

## Olerup SSP<sup>®</sup> HLA-B low resolution

Product number:	101.501-48u/12u – without <i>Taq</i> pol.
Lot number:	63G
Expiry date:	2011-November-01
Number of tests:	48 tests – Product No. 101.501-48u 12 tests – Product No. 101.501-12u
Number of wells per test:	47 + 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. 63G.**

### CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*<sup>®</sup> HLA-B LOW RESOLUTION LOT

The HLA-B low resolution specificity and interpretation tables have been updated for the HLA-B alleles reported since the previous *Olerup SSP*<sup>®</sup> HLA-B low resolution lot (**Lot No. 90F**) was made.

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

Well	5'-primer	3'-primer	rationale
5	-	Modified	Exchanged positive control primer pair, modified 3'-primer for improved specificity.
6	-	Modified	Modified 3'-primer for improved specificity.
9	-	-	Exchanged positive control primer pair.
10	Moved	Moved	Primer pair moved to well 14 for increased specificity.
14	Added	Added	Primer pair from well 10.
17	-	-	Exchanged positive control primer pair.
20	Exchanged	Exchanged	Exchanged primer pair for improved specificity.
26	-	Added	Primer added for the B*400205 allele.
27	Exchanged	Exchanged	Exchanged primer pair to decrease primer dimer formation.
40	Modified	-	Modified 5'-primer for improved specificity.

Change in revision R01 compared to R00:

1. The serological classification of the B\*1518 allele has been corrected in the Specificity and Interpretation Tables.

Change in revision R02 compared to R01:

1. The HLA-B\*5150 allele is amplified in primer mixes 30 and 36.

Change in revision R03 compared to R02:

1. The HLA-Cw\*0312 and 0319 alleles are amplified in primer mix 41.

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Well **48** 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-B low resolution SSP typing

#### CONTENT

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.

#### PLATE LAYOUT

Each test consists of 48 PCR reactions in a 48 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
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48

Wells 1 to 47 – HLA-B low resolution primers.

Well 48 – Negative Control.

The 48 well cut PCR plate is marked with ‘HLA-B low’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘63G’.

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

The PCR plates are covered with a PCR-compatible foil.

**Please note:** When removing each 48 well PCR plate, make sure that the remaining plates stay covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

#### INTERPRETATION

Only HLA-B alleles will be amplified by the HLA-B low resolution typing kit, except that primer mix 1 will amplify the Cw\*0223 allele, primer mix 3 will amplify the HLA-Cw\*0305, Cw\*0325 and Cw\*0327 alleles, primer mix 4 will amplify the Cw\*0130 allele, the Cw\*0746 allele will be amplified by primer mix 8, primer mix 40 will amplify the Cw\*150204 allele, primer mix 41 will amplify the Cw\*0312 and Cw\*0319 alleles, primer mix 43 will weakly amplify the Cw\*0206 allele and primer mix 45 will amplify the Cw\*0620 allele. Thus, the interpretation of HLA-B low resolution typings is only influenced by the Cw\*0130, Cw\*0206, Cw\*0223, Cw\*0305, Cw\*0312, Cw\*0319, Cw\*0325, Cw\*0327, Cw\*0620, Cw\*0746 and Cw\*150204 alleles and not by other alleles of other HLA class I genes.

#### UNIQUELY IDENTIFIED ALLELES

All the HLA-B alleles recognized by the HLA Nomenclature Committee in October 2009<sup>1</sup> will be amplified by the primers in the HLA-B low resolution SSP kit. The HLA-B alleles will be grouped into their corresponding serological specificities<sup>2</sup>.

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<sup>1</sup>HLA-B alleles listed on the IMGT/HLA web page 2009-October-19, release 2.27.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

<sup>2</sup>It is not possible to identify all serological splits and combinations of the B15 group of alleles, as the serological reactivity of several of the B\*15 alleles is not known.

The resolution has been updated to fulfill the NMDP medium resolution confirmatory typing requirements effective from February 1<sup>st</sup> 2001.

DNA-based HLA-B typing resolution required:

B\*07xx, B\*08xx, B\*13xx, B\*14xx, B\*18xx, B\*27xx, B\*1522, B\*35xx, B\*37xx, B\*38xx, B\*39xx, B\*4005, B\*41xx, B\*42xx, B\*44xx, B\*45xx, B\*46xx, B\*47xx, B\*48xx, B\*49xx, B\*50xx, B\*51xx, B\*52xx, B\*53xx, B\*54xx, B\*55xx, B\*56xx, B\*57xx, B\*58xx, B\*59xx, B\*67xx, B\*73xx, B\*78xx, B\*81xx, B\*82xx,

B\*40EJD<sup>a</sup> 4001, 4007, 4010, 4012, 4014, 4015, 4016

B\*40EJB<sup>b</sup> 4002, 4003, 4004, 4006, 4008, 4009, 4011, 4013, 4018, 4019, 4020

B\*15EJA<sup>c</sup> 1501, 1504, 1505, 1506, 1507, 1520, 1524, 1525, 1526N, 1527, 1528, 1530, 1532, 1533, 1534, 1535, 1536, 1538, 1539, 1540, 1543, 1545

B\*15AHM<sup>d</sup> 1516, 1517

B\*15EHZ<sup>e</sup> 1503, 1509, 1510, 1518, 1523, 1529, 1537, 1547

B\*15CYP<sup>f</sup> 1502, 1508, 1511, 1515, 1521, 1531, 1544

B\*15AND<sup>g</sup> 1512, 1514, 1519

B\*1513<sup>h</sup>

<sup>a</sup>B60 serologic equivalent cluster.

<sup>b</sup>B61 serologic equivalent cluster.

<sup>c</sup>B62 serologic equivalent cluster.

<sup>d</sup>B63 serologic equivalent cluster.

<sup>e</sup>B70 serologic equivalent cluster.

<sup>f</sup>B75 serologic equivalent cluster.

<sup>g</sup>B76 serologic equivalent cluster.

<sup>h</sup>B77 serologic equivalent cluster.

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, 3930, 3932-3934, 3947 and 3950 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\*180702 and 1829 and the B\*3532, 3537, 3553N, 3564, 3566, 356801-356802 and 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\*180702 and 1829 and the B\*3532, 3537, 3553N, 3564, 3566, 356801-356802 and 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\*4109 and the B\* 4502 and 4503 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 and 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-B low resolution SSP typing

Specificities and sizes of the PCR products of the 47 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 Class I <sup>4,5</sup> alleles
<b>1<sup>6,7</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, 0761-0799, 9538, 3707, 4015, 4016, 4023, 4032, 4098, 4108, 420501, 420502, 4805, 4808, 4815, <b>Cw*0223</b>
<b>2</b>	215 bp	1070 bp	8, 15, 44	*080101-0825, 0827-0847, 9542, 4449, 5168
<b>3</b>	140 bp, 235 bp	1070 bp	7, 8, 13, 15, 35, 40, 4005, 44, 46, 53, 57	*0720, 0724, 0760, 0821, 0825, 130101-1304, 1306-1308Q, 1310-1323, 1325-1330, 1507, 1536 <sup>w</sup> , 1545, 1555, 1568, 1589 <sup>w</sup> , 9526, 3505, 3516, 3517, 3522, 3530, 3551, 3558, 3572, 3589, 3597, 4005, 4071, 4408 <sup>w</sup> , 4454, 4457 <sup>w</sup> , 4460, 4612, 4620, 5164, 5314, 5818, <b>Cw*0305, 0325, 0327</b>
<b>4<sup>8</sup></b>	130 bp, 265 bp	1070 bp	13, 14, 15, 35, 40, 41, 44, 45, 47, 49, 50	*130101-1304, 1306-1313, 1315-1323, 1325-1330, 1401-1404, 1407N, 1409, 1411, 1412, 1414-1416, 1546, 1553, 9506, 1844, 3546, 3547, 3563, 400101-400108, 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, 4101-4112, 44020101-440306, 440308-4405, 4409-4439, 4441-4443, 4445-4456N, 4458N-4480, 4482, 4484-4488, 4501-4510, 47010101-4705, 490101-4902, 4904-4907, 500101-5002, 5004-5006, 5008, 5009, <b>Cw*0130</b>

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<b>5<sup>9</sup></b>	185 bp, 235 bp	<b>800 bp</b>	14, 16, 27, 37, 38, 39, 47, 64, 67	*1401, 1407N, 1408, 1410, 1412, 1414, 2701-2706, 2708-2710, 2712, 2713, 2716-2718, 2720, 2723, 2726, 2727, 2729, 2731, 2735-2737, 2739- 2742, 2744-2746, 2748-2759N, 3702, 380101-3803, 3807-3820, 39010101, 39010102L, 390103- 390108, 390110, 390201, 3903, 3905-390602, 3907 <sup>?</sup> , 3908, 3909, 3911, 3914, 3915, 3918, 391902, 3922, 3924-3944, 3946-3948, 3950- 3954, 4704, 4705, 670101
<b>6<sup>9</sup></b>	185 bp	<b>800 bp</b>	14, 35, 38, 39, 65	*140201, 140202, 1403-140602, 1409, 1411, 1413, 1415, 1416, 3526, 3805, 3904, 3907 <sup>?</sup>
<b>7<sup>10</sup></b>	290 bp	1070 bp	15, 62, 63, 75, 76, 77, 46	*15010101-150103, 150106-150202, 150303-1508, 151101-151103, 1512-1515, 15170101-151702, 1519-1521, 1524-1528, 1530-1536, 153801-1540, 1542-1546, 1548, 1550, 1555-1558, 1560, 1563, 1565, 1566, 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, 9562-9572, 9574, 9575, 9577, 9578, 460101-4622
<b>8</b>	165 bp, 220 bp, 330 bp	1070 bp	8, 15, 37, 40, 41, 42, 44, 45, 51, 56, 57, 62, 70, 71, 72	*080101-0805, 0808N-081203, 0815-0819N, 0821-0824, 0826, 0827, 0829-0836, 0838, 0839, 0841- 0847, 150301-150303, 1509, 1510, 151801-151803, 1523, 1529, 1537, 1546, 1547, 1549, 1551-1554, 1561, 1562, 1564, 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, 9561, 9573, 9576, 3587, 3712, 4012, 4101- 410302, 4105-4109, 4111, 4112, 420101-4202, 4204-4208, 4210- 4213, 4414, 4415, 4418, 4420, 4462, 4501-4510, 5108, 5120, 5136, 5144N, 5520, 5613, 5709, 8201, 8202, <b>Cw*0746</b>

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<b>9<sup>10</sup></b>	165 bp, 390 bp	1070 bp	15, 35, 40, 51, 52, 56, 58, 62, 63, 70, 78	*150102, 1509, 1516-151702, 1567, 1595, 9562, 9568, 9577, 350110, 350402, 4026, 4028, 4462, 510101- 510103, 510105-510203, 5103- 510902, 5111N, 5112, 511302, 5114, 5117-5120, 5122, 5123, 5126- 5130, 5132, 5133, 5137-5141N, 5143, 5144N, 5146, 5148-5161, 5163-5180, 5183, 5184, 520101- 520104, 5202-5207, 5209-5213, 5215, 5216, 560501-5606, 5621, 5808, 7801-7806
<b>10</b>	180 bp	<b>800 bp</b>	13, 15, 40, 55, 62, 70, 71, 72, 75	*0778, 130101-130206, 1307N- 1309, 1311, 1314-1320, 132201- 1323, 1325, 1327-1330, 4048, 4510, 4907, 5509, 5522, 5524
<b>11<sup>6</sup></b>	105 bp, 195 bp	1070 bp	7, 8, 15, 27, 38, 39, 40, 44, 45, 48, 55, 72	*0727, 0750, 0804, 0817, 150301- 150303, 1547, 1549, 1554, 1561, 1562, 1564, 1568, 1569, 1591, 1598, 9503, 9523, 9527, 9531, 9532, 9551, 9556, 9558, 9573, 1837, 2718, 2729, 3803, 390201, 390202, 3908, 391301, 391302, 3923, 3939, 3949, 4012, 4046, 4093, 4211, 4410, 4415, 4418, 4440, 4444, 4501, 4505-4507, 480101-4805, 4807-4820, 5002, 5216, 5518, 8201, 8202
<b>12</b>	280 bp	1070 bp	7, 8, 13, 15, 18, 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, 1326, 15010101- 150104, 150106-1508, 151101- 1516, 151801-1521, 1523-1529, 1531-1536, 153801-1540, 1543, 1544, 1546, 1547, 1549-1557, 1560- 1562, 1564-1572, 1574-1576, 157801-1582, 1584, 1585, 1587- 1589, 1591-1598, 9501-9529, 9531, 9532, 9534-9536, 9538-9549N, 9551-9561, 9563-9567, 9569-9576, 9578, 180101-1815, 1817N-1825, 1827-1840, 1842-1845, 2741, 350101-350113, 3505, 3507- 350804, 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,

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				4003, 4020, 4038, 4052, 4059, 4060, 4209, 4417, 4443, 4509, 460101-4610, 4612-4617, 4619-4622, 4802, 4814, 4904, 4905, 5137, 5145, 5163, 530101-5303, 5305, 5306, 5308-5318, 5406, 5409, 5414, 5514, 5523, 5532, 5603, 5609, 5618, 570101-570105, 5706, 5708, 5710, 5711, 5713-5716, 5718-5726, 580101-5802, 5804-5807, 5809-5819, 5821-5824
<b>13</b>	195 bp	1070 bp	15, 35, 37, 38, 44, 58, 76	*1512, 1514, 1519, 1591, 9531, 9561, 3545, 3571, 370101-3709, 3712, 3713, 3715-3719, 3817, 4417, 4443, 4509, 4617, 5807
<b>14<sup>6</sup></b>	105 bp, 395 bp, 435 bp	1070 bp	7, 15, 41, 42, 59, 62, 63, 70, 71, 77	*0704, 0725, 1509, 1510, 1513, 1516-151803, 1521, 1523, 1524, 1537, 1544, 1551, 1552, 1566, 1567, 1572, 1580, 1587, 1590, 1593, 1595, 1599, 9508, 9514, 9515, 9519, 9524, 9533, 9534, 9553, 9557, 9561, 9562, 9568, 9576, 9577, 4108, 420501, 420502
<b>15<sup>6</sup></b>	115 bp	1070 bp	18	*180101-180701, 1808-1815, 1817N-1828, 1830-1836, 1838-1845
<b>16<sup>6</sup></b>	80 bp	1070 bp	27, 40, 44	*0773, 2701-2721, 2723-2751, 2753-2759N, 4046, 4093, 4440, 4444
<b>17</b>	150 bp	<b>800 bp</b>	13, 15, 27, 35, 37, 39, 40, 44, 48, 51, 53, 55, 56, 57, 58, 62, 75, 77	*130101, 130102, 1306, 1307N, 1312, 1313, 1317, 1320, 132201-1323, 1325, 1326, 1328, 1329, 1410, 150201, 150202, 1513, 1520, 1521, 152501, 152502, 1536, 1544, 1562, 1577, 1580, 1585, 1588, 1589, 9506, 9512, 9521, 9539, 9544, 9554, 9570, 1822, 2719, 2730, 350101-350403, 3506-350804, 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, 3590-3596, 3598, 370101-370107, 3703N-3706, 3708, 3710, 3711, 3713-3719, 3820, 3942, 4028, 44020101-4414, 4416, 4417, 4419N, 4421-4430, 4432-4440, 4442-4446, 4448-4452N, 4455-446402, 4466-4488, 4802, 5104, 5142, 5146, 5156,

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				530101-5313, 5315-5319, 5514, 5609, 5611, 5612, 570101-570104, 5702-5710, 5712, 5714-5720, 5722-5726, 580101, 580102, 5804, 5805, 5809-5815, 5817N, 5819, 5821-5824, 8301
<b>18</b>	135 bp	1070 bp	8, 18, 35, 37, 39, 56, 78	*0765, 0832, 180101-1808, 1810-1815, 1817N-1836, 1838-1845, 350101-3518, 352001-3524, 3528-3545, 3548, 3550-3555, 3557-3562, 3564-3572, 3574-3599, 3711, 391901, 391902, 5606, 7801-7805
<b>19<sup>7</sup></b>	245 bp, 400 bp	1070 bp	15, 62, 63, 70, 71, 72, 75, 76, 77, 40, 44	*15010101-150104, 150106-1521, 1523-1540, 1542-1558, 1560-1567, 1569-1575, 1576 <sup>w</sup> , 1577-1599, 9501-9529, 9531-9578, 4012, 4410, 8201, 8202
<b>20</b>	210 bp	<b>800 bp</b>	7, 8, 15, 18, 37, 38	*0727, 370101-3719, 3817
<b>21</b>	170 bp	<b>800 bp</b>	15, 35, 38, 39, 67	*1569, 3535, 380101-3809, 3811-3820, 39010101, 39010102L, 390103-3920, 3922-3924, 3926-3929, 3931, 3935, 3937-3942, 3944-3946, 3948, 3949, 3951-3954, 5820, 670101-6702
<b>22<sup>6</sup></b>	110 bp	1070 bp	38	*380101-3803, 3805, 3808-3820
<b>23</b>	395 bp	1070 bp	14, 38, 39, 64, 65	*0769, 0785, 1401-1416, 380101-380202, 3804, 3805, 3808-3820, 39010101, 39010102L, 390103-390110, 3903-3907, 3909, 3911, 3912, 3914, 3915, 3918-391902, 3922, 3924-3938Q, 3940N-3948, 3950-3954
<b>24</b>	425 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, 0766-0780, 0782-0799, 080101-080109, 0804-0835, 0837-0847, 1401-1416, 39010101, 39010102L, 390103-3920, 3922-3954, 400101-400108, 4007, 4009 <sup>?</sup> -4011 <sup>?</sup> , 401401 <sup>?</sup> -4015 <sup>?</sup> , 4016, 4018 <sup>?</sup> , 4021 <sup>?</sup> , 4022N <sup>?</sup> , 4023, 4024 <sup>?</sup> -4038 <sup>?</sup> , 4042 <sup>?</sup> -4046 <sup>?</sup> , 4048 <sup>?</sup> -4050 <sup>?</sup> , 4051, 4052 <sup>?</sup> -4058 <sup>?</sup> , 4059, 4060, 4061 <sup>?</sup> -4065 <sup>?</sup> , 4066, 4067 <sup>?</sup> -4069 <sup>?</sup> , 4071 <sup>?</sup> , 407201-4073, 4074 <sup>?</sup> , 4075 <sup>?</sup> , 4077, 4078 <sup>?</sup> , 4079, 4080 <sup>?</sup> -4088 <sup>?</sup> , 4090 <sup>?</sup> -4093 <sup>?</sup> , 4095 <sup>?</sup> , 4098 <sup>?</sup> , 4101-4112, 420101-4202, 4204-4213, 4501-

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				4510, 480101-4817, 4819, 4820, 500101-5002, 5004-5009, 670101- 6702, 7301, 8102
<b>25<sup>7</sup></b>	175 bp	1070 bp	15, 40, 44, 46, 48, 60	*9516, 9524, 400101-400106, 400108, 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, 4081, 4084, 4087, 4088, 4092, 4431, 4606, 480301, 480302
<b>26<sup>10</sup></b>	130 bp	1070 bp	40, 61	*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, 4094-4098
<b>27<sup>6</sup></b>	105 bp	1070 bp	7, 8, 41, 42, 55	*0704, 0725, 080101-0805, 0807- 081203, 0814-0819N, 0821-0824, 0826-0839, 0841-0847, 3587, 4101- 4108, 4110-4112, 420101-4202, 4204-4207, 4209-4213, 5520
<b>28</b>	325 bp	1070 bp	7, 15, 27, 42, 45, 46, 54, 55, 56, 67, 73, 81	*070201-070218, 0704-0707, 0709- 0712, 0713 <sup>w</sup> , 0714, 0715 <sup>w</sup> , 0717- 0726, 0728-0731, 0733-0736, 0739- 0746, 0747 <sup>w</sup> , 0748, 0749N, 0751- 0768, 0770-0784, 0786-0799, 1576, 9501, 2701-2711, 2713-2715, 2717, 2719-2721, 2724-2728, 2730-2738, 2740-2758, 3576, 420101-4202, 4204-4206, 4208-4210, 4212, 4213, 4506, 460101, 460102, 4602 <sup>w</sup> , 4603- 4622, 5401-5419, 550101-5505, 5507-5517, 5519-5538, 560101- 5616, 5618-5622, 5624-5626, 670101, 670102, 6702 <sup>w</sup> , 7301, 8101- 8104N, 8201, 8202, 8301
<b>29<sup>6,11</sup></b>	115 bp, 195 bp, 225 bp, 260 bp	1070 bp	35, 37, 44, 47, 51, 57	*3538, 3545, 3571, 370101-370107, 3703N-3706, 3708, 3710-3719, 4213, 44020101-4414, 4416, 4417, 4419N-4436, 4438-4463, 4465- 4488, 5142, 5707, 5709, 5724, 8301
<b>30</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, 4109, 4112, 4204, 4406, 4415, 4418, 4420, 4501-4510, 510101, 510103- 510108, 510110-510201, 510203- 5104, 5106-510901, 5110-5114,

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				5116-512402, 5126-5146, 5148-5153, 5155-5177, 5179-5184, 520102, 520104, 5202, 5203, 520601, 520602, 5209, 5306, 5520, 5613, 5808
<b>31</b>	130 bp, 270 bp	1070 bp	18, 35, 37, 40, 46, 51, 53, 57, 58	*1410, 1557 <sup>w</sup> , 1822, 3521, 3524, 3581, 3596, 3704, 4028, 460101-4622, 5104, 5146, 5156, 5302, 5306, 5714, 5809
<b>32<sup>6</sup></b>	90 bp , 410 bp	1070 bp	27, 35, 47, 54, 55, 56, 81	*0765, 2702-2711, 2713-2715, 2717, 2719-2721, 2724-2728, 2730-2738, 2740-2758, 3576, 47010101-4703, 5401-5419, 550101-5505, 5507-5517, 5519-5538, 560101-5616, 5618-5622, 5624-5626, 8101, 8201, 8202, 8301
<b>33<sup>6</sup></b>	90 bp, 175 bp	1070 bp	15, 27, 35, 40, 48, 62, 75, 77, 81	*150201, 150202, 1508, 151101-151104, 1513, 1515, 1521, 1531, 1544, 1555, 1576 <sup>w</sup> , 1588, 1589, 9512, 9521, 9539, 9544, 9548, 9570, 2724, 3546, 4031, 4045, 4080, 480101, 480102, 4804, 4806, 4807, 4809, 4811, 4815, 4816, 4818-4820, 5535 <sup>w</sup> , 8101-8104N
<b>34</b>	145 bp, 430 bp	1070 bp	40, 44, 49	*4013, 4019, 4418, 4425, 4450, 490101, 490102, 4904-4907, 5412, 5621, 5901-5905
<b>35<sup>6</sup></b>	120 bp, 210 bp	<b>800 bp</b>	13, 15, 45, 49, 50, 51, 52, 55, 56, 58, 62, 63, 78	*0778, 0784, 1316, 1504 <sup>w</sup> , 1516, 1542, 1567, 1595, 9537 <sup>w</sup> , 4095, 490101, 4902-4907, 500101-5002, 5004-5009, 510101-5103, 5105, 5107-510902, 5111N-5114, 5116-512402, 5126-5141N, 5143, 5144N, 5148-5155, 5157, 5158, 5160, 5161 <sup>w</sup> , 5163, 5165-5180, 5182-5184, 520101-5216, 550101-550106, 5503, 5505, 5509, 5511, 5515, 5517, 5521 <sup>w</sup> , 5524, 5525, 5528, 5529, 5531, 5533, 5536, 5538, 560501-5606, 5621, 5625, 5808, 7801-7806
<b>36</b>	430 bp	1070 bp	27, 40, 44, 45, 51, 52, 53, 57, 58, 59	*2702, 2730, 2753, 2757, 4013, 4019, 4406, 4425, 4450, 510101-512402, 5126-5146, 5148-5153, 5155-5177, 5179-5184, 520101-5216, 530101-5302, 5304-5308, 5310, 5314-5319, 570101-5711,

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				5713-5726, 580101-5802, 5804-5816, 5818-5824
<b>37</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, 4097, 4098, 4101-4104, 4105 <sup>?</sup> , 4106-4112, 4409, 4446, 4475, 4501-4510, 4702, 4703 <sup>W</sup> , 500101-5002, 5004, 5005, 5007-5009
<b>38</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, 130101-1304, 1306, 1308Q-1323, 1325-1330, 15010101-150104, 150106-150112, 150301-1507, 1512, 1514, 1519, 1520, 1524-152703, 1530, 1532-1536, 153801-1540, 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, 9563-9567, 9569, 9571-9575, 9578, 1812, 2701-2721, 2724-2759N, 3510, 3513, 3516, 3528, 3563, 3569, 3580, 370101-3707, 3709-3719, 3803, 3804, 390201, 390202, 3908, 391301, 391302, 3922, 3923, 3949, 400101-4007, 4009-4016, 4018-4024, 4026-4040, 4042-4067, 4070-4098, 4101-4112, 4211, 44020101-4405, 4407-4411, 4413-4488, 4501-4510, 47010101-4705, 480101-4805, 4807-4815, 4817-4820, 490101-4907, 500101-5002, 5004-5009, 520101-5216, 5317, 5518, 5534, 7805, 7806
<b>39</b>	160 bp, 215 bp	1070 bp	15, 37, 44, 54	*150104, 370104, 4094, 44020101-440210, 4406, 4408, 4409, 4411, 4412, 4416, 4419N-4424, 4427, 4433, 4434, 4441, 4444, 4448, 4449, 4452N, 4453, 4455, 4459, 4463, 4466-4468, 4471-4474, 4480, 4483, 4484, 4486, 4487, 5401-5419, 8301
<b>40<sup>9</sup></b>	180 bp,	1070 bp	13, 15, 18,	*0765, 1306, 1542, 1586, 1804,

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	210 bp		35, 39, 40, 54, 55, 56, 59, 78	3560, 3917, 4058, 4508, 4618, 5401, 5402, 5405N, 5407, 5408N, 5410, 5412, 5413, 5416-5419, 550101- 5503, 5505, 5507, 5510-5512, 5515, 5516, 5518, 5519, 5521, 5525, 5526, 5529-5531, 5533-5538, 560501, 5606, 5610, 5623, 5901, 5905, 7801, 780202, 7803, <b>Cw*150204</b>
<b>41</b>	180 bp	1070 bp	13, 15, 40, 44, 45, 46, 49, 50, 51, 54, 56	*1303, 1573, 4071, 4410, 4415, 4418, 4501, 4504-4507, 4611, 490101-4903, 4906, 500101-5002, 5004-5008, 5115, 5162, 5403, 560101-5602, 5604, 5607, 5608, 5613, 5614, 5616, 5617, 5620, 5624-5626, 5904, 8201, 8202, <b>Cw*0312, Cw*0319</b>
<b>42<sup>6,7</sup></b>	90 bp, 240 bp	<b>800 bp</b>	55, 57	*5514, 570101-5715, 5717-5719, 5721-5726
<b>43<sup>6</sup></b>	90 bp	1070 bp	13, 15, 39, 40, 56, 58	*1311, 151803, 1573, 3917, 4048, 4071, 5162, 5602, 5604, 5610, 580101-5802, 5804-5824, <b>Cw*0206<sup>w</sup></b>
<b>44<sup>6</sup></b>	95 bp	1070 bp	8, 18, 35, 37, 38, 39, 44, 51, 52, 53, 78	*0765 <sup>w</sup> , 0832, 180101-1811, 1813- 1815, 1817N-1836, 1838-1845, 350101-350902, 3511-351202, 351401-3515, 3517, 3518, 352001- 3524, 3527, 3529-3545, 3548, 3550- 3562, 3564-356802, 3570-3572, 3574, 3575, 3576 <sup>w</sup> , 3577-3579, 3581-3599, 3708, 3806, 3807, 391901, 391902, 4406, 510101- 512402, 5126-5146, 5148-5184, 530101-5316, 5318, 5319, 5606 <sup>w</sup> , 7801-7804
<b>45<sup>6,7</sup></b>	115 bp, 150 bp	1070 bp	15, 18, 27, 35, 39, 46, 54, 55, 56, 62, 73, 75, 76	*15010101-150104, 150106-150112, 1504, 1507, 1508, 151101-1512, 1514, 1515, 1519, 1524, 1526N- 1528, 1530, 1532, 1534, 1535, 153801, 153802, 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, 9563-9567, 9569, 9571, 9572, 9574, 9575, 9578, 1819, 2725, 351401, 351402, 3543, 3544, 3562, 3567, 3579, 3586, 3918, 3936, 460101-4602, 4604, 4605, 4607N, 4609, 4610, 4612, 4614-4617, 4620, 4622, 5161, 5406, 5521, 5603, 7301, <b>Cw*0620</b>
<b>46</b>	360 bp	1070 bp	Bw4 <sup>12</sup>	
<b>47</b>	350 bp	1070 bp	Bw6	

<sup>1</sup>Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B low resolution SSP typings. When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.

Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers, e.g. the primers in wells 5, 6, 38, 40.

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 5, 6, 10, 17, 20, 21, 30, 35 and 42 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 used the information published in *Tissue Antigens* 1999: **54**: 409-437, also available at the [www.worldmarrow.org](http://www.worldmarrow.org) web site and also inferred the serological grouping from the naming of the sequence-defined allele.

<sup>4</sup>For several HLA-B alleles only partial nucleotide sequences are available, especially for the 1<sup>st</sup> exon. In these instances it is not known whether some of the primers of the HLA-B low resolution SSP set are completely matched with the target sequences or not. We assume that unknown sequences are conserved 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, 3930, 3932-3934, 3947 and 3950 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\*180702 and 1829 and the B\*3532, 3537, 3553N, 3564, 3566, 356801-356802 and 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.

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The B\*4109 and the B\* 4502 and 4503 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, 5508, 5513 and 5527 and the B\* 5615, 5619N and 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 and 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>Due to sharing of sequence motifs, non-HLA-B alleles will be amplified by a few primer mixes; primer mix 1 will amplify the Cw\*0223 allele, primer mix 3 will amplify the HLA-Cw\*0305, Cw\*0325 and Cw\*0327 alleles, primer mix 4 will amplify the Cw\*0130 allele, the Cw\*0746 allele will be amplified by primer mix 8, primer mix 40 will amplify the Cw\*150204 allele, primer mix 41 will amplify the Cw\*0312 and Cw\*0319 alleles, primer mix 43 will weakly amplify the Cw\*0206 allele and primer mix 45 will amplify the Cw\*0620 allele. Furthermore, the Cw\*1701 and Cw\*1702 alleles might be faintly amplified by primer mix 25.

<sup>6</sup>Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

<sup>7</sup>Primer mixes 1, 19, 25, 42 and 45 may give rise to a primer oligomer artifact.

<sup>8</sup>Primer mix 4 may yield less specific PCR product than the other HLA-B low resolution primer mixes in B\*40, B\*41, B\*45, B\*49 and B\*50 alleles.

<sup>9</sup>Primer mixes 5, 6 and 40 may yield less specific PCR product than the other HLA-B low resolution primer mixes.

<sup>10</sup>Primer mixes 7, 9 and 26 might give rise to non-specific amplification products, most pronounced in primer mix 9. Primer mix 9 may furthermore faintly amplify the B\*57 and B\*58 alleles.

<sup>12</sup>Primer mix 29 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 46.

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

‘w’ , might be weakly amplified.

<b>INTERPRETATION TABLE</b>																									
<b>HLA-B low resolution SSP</b>																									
<b>Amplification patterns of the B*0702 to B*8301 alleles<sup>6</sup></b>																									
		<b>Well</b>																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<b>Length of spec.</b>		110	215	140	130	165	165	290	165	165	180	105	280	195	105	115	80	150	135	245	210	170	110	395	425
<b>PCR product(s)</b>				235	265	235			330	390		195			435					400					
<b>Length of int. pos. control<sup>1</sup></b>		800	1070	1070	1070	800	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	800	800	1070	1070	1070
<b>5'-primer(s)<sup>2</sup></b>		5'-TgA <sup>*</sup>	5'-TCg <sup>*</sup>	5'-ggC <sup>*</sup>	5'-CCg <sup>*</sup>	5'-CCT <sup>*</sup>	5'-CCg <sup>*</sup>	5'-ggA <sup>*</sup>	5'-ggA <sup>*</sup>	5'-ggA <sup>*</sup>	5'-TTA <sup>*</sup>	5'-AgA <sup>*</sup>	5'-gTC <sup>*</sup>	5'-TCT <sup>*</sup>	5'-ggA <sup>*</sup>	5'-Cgg <sup>*</sup>	5'-gCT <sup>*</sup>	5'-TCA <sup>*</sup>	5'-gAC <sup>*</sup>	5'-ggA <sup>*</sup>	5'-TCT <sup>*</sup>	5'-ggC <sup>*</sup>	5'-gAA <sup>*</sup>	5'-ggC <sup>*</sup>	5'-ggC <sup>*</sup>
		540		363	103	363			357	435		420		419	540					368	368	420		246	44
				363	361				412																44
<b>3'-primer(s)<sup>3</sup></b>		5'-gCT <sup>*</sup>	5'-Tgg <sup>*</sup>	5'-gTg <sup>*</sup>	5'-CgT <sup>*</sup>	5'-TAT <sup>*</sup>	5'-TAT <sup>*</sup>	5'-Tgg <sup>*</sup>	5'-CCT <sup>*</sup>	5'-TCC <sup>*</sup>	5'-CTC <sup>*</sup>	5'-Tgg <sup>*</sup>	5'-TAT <sup>*</sup>	5'-gTC <sup>*</sup>	5'-TgC <sup>*</sup>	5'-TCT <sup>*</sup>	5'-TCT <sup>*</sup>	5'-gCT <sup>*</sup>	5'-ggC <sup>*</sup>	5'-gTT <sup>*</sup>	5'-ggg <sup>*</sup>	5'-ggT <sup>*</sup>	5'-ggA <sup>*</sup>	5'-TgC <sup>*</sup>	5'-ggT <sup>*</sup>
		605	272	309	193	246	246	165	206	266	559	272	301	301	272	234	204	463	302	259	311	544	317	272	302
			272	559	193	246			538	559		572		301	309					266	311				302
			583											570	605					272	538				302
														572						292					
																				572					
<b>Well No.</b>		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24



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Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<b>HLA-B allele<sup>4</sup></b>	<b>ser.<sup>5</sup></b>																								
*070201-070218, 070501-0707, 0710, 0712, 0714, 071801, 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741-0746, 0749N, 0752, 0755-0759, 0761-0764, 0766- 0768, 0770-0772, 0774-0777, 0779, 0780, 0782, 0783, 0786-0799	B7	1																							24
*0703, 0708, 0716, 0732, 0737	B7, B703	1																							24
*0704, 0725	B7	1													14										24
*0709, 0711, 0717	B7	1											12												24
*0713, 0715, 0747	-	1																							24
*0719, 0733, 0740, 0748, 0751, 0753	-																								24
*0720, 0724	-	1	3																						24
*0727	-	1										11								20					
*0736, 0781	-	1																							
*0738	-	1																							
*0750	-	1										11													24
*0754	-	1																							24
*0760	-		3																						24
*0765	-	1																	18						
*0769, 0785		1																						23	24
*0773		1															16								24
*0778		1									10														24
*0784		1																							24
*080101-080109, 0805, 0808N, 0810- 081203, 0815, 0816, 0818, 0819N, 0822- 0824, 0827, 0829- 0831, 0833, 0834, 0839, 0841-0847	B8, Null		2						8																24
*0802, 0803	B8		2						8																
*0804	-		2						8			11													24
*0806, 0813, 0820, 0840	B8		2																						24
*0807, 0814	-		2																						24

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25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	ser. <sup>5</sup>	Well No. HLA-B allele <sup>4</sup>
			28																			47	B7	*070201-070218, 070501-0707, 0710, 0712, 0714, 071801, 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741-0746, 0749N, 0752, 0755-0759, 0761-0764, 0766- 0768, 0770-0772, 0774-0777, 0779, 0780, 0782, 0783, 0786-0799
																						47	B7, B703	*0703, 0708, 0716, 0732, 0737
		27	28																			47	B7	*0704, 0725
			28																			47	B7	*0709, 0711, 0717
			w																			47	-	*0713, 0715, 0747
			28																			47	-	*0719, 0733, 0740, 0748, 0751, 0753
			28																			47	-	*0720, 0724
																						46	-	*0727
			28																			46	-	*0736, 0781
																						46	-	*0738
																						47	-	*0750
			28										38									47	-	*0754
			28																			47	-	*0760
			28				32								40					w		47	-	*0765
																						47		*0769, 0785
			28																			47		*0773
			28								35											47		*0778
			28								35											47		*0784
		27																				47	B8, Null	*080101-080109, 0805, 0808N, 0810- 081203, 0815, 0816, 0818, 0819N, 0822- 0824, 0827, 0829- 0831, 0833, 0834, 0839, 0841-0847
		27																				46	B8	*0802, 0803
		27																				47	-	*0804
																						47	B8	*0806, 0813, 0820, 0840
		27																				47	-	*0807, 0814

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*0809	-	2		8					24
*0817	-	2		8	11				24
*0821		2	3	8					24
*0825	-	2	3						24
*0826, 4207	-			8					24
*0828, 0837	-	2			12				24
*0832	-	2		8			18		24
*0835	-	2		8	12				24
*0836	-	2		8					
*0838	-	2		8					24
*130101, 130102, 1317, 1320, 132201- 1323, 1325, 1328, 1329	B13		3 4		10			17	
*130201-130206, 1308Q, 1315, 1318, 1319, 1327, 1330	B13		3 4		10				
*1303	-		3 4						
*1304, 1310	-		3 4			12			
*1306	-		3 4					17	
*1307N	Null		3 4		10			17	
*1309	-		4		10				
*1311	-		3 4		10				
*1312, 1313	-		3 4					17	
*1314	-		3		10				
*1316	-		3 4		10				
*1321	-		3 4						
*1326			3 4			12		17	
*1401, 1407N, 1412, 1414	B64		4 5						23 24
*140201, 140202, 1403, 1404, 1409, 1411, 1415, 1416	B65		4	6					23 24
*140203	-		4						23 24
*1405-140602, 1413	-			6					23 24
*1408, 3925N, 3930, 3932-3934, 3947, 3950				5					23 24
*1410				5				17	23 24

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27	30					47	-	*0809
27			38			47	-	*0817
27						47		*0821
						47	-	*0825
27						47	-	*0826, 4207
27						47	-	*0828, 0837
27					44	47	-	*0832
27						47	-	*0835
27						47	-	*0836
27			38			47	-	*0838
			38			46	B13	*130101, 130102, 1317, 1320, 132201- 1323, 1325, 1328, 1329
			38			46	B13	*130201-130206, 1308Q, 1315, 1318, 1319, 1327, 1330
			38	41		46	-	*1303
			38			46	-	*1304, 1310
			38	40		46	-	*1306
						46	Null	*1307N
			38			47	-	*1309
			38		43	46	-	*1311
			38			46	-	*1312, 1313
			38			46	-	*1314
		35	38			46	-	*1316
			38			46	-	*1321
			38			46		*1326
						47	B64	*1401, 1407N, 1412, 1414
						47	B65	*140201, 140202, 1403, 1404, 1409, 1411, 1415, 1416
						47	-	*140203
						47	-	*1405-140602, 1413
						47		*1408, 3925N, 3930, 3932-3934, 3947, 3950
	31					47		*1410





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*15170101-151702, 9562, 9568, 9577	B63			7	9		14		19		
*151801, 151802, 1551, 1552, 1572, 1593, 9508, 9514, 9519, 9534, 9553, 9576	B62, B70, B71			8		12	14		19		
*151803	-			8		12	14		19		
*1520, 152501, 152502	B62			7		12		17	19		
*1521, 1544	B75			7		12	14	17	19		
*1523, 9515	-			8		12	14		19		
*1524, 1587, 9557	B62			7		12	14		19		
*1528, 9520, 9549N	B15			7		12			19		
*1529	B15			8		12			19		
*1530, 1558, 1563	B62, B15			7					19		
*1531	B75			7		12			19		
*1536	-	w		7		12		17	19		
*1542	-			7					19		
*1543	-			7		12			19		
*1545	B62	3		7					19		
*1546	B72	4		7	8	12			19		
*1548, 9550	B62			7					19		
*1553	-	4		8		12			19		
*1554	-			8		11	12		19		
*1555	-	3		7		12			19		
*1557	-			7		12			19		
*1562	-			8		11	12		17	19	
*1564	-			8		11	12		19		
*1566	-			7		12	14		19		
*1568	-	3				11	12				
*1569	-			8		11	12		19	21	
*1573	-			7					19		
*1574	-			8		12			19		
*1576	-			7		12			w		
*1577	-			7				17	19		
*1580	-			8		12	14	17	19		
*1583	-			7	8				19		
*1585, 9554	-			7		12		17	19		
*1586	-			7					19		
*1589	-	w		7		12		17	19		
*1591, 9531	-			8		11	12	13	19		
*9501	-			7		12			19		
*9506	-	4		7	8	12		17	19		
*9516	-			7		12			19		

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							46	B63	*15170101-151702, 9562, 9568, 9577
									*151801, 151802,
								B62, B70, B71	1551, 1552, 1572, 1593, 9508, 9514, 9519, 9534, 9553, 9576
					43		47	-	*151803
						38		47	*1520, 152501, 152502
								47	*1521, 1544
			33					47	*1523, 9515
							46	-	*1524, 1587, 9557
						38	45 46	B62	*1528, 9520, 9549N
							45	47	*1529
								47	
								47	
								47	
						38		47	*1530, 1558, 1563
								47	*1531
								47	*1536
								46	-
						38		47	*1542
			35		40			47	-
								47	*1543
						38	45 46	-	*1545
							45	47	*1546
								47	*1548, 9550
								47	*1553
						37 38		47	*1554
								47	*1555
						38		47	*1557
								47	*1562
								47	*1564
								47	*1566
						38	45	47	*1568
								47	*1569
						38	45	47	*1573
								47	*1574
						38		47	*1576
								47	*1577
								47	*1580
								47	*1583
								47	*1585, 9554
						38	45	47	*1586
								47	*1589
						38		46	*1591, 9531
								47	*9501
								47	*9506
						37 38		47	*9516
								47	
25						38		47	

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*9524	-			8		12	14		19		
*9537	-			7					19		
*9538	-	1		7		12			19		
*9542	-	2		7		12			19		
*9543	-			7	8	12			19		
*9544	-			7		12			17	19	
*9561	-			8		12	13 14		19		
*180101-1803, 1805-180701, 1808, 1810, 1811, 1813-1815, 1817N, 1818, 1820, 1821, 1823N-1825, 1827, 1828, 1830-1836, 1838-1840, 1842, 1843, 1845	B18					12		15		18	
*1804	-					12		15		18	
*180702, 1829, 3532, 3537, 3553N, 3564, 3566, 356801, 356802, 3599	-					12				18	
*1809	-					12		15			
*1812	-					12		15		18	
*1819	-					12		15		18	
*1822	-					12		15	17	18	
*1826, 1841	-							15		18	
*1837						11 12					
*1844			4			12		15		18	
*2701	B27			5						16	
*2702, 2753, 2757	B27			5						16	
*2703-2706, 2709, 2710, 2713, 2717, 2720, 2727, 2731, 2735-2737, 2745, 2746, 2748-2751, 2754-2756, 2758	B27			5						16	
*2707, 2711, 2714, 2715, 2721, 2728, 2732, 2734, 2738, 2743, 2747	B27									16	
*2708, 2726, 2740, 2742, 2744	B2708			5						16	
*2712	-			5						16	
*2716, 2739, 2759N	-			5						16	
*2718	-			5		11				16	
*2719	-									16	17
*2723	-			5						16	

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25									47	-	*9524
			w	38				45	47	-	*9537
				38					47	-	*9538
				38				45	47	-	*9542
				37				45	47	-	*9543
			33					45	47	-	*9544
									47	-	*9561
							44		47	B18	*180101-1803, 1805-180701, 1808, 1810, 1811, 1813-1815, 1817N, 1818, 1820, 1821, 1823N-1825, 1827, 1828, 1830-1836, 1838-1840, 1842, 1843, 1845
				40			44		47	-	*1804
							44		47	-	*180702, 1829, 3532, 3537, 3553N, 3564, 3566, 356801, 356802, 3599
							44	46		-	*1809
				38					47	-	*1812
							44	45	47	-	*1819
		31					44		47	-	*1822
							44		47	-	*1826, 1841
									47	-	*1837
							44		47	-	*1844
	28			38				46		B27	*2701
	28	32	36	38				46		B27	*2702, 2753, 2757
	28	32		38				46		B27	*2703-2706, 2709, 2710, 2713, 2717, 2720, 2727, 2731, 2735-2737, 2745, 2746, 2748-2751, 2754-2756, 2758
	28	32		38				46		B27	*2707, 2711, 2714, 2715, 2721, 2728, 2732, 2734, 2738, 2743, 2747
	28	32		38				47		B2708	*2708, 2726, 2740, 2742, 2744
				38				47		-	*2712
				38				46		-	*2716, 2739, 2759N
				38				47		-	*2718
	28	32		38				46		-	*2719
								46		-	*2723

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*2724	-						16			
*2725	-						16			
*2729	-		5		11		16			
*2730	-						16	17		
*2733	-						16			
*2741	-		5		12		16			
*2752	-		5							
*350101-350109, 350111-350113, 3507- 350804, 3511, 3515, 352001, 352002, 3523, 3529, 3540N- 3542, 3548, 3550, 3552, 3554, 3557, 3561, 3577, 3578, 3582, 3590-3594	B35					12		17 18		
*350110	-				9	12		17 18		
*350201-350401, 350403, 3506, 351201, 351202, 3533, 3534, 3536, 3539, 3555, 3559, 3565Q, 3570, 3574, 3583-3585, 3595, 3598	B35							17 18		
*350402	-				9			17 18		
*3505, 3551, 3558, 3572, 3589, 3597	B35	3				12		18		
*350901, 350902, 3518, 3531, 3575, 3588	B35							18		
*3510, 3528, 3569, 3580	B35					12		17 18		
*3513	B35							17 18		
*351401, 351402, 3562	B35					12		17 18		
*3516	B35	3				12		17 18		
*3517, 3530	B35	3				12		17 18		
*3519	-					12		17		
*3521, 3524	-					12		17 18		
*3522	-	3						18		
*3525, 3549	-					12		17		
*3526	-		6			12		17		
*3527	B35					12		17		
*3535	B35					12		17 18	21	
*3538	-							17 18		

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	28		32	33			38				46	-	*2724
	28		32				38			45	46	-	*2725
							38				46	-	*2729
	28		32		36		38				46	-	*2730
	28		32				38				47	-	*2733
	28		32				38				46	-	*2741
	28		32				38				46	-	*2752
									44		47	B35	*350101-350109, 350111-350113, 3507- 350804, 3511, 3515, 352001, 352002, 3523, 3529, 3540N- 3542, 3548, 3550, 3552, 3554, 3557, 3561, 3577, 3578, 3582, 3590-3594
									44		47	-	*350110
									44		47	B35	*350201-350401, 350403, 3506, 351201, 351202, 3533, 3534, 3536, 3539, 3555, 3559, 3565Q, 3570, 3574, 3583-3585, 3595, 3598
									44		47	-	*350402
									44		47	B35	*3505, 3551, 3558, 3572, 3589, 3597
									44		47	B35	*350901, 350902, 3518, 3531, 3575, 3588
							38				47	B35	*3510, 3528, 3569, 3580
							38				47	B35	*3513
									44	45	47	B35	*351401, 351402, 3562
							38				47	B35	*3516
									44		47	B35	*3517, 3530
					37						47	-	*3519
		31							44		47	-	*3521, 3524
									44		47	-	*3522
											47	-	*3525, 3549
											47	-	*3526
									44		47	B35	*3527
									44		47	B35	*3535
	29								44		47	-	*3538

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*3543, 3567, 3579, 3586	B35				12			18		
*3544	-							18		
*3545, 3571	-				12 13			17 18		
*3546	B35		4		12			17		
*3547	-		4		12			17		
*3556	-							17		
*3560	B35							18		
*3563	-		4		12			17		
*3576	-				12			17 18		
*3581, 3596	-							17 18		
*3587	-			8				18		
*370101-370103, 370105-370107, 3703N, 3706, 3713, 3715-3719	B37, Null					13		17	20	
*370104	-					13		17	20	
*3702	-		5			13			20	
*3704	-					13		17	20	
*3705	-					13		17	20	
*3707	-	1				13			20	
*3708	-					13		17	20	
*3709	-					13			20	
*3710	-							17	20	
*3711	-							17 18	20	
*3712	-			8		13			20	
*3714	-							17	20	
*380101-380202, 3808, 3809, 3811- 3816, 3818, 3819	B38		5							21 22 23
*3803	B16		5		11					21 22
*3804	-									21 23
*3805	-		6							21 22 23
*3806	-									21
*3807	-		5							21
*3810	-		5							22 23
*3817	-		5			13			20	21 22 23
*3820	-		5					17		21 22 23

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						44	45	47	B35	*3543, 3567, 3579, 3586
						44	45	47	-	*3544
	29					44		47	-	*3545, 3571
		33						47	B35	*3546
			37					47	-	*3547
						44		47	-	*3556
				40		44		47	B35	*3560
			37 38					47	-	*3563
	28	32				w		47	-	*3576
		31				44		47	-	*3581, 3596
	27					44		47	-	*3587
	29		38					46	B37, Null	*370101-370103, 370105-370107, 3703N, 3706, 3713, 3715-3719
	29		38 39					46	-	*370104
			38					46	-	*3702
	29	31	38					46	-	*3704
	29		38					47	-	*3705
			38					46	-	*3707
	29					44		46	-	*3708
			38					46	-	*3709
	29		38					46	-	*3710
	29		38					47	-	*3711
	29		38					46	-	*3712
	29		38					46 w	-	*3714
								46	B38	*380101-380202, 3808, 3809, 3811- 3816, 3818, 3819
			38					46	B16	*3803
			38					46	-	*3804
								46	-	*3805
						44		46	-	*3806
						44		46	-	*3807
								46	-	*3810
								46	-	*3817
								46	-	*3820

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*39010101, 39010102L, 390103- 390108, 390110, 3903, 3905-390602, 3909, 3911, 3914, 3915, 3924, 3926- 3929, 3931, 3935, 3937, 3938Q, 3940N, 3941, 3944, 3946, 3948, 3951-3954	B390 1, B39		5						21	23	24
*390109, 3912, 3945	B39								21	23	24
*390201, 3908	B390 2, B39		5		11				21		24
*390202, 391301, 391302, 3923, 3949	B390 2, B39				11				21		24
*3904	-			6					21	23	24
*3907	-		? ?		12				21	23	24
*3910, 3916, 3920	B39								21		24
*3917	-								21		24
*3918	-		5						21	23	24
*391901	-						18		21	23	24
*391902	-		5				18		21	23	24
*3922	-		5						21	23	24
*3936	-		5							23	24
*3939	-		5		11				21		24
*3942	-		5				17		21	23	24
*3943	-		5		12					23	24
*400101-400106, 400108, 4007, 4051, 4066, 4073, 4079	B60, B40		4								24
*400107, 407201, 407202, 4077	B61, B40		4								24
*400201-400207, 4004, 40060101- 400602, 4039, 4040, 4070, 4089, 4097	B61										
*4003, 4020	B61				12						
*4005	B4005		3								
*4008	-										





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26					37 38			47	B61, B40	*4009, 4011, 4018, 4024, 4027, 4029, 4035, 4037, 4044, 4050, 4056, 4057, 4064, 4075, 4078, 4082, 4085, 4086, 4090, 4091
25					37 38			47	Null, B40, B60	*4010, 4022N, 4033, 4036, 4042, 4043, 4049, 4054, 4055, 4061-4063, 4065, 4067, 4081, 4084, 4087, 4088, 4092
25					38			47	-	*4012
26			34	36	38			46	-	*4013, 4019
					37 38			47	-	*401401-401403, 4030, 4034, 4053
					37 38			47	B61	*4015, 4032
					37 38			47	B61	*4016
25					38			47	-	*4021
25					37 38			47	-	*4023
25					37			47	-	*4025, 4069
26					37 38			47	B21	*4026
26		31			37 38			47	-	*4028
			33		37 38			47	-	*4031, 4045, 4080
25					37 38			47	-	*4038, 4052
25					38			47	-	*4046
25					38			46	-	*4047
25					37 38		43	47	-	*4048
					37 38	40		47	-	*4058
					37 38			47	-	*4059
25					37 38			47	-	*4060
26					37			47	-	*4068
26					37 38	41	43	47	-	*4071
25 26					37 38			47	-	*4074
25					38				-	*4076
					37 38			47	-	*4083
					38			47	-	*4093
26					37 38 39			47	-	*4094
26			35		37 38			47	-	*4095
26					38			46	-	*4096
26					37 38			47	-	*4098
27		30			37 38			47	B41	*4101, 4106, 4107, 4112
27					37 38			47	B41	*410201-410302, 4111

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Lot-specific information

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*4104, 4110	-		4							24
*4105	-		4	8						24
*4108	-	1	4	8		14				24
*4109, 4502, 4503	-		4	8						24
*420101-4202, 4206, 4210, 4212	B42			8						24
*4204	-			8						24
*420501, 420502	-	1		8		14				24
*4208	-			8						24
*4209	-					12				24
*4211	-			8	11					24
*4213	-			8						24
*44020101-440210, 4411, 4416, 4419N, 4421-4424, 4427, 4433, 4434, 4448, 4452N, 4455, 4459, 4463, 4466-4468, 4471-4474, 4480, 4484, 4486, 4487	B44, B47, Null		4					17		
*440301-440306, 440308-4405, 4413, 4426, 442801-4430, 4432, 4435, 4436, 4438, 4439, 4442, 4445, 4451, 4456N, 4458N, 4461N, 4469, 4470, 4476-4479, 4482, 4485, 4488	B44		4					17		
*440307, 4407, 4481	B44							17		
*4406	B44							17		
*4408	B44	w						17		
*4409	B12		4					17		
*4410	-		4		11			17	19	
*4412	-		4					17		
*4414	-		4	8				17		
*4415	-		4	8	11					
*4417, 4443	-		4			12 13		17		
*4418	-		4	8	11					
*4420	-		4	8						
*4425, 4450	-		4					17		
*4431	-		4							
*4437, 446401, 446402	-		4					17		
*4440	-				11			16 17		
*4441, 4453	-		4							

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Lot-specific information

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	27					37 38			47	-	*4104, 4110
	27	30				? 38			47	-	*4105
	27					37 38			47	-	*4108
		30				37 38			47	-	*4109, 4502, 4503
	27 28								47	B42	*420101-4202, 4206, 4210, 4212
	27 28	30							47	-	*4204
	27 28								47	-	*420501, 420502
	28								47	-	*4208
	27 28								47	-	*4209
	27					38			47	-	*4211
	27 28	29							47	-	*4213
		29				38 39			46	B44, B47, Null	*44020101-440210, 4411, 4416, 4419N, 4421-4424, 4427, 4433, 4434, 4448, 4452N, 4455, 4459, 4463, 4466-4468, 4471-4474, 4480, 4484, 4486, 4487
		29				38			46	B44	*440301-440306, 440308-4405, 4413, 4426, 442801-4430, 4432, 4435, 4436, 4438, 4439, 4442, 4445, 4451, 4456N, 4458N, 4461N, 4469, 4470, 4476-4479, 4482, 4485, 4488
		29				38			46	B44	*440307, 4407, 4481
		29 30			36	39		44	46	B44	*4406
		29				38 39			46	B44	*4408
		29				37 38 39			47	B12	*4409
		29				38	41		46	-	*4410
		29				39			46	-	*4412
		29				38			46	-	*4414
		30				38	41		46	-	*4415
		29				38			46	-	*4417, 4443
		30			34	38	41		46	-	*4418
		29 30				38 39			46	-	*4420
		29			34 36	38			46	-	*4425, 4450
25		29				38			46	-	*4431
						38			46	-	*4437, 446401, 446402
		29				38			46	-	*4440
		29				38 39			46	-	*4441, 4453

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Lot-specific information

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*4444	-				11		16	17			
*4446, 4475	-		4					17			
*4447, 4465	-		4								
*4449	-	2	4					17			
*4454	-		3	4							
*4457	-		w					17			
*4460	-		3	4				17			
*4462	-		4		8	9		17			
*4483	-							17			
*4501, 4505, 4507	B45		4		8	11					24
*4504	-		4		8						24
*4506	-		4		8	11					24
*4508	-		4		8						24
*4509	-		4		8		12	13			24
*4510	-		4		8	10					24
*460101, 460102, 4604, 4605, 4607N, 4609, 4610, 4614- 4616, 4622	B46				7			12			
*4602	-				7			12			
*4603, 4608, 461301, 461302, 4619, 4621	-				7			12			
*4606	-				7			12			
*4611	-				7						
*4612, 4620	-		3		7			12			
*4617	-				7			12	13		
*4618	-				7						
*47010101, 47010102	B47		4								
*4702	-		4								
*4703	-		4								
*4704, 4705	-		4	5							
*480101, 480102, 4804, 4807, 4809, 4811, 4819, 4820	B48					11					24
*4802	-					11	12		17		24
*480301, 480302	B48					11					24
*4805, 4808	B48	1				11					24
*4806	-										24
*4810, 4812, 4813, 4817	-					11					24
*4814	-					11	12				24
*4815	-	1				11					24
*4816	-					11					24
*4818	-					11					

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			29							38 39				46	-	*4444
			29						37 38					47	-	*4446, 4475
			29						38					46	-	*4447, 4465
			29						38 39					46	-	*4449
			29						38					46	-	*4454
			29						38					46	-	*4457
			29						38					46	-	*4460
			29						38					46	-	*4462
			29						38 39					46	-	*4483
			30						37 38	41				47	B45	*4501, 4505, 4507
			30						37 38	41				47	-	*4504
		28	30						37 38	41				47	-	*4506
			30						37 38	40				47	-	*4508
			30						37 38					47	-	*4509
			30						37 38					47	-	*4510
		28												45 47	B46	*460101, 460102, 4604, 4605, 4607N, 4609, 4610, 4614- 4616, 4622
		w												45 47	-	*4602
		28												47	-	*4603, 4608, 461301, 461302, 4619, 4621
25		28												47	-	*4606
		28								41				47	-	*4611
		28												45 47	-	*4612, 4620
		28												45 47	-	*4617
		28								40				47	-	*4618
									32					46	B47	*47010101, 47010102
									32	37 38				47	-	*4702
									32	w 38				46 w	-	*4703
										38				46	-	*4704, 4705
									33					47	B48	*480101, 480102, 4804, 4807, 4809, 4811, 4819, 4820
										38				47	-	*4802
25										38				47	B48	*480301, 480302
										38				47	B48	*4805, 4808
									33					47	-	*4806
										38				47	-	*4810, 4812, 4813, 4817
										38				47	-	*4814
									33					47	-	*4815
									33					47	-	*4816
									33					46	-	*4818

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Lot-specific information

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*490101, 4906	B49	4							
*490102	-	4							
*4902	-	4							
*4903	-								
*4904, 4905	-	4			12				
*4907	-	4		10					
*500101, 500102, 5004, 5005, 5008	B50	4							24
*5002	B45	4			11				24
*5006	-	4							24
*5007	-								24
*5009	-	4							24
*510101, 510103, 510105-510108, 510110-510201, 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, 5165-5167, 5169-5177, 5179, 5180, 5183, 5184	B51, B510 2, B510 3, Null				9				
*510102, 510109, 510202, 5105, 510902	B51				9				
*510104, 510204, 511301, 5116, 5121, 512401, 512402, 5131, 5134, 5135, 5182	B51, B52								
*5104, 5146, 5156	B51				9			17	
*5106, 5159	B51				9				
*5108, 5120, 5144N	B51			8	9				
*5110, 5181	-								
*5115	-								
*5136	-			8					
*5137, 5163	-				9		12		
*5142	-							17	
*5145	-						12		
*5154, 5178	-				9				
*5161	-				9				

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				34	35		38		41			46	B49	*490101, 4906	
				34			38		41			46	-	*490102	
					35		38		41			46	-	*4902	
					35		38		41			46	-	*4903	
				34	35		38					46	-	*4904, 4905	
				34	35		38					46	-	*4907	
					35	37	38		41			47	B50	*500101, 500102, 5004, 5005, 5008	
					35	37	38		41			47	B45	*5002	
					35		38		41			47	-	*5006	
					35	37	38		41			47	-	*5007	
					35	37	38					47	-	*5009	
		30			35	36				44		46	B51, B510 2, B510 3, Null	*510101, 510103, 510105-510108, 510110-510201, 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, 5165-5167, 5169-5177, 5179, 5180, 5183, 5184	
					35	36					44	46	B51	*510102, 510109, 510202, 5105, 510902	
		30			35	36					44	46	B51, B52	*510104, 510204, 511301, 5116, 5121, 512401, 512402, 5131, 5134, 5135, 5182	
		30	31			36					44	46	B51	*5104, 5146, 5156	
		30				36					44	46	B51	*5106, 5159	
		30			35	36					44	46	B51	*5108, 5120, 5144N	
		30				36					44	46	-	*5110, 5181	
						36			41		44	46	-	*5115	
		30			35	36					44	46	-	*5136	
		30			35	36					44	46	-	*5137, 5163	
		29	30			36					44	46	-	*5142	
		30				36					44	46	-	*5145	
					35						44	46	-	*5154, 5178	
		30			w	36					44	45	46	-	*5161



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Lot-specific information

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			30				36			41	43	44	46	-	*5162
			30				36					44	46	-	*5164
			30				35 36					44	46	-	*5168
							35 36		38				46	B52	*520101, 520103, 5204, 5205, 5207, 5210-5213, 5215
			30				35 36		38				46	B52	*520102, 520104, 5202, 5203, 520601, 520602, 5209
							35 36		38				46	-	*520105, 5208, 5214
							35 36		38				46	-	*5216
							36					44	46	B53	*530101-530105, 5305, 5308, 5310, 5315, 5316, 5318
			31				36					44	46	B53	*5302
												44	46	-	*5303, 5309, 5311- 5313
							36					44	46	-	*5304, 5307, 5319
			30 31				36					44	46	B53	*5306
							36					44	46	-	*5314
							36		38				46	-	*5317
	28		32						39 40				47	B54	*5401, 5402, 5405N, 5407, 5408N, 5410, 5413, 5416-5419
	28		32						39	41			47	-	*5403
	28		32						39				47	-	*5404, 5411, 5415
	28		32						39			45	47	-	*5406
	28		32						39				47	-	*5409, 5414
	28		32	34					39 40				46	-	*5412
	28		32		35				40				47	B55	*550101-550106, 5503, 5505, 5511, 5515, 5525, 5529, 5531, 5533, 5536, 5538
	28		32						40				47	B54, B55	*550201-550205, 5507, 5510, 5512, 5516, 5519, 5526, 5530, 5537
	28		32										47	B55	*5504, 5508, 5513, 5527, 5615, 5619N, 5622
	28		32		35								47	-	*5509, 5524
	28		32							42			47	-	*5514
	28		32		35								47	-	*5517, 5528
								38	40				47	-	*5518
27	28	30	32										47	-	*5520

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Lot-specific information

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*5521	-								
*5522	-			10					
*5523, 5532, 5618	-				12				
*5534	-								
*5535	-								
*560101, 560102, 5608, 5614, 5616, 5620, 5624, 5626	B56								
*5602, 5604	B56								
*5603	B22				12				
*560501	-			9					
*560502	-			9					
*5606	B78			9			18		
*5607	-								
*5609	-				12		17		
*5610	-								
*5611, 5612	-						17		
*5613	-		8						
*5617	-								
*5621	-			9					
*5623	-								
*5625	-								
*570101-570104, 5706, 5708, 5710, 5715, 5718, 5719, 5722, 5723, 5725, 5726	B57				12		17		
*570105, 5711, 5713, 5721	B57				12				
*5702-5705, 5717	-						17		
*5707	-						17		
*5709	-		8				17		
*5712	-						17		
*5714	-				12		17		
*5716, 5720	-				12		17		
*5724	-				12		17		
*580101, 580102, 5804, 5805, 5810N- 5815, 5819, 5821- 5824	B58				12		17		
*580103, 5802, 5806, 5816	B58				12				
*5807	-				12	13			
*5808	-			9					
*5809	-				12		17		
*5817N	-				12		17		

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	28		32		w		40			45	47	-	*5521
	28		32								47	-	*5522
	28		32								47	-	*5523, 5532, 5618
	28		32			38	40				47	-	*5534
	28		32	w			40				47	-	*5535
	28		32					41			47	B56	*560101, 560102, 5608, 5614, 5616, 5620, 5624, 5626
	28		32					41	43		47	B56	*5602, 5604
	28		32							45	47	B22	*5603
	28		32		35		40				47	-	*560501
	28		32		35						47	-	*560502
	28		32		35		40		w		47	B78	*5606
	28		32					41			46	-	*5607
	28		32								47	-	*5609
	28		32				40		43		47	-	*5610
	28		32								47	-	*5611, 5612
	28	30	32					41			47	-	*5613
								41			47	-	*5617
	28		32		34 35						46	-	*5621
							40				47	-	*5623
	28		32		35			41			47	-	*5625
					36				42		46	B57	*570101-570104, 5706, 5708, 5710, 5715, 5718, 5719, 5722, 5723, 5725, 5726
					36				42		46	B57	*570105, 5711, 5713, 5721
					36				42		46	-	*5702-5705, 5717
	29				36				42		46	-	*5707
	29				36				42		46	-	*5709
									42		47	-	*5712
		31			36				42		46	-	*5714
					36						46	-	*5716, 5720
	29				36				42		46	-	*5724
					36				43		46	B58	*580101, 580102, 5804, 5805, 5810N- 5815, 5819, 5821- 5824
					36				43		46	B58	*580103, 5802, 5806, 5816
					36				43		46	-	*5807
	30				35 36				43		46	-	*5808
	31				36				43		46	-	*5809
									43		46	-	*5817N





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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.

<sup>5</sup>The serological reactivity of all HLA-B alleles is not known. In this table we used the information published in *Tissue Antigens* 1999: **54**: 409-437, also available at the [www.worldmarrow.org](http://www.worldmarrow.org) web site.

<sup>6</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, 3930, 3932-3934, 3947 and 3950 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\*180702 and 1829 and the B\*3532, 3537, 3553N, 3564, 3566, 356801-356802 and 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\*4109 and the B\* 4502 and 4503 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, 5508, 5513 and 5527 and the B\* 5615, 5619N and 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 and 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.

‘ser’, serological HLA specificity.

‘w’, might be weakly amplified.

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

<b>CELL LINE VALIDATION SHEET</b>																			
<b>HLA-B low resolution SSP kit</b>																			
			Prod. No.:	Well															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				200959401	200959402	200966303	200963304	200963305	200963306	200959407	200959408	200967009	200967010	200959411	200959412	200963313	200967014	200959415	200959416
	<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	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-

				Well															
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:															
				200963317	200959418	200959419	200963320	200959421	200959422	200959423	200959424	200959425	200963326	200963327	200959428	200963329	200959430	200959431	200963332
IHC cell line		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																	
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47			
					200959433	200959434	200959435	200959436	200959437	200959438	200967039	200967040	200959441	200959442	200963343	200959444	200959445	200959446	200959447			
	<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		-	-	-	-	-	+	-	-	-	-	-	+	-	-	-	-	+	+

## CERTIFICATE OF ANALYSIS

### Olerup SSP® HLA-B low resolution SSP

Product number: 101.501-48u/12u – without *Taq* pol.  
Lot number: 63G  
Expiry date: 2011-November-01  
Number of tests: 48 tests – Product No. 101.501-48u  
12 tests – Product No. 101.501-12u  
Number of wells per test: 47 + 1

#### Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2009-594-01	17	2009-633-17	33	2009-594-33
2	2009-594-02	18	2009-594-18	34	2009-594-34
3	2009-633-03	19	2009-594-19	35	2009-594-35
4	2009-633-04	20	2009-633-20	36	2009-594-36
5	2009-633-05	21	2009-594-21	37	2009-594-37
6	2009-633-06	22	2009-594-22	38	2009-594-38
7	2009-594-07	23	2009-594-23	39	2009-670-39
8	2009-594-08	24	2009-594-24	40	2009-670-40
9	2009-670-09	25	2009-594-25	41	2009-594-41
10	2009-670-10	26	2009-633-26	42	2009-594-42
11	2009-594-11	27	2009-633-27	43	2009-633-43
12	2009-594-12	28	2009-594-28	44	2009-594-44
13	2009-633-13	29	2009-633-29	45	2009-594-45
14	2009-670-14	30	2009-594-30	46	2009-594-46
15	2009-594-15	31	2009-594-31	47	2009-594-47
16	2009-594-16	32	2009-633-32		

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 3, 14, 19, 29, 31 and 40 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer. Additional 3'-primers in primer solutions 2, 13 and 35 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solutions 1 and 21 were tested by separately adding one additional 3'-primer. In primer solution 31, one 5'-primer was not possible to test. 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:** 2010-August-31

**Approved by:**

**Quality Control, Supervisor**

Lot No.: **63G**

Lot-specific information

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

## Declaration of Conformity

**Product name:** *Olerup* SSP® HLA-B low resolution  
**Product number:** 101.501-48u/12u  
**Lot number:** 63G

**Intended use:** HLA-B low 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, 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  
2010-August-31

Olle Olerup  
Managing Director





Lot No.: **63G**

Lot-specific information

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

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

**Distributed by:**

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**Fax:** +43-1-710 15 00 10

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