

Lot No.: **71G**

Lot-specific information

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Olerup SSP[®] DPB1-DQ-DR SSP Combi Tray

Product number:	101.709-24/06– including <i>Taq</i> pol.
Lot number:	71G
Expiry date:	2012-January-01
Number of tests:	24 tests – Product No. 101.709-24 6 tests – Product No. 101.709-06
Number of wells per test:	95 + 1
Storage - pre-aliquoted primers:	dark at -20°C
- PCR Master Mix:	-20°C
- Adhesive PCR seals	RT
- Product Insert	RT

This Product Description is only valid for Lot No. 71G.

Change in revision R01 compared to R00:

1. The DRB1*1419 and 1421 alleles are weakly amplified in primer mix 91.

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Well **96** 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

DPB1-DQ-DR SSP Combi Tray

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DPB1*0101 to DPB1*9901 alleles.

The primer set contains 5'- and 3'-primers for grouping the DQB1 alleles in to the serological groups DQ2 to DQ9, as well as 5'- and 3'-primers for medium to high resolution typing of the DQ3 serological group.

The primer set contains 5'- and 3'-primers for grouping the DRB1*0101 to DRB1*1001 alleles into the corresponding serological groups DR1 to DR18 as well as primer pairs for recognizing the DRB3, DRB4 and DRB5 groups of alleles.

Please note that DQB1 amplifications usually are somewhat less pronounced than e.g. DRB and DQA1 amplifications even when using the same DNA preparation and exactly the same experimental procedures.

PLATE LAYOUT

Each test consists of 96 PCR reactions in a 96 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
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96

Wells 1 to 48 – DPB1 primers.

Wells 49 to 72 – DQ low resolution/ DQB1*03 medium to high resolution primers.

Wells 73 to 95 – DR low resolution primers.

Well 96 – Negative Control.

The 96 well cut PCR plate is marked with 'DPB1-DQ-DR' in silver/gray ink.

Well No. 1 is marked with the Lot No. '71G'.

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded. The PCR plates are covered with a PCR-compatible foil.

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

INTERPRETATION

Only DPB1 alleles will be amplified by the 48 wells of the DPB1 primer set, **wells 1 to 48**. Thus, the interpretation of DPB1 typings is not influenced by the DPB2 gene or other HLA class II genes.

Only the DQB1 alleles will be amplified by the 24 wells of the DQ low resolution/DQB1*03 medium to high resolution primer set, **wells 49 to 72**. Thus, the interpretation of DQ low resolution typings is not influenced the DQB2 and DQB3 genes.

Only HLA-DRB alleles will be amplified by the 23 wells of the DR low resolution primer set, **wells 73 to 95**. Thus, the interpretation of DR low resolution typings is not influenced by other HLA class II genes.

UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DPB1 alleles, i.e. **DPB1*0101 to DPB1*9901**, recognized by the HLA Nomenclature Committee in October 2009¹ will give rise to unique amplification patterns by the primers in the DPB1 primer set, **wells 1 to 48**.

The DPB1 typing kit cannot distinguish the DPB1*010101 to DP1*010103 alleles, the DPB1*020102, DP1*020104, DP1*020105 and DP1*020107 alleles, the DPB1*030101 and DPB1*030102 alleles, the DPB1*040101 and DPB1*040102 alleles, the DPB1*050101 and DPB1*050102 alleles, the DPB1*110101 and DPB1*110102 alleles, the DPB1*200101 and DPB1*200102 alleles or the DPB1*410101 and DPB1*410102 alleles.

¹DPB1 alleles listed on the IMGT/HLA web page 2009-October-19, release 2.27.0, www.ebi.ac.uk/imgt/hla.

All the DQB1 alleles, i.e. **DQB1*050101 to 0505, DQB1*060101 to 0639, DQB1*020102 to 0205, DQB1*030101 to 0326 and DQB1*0401 to 0403**, recognized by the HLA Nomenclature Committee in October 2009¹ will be amplified by the primers in the DQ low resolution/DQB1*03 medium to high resolution SSP primer set, **wells 49 to 72**. The DQB1 alleles will be grouped into their corresponding serological specificities, i.e.:

DQ5(1) = DQB1*050101-0505²
DQ6(1) = DQB1*060101-0639²
DQ2 = DQB1*020101-0205
DQ3 = DQB1*030101-0326²
DQ7(3) = DQB1*030101-030103, DQB1*0304
DQ8(3) = DQB1*030201, DQB1*030501, DQB1*0310
DQ9(3) = DQB1*030302
DQ4 = DQB1*0401-0403

¹DQB1 alleles listed on the IMGT/HLA web page 2009-October-19, release 2.27.0, www.ebi.ac.uk/imgt/hla.

²The serological split of the DQB1*0505, DQB1*0606 to 0608 alleles, the DQB1*0610 to 0639, the DQB1*030202-030204, DQB1*030303 and the DQB1*030502 to 0326 alleles is not known. In this table we have used the expert-assigned serological grouping in Tissue Antigens (2009) **73**:95-170, and also inferred the serological grouping from the naming of the sequence-defined allele.

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All the HLA-DRB1, -DRB3, -DRB4¹ and -DRB5 alleles, i.e. **DRB1*010101 to 1003, DRB3*010101 to DRB3*0303, DRB4*010101 to DRB4*0107, DRB5*010101 to DRB5*0205**, recognized by the HLA Nomenclature Committee in October 2009² will be amplified by the primers in the DR low resolution SSP kit. The HLA-DRB alleles will be grouped into their corresponding serological specificities³.

¹The DRB4*0201N and DRB4*0301N null alleles will not be amplified by the DR low resolution primer set.

²DRB alleles listed on the IMGT/HLA web page 2009-October-19, release 2.27.0, www.ebi.ac.uk/imgt/hla.

³The DRB1*0809, DRB1*0821 and DRB1*1415 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1415 allele.

The DRB1*0820, DRB1*1318, DRB1*1347 and DRB1*1355 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1318, DRB1*1347 and DRB1*1355 alleles.

The DRB1*0831 and DRB1*1167 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1167 allele.

The DRB1*1313 and DRB1*1484 alleles yield identical amplification patterns in the DPB1-DQ-DR kit. These alleles can be separated by the respective high resolution primer sets.

SPECIFICITY TABLE

DPB1 high resolution primer set

Specificities and sizes of the PCR products of the 48 primer mixes used for DPB1 SSP typing

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified DPB1 alleles
1	245 bp	515 bp	*010101-010103, 030101, 030102, 0502, 0902, 1301, 1302, 1402, 1702, 2102, 2501, 2502, 260101, 260102, 2901, 3701, 4401, 5001, 5201, 5601, 6101N, 7801, 7901, 8801, 9001, 9201
2⁴	220 bp	515 bp	*010101-010103, 030101, 030102, 0502, 1402, 1702, 1801, 200101, 200102, 2102, 2501, 2502, 260101, 260102, 2701, 3601, 5001, 5201, 5601, 6101N, 7801, 7901, 8501, 8701, 8901, 9001, 9201
3^{3,4,5}	100 bp	430 bp	*010101-010103, 0302, 040101, 040102, 0902, 110101, 110102, 1301, 1302, 1501, 2002, 2102, 2302N, 2402, 260101, 260102, 2701, 3101, 3301, 3901, 4001, 5601, 6501, 6601, 7201, 7401, 8501, 8901, 9001, 9601, 9901
4^{3,4}	140 bp	430 bp	*010101-010103, 0302, 040101, 040102, 2102, 2302N, 2401, 2402, 2502, 260101, 260102, 2701, 2801, 3101, 3901, 4001, 4901, 5101, 5301, 5601, 6501, 6601, 7201, 7601, 8501, 8901, 9001, 9201, 9601, 9901
5	235 bp	515 bp	*010101-010103, 0801, 0802, 1901, 2102, 2502, 5001, 5701, 6501, 6801, 7301, 7501, 8401, 9001
6	165 bp	430 bp	*010101-010103, 0902, 1301, 2102, 2502, 260101, 260102, 6501
7	160 bp	430 bp	*010101-010103, 0902, 1301, 1302, 2102, 2502, 260101, 260102, 5601, 6501, 7601, 9001, 9201
8	210 bp	515 bp	*0102, 020102-0203, 040101-0403, 050101, 050102, 0602, 0801, 0802, 1502, 1601, 1802, 1901, 1902, 2201, 2301, 2302N, 2401, 2402, 2602, 3201, 3301, 3801, 3901, 4001, 4601, 4701, 4801, 4901, 5101, 5301, 6001, 6201, 6301, 6501, 6801, 7101, 7501, 7701, 8001, 8101, 8201, 8401, 9401, 9601, 9701, 9901

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9⁴	165 bp	430 bp	*0102, 020102-020105, 020106 ^w , 020107-0203, 0402, 0403, 050101, 050102, 0601, 0602, 0802, 1002, 1102, 1502, 1601, 1602, 1701, 1801, 1802, 1901, 1902, 200101, 200102, 2101, 2201, 2301, 2602, 3001, 3201, 3401, 3601, 3801, 410101, 410102, 4601, 4701, 4801, 5501, 5801, 5901, 6001, 6201, 6301, 6401N, 6901, 7101, 7701, 8001, 8201, 8301, 8601, 8701, 9101, 9301, 9401, 9501, 9701, 9801
10	220 bp	515 bp	*020102-0203, 0403, 0801, 0802, 1601, 1802, 1901, 2201, 2602, 3201, 3301, 410101, 410102, 4601, 4701, 4801, 7101, 8101, 9501
11	190 bp	515 bp	*020102-020107, 040101-0402, 0602, 1002, 1102, 1602, 1802, 2301, 2302N, 2401, 2402, 2602, 3201, 3301, 410101, 410102, 4601, 4701, 5101, 5901, 6001, 6601, 7101, 7201, 7301, 7501, 7701, 8001, 8101, 8201, 8301, 8601, 9401, 9901
12³	80 bp	515 bp	*020102, 020103 ^w , 020104-020107, 0601, 0801, 0901, 1001, 1102, 1601, 1602, 1701, 1802, 2602, 2901, 3201, 3701, 410101, 410102, 4401, 4601, 4801, 6401N, 8101, 8601, 8801, 9301
13	180 bp	430 bp	*0102, 0202, 0203, 050101, 050102, 0802, 1901, 2201, 2401, 3801, 4701, 9701
14³	105 bp	430 bp	*0102, 0202, 0203, 050101, 050102, 1702, 2101, 2201, 3601, 3801, 9701
15	200 bp	430 bp	*0102, 0202, 0203, 1502, 1902, 4801, 9501, 9901
16^{3,4}	80 bp	430 bp	*030101, 030102, 0402, 0502, 0602, 1002, 1401, 1402, 1801, 1902, 200101, 200102, 2202, 2501, 2502, 2801, 350101, 350102, 4501, 4901, 5001, 5101, 5301, 5701, 5901, 6001, 6101N, 6801, 7001, 7301, 7501, 7601, 7701, 7801, 7901, 8001, 8201, 8301, 9101, 9201, 9801
17	260 bp	515 bp	*030101, 030102, 0502, 0601, 0901, 0902, 1001, 110101, 110102, 1301, 1302, 1401, 1402, 1701, 1702, 200101, 200102, 2101, 2202, 2501, 260101, 260102, 2701, 2901, 3001, 350101, 350102, 3601, 3701, 4401, 4501, 5201, 5401, 5501, 5601, 5801, 6101N, 6401N, 6701, 6901, 7001, 7601, 7801, 7901, 8501, 8701, 8801, 9101, 9201, 9301, 9801

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18	180 bp	430 bp	*030101, 030102, 0502, 0601, 0901, 1401, 1402, 1701, 200101, 200102, 2202, 2901, 350101, 350102, 4401, 6101N, 6401N, 6901, 7001, 7601, 7801, 8601, 8801, 9101, 9201, 9801
19	200 bp	430 bp	*030101, 030102, 0502, 0601, 110101, 110102, 1401, 1402, 1702, 200101, 200102, 2202, 2501, 2901, 4401, 4501, 5201, 5601, 6101N, 6401N, 6701, 6901, 7001, 7401, 7601, 7801, 8701, 9101, 9201
20	235 bp	515 bp	*030101, 030102, 0502, 0901, 0902, 1001, 1301, 1302, 1401, 1402, 1702, 2202, 2501, 260101, 260102, 2901, 350101, 350102, 3701, 4401, 4501, 5201, 5401, 5601, 6101N, 6701, 7001, 7601, 7801, 7901, 8801, 9201
21^{3,4}	100 bp	430 bp	*030101, 030102, 0502, 0901, 1401, 1402, 2202, 2901, 350101, 350102, 4401, 5001, 5701, 6101N, 7001, 7601, 7801, 8801, 9201
22⁴	185 bp	430 bp	*040101, 040102, 2002, 2302N, 2401, 2402, 3301, 3901, 4901, 5101, 6601, 7201, 8101, 9601, 9901
23³	145 bp	430 bp	*0102, 050101, 050102, 1502, 1702, 1902, 3401, 3601, 3801, 6201, 6301, 9701
24	195 bp, 265 bp	515 bp	*0203, 0302, 0403, 050101, 050102, 0801, 0802, 1601, 1901, 2201, 3101, 3801, 5701, 6301, 6501, 6801, 8401, 9701
25	190 bp, 265 bp	515 bp	*050101, 050102, 1702, 2101, 2201, 3601, 3801, 4401, 5801, 6301, 7001, 9701
26^{3,5}	75 bp	515 bp	*0601, 0901, 1701, 2901, 4401, 4601, 6401N, 8601, 8801
27³	95 bp	430 bp	*0601, 1002, 1701, 200101, 200102, 4601, 6401N, 6901, 8001, 8601, 9101, 9801
28	200 bp, 260 bp	430 bp	*0901, 0902, 1001, 1102, 1301, 1302, 1602, 1701, 2002, 2101, 2202, 260101, 260102, 2701, 3001, 350101, 350102, 3601, 3701, 5401, 5501, 5801, 6601, 7901, 8501, 8601, 8801, 9301, 9801
29	220 bp	515 bp	*0901, 1001, 1602, 1701, 3001, 5401, 5501, 5801, 8601
30	185 bp	430 bp	*0901, 1401, 1701, 2202, 350101, 7601, 8601, 9101, 9801
31^{3,6}	120 bp	430 bp	*010101-010103, 0302, 0403, 050101, 050102, 0801, 0802, 0902, 1001, 110101, 110102, 1301, 1302, 1601, 1702, 1901, 2101, 2102, 2201, 2501, 2502, 260101,

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			260102, 2701, 3001, 3101, 3601, 3701, 3801, 4501, 5201, 5401, 5501, 5601, 5801, 6301, 6501, 6701, 6801, 7901, 8401, 8501, 8701, 8901, 9001, 9301, 9701
32³	75 bp, 195 bp	430 bp	*110101, 110102, 7801
33³	140 bp, 205 bp	430 bp	*0902, 1301, 1302, 2002, 2602, 3301, 8101
34	210 bp	515 bp	*1401, 2202, 4501, 6701, 7601, 9101
35	195 bp	430 bp	*1501, 7401
36	260 bp	515 bp	*1501, 1801, 2801, 3401, 4001, 5301, 6201
37^{6,7}	185 bp, 255 bp	515 bp	*0102 [?] , 0203 [?] , 0302 [?] , 0402, 0403 [?] , 0801 [?] , 1001 [?] , 1002 [?] , 110101 [?] -1102 [?] , 1302 [?] , 1402 [?] , 1501, 1502 [?] , 1602 [?] , 1702 [?] , 1802 [?] , 1902 [?] , 2002 [?] , 2101 [?] , 2102 [?] , 2201 [?] , 2202 [?] , 2302N [?] , 2401 [?] , 2501 [?] , 2502 [?] , 2701 [?] , 2801, 2901 [?] , 3001 [?] , 3101 [?] , 3201 [?] , 3301 [?] , 3401 [?] , 350101 [?] , 3601 [?] , 3701 [?] , 3801 [?] , 3901 [?] , 4001, 410101 [?] , 410102 [?] , 4401 [?] , 4601 [?] , 4701 [?] , 4801 [?] , 4901 [?] , 5001 [?] , 5101 [?] , 5201 [?] , 5301, 5401 [?] , 5601 [?] , 5701 [?] , 5801 [?] , 5901 [?] , 6001 [?] , 6101N [?] , 6201 [?] , 6301 [?] , 6401N [?] , 6501 [?] , 6601 [?] , 6701 [?] , 6801 [?] , 6901 [?] , 7001 [?] , 7101 [?] , 7201 [?] , 7301 [?] , 7401, 7501 [?] , 7601 [?] , 7701 [?] , 7801 [?] , 7901 [?] , 8001 [?] , 8101 [?] , 8201 [?] , 8301 [?] , 8401 [?] , 8601 [?] , 8701 [?] , 8901 [?] , 9001 [?] , 9101 [?] , 9201 [?] , 9301 [?] , 9401 [?] , 9501 [?] , 9601 [?] , 9701 [?] , 9801 [?] , 9901 [?]
38³	100 bp	515 bp	*0403, 1502, 2301, 2402, 3401, 5201, 5501, 5801, 6201, 6301, 6701, 7101, 8701, 9501
39	210 bp	515 bp	*0302, 1002, 2801, 3101, 3401, 5701, 5901, 7201, 7301, 9501
40^{3,4,7}	95 bp, 180 bp	430 bp	*0102 [?] , 0203 [?] , 0302 [?] , 0403 [?] , 0601 [?] , 0801 [?] , 0902, 1001 [?] , 1002 [?] , 110101 [?] -1102 [?] , 1302 [?] , 1402 [?] , 1502 [?] , 1601 [?] , 1602 [?] , 1701 [?] , 1702 [?] , 1801 [?] , 1802 [?] , 1902 [?] , 200101 [?] -2002 [?] , 2101 [?] , 2102 [?] , 2201 [?] , 2202 [?] , 2301 [?] , 2302N [?] , 2401 [?] , 2402 [?] , 2501 [?] , 2502 [?] , 260101 [?] -2602 [?] , 2701 [?] , 2801 [?] , 2901 [?] , 3001, 3101 [?] , 3201 [?] , 3301 [?] , 3401 [?] , 350101 [?] , 350102 [?] , 3601 [?] , 3701 [?] , 3801 [?] , 3901 [?] , 4001 [?] , 410101 [?] , 410102 [?] , 4401 [?] , 4501 [?] , 4601 [?] , 4701 [?] , 4801 [?] , 4901 [?] , 5001 [?] , 5101 [?] , 5201 [?] , 5301 [?] , 5401, 5501 [?] , 5601 [?] , 5701 [?] ,

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			5801 [?] , 5901 [?] , 6001 [?] , 6101N [?] , 6201 [?] , 6301 [?] , 6401N [?] , 6501 [?] , 6601 [?] , 6701 [?] , 6801 [?] , 6901 [?] , 7001 [?] , 7101 [?] , 7201 [?] , 7301 [?] , 7401 [?] , 7501 [?] , 7601 [?] , 7701 [?] , 7801 [?] , 7901 [?] , 8001 [?] , 8101 [?] , 8201 [?] , 8301 [?] , 8401 [?] , 8501 [?] , 8601 [?] , 8701 [?] , 8801 [?] , 8901 [?] , 9001 [?] , 9101 [?] , 9201 [?] , 9301 [?] , 9401 [?] , 9501 [?] , 9601 [?] , 9701 [?] , 9801 [?] , 9901 [?]
41³	75 bp, 230 bp	515 bp	*3101, 3401, 7701, 9401
42^{3,6}	140 bp, 185 bp, 285 bp	430 bp	*3201, 8201, 9701
43^{3,7}	65 bp, 190 bp	430 bp	*0102 [?] , 0203 [?] , 0302 [?] , 0403 [?] , 050101-0502, 0601 [?] , 0801 [?] , 1001 [?] , 1002 [?] , 110101 [?] - 1102 [?] , 1302 [?] , 1402 [?] , 1502 [?] , 1601 [?] , 1602 [?] , 1701 [?] , 1702 [?] , 1801 [?] , 1802 [?] , 1901, 1902 [?] , 200101 [?] -2002 [?] , 2101 [?] , 2102 [?] , 2201 [?] , 2202 [?] , 2301 [?] , 2302N [?] , 2401 [?] , 2402 [?] , 2501 [?] , 2502 [?] , 260101 [?] -2602 [?] , 2701 [?] , 2801 [?] , 2901 [?] , 3001 [?] , 3101 [?] , 3201 [?] , 3301 [?] , 3401, 350101 [?] , 350102 [?] , 3601 [?] , 3701 [?] , 3801 [?] , 3901 [?] , 4001 [?] , 410101 [?] , 410102 [?] , 4401 [?] , 4501 [?] , 4601 [?] , 4701 [?] , 4801 [?] , 4901 [?] , 5001 [?] , 5101 [?] , 5201 [?] , 5301 [?] , 5401 [?] , 5501 [?] , 5601 [?] , 5701 [?] , 5801 [?] , 5901 [?] , 6001 [?] , 6101N [?] , 6201, 6301 [?] , 6401N [?] , 6501 [?] , 6601 [?] , 6701 [?] , 6801 [?] , 6901 [?] , 7001 [?] , 7101 [?] , 7201 [?] , 7301 [?] , 7401 [?] , 7501 [?] , 7601 [?] , 7701 [?] , 7801 [?] , 7901 [?] , 8001 [?] , 8101 [?] , 8201 [?] , 8301 [?] , 8401 [?] , 8501 [?] , 8601 [?] , 8701 [?] , 8801 [?] , 8901 [?] , 9001 [?] , 9101 [?] , 9201 [?] , 9301 [?] , 9401 [?] , 9501 [?] , 9601 [?] , 9701 [?] , 9801 [?] , 9901 [?]
44^{3,6}	110 bp, 185 bp, 245 bp, 270 bp	430 bp	*1402, 2102, 2302N, 3801, 6401N
45³	120 bp, 190 bp, 245 bp	430 bp	*1002, 1802, 2002, 3901, 4601, 4901, 8001, 8601, 9601
46	205 bp	515 bp	*410101, 410102, 6001, 8301, 9601
47	165 bp, 255 bp	515 bp	*0102 [?] , 020102-0202, 0203 [?] , 0302 [?] , 040101, 040102, 0403 [?] , 0602, 0801 [?] , 0802, 1001 [?] , 1002 [?] , 110101 [?] -1102 [?] , 1302 [?] , 1402 [?] , 1502 [?] , 1602 [?] , 1701, 1702, 1802 [?] , 1902 [?] , 2002 [?] , 2101 [?] , 2102 [?] , 2201 [?] , 2202 [?] , 2301, 2302N [?] , 2401 [?] , 2402, 2501 [?] , 2502 [?] , 260101 [?] , 2602, 2701 [?] , 2801, 2901 [?] , 3001 [?] , 3101 [?] , 3201 [?] , 3301 [?] , 3401 [?] , 350101 [?] , 3601 [?] , 3701 [?] , 3801 [?] , 3901 [?] , 4001 [?] , 410101 [?] , 410102 [?] , 4401, 4601 [?] , 4701 [?] , 4801 [?] , 4901 [?] , 5001 [?] , 5101 [?] , 5201 [?] , 5301 [?] ,

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			5401 [?] , 5501, 5601 [?] , 5701 [?] , 5801 [?] , 5901 [?] , 6001 [?] , 6101N [?] , 6201 [?] , 6301 [?] , 6401N [?] , 6501 [?] , 6601 [?] , 6701 [?] , 6801 [?] , 6901 [?] , 7001 [?] , 7101 [?] , 7201 [?] , 7301 [?] , 7401 [?] , 7501 [?] , 7601 [?] , 7701 [?] , 7801 [?] , 7901 [?] , 8001 [?] , 8101 [?] , 8201 [?] , 8301 [?] , 8401 [?] , 8601 [?] , 8701 [?] , 8901 [?] , 9001 [?] , 9101 [?] , 9201 [?] , 9301 [?] , 9401 [?] , 9501 [?] , 9601 [?] , 9701 [?] , 9801 [?] , 9901 [?]
48	210 bp, 280 bp	515 bp	*6101N, 8501

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 DPB1 SSP typings.

When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.

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

PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

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 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DPB1 typing.

In addition, wells number 2, 5, 8, 10 to 12, 17, 20, 24 to 26, 29, 34, 36 to 39, 41 and 46 to 48 contain the primer pair giving rise to the longer, 515 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.

³Specific PCR fragments shorter than 150 base pairs are less intense and not as sharp as longer specific bands.

⁴Primer mixes 2, 3, 4, 9, 16, 21, 22 and 40 may yield less specific PCR products than the other DPB1 primer mixes.

⁵Primer mixes 3 and 26 may give rise to primer dimer formation.

⁶Primer mixes 31, 37, 42 and 44 may give rise to non-specific amplifications.

⁷The 1st, 3rd and 4th exon of many DPB1 alleles is not sequenced and thus the primer pairs in primer mixes 37, 40 and 43 may amplify other DPB1 alleles.

‘w’, might be weakly amplified.

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

DQ low/DQB1*03 medium to high resolution primer set

Specificities and sizes of the PCR products of the 24 primer mixes of the DQ low/DQB1*03 medium to high resolution primer set

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	DQ serology ³	Amplified DQB1 alleles ⁴
49 ⁷	225 bp	515 bp	5	*050101-0505
50	220 bp, 270 bp	430 bp	1, 5, 6	*060101-0639
51	210 bp	430 bp	2	*020101-0205
52 ⁶	220 bp	515 bp	3, 7	*030101-030104, 0304, 0309, 0310, 0313, 0314, 0316, 0319, 0321, 0322, 0324
53 ^{5,6}	130 bp	515 bp	6, 8	*030201-030204, 030501-030504, 0307, 0308, 0311, 0318, 0629
54 ⁶	135 bp	515 bp	2, 3, 4, 9	*0203, 030302, 030303, 0306, 0312, 0315, 0320, 0325, 0326, 040301
55 ⁷	145 bp, 185 bp	515 bp	3, 7, 8, 9	*030101-0326
56 ⁶	210 bp	430 bp	4	*040101-040301
57	165 bp	515 bp	7	*030101-030104, 0304, 0309, 0313, 0316, 0319, 0321, 0322, 0324
58	135 bp	430 bp	3, 7	*0304, 0314
59 ^{5,7}	95 bp, 130 bp	430 bp	8, 9	*030501-030504, 0317, 0320
60 ⁵	115 bp	430 bp	3	*0306, 0325
61 ⁵	110 bp, 140 bp	430 bp	7, 8,9	*0307, 0315, 0316
62	135 bp	430 bp	6, 8	*0308, 060202, 060302
63	135 bp, 260 bp	430 bp	7, 8	*0309, 0311, 0326
64 ⁷	135 bp	430 bp	3, 6, 9	*0310, 0312, 0314, 060101-060105
65	260 bp	515 bp	3, 7, 9	*030101-030104, 0304, 0309, 0310, 0312-0314, 0316, 0319, 0321, 0322, 0324
66	160 bp	430 bp	7	*0313, 0321, 0322
67 ⁵	130 bp	515 bp	3, 7	*030101-030104, 0304, 0309, 0310, 0313, 0314, 0319, 0321, 0322, 0324
68 ⁵	130 bp	430 bp	2, 3, 7, 9	*0203, 030101, 030102, 030104,

				030302, 030303, 0306, 0309, 0310, 0312, 0313, 0315-0317, 0319-0324, 0326
69⁵	130 bp, 220 bp	430 bp	8	*0318, 0324
70	175 bp	515 bp	3, 4, 7, 8, 9	*030201-030303, 030501-030504, 0306 [?] -0308 [?] , 0311 [?] -0318 [?] , 0319, 0320 [?] , 0323 [?] , 0325, 0326 [?] , 040101-040301
71⁷	175 bp	515 bp	3, 7, 8, 9	*030101-030104, 0304, 0306 [?] - 0308 [?] , 0309, 0310, 0311 [?] -0318 [?] , 0320 [?] , 0321, 0322, 0323 [?] , 0324, 0326 [?]
72	160 bp	515 bp	1, 6	*0323, 060301, 060302, 060402, 0607, 060801, 061101, 061102, 0626N, 0628, 0630-0632

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 DQ low resolution SSP subtypings. When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.

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

PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

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 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 49 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DQ low resolution typing. In addition, wells number 52 to 55, 57, 65, 67 and 70 to 72 contain the primer pair giving rise to the longer, 515 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 DQB alleles is not known. In this table we use the information in the HLA Dictionary 2008 on the www.ebi.ac.uk/imgt/hla web site, the information available at the www.worldmarrow.org web site, the expert-assigned grouping in Tissue Antigens (2009) 73:95-170 and have also inferred the serological grouping from the naming of the sequence-defined allele.

⁴For several DQB1 alleles only partial second exon nucleotide sequences are available. In these instances it is not known whether some of the primers of the SSP sets are completely matched with the target sequences or not. We assume that unknown sequences in the 5'- and 3'-ends of the second exon of the DQB1 gene are conserved within allelic groups.

⁵Short PCR fragments are less intense and not as sharp as longer specific bands.

⁶Primer mixes 52, 53, 54 and 56 may yield somewhat less intense specific PCR fragments than the other DQ low resolution primer mixes.

⁷Primer mix 49, 55, 59, 64 and 71 may give rise to nonspecific amplifications.

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

SPECIFICITY TABLE

DR low resolution primer set

Specificities and sizes of the PCR products of the 23 primer mixes of the DR low resolution primer set

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	DR serology ³	Amplified HLA-DRB ⁴ alleles
73⁸	200 bp, 255 bp	515 bp	1	*010101-010205, 0104-0131
74	200 bp	430 bp	103/1	*0103
75⁶	210 bp	430 bp	2, 15	*15010101-1541
76	210 bp	430 bp	16	*160101-160502, 1607-1615
77^{5,6,11}	120 bp, 220 bp	430 bp	3, 11, 17, 18	*03010101-0349, 1107, 1153, 1525
78^{5,6,11}	80 bp, 210 bp	430 bp	3, 6, 11, 13, 14, 17	*03010101-030107, 0304-0306, 0308-0316, 0318-0320, 0322, 0323, 0325, 0326, 0328, 0330, 0331, 0333, 0334, 0336, 0337, 0343-0348, 110201-1103, 111101, 111102, 111401, 111402, 1116, 1120, 1121, 1136, 1140, 1141, 1148, 1159, 1163, 116501, 116502, 1168, 1170, 1173, 1176, 1179, 1180, 1183, 130101-1304, 1308, 1310, 1315-1317, 1319, 1320, 1322-1324, 1327-1329, 1331-1341, 1343, 1345, 1348, 1351-1354, 1357, 1359, 1361, 1363-1366, 1368-1376, 1378-1381, 1383-1385, 1387-1394, 1416, 1419, 1421, 1482
79^{5,6}	85 bp, 210 bp	430 bp	3, 6, 18, 11, 13, 14, 1403	*030201-0303, 0327, 0329, 0338, 1113 ^w , 111302 ^w , 1126, 1134, 1315, 1319, 1326, 1344, 1353, 1357, 1385, 1386, 1402-140302, 140601, 140602, 1409, 1412, 1413, 1417-1421, 1424, 1427, 1429, 1430, 143201 ^w , 143202 ^w , 1433, 1440, 1441, 1447-1449, 1451, 1463, 1465 ^w , 1467, 1477, 1478, 1480, 1481, 1483, 1485, 1489
80^{5,6}	100 bp, 175 bp	430 bp	4, 3/4	*040101-0488
81⁶	210 bp, 230 bp	430 bp	7, 13, 14	*07010101-070103, 0703-0717, 1317, 1450
82⁶	170 bp, 215 bp, 250 bp	515 bp	8, 11, 12, 14	*080101-0819, 0821-0839, 1167, 1204, 1216, 1411, 1415, 1468

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83 ^{5,6,7}	85 bp, 135 bp, 180 bp	430 bp	3, 9, 11	*0308, 090102-0908, 1107, 1153
84 ⁸	205 bp	430 bp	10	*100101-1003
85 ^{5,6}	100 bp, 170 bp	430 bp	3, 8, 11	*0308, 0831, 110101-1170, 1172-1184
86 ^{5,6}	85 bp, 105 bp	430 bp	12	*0832, 120101-1220
87	210 bp	430 bp	6, 11, 13, 14, 1403	*0820, 110101-110405, 110601, 110602, 110801-111202, 111401-1116, 1118-1121, 1123-1125, 112701-1133, 1135-1151, 115401, 115402, 1156-1166, 1168, 1170, 1172-1181, 1183, 1184, 130101-1308, 1310-1316, 1318-1343, 1345-1385, 1387-1394, 140301, 140302, 1412, 1416, 1419, 1421, 1422, 1425, 1427, 1440, 1453, 1463, 1467, 1469, 1474, 1477, 1478, 1484, 1485
88 ⁶	195 bp, 210 bp	430 bp	6, 8, 11, 12, 13, 14	*080101-080203, 080401-0809, 0811, 0816, 0817, 0820-0822, 0824, 0826, 0828, 0831, 0839, 110101-110602, 1109-111202, 111401-1116, 1120, 1121, 1123-1125, 112701-1130, 1132, 1133, 1135-1141, 1143, 1144, 1146-1151, 115401-1156, 1158-1163, 116501-1170, 1172, 1174-1178, 1180-1184, 120201-120204, 1213, 1215, 1216, 1218-1220, 130101-130201, 130203, 1304-130502, 130701-1309, 131101, 131102, 131401-1324, 1326-1329, 1331, 1332, 1334-1336, 1338-1343, 1345-1355, 1357, 1359, 1361-1365, 1367-1376, 1378-1380, 1383, 1384, 1387, 1391-1393, 1415, 1416, 1422, 1424, 1425, 1427, 1437, 1453, 1473
89 ¹¹	175 bp	430 bp	3, 6, 8, 11, 13, 14, 1403, 17, 18	*03010101-0307, 0309, 0311-0341, 0343-0345, 0347-0349, 0820, 130101-1316, 1318-1342, 1344, 1346-1366, 1368-1394, 1402-140302, 140501-140602, 1409, 1412-1414, 1417-1421, 142301, 142303, 1424, 1427, 1429, 1430, 1433, 1436, 1437, 1440-1445, 1447, 1448, 1451, 1456, 1459, 1463-1465, 1467, 1477, 1478, 1480, 1481, 1483-1485, 1489, 1491

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90 ^{5,6,9,10}	100 bp, 140 bp, 155 bp	430 bp	4, 6, 8, 13, 14, 1404	*0462, 0469, 0473, 0808, 1169, 1182, 1345, 140101, 140102, 1404, 140701, 140702, 1410, 1416, 1422, 1425, 1426, 1428, 1431-143202, 1435, 1437-1439, 1449, 1450, 1453-1455, 1457, 1458, 1460-1462, 1468-1471, 1473-1476, 1479, 1482, 1486-1488, 1490, DRB4*01030102N
91 ^{5,6,8}	110 bp, 135 bp, 170 bp	430 bp	3, 6, 9, 11, 13, 14, 1404	*0310, 090102-090105, 090201, 090202, 0904-0908, 111301, 111302, 1117, 1152, 1343, 140101-1402, 1404-1411, 1413, 1414, 1416-1418, 1419 ^w , 1420, 1421 ^w , 1422-142303, 1426, 1428-1436, 1438, 1439, 1441, 1443-1452, 1454-1457, 1459-1462, 1464, 1465, 1468, 1470-1476, 1479-1483, 1486-1488, 1490-1492N, 1527, 1534
92 ^{5,6,8}	110 bp, 175 bp, 225 bp	430 bp	2, 3, 6, 8, 11, 13, 14, 1403, 1404, 16	*0310, 0809, 0820, 0821, 0832, 0835, 111301, 111302, 1117, 1123, 1125, 1131, 1145, 1152, 1155, 1164, 1313, 1318, 1343, 1345, 1347, 1355, 140101-140103, 140301-140503, 140701-1408, 1410-1412, 1414-1416, 1418, 1422-142303, 1425-1428, 1431-143202, 1434-1436, 1438-1440, 1442-1445, 1449, 1450, 1453-1465, 1467-1479, 1481, 1482, 1484-1492N, 1521 ^w , 1604 ^w
93 ^{5,6,11}	100 bp, 165 bp, 240 bp	430 bp	52	DRB3*01010201-0114, DRB3*0201-0225, DRB3*030101-0303
94	215 bp	430 bp	53	DRB4*01010101-0107
95	175 bp	430 bp	51	DRB5*010101-0114, DRB5*0202-0205
96 ¹²	-	-	-	Negative Control

¹ Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of DR low resolution SSP subtypings.

When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.

Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers, e.g. the primers in wells 75, 80, 90, 91 and 92.

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 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 73 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DR low resolution typing.

In addition, well number 82 contains the primer pair giving rise to the longer, 515 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 DRB alleles is not known. In this table we use the information in the HLA Dictionary 2004 on the www.ebi.ac.uk/imgt/hla web site, the information available at the www.worldmarrow.org web site, the expert-assigned serological grouping in Tissue Antigens (2009) 73:95-170, and have also inferred the serological grouping from the naming of the sequence-defined allele.

⁴For several DRB alleles only partial second exon nucleotide sequences are available. In these instances it is not known whether some of the primers of the SSP set are completely matched with the target sequences or not. We assume that unknown sequences in the first hyperpolymorphic region of the second exon of DRB alleles are conserved within allelic groups and that unknown sequences of codons 87 to 92 are identical with the DRB1*0101 consensus sequence.

The DRB1*0809, DRB1*0821 and DRB1*1415 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1415 allele.

The DRB1*0820, DRB1*1318, DRB1*1347 and DRB1*1355 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1318, DRB1*1347 and DRB1*1355 alleles.

The DRB1*0831 and DRB1*1167 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1167 allele.

The DRB1*1313 and DRB1*1484 alleles yield identical amplification patterns in the DPB1-DQ-DR kit. These alleles can be separated by the respective high resolution primer sets.

⁵Specific PCR fragments shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR bands.

⁶Individual alleles can give rise to two differently sized specific PCR fragments in primer mixes 73, 77 to 83, 85, 86, 88 and 90 to 93.

⁷Primer mix 83 may give rise to nonspecific amplifications.

⁸Primer mix 73, 84, 91 and 92 may give rise to primer oligomer formation.

⁹Primer mix 90 has a tendency of primer oligomer formation and also has an intense primer cloud due to the high number of primers present in the primer mix.

¹⁰The DRB4*01030102N allele is amplified by the primer pair in well No. 90, whereas the DRB4*0201N and DRB4*0301N null alleles are not amplified by this primer pair.

¹¹Due to sharing of sequence motifs in codon 38, DRB3*0114 will also be amplified in primer mixes 77, 78 and 89 in addition to primer mix 93.

¹²Primer mix 96 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the control primer pair is 430 base pairs.

‘w’, might be weakly amplified.

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

INTERPRETATION TABLE																								
DPB1 SSP typing																								
Amplification patterns of the DPB1*0101 to DPB1*9901 alleles																								
	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. PCR product	245	220	100	140	235	165	160	210	165	220	190	80	180	105	200	80	260	180	200	235	100	185	145	195
Length of int. pos. control ¹	515	515	430	430	515	430	430	515	430	515	515	515	430	430	430	430	515	430	430	515	430	430	430	515
5'-primer(s) ²	5'-TgT 3' 9(112)	5'-TgT 3' 9(112)	5'-CgC 3' 36(194)	5'-CgC 3' 36(194)	5'-ggg 3' 11(119)	5'-gTA 3' 35(191)	5'-CgC 3' 36(194)	5'-TTT 3' 9(113)	5'-AgC 3' 35(190)	5'-TTT 3' 9(113)	5'-gTT 3' 35(191)	5'-gAT 3' 55(252)	5'-TTT 3' 9(113)	5'-AgC 3' 35(190)	5'-gAg 3' 28(169)	5'-TgA 3' 56(254)	5'-gTT 3' 11(119)	5'-gTT 3' 11(119)	5'-gTT 3' 11(119)	5'-gTT 3' 11(119)	5'-gAC 3' 57(258)	5'-CgC 3' 36(194)	5'-AgC 3' 35(190)	5'-TTT 3' 9(113)
3'-primer(s) ³	5'-CAT 3' 76(315)	5'-CTT 3' 69(292)	5'-CAG 3' 55(251)	5'-CTT 3' 69(292)	5'-CAT 3' 76(315)	5'-CAT 3' 76(315)	5'-CAT 3' 76(315)	5'-gAT 3' 65(280)	5'-TAT 3' 76(313)	5'-CTC 3' 69(292)	5'-CgC 3' 84(338)	5'-CTC 3' 69(292)	5'-gCC 3' 55(252)	5'-gCC 3' 55(252)	5'-CgC 3' 84(338)	5'-CTT 3' 69(292)	5'-CgT 3' 84(338)	5'-TAG 3' 57(258)	5'-gAg 3' 65(280)	5'-CAT 3' 76(315)	5'-CAT 3' 76(315)	5'-CgC 3' 84(338)	5'-CTT 3' 69(292)	5'-gTg 3' 60(265)
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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Length of spec. PCR product	245	220	100	140	235	165	160	210	165	220	190	80	180	105	200	80	260	180	200	235	100	185	145	195
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
DPB1 allele ⁴																								
*010101-010103	1	2	3	4	5	6	7																	
*0102								8	9				13	14	15								23	
*020102, 020104, 020105, 020107								8	9	10	11	12												
*020103								8	9	10	11	w												
*020106								8	w	10	11	12												
*0202								8	9	10			13	14	15									
*0203								8	9	10			13	14	15									24
*030101, 030102	1	2														16	17	18	19	20	21			
*0302			3	4																				24
*040101, 040102			3	4				8			11												22	
*0402								8	9		11					16								
*0403								8	9	10														24
*050101, 050102								8	9				13	14									23	24
*0502	1	2														16	17	18	19	20	21			
*0601									9			12					17	18	19					
*0602								8	9		11					16								
*0801					5			8		10		12												24
*0802					5			8	9	10			13											24
*0901												12					17	18		20	21			
*0902	1		3			6	7										17			20				
*1001												12					17			20				
*1002									9		11					16								
*110101, 110102			3														17		19					
*1102									9		11	12												
*1301	1		3			6	7										17			20				
*1302	1		3				7										17			20				
*1401																16	17	18	19	20	21			
*1402	1	2														16	17	18	19	20	21			
*1501			3																					
*1502								8	9						15								23	
*1601								8	9	10		12												24
*1602									9		11	12												
*1701									9			12					17	18						
*1702	1	2											14				17		19	20			23	
*1801		2							9							16								
*1802								8	9	10	11	12												
*1901					5			8	9	10			13											24
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Lot No.: **71G**

Lot-specific information

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190	75	95	200	220	185	120	75	140	210	195	260	185	100	210	95	75	140	65	110	120	205	165	210	Length of spec. PCR product
265			260				195	205				255			180	230	185	190	185	190	255	280		
																	285		245	245				
																			270					
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No. DPB1 allele ⁴
						31																		*010101-010103
												?			?								?	*0102
																						47		*020102, 020104, 020105, 020107
																						47		*020103
																						47		*020106
																						47		*0202
												?			?				?			?		*0203
																								*030101, 030102
						31						?		39	?				?			?		*0302
																						47		*040101, 040102
												37												*0402
						31						?	38		?				?			?		*0403
25						31												43						*050101, 050102
																		43						*0502
	26	27													?			?						*0601
																						47		*0602
						31						?			?				?			?		*0801
						31																47		*0802
	26		28	29	30																			*0901
			28			31		33							40									*0902
			28	29		31						?			?			?				?		*1001
		27										?		39	?			?			45	?		*1002
						31	32					?			?			?				?		*110101, 110102
			28									?			?			?				?		*1102
			28			31		33																*1301
			28			31		33				?			?			?				?		*1302
					30				34															*1401
												?			?			?	44			?		*1402
									35	36	37													*1501
												?	38		?			?				?		*1502
						31									?			?						*1601
			28	29								?			?			?				?		*1602
	26	27	28	29	30										?			?				47		*1701
25						31						?			?			?				47		*1702
										36					?			?						*1801
												?			?			?			45	?		*1802
						31												43						*1901
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

Lot No.: **71G**

Lot-specific information

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Length of spec. PCR product	245	220	100	140	235	165	160	210	165	220	190	80	180	105	200	80	260	180	200	235	100	185	145	195
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
								8	9						15	16							23	
*200101, 200102		2							9							16	17	18	19					
*2002			3																			22		
*2101									9					14			17							
*2102	1	2	3	4	5	6	7																	
*2201								8	9	10			13	14										24
*2202																16	17	18	19	20	21			
*2301								8	9		11													
*2302N			3	4				8			11											22		
*2401				4				8			11		13									22		
*2402			3	4				8			11											22		
*2501	1	2														16	17		19	20				
*2502	1	2		4	5	6	7									16								
*260101	1	2	3	4		6	7										17			20				
*260102	1	2	3	4		6	7										17			20				
*2602								8	9	10	11	12												
*2701		2	3	4													17							
*2801				4												16								
*2901	1											12					17	18	19	20	21			
*3001									9								17							
*3101			3	4																				24
*3201								8	9	10	11	12												
*3301			3					8		10	11											22		
*3401									9														23	
*350101																16	17	18		20	21			
*350102																16	17	18		20	21			
*3601		2							9					14			17						23	
*3701	1											12					17			20				
*3801								8	9				13	14									23	24
*3901			3	4				8														22		
*4001			3	4				8																
*410101, 410102									9	10	11	12												
*4401	1											12					17	18	19	20	21			
*4501																16	17		19	20				
*4601								8	9	10	11	12												
*4701								8	9	10	11		13											
*4801								8	9	10		12				15								
*4901				4				8								16						22		
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

Lot No.: **71G**

Lot-specific information

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190	75	95	200	220	185	120	75	140	210	195	260	185	100	210	95	75	140	65	110	120	205	165	210	Length of spec. PCR product	
265			260				195	205				255			180		230	185	190	185	190	255	280		
																		285	245	245					
																			270						
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	
												?			?			?				?		*1902	
		27													?			?						*200101, 200102	
			28					33				?			?			?		45		?		*2002	
25			28			31						?			?			?				?		*2101	
						31						?			?			?	44			?		*2102	
25						31						?			?			?				?		*2201	
			28		30			34				?			?			?				?		*2202	
												38			?			?				47		*2301	
												?			?			?	44			?		*2302N	
												?			?			?				?		*2401	
												38			?			?				47		*2402	
						31						?			?			?				?		*2501	
						31						?			?			?				?		*2502	
			28			31									?			?				?		*260101	
			28			31									?			?						*260102	
								33							?			?				47		*2602	
			28			31						?			?			?				?		*2701	
										36	37	39	?					?				47		*2801	
26												?			?			?				?		*2901	
			28	29		31						?			40			?				?		*3001	
						31						?	39	?	41		?					?		*3101	
												?			?	42	?					?		*3201	
								33				?			?			?				?		*3301	
										36	?	38	39	?	41	43						?		*3401	
			28		30							?			?			?				?		*350101	
			28									?			?			?				?		*350102	
25			28			31						?			?			?				?		*3601	
			28			31						?			?			?				?		*3701	
25						31						?			?			?	44			?		*3801	
												?			?			?		45		?		*3901	
										36	37				?			?				?		*4001	
												?			?			?			46	?		*410101, 410102	
25	26											?			?			?				47		*4401	
						31				34					?			?						*4501	
			26	27								?			?			?		45		?		*4601	
												?			?			?				?		*4701	
												?			?			?				?		*4801	
												?			?			?		45		?		*4901	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	

Lot No.: **71G**

Lot-specific information

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Length of spec. PCR product	245	220	100	140	235	165	160	210	165	220	190	80	180	105	200	80	260	180	200	235	100	185	145	195
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
																							265	
*5001	1	2			5										16						21			
*5101				4			8			11					16						22			
*5201	1	2															17		19	20				
*5301				4			8								16									
*5401																	17			20				
*5501									9								17							
*5601	1	2	3	4			7										17		19	20				
*5701					5										16						21		24	
*5801									9								17							
*5901									9		11				16									
*6001								8	9		11				16									
*6101N	1	2													16	17	18	19	20	21				
*6201								8	9														23	
*6301								8	9														23 24	
*6401N									9			12					17	18	19					
*6501			3	4	5	6	7	8															24	
*6601			3	4							11											22		
*6701																	17		19	20				
*6801					5		8								16								24	
*6901									9								17	18	19					
*7001															16	17	18	19	20	21				
*7101								8	9	10	11													
*7201			3	4							11										22			
*7301					5						11				16									
*7401			3															19						
*7501					5		8				11				16									
*7601				4			7								16	17	18	19	20	21				
*7701							8	9		11					16									
*7801	1	2													16	17	18	19	20	21				
*7901	1	2													16	17			20					
*8001								8	9		11				16									
*8101								8		10	11	12									22			
*8201								8	9		11				16									
*8301									9		11				16									
*8401					5		8																24	
*8501		2	3	4													17							
*8601									9		11	12						18						
*8701		2							9								17		19					
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

Lot No.: **71G**

Lot-specific information

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Length of spec. PCR product																Well No.												
190	75	95	200	220	185	120	75	140	210	195	260	185	100	210	95	75	140	65	110	120	205	165	210					
265			260				195	205				255			180		230	185	190	185	190	255	280					
																		285		245	245							
																				270								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48					
												?			?			?				?						
												?			?			?				?						
						31						?	38		?			?				?						
											36	37			?			?				?						
			28	29		31						?			40			?				?						
			28	29		31							38		?			?				47						
						31						?			?			?				?						
												?		39	?			?				?						
25			28	29		31						?	38		?			?				?						
												?		39	?			?				?						
												?			?			?				46	?					
												?			?			?				?	48					
											36	?	38		?			43				?						
25						31						?	38		?			?				?						
	26	27										?			?			?				?						
						31						?			?			?	44			?						
												?			?			?				?						
			28									?			?			?				?						
						31			34			?	38		?			?				?						
						31						?			?			?				?						
		27										?			?			?				?						
25												?			?			?				?						
												?	38		?			?				?						
												?		39	?			?				?						
												?		39	?			?				?						
										35		37			?			?				?						
												?			?			?				?						
						30			34			?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?			?			?				?						
												?	38		?			?				?						
25	26	27	28	29	30							?			?			?			45	?						
						31						?			?			?				?						
												?	38		?			?				?						
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48					

Lot No.: **71G**

Lot-specific information

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Length of spec. PCR product	245	220	100	140	235	165	160	210	165	220	190	80	180	105	200	80	260	180	200	235	100	185	145	195
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
																								265
*8801	1											12					17	18		20	21			
*8901		2	3	4																				
*9001	1	2	3	4	5		7																	
*9101									9							16	17	18	19					
*9201	1	2		4			7									16	17	18	19	20	21			
*9301									9			12					17							
*9401								8	9		11													
*9501									9	10					15									
*9601			3	4				8															22	
*9701								8	9				13	14									23	24
*9801									9							16	17	18						
*9901			3	4				8			11				15								22	
DPB1 allele ⁴																								
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

Lot No.: **71G**

Lot-specific information

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190	75	95	200	220	185	120	75	140	210	195	260	185	100	210	95	75	140	65	110	120	205	165	210	Length of spec. PCR product
265			260				195	205				255			180	230	185	190	185	190	255	280		
																	285		245	245				
																			270					
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
	26		28												?			?						*8801
						31						?			?			?				?		*8901
						31						?			?			?				?		*9001
		27			30				34			?			?			?				?		*9101
												?			?			?				?		*9201
			28			31						?			?			?				?		*9301
												?			?	41		?				?		*9401
												?	38	39	?			?				?		*9501
												?			?			?		45	46	?		*9601
25						31						?			?		42	?				?		*9701
		27	28			30						?			?			?				?		*9801
												?			?			?				?		*9901
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	DPB1 allele ⁴ Well No.

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 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DPB1 typing.

In addition, wells number 2, 5, 8, 10 to 12, 17, 20, 24 to 26, 29, 34, 36 to 39, 41 and 46 to 48 contain the primer pair giving rise to the longer, 515 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.

²The codon, and in parenthesis the nucleotide, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Codon and 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 codon, and in parenthesis the nucleotide, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Codon and 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.

⁴The sequence of the DPB1*02011 allele has been shown to be identical to DPB1*02012.

DPB1*0701 has never been assigned.

DPB1*1201 has never been assigned.

The sequence of the DPB1*4201 allele has been shown to be identical to DPB1*3101.

The sequence of the DPB1*4301 allele has been shown to be identical to DPB1*2801.

INTERPRETATION TABLE												
DQ low/DQB1*03 medium to high resolution SSP typing												
Amplification patterns of the DQB1*0501 to DQB1*0403 alleles												
	Well											
	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec.	225	220	210	220	130	135	145	210	165	135	95	115
PCR product(s)		270					185				130	
Length of int.												
pos. control ¹	515	430	430	515	515	515	515	430	515	430	430	430
5'-primer(s) ²	5'-ggg ³ 26(173)	5'-gTT ³ 9(122)	5'-Aag ³ 30(185)	5'-TTA ³ 26(173)	5'-gAC ³ 28(179)	5'-TCT ³ 26(173)	5'-gCA ³ 38(210)	5'-ACC ³ 21(159)	5'-ggA ³ 45(230)	5'-TTA ³ 26(173)	5'-ggg ³ 26(173)	5'-gCA ³ 38(210)
		5'-TCT ³ 26(173)			5'-gAC ³ 28(179)		5'-CgC ³ 48(240)				5'-ACA ³ 38(208)	
		5'-TCT ³ 26(173)					5'-gCC ³ 55(260)					
							5'-gCA ³ 55(260)					
3'-primer(s) ³	5'-ggT ³ 87(356)	5'-ACg ³ 86(353)	5'-gCT ³ 86(353)	5'-gCT ³ 86(353)	5'-Cgg ³ 57(266)	5'-CgT ³ 57(266)	5'-gCT ³ 86(353)	5'-ACg ³ 77(327)	5'-gCT ³ 86(353)	5'-Cgg ³ 57(266)	5'-gCg ³ 55(260)	5'-CTA ³ 62(282)
		5'-ACC ³ 86(353)										
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

INTERPRETATION TABLE												
DQ low/DQB1*03 medium to high resolution SSP typing												
Amplification patterns of the DQB1*0501 to DQB1*0403 alleles												
Well												
61	62	63	64	65	66	67	68	69	70	71	72	
110	135	135	135	260	160	130	130	130	175	175	160	Length of spec. PCR product(s) Length of int. pos. control ¹
140		260						220				
430	430	430	430	515	430	515	430	430	515	515	515	
5'-ggT ^{3'} 49(242)	5'-gCA ^{3'} 38(210)	5'-gCC ^{3'} 14(136)	5'-ggC ^{3'} 13(134)	5'-ggC ^{3'} 13(134)	5'-TTA ^{3'} 26(173)	5'-TTA ^{3'} 26(173)	5'-TgA ^{3'} 57(266)	5'-TTC ^{3'} 27(175)	5'-CAA ^{3'} 140(514)	5'-CAA ^{3'} 140(514)	5'-gTA ^{3'} 9(122)	5'-primer(s) ²
55(260)		5'-TgA ^{3'} 135(500)			5'-CCA ^{3'} 130(485)			5'-CAA ^{3'} 140(514)				
5'-gCA ^{3'} 63(285)					5'-TTT ^{3'} 133(493)							
5'-Agg ^{3'}												
5'-gCT ^{3'} 86(353)	5'-CCC ^{3'} 70(304)	5'-gCT ^{3'} 86(353)	5'-CCC ^{3'} 45(230)	5'-gCT ^{3'} 86(353)	5'-ggT ^{3'} 67(296)	5'-gCg ^{3'} 55(260)	5'-gCT ^{3'} 86(353)	5'-gCT ^{3'} 86(353)	5'-CgA ^{3'} 185(650)	5'-Cgg ^{3'} 185(650)	5'-gCg ^{3'} 48(240)	3'-primer(s) ³
		5'-CAT ^{3'} 167(596)			5'-gAC ^{3'} 170(604)	5'-gCg ^{3'} 55(260)		5'-gAT ^{3'} 170(604)				
						5'-ggg ^{3'}						
61	62	63	64	65	66	67	68	69	70	71	72	Well No.

Lot No.: **71G**

Lot-specific information

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Length of spec. PCR product(s)		225	220	210	220	130	135	145	210	165	135	95	115
			270					185				130	
Well No.		49	50	51	52	53	54	55	56	57	58	59	60
DQB1 allele⁴	ser.⁵												
*020101-0202, 0204, 0205	2			51									
*0203	2			51			54						
*030101, 030102, 030104	7				52			55		57			
*030103	7				52			55		57			
*030201-030204	8					53		55					
*030302, 030303	9						54	55					
*0304	7				52			55		57	58		
*030501-030504	8					53		55				59	
*0306	3						54	55					60
*0307	8					53		55					
*0308	8					53		55					
*0309	7				52			55		57			
*0310	3				52			55					
*0311	8					53		55					
*0312	9						54	55					
*0313	7				52			55		57			
*0314	3				52			55			58		
*0315	9						54	55					
*0316	7				52			55		57			
*0317	9							55				59	
*0318	8					53		55					
*0319	7				52			55		57			
*0320	9						54	55				59	
*0321, 0322	-				52			55		57			
*0323	-							55					
*0324	-				52			55		57			
*0325	-						54	55					60
*0326	-						54	55					
*040101-0402	4								56				
*040301	-						54		56				
*050101-0505	5	49											
*060101-060105	6		50										
*060201, 060401, 060403- 0606, 060802- 0610, 0612-0625, 0627, 0633-0639	1, 5, 6		50										
Well No.		49	50	51	52	53	54	55	56	57	58	59	60

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

110	135	135	135	260	160	130	130	130	175	175	160		Length of spec. PCR product(s)
140		260						220					Well No.
61	62	63	64	65	66	67	68	69	70	71	72	ser. ⁵	DQB1 allele ⁴
												2	*020101-0202, 0204, 0205
							68					2	*0203
				65		67	68			71		7	*030101, 030102, 030104
				65		67				71		7	*030103
									70			8	*030201-030204
							68		70			9	*030302, 030303
				65		67				71		7	*0304
									70			8	*030501-030504
							68		?	?		3	*0306
61									?	?		8	*0307
	62								?	?		8	*0308
		63		65		67	68			71		7	*0309
			64	65		67	68			71		3	*0310
		63							?	?		8	*0311
			64	65			68		?	?		9	*0312
				65	66	67	68		?	?		7	*0313
			64	65		67			?	?		3	*0314
61							68		?	?		9	*0315
61				65			68		?	?		7	*0316
							68		?	?		9	*0317
								69	?	?		8	*0318
				65		67	68		70			7	*0319
							68		?	?		9	*0320
				65	66	67	68			71		-	*0321, 0322
							68		?	?	72	-	*0323
				65		67	68	69		71		-	*0324
									70			-	*0325
		63					68		?	?		-	*0326
									70			4	*040101-0402
									70			-	*040301
												5	*050101-0505
			64									6	*060101-060105
												1, 5, 6	*060201, 060401, 060403-0606, 060802-0610, 0612-0625, 0627, 0633-0639
61	62	63	64	65	66	67	68	69	70	71	72		Well No.

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

Length of spec.		225	220	210	220	130	135	145	210	165	135	95	115
PCR product(s)			270					185				130	
Well No.		49	50	51	52	53	54	55	56	57	58	59	60
*060202	6		50										
*060301, 060402, 0607, 060801, 061101, 061102, 0626N, 0628, 0630-0632	1, 6, null		50										
*060302	6		50										
*0629	6		50			53							
DQB1 allele ⁴	ser. ⁵												
Well No.		49	50	51	52	53	54	55	56	57	58	59	60

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 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 49 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DQ low resolution typing.

In addition, wells number 52 to 55, 57, 65, 67 and 70 to 72 contain the primer pair giving rise to the longer, 515 bp, internal positive control band in order to allow kit identification.

²The codon, and in parenthesis the nucleotide, in the 2nd exon, matching the specificity-determining 3'-end of the primer is given. Codon and 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 codon, and in parenthesis the nucleotide, in the 2nd exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Codon and 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.

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

110	135	135	135	260	160	130	130	130	175	175	160		Length of spec.
140		260						220					PCR product(s)
61	62	63	64	65	66	67	68	69	70	71	72		Well No.
	62											6	*060202
											72	1, 6, null	*060301, 060402, 0607, 060801, 061101, 061102, 0626N, 0628, 0630-0632
	62										72	6	*060302
												6	*0629
												ser. ⁵	DQB1 allele ⁴
61	62	63	64	65	66	67	68	69	70	71	72		Well No.

⁴The sequence of the DQB1*030301 allele has been shown to be identical to DQB1*030302.

⁵ The serological reactivity of all DQB alleles is not known. In this table we use the information in the HLA Dictionary 2008 on the www.ebi.ac.uk/imgt/hla web site, the information available at the www.worldmarrow.org web site, the expert-assigned serological grouping in Tissue Antigens (2009) 73:95-170 and have also inferred the serological grouping from the naming of the sequence-defined allele.

INTERPRETATION TABLE													
DR low resolution SSP typing													
Amplification patterns of the DRB1*0101 to DRB1*1003 alleles													
		Well⁶											
		73	74	75	76	77	78	79	80	81	82	83	84
Length of spec.		205	200	210	210	120	80	85	100	210	170	85	205
PCR product(s)		255				220	210	210	175	230	215	135	
											250	180	
Length of int.													
pos. control¹		515	430	430	430	430	430	430	430	430	515	430	430
5'-primer(s)²		14 (129)	14 (129)	13 (126)	13 (126)	13 (125)	13 (125)	13 (125)	13 (125)	14 (127)	16 (133)	26 (165)	31 (178)
		5'-gAA ^{3'}	5'-gAA ^{3'}	5'-Agg ^{3'}	5'-Agg ^{3'}	5'-gTC ^{3'}	5'-gTC ^{3'}	5'-gTC ^{3'}	5'-ACA ^{3'}	5'-ATA ^{3'}	5'-gTT ^{3'}	5'-TAT ^{3'}	5'-gCg ^{3'}
				13 (126)	13 (126)	47 (227)	16 (133)		13 (125)	14 (127)	16 (133)	58 (261)	
				5'-Aag ^{3'}	5'-Aag ^{3'}	5'-gTT ^{3'}	5'-gTT ^{3'}		5'-ACC ^{3'}	5'-ATA ^{3'}	5'-gTT ^{3'}	5'-gAg ^{3'}	
									13 (125)	16 (133)			
									5'-ATA ^{3'}	5'-gTT ^{3'}			
									13 (125)				
									5'-gTC ^{3'}				
3'-primer(s)³		67 (286)	67 (286)	67 (286)	67 (286)	73 (305)	26 (164)	28 (171)	33 (184)	71 (298)	58 (260)	57 (257)	86 (344)
		5'-gAg ^{3'}	5'-gAT ^{3'}	5'-gAT ^{3'}	5'-gAA ^{3'}	5'-ggC ^{3'}	5'-ggT ^{3'}	5'-CTC ^{3'}	5'-gTg ^{3'}	5'-CTC ^{3'}	5'-CCT ^{3'}	5'-CgA ^{3'}	5'-CAC ^{3'}
		67 (286)		70 (295)	67 (286)	73 (305)	71 (299)	70 (295)	58 (260)	73 (305)	74 (307)	73 (305)	86 (344)
		5'-gAg ^{3'}		5'-CTg ^{3'}	5'-gAg ^{3'}	5'-ggC ^{3'}	5'-gCT ^{3'}	5'-CTg ^{3'}	5'-Cgg ^{3'}	5'-ggC ^{3'}	5'-Cag ^{3'}	5'-ggC ^{3'}	5'-CCA ^{3'}
		67 (286)		71 (298)	72 (303)	74 (308)				77 (317)	86 (344)	78 (319)	
		5'-gAT ^{3'}		5'-CgC ^{3'}	5'-gCg ^{3'}	5'-CCC ^{3'}				5'-AAT ^{3'}	5'-CAC ^{3'}	5'-CAC ^{3'}	
		71 (299)		71 (299)						78 (319)			
		5'-gCg ^{3'}		5'-gCT ^{3'}						5'-CAC ^{3'}			
		86 (344)		73 (305)									
		5'-CCA ^{3'}		5'-ggC ^{3'}									
Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84

INTERPRETATION TABLE											
DR low resolution SSP typing											
Amplification patterns of the DRB1*0101 to DRB1*1003 alleles											
Well ⁶											
85	86	87	88	89	90	91	92	93	94	95	96
100	85	210	195	175	100	110	110	100	215	175	Length of spec. PCR product(s)
170	105		210		140	135	175	165			
					155	170	225	240			
430	430	430	430	430	430	430	430	430	430	430	Length of int. pos. control ¹
13 (125)	16 (133)	10 (116)	10 (116)	13 (125)	5 (101)	26 (164)	13 (125)	10 (116)	28 (170)	13 (125)	5'-primer(s) ²
5'-gTC ^{3'}	5'-gTT ^{3'}	5'-gCT ^{3'}	5'-gCT ^{3'}	5'-gTC ^{3'}	5'-CAA ^{3'}	5'-gTA ^{3'}	5'-gTC ^{3'}	5'-gCT ^{3'}	5'-gAT ^{3'}	5'-gTA ^{3'}	
16 (133)		13 (125)	13 (125)		37 (197)	34 (189)	34 (189)	10 (116)			
5'-gTC ^{3'}		5'-gTC ^{3'}	5'-gTC ^{3'}		5'-gTT ^{3'}	5'-Cag ^{3'}	5'-Cag ^{3'}	5'-gCT ^{3'}			
38 (200)			16 (133)		37 (197)			57 (258)			
5'-CgT ^{3'}			5'-gTT ^{3'}		5'-gTA ^{3'}			5'-gTC ^{3'}			
			16 (133)								
			5'-gTC ^{3'}								
58 (260)	30 (175)	70 (295)	67 (286)	58 (260)	42 (213)	57 (257)	57 (257)	51 (239)	87 (346)	57 (258)	3'-primer(s) ³
5'-CCT ^{3'}	5'-gTg ^{3'}	5'-gTC ^{3'}	5'-gAA ^{3'}	5'-Cgg ^{3'}	5'-TCA ^{3'}	5'-Cag ^{3'}	5'-Cag ^{3'}	5'-CCC ^{3'}	5'-CTC ^{3'}	5'-gCg ^{3'}	
58 (260)	38 (199)	71 (299)	71 (298)	58 (260)	57 (257)	70 (295)	60 (265)	77 (317)		58 (260)	
5'-CCT ^{3'}	5'-Cag ^{3'}	5'-gCT ^{3'}	5'-CgC ^{3'}	5'-Cag ^{3'}	5'-Cag ^{3'}	5'-CTg ^{3'}	5'-gTg ^{3'}	5'-AAT ^{3'}		5'-CCT ^{3'}	
58 (260)			71 (298)		71 (298)	70 (296)	70 (296)				
5'-CCT ^{3'}			5'-CTC ^{3'}		5'-CgC ^{3'}	5'-TCC ^{3'}	5'-TCC ^{3'}				
							74 (307)				
							5'-Cag ^{3'}				
85	86	87	88	89	90	91	92	93	94	95	96
											DR
											Well No.

Negative Control

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84
DRB1 allele⁴	ser⁵												
*010101-010205, 0104-0131	1	73											
*0103	103		74										
*03010101-030107, 0304-0306, 0309, 0311-0316, 0318-0320, 0322, 0323, 0325, 0326, 0328, 0330, 0331, 0333, 0334, 0336, 0337, 0343-0345, 0347, 0348	3, 17					77	78						
*030201-0303, 0327, 0329, 0338	3, 18					77		79					
*0307, 0317, 0321, 0324, 0332, 0335, 0339-0341, 0349	3					77							
*0308	3					77	78					83	
*0310	3					77	78						
*0342	-					77							
*0346	-					77	78						
*040101-0461, 0463-0468, 0470-0472, 0474-0488	4								80				
*0462, 0469, 0473	4								80				
*07010101-070103, 0703-0717	7									81			
*080101-080203, 080401-0807, 0811, 0816, 0817, 0822, 0824, 0826, 0828, 0839	8										82		
*080302, 0810, 0812-0815, 0818, 0819, 0823, 0825, 0827, 0829-083002, 0833, 0834, 0836-0838	8										82		
*0808	-										82		
*0809, 0821, 1415	8										82		
*0820, 1318, 1347, 1355	-, 13												
*0831, 1167	8/11										82		
*0832	-										82		
*0835	-										82		
Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.
												ser ⁵	DRB1 allele ⁴
												1	*010101-010205, 0104-0131
												103	*0103
				89								3, 17	*03010101-030107, 0304-0306, 0309, 0311-0316, 0318-0320, 0322, 0323, 0325, 0326, 0328, 0330, 0331, 0333, 0334, 0336, 0337, 0343-0345, 0347, 0348
				89								3, 18	*030201-0303, 0327, 0329, 0338
				89								3	*0307, 0317, 0321, 0324, 0332, 0335, 0339-0341, 0349
85												3	*0308
						91	92					3	*0310
												-	*0342
												-	*0346
												4	*040101-0461, 0463-0468, 0470-0472, 0474-0488
				90								4	*0462, 0469, 0473
												7	*07010101-070103, 0703-0717
			88									8	*080101-080203, 080401-0807, 0811, 0816, 0817, 0822, 0824, 0826, 0828, 0839
												8	*080302, 0810, 0812-0815, 0818, 0819, 0823, 0825, 0827, 0829-083002, 0833, 0834, 0836-0838
			88	90								-	*0808
			88				92					8	*0809, 0821, 1415
		87	88	89			92					-, 13	*0820, 1318, 1347, 1355
85			88									8/11	*0831, 1167
	86						92					-	*0832
							92					-	*0835
85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84
*090102-090105, 090201, 090202, 0904- 0908	9											83	
*090106, 0903	9											83	
*100101-1003	10												84
*110101-110111, 110401-110405, 110601, 110602, 1109-111002, 111201, 111202, 1115, 1124, 112701-1130, 1132, 1133, 1135, 1137- 1139, 1143, 1144, 1146, 1147, 1149-1151, 115401, 115402, 1156, 1158, 1160-1162, 1166, 1172, 1174, 1175, 1177, 1178, 1181, 1184	11												
*110201-1103, 111101, 111102, 111401, 111402, 1116, 1120, 1121, 1136, 1140, 1141, 1148, 1159, 1163, 116501, 116502, 1168, 1170, 1176, 1180, 1183	11						78						
*1105	11												
*1107, 1153	11					77						83	
*110801, 110802, 1118- 111902, 1142, 1157	11												
*111301, 111302	11/13							w					
*1117, 1152	11, 14												
*1122	11												
*1123, 1125	11												
*1126, 1134	11							79					
*1131, 1145, 1164	11												
*1155	11												
*1169, 1182	-												
*1173, 1179	-						78						
*120101-120103, 120302, 1205-1212, 1214, 1217	12												
*120201-120204, 1213, 1215, 1218-1220	12												
Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84

Lot No.: **71G**

Lot-specific information

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85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.
						91						9	*090102-090105, 090201, 090202, 0904- 0908
												9	*090106, 0903
												10	*100101-1003
85		87	88									11	*110101-110111, 110401-110405, 110601, 110602, 1109-111002, 111201, 111202, 1115, 1124, 112701-1130, 1132, 1133, 1135, 1137- 1139, 1143, 1144, 1146, 1147, 1149-1151, 115401, 115402, 1156, 1158, 1160-1162, 1166, 1172, 1174, 1175, 1177, 1178, 1181, 1184
85		87	88									11	*110201-1103, 111101, 111102, 111401, 111402, 1116, 1120, 1121, 1136, 1140, 1141, 1148, 1159, 1163, 116501, 116502, 1168, 1170, 1176, 1180, 1183
85			88									11	*1105
85												11	*1107, 1153
85		87										11	*110801, 110802, 1118- 111902, 1142, 1157
85						91	92					11	*111301, 111302
85						91	92					11/13	*1117, 1152
85												11	*1122
85		87	88				92					11	*1123, 1125
85												11	*1126, 1134
85		87					92					11	*1131, 1145, 1164
85			88				92					11	*1155
85			88		90							-	*1169, 1182
85		87										-	*1173, 1179
	86											12	*120101-120103, 120302, 1205-1212, 1214, 1217
	86		88									12	*120201-120204, 1213, 1215, 1218-1220
85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.

Lot No.: **71G**

Lot-specific information

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Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84
*1204	12										82		
*1216	12										82		
*130101-130201, 130203, 1304, 1308, 1316, 1320, 1322-1324, 1327-1329, 1331, 1332, 1334-1336, 1338-1341, 1348, 1351, 1352, 1354, 1359, 1361, 1363-1365, 1368-1376, 1378-1380, 1383, 1384, 1387, 1391- 1393	11, 13						78						
*130202, 130301- 130303, 1310, 133301- 133303, 1337, 1366, 1381, 1388-1390, 1394	13						78						
*130501, 130502, 130701, 130702, 131101, 131102, 131401- 131403, 1321, 1342, 1346, 1349-135002, 1362	6, 13												
*1306, 1312, 1325, 1330, 1356, 1358, 1360, 1377, 1382	6, 13												
*1309	13												
*1313, 1484	13, -												
*1315, 1319, 1353, 1357	13						78	79					
*1317	13						78			81			
*1326	13							79					
*1343	13						78						
*1344, 1386	-							79					
*1345	13						78						
*1367	13												
*1385	-						78	79					
*140101, 140102, 1404, 140701, 140702, 1410, 1426, 1428, 1431, 1435, 1438, 1439, 1454, 1455, 1457, 1460-1462, 1470, 1471, 1475, 1476, 1479, 1486-1488, 1490	14, 1404, 4/6												
Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84

Lot No.: **71G**

Lot-specific information

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85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.
	86											12	*1204
	86		88									12	*1216
		87	88	89								11, 13	*130101-130201, 130203, 1304, 1308, 1316, 1320, 1322-1324, 1327-1329, 1331, 1332, 1334-1336, 1338-1341, 1348, 1351, 1352, 1354, 1359, 1361, 1363-1365, 1368-1376, 1378-1380, 1383, 1384, 1387, 1391- 1393
		87		89								13	*130202, 130301- 130303, 1310, 133301- 133303, 1337, 1366, 1381, 1388-1390, 1394
		87	88	89								6, 13	*130501, 130502, 130701, 130702, 131101, 131102, 131401- 131403, 1321, 1342, 1346, 1349-135002, 1362
		87		89								6, 13	*1306, 1312, 1325, 1330, 1356, 1358, 1360, 1377, 1382
			88	89								13	*1309
		87		89			92					13, -	*1313, 1484
		87	88	89								13	*1315, 1319, 1353, 1357
			88									13	*1317
		87	88	89								13	*1326
		87	88			91	92					13	*1343
				89								-	*1344, 1386
		87	88		90		92					13	*1345
		87	88									13	*1367
		87		89								-	*1385
					90	91	92					14, 1404, 4/6	*140101, 140102, 1404, 140701, 140702, 1410, 1426, 1428, 1431, 1435, 1438, 1439, 1454, 1455, 1457, 1460-1462, 1470, 1471, 1475, 1476, 1479, 1486-1488, 1490
85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.

Lot No.: **71G**

Lot-specific information

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Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84
*140103, 1408, 142302, 1434, 1472, 1492N	14, null												
*1402, 140601, 140602, 1409, 1413, 1417, 1420, 1429, 1430, 1433, 1441, 1447, 1448, 1451, 1480, 1483	6, 14							79					
*140301, 140302, 1412, 1440, 1463, 1467, 1477, 1478, 1485	1403, 14, 6							79					
*140501-140503, 1414, 142301, 142303, 1436, 1443-1445, 1456, 1459, 1464, 1491	14												
*1411	14										82		
*1416	6						78						
*1418, 1481	14							79					
*1419, 1421	14						78	79					
*1422	14												
*1424	14							79					
*1425, 1453	6,13												
*1427	14							79					
*143201, 143202	14							w					
*1437	14												
*1442	-												
*1446, 1452	14												
*1449	14							79					
*1450	14									81			
*1458	14												
*1465	6							w					
*1468	14										82		
*1469	-												
*1473													
*1474	-												
*1482	-						78						
*1489	-							79					
*15010101-1520, 1522-1524, 1526, 1528-1533, 1535-1541	15			75									
*1521	2			75									
*1525	-			75		77							
*1527, 1534	-			75									
Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.
						91	92					14, null	*140103, 1408, 142302, 1434, 1472, 1492N
				89		91						6, 14	*1402, 140601, 140602, 1409, 1413, 1417, 1420, 1429, 1430, 1433, 1441, 1447, 1448, 1451, 1480, 1483
		87		89			92					1403, 14, 6	*140301, 140302, 1412, 1440, 1463, 1467, 1477, 1478, 1485
				89		91	92					14	*140501-140503, 1414, 142301, 142303, 1436, 1443-1445, 1456, 1459, 1464, 1491
						91	92					14	*1411
		87	88		90	91	92					6	*1416
				89		91	92					14	*1418, 1481
		87		89		w						14	*1419, 1421
		87	88		90	91	92					14	*1422
			88	89								14	*1424
		87	88		90		92					6,13	*1425, 1453
		87	88	89			92					14	*1427
					90	91	92					14	*143201, 143202
			88	89	90							14	*1437
				89			92					-	*1442
						91						14	*1446, 1452
					90	91	92					14	*1449
					90	91	92					14	*1450
					90		92					14	*1458
				89		91	92					6	*1465
					90	91	92					14	*1468
		87			90		92					-	*1469
			88		90	91	92						*1473
		87			90	91	92					-	*1474
					90	91	92					-	*1482
				89			92					-	*1489
												15	*15010101-1520, 1522- 1524, 1526, 1528-1533, 1535-1541
							w					2	*1521
												-	*1525
						91						-	*1527, 1534
85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84
*160101-1603, 160501, 160502, 1607-1615	16				76								
*1604	16				76								
Well No.	DR	73	74	75	76	77	78	79	80	81	82	83	84
DRB1 allele ⁴	ser ⁵												
DRB3*01010201-0114, DRB3*0201-0225, DRB3*030101-0303	52												
DRB4*01010101- 01030101, 010302-0107	53												
DRB4*01030102N	null												
DRB5*010101-0114, DRB5*0202-0205	51												
Well No.		73	74	75	76	77	78	79	80	81	82	83	84

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 430 base pairs, for most wells, or a band of 515 base pairs, for some wells. Well number 73 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DR low resolution typing.

In addition, well number 83 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to allow kit identification.

²The codon, and in parenthesis the nucleotide, in the 2nd exon, matching the specificity-determining 3'-end of the primer is given. Codon and 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 codon, and in parenthesis the nucleotide, in the 2nd exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Codon and 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.

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.
												16	*160101-1603, 160501, 160502, 1607-1615
							w					16	*1604
85	86	87	88	89	90	91	92	93	94	95	96	DR	Well No.
												ser ⁵	DRB1 allele ⁴
								93				52	DRB3*01010201-0114, DRB3*0201-0225, DRB3*030101-0303
									94			53	DRB4*01010101- 01030101, 010302-0107
					90				94			null	DRB4*01030102N
										95		51	DRB5*010101-0114, DRB5*0202-0205
85	86	87	88	89	90	91	92	93	94	95	96		Well No.

⁴The sequence of the DRB1*0702 allele has been shown to be identical to DRB1*070101.
 The sequence of the DRB1*080301 allele has been shown to be identical to DRB1*080302.
 The sequence of the DRB1*090101 allele has been shown to be identical to DRB1*090102.
 The sequence of the DRB1*1171 allele has been shown to be identical to DRB1*110201.
 The sequence of the DRB1*120301 allele has been shown to be identical to DRB1*1201.
 The DRB1*1466 allele has been renamed DRB1*143202.
 The sequence of the DRB1*1606 allele has been shown to be identical to DRB1*1605.
 The sequence of the DRB3*010101 allele has been shown to be identical to DRB3*01010201.
 The DRB4*0101102N allele has been renamed DRB4*0103102N.
 The sequence of the DRB5*0201 allele has been shown to be identical to DRB5*0202.
 The DRB1*0809, DRB1*0821 and DRB1*1415 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1415 allele.

The DRB1*0820, DRB1*1318, DRB1*1347 and DRB1*1355 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1318, DRB1*1347 and DRB1*1355 alleles.
 The DRB1*0831 and DRB1*1167 alleles yield identical amplification patterns except for the specific PCR product yielded by the DRB3 gene in linkage disequilibrium with the DRB1*1167 allele.
 The DRB1*1313 and DRB1*1484 alleles yield identical amplification patterns in the DPB1-DQ-DR kit. These alleles can be separated by the respective high resolution primer sets.
 Due to sharing of sequence motifs in codon 38, DRB3*0114 will also be amplified in primer mixes 77, 78 and 89 in addition to primer mix 93.

⁵The serological reactivity of all DRB alleles is not known. In this table we use the information in the HLA Dictionary 2004 on the www.ebi.ac.uk/imgt/hla web site and the information available at the www.worldmarrow.org web site, the expert-assigned serological grouping in Tissue Antigens (2009) 73:95-170 and have also inferred the serological grouping from the naming of the sequence-defined allele.

⁶Primer mix 96 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the control primer pair is 430 base pairs.

‘ser’, serological HLA specificity.

‘w’, may be weakly amplified.

CELL LINE VALIDATION SHEET																			
DPB1 SSP kit																			
				Well															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				200965501	200737502	200737503	200853204	200737505	200965506	200737507	200737508	200737509	200737510	200737511	200965512	200737513	200737514	200965515	200737516
	IHWC cell line	DPB1	Lot No.:																
1	9001 SA	*0402		- - - - - - - +															
2	9280 LK707	*0401		- - + + - - - +															
3	9011 E4181324	*0201	*0401	- - + + - - - +															
4	9275 GU373	*0402	*1701	- - - - - - - +															
5	9009 KAS011	*0401	*1401	- - + + - - - +															
6	9353 SM	*0501		- - - - - - - +															
7	9020 QBL	*0202		- - - - - - - +															
8	9025 DEU	*0401		- - + + - - - +															
9	9026 YAR	*0401		- - + + - - - +															
10	9107 LKT3	*0501		- - - - - - - +															
11	9051 PITOUT	*0401		- - + + - - - +															
12	9052 DBB	*0401		- - + + - - - +															
13	9004 JESTHOM	*0401		- - + + - - - +															
14	9071 OLGA	*0301	*0402	+ + - - - - - +															
15	9075 DKB	*0401		- - + + - - - +															
16	9037 SWEIG007	*0402		- - - - - - - +															
17	9282 CTM3953540	*0101	*0201	+ + + + + + + +															
18	9257 32367	*0402	*1801	- + - - - - - +															
19	9038 BM16	*0201		- - - - - - - +															
20	9059 SLE005	*0301		+ + - - - - - +															
21	9064 AMALA	*0402		- - - - - - - +															
22	9056 KOSE	*0201	*1301	+ - + - - - - +															
23	9124 IHL	*0201		- - - - - - - +															
24	9035 JBUSH	*0401		- - + + - - - +															
25	9049 IBW9	*0101		+ + + + + + - -															
26	9285 WT49	*0401		- - + + - - - +															
27	9191 CH1007	*0301	*0902	+ + + - - - - +															
28	9320 BEL5GB	*0201	*0401	- - + + - - - +															
29	9050 MOU	*0201		- - - - - - - +															
30	9021 RSH	*0101	*0402	+ + + + + + + +															
31	9019 DUCAF	*0202		- - - - - - - +															
32	9297 HAG	*0201	*0301	+ + - - - - - +															
33	9098 MT14B	*0402		- - - - - - - +															
34	9104 DHIF	*0401		- - + + - - - +															
35	9302 SSTO	*0401		- - + + - - - +															
36	9024 KT17	*0501		- - - - - - - +															
37	9065 HHKB	*0401		- - + + - - - +															
38	9099 LZL	*0402		- - - - - - - +															
39	9315 CML	*0401	*1401	- - + + - - - +															
40	9134 WHONP199	*0501		- - - - - - - +															
41	9055 H0301	*0501		- - - - - - - +															
42	9066 TAB089	*0202		- - - - - - - +															
43	9076 T7526	*0902		+ - + - - - - +															
44	9057 TEM	*0401		- - + + - - - +															
45	9239 SHJO	*0301	*0402	+ + - - - - - +															
46	9013 SCHU	*0402		- - - - - - - +															
47	9045 TUBO	*0201	*0402	- - - - - - - +															
48	9303 TER-ND	*0201	*0401	- - + + - - - +															

CELL LINE VALIDATION SHEET																			
DPB1 SSP kit																			
			Lot No.:	Well															
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				200737517	200737518	200737519	200737520	200737521	200737522	200737523	200737524	200737525	200965526	200737527	200965528	200737529	200737530	200737531	200737532
	IHWC cell line	DPB1																	
1	9001 SA	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2	9280 LK707	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
3	9011 E4181324	*0201	*0401	-	-	-	-	-	+	-	-	-	-	-	-	-	-		
4	9275 GU373	*0402	*1701	+	+	-	-	-	-	-	-	-	+	+	+	+	-		
5	9009 KAS011	*0401	*1401	+	+	+	+	+	+	-	-	-	-	-	+	-	-		
6	9353 SM	*0501		-	-	-	-	-	-	+	+	+	-	-	-	-	-		
7	9020 QBL	*0202		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8	9025 DEU	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
9	9026 YAR	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
10	9107 LKT3	*0501		-	-	-	-	-	-	+	+	+	-	-	-	-	+		
11	9051 PITOUT	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
12	9052 DBB	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
13	9004 JESTHOM	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
14	9071 OLGA	*0301	*0402	+	+	+	+	+	-	-	-	-	-	-	-	-	-		
15	9075 DKB	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
16	9037 SWEIG007	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
17	9282 CTM3953540	*0101	*0201	-	-	-	-	-	-	-	-	-	-	-	-	-	+		
18	9257 32367	*0402	*1801	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
19	9038 BM16	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
20	9059 SLE005	*0301		+	+	+	+	+	-	-	-	-	-	-	-	-	-		
21	9064 AMALA	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
22	9056 KOSE	*0201	*1301	+	-	-	+	-	-	-	-	-	-	+	-	-	+		
23	9124 IHL	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
24	9035 JBUSH	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
25	9049 IBW9	*0101		-	-	-	-	-	-	-	-	-	-	-	-	-	+		
26	9285 WT49	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
27	9191 CH1007	*0301	*0902	+	+	+	+	+	-	-	-	-	-	+	-	-	+		
28	9320 BEL5GB	*0201	*0401	-	-	-	-	-	+	-	-	-	-	-	-	-	-		
29	9050 MOU	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
30	9021 RSH	*0101	*0402	-	-	-	-	-	-	-	-	-	-	-	-	-	+		
31	9019 DUCAF	*0202		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
32	9297 HAG	*0201	*0301	+	+	+	+	+	-	-	-	-	-	-	-	-	-		
33	9098 MT14B	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
34	9104 DHIF	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
35	9302 SSTO	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
36	9024 KT17	*0501		-	-	-	-	-	-	+	+	+	-	-	-	-	+		
37	9065 HHKB	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
38	9099 LZL	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
39	9315 CML	*0401	*1401	+	+	+	+	+	+	-	-	-	-	-	-	+	-		
40	9134 WHONP199	*0501		-	-	-	-	-	-	+	+	+	-	-	-	-	+		
41	9055 H0301	*0501		-	-	-	-	-	-	+	+	+	-	-	-	-	+		
42	9066 TAB089	*0202		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
43	9076 T7526	*0902		+	-	-	+	-	-	-	-	-	-	+	-	-	+		
44	9057 TEM	*0401		-	-	-	-	-	+	-	-	-	-	-	-	-	-		
45	9239 SHJO	*0301	*0402	+	+	+	+	+	-	-	-	-	-	-	-	-	-		
46	9013 SCHU	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-		
47	9045 TUBO	*0201	*0402	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
48	9303 TER-ND	*0201	*0401	-	-	-	-	-	+	-	-	-	-	-	-	-	-		

CELL LINE VALIDATION SHEET																			
DPB1 SSP kit																			
				Well															
				33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				200965533	200737534	200737535	200737536	200737537	200965538	200737539	200965540	200737541	200967842	200737543	200965544	200737545	200737546	200853247	200965548
	IHWC cell line	DPB1	Lot No.:																
1	9001 SA	*0402		- - - - + -															
2	9280 LK707	*0401		- -															
3	9011 E4181324	*0201 *0401		- -															
4	9275 GU373	*0402 *1701		- - - - - - + -															
5	9009 KAS011	*0401 *1401		- + -															
6	9353 SM	*0501		- -															
7	9020 QBL	*0202		- -															
8	9025 DEU	*0401		- -															
9	9026 YAR	*0401		- -															
10	9107 LKT3	*0501		- -															
11	9051 PITOUT	*0401		- -															
12	9052 DBB	*0401		- -															
13	9004 JESTHOM	*0401		- -															
14	9071 OLGA	*0301 *0402		- - - - - - + -															
15	9075 DKB	*0401		- -															
16	9037 SWEIG007	*0402		- - - - - - + -															
17	9282 CTM3953540	*0101 *0201		- -															
18	9257 32367	*0402 *1801		- - - - + + -															
19	9038 BM16	*0201		- -															
20	9059 SLE005	*0301		- -															
21	9064 AMALA	*0402		- - - - - - + -															
22	9056 KOSE	*0201 *1301		+ -															
23	9124 IHL	*0201		- -															
24	9035 JBUSH	*0401		- -															
25	9049 IBW9	*0101		- -															
26	9285 WT49	*0401		- -															
27	9191 CH1007	*0301 *0902		+ -															
28	9320 BEL5GB	*0201 *0401		- -															
29	9050 MOU	*0201		- -															
30	9021 RSH	*0101 *0402		- - - - - - + -															
31	9019 DUCAF	*0202		- -															
32	9297 HAG	*0201 *0301		- -															
33	9098 MT14B	*0402		- - - - - - + -															
34	9104 DHIF	*0401		- -															
35	9302 SSTO	*0401		- -															
36	9024 KT17	*0501		- -															
37	9065 HHKB	*0401		- -															
38	9099 LZL	*0402		- -															
39	9315 CML	*0401 *1401		- + -															
40	9134 WHONP199	*0501		- -															
41	9055 H0301	*0501		- -															
42	9066 TAB089	*0202		- -															
43	9076 T7526	*0902		+ -															
44	9057 TEM	*0401		- -															
45	9239 SHJO	*0301 *0402		- -															
46	9013 SCHU	*0402		- - - - - - + -															
47	9045 TUBO	*0201 *0402		- - - - - - + -															
48	9303 TER-ND	*0201 *0401		- -															

CELL LINE VALIDATION SHEET																			
DQ low/DQB1*03 medium to high resolution primer set																			
				Well															
				49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
				200966601	200966602	200966603	200966604	200966605	200966606	200966607	200966608	200963001	200963005	200963006	200963007	200963008	200963009	200963010	200963011
IHWC cell line		DQB1																	
1	9001 SA	*0501		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	9280 LK707	*0601	*0202	-	+	+	-	-	-	-	-	-	-	-	-	-	-	+	
3	9011 E4181324	*0601		-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	
4	9275 GU373	*0201		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
5	9009 KAS011	*0502		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	9353 SM	*0302	*0601	-	+	-	-	+	-	+	-	-	-	-	-	-	-	+	
7	9020 QBL	*0201		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
8	9025 DEU	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
9	9026 YAR	*0302		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	
10	9107 LKT3	*0401		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	
11	9051 PITOUT	*0202		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
12	9052 DBB	*0303		-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	
13	9004 JESTHOM	*0501		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	9071 OLGA	*0402		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	
15	9075 DKB	*0303		-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	
16	9037 SWEIG007	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
17	9282 CTM3953540	*0201	*0603	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	
18	9257 32367	*0602	*0202	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	
19	9038 BM16	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
20	9059 SLE005	*0604		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	9064 AMALA	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
22	9056 KOSE	*0503	*0604	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	9124 IHL	*0503	*0601	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	9035 JBUSH	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
25	9049 IBW9	*0202		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
26	9285 WT49	*0201		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
27	9191 CH1007	*0401	*0501	+	-	-	-	-	-	-	+	-	-	-	-	-	-	-	
28	9320 BEL5GB	*0202	*0301	-	-	+	+	-	-	+	-	+	-	-	-	-	-	-	
29	9050 MOU	*0202		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	9021 RSH	*0402		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	
31	9019 DUCAF	*0201		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
32	9297 HAG	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
33	9098 MT14B	*0302		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	
34	9104 DHIF	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
35	9302 SSTO	*0305		-	-	-	-	+	-	+	-	-	-	+	-	-	-	-	
36	9024 KT17	*0302		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	
37	9065 HHKB	*0603		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
38	9099 LZL	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
39	9315 CML	*0201	*0301	-	-	+	+	-	-	+	-	+	-	-	-	-	-	-	
40	9134 WHONP199	*0202	*0303	-	-	+	-	-	+	+	-	-	-	-	-	-	-	-	
41	9055 H0301	*0609		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
42	9066 TAB089	*0601		-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	
43	9076 T7526	*0303		-	-	-	-	-	+	+	-	-	-	-	-	-	-	-	
44	9057 TEM	*0503		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45	9239 SHJO	*0202		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	
46	9013 SCHU	*0602		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	
47	9045 TUBO	*0301		-	-	-	+	-	-	+	-	+	-	-	-	-	-	-	
48	9303 TER-ND	*0501		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Lot No.: **71G**

Lot-specific information

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CELL LINE VALIDATION SHEET												
DQ low/DQB1*03 medium to high resolution primer set												
				Well								
				65	66	67	68	69	70	71	72	
				200963012	200967966	200963014	200963016	200967969	200963018	200963019	200963022	
				Production No.								
		IHWC cell line	DQB1									
1	9001	SA	*0501		-	-	-	-	-	-	-	
2	9280	LK707	*0601	*0202	-	-	-	-	-	-	-	
3	9011	E4181324	*0601		-	-	-	-	-	-	-	
4	9275	GU373	*0201		-	-	-	-	-	-	-	
5	9009	KAS011	*0502		-	-	-	-	-	-	-	
6	9353	SM	*0302	*0601	-	-	-	-	-	+	-	
7	9020	QBL	*0201		-	-	-	-	-	-	-	
8	9025	DEU	*0301		+	-	+	+	-	-	+	
9	9026	YAR	*0302		-	-	-	-	-	+	-	
10	9107	LKT3	*0401		-	-	-	-	-	-	-	
11	9051	PITOUT	*0202		-	-	-	-	-	-	-	
12	9052	DBB	*0303		-	-	-	+	-	+	-	
13	9004	JESTHOM	*0501		-	-	-	-	-	-	-	
14	9071	OLGA	*0402		-	-	-	-	-	+	-	
15	9075	DKB	*0303		-	-	-	+	-	+	-	
16	9037	SWEIG007	*0301		+	-	+	+	-	-	+	
17	9282	CTM3953540	*0201	*0603	-	-	-	-	-	-	+	
18	9257	32367	*0602	*0202	-	-	-	-	-	-	-	
19	9038	BM16	*0301		+	-	+	+	-	-	+	
20	9059	SLE005	*0604		-	-	-	-	-	-	-	
21	9064	AMALA	*0301		+	-	+	+	-	-	+	
22	9056	KOSE	*0503	*0604	-	-	-	-	-	-	-	
23	9124	IHL	*0503	*0601	-	-	-	-	-	-	-	
24	9035	JBUSH	*0301		+	-	+	+	-	-	+	
25	9049	IBW9	*0202		-	-	-	-	-	-	-	
26	9285	WT49	*0201		-	-	-	-	-	-	-	
27	9191	CH1007	*0401	*0501	-	-	-	-	-	+	-	
28	9320	BEL5GB	*0202	*0301	+	-	+	+	-	-	+	
29	9050	MOU	*0202		-	-	-	-	-	-	-	
30	9021	RSH	*0402		-	-	-	-	-	+	-	
31	9019	DUCAF	*0201		-	-	-	-	-	-	-	
32	9297	HAG	*0301		+	-	+	+	-	-	+	
33	9098	MT14B	*0302		-	-	-	-	-	+	-	
34	9104	DHIF	*0301		+	-	+	+	-	-	+	
35	9302	SSTO	*0305		-	-	-	-	-	+	-	
36	9024	KT17	*0302		-	-	-	-	-	+	-	
37	9065	HHKB	*0603		-	-	-	-	-	-	+	
38	9099	LZL	*0301		+	-	+	+	-	-	+	
39	9315	CML	*0201	*0301	+	-	+	+	-	-	+	
40	9134	WHONP199	*0202	*0303	-	-	-	+	-	+	-	
41	9055	H0301	*0609		-	-	-	-	-	-	-	
42	9066	TAB089	*0601		-	-	-	-	-	-	-	
43	9076	T7526	*0303		-	-	-	+	-	+	-	
44	9057	TEM	*0503		-	-	-	-	-	-	-	
45	9239	SHJO	*0202		-	-	-	-	-	-	-	
46	9013	SCHU	*0602		-	-	-	-	-	-	-	
47	9045	TUBO	*0301		+	-	+	+	-	-	+	
48	9303	TER-ND	*0501		-	-	-	-	-	-	-	

CELL LINE VALIDATION SHEET																					
DR low resolution primer set																					
				Prod. No.:	Well																
					73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	
	IHWC cell line	DRB1			200968501	200960302	200968503	200960304	200963405	200960306	200960307	200963408	200960309	200960310	200960311	200960312	200960313	200960314	200960315	200960316	
1	9001 SA	*0101			+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*1502	*0405		+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*1502			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*0301			-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*1601			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*0407	*0803		-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-
7	9020 QBL	*0301			-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU	*0401			-	-	-	+	-	-	-	+	-	-	-	-	-	-	-	-	-
9	9026 YAR	*0402			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*0405			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*0701			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
12	9052 DBB	*0701			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*0101			-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+
14	9071 OPGA	*0802			-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+
15	9075 DKB	*0901			-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
16	9037 SWEIG007	*1101			-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+
17	9282 CTM3953540	*0301	*1301		-	-	-	-	-	+	-	-	-	-	-	-	+	-	+	+	+
18	9257 32367	*0901	*1101		-	-	-	-	-	-	-	-	-	-	+	-	+	-	+	+	+
19	9038 BM16	*1201			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
20	9059 SLE005	*1302			-	-	-	-	-	+	-	-	-	-	-	-	-	-	+	+	+
21	9064 AMALA	*1402			-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*1302	*1401		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	+
23	9124 IHL	*0803	*1414		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
24	9035 JBUSH	*1101			-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+
25	9049 IBW9	*0701			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
26	9285 WT49	*0301			-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*0405	*1001		-	-	-	-	-	-	-	+	-	-	-	+	-	-	-	-	-
28	9320 BEL5GB	*0416	*0701		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
29	9050 MOU	*0701			-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
30	9021 RSH	*0302			-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*0301			-	-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*1303			-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-
33	9098 MT14B	*0404			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*1101			-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	+	+
35	9302 SSTO	*0403			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
36	9024 KT17	*0403	*0406		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*1301			-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	+
38	9099 LZL	*1402			-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
39	9315 CML	*0301	*0401		-	-	-	-	+	+	-	+	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*0701	*0901		-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-
41	9055 H0301	*1302			-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	+
42	9066 TAB089	*0803			-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
43	9076 T7526	*0901			-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
44	9057 TEM	*1401			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*0701			-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*1501			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*1104	*1201		-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
48	9303 TER-ND	*0103			-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lot No.: **71G**

Lot-specific information

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CELL LINE VALIDATION SHEET													
DR low resolution primer set													
				Well									
				89	90	91	92	93	94	95			
				Prod. No.:	200960317	200968518	200963419	200960320	200968521	200960322	200960323		
IHWC cell line			DRB1										
1	9001	SA	*0101	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*1502	*0405	-	-	-	-	-	-	+	+	-
3	9011	E4181324	*1502		-	-	-	-	-	-	-	+	-
4	9275	GU373	*0301		+	-	-	-	+	-	-	-	-
5	9009	KAS011	*1601		-	-	-	-	-	-	-	+	-
6	9353	SM	*0407	*0803	-	-	-	-	-	-	+	-	-
7	9020	QBL	*0301		+	-	-	-	+	-	-	-	-
8	9025	DEU	*0401		-	-	-	-	-	-	+	+	-
9	9026	YAR	*0402		-	-	-	-	-	-	+	-	-
10	9107	LKT3	*0405		-	-	-	-	-	-	+	-	-
11	9051	PITOUT	*0701		-	-	-	-	-	-	+	-	-
12	9052	DBB	*0701		-	+	-	-	-	-	+	-	-
13	9004	JESTHOM	*0101		-	-	-	-	-	-	-	-	-
14	9071	OLGA	*0802		-	-	-	-	-	-	-	-	-
15	9075	DKB	*0901		-	-	+	-	-	-	+	-	-
16	9037	SWEIG007	*1101		-	-	-	-	-	+	-	-	-
17	9282	CTM3953540	*0301	*1301	-	-	-	-	-	+	-	+	-
18	9257	32367	*0901	*1101	-	-	-	-	-	+	+	-	-
19	9038	BM16	*1201		-	-	-	-	-	+	-	-	-
20	9059	SLE005	*1302		+	-	-	-	+	-	-	-	-
21	9064	AMALA	*1402		+	-	+	-	+	-	-	-	-
22	9056	KOSE	*1302	*1401	+	+	+	+	+	-	-	-	-
23	9124	IHL	*0803	*1414	+	-	+	+	+	-	-	-	-
24	9035	JBUSH	*1101		-	-	-	-	-	+	-	-	-
25	9049	IBW9	*0701		-	-	-	-	-	-	+	-	-
26	9285	WT49	*0301		+	-	-	-	+	-	-	-	-
27	9191	CH1007	*0405	*1001	-	-	-	-	-	-	+	-	-
28	9320	BEL5GB	*0416	*0701	-	-	-	-	-	-	+	-	-
29	9050	MOU	*0701		-	-	-	-	-	-	+	-	-
30	9021	RSH	*0302		+	-	-	-	+	-	-	-	-
31	9019	DUCAF	*0301		+	-	-	-	+	-	-	-	-
32	9297	HAG	*1303		+	-	-	-	+	-	-	-	-
33	9098	MT14B	*0404		-	-	-	-	-	-	+	-	-
34	9104	DHIF	*1101		-	-	-	-	-	+	-	-	-
35	9302	SSTO	*0403		-	-	-	-	-	-	+	-	-
36	9024	KT17	*0403	*0406	-	-	-	-	-	-	+	-	-
37	9065	HHKB	*1301		+	-	-	-	+	-	-	-	-
38	9099	LZL	*1402		+	-	+	-	+	-	-	-	-
39	9315	CML	*0301	*0401	+	-	-	-	+	+	-	-	-
40	9134	WHONP199	*0701	*0901	-	-	-	-	-	-	+	-	-
41	9055	H0301	*1302		+	-	-	-	+	-	-	-	-
42	9066	TAB089	*0803		-	-	-	-	-	-	-	-	-
43	9076	T7526	*0901		-	-	+	-	-	-	+	-	-
44	9057	TEM	*1401		-	+	+	+	+	-	-	-	-
45	9239	SHJO	*0701		-	-	-	-	-	-	+	-	-
46	9013	SCHU	*1501		-	-	-	-	-	-	-	+	-
47	9045	TUBO	*1104	*1201	-	-	-	-	-	+	-	-	-
48	9303	TER-ND	*0103		-	-	-	-	-	-	-	-	-

Lot No.: **71G**

Lot-specific information

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CERTIFICATE OF ANALYSIS

Olerup SSP® DPB1-DQ-DR SSP Combi Tray

Product number: 101.709-24/06 – including *Taq* pol.

Lot number: 71G

Expiry date: 2012-January-01

Number of tests: 24 tests – Product No. 101.709-24

6 tests – Product No. 101.709-06

Number of wells per test: 95 + 1

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2009-655-01	17	2007-375-17	33	2009-655-33
2	2007-375-02	18	2007-375-18	34	2007-375-34
3	2007-375-03	19	2007-375-19	35	2007-375-35
4	2008-532-04	20	2007-375-20	36	2007-375-36
5	2007-375-05	21	2007-375-21	37	2007-375-37
6	2009-655-06	22	2007-375-22	38	2009-655-38
7	2007-375-07	23	2007-375-23	39	2007-375-39
8	2007-375-08	24	2007-375-24	40	2009-655-40
9	2007-375-09	25	2007-375-25	41	2007-375-41
10	2007-375-10	26	2009-655-26	42	2009-678-42
11	2007-375-11	27	2007-375-27	42	2007-375-43
12	2009-655-12	28	2009-655-28	43	2009-655-44
13	2007-375-13	29	2007-375-29	45	2007-375-45
14	2007-375-14	30	2007-375-30	46	2007-375-46
15	2009-655-15	31	2007-375-31	47	2008-532-47
16	2007-375-16	32	2007-375-32	48	2009-655-48

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
49	2009-666-01	57	2009-630-01	65	2009-630-12
50	2009-666-02	58	2009-630-05	66	2009-679-66
51	2009-666-03	59	2009-630-06	67	2009-630-14
52	2009-666-04	60	2009-630-07	68	2009-630-16
53	2009-666-05	61	2009-630-08	69	2009-679-69
54	2009-666-06	62	2009-630-09	70	2009-630-18
55	2009-666-07	63	2009-630-10	71	2009-630-19
56	2009-666-08	64	2009-630-11	72	2009-630-22

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
73	2009-685-01	81	2009-603-09	89	2009-603-17
74	2009-603-02	82	2009-603-10	90	2009-685-18
75	2009-685-03	83	2009-603-11	91	2009-634-19
76	2009-603-04	84	2009-603-12	92	2009-603-20
77	2009-634-05	85	2009-603-13	93	2009-685-21
78	2009-603-06	86	2009-603-14	94	2009-603--22
79	2009-603-07	87	2009-603-15	95	2009-603--23
80	2009-634-08	88	2009-603-16		

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

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

No DNAs carrying the alleles to be amplified by primer pairs in solutions 38, 41, 42, 44, 46, 60 to 63, 66 and 69 were available. The specificity of most of the primers in these solutions was tested by separately adding one or more additional 5'-primer, respectively one or more additional 3'-primer.

In primer solutions 44 and 61 the 5'-primers were not possible to test.

In primer solutions 41, 42 and 46 the 3'-primers were not possible to test.

Additional 5'-primers or 3'-primers in primer solutions 40, 43, 47, 50, 73, 75, 78, 81 to 84, 87, 88, 90, 92 and 93 were tested by separately adding one or more additional 3'-primer, respectively one or more additional 5'-primer.

In primer solutions 15, 25, 32, 33, 38, 59, 66, 69, 75, 76, 81, 82, 85 and 88 one or more of the 5'-primers were not possible to test. In primer solutions 8, 24, 28, 48, 63, 66, 67, 69, 73, 75 and 85 one or more of the 3'-primers were not possible to test.

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

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

Date of approval: 2010-July-02

Approved by:

Quality Control Supervisor

Lot No.: **71G**

Lot-specific information

www.olerup-ssp.com

Declaration of Conformity

Product name: *Olerup* SSP® DPB1-DQ-DR SSP Combi Tray
Product number: 101.709-24/06
Lot number: 71G

Intended use: DPB1, DQB1 and DRB1 low resolution histocompatibility testing

Manufacturer: *Olerup* SSP AB
Hasselstigen 1
SE-133 33 Saltsjöbaden, Sweden
Phone: +46-8-717 88 27
Fax: +46-8-717 88 18

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

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

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

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

Saltsjöbaden, Sweden
2010-July-02

Olle Olerup
Managing Director

Lot No.: **71G**

Lot-specific information

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