

Olerup SSP[®] HLA-B low resolution

Product number:	101.501-48/12 – including <i>Taq</i> pol.
Lot number:	90F
Expiry date:	2011-April-01
Number of tests:	48 tests – Product No. 101.501-48 12 tests – Product No. 101.501-12
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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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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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.

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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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						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, B62, 1575, 1579N, 1581, Null, 1582, 1592, 1594N, B15 1596, 1597, 9502, 9504, 9505, 9509- 9511N, 9513, 9517, 9518, 9522, 9525, 9528, 9529
			38			45	47	
			38			45	47	B62 *150102
			38 39			45	47	B62 *150104
			38			45	47	B62 *150106-150107, 1507, 9526, 9535, 9540, 9545, 9546
			38			45	47	B62 *150108, 152702
		33					47	B75 *1502, 1588, 9512, 9521
			38				47	B72 *1503, 1547, 1549, 1561, 1598, 9503, 9523, 9527, 9532
			w	38		45	47	B62, Null, B15 *1504
			38				47	B62, B15 *1505, 1506, 1533, 1539, 1540, 1565, 1578, 1584, 9507
		33				45	47	B75 *1508, 151101-151103, 1515
							47	B70 *1509
							47	B71 *1510, 1537, 1590, 1599, 9533
			38			45	47	B76 *1512, 1514, 1519
		33				46		B77 *1513
			35			46		B63 *1516, 1567, 1595
						46		B63 *15170101-151702
							47	B71 *1518, 1551, 1552, 1572, 1593, 9508, 9514, 9519, 9534
			38				47	B62 *1520, 1525

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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, D1E			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	B75, B15	*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
			40			44	47	-
						44	47	*1804

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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
									*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				46	B27
									*2708, 2726, 2740, 2742
	28	32		38				47	B2708
				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 *390202, 391301- 391302, 3923
			38			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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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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	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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*550101-550104, 5503, 5505, 5511, 5515, *550201-550202, 5507, 5510, 5512, 5516, 5519, 5526, 5530 *5504, 5508, 5513, 5527, 5615, 5619N, *5509, 5517, 5528	B55 B54, B55 B55 -								
*5514	-				12			17	
*5518	-				11				
*5520	-								
*5521	-								
*5522	-				10				
*5523, 5618	-					12			
*5524	-				10				
*5601, 5608, 5614, 5616, 5620 *5602, 5604 *5603 *560501 *560502 *5606 *5607 *5609 *5610 *5611, 5612 *5613 *5617 *5621 *5623	B56 B56 B22 - - B78 - - - - - - - - -								
						12			
					9				
					9				
					9			18	
						12		17	
								17	
			8						
					9				
*570101-570103, 5706, 5708, 5710 *5702-5705 *5707 *5709 *5711 *5712 *5713 *5714 *5715 *5716	B57 B57 - - - - - - - - -								
						12		17	
								17	
								17	
			8					17	
						12			
								17	
						12			
		3				12		17	
		3				12		17	
						12		17	
*580101, 5804, 5805, 5810N-5814 *580102, 5815 *5802, 5806 *5807 *5808 *5809 *5816 *5817N	B58 B58 - - - - - -								
						12		17	
						12		17	
						12			
						12	13		
				9					
						12		17	
						12			
						12		17	

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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		38 40	47	-	*5514	
27 28	30 32			47	-	*5518	
28	32	35	40	45 47	-	*5520	
28	32			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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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: 101.501-48/12 – including *Taq* pol.
Lot number: 90F
Expiry date: 2011-April-01
Number of tests: 48 tests – Product No. 101.501-48
12 tests – Product No. 101.501-12
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: 101.501-48/12
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

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Fax: +46-8-717 88 18

E-mail: info-ssp@olerup.com

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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**.