+	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-

<b>CELL LINE VALIDATION SHEET</b>																					
<b>HLA-B low resolution SSP kit</b>																					
				Prod. No.:	Well																
					57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
					200959433	200959434	200959435	200959436	200959437	200959438	200959439	200959440	200959441	200959442	200959443	200959444	200959445	200959446	200959447	200734348	
	<b>IHWC cell line</b>		<b>B*</b>																		
1	9001 SA		*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
2	9280 LK707		*5201	*7301	-	-	+	+	-	+	-	-	-	-	-	-	+	+	+	-	-
3	9011 E4181324		*52011		-	-	+	+	-	+	-	-	-	-	-	-	-	+	-	-	-
4	9275 GU373		*1510	*5301	-	-	-	+	-	-	-	-	-	-	-	+	-	+	+	-	-
5	9009 KAS011		*3701		-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-
6	9353 SM		*3901	*5101	-	-	+	+	-	-	-	-	-	-	-	+	-	+	+	-	-
7	9020 QBL		*1801		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-
8	9025 DEU		*3501		-	-	-	+	-	-	-	-	-	-	-	+	-	-	+	-	-
9	9026 YAR		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
10	9107 LKT3		*5401		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	+	-
11	9051 PITOUT		*4403		-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-
12	9052 DBB		*5701		-	-	-	+	-	-	-	-	-	+	-	-	-	-	+	-	-
13	9004 JESTHOM		*2705		-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-
14	9071 OLGA		*1501	*1520	-	-	-	-	-	+	-	-	-	-	-	-	+	-	+	-	-
15	9075 DKB		*4001		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	+	-
16	9037 SWEIG007		*4002		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	+	-
17	9282 CTM3953540		*0801	*5501	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	+	+
18	9257 32367		*1401	*5601	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	-
19	9038 BM16		*1801		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-
20	9059 SLE005		*4001		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	+	-
21	9064 AMALA		*1501		-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	+	-
22	9056 KOSE		*3503		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+	-
23	9124 IHL		*4002	*5602	-	-	-	-	+	+	-	-	+	-	+	-	-	-	-	+	-
24	9035 JBUSH		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
25	9049 IBW9		*1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
26	9285 WT49		*5801		-	-	-	+	-	-	-	-	-	-	+	-	-	+	-	-	-
27	9191 CH1007		*0705	*5101	-	-	+	+	-	-	-	-	-	-	-	+	-	+	+	+	+
28	9320 BEL5GB		*4402	*4403	-	-	-	-	-	+	+	-	-	-	-	-	-	-	+	-	-
29	9050 MOU		*4403		-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-
30	9021 RSH		*4201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
31	9019 DUCAF		*1801		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-	-
32	9297 HAG		*4102		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	+	+
33	9098 MT14B		*4001		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	+	-
34	9104 DHIF		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
35	9302 SSTO		*4402		-	-	-	-	-	+	+	-	-	-	-	-	-	-	+	-	-
36	9024 KT17		*1501	*3501	-	-	-	-	-	+	-	-	-	-	-	+	+	-	+	-	-
37	9065 HHKB		*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
38	9099 LZL		*1501		-	-	-	-	-	+	-	-	-	-	-	-	+	-	+	-	-
39	9315 CML		*0801	*2705	-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	+	+
40	9134 WHONP199		*1302	*4601	-	-	-	-	-	+	-	-	-	-	-	-	+	+	+	-	-
41	9055 H0301		*1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
42	9066 TAB089		*4601		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-
43	9076 T7526		*4601		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-
44	9057 TEM		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
45	9239 SHJO		*4201	*5001	-	-	+	-	+	+	-	-	+	-	-	-	-	-	-	+	+
46	9013 SCHU		*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+
47	9045 TUBO		*5101		-	-	+	+	-	-	-	-	-	-	-	+	-	+	-	-	-
48	9303 TER-ND		*3501	*4403	-	-	-	-	-	+	-	-	-	-	-	+	-	+	+	-	-

CELL LINE VALIDATION SHEET																				
HLA-C low resolution SSP primer set																				
				Well																
				73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	
				Prod. No.:	200959501	200959502	200848403	200848405	200848405	200848406	200959507	200959508	200848409	200848410	200848411	200848412	200848413	200848414	200959515	200848416
	IHWC cell line		Cw*																	
1	9001 SA		*0702	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
2	9280 LK707		*0701	*1505	-	-	+	-	-	-	-	-	+	-	+	-	-	-	+	
3	9011 E4181324		*1202		-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	
4	9275 GU373		*0304	*0401	-	-	+	+	-	+	-	-	-	-	+	-	+	-	-	
5	9009 KAS011		*0602		-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	
6	9353 SM		*0304	*0702	-	-	+	+	-	-	-	-	+	-	-	-	-	-	-	
7	9020 QBL		*0501		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	
8	9025 DEU		*0401		-	-	-	-	-	+	-	-	-	-	+	-	+	-	-	
9	9026 YAR		*1203		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	
10	9107 LKT3		*0102		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	9051 PITOUT		*1601		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	
12	9052 DBB		*0602		-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	
13	9004 JESTHOM		*0102		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	9071 OLGA		*0102	*0304	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	
15	9075 DKB		*0304		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	
16	9037 SWEIG007		*0202		-	+	+	-	-	+	-	-	-	-	+	-	-	-	+	
17	9282 CTM395354		*0303	*0701	-	-	-	+	+	-	-	-	+	-	-	-	-	-	-	
18	9257 32367		*0102	*0705	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
19	9038 BM16		*0701		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
20	9059 SLE005		*0304		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	
21	9064 AMALA		*0303		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	
22	9056 KOSE		*1203		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	
23	9124 IHL		*0102	*1502	+	-	+	-	-	-	-	+	-	-	+	-	-	+	-	
24	9035 JBUSH		*1203		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	
25	9049 IBW9		*0802		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	
26	9285 WT49		*0701		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
27	9191 CH1007		*0704	*1505	-	-	+	-	-	-	-	-	+	-	+	-	-	-	+	
28	9320 BEL5GB		*0501	*1601	-	-	-	-	-	-	+	-	-	-	+	-	+	-	+	
29	9050 MOU		*1601		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	
30	9021 RSH		*1701		-	+	-	-	-	-	-	-	-	-	+	-	-	-	+	
31	9019 DUCAF		*0501		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	
32	9297 HAG		*1701	*1703	-	+	-	-	-	-	-	-	-	-	+	-	-	-	+	
33	9098 MT14B		*0304		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	
34	9104 DHIF		*1203		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	
35	9302 SSTO		*0501		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	
36	9024 KT17		*0303	*0401	-	-	-	+	+	+	-	-	-	-	+	-	+	-	-	
37	9065 HHKB		*0702		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
38	9099 LZL		*0303		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	
39	9315 CML		*0202	*0701	-	+	+	-	-	+	-	-	+	-	+	-	-	-	+	
40	9134 WHONP199		*0102	*0602	+	-	-	-	-	-	-	+	-	-	+	-	-	+	-	
41	9055 H0301		*0802		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	
42	9066 TAB089		*0102		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
43	9076 T7526		*0102	*0801	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	
44	9057 TEM		*1203		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	
45	9239 SHJO		*0602	*1701	-	+	-	-	-	-	-	+	-	-	+	-	-	+	+	
46	9013 SCHU		*0702		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	
47	9045 TUBO		*0704	*1502	-	-	+	-	-	-	-	+	+	-	+	-	-	-	+	
48	9303 TER-ND		*0401	*1601	-	-	-	-	-	+	-	-	-	-	+	-	+	-	-	

Lot No.: **85F**

Lot-specific information

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<b>CELL LINE VALIDATION SHEET</b>													
<b>HLA-C low resolution SSP primer set</b>													
				<b>Well</b>									
				<b>89</b>	<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>			
				Prod. No.:	200848417	200848418	200848419	200848420	200848421	200848422	200848423		
<b>IHWC cell line</b>			<b>Cw*</b>										
1	9001	SA	*0702		-	-	-	-	-	-	-	+	
2	9280	LK707	*0701	*1505	+	-	-	-	+	-	+		
3	9011	E4181324	*1202		-	-	-	-	-	-	-		
4	9275	GU373	*0304	*0401	-	+	-	-	+	+	-		
5	9009	KAS011	*0602		-	-	-	-	-	-	+		
6	9353	SM	*0304	*0702	-	-	-	-	+	+	+		
7	9020	QBL	*0501		-	-	-	-	+	-	-		
8	9025	DEU	*0401		-	+	-	-	+	-	-		
9	9026	YAR	*1203		-	-	-	-	-	-	-		
10	9107	LKT3	*0102		-	-	-	+	-	-	-		
11	9051	PITOUT	*1601		-	+	-	-	-	-	+		
12	9052	DBB	*0602		-	-	-	-	-	-	+		
13	9004	JESTHOM	*0102		-	-	-	+	-	-	-		
14	9071	OLGA	*0102	*0304	-	-	-	+	+	+	-		
15	9075	DKB	*0304		-	-	-	-	+	+	-		
16	9037	SWEIG007	*0202		-	-	-	-	-	-	-		
17	9282	CTM395354	*0303	*0701	-	-	-	-	+	+	+		
18	9257	32367	*0102	*0705	-	-	-	+	-	-	+		
19	9038	BM16	*0701		-	-	-	-	-	-	+		
20	9059	SLE005	*0304		-	-	-	-	+	+	-		
21	9064	AMALA	*0303		-	-	-	-	+	+	-		
22	9056	KOSE	*1203		-	-	-	-	-	-	-		
23	9124	IHL	*0102	*1502	+	-	-	+	+	-	-		
24	9035	JBUSH	*1203		-	-	-	-	-	-	-		
25	9049	IBW9	*0802		-	-	-	-	+	-	-		
26	9285	WT49	*0701		-	-	-	-	-	-	+		
27	9191	CH1007	*0704	*1505	+	-	-	-	+	-	+		
28	9320	BEL5GB	*0501	*1601	-	+	-	-	+	-	+		
29	9050	MOU	*1601		-	+	-	-	-	-	+		
30	9021	RSH	*1701		-	-	+	-	+	-	-		
31	9019	DUCAF	*0501		-	-	-	-	+	-	-		
32	9297	HAG	*1701	*1703	-	-	+	-	+	-	-		
33	9098	MT14B	*0304		-	-	-	-	+	+	-		
34	9104	DHIF	*1203		-	-	-	-	-	-	-		
35	9302	SSTO	*0501		-	-	-	-	+	-	-		
36	9024	KT17	*0303	*0401	-	+	-	-	+	+	-		
37	9065	HHKB	*0702		-	-	-	-	-	-	+		
38	9099	LZL	*0303		-	-	-	-	+	+	-		
39	9315	CML	*0202	*0701	-	-	-	-	-	-	+		
40	9134	WHONP199	*0102	*0602	-	-	-	+	-	-	+		
41	9055	H0301	*0802		-	-	-	-	+	-	-		
42	9066	TAB089	*0102		-	-	-	+	-	-	-		
43	9076	T7526	*0102	*0801	-	+	-	+	+	-	-		
44	9057	TEM	*1203		-	-	-	-	-	-	-		
45	9239	SHJO	*0602	*1701	-	-	+	-	-	+	+		
46	9013	SCHU	*0702		-	-	-	-	-	-	+		
47	9045	TUBO	*0704	*1502	+	-	-	-	+	-	+		
48	9303	TER-ND	*0401	*1601	-	+	-	-	+	-	+		

## CERTIFICATE OF ANALYSIS

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

Product number: 101.702-24/06 – including Taq pol.

Lot number: 85F

Expiry date: 2011-June-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	2008-550-01	9	2008-550-09	17	2008-550-17
2	2008-550-02	10	2008-550-10	18	2008-550-18
3	2008-550-03	11	2008-550-11	19	2008-550-29
4	2008-550-04	12	2008-550-12	20	2008-550-20
5	2008-550-05	13	2009-593-13	21	2008-550-21
6	2008-550-06	14	2008-550-14	22	2008-550-22
7	2008-550-07	15	2008-550-15	23	2008-550-23
8	2008-550-08	16	2008-550-16	24	2007-397-24

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 to 8, 12, 15, 17 and 20 to 22 were tested by separately adding one 3'-primer, respectively one 5'-primer. Additional 5'-primers in primer solutions 10 were tested by separately adding one 3'-primer. Additional 3'-primers in primer solutions 3, 14, 16, 18, 19 and 23 were tested by separately adding one 5'-primer.

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
25	2009-594-01	41	2009-594-17	57	2009-594-33
26	2009-594-02	42	2009-594-18	58	2009-594-34
27	2009-594-03	43	2009-594-19	59	2009-594-35
28	2009-594-04	44	2009-594-20	60	2009-594-36
29	2009-594-05	45	2009-594-21	61	2009-594-37
30	2009-594-06	46	2009-594-22	62	2009-594-38
31	2009-594-07	47	2009-594-23	63	2009-594-39
32	2009-594-08	48	2009-594-24	64	2009-594-40
33	2009-594-09	49	2009-594-25	65	2009-594-41
34	2009-594-10	50	2009-594-26	66	2009-594-42
35	2009-594-11	51	2009-594-27	67	2009-594-43
36	2009-594-12	52	2009-594-28	68	2009-594-44
37	2009-594-13	53	2009-594-29	69	2009-594-45
38	2009-594-14	54	2009-594-30	70	2009-594-46
39	2009-594-15	55	2009-594-31	71	2009-594-47
40	2009-594-16	56	2009-594-32	72	2007-343-48

Lot No.: **85F**

Lot-specific information

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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, 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, 48 and 59 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solutions 25 and 45 were tested by separately adding one additional 3'-primer.

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
73	2009-595-01	81	2008-484-09	89	2008-484-17
74	2009-595-02	82	2008-484-10	90	2008-484-18
75	2008-484-03	83	2008-484-11	91	2008-484-19
76	2008-484-04	84	2008-484-12	92	2008-484-20
77	2008-484-05	85	2008-484-13	93	2008-484-21
78	2008-484-06	86	2008-484-14	94	2008-484-22
79	2009-595-07	87	2009-595-15	95	2008-484-23
80	2009-595-08	88	2008-484-16		

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 87, 91 and 94 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer. Additional 3'-primers in primer solution 82 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solution 95 were tested by separately adding one additional 3'-primer.

The negative control primer pairs, **Production No. 2009-614-01**, can detect contamination with PCR products diluted  $10^{-7}$ .

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

**Date of approval:** 2011-February-04

**Approved by:**

**Quality Control, Supervisor**



Lot No.: **85F**

Lot-specific information

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## Declaration of Conformity

**Product name:** *Olerup* SSP® HLA-A-B-C SSP Combi Tray  
**Product number:** 101.702-24/06  
**Lot number:** 85F

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

**Manufacturer:** *Olerup* SSP AB  
Hasselstigen 1  
SE-133 33 Saltsjöbaden, 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 9001:2000 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, Hasselstigen 1, SE-133 33 Saltsjöbaden, 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.)

Saltsjöbaden, Sweden  
2011-February-04

Olle Olerup  
Managing Director





Lot No.: **85F**

Lot-specific information

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

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