

## Olerup SSP<sup>®</sup> HLA-A\*68

Product number:	101.418-12/04 – including <i>Taq</i> pol.
Lot number:	18G
Expiry date:	2011-September-01
Number of tests:	12 tests – Product No. 101.418-12 4 tests – Product No. 101.418-04
Number of wells per test:	32
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. 18G.**

### CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*<sup>®</sup> HLA-A\*68 LOT

The HLA-A\*68 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup SSP*<sup>®</sup> HLA-A\*68 lot was made (Lot No. 60E).

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

Well	5'-primer	3'-primer	rationale
8	Added	Added	Exchanged positive control primer pair, primer pair added for the A*6846 allele.
9	Exchanged	Added	Exchanged positive control primer pair and 5'-primer, primers added for the A*680802 and A*6847 alleles.
12	Added	Added	Primer pair from well 31.
13	-	-	Exchanged positive control primer pair.
14	-	-	Exchanged positive control primer pair.
16	-	Added	Primer added for improved resolution of the A*6815 allele.
27	Added	Added	Primer pair added for the A*6843 allele.
28	Added	Added	Primer pair from well 31, 5'-primer added for the A*6844 allele.
29	-	Removed	3'-primers removed to decrease formation of primer dimers.
31	Moved, new	Moved, new	Primer pair moved to wells 12 and 28, new primer pair for the A*6848 allele.
32	Added	Added	Primer pair added for the A*6845 allele.

## PRODUCT DESCRIPTION

### HLA-A\*68 SSP subtyping

#### CONTENT

The primer set contains 5'- and 3'-primers for identifying the A\*6801 to A\*6848 alleles. The HLA-A\*6901 allele is also identified.

#### PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 well cut 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

The 32 well cut PCR plate is marked with ‘HLA-A\*68’.

Well No. 1 is marked with ‘18G’.

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.

The PCR plates are heat-sealed with a PCR-compatible foil.

**Please note:** When removing each 32 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

#### INTERPRETATION

The interpretation of HLA-A\*68 SSP subtypings will be influenced by most A\*01 alleles, several A\*02 alleles, most A\*03 alleles, all A\*11 alleles, the A\*2302, nine A\*24 alleles, the A\*25, the A\*26, the A\*29, two A\*30 alleles, three A\*31 alleles, two A\*32 allele, the A\*34, the A\*36, the A\*4301, the A\*66, the A\*7413 and the A\*8001 allele as well as by the A\*6901 allele when present on the other haplotype. In addition, the B\*2725, B\*2745 and Cw\*0207 alleles will be amplified by primer mix 17, and the B\*2745 allele will be amplified by primer mix 21.

#### UNIQUELY IDENTIFIED ALLELES

All the HLA-A\*68 alleles, i.e. **A\*6801 to A\*6848 as well as the A\*6901 allele**, recognized by the HLA Nomenclature Committee in July 2009<sup>1</sup> will give rise to unique amplification patterns by the primers in the HLA-A\*68 subtyping kit.

The HLA-A\*68 subtyping kit cannot distinguish the A\*680101 to A\*680107 alleles, the A\*68020101 to A\*680202 alleles, the A\*680301 and A\*680302 or the A\*680801 and A\*680802 alleles.

<sup>1</sup>HLA-A alleles listed on the IMGT/HLA web page 2009-July-17, release 2.26.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

**RESOLUTION IN HOMO- AND HETEROZYGOTES**

The 48 HLA-A\*68 alleles can be combined in 1176 homozygous and heterozygous combinations. 690 of these genotypes do not give rise to unique amplification patterns. The different lengths of specific PCR fragments yielded by primer mixes 4, 5, 7, 11, 12, 14 to 18, 21 and 27 to 30 were not considered in these calculations.

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				6838, 6838
++-----	---+---+-	-----++-	---+---+-	6811N, 6836 = 6811N, 6842
++-----	---+---+-	-----++-	-----	6801, 6811N = 6811N, 6811N
++-----	---+---+-	-----++-	-----	6812, 6813 = 6812, 6841
++-----	---+---+-	-----++-	---+---+-	6812, 6836 = 6812, 6842
++-----	---+---+-	-----++-	-----	6801, 6812 = 6812, 6812
++-----	---+---+-	-----++-	-----	6813, 6819 = 6819, 6841
++-----	---+---+-	-----++-	-----	6813, 6816 = 6816, 6841
++-----	---+---+-	-+---++-	-----+	6813, 6821 = 6821, 6841
++-----	---+---+-	--+---++-	-----	6813, 6822 = 6822, 6841
++-----	---+---+-	---+---++-	-----	6813, 6823 = 6823, 6841
++-----	---+---+-	-----+++	-----	6813, 6824 = 6824, 6841
++-----	---+---+-	-----++-	+-----	6813, 6829 = 6829, 6841
++-----	---+---+-	-----++-	-+-----	6813, 6833 = 6833, 6841
++-----	---+---+-	-----++-	--+-----	6813, 6843 = 6841, 6843
++-----	---+---+-	-----++-	---+-----	6813, 6835 = 6835, 6841
++-----	---+---+-	-----++-	---+-----	6813, 6836 = 6813, 6842 =
				6836, 6841 = 6841, 6842
++-----	---+---+-	-----++-	-----+--	6813, 6837 = 6837, 6841
++-----	---+---+-	-----++-	-----+	6813, 6845 = 6841, 6845
++-----	---+---+-	-----++-	-----	6801, 6813 = 6801, 6841 =
				6813, 6841 = 6841, 6841
++-----	---+---+-	-----++-	---+---+-	6819, 6836 = 6819, 6842
++-----	---+---+-	-----++-	-----	6801, 6819 = 6819, 6819
++-----	---+---+-	-----++-	---+---+-	6816, 6836 = 6816, 6842
++-----	---+---+-	-----++-	-----	6801, 6816 = 6816, 6816
++-----	---+---+-	+-----++-	---+---+-	6827, 6836 = 6827, 6842
++-----	---+---+-	-+---++-	---+---+-	6821, 6836 = 6821, 6842
++-----	---+---+-	-+---++-	-----+	6801, 6821 = 6821, 6821 =
				6821, 6845
++-----	---+---+-	---+---++-	---+---+-	6822, 6836 = 6822, 6842
++-----	---+---+-	---+---++-	-----	6801, 6822 = 6822, 6822
++-----	---+---+-	---+---++-	---+---+-	6823, 6836 = 6823, 6842



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++-----	-----	---+---+	-----	6801, 6823 = 6823, 6823
++-----	-----	---+---+	---+---	6824, 6836 = 6824, 6842
++-----	-----	---+---+	-----	6801, 6824 = 6824, 6824
++-----	-----	---+---+	+---+---	6829, 6836 = 6829, 6842
++-----	-----	---+---+	+-----	6801, 6829 = 6829, 6829
++-----	-----	---+---+	+---+---	6833, 6836 = 6833, 6842
++-----	-----	---+---+	+-----	6801, 6833 = 6833, 6833
++-----	-----	---+---+	--+---+	6836, 6843 = 6842, 6843
++-----	-----	---+---+	--+-----	6801, 6843 = 6843, 6843
++-----	-----	---+---+	---+---+	6835, 6836 = 6835, 6842
++-----	-----	---+---+	---+---+	6801, 6835 = 6835, 6835
++-----	-----	---+---+	---+---+	6836, 6837 = 6837, 6842
++-----	-----	---+---+	---+---+	6836, 6845 = 6842, 6845
++-----	-----	---+---+	---+---+	6801, 6836 = 6801, 6842 =
				6836, 6842 = 6842, 6842
++-----	-----	---+---+	---+---	6801, 6837 = 6837, 6837
++-----	-----	---+---+	-----+	6801, 6845 = 6845, 6845
+--+-----	-----+	+---+---+	-----	6830, 6831 = 6830, 6840
+--+---+	-----+	+-----	-----	6802, 6815 = 6815, 6827 =
				6815, 6840
+--+---+	-----+	+-----	-----	6806, 6831 = 6806, 6840
+--+---+	-----+	+---+---+	-----	6807, 6831 = 6807, 6840
+--+-----	+-----+	+-----	-----	6818N, 6831 = 6818N, 6840
+--+-----	+-----	+-----	-----	6802, 6818N = 6818N, 6818N =
				6818N, 6827
+--+-----	--+---+	+---+---+	-----	6814, 6831 = 6814, 6840
+--+-----	--+---+	+---+---+	-----	6810, 6831 = 6810, 6840
+--+-----	-----+	+---+---+	-----	6813, 6831 = 6813, 6840
+--+-----	-----+	+---+---	-----	6828, 6831 = 6828, 6840
+--+-----	-----+	+-----	--+-----	6831, 6834 = 6834, 6840
+--+-----	-----+	+-----	--+---	6831, 6844 = 6840, 6844
+--+-----	-----+	+-----	-----+	6831, 6848 = 6840, 6848
+--+-----	-----+	+-----	-----	6802, 6831 = 6802, 6840 =
				6827, 6831 = 6827, 6840 =
				6831, 6840 = 6840, 6840
+--+-----	-----	+---+---	-----	6802, 6828 = 6827, 6828 =
				6828, 6828
+--+-----	-----	+-----	--+-----	6802, 6834 = 6827, 6834 =
				6834, 6834
+--+-----	-----	+-----	---+-----	6802, 6844 = 6827, 6844 =
				6844, 6844
+--+-----	-----	+-----	-----+	6802, 6848 = 6827, 6848 =
				6848, 6848
+--+-----	-----	+-----	-----	6802, 6802 = 6802, 6827
+-----	--+---+	---+---+	-----	6810, 6814 = 6814, 6814
-+++---+	-----+	+---+---+	-----	6803, 6815 = 6805, 6815 =
				6805, 6831 = 6815, 6820 =
				6820, 6831
-+---+---	-----	+---+---+	-----	6803, 6820 = 6805, 6820 =
				6820, 6820
-+---+---	-----	---+---+	-----	6803, 6805 = 6805, 6805
--+---+	-----+	+-----	-----	6815, 6815 = 6815, 6831
6801 = 680101-680107,	6802 = 68020101-680202,	6803 = 680301-680302,		
6808 = 680801-680802				

## SPECIFICITY TABLE

### HLA-A\*68 SSP subtyping

Specificities and sizes of the PCR products of the 32 primer mixes used for HLA-A\*68 SSP subtyping

Primer Mix	Size of spec. PCR product <sup>1</sup>	Size of control band <sup>2</sup>	Amplified HLA-A*68 alleles	Other amplified HLA-A alleles <sup>3</sup>
1 <sup>5</sup>	195 bp	<b>800 bp</b>	*680101-680202, 6806-6814, 6816-6819, 6821-6830, 6832-6835, 6837-6845, 6846 <sup>w</sup> , 6847, 6848, <b>6901</b>	*0113, 0234-023503, 025601, 025602, 0262, 0278, 9203, 03010101-030108, 030110-0307, 0309-0331, 0333-0335, 0337-0340, 0342-0347, 0350, 0351, 0355, 110101-110110, 1103-1113, 111501, 111502, 1120-1127, 1129-1137, 1139, 1141-1144, 2419, 3018, 340101-3408, 6601, 6602, 6604, 6606-6610, 7413
2	435 bp	1070 bp	*680101-680107, 680301-6805, 680801-6809, 6811N, 6812, 6816, 6817, 6819-6826, 6829, 6832, 6833, 6835-6839, 6841-6843, 6845-6847	*0324, 1110, 3318, 3402-3404, 3407, 3408
3	195 bp	1070 bp	*68020101-680202, 6815, 6818N, 6828, 6831, 6834, 6839, 6840, 6844, 6848	
4 <sup>8</sup>	180 bp, 220 bp	1070 bp	*680301, 680302, 6805, 6820, 6830	*020605
5 <sup>9</sup>	140 bp, 235 bp	<b>800 bp</b>	*6804, 6825	
6	225 bp	1070 bp	*6805, 6815, 6820	*020605, 9222, 9243
7 <sup>10</sup>	135 bp, 155 bp	1070 bp	*6806, 6832	*0252
8 <sup>11</sup>	160 bp, 240 bp	<b>800 bp</b>	*6807, 6846	
9 <sup>12</sup>	150 bp, 195 bp, 250 bp	<b>800 bp</b>	*680801, 680802, 6818N, 6847	*3403 <sup>?</sup> , 3404 <sup>?</sup> , 3406 <sup>?</sup> -3408 <sup>?</sup> , 6606

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<b>10</b>	165 bp	<b>800 bp</b>	*6809, 6826	*0112, 0119, 0310, 110101-1107, 1110-1121N, 1126, 1127, 1129, 1130, 1132-1134, 1136-1143, 2417, 2441, 2905
<b>11<sup>13</sup></b>	160 bp, 200 bp	<b>800 bp</b>	*6810, 6814, 6817	
<b>12<sup>14</sup></b>	205 bp, 405 bp	1070 bp	*6811N, 6838	
<b>13</b>	210 bp	<b>800 bp</b>	*6812	
<b>14<sup>15</sup></b>	150 bp, 195 bp	<b>800 bp</b>	*6813, 6841	
<b>15<sup>7,16</sup></b>	145 bp, 205 bp	1070 bp	*6814, 6819	*9221, 0317, 2418
<b>16<sup>17</sup></b>	150 bp, 215 bp	1070 bp	*6815, 6816, 6831, 6840	*9222, 9243
<b>17<sup>18</sup></b>	165 bp, 185 bp	1070 bp	*68020101-680202, 6815, 6818N, 6820, 6827, 6828, 6831, 6834, 6840, 6844, 6848	*0202 <sup>w</sup> , 020301, 020302, 020501 <sup>w</sup> , 0208 <sup>w</sup> , 022201, 022202, 0247 <sup>w</sup> , 0249, 0250, 0263 <sup>w</sup> , 9202 <sup>w</sup> , 9204, 9215 <sup>w</sup> , 9217, 9222, 9235, 9236, 9248, 9254 <sup>w</sup> , 9255 <sup>w</sup> , 9279 <sup>w</sup> , 2302, 2406, 2487, 250101-2503, 2505-2508, 260101-260104, 260107-260702, 2609-2626, 2628-2638, 3210, 340101, 340102, 3405, 4301, 6601- 6605, 6607-6610, <b>B*2725, B*2745, Cw*0207</b>
<b>18<sup>19</sup></b>	200 bp, 225 bp	1070 bp	*6821, 6826	*01010101-0104N, 0106-0129, 0131N-0135, 0137, 0304, 0318, 1127, 1138, 1139, 2417, 2441, 2903, 8001
<b>19<sup>7</sup></b>	325 bp	1070 bp	*6822	
<b>20<sup>4,7</sup></b>	90 bp	1070 bp	*6823	*0120, 9214
<b>21<sup>20</sup></b>	165 bp, 215 bp	1070 bp	*6824, 6828	*0249, 2487, <b>B*2745</b>
<b>22<sup>5</sup></b>	165 bp	<b>800 bp</b>	*680101-680107, 680301-6805, 6807, 6810-6814, 6816, 6817, 6819-6825, 6829, 6830, 6832, 6833, 6835-6839, 6841-6843, 6845- 6847	*01010101 <sup>w</sup> -0104N <sup>w</sup> , 0107 <sup>w</sup> - 0111N <sup>w</sup> , 0113 <sup>w</sup> -0118N <sup>w</sup> , 0120 <sup>w</sup> - 0124 <sup>w</sup> , 0126 <sup>w</sup> -0129 <sup>w</sup> , 0131N <sup>w</sup> - 0135 <sup>w</sup> , 0137 <sup>w</sup> , 0318 <sup>w</sup> , 0350, 1108, 1144, 3601 <sup>w</sup> , 3602, 3603 <sup>w</sup> , 3604 <sup>w</sup>
<b>23</b>	185 bp	1070 bp	*680101-680107, 680301-6805, 6807- 6814, 6816, 6817,	*9214, 03010101-0317, 0320- 0339, 0341, 0342, 0344-0347, 0350, 0351, 0355, 1104, 1135,

			6819-6825, 6829, 6830, 6832, 6833, 6835-6839, 6841- 6843, 6845-6847	29010101-290201, 290203, 2904-2919, 3026, 3103, 3104, 3106, 3204, 3318, 3402-3404, 3407, 3408, 3601-3603
<b>24<sup>6</sup></b>	375 bp	1070 bp	<b>6901</b>	*0255, 2622, 3322, 6609
<b>25</b>	240 bp	1070 bp	*6829	*2482
<b>26<sup>6</sup></b>	185 bp	1070 bp	*6833	
<b>27<sup>21</sup></b>	185 bp, 235 bp	1070 bp	*6834, 6843	
<b>28<sup>22</sup></b>	200 bp, 230 bp	1070 bp	*6835, 6838, 6844	
<b>29<sup>4-6, 23</sup></b>	80 bp, 255 bp	<b>800 bp</b>	*6836, 6842	*020301, 020302, 0226 <sup>w</sup> , 0299 <sup>w</sup> , 9217, 9248, 1125 <sup>w</sup>
<b>30<sup>24</sup></b>	145 bp, 245 bp	1070 bp	*6837	*9217, 9235, 250101-2507, 260101-2610, 2612, 2613, 2615-2617, 2619-2627, 2629- 2638, 340101, 340102, 3405, 4301, 6601-6610
<b>31<sup>6</sup></b>	220 bp	1070 bp	*6848	*250101-2504, 2506, 2507, 260101-2610, 2612-2638, 2640, 340101, 340102, 3403 <sup>?</sup> - 3408 <sup>?</sup> , 4301, 6601-6610
<b>32</b>	195 bp	1070 bp	*6821, 6845	*027402, 2424, 2467, 2616

<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\*68 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\*68 subtyping.

In addition, wells number 5, 8 to 11, 13, 14, 22 and 29 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>Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A\*68 alleles will be amplified by primer mixes 1, 2, 4, 6, 7, 9, 10, 15 to 18, 20 to 25 and 29 to 32. In addition, the

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B\*2725, B\*2745 and Cw\*0207 alleles will be amplified by primer mix 17, and the B\*2745 allele will be amplified by primer mix 21.

<sup>4</sup>Short specific PCR fragments are less intense and not as sharp as longer specific bands.

<sup>5</sup>Primer mixes 1, 22 and 29 may yield less specific PCR product than the other A\*68 primer mixes.

<sup>6</sup>Primer mix 24, 26, 29 and 31 may give rise to non-specific amplifications.

<sup>7</sup>Primer mixes 15, 19 and 20 have a tendency of giving rise to a primer oligomer artifact.

<sup>8</sup>Primer mix 4: Specific PCR fragment of 180 bp in the A\*6830 allele. Specific PCR fragment of 220 bp in the A\*680301-680302, A\*6805 and A\*6820 alleles. Specific PCR fragment of 180 and 220 bp in the A\*020605 allele

<sup>9</sup>Primer mix 5: Specific PCR fragment of 140 bp in the A\*6825 allele. Specific PCR fragment of 235 bp in the A\*6804 allele.

<sup>10</sup>Primer mix 7: Specific PCR fragment of 135 bp in the A\*6806 and A\*0252 alleles. Specific PCR fragment of 155 bp in the A\*6832 allele.

<sup>11</sup>Primer mix 8: Specific PCR fragment of 160 bp in the A\*6807 allele. Specific PCR fragment of 240 bp in the A\*6846 allele.

<sup>12</sup>Primer mix 9: Specific PCR fragment of 150 bp in the A\*6818N allele. Specific PCR fragment of 195 bp in the A\*6847 allele. Specific PCR fragment of 250 bp in the A\*680801, 680802 and the A\*3403<sup>?</sup>, 3404<sup>?</sup>, 3406<sup>?</sup>-3408<sup>?</sup> and 6606 alleles.

<sup>13</sup>Primer mix 11: Specific PCR fragment of 160 bp in the A\*6817 allele. Specific PCR fragment of 200 bp in the A\*6810 and A\*6814 alleles.

<sup>14</sup>Primer mix 12: Specific PCR fragment of 205 bp in the A\*6838 allele. Specific PCR fragment of 405 bp in the A\*6811N allele.

<sup>15</sup>Primer mix 14: Specific PCR fragment of 150 bp in the A\*6841 allele. Specific PCR fragment of 195 bp in the A\*6813 allele.

<sup>16</sup>Primer mix 15: Specific PCR fragment of 145 bp in the A\*6819 and A\*0317, A\*2418 alleles. Specific PCR fragment of 205 bp in the A\*6814 and the A\*9221 alleles.

<sup>17</sup>Primer mix 16: Specific PCR fragment of 150 bp in the A\*6816 allele. Specific PCR fragment of 215 bp in the A\*6815, A\*6831 and A\*6840 and the A\*9222 and 9243 alleles.

<sup>18</sup>Primer mix 17: Specific PCR fragment of 165 bp in the A\*68020101-680202, 6815, 6818N, 6827, 6828, 6831, 6834, 6840, 6844, 6848 and the A\*0202<sup>w</sup>, 020301, 020302, 020501<sup>w</sup>, 0208<sup>w</sup>, 022201, 022202, 0247<sup>w</sup>, 0249, 0250, 0263<sup>w</sup>, 9202<sup>w</sup>, 9204, 9215<sup>w</sup>, 9217, 9222, 9235, 9236, 9248, 9254<sup>w</sup>, 9255<sup>w</sup>, 9279<sup>w</sup>, 2302, 2406, 2487, 250101-2503, 2505-2508, 260101-260104, 260107-260702, 2609-2626, 2628-2638, 3210, 340101, 340102, 3405, 4301, 6601-6605, 6607-6610, B\*2725, B\*2745 and Cw\*0207 alleles. Specific PCR fragment of 185 bp in the A\*6820 allele.

<sup>19</sup>Primer mix 18: Specific PCR fragment of 200 bp in the A\*6826 and the A\*01010101-0104N, 0106-0129, 0131N-0135, 0137, 0318, 1127, 1138, 1139, 2417, 2441, 2903 and 8001 alleles. Specific PCR fragment of 225 bp in the A\*6821 and A\*0304 alleles.

<sup>20</sup>Primer mix 21: Specific PCR fragment of 165 bp in the A\*6828 and A\*0249, 2487 and B\*2745 alleles. Specific PCR fragment of 215 bp in the A\*6824 allele.

<sup>21</sup>Primer mix 27: Specific PCR fragment of 185 bp in the A\*6834 allele. Specific PCR fragment of 235 bp in the A\*6843 allele.

<sup>22</sup>Primer mix 28: Specific PCR fragment of 200 bp in the A\*6835 and 6838 alleles. Specific PCR fragment of 230 bp in the A\*6844 allele.

<sup>23</sup>Primer mix 29: Specific PCR fragment of 80 bp in the A\*6842 and the A\*020301, 020302, 0226<sup>w</sup>, 0299<sup>w</sup>, 9217, 9248, 1125<sup>w</sup> alleles. Specific PCR fragment of 255 bp in the A\*6836 allele.

<sup>24</sup>Primer mix 30: Specific PCR fragment of 145 bp in the A\*9217, 9235, 250101-2507, 260101-2610, 2612, 2613, 2615-2617, 2619-2627, 2629-2638, 340101, 340102, 3405, 4301 and 6601-6610 alleles. Specific PCR fragment of 245 bp in the A\*6837 allele.

<sup>w</sup>, may be weakly amplified.

<sup>?</sup>, nucleotide sequence information not available for the primer matching sequence.

## INTERPRETATION TABLE

### HLA-A\*68 SSP subtyping

Amplification patterns of the A\*6801 to A\*6848 alleles

	Well <sup>5</sup>															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Length of spec.	195	435	195	180	140	225	135	160	150	165	160	205	210	150	145	150
PCR product				220	235		155	240	195		200	405		195	205	215
Length of int. pos. control <sup>1</sup>	800	1070	1070	1070	800	1070	1070	800	800	800	800	1070	800	800	1070	1070
5'-primer(s) <sup>2</sup>	127	261	106	102	98	102	145	98	106	413	98	47	2 <sup>nd</sup>	103	453	106
	5'-ggg	-AAC	-CCA	-ACT	-CTA	-ACT	-CCA	-CTA	-CCA	-CCg	-CTA	-g.T	-CCT	-CCT	-AAA	-CCA
					397	106	414	418	2 <sup>nd</sup>		419	376		413		413
					5'-gCC	-CCA	-gAA	-AgC	-CCT	3'	5'-ggT	-gCA	3'	5'-CCg	3'	5'-CCg
3'-primer(s) <sup>3</sup>	282	413	259	240	290	292	259	299	216	538	256	282	497	255	555	278
	5'-gAC	-gCC	-gTT	-ggA	-CAA	-gTg	-gTT	-TCA	-gCT	-CTg	-CTC	-gAC	-TgA	-Cgg	-CCA	-ggC
	282			282	497		506	539	479		538	538		521	616	282
	5'-gAC	3'		5'-gAg	-Tgg	3'	5'-TgT	-TCC	-CCA	3'	5'-CCA	-CCA	3'	5'-ggA	-CgC	-gAg
				292					538							282
				5'-gTg	3'				5'-CAg	3'						5'-gAg
									538							524
									5'-CAA	3'						5'-CAA
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HLA-A allele																
*680101-680107	1	2														
*68020101-680202	1		3													
*680301, 680302		2		4												
*6804		2			5											
*6805		2		4		6										
*6806	1						7									
*6807	1							8								
*680801, 680802	1	2							9							
*6809	1	2								10						
*6810	1										11					
*6811N	1	2										12				
*6812	1	2											13			
*6813	1													14		
*6814	1										11				15	
*6815			3			6										16
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



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Length of spec.	195	435	195	180	140	225	135	160	150	165	160	205	210	150	145	150
PCR product				220	235		155	240	195		200	405		195	205	215
									250							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*6816	1	2														16
*6817	1	2									11					
*6818N	1		3						9							
*6819	1	2													15	
*6820		2		4		6										
*6821	1	2														
*6822	1	2														
*6823	1	2														
*6824	1	2														
*6825	1	2			5											
*6826	1	2								10						
*6827	1															
*6828	1		3													
*6829	1	2														
*6830	1			4												
*6831			3													16
*6832	1	2				7										
*6833	1	2														
*6834	1		3													
*6835	1	2														
*6836		2														
*6837	1	2														
*6838	1	2									12					
*6839	1	2	3													
*6840	1		3													16
*6841	1	2												14		
*6842	1	2														
*6843	1	2														
*6844	1		3													
*6845	1	2														
*6846	w	2						8								
*6847	1	2							9							
*6848	1		3													
*01010101-0104N, 0107-0111N, 0114- 0118N, 0121-0124, 0126-0129, 0131N- 0135, 0137																
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



Lot No.: **18G**

Lot-specific Information

www.olerup.com

165	200	325	90	165	165	185	375	240	185	185	200	80	145	220	195	Length of spec. PCR product
	185	225		215						235	230	255	245			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
					22	23										*6816
					22	23										*6817
17																*6818N
					22	23										*6819
17					22	23										*6820
	18				22	23									32	*6821
		19			22	23										*6822
			20		22	23										*6823
				21	22	23										*6824
					22	23										*6825
	18															*6826
17																*6827
17				21												*6828
					22	23		25								*6829
					22	23										*6830
17																*6831
					22	23										*6832
					22	23		26								*6833
17									27							*6834
					22	23					28					*6835
					22	23						29				*6836
					22	23							30			*6837
					22	23					28					*6838
					22	23										*6839
17																*6840
					22	23										*6841
					22	23						29				*6842
					22	23				27						*6843
17											28					*6844
					22	23									32	*6845
					22	23										*6846
					22	23										*6847
17														31		*6848
	18				w											*01010101-0104N, 0107-0111N, 0114- 0118N, 0121-0124, 0126-0129, 0131N- 0135, 0137
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **18G**

Lot-specific Information

www.olerup.com

Length of spec.	195	435	195	180	140	225	135	160	150	165	160	205	210	150	145	150
PCR product				220	235		155	240	195		200	405		195	205	215
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*0106, 0125, 2903, 8001																
*0112, 0119, 1138, 2417, 2441										10						
*0113, 0318	1															
*0120																
*0202, 020501, 0208, 0247, 0263, 9202, 9215, 9254, 9255, 9279																
*020301, 020302, 9248																
*020605				4		6										
*022201, 022202, 0250, 9204, 9236, 2302, 2406, 2508, 2611N, 3210, <i>B*2725, Cw*0207</i>																
*0226, 0299																
*0234-023503, 025601, 025602, 0262, 0278, 9203, 0319, 0340, 0343, 1109, 1122-112402, 1131, 2419, 3018, 7413	1															
*0249, 2487, <i>B*2745</i>																
*0252							7									
*0255, 3322																
*027402, 2424, 2467																
*9214																
*9217																
*9221, 2418															15	
*9222						6										16
*9235, 2505																
*9243						6										16
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **18G**

Lot-specific Information

www.olerup.com

165	200	325	90	165	165	185	375	240	185	185	200	80	145	220	195	Length of spec. PCR product
185	225			215						235	230	255	245			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
	18															*0106, 0125, 2903, 8001
	18															*0112, 0119, 1138, 2417, 2441
	18				w											*0113, 0318
	18		20		w											*0120
w																*0202, 020501, 0208, 0247, 0263, 9202, 9215, 9254, 9255, 9279
17												29				*020301, 020302, 9248
																*020605
17																*022201, 022202, 0250, 9204, 9236, 2302, 2406, 2508, 2611N, 3210, B*2725, Cw*0207
												w				*0226, 0299
																*0234-023503, 025601, 025602, 0262, 0278, 9203, 0319, 0340, 0343, 1109, 1122-112402, 1131, 2419, 3018, 7413
17				21												*0249, 2487, B*2745
																*0252
							24									*0255, 3322
															32	*027402, 2424, 2467
			20			23										*9214
17												29	30			*9217
																*9221, 2418
17																*9222
17													30			*9235, 2505
																*9243
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **18G**

Lot-specific Information

www.olerup.com

Length of spec.	195	435	195	180	140	225	135	160	150	165	160	205	210	150	145	150
PCR product				220	235		155	240	195		200	405		195	205	215
									250							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*03010101-030108, 030110-0303N, 0305-0307, 0309, 0311N-0316, 0320- 0323, 0325-0331, 0333-0335, 0337- 0339, 0342, 0344- 0347, 0351, 0355, 1135	1															
*030109, 0308, 0332, 0336N, 0341, 29010101-290201, 290203, 2904, 2906- 2919, 3026, 3103, 3104, 3106, 3204																
*0304	1															
*0310, 1104	1									10						
*0317	1														15	
*0324, 3402	1	2														
*0350	1															
*110101-110110, 1103, 1105-1107, 1111-1113, 111501, 111502, 1120, 1121N, 1126, 1129, 1130, 1132-1134, 1136, 1137, 1141- 1143	1									10						
*110201-110203, 1114, 1116-1119, 1140										10						
*1108, 1144	1															
*1110	1	2								10						
*1125	1															
*1127, 1139	1									10						
*2482																
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **18G**

Lot-specific Information

www.olerup.com

165	200	325	90	165	165	185	375	240	185	185	200	80	145	220	195	Length of spec. PCR product
185	225			215						235	230	255	245			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
						23										*03010101-030108, 030110-0303N, 0305-0307, 0309, 0311N-0316, 0320- 0323, 0325-0331, 0333-0335, 0337- 0339, 0342, 0344- 0347, 0351, 0355, 1135
						23										*030109, 0308, 0332, 0336N, 0341, 29010101-290201, 290203, 2904, 2906- 2919, 3026, 3103, 3104, 3106, 3204
	18					23										*0304
						23										*0310, 1104
						23										*0317
						23										*0324, 3402
					22	23										*0350
																*110101-110110, 1103, 1105-1107, 1111-1113, 111501, 111502, 1120, 1121N, 1126, 1129, 1130, 1132-1134, 1136, 1137, 1141- 1143
																*110201-110203, 1114, 1116-1119, 1140
					22											*1108, 1144
																*1110
												w				*1125
	18															*1127, 1139
								25								*2482
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **18G**

Lot-specific Information

www.olerup.com

Length of spec.	195	435	195	180	140	225	135	160	150	165	160	205	210	150	145	150
PCR product				220	235		155	240	195		200	405		195	205	215
									250							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*250101-2503, 2506, 2507, 260101- 260104, 260107- 260702, 2609, 2610, 2612, 2613, 2615, 2617, 2619- 2621, 2623-2626, 2629-2638, 4301, 6603, 6605																
*2504, 260105, 260106, 2608, 2627																
*2614, 2618, 2628																
*2616																
*2622																
*2640																
*2905										10						
*3318		2														
*340101, 340102, 6601, 6602, 6604, 6607, 6608, 6610	1															
*3403, 3404, 3407, 3408	1	2								?						
*3405	1															
*3406	1									?						
*3601, 3603																
*3602																
*3604																
*6606	1									9						
*6609	1															
*6901	1															
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **18G**

Lot-specific Information

www.olerup.com

165	200	325	90	165	165	185	375	240	185	185	200	80	145	220	195	Length of spec. PCR product
185	225			215						235	230	255	245			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
17													30	31		*250101-2503, 2506, 2507, 260101- 260104, 260107- 260702, 2609, 2610, 2612, 2613, 2615, 2617, 2619- 2621, 2623-2626, 2629-2638, 4301, 6603, 6605
													30	31		*2504, 260105, 260106, 2608, 2627
17														31		*2614, 2618, 2628
17													30	31	32	*2616
17							24						30	31		*2622
														31		*2640
						23										*2905
						23										*3318
17													30	31		*340101, 340102, 6601, 6602, 6604, 6607, 6608, 6610
						23								?		*3403, 3404, 3407, 3408
17													30	?		*3405
														?		*3406
					w	23										*3601, 3603
					22	23										*3602
					w											*3604
													30	31		*6606
17							24						30	31		*6609
							24									*6901
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **18G**

Lot-specific Information

[www.olerup.com](http://www.olerup.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-A\*68 subtyping. .

In addition, wells number 5, 8 to 11, 13, 14, 22 and 29 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 the 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 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>5</sup>Primer mix 4: Specific PCR fragment of 180 bp in the A\*6830 allele. Specific PCR fragment of 220 bp in the A\*680301-680302, A\*6805 and A\*6820 alleles. Specific PCR fragment of 180 and 220 bp in the A\*020605 allele

Primer mix 5: Specific PCR fragment of 140 bp in the A\*6825 allele. Specific PCR fragment of 235 bp in the A\*6804 allele.

Primer mix 7: Specific PCR fragment of 135 bp in the A\*6806 and A\*0252 alleles. Specific PCR fragment of 155 bp in the A\*6832 allele.

Primer mix 8: Specific PCR fragment of 160 bp in the A\*6807 allele. Specific PCR fragment of 240 bp in the A\*6846 allele.

Primer mix 9: Specific PCR fragment of 150 bp in the A\*6818N allele. Specific PCR fragment of 195 bp in the A\*6847 allele. Specific PCR fragment of 250 bp in the A\*680801, 680802 and the A\*3403<sup>?</sup>, 3404<sup>?</sup>, 3406<sup>?</sup>-3408<sup>?</sup> and 6606 alleles.

Primer mix 11: Specific PCR fragment of 160 bp in the A\*6817 allele. Specific PCR fragment of 200 bp in the A\*6810 and A\*6814 alleles.

Primer mix 12: Specific PCR fragment of 205 bp in the A\*6838 allele. Specific PCR fragment of 405 bp in the A\*6811N allele.

Primer mix 14: Specific PCR fragment of 150 bp in the A\*6841 allele. Specific PCR fragment of 195 bp in the A\*6813 allele.

Primer mix 15: Specific PCR fragment of 145 bp in the A\*6819 and A\*0317, A\*2418 alleles. Specific PCR fragment of 205 bp in the A\*6814 and the A\*9221 alleles.

Primer mix 16: Specific PCR fragment of 150 bp in the A\*6816 allele. Specific PCR fragment of 215 bp in the A\*6815, A\*6831 and A\*6840 and the A\*9222 and 9243 alleles.

Primer mix 17: Specific PCR fragment of 165 bp in the A\*68020101-680202, 6815, 6818N, 6827, 6828, 6831, 6834, 6840, 6844, 6848 and the A\*0202<sup>w</sup>, 020301, 020302, 020501<sup>w</sup>, 0208<sup>w</sup>, 022201, 022202, 0247<sup>w</sup>, 0249, 0250, 0263<sup>w</sup>, 9202<sup>w</sup>, 9204, 9215<sup>w</sup>, 9217, 9222, 9235, 9236, 9248, 9254<sup>w</sup>, 9255<sup>w</sup>, 9279<sup>w</sup>, 2302, 2406, 2487, 250101-2503, 2505-2508, 260101-260104, 260107-260702, 2609-2626, 2628-2638, 3210, 340101, 340102, 3405, 4301, 6601-6605, 6607-6610, B\*2725, B\*2745 and Cw\*0207 alleles. Specific PCR fragment of 185 bp in the A\*6820 allele.

Primer mix 18: Specific PCR fragment of 200 bp in the A\*6826 and the A\*01010101-0104N, 0106-0129, 0131N-0135, 0137, 0318, 1127, 1138, 1139, 2417, 2441, 2903 and 8001 alleles.

Specific PCR fragment of 225 bp in the A\*6821 and A\*0304 alleles.

Primer mix 21: Specific PCR fragment of 165 bp in the A\*6828 and A\*0249, 2487 and B\*2745 alleles. Specific PCR fragment of 215 bp in the A\*6824 allele.

Primer mix 27: Specific PCR fragment of 185 bp in the A\*6834 allele. Specific PCR fragment of 235 bp in the A\*6843 allele.

Primer mix 28: Specific PCR fragment of 200 bp in the A\*6835 and 6838 alleles. Specific PCR fragment of 230 bp in the A\*6844 allele.

Primer mix 29: Specific PCR fragment of 80 bp in the A\*6842 and the A\*020301, 020302, 0226<sup>w</sup>, 0299<sup>w</sup>, 9217, 9248, 1125<sup>w</sup> alleles. Specific PCR fragment of 255 bp in the A\*6836 allele.

Primer mix 30: Specific PCR fragment of 145 bp in the A\*9217, 9235, 250101-2507, 260101-2610, 2612, 2613, 2615-2617, 2619-2627, 2629-2638, 340101, 340102, 3405, 4301 and 6601-6610 alleles. Specific PCR fragment of 245 bp in the A\*6837 allele.

'w', may be weakly amplified.

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



CELL LINE VALIDATION SHEET																				
HLA-A*68 SSP subtyping kit																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	200962701	200732602	200732603	200732604	200732605	200732606	200732607	200962708	200962709	200732610	200732611	200962712	200962713	200962714	200732615	200962716
IHC cell line			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-A*68 SSP subtyping kit</b>																				
			Prod. No.:	Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
				200732617	200732618	200732619	200732620	200732621	200732622	200732623	200732624	200732625	200732626	200962727	200962728	200962729	200846230	200962731	200962732	
	<b>IHWC cell line</b>	<b>A*</b>																		
1	9001 SA	*2402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*0101		-	+	-	-	-	W	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*3001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*0101		-	+	-	-	-	W	-	-	-	-	-	-	-	-	-	-	-
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		W	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	-	+	-	-	-	W	+	-	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## CERTIFICATE OF ANALYSIS

### Olerup SSP<sup>®</sup> HLA-A\*68 SSP

Product number: 101.418-12/04 – including *Taq* pol.  
Lot number: 18G  
Expiry date: 2011-September-01  
Number of tests: 12 tests – Product No. 101.418-12  
4 tests – Product No. 101.418-04  
Number of wells per test: 32

#### Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2009-627-01	13	2009-627-13	25	2007-326-25
2	2007-326-02	14	2009-627-14	26	2007-326-26
3	2007-326-03	15	2007-326-15	27	2009-627-27
4	2007-326-04	16	2009-627-16	28	2009-627-28
5	2007-326-05	17	2007-326-17	29	2009-627-29
6	2007-326-06	18	2007-326-18	30	2008-462-30
7	2007-326-07	19	2007-326-19	31	2009-627-31
8	2009-627-08	20	2007-326-20	32	2009-627-32
9	2009-627-09	21	2007-326-21		
10	2007-326-10	22	2007-326-22		
11	2007-326-11	23	2007-326-23		
12	2009-627-12	24	2007-326-24		

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

No DNAs carrying the alleles to be amplified by primer solutions 5, 7 to 9, 11 to 13, 15, 16, 19 to 21, 25 to 28 and 32 were available. The specificities of the primers in primer solutions 5, 7 to 9, 11, 13, 15, 16, 20, 21, 25 to 27, 29 and 32 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. The specificities of the 3'-primers in primer solutions 12, 19 and 28 were tested by separately adding one additional 5'-primer, it was not possible to test the 5'-primers. In primer solution 5, 7, 12, 17, 19 and 28 one of the 5'-primers was not possible to test. In primer solutions 9, 14, 15, 16, 18, 21, 30 and 32 one of the 3'-primers was not possible to test. In primer solutions 8, 11 and 27 one 5'-primer and one 3'-primer was not possible to test. Additional primers in primer solutions 4, 6, 14, 29 and 30 were tested by separately adding either one additional 5'-primer, or one additional 3'-primer.

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

**Date of approval:** 2009-October-15

**Approved by:**

Quality Control, Supervisor

Lot No.: **18G**

Lot-specific Information

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

## Declaration of Conformity

**Product name:** *Olerup* SSP® HLA-A\*68  
**Product number:** 101.418-12/04  
**Lot number:** 18G

**Intended use:** HLA-A\*68 high resolution histocompatibility 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 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, 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  
2009-October-15

Olle Olerup  
Managing Director







Lot No.: **18G**

Lot-specific Information

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