

Olerup SSP[®] HLA-B low resolution

Product number:	101.501-48u/12u – without <i>Taq</i> pol.
Lot number:	90F
Expiry date:	2011-April-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. 90F.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*[®] 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*[®] HLA-B low resolution lot (**Lot No. 49F**) 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
34	Added	-	Primer added for the B*59xx alleles.

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. Primer mix 9 has a tendency of giving rise to nonspecific amplifications.

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Well **48** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup* SSP[®] HLA Class I, DRB, DQB1 and DPB1 amplicons as well as the amplicons generated by control primer pairs.

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

Length of PCR product	105	200	105	80	75	80
5'-primer¹	164	340	440	45	45	43
	5'-CAC ^{3'}	5'-Agg ^{3'}	5'-TTA ^{3'}	5'-Tg g ^{3'}	5'-Tg g ^{3'}	5'-Tg g ^{3'}
3'-primer²	231	2nd I	507	59	58	57
	5'-TgC ^{3'}	5'-AAA ^{3'}	5'-TTg ^{3'}	5'-CTC ^{3'}	5'-ggC ^{3'}	5'-CTC ^{3'}
A*	+	+	+			
B*	+	+	+			
Cw*	+	+	+			
DRB1				+	+	
DRB3				+	+	
DRB5				+		
DQB1					+	
DPB1						+

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

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

PRODUCT DESCRIPTION

HLA-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’.

Well No. 1 is marked with the Lot No. ‘90F’.

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 3 will amplify the HLA-Cw*0305, Cw*0325 and Cw*0327 alleles, the Cw*0746 allele will be amplified by primer mix 8, primer mixes 10 and 43 will weakly amplify the Cw*0206 allele and primer mix 40 will amplify the Cw*150204 allele. Thus, the interpretation of HLA-B low resolution typings is only influenced by the Cw*0206, Cw*0305, Cw*0325, Cw*0327, 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 April 2008¹ 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 specificities².

¹HLA-B alleles listed on the IMGT/HLA web page 2008-April-08, release 2.21.0, www.ebi.ac.uk/imgt/hla.

²It 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 1st 2001.

DNA-based HLA-B typing resolution required:

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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 ^a	4001, 4007, 4010, 4012, 4014, 4015, 4016
B*40EJB ^b	4002, 4003, 4004, 4006, 4008, 4009, 4011, 4013, 4018, 4019, 4020
B*15EJA ^c	1501, 1504, 1505, 1506, 1507, 1520, 1524, 1525, 1526N, 1527, 1528, 1530, 1532, 1533, 1534, 1535, 1536, 1538, 1539, 1540, 1543, 1545
B*15AHM ^d	1516, 1517
B*15EHZ ^e	1503, 1509, 1510, 1518, 1523, 1529, 1537, 1547
B*15CYP ^f	1502, 1508, 1511, 1515, 1521, 1531, 1544
B*15AND ^g	1512, 1514, 1519
B*1513 ^h	

^aB60 serologic equivalent cluster.

^bB61 serologic equivalent cluster.

^cB62 serologic equivalent cluster.

^dB63 serologic equivalent cluster.

^eB70 serologic equivalent cluster.

^fB75 serologic equivalent cluster.

^gB76 serologic equivalent cluster.

^hB77 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, B*3930 and B*3932 to 3934 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*1829 and the B*3523, B*3537, B*3553N, B*3564, B*3566 and B*356801-356802 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*5504, B*5508, B*5513, B*5527 and the B*5615, B*5619N and B*5622 give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*5523 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 ¹	Size of control band ²	HLA-B serol. ³	Amplified HLA Class I ⁴ alleles
1^{5,6}	110 bp	800 bp	7, 15, 37, 40, 41, 42, 48	070201-071802, 0720-0732, 0734-0739, 0741-0747, 0749N, 0750, 0752, 0754-0759, 0761-0764, 9538, 3707, 4015, 4016, 4023, 4032, 4108, 420501-420502, 4805, 4808, 4815
2	215 bp	1070 bp	8, 15, 44	080101-0825, 0827-0836, 9542, 4449
3⁷	140, 235 bp	1070 bp	7, 8, 13, 15, 35, 40, 4005, 44, 46, 53, 57	0720, 0724, 0760, 0821, 0825, 1301-1304, 1306-1308Q, 1310-1321, 150106-150108, 1507, 152702, 1536, 1545, 1555, 1568, 1589, 9526, 9535-9537, 9539-9542, 9544-9546, 3505, 3516, 3517, 3522, 3530, 3551, 3558, 3572, 4005, 4071, 4408, 4454, 4457, 4460, 4611-4614, 5314, 5714, 5715, Cw*0305, Cw*0325, Cw*0327
4⁸	130, 265 bp	1070 bp	13, 14, 15, 35, 40, 41, 44, 45, 47, 49, 50	1301-1304, 1306-1313, 1315-1321, 1401-1404, 1407N, 1546, 1553, 9506, 3547, 3563, 400101-400106, 4007, 4010, 401401-4016, 4022N, 4023, 4025, 4030-4034, 4036, 4038, 4042, 4043, 4045, 4047-4049, 4051-4055, 4058-4063, 4065-4067, 4069, 4072, 4073, 4076, 4077, 4079-4081, 4084, 4087, 4088, 4101-4108, 44020101-4405, 4409-4439, 4441-4443, 4445-4456N, 4458N-4460, 4501-4508, 47010101-4705, 4901, 4902, 4904, 4905, 5001, 5002, 5004
5⁹	185, 235 bp	1070 bp	14, 16, 27, 37, 38, 39, 47, 64, 67	1401, 1407N, 1408, 2701-270402, 270502-2706, 2708-2710, 2712, 2713, 2716-2718, 2720, 2723, 2726, 2727, 2729, 2731, 2735-2737, 2739-2742, 3702, 380101-3803, 3807-3817, 39010101-39010102L, 390103-390201, 3903, 3905-

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				390602, 3907 [?] , 3908, 3909, 3911, 3914, 3915, 3918, 391902, 3922, 3924-3943, 4704, 4705, 670101
6⁹	185 bp	800 bp	14, 35, 38, 39, 65	140201-140602, 3526, 3805, 3904, 3907 [?]
7	290 bp	1070 bp	15, 62, 63, 75, 76, 77, 46	15010101-150103, 150106-150107, 1502, 1504-1508, 151101-1515, 15170101-151702, 1519-1521, 1524-152701, 1528, 1530-1536, 1538-1540, 1542-1546, 1548, 1550, 1555-1558, 1560, 1563, 1565, 1566, 1568, 1570, 1571, 1573, 1575-1579N, 1581-1589, 1592, 1594N, 1596, 1597, 9501, 9502, 9504-9507, 9509-9513, 9516-9518, 9520-9522, 9525, 9526, 9528, 9529, 9535-9546, 460101-4614
8	165, 220, 330 bp	1070 bp	8, 15, 37, 40, 41, 42, 44, 45, 51, 56, 57, 70, 71, 72	080101-0805, 0808N-0812, 0815-0819N, 0821-0824, 0826, 0827, 0829-0836, 1503, 1509, 1510, 1518, 1523, 1529, 1537, 1546, 1547, 1549, 1551-1554, 1561, 1562, 1564, 1568, 1569, 1572, 1574, 1580, 1583, 1590, 1591, 1593, 1598, 1599, 9503, 9506, 9508, 9514, 9515, 9519, 9523, 9524, 9527, 9531-9534, 9543, 3587, 3712, 4012, 4101-410302, 4105-4108, 4201, 4202, 4204-4208, 4414, 4415, 4418, 4420, 4501-4508, 5108, 5120, 5136, 5144N, 5613, 5709, 8201, 8202, Cw*0746
9^{9,10,11}	165, 390 bp	800 bp	15, 35, 40, 51, 52, 56, 58, 62, 63, 70, 78	150102, 1509, 1516-151702, 1567, 1595, 350402, 4026, 4028, 510101-510103, 510105-510902, 5111N, 5112, 511302, 5114, 5117-5120, 5122, 5123, 5126-5130, 5132, 5133, 5137-5141N, 5143, 5144N, 5146, 5148-5155, 520101-5207, 5209-5212, 560501-5606, 5621, 5808, 7801-7805
10	180, 395 bp	800 bp	13, 15, 40, 55, 62, 70, 71, 72, 75	1301-130204, 1307N-1309, 1311, 1314-1320, 1509, 1510, 1518, 1521, 1523, 1537, 1544, 1551, 1552, 1566, 1572, 1580, 1590, 1593, 1599, 9508, 9514, 9515, 9519, 9524, 9533, 9534, 4048, 5522, 5524,

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				Cw*0206^{weakly}
11⁶	105, 195 bp	1070 bp	7, 8, 15, 27, 38, 39, 40, 44, 45, 48, 55, 72	0727, 0750, 0804, 0817, 1503, 1547, 1549, 1554, 1561, 1562, 1564, 1568, 1569, 1591, 1598, 9503, 9523, 9527, 9531, 9532, 2718, 2729, 3803, 390201-390202, 3908, 391301- 391302, 3923, 3939, 4012, 4046, 4410, 4415, 4418, 4440, 4444, 4501, 4505-4507, 480101-4805, 4807- 4819, 5002, 5518, 8201, 8202
12	275 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, 1304, 1310, 15010101-150104, 150106- 1508, 151101-1516, 1518-1521, 1523-1529, 1531-1536, 1538-1540, 1543, 1544, 1546, 1547, 1549-1557, 1560-1562, 1564-1572, 1574-1576, 1578-1582, 1584, 1585, 1587-1589, 1591-1598, 9501-9529, 9531, 9532, 9534-9536, 9538-9546, 180101- 1815, 1817N-1825, 1827-1829, 2741, 350101-350107, 3505, 3507- 350803, 3510, 3511, 351401-3517, 3519-3521, 3523-3530, 3532, 3535, 3537, 3540N-3543, 3545-3554, 3557, 3558, 3561-3564, 3566-3569, 3571, 3572, 3576-3580, 3582, 3586, 3907, 3943, 4003, 4020, 4038, 4052, 4059, 4060, 4209, 4417, 4443, 460101-4610, 4612-4614, 4802, 4814, 4904, 4905, 5137, 5145, 530101-5303, 5305, 5306, 5308- 5316, 5406, 5409, 5514, 5523, 5603, 5609, 5618, 570101-570103, 5706, 5708, 5710, 5711, 5713-5716, 580101-5802, 5804-5807, 5809- 5817N
13	195 bp	1070 bp	15, 35, 37, 38, 44, 58, 76	1512, 1514, 1519, 1591, 9531, 3545, 3571, 370101-3709, 3712, 3713, 3817, 4417, 4443, 5807
14⁶	105, 435	1070 bp	7, 15, 41, 42, 59, 62, 63, 77	0704, 0725, 1513, 1516-151702, 1523, 1524, 1567, 1587, 1595, 4108, 420501-420502
15⁶	115 bp	1070 bp	18	180101-1815, 1817N-1828
16⁶	80 bp	1070 bp	27, 40, 44	2701-270402, 270502-2721, 2723- 2742, 4046, 4440, 4444
17	150 bp	1070 bp	13, 15, 27, 35, 37, 39,	1301, 1306, 1307N, 1312, 1313, 1317, 1320, 1502, 1513, 1520, 1521,

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			40, 44, 48, 51, 53, 55, 56, 57, 58, 62, 75, 77	1525, 1536, 1544, 1562, 1577, 1580, 1585, 1588, 1589, 9506, 9512, 9521, 9539, 9544, 1822, 2719, 2730, 350101-350402, 3506-350803, 3510-3517, 3519-3521, 3523-3530, 3533-3536, 3538-3542, 3545-3550, 3552, 3554-3557, 3559, 3561-3563, 3565Q, 3569-3571, 3574, 3576- 3578, 3580-3585, 370101-370104, 3703N-3706, 3708, 3710, 3711, 3713, 3942, 4028, 44020101-4414, 4416, 4417, 4419N, 4421-4430, 4432-4440, 4442-4446, 4448- 4452N, 4455-4460, 4802, 5104, 5142, 5146, 530101-5313, 5315, 5316, 5514, 5609, 5611, 5612, 570101-5710, 5712, 5714-5716, 580101-580102, 5804, 5805, 5809- 5815, 5817N, 8301
18	135 bp	1070 bp	8, 18, 35, 37, 39, 56, 78	0832, 180101-1808, 1810-1815, 1817N-1829, 350101-3518, 352001- 3524, 3528-3545, 3548, 3550-3555, 3557-3562, 3564-3572, 3774-3588, 3711, 391901-391902, 5606, 7801- 7805
19^{6,11}	245, 400 bp	1070 bp	15, 62, 63, 70, 71, 72, 75, 76, 77, 40, 44	15010101-150104, 150106-1521, 1523-1540, 1542-1558, 1560-1599, 9501-9529, 9531-9546, 4012, 4410, 8201, 8202
20^{6,11}	205 bp	800 bp	7, 8, 15, 18, 37, 38	0727, 0802, 9515, 1809, 370101- 3704, 3705 ^{weakly} , 3706-3710, 3712, 3713, 380201-3804, 3808, 3815, 3817
21	170 bp	800 bp	15, 35, 38, 39, 67	1569, 9536, 3535, 380101-3809, 3811-3817, 39010101-39010102L, 390103-3920, 3922-3924, 3926- 3929, 3931, 3935, 3937-3942, 670101-6702
22⁶	110 bp	1070 bp	38	380101-3803, 3805, 3808-3817
23	400 bp	1070 bp	14, 38, 39, 64, 65	1401-1408, 380101-380202, 3804, 3805, 3808-3817, 39010101- 39010102L, 390103-390104, 3903- 3907, 3909, 3911, 3912, 3914, 3915, 3918-391902, 3922, 3924-3938Q, 3940N, 3941
24	430 bp	1070 bp	7, 8, 14, 39, 40, 41, 42, 45, 48, 50,	070201-0726, 0728-0735, 0737, 0739-0764, 080101-080105, 0804- 0835, 1401-1408, 39010101-

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			60, 64, 65, 67, 73	39010102L, 390103-3920, 3922-3943, 400101-400106, 4007, 4009-4011 [?] , 401401-4016 [?] , 4018 [?] , 4021 [?] , 4022N [?] , 4023, 4024-4038 [?] , 4040 [?] , 4042-4046 [?] , 4048-4050 [?] , 4051, 4052-4058 [?] , 4059, 4060, 4061-4069 [?] , 4071-4076 [?] , 4077, 4078 [?] , 4079, 4080-4088 [?] , 4101-4108, 4201, 4202, 4204-4209, 4501-4508, 480101-4817, 4819, 5001, 5002, 5004, 670101-6702, 7301, 8102
25 ^{11,12}	175 bp	1070 bp	15, 40, 44, 46, 48, 60	9516, 9524, 400101-400106, 4007, 4010, 4012, 4021-4023, 4025, 4033, 4036, 4038, 4042, 4043, 4046-4049, 4051, 4052, 4054, 4055, 4060-4063, 4065-4067, 4069, 4073, 4074, 4076, 4079, 4081, 4084, 4087, 4088, 4431, 4606, 480301-480302, 4817
26	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
27 ^{6,11}	110 bp	1070 bp	7, 8, 41, 42, 55	0704, 0719, 0725, 080101-0805, 0807-0812, 0814-0819N, 0821-0824, 0826-0836, 3587, 4101-4108, 4201, 4202, 4204-4207, 4209, 5520
28	325 bp	1070 bp	7, 15, 27, 42, 45, 46, 54, 55, 56, 67, 73, 81	070201-070207, 0704-0707, 0709-0712, 0713 ^{weakly} , 0714, 0715 ^{weakly} , 0717-0726, 0728-0731, 0733-0736, 0739-0749N, 0751-0764, 1576, 9501, 2701-270402, 270502-2711, 2713-2715, 2717, 2719-2721, 2724-2728, 2730-2738, 2740-2742, 3576, 4201, 4202, 4204-4206, 4208, 4209, 4506, 460101-460102, 4602 ^{weakly} , 4603-4614, 5401-5413, 550101-5505, 5507-5517, 5519-5530, 5601-5616, 5618-5622, 670101-670102, 6702 ^{weakly} , 7301, 8101-8104N, 8201, 8202, 8301
29 ^{6,13}	110, 195, 225, 260 bp	1070 bp	35, 37, 44, 47, 51, 57	3538, 3545, 3571, 370101-370104, 3703N-3706, 3708, 3710-3713, 44020101-4414, 4416, 4417, 4419N-4436, 4438-4460, 5142, 5707, 5709, 8301
30	215 bp	800 bp	8, 12, 15, 41,	0809, 1583, 4101, 4105-4107, 4204,

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			42, 44, 45, 51, 52, 53, 55, 56, 58	4406, 4415, 4418, 4420, 4501-4508, 510101, 510103-510108, 510201, 510203-5104, 5106-510901, 5110- 5114, 5116-512402, 5126-5146, 5148-5153, 5155, 520102, 520104- 5203, 520601-520602, 5209, 5306, 5520, 5613, 5808
31	130, 270 bp	1070 bp	18, 35, 37, 40, 46, 51, 53, 57, 58	1822, 3521, 3524, 3581, 3704, 4028, 460101-4614, 5104, 5146, 5302, 5306, 5714, 5809
32⁶	90, 410 bp	1070 bp	27, 35, 47, 54, 55, 56, 81	2702-270402, 270502-2711, 2713- 2715, 2717, 2719-2721, 2724-2728, 2730-2738, 2740-2742, 3576, 47010101-4703, 5401-5413, 550101-5505, 5507-5517, 5519- 5530, 5601-5616, 5618-5622, 8101, 8201, 8202, 8301
33⁶	90, 175 bp	1070 bp	15, 27, 35, 40, 48, 62, 75, 77, 81	1502, 1508, 151101-151103, 1513, 1515, 1521, 1531, 1544, 1555, 1588, 1589, 9512, 9521, 9539, 9544, 2724, 3546, 4031, 4045, 4080, 480101- 480102, 4804, 4806, 4807, 4809, 4811, 4815, 4816, 4818, 4819, 8101-8104N
34	145, 430 bp	1070 bp	40, 44, 49	4013, 4019, 4418, 4425, 4450, 4901, 4904, 4905, 5412, 5621, 5901, 5902
35⁶	120, 210 bp	800 bp	13, 15, 45, 49, 50, 51, 52, 55, 56, 58, 62, 63, 78	1316, 1504 ^{weakly} , 1516, 1542, 1567, 1595, 9537, 4901-4905, 5001, 5002, 5004, 510101-5103, 5105, 5107- 510902, 5111N-5114, 5116-512402, 5126-5141N, 5143, 5144N, 5148- 5155, 520101-5212, 550101- 550104, 5503, 5505, 5509, 5511, 5515, 5517, 5521, 5524, 5525, 5528, 5529, 560501-5606, 5621, 5808, 7801-7805
36	430 bp	1070 bp	27, 40, 44, 45, 51, 52, 53, 57, 58, 59	2702, 2730, 4013, 4019, 4406, 4425, 4450, 510101-512402, 5126-5146, 5148-5153, 5155, 520101-5212, 530101-5302, 5304-5308, 5310, 5314-5316, 570101-5711, 5713- 5716, 580101-5802, 5804-5816
37	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, 4077-4088, 4101- 4104, 4105 [?] , 4106-4108, 4409,

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				4446, 4501-4507, 4702, 5001, 5002, 5004
38⁹	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, 1301-1304, 1306, 1308Q-1321, 15010101-150104, 150106-150108, 1503-1507, 1512, 1514, 1519, 1520, 1524-152702, 1530, 1532-1536, 1538-1540, 1542, 1543, 1545-1550, 1553, 1554, 1556-1558, 1560-1563, 1565, 1566, 1568-1571, 1573-1575, 1577-1579N, 1581-1587, 1591, 1592, 1594N, 1596-1598, 9502-9507, 9509-9511N, 9513, 9516-9518, 9522, 9523, 9525-9529, 9531, 9532, 9535-9538, 9540-9542, 9545, 9546, 1812, 2701-270402, 270502-2721, 2724-2742, 3510, 3513, 3516, 3528, 3563, 3569, 3580, 370101-3707, 3709-3713, 3803, 3804, 390201-390202, 3908, 391301-391302, 3922, 3923, 400101-4007, 4009-4016, 4018-4024, 4026-4040, 4042-4067, 4070-4088, 4101-4108, 44020101-4405, 4407-4411, 4413-4460, 4501-4505, 4507, 4508, 4610-4614, 47010101-4705, 480101-4805, 4807-4815, 4817-4819, 4901-4905, 5001, 5002, 5004, 520101-5212, 5518, 5712-5716, 580102, 5815-5817N, 7805
39	160, 215 bp	1070 bp	15, 37, 44, 54	150104, 370104, 44020101-440204, 4406, 4408, 4409, 4411, 4412, 4416, 4419N-4424, 4427, 4433, 4434, 4441, 4444, 4448, 4449, 4451-4453, 4455, 4459, 5401-5413, 8301
40⁹	180, 210 bp	1070 bp	13, 15, 18, 35, 39, 40, 54, 55, 56, 59, 78	1306, 1542, 1586, 1804, 3560, 3917, 4058, 4508, 5401, 5402, 5405N, 5407, 5408N, 5410, 5412, 5413, 550101-5503, 5505, 5507, 5510-5512, 5515, 5516, 5518, 5519, 5521, 5525, 5526, 5529, 5530, 560501, 5606, 5610, 5623, 5901, 7801, 780202, 7803, Cw*150204
41¹⁴	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, 4901-4903, 5001, 5002, 5004, 5115, 5403, 5601, 5602, 5604, 5607, 5608, 5613, 5614, 5616, 5617, 5620, 8201, 8202

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Lot-specific information

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42⁶	90, 240 bp	800 bp	55, 57	5514, 570101-5715
43^{6,15}	90 bp	1070 bp	13, 15, 39, 40, 56, 58	1311, 1573, 3917, 4048, 4071, 5602, 5604, 5610, 580101-5802, 5804- 5817N, Cw*0206^{weakly}
44⁶	95 bp	1070 bp	8, 18, 35, 37, 38, 39, 44, 51, 52, 53, 78	0832, 180101-1811, 1813-1815, 1817N-1829, 350101-350902, 3511, 3512, 351401-3515, 3517, 3518, 352001-3524, 3527, 3529-3545, 3548, 3550-3562, 3564-356802, 3570-3572, 3574-3579, 3581-3588, 3708, 3806, 3807, 391901-391902, 4406, 510101-512402, 5126-5146, 5148-5155, 530101-5316, 7801- 7804
45^{6,11}	115, 150 bp	1070 bp	15, 18, 27, 35, 39, 46, 54, 55, 56, 62, 73, 75, 76	15010101-150104, 150106-150108, 1504, 1507, 1508, 151101-1512, 1514, 1515, 1519, 1524, 1526N- 1528, 1530, 1532, 1534, 1535, 1538, 1543, 1545, 1546, 1550, 1553, 1554, 1556-1558, 1560, 1563, 1566, 1568, 1570, 1571, 1573, 1575-1577, 1579N, 1581, 1582, 1585, 1587, 1592, 1594N, 1596, 1597, 9501, 9502, 9504, 9505, 9509-9511N, 9513, 9517, 9518, 9520, 9522, 9525, 9526, 9528, 9529, 9535, 9537, 9540, 9542-9546, 1819, 2725, 351401- 351402, 3543, 3544, 3562, 3567, 3579, 3586, 3918, 3936, 460101- 4602, 4604, 4605, 4607N, 4609, 4610, 4612, 4614, 5406, 5521, 5603, 7301
46	360 bp	1070 bp	Bw4 ¹⁶	
47	355 bp	1070 bp	Bw6	

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

Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers, 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.

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Lot-specific information

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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

²The 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 6, 9, 10, 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.

³The 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 web site and also inferred the serological grouping from the naming of the sequence-defined allele.

⁴For several HLA-B alleles only partial nucleotide sequences are available, especially for the 1st 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, B*3930 and B*3932 to 3934 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*1829 and the B*3523, B*3537, B*3553N, B*3564, B*3566 and B*356801-356802 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*5504, B*5508, B*5513, B*5527 and the B*5615, B*5619N and B*5622 give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*5523 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.

⁵Primer mix 1 may give rise to a primer oligomer artifact.

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

⁷Primer mix 3 will amplify the Cw*0305, Cw*0325 and Cw*0327 alleles.

⁸Primer 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.

⁹Primer mixes 5, 6, 9, 38 and 40 have a higher tendency than other primer mixes to give rise to nonspecific amplifications.

¹⁰The B*57 and B*58 alleles might be faintly amplified by primer mix 9.

¹¹Primer mixes 9, 19, 20, 25, 27 and 45 might have a tendency of giving rise a primer oligomer artifact.

¹²The Cw*1701 and Cw*1702 alleles might be faintly amplified by primer mix 25.

¹³Primer mix 29 might generate a false band of about 500 base pairs. This band should be disregarded when interpreting HLA-B low resolution typings.

¹⁴The Cw*0312 allele might be faintly amplified by primer mix 41.

¹⁵The Cw*0206 allele might be weakly amplified by primer mix 43.

¹⁶The 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.

INTERPRETATION TABLE																									
HLA-B low resolution SSP																									
Amplification patterns of the B*0702 to B*8301 alleles ⁶																									
		Well																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec.		110	215	140	130	185	185	290	165	165	180	105	275	195	105	115	80	150	135	245	205	170	110	400	430
PCR product(s)				235	265	235			220	390	395	195			435					400					
Length of int. pos. control ¹		800	1070	1070	1070	1070	800	1070	1070	800	800	1070	1070	1070	1070	1070	1070	1070	1070	1070	800	800	1070	1070	1070
5'-primer(s) ²		527	97	209	103	103	103	45	45	45	45	206	419	142	45	161	167	355	206	45	142	409	246	44	44
		5'-TgA ³	5'-Tcg ³	5'-ggC ³	5'-CCg ³	5'-CCT ³	5'-CCg ³	5'-ggA ³	5'-ggA ³	5'-ggA ³	5'-ggA ³	5'-AgA ³	5'-gTC ³	5'-TCT ³	5'-ggA ³	5'-Cgg ³	5'-gCT ³	5'-TCA ³	5'-gAC ³	5'-ggA ³	5'-TCT ³	5'-ggC ³	5'-gAA ³	5'-ggC ³	5'-ggC ³
		540		363	361	363			357	435	420	420		419	540					368		420			
		5'-gAC ³		5'-AgC ³	5'-AgT ³	5'-AAT ³			5'-Tgg ³	5'-AAA ³	5'-TTA ³	5'-TTA ³		5'-gTC ³	5'-gAC ³					5'-gTT ³		5'-TTA ³			
									412																
									5'-ATA ³																
3'-primer(s) ³		605	272	309	193	246	246	165	206	266	272	272	3rd	301	309	234	204	463	302	259	301	544	317	272	301
		5'-gCT ³	5'-Tgg ³	5'-gTg ³	5'-CgT ³	5'-TAT ³	5'-TAT ³	5'-Tgg ³	5'-CCT ³	5'-TCC ³	5'-TgC ³	5'-Tgg ³	5'-TAT ³	5'-gTC ³	5'-ATC ³	5'-TCT ³	5'-TCT ³	5'-gCT ³	5'-ggC ³	5'-gTT ³	5'-gTC ³	5'-ggT ³	5'-ggA ³	5'-TgC ³	5'-ggC ³
			272	559	583	559			538	559	559	572		570	605					266	309				302
			5'-TgA ³	5'-CAG ³	5'-gTg ³	5'-CTC ³			5'-gTC ³	5'-CAG ³	5'-CTC ³	5'-gCg ³		5'-CCg ³	5'-gCT ³					266	309				302
														572						272					
														5'-gCg ³						272					
																				292					
																				5'-gTA ³					
																				572					
																				5'-gCg ³					
Well No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HLA-B allele ⁴	ser. ⁵																								
*070201-070207, 070501-0707, 0710, 0712, 0714, 071801- 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741- 0747, 0749N, 0752, 0755-0759, 0761-0764	B7	1																							24

INTERPRETATION TABLE																																																
HLA-B low resolution SSP																																																
Amplification patterns of the B*0702 to B*8301 alleles ⁶																																																
Well																																																
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47																										
175	130	110	325	110	215	130	90	90	145	120	430	145	300	160	180	180	90	90	95	115	360	355	Length of spec. PCR product(s)																									
				190		270	410		175	430	210						240			150			Length of int. pos. control ¹																									
				225																			5'-primer(s) ²																									
				260																			3'-primer(s) ³																									
1070	1070	1070	1070	1070	800	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	Well No.																									
363	106	540	1 st	355	141	209	41	209	48	357	49	206	1 st	1 st	141	420	209	209	206	165	1 st	1 st	HLA-B allele ⁴																									
5'-Agg ^{3'}	5'-CCg ^{3'}	5'-gAC ^{3'}	5'-CAG ^{3'}	5'-TCA ^{3'}	5'-ATT ^{3'}	5'-ggc ^{3'}	5'-CTg ^{3'}	5'-ggC ^{3'}	5'-gCC ^{3'}	5'-Tgg ^{3'}	5'-CAG ^{3'}	5'-gAA ^{3'}	5'-CAG ^{3'}	5'-CAG ^{3'}	5'-ATT ^{3'}	5'-TTA ^{3'}	5'-ggC ^{3'}	5'-ggA ^{3'}	5'-gAC ^{3'}	5'-ACC ^{3'}	5'-CAG ^{3'}	5'-CAG ^{3'}	*070201-070207, 070501-0707, 0710, 0712, 0714, 071801- 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741 0747, 0749N, 0752, 0755-0759, 0761-0764																									
				418	357	209	368	363	206						418	420	362	369		463																												
				5'-Agg ^{3'}	5'-Tgg ^{3'}	5'-ggg ^{3'}	5'-gTT ^{3'}	5'-AgC ^{3'}	5'-gAA ^{3'}						5'-Agg ^{3'}	5'-TTA ^{3'}	5'-ggT ^{3'}	5'-TAC ^{3'}		5'-TgA ^{3'}																												
				499		355																																										
				5'-TCT ^{3'}		5'-TCA ^{3'}																																										
499	193	603	282	538	309	299	282	259	309	435	309	311	259	175	311	559	256	256	259	272	317	311	Well No.																									
5'-ggA ^{3'}	5'-CgT ^{3'}	5'-gTg ^{3'}	5'-gCC ^{3'}	5'-gTC ^{3'}	5'-ATC ^{3'}	5'-TCA ^{3'}	5'-gCC ^{3'}	5'-gTT ^{3'}	5'-ATC ^{3'}	5'-TCT ^{3'}	5'-ATC ^{3'}	5'-ggT ^{3'}	5'-CTC ^{3'}	5'-CCg ^{3'}	5'-ggT ^{3'}	5'-CAG ^{3'}	5'-CCC ^{3'}	5'-CCC ^{3'}	5'-gTT ^{3'}	5'-TgC ^{3'}	5'-ggA ^{3'}	5'-ggT ^{3'}	HLA-B allele ⁴																									
		610		572	538	583	418	499		527				538	559		559	256		538			ser. ⁵																									
		5'-CTC ^{3'}		5'-gCg ^{3'}	5'-gTC ^{3'}	5'-gTg ^{3'}	5'-gTC ^{3'}	5'-ggA ^{3'}		5'-CCT ^{3'}				5'-gTC ^{3'}	5'-CgT ^{3'}		5'-CgT ^{3'}	5'-CTC ^{3'}		5'-CCA ^{3'}			B7																									
																							47																									
																							B7																									
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	Well No.																									
																							HLA-B allele ⁴																									
			28																				*070201-070207, 070501-0707, 0710, 0712, 0714, 071801- 071802, 0721-0723, 0726, 0728-0731, 0734, 0735, 0739, 0741 0747, 0749N, 0752, 0755-0759, 0761-0764																									
																							47																									
																							B7																									

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Lot-specific information

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*0703, 0708, 0716, 0732, 0737	B7, B703	1							24
*0704, 0725	B7	1				14			24
*0709, 0711, 0717	B7	1				12			24
*0713, 0715	-	1							24
*0719	-								24
*0720, 0724	-	1	3						24
*0727	-	1				11		20	
*0733, 0740, 0748, 0751, 0753	-								24
*0736	-	1							
*0738	-	1							
*0750	-	1				11			24
*0754	-	1							24
*0760	-		3						24
*080101-080105, 0805, 0808N, 0810-0812, 0815, 0816, 0818, 0819N, 0822-0824, 0827, 0829-0831, 0833, 0834	B8, Null	2			8				24
*0802	B8	2			8			20	
*0803	B8	2			8				
*0804	-	2			8	11			24
*0806, 0813, 0820	B8	2							24
*0807, 0814	-	2							24
*0809	-	2			8				24
*0817	-	2			8	11			24
*0821	-	2	3		8				24
*0825	-	2	3						24
*0826, 4207	-				8				24
*0828	-	2				12			24
*0832	-	2			8			18	24
*0835	-	2			8	12			24
*0836	-	2			8				
*1301, 1317, 1320	B13		3	4		10		17	
*130201-130204, 1308Q, 1315, 1318, 1319	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					

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						47	B7, B703	*0703, 0708, 0716, 0732, 0737
27	28					47	B7	*0704, 0725
	28					47	B7	*0709, 0711, 0717
	W					47	-	*0713, 0715
27	28					47	-	*0719
	28					47	-	*0720, 0724
						46	-	*0727
	28					47	-	*0733, 0740, 0748, 0751, 0753
	28					46	-	*0736
						46	-	*0738
						47	-	*0750
	28		38			47	-	*0754
	28					47	-	*0760
	27					47	B8, Null	*080101-080105, 0805, 0808N, 0810-0812, 0815, 0816, 0818, 0819N, 0822-0824, 0827, 0829-0831, 0833, 0834
	27					46	B8	*0802
	27					46	B8	*0803
	27					47	-	*0804
						47	B8	*0806, 0813, 0820
	27					47	-	*0807, 0814
	27	30				47	-	*0809
	27		38			47	-	*0817
	27					47	-	*0821
						47	-	*0825
	27					47	-	*0826, 4207
	27					47	-	*0828
	27				44	47	-	*0832
	27					47	-	*0835
	27					47	-	*0836
			38			46	B13	*1301, 1317, 1320
			38			46	B13	*130201-130204, 1308Q, 1315, 1318, 1319
			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

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Lot-specific information

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*1401, 1407N	B64				4																							23	24												
*140201-1404	B65				4																							23	24												
*1405-140602	-																										23	24													
*1408, 3925N, 3930, 3932-3934	-																										23	24													
*15010101-15010102N, 150103, 1526N, 152701, 1532, 1534, 1535, 1538, 1550, 1556, 1557, 1560, 1570, 1571, 1575, 1579N, 1581, 1582, 1592, 1594N, 1596, 1597, 9502, 9504, 9505, 9509-9511N, 9513, 9517, 9518, 9522, 9525, 9528, 9529	B62, Null, B15																									7		12				19									
*150102	B62																									7		9		12				19							
*150104	B62																											12						19							
*150106-150107, 1507, 9526, 9535, 9540, 9545, 9546	B62																									3				7		12				19					
*150108, 152702	B62																									3						12				19					
*1502, 1588, 9512, 9521	B75																													7		12				17	19				
*1503, 1547, 1549, 1561, 1598, 9503, 9523, 9527, 9532	B72																													8		11	12					19			
*1504	B62, Null, B15																													7				12				19			
*1505, 1506, 1533, 1539, 1540, 1565, 1578, 1584, 9507	B62, B15																													7				12				19			
*1508, 151101-151103, 1515	B75																													7				12				19			
*1509	B70																													8		9	10					19			
*1510, 1537, 1590, 1599, 9533	B71																													8			10					19			
*1512, 1514, 1519	B76																													7				12	13			19			
*1513	B77																													7				12	14			17	19		
*1516, 1567, 1595	B63																															9		12		14			19		
*15170101-151702	B63																													7		9				14			19		
*1518, 1551, 1552, 1572, 1593, 9508, 9514, 9519, 9534	B71																													8		10	12					19			
*1520, 1525	B62																													7				12				17	19		

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						47	B64	*1401, 1407N
						47	B65	*140201-1404
						47	-	*1405-140602
						47	-	*1408, 3925N, 3930, 3932-3934
								*15010101-15010102N, 150103, 1526N, 152701, 1532, 1534, 1535, 1538, 1550, 1556, 1557, 1560, 1570, 1571, 1575, 1579N, 1581, 1582, 1592, 1594N, 1596, 1597, 9502, 9504, 9505, 9509-9511N, 9513, 9517, 9518, 9522, 9525, 9528, 9529
			38			45	47	B62, Null, B15
			38			45	47	B62
			38 39			45	47	B62
			38			45	47	B62
			38			45	47	B62
		33					47	B75
			38				47	B72
			38	w		45	47	B62, Null, B15
			38				47	B62, B15
			38			45	47	B75
		33				45	47	B70
			38			45	47	B76
		33				46		B77
			35			46		B63
						46		B63
						47		B71
			38			47		B62

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*1521, 1544	B75			7	10	12		17	19		
*1523	-			8	10	12	14		19		
*1524, 1587	B62			7		12	14		19		
*1528, 9520	B15			7		12			19		
*1529	B15			8		12			19		
*1530, 1558, 1563	D02, D15			7					19		
*1531	B75			7		12			19		
*1536	-	3		7		12		17	19		
*1542	-			7					19		
*1543	-			7		12			19		
*1545	B62	3		7					19		
*1546	B72		4	7	8		12		19		
*1548	B62			7					19		
*1553	-		4	8		12			19		
*1554	-			8		11	12		19		
*1555	-	3		7			12		19		
*1562	-			8		11	12	17	19		
*1564	-			8		11	12		19		
*1566	-			7	10	12			19		
*1568	-	3		7	8		11	12	19		
*1569	-			8		11	12		19	21	
*1573	-			7					19		
*1574	-			8			12		19		
*1576, 9501	-			7			12		19		
*1577	-			7				17	19		
*1580	-			8	10	12		17	19		
*1583	-			7	8				19		
*1585	-			7			12	17	19		
*1586	-			7					19		
*1589	-	3		7			12	17	19		
*1591, 9531	-			8		11	12	13	19		
*9506	-		4	7	8		12	17	19		
*9515	-			8	10	12			19	20	
*9516	-			7			12		19		
*9524	-			8	10	12			19		
*9536	-	3		7			12		19	21	
*9537	-	3		7					19		
*9538	-	1		7			12		19		
*9539	-	3		7			12	17	19		
*9541	-	3		7			12		19		
*9542	-	2	3	7			12		19		
*9543	-			7	8		12		19		
*9544	-	3		7			12	17	19		
*180101-1803, 1805- 1808, 1810, 1811, 1813- 1815, 1817N, 1818, 1820, 1821, 1823N- 1825, 1827, 1828	B18						12	15	18		
*1804	-						12	15	18		

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		33				47	B75	*1521, 1544
						46	-	*1523
			38			45 46	B62	*1524, 1587
						45 47	B15	*1528, 9520
						47	B15	*1529
			38			45 47	B02, D1E	*1530, 1558, 1563
		33				47	B75	*1531
			38			46	-	*1536
		35	38	40		47	-	*1542
			38			45 46	-	*1543
			38			45 47	B62	*1545
			37 38			45 47	B72	*1546
			38			47	B62	*1548
			37 38			45 47	-	*1553
			38			45 47	-	*1554
		33				47	-	*1555
			38			47	-	*1562
						47	-	*1564
			38			45 47	-	*1566
			38			45 47	-	*1568
			38			47	-	*1569
			38	41 43		45 47	-	*1573
			38			47	-	*1574
	28					45 47	-	*1576, 9501
			38			45 47	-	*1577
						47	-	*1580
	30		38			47	-	*1583
			38			45 47	-	*1585
			38	40		47	-	*1586
		33				46	-	*1589
			38			47	-	*1591, 9531
			37 38			47	-	*9506
						46	-	*9515
25			38			47	-	*9516
25						47	-	*9524
			38			47	-	*9536
		35	38			45 47	-	*9537
			38			47	-	*9538
		33				47	-	*9539
			38			47	-	*9541
			38			45 47	-	*9542
			37			45 47	-	*9543
		33				45 47	-	*9544
						44	47	B18
								*180101-1803, 1805- 1808, 1810, 1811, 1813 1815, 1817N, 1818, 1820, 1821, 1823N- 1825, 1827, 1828 *1804
				40		44	47	-

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*1809	-					12	15		20
*1812	-					12	15	18	
*1819	-					12	15	18	
*1822	-					12	15	17 18	
*1826	-						15	18	
*1829, 3532, 3537, 3553N, 3564, 3566, 356801-356802	-					12		18	
*2701	B27		5					16	
*2702	B27		5					16	
*2703-270402, 270502- 2706, 2709, 2710, 2713, 2717, 2720, 2727, 2731, 2735-2737	B27		5					16	
*2707, 2711, 2714, 2715, 2721, 2728, 2732, 2734, 2738	B27							16	
*2708, 2726, 2740, 2742	B2708		5					16	
*2712	-		5					16	
*2716, 2739	-		5					16	
*2718	-		5		11			16	
*2719	-							16	17
*2723	-		5					16	
*2724	-							16	
*2725	-							16	
*2729	-		5		11			16	
*2730	-							16	17
*2733	-							16	
*2741	-		5			12		16	
*350101-350107, 3507- 350803, 3511, 3515, 352001-352002, 3523, 3529, 3540N-3542, 3548, 3550, 3552, 3554, 3557, 3561, 3577, 3578, 3582	B35					12		17 18	
*350201-350401, 3506, 3512, 3533, 3534, 3536, 3539, 3555, 3559, 3565Q, 3570, 3574, 3583-3585	B35							17 18	
*350402	-				9			17 18	
*3505, 3551, 3558, 3572	B35	3				12		18	
*350901-350902, 3518, 3531, 3575, 3588	B35							18	

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						44	46	-	*1809
				38			47	-	*1812
						44	45	47	*1819
	31					44	47	-	*1822
						44	47	-	*1826
						44	47	-	*1829, 3532, 3537, 3553N, 3564, 3566, 356801-356802
	28			38			46	B27	*2701
	28	32	36	38			46	B27	*2702
	28	32		38			46	B27	*2703-270402, 270502- 2706, 2709, 2710, 2713, 2717, 2720, 2727, 2731, 2735-2737
	28	32		38			46	B27	*2707, 2711, 2714, 2715, 2721, 2728, 2732, 2734, 2738
	28	32		38			47	B2708	*2708, 2726, 2740, 2742
				38			47	-	*2712
				38			46	-	*2716, 2739
				38			47	-	*2718
	28	32		38			46	-	*2719
							46	-	*2723
	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
						44	47	B35	*350101-350107, 3507- 350803, 3511, 3515, 352001-352002, 3523, 3529, 3540N-3542, 3548, 3550, 3552, 3554, 3557, 3561, 3577, 3578, 3582
						44	47	B35	*350201-350401, 3506, 3512, 3533, 3534, 3536, 3539, 3555, 3559, 3565Q, 3570, 3574, 3583-3585
						44	47	-	*350402
						44	47	B35	*3505, 3551, 3558, 3572
						44	47	B35	*350901-350902, 3518, 3531, 3575, 3588

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*3510, 3528, 3569, 3580	-				12		17 18		
*3513	B35						17 18		
*351401-351402, 3562	B35				12		17 18		
*3516	-	3			12		17 18		
*3517, 3530	B35	3			12		17 18		
*3519	B35				12		17		
*3521, 3524	-				12		17 18		
*3522	-	3					18		
*3525, 3549	-				12		17		
*3526	-		6		12		17		
*3527	B35				12		17		
*3535	-				12		17 18	21	
*3538	-						17 18		
*3543, 3567, 3579, 3586	B35				12		18		
*3544	-						18		
*3545, 3571	-				12 13		17 18		
*3546	-				12		17		
*3547	-	4			12		17		
*3556	-						17		
*3560	-						18		
*3563	-	4			12		17		
3576	-				12		17 18		
*3581	-						17 18		
*3587	-		8				18		
*370101-370103, 3703N, 3706, 3713	B37, Null					13	17 20		
*370104	-					13	17 20		
*3702	-		5			13	20		
*3704	-					13	17 20		
*3705	-					13	17 w		
*3707	-	1				13	20		
*3708	-					13	17 20		
*3709	-					13	20		
*3710	-						17 20		
*3711	-						17 18		
*3712	-		8			13	20		
*380101-380102, 3809, 3811-3814, 3816	B38		5					21 22 23	
*380201-380202, 3808, 3815	B38		5					20 21 22 23	
*3803	B16		5		11			20 21 22	
*3804	-							20 21 23	
*3805	-		6					21 22 23	
*3806	-							21	
*3807	-		5					21	
*3810	-		5						22 23
*3817	-		5			13		20 21 22 23	

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			38			47	-	*3510, 3528, 3569, 3580
			38			47	B35	*3513
					44 45	47	B35	*351401-351402, 3562
			38			47	-	*3516
					44	47	B35	*3517, 3530
			37			47	B35	*3519
	31				44	47	-	*3521, 3524
					44	47	-	*3522
						47	-	*3525, 3549
						47	-	*3526
					44	47	B35	*3527
					44	47	-	*3535
	29				44	47	-	*3538
					44 45	47	B35	*3543, 3567, 3579, 3586
					44 45	47	-	*3544
	29				44	47	-	*3545, 3571
		33				47	-	*3546
			37			47	-	*3547
					44	47	-	*3556
				40	44	47	-	*3560
			37 38			47	-	*3563
	28	32			44	47	-	3576
		31			44	47	-	*3581
	27				44	47	-	*3587
	29		38			46	B37, Null	*370101-370103, 3703N, 3706, 3713
	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
						46	B38	*380101-380102, 3809, 3811-3814, 3816
						46	B38	*380201-380202, 3808, 3815
			38			46	B16	*3803
			38			46	-	*3804
						46	-	*3805
					44	46	-	*3806
					44	46	-	*3807
						46	-	*3810
						46	-	*3817

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*39010101-39010102L, 390103-390104, 3903, 3905-390602, 3909, 3911, 3914, 3915, 3924, 3926-3929, 3931, 3935, 3937, 3938Q, 3940N, 3941	B3901, B39	5					21	23	24
*390201, 3908	B3902, B39	5		11			21		24
*390202, 391301- 391302, 3923	B3902, B39			11			21		24
*3904	B39		6				21	23	24
*3907	-	? ?		12			21	23	24
*3910, 3916, 3920	B39						21		24
*3912	-						21	23	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		24
*3943	-	5		12					24
*400101-400106, 4007, 4051, 4079	B60, B40	4							24
*400201-400203, 4004, 40060101-400602, 4039, 4070	B61, B40								
*4003, 4020	B40				12				
*4005	B4005	3							
*4008	-								
*4009, 4011, 4018, 4024, 4027, 4029, 4035, 4037, 4040, 4044, 4050, 4056, 4057, 4064, 4075, 4078, 4082, 4085, 4086	B61, B40								?
*4010, 4022N, 4033, 4036, 4042, 4043, 4049, 4054, 4055, 4061, 4063, 4065-4067, 4073, 4081, 4084, 4087, 4088	Null, B40, B60	4							?
*4012	-		8	11		19			
*4013, 4019	-								
*401401-401403, 4030, 4034, 4053, 4072	-	4							?
*4015, 4016, 4032	B61	1	4						?

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						47	B3901, B39	*390101-390102L, 390103-390104, 3903, 3905-390602, 3909, 3911, 3914, 3915, 3924, 3926-3929, 3931, 3935, 3937, 3938Q, 3940N, 3941
			38			47	B3902, B39	*390201, 3908
			38			47	B3902, B39	*390202, 391301- 391302, 3923
						47	B39	*3904
						47	-	*3907
						47	B39	*3910, 3916, 3920
						47	-	*3912
				40	43	47	-	*3917
						45	47	*3918
					44	47	-	*391901
					44	47	-	*391902
			38			47	-	*3922
						45	47	*3936
						47	-	*3939
						47	-	*3942
						47	-	*3943
25			37 38			47	B60, B40	*400101-400106, 4007, 4051, 4079
26			37 38			47	B61, B40	*400201-400203, 4004, 40060101-400602, 4039, 4070
26			37 38			47	B40	*4003, 4020
26			37 38			47	B4005	*4005
26			37			47	-	*4008
26			37 38			47	B61, B40	*4009, 4011, 4018, 4024, 4027, 4029, 4035, 4037, 4040, 4044, 4050, 4056, 4057, 4064, 4075, 4078, 4082, 4085, 4086
25			37 38			47	Null, B40, B60	*4010, 4022N, 4033, 4036, 4042, 4043, 4049, 4054, 4055, 4061 4063, 4065-4067, 4073, 4081, 4084, 4087, 4088
25			38			47	-	*4012
26		34 36	38			46	-	*4013, 4019
			37 38			47	-	*401401-401403, 4030, 4034, 4053, 4072
			37 38			47	B61	*4015, 4016, 4032

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*4021	-																			?
*4023	-	1	4																	24
*4025, 4069	-		4																	?
*4026	B21						9													?
*4028	-						9					17								?
*4031, 4045, 4080	-		4																	?
*4038, 4052	-		4							12										?
*4046	-							11				16								?
*4047	-		4																	?
*4048	-		4				10													?
*4058	-		4																	?
*4059	-		4							12										24
*4060	-		4							12										24
*4068	-																			?
*4071	-		3																	?
*4074	-																			?
*4076	-		4																	?
*4077	-		4																	24
*4083	-																			?
*4101, 4106, 4107	B41		4				8													24
*4102-410302	B41		4				8													24
*4104	-		4																	24
*4105	-		4				8													24
*4108	-	1	4				8				14									24
*4201, 4202, 4206	B42						8													24
*4204	-						8													24
*420501-420502	-	1					8				14									24
*4208	-						8													24
*4209	-									12										24
*44020101-440204, 4411, 4416, 4419N, 4421-4424, 4427, 4433, 4434, 4448, 4451, 4452N, 4455, 4459	B44, B47, Null		4											17						
*440301-4405, 4413, 4426, 442801-4430, 4432, 4435, 4436, 4438, 4439, 4442, 4445, 4456N, 4458N	B44		4											17						
*4406	B44													17						
*4407	-													17						
*4408	B44		3											17						
*4409	B12		4											17						
*4410	-		4							11				17	19					
*4412	-		4											17						
*4414	-		4				8							17						
*4415	-		4				8			11										

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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	-		*4077
								37	38					47	-		*4083
	27			30				37	38					47	B41		*4101, 4106, 4107
	27							37	38					47	B41		*4102-410302
	27							37	38					47	-		*4104
	27			30				?	38					47	-		*4105
	27							37	38					47	-		*4108
	27	28												47	B42		*4201, 4202, 4206
	27	28		30										47	-		*4204
	27	28												47	-		*420501-420502
		28												47	-		*4208
	27	28												47	-		*4209
				29					38	39				46	B44, B47, Null		*44020101-440204, 4411, 4416, 4419N, 4421-4424, 4427, 4433, 4434, 4448, 4451, 4452N, 4455, 4459
				29					38					46	B44		*440301-4405, 4413, 4426, 442801-4430, 4432, 4435, 4436, 4438, 4439, 4442, 4445, 4456N, 4458N
				29	30			36	39			44		46	B44		*4406
				29					38					46			*4407
				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

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*4417, 4443	-		4			12	13	17	
*4418	-		4		8	11			
*4420	-		4		8				
*4425, 4450	-		4					17	
*4431	-		4						
*4437	-		4					17	
*4440	-					11		16	17
*4441, 4453	-		4						
*4444	-					11		16	17
*4446	-		4					17	
*4447	-		4						
*4449	-	2	4					17	
*4454	-		3	4					
*4457	-		3					17	
*4460	-		3	4				17	
*4501, 4505, 4507	B45		4		8	11			24
*4502, 4503	-		4		8				24
*4504	-		4		8				24
*4506	-		4		8	11			24
*4508	-		4		8				24
*460101-460102, 4604, 4605, 4607N, 4609	B46				7	12			
*4602	-				7	12			
*4603, 4608	-				7	12			
*4606	-				7	12			
*4610	-				7	12			
*4611	-		3		7				
*4612, 4614	-		3		7	12			
*4613	-		3		7	12			
*47010101-47010102	B47		4						
*4702	-		4						
*4703	-		4						
*4704, 4705	-		4	5					
*480101-480102, 4804, 4807, 4809, 4811, 4819	B48					11			24
*4802	-					11	12	17	24
*480301-480302, 4817	B48					11			24
*4805, 4808	B48	1				11			24
*4806	-								24
*4810, 4812, 4813	-					11			24
*4814	-					11	12		24
*4815	-	1				11			24
*4816	-					11			24
*4818	-					11			
*4901	B49		4						
*4902	-		4						
*4903	-								
*4904, 4905	-		4			12			
*5001, 5004	B50		4						24
*5002	B45		4			11			24

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Lot-specific information

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	29		38		46	-	*4417, 4443
	30	34	38	41	46	-	*4418
	29 30		38 39		46	-	*4420
25	29	34 36	38		46	-	*4425, 4450
	29		38		46	-	*4431
			38		46	-	*4437
	29		38		46	-	*4440
	29		38 39		46	-	*4441, 4453
	29		38 39		46	-	*4444
	29		37 38		47	-	*4446
	29		38		46	-	*4447
	29		38 39		46	-	*4449
	29		38		46	-	*4454
	29		38		46	-	*4457
	29		38		46	-	*4460
	30		37 38	41	47	B45	*4501, 4505, 4507
	30		37 38		47	-	*4502, 4503
	30		37 38	41	47	-	*4504
28	30		37	41	47	-	*4506
	30		37 38 40		47	-	*4508
28	31				45 47	B46	*460101-460102, 4604, 4605, 4607N, 4609
	w 31				45 47	-	*4602
25	28 31				47	-	*4603, 4608
	28 31				47	-	*4606
	28 31		38		45 47	-	*4610
	28 31		38	41	47	-	*4611
	28 31		38		45 47	-	*4612, 4614
	28 31		38		47	-	*4613
	32		38		46	B47	*47010101-47010102
	32		37 38		47	-	*4702
	32		38		46 w	-	*4703
			38		46	-	*4704, 4705
25		33	38		47	B48	*480101-480102, 4804, 4807, 4809, 4811, 4819
			38		47	-	*4802
			38		47	B48	*480301-480302, 4817
			38		47	B48	*4805, 4808
		33			47	-	*4806
			38		47	-	*4810, 4812, 4813
			38		47	-	*4814
		33	38		47	-	*4815
		33			47	-	*4816
		33	38		46	-	*4818
		34 35	38	41	46	B49	*4901
		35	38	41	46	-	*4902
		35	38	41	46	-	*4903
		34 35	38		46	-	*4904, 4905
		35	37 38	41	47	B50	*5001, 5004
		35	37 38	41	47	B45	*5002

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Lot-specific information

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*510101, 510103, 510105-510108, 510201, 510203, 5103, 5107, 510901, 5111N, 5112, 511302, 5114, 5117-5119, 5122, 5123, 5126- 5130, 5132, 5133, 5138-5141N, 5143, 5148-5153, 5155 B51, B5102, B5103, Null								9				
*510102, 510109, 510202, 5105, 510902 B51								9				
*510104, 511301, 5116, 5121, 512401- 512402, 5131, 5134, 5135 B51, B52												
*5104, 5146 B51								9			17	
*5106 B51								9				
*5108, 5120, 5144N B51							8	9				
*5110 -												
*5115 -												
*5136 -							8					
*5137 -								9	12			
*5142 -											17	
*5145 -									12			
*5154 -								9				
*520101, 520103, 5204, 5205, 5207, 5210-5212 B52								9				
*520102, 520104- 5203, 520601-520602, *5208 B52 -								9				
*530101-530104, 5305, 5308, 5310, *5302 B53 B53									12		17	
*5303, 5309, 5311- 5313 -									12		17	
*5304, 5307 -											17	
*5306 B53									12		17	
*5314 3									12			
*5401, 5402, 5405N, 5407, 5408N, 5410, 5413 B54												
*5403 -												
*5404, 5411 -												
*5406 -									12			
*5409 -									12			
*5412 -												

Lot No.: **90F**

Lot-specific information

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*550101-550104, 5503, 5505, 5511, 5515, *550201-550202, 5507, 5510, 5512, 5516, 5519, 5526, 5530	B55 B54, B55					
*5504, 5508, 5513, 5527, 5615, 5619N, *5509, 5517, 5528	B55 -					
*5514	-			12		17
*5518	-			11		
*5520	-					
*5521	-					
*5522	-			10		
*5523, 5618	-				12	
*5524	-			10		
*5601, 5608, 5614, 5616, 5620	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	-					
*570101-570103, 5706, 5708, 5710	B57				12	17
*5702-5705	B57					17
*5707	-					17
*5709	-		8			17
*5711	-				12	
*5712	-					17
*5713	-				12	
*5714	-	3			12	17
*5715	-	3			12	17
*5716	-				12	17
*580101, 5804, 5805, 5810N-5814	B58				12	17
*580102, 5815					12	17
*5802, 5806	B58				12	
*5807	-				12	13
*5808	-			9		
*5809	-				12	17
*5816	-				12	
*5817N	-				12	17

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Lot-specific information

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28	32	35	40	47	B55	*550101-550104, 5503, 5505, 5511, 5515,	
28	32		40	47	B54, B55	*550201-550202, 5507, 5510, 5512, 5516, 5519, 5526, 5530	
28	32			47	B55	*5504, 5508, 5513, 5527, 5615, 5619N,	
28	32	35		47	-	*5509, 5517, 5528	
28	32		42	47	-	*5514	
			38 40	47	-	*5518	
27 28	30 32			47	-	*5520	
28	32	35	40	45 47	-	*5521	
28	32			47	-	*5522	
28	32			47	-	*5523, 5618	
28	32	35		47	-	*5524	
28	32		41	47	B56	*5601, 5608, 5614, 5616, 5620	
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	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	
		36		42	46	B57	*570101-570103, 5706, 5708, 5710
		36		42	46	B57	*5702-5705
29		36		42	46	-	*5707
29		36		42	46	-	*5709
		36		42	46	-	*5711
			38	42	47	-	*5712
		36	38	42	46	-	*5713
	31	36	38	42	46	-	*5714
		36	38	42	46	-	*5715
		36	38		46	-	*5716
		36		43	46	B58	*580101, 5804, 5805, 5810N-5814
		36	38	43	46		*580102, 5815
		36		43	46	B58	*5802, 5806
		36		43	46	-	*5807
	30	35 36		43	46	-	*5808
	31	36		43	46	-	*5809
		36	38	43	46	-	*5816
			38	43	46	-	*5817N

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Lot-specific information

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*5901	B59																								
*5902	-																								
*670101	B67				5														21		24				
*670102	B67																		21		24				
*6702	-																		21		24				
*7301	B73																					24			
*7801, 780202, 7803	B78								9										18						
*780201, 7804	B78								9										18						
*7805	-								9										18						
*8101	B81																								
*8102	-																					24			
*8103, 8104N	-																								
*8201, 8202	-						8			11									19						
*8301	-																		17						
HLA-B allele ⁴	ser. ⁵																								
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
Cw*0206										w															
Cw*0305, 0325, 0327				3																					
Cw*0746								8																	
Cw*150204																									
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

¹The 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 6, 9, 10, 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.

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

³The nucleotide position, in the 2nd, or 3rd exon or the 1st or 3rd introns, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

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Lot-specific information

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										34							40									46	B59	*5901		
										34																46	-	*5902		
		28																									47	B67	*670101	
		28																									47	B67	*670102	
		w																									47	-	*6702	
		28																								45	47	B73	*7301	
											35								40				44				47	B78	*7801, 780202, 7803	
											35												44				47	B78	*780201, 7804	
											35	38															47	-	*7805	
		28					32	33																				47	B81	*8101
		28						33																				47	-	*8102
		28						33																				47	-	*8103, 8104N
		28					32										41											47	-	*8201, 8202
		28	29				32											39										47	-	*8301
																													ser. ⁵	HLA-B allele ⁴
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47								Well No.
																			w											Cw*0206
																														Cw*0305, 0325, 0327
																														Cw*0746
															40															Cw*150204
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47								Well No.

⁴The sequence of the B*0701 allele has been shown to be in error.

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

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

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

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

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

The sequence of the B*27051 allele has been shown to be identical to B*27052.

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

The sequence of the B*39012 allele has been shown to be identical to B*39011.

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

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

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

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

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

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

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

The 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.

⁵The 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 web site.

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Lot-specific information

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⁶The B*0826 and the B*4207 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*1408 and the B*3925N, B*3930 and B*3932 to 3934 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*1829 and the B*3523, B*3537, B*3553N, B*3564, B*3566 and B*356801-356802 alleles give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*5504, B*5508, B*5513, B*5527 and the B*5615, B*5619N and B*5622 give rise to identical amplification patterns with the HLA-B low resolution primer set. These alleles can be separated by the respective high resolution primer sets.

The B*5523 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.

CELL LINE VALIDATION SHEET																				
HLA-B low resolution SSP kit																				
				Prod. No.:	Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					200848001	200848002	200848003	200848004	200848005	200848006	200848007	200848008	200848009	200848010	200848011	200848012	200848013	200848014	200848015	200848016
	IHWC 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	9007 DEM	*5701			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
9	9026 YAR	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*5401			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*4403			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*5701			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
13	9067 BTB	*2705			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	+
14	9071 OLGA	*1501	*1520		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
15	9075 DKB	*4001			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*4002			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9008 WILJON	*1801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
18	9257 32367	*1401	*5601		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*1801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
20	9059 SLE005	*4001			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA	*1501			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
22	9056 KOSE	*3503			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*4002	*5602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*1402			-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*5801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
27	9191 CH1007	*0705	*5101		+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
28	9320 BEL5GB	*4402	*4403		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*4403			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*4201			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
31	9019 DUCAF	*1801			-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
32	9297 HAG	*4102			-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-
33	9098 MT14B	*4001			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*4402			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*1501	*3501		-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
37	9065 HHKB	*0702			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*1501			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
39	9315 CML	*0801	*2705		-	+	-	-	+	-	-	+	-	-	-	-	-	-	-	+
40	9134 WHONP199	*1302	*4601		-	-	+	+	-	-	+	-	-	+	-	+	-	-	-	-
41	9055 H0301	*1402			-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*4601			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
43	9076 T7526	*4601			-	-	-	-	-	-	+	-	-	-	-	+	-	-	-	-
44	9057 TEM	*3801			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*4201	*5001		-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-
46	9013 SCHU	*0702			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*5101			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
48	9303 TER-ND	*3501	*4403		-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-

CELL LINE VALIDATION SHEET																				
HLA-B low resolution SSP kit																				
				Prod. No.:	Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
					200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	200848017	
	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	9007 DEM	*5701			+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*3801			-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*5401			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	+
11	9051 PITOUT	*4403			+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
12	9052 DBB	*5701			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9067 BTB	*2705			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	+
14	9071 OLGA	*1501	*1520		+	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*4001			-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
16	9037 SWEIG007	*4002			-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
17	9008 WILJON	*1801			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367	*1401	*5601		-	-	-	-	-	-	+	+	-	-	-	+	-	-	-	+
19	9038 BM16	*1801			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*4001			-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
21	9064 AMALA	*1501			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*3503			+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*4002	*5602		-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	+
24	9035 JBUSH	*3801			-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*1402			-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
26	9285 WT49	*5801			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*0705	*5101		-	-	-	-	-	-	-	+	-	-	-	+	-	+	-	-
28	9320 BEL5GB	*4402	*4403		+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
29	9050 MOU	*4403			+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
30	9021 RSH	*4201			-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
31	9019 DUCAF	*1801			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*4102			-	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
33	9098 MT14B	*4001			-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
34	9104 DHIF	*3801			-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*4402			+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
36	9024 KT17	*1501	*3501		+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*0702			-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
38	9099 LZL	*1501			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML	*0801	*2705		-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	+
40	9134 WHONP199	*1302	*4601		-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
41	9055 H0301	*1402			-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
42	9066 TAB089	*4601			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	+
43	9076 T7526	*4601			-	-	-	-	-	-	-	-	-	-	-	+	-	-	+	-
44	9057 TEM	*3801			-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*4201	*5001		-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
46	9013 SCHU	*0702			-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-
47	9045 TUBO	*5101			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
48	9303 TER-ND	*3501	*4403		+	+	-	-	-	-	-	-	-	-	-	-	+	-	-	-



CELL LINE VALIDATION SHEET																					
HLA-B low resolution SSP kit																					
				Prod. No.:	Well																
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47		
					200848033	200960034	200848035	200848036	200848037	200848038	200848039	200848040	200848041	200848042	200848043	200848044	200848045	200848046	200848047		
	IHWC 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	9007 DEM		*5701		-	-	-	+	-	-	-	-	-	+	-	-	-	-	+	-	
9	9026 YAR		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	
10	9107 LKT3		*5401		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	+	
11	9051 PITOUT		*4403		-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	
12	9052 DBB		*5701		-	-	-	+	-	-	-	-	-	+	-	-	-	-	+	-	
13	9067 BTB		*2705		-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	-	
14	9071 OLGA		*1501	*1520	-	-	-	-	-	+	-	-	-	-	-	-	+	-	+		
15	9075 DKB		*4001		-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	
16	9037 SWEIG007		*4002		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	+	
17	9008 WILJON		*1801		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+	
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: 90F
 Expiry date: 2011-April-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	2008-480-01	17	2008-480-17	33	2008-480-33
2	2008-480-02	18	2008-480-18	34	2009-600-34
3	2008-480-03	19	2008-480-19	35	2008-480-35
4	2008-480-04	20	2008-480-20	36	2008-480-36
5	2008-480-05	21	2008-480-21	37	2008-480-37
6	2008-480-06	22	2008-480-22	38	2008-480-38
7	2008-480-07	23	2008-480-23	39	2008-480-39
8	2008-480-08	24	2008-480-24	40	2008-480-40
9	2008-480-09	25	2008-480-25	41	2008-480-41
10	2008-480-10	26	2008-480-26	42	2008-480-42
11	2008-480-11	27	2008-480-27	43	2008-480-43
12	2008-480-12	28	2008-480-28	44	2008-480-44
13	2008-480-13	29	2008-480-29	45	2008-480-45
14	2008-480-14	30	2008-480-30	46	2008-480-46
15	2008-480-15	31	2008-480-31	47	2008-480-47
16	2008-480-16	32	2008-480-32		

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 2, 3, 8, 10, 11, 14, 19, 20, 31, 40, 42, 43 and 45 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer. Additional 3'-primers in primer solutions 13, 24, 29 and 35 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solutions 21 and 29 were tested by separately adding one additional 3'-primer.

The negative control primer pairs, **Production No. 2008-417-01**, can detect contamination with PCR products diluted 10^{-7} .

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

Date of approval: 2011-April-15

Approved by:

Quality Control, Supervisor

Lot No.: **90F**

Lot-specific information

www.olerup-ssp.com

Declaration of Conformity

Product name: *Olerup* SSP® HLA-B low resolution
Product number: 101.501-48u/12u
Lot number: 90F

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 9001:2000 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

The Technical Documentation File is maintained at *Olerup* SSP AB, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.

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

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

Saltsjöbaden, Sweden
2011-April-15

Olle Olerup
Managing Director

Lot No.: **90F**

Lot-specific information

www.olerup-ssp.com

ADDRESSES:

Manufacturer:

Olerup SSP AB, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.

Tel: +46-8-717 88 27

Fax: +46-8-717 88 18

E-mail: info-ssp@olerup.com

Web page: <http://www.olerup-ssp.com>

Distributed by:

Olerup GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.

Tel: +43-1-710 15 00

Fax: +43-1-710 15 00 10

E-mail: support-at@olerup.com

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

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

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: info.us@olerup.com

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

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