

Olerup SSP® DRB1*14

Product number:	101.117-12/03 – including <i>Taq</i> pol.
Lot number:	17F
Expiry date:	2010-September-01
Number of tests:	12 tests – Product No. 101.117-12 3 tests – Product No. 101.117-03
Number of wells per test:	42
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. 17F.

CHANGES COMPARED TO THE PREVIOUS **OLERUP SSP® DRB1*14** LOT

The DRB1*14 specificity and interpretation tables have been updated for the DRB1 alleles reported since the previous *Olerup SSP®* DRB1*14 lot (**Lot No. Y29**) was made.

Ten wells have been added to the DRB1*14 kit,
wells **33 to 42**.

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

Well	5'-primer	3'-primer	rationale
3	-	-	Change of positive control primer pair.
29		Modified	Modified 3'-primer to improve signal strength.
33	New	New	New primer pair to separate the DRB1*1408 and *1152 alleles.
34	New	New	New primer pair to separate the DRB1*1411, *1204 and *1152 alleles.
35	New	New	New primer pair to separate the DRB1*1415, *0809, *0821 and *0835 alleles.
36	New	New	New primer pair to separate the DRB1*1419 and *1385 alleles.
37	New	New	New primer pair to separate the DRB1*143201, 143202 and *1117 alleles.

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38	New	New	New primer pair to separate the DRB1*1437, *1348 and *1358 alleles.
39	New	New	New primer pair to separate DRB1*1401/1402 and *1401/1451.
40	New	New	New primer pair for the *1471 allele.
41	New	New	New primer pair for the *1475 allele.
42	New	New	New primer pair for the *1476 and *1479 alleles.

Changes in revision R01 compared to R00:

1. Interpretation pattern for the DRB1*1445 allele added to the Interpretation Table.

PRODUCT DESCRIPTION

DRB1*14 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB1*1401 to DRB1*1481 alleles.

PLATE LAYOUT

Each test consists of 42 PCR reactions in a 48 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	empty	empty	empty	empty	empty	empty

The 48 well cut PCR plate is marked with 'DRB1*14' in silver/gray ink.

Well No. 1 is marked with the Lot No. '17F'.

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

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

INTERPRETATION

The interpretation of DRB1*14 PCR-SSP subtypings will be influenced by five DRB1*01 alleles, all DRB1*03 alleles, eight DRB1*04 alleles, one DRB1*07 allele, all DRB1*08 alleles, most DRB1*11 alleles, all DRB1*12 alleles, all DRB1*13 alleles, four DRB1*15 allele and one DRB1*16 allele, when present on the other haplotype. In addition, the DRB3*0216 allele will be amplified by primer mix 25.

UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DRB1*14 alleles, i.e. **DRB1*1401 to DRB1*1481**, recognized by the HLA Nomenclature Committee in July 2008¹ will give rise to unique amplification patterns by the primers in the DRB1*14 subtyping kit.

The DRB1*14 subtyping kit cannot distinguish the DRB1*140101 to 140103 alleles or the DRB1*140301 and 140302 alleles or the DRB1*140501 and 140502 alleles or the DRB1*140701 and 140702 alleles, the DRB1*142301 and 142302 alleles or the DRB1*143201 and 143202 alleles.

¹DRB alleles listed on the IMGT/HLA web page 2008-July-11, release 2.22.0, www.ebi.ac.uk/imgt/hla.

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The 80 phenotypically different DRB1*14 alleles give rise to 82 different amplification patterns, that can be combined in 3 403 homozygous and heterozygous combinations. 676 of these genotypes do not give rise to unique amplification patterns. (The different lengths of the specific PCR products in lanes 8, 9, 11, 14, 20, 21, 24, 25, 26, 27, 29 and 32 were not considered in these calculations.)

```

+++++-- ---++-- -+---+- ---++-- +----- -- 1438,1448 = 1447,1460
+++++-- ---++-- -+---+- ---++-- +----- -- 1402,1438 = 1438,1447 =
1447,1454
+++++-- ---++-- -+---+- ---++-- +----- -- 1402,1460 = 1448,1454 =
1448,1460
+++--+- ---++-- ++---+- ---++-- +----- -- 1421,1454 = 1421,1470
+++--+- ---++-- -+---+- ---++-- +----- -- 1433,1454 = 1433,1470
+++--+- ---++-- -+---+- ---++-- +----- -- 1417,1454 = 1417,1470
+++--+- ---++-- -+---+- ---++-- +----- -- 1454,1480 = 1470,1480
++----- ---++-- ++---+- ---++-- +----- -- 1441,1455 = 1455,1477
++----- ---++-- ++---+- ---++-- +----- -- 1403,1455 = 1440,1455
++----- ++----- +----- +----- +----- -- 1405,1449 = 1449,1456
++----- ++----- +----- +----- +----- -- 140503,1449 = 1449,1462
++----- ---++-- -+---+- ---++-- +----- -- 1408,1449 = 1423,1449
++----- ---++-- +----- +----- +----- -- 1414,1449 = 144401,1449
++----- ---++-- -+---+- ---++-- +----- -- 1407,1449 = 144402,1449
++-+-++- ++----- -+---+- ---++-- +----- -- 1454,1478 = 1462,1478
++-+-++- ---++-- ++---+- ---++-- +----- -- 1412,1455 = 1455,1481
++-+-++- ---++-- +----- +----- +----- -- 1418,1432 = 1418,1474
++-+-++- ---++-- -+---+- ---++-- +----- -- 1432,1481 = 1474,1481
++-+-++- ---++-- ---++-- ---++-- +----- -- 1420,1470 = 1470,1481
++----- ---++-- ++---+- ---++-- +----- -- 1407,1455 = 144402,1455
++----- ---++-- -+---+- ---++-- +----- -- 1407,1426 = 1426,144402
++----- ++----- +----- +----- +----- -- 1405,1422 = 1422,1456
++----- ++----- +----- +----- +----- -- 140503,1422 = 1422,1462
++----- ++----- +----- +----- +----- -- 1405,1453 = 1453,1456
++----- ++----- +----- +----- +----- -- 1405,1425 = 1425,1456
++----- ++----- +----- +----- +----- -- 1405,1469 = 1456,1469
++----- ++----- +----- +----- +----- -- 1405,1407 = 1407,1456 =
144401,1462
++----- ++----- -+---+- ---++-- +----- +----- -- 140503,1407 = 1407,1462 =
144402,1462
++----- -++++-- -+---+- ---++-- +----- +----- -- 1422,1439 = 1425,1439
++----- -+---+- -+---+- ---++-- +----- +----- -- 1407,1439 = 1439,144402
++----- -++++-- -+---+- ---++-- +----- +----- -- 1408,1453 = 1425,1472
++----- -++++-- -+---+- ---++-- +----- +----- -- 1408,1422 = 1422,1423
++----- -++++-- -+---+- ---++-- +----- +----- -- 1425,1435 = 1453,1454
++----- -++++-- -+---+- ---++-- +----- +----- -- 1422,1458 = 1425,1454
++----- -++++-- -+---+- ---++-- +----- +----- -- 1432,1442 = 1442,1474
++----- -++++-- -+---+- ---++-- +----- +----- -- 1432,1436 = 1436,1474
++----- -++++-- -+---+- ---++-- +----- +----- -- 1407,1434 = 1432,144401 =
144401,1474
++----- -++++-- -+---+- ---++-- +----- +----- -- 1414,1432 = 1414,1474
++----- -++++-- ++---+- ---++-- +----- +----- -- 1407,1416 = 1416,144402
++----- -++++-- -+---+- ---++-- +----- +----- -- 1407,1432 = 1407,1474 =
1432,144402 = 144402,1474
++----- ---++-- +----- +----- +----- -- 1407,1472 = 1435,144401
++----- ---++-- -+---+- ---++-- +----- +----- -- 1407,1408 = 1407,1423 =
144401,1454
++----- ---++-- -+---+- ---++-- +----- +----- -- 1407,1435 = 1435,144402

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++-++--	---++--	-+---+--	++-----	+-----	--	1401,1407 = 1401,144402
++-++--	---++--	-+---+--	+---+---	+-----	--	1407,1438 = 1438,144402
++-++--	---++--	-+---+--	+---+---	+-----	--	1407,1460 = 144402,1460
++-++--	---++--	-+---+--	+---+---	+-----	--	1407,1470 = 144402,1470
++-++--	---++--	-+---+--	+-----	+-----	+-	1407,1475 = 144402,1475
++-++--	---++--	-+---+--	+-----	+-----	--	1407,1454 = 144402,1454
++-+-++	---++--	-+---+--	+-----	+-----	-+	1407,1476 = 1407,1479
++-+-+--	---++--	-+---+--	+-----	+-----	--	1414,1422 = 1422,144401
++-+-+--	---++--	-+---+--	+-----	+-----	--	1407,1422 = 1422,144402
++-+-+--	---++--	-+---+--	+-----	+-----	--	1414,1453 = 144401,1453
++-+-+--	---++--	-+---+--	+-----	+-----	--	1414,1425 = 1425,144401
++-+-+--	---++--	-+---+--	+-----	+-----	--	1414,1469 = 144401,1469
++-+-+--	---++--	-+---+--	+-----	+-----	--	1407,1414 = 1407,144401
++-+-+--	---++--	-+---+--	+-----	+-----	--	1407,1407 = 1407,144402
++-+++	---+---	-++-+--	-----	+-----	-+	1455,1476 = 1455,1479
++-++-	+---+---	-++-+--	-----	+-----	--	140503,1455 = 1455,1462
++-++-	-+---+--	-++-+--	-----	+-----	--	1410,1455 = 1455,1457
++-++-	-+---+--	-++-+--	-----	+-----	--	1416,1455 = 1432,1455 = 1455,1474
++-++-	---++--	-++-+--	-----	+-----	--	1408,1455 = 1423,1455
++-++-	+---+---	-++-+--	-----	+-----	-+	1462,1476 = 1462,1479
++-++-	+---+---	-++-+--	-----	+-----	--	140503,1426 = 1426,1462 = 1461,1462
++-++-	-+---+--	-++-+--	-----	+-----	-+	1439,1476 = 1439,1479
++-++-	-+---+--	-++-+--	-----	+-----	--	1426,1439 = 1439,1461
++-++-	---++--	-++-+--	-----	+++-----	--	1426,1431 = 1431,1454 = 1431,1458
++-++-	---++--	-++-+--	-----	+-----	--	1426,1432 = 1426,1474
++-++-	-+---+--	-++-+--	-----	+++-----	--	1404,1432 = 1431,1432
++-++-	-+---+--	-++-+--	-----	+-----	-+	1432,1476 = 1432,1479
++-++-	---++--	-++-+--	-----	+-----	--	1426,1473 = 1454,1473 = 1458,1473
++-++-	---++--	-++-+--	-----	+++-----	--	1426,1428 = 1428,1454 = 1428,1458
++-++-	---++--	-++-+--	-----	+-----	--	1408,1426 = 1423,1426
++-++-	---++--	-++-+--	+-----	+++-----	--	1426,1468 = 1454,1468 = 1458,1468
++-++-	---++--	-++-+--	-+-----	+-----	-+	1401,1476 = 1401,1479
++-++-	---++--	-++-+--	---+-----	+++-----	--	1404,1438 = 1426,1450 = 1438,1450 = 1450,1454 = 1450,1458
++-++-	---++--	-++-+--	---+-----	+-----	-+	1438,1476 = 1438,1479
++-++-	---++--	-++-+--	---+-----	+-----	-+	1460,1476 = 1460,1479
++-++-	---++--	-++-+--	-----	+++-----	--	1426,1471 = 1454,1471 = 1458,1471
++-++-	---++--	-++-+--	-----	+++-----	--	1404,1426 = 1404,1454 = 1404,1458
++-++-	---++--	-++-+--	-----	+-----	++	1475,1476 = 1475,1479
++-++-	---++--	-++-+--	-----	+-----	-+	1426,1476 = 1426,1479 = 1454,1476 = 1454,1479 = 1458,1479
++-++-	---++--	-++-+--	-----	+-----	--	1426,1458 = 1458,1461
++-++-	---++--	-++-+--	-----	+-----	-+	1435,1476 = 1435,1479
++-++-	---++--	-++-+--	-+-----	+-----	--	1401,1426 = 1401,1461
++-++-	---++--	-++-+--	---+-----	+-----	--	1426,1438 = 1438,1461
++-++-	---++--	-++-+--	---+-----	+-----	--	1426,1460 = 1460,1461
++-++-	---++--	-++-+--	-----	+-----	+-	1426,1475 = 1461,1475
++-++-	---++--	-++-+--	-----	+-----	--	1426,1426 = 1426,1454 = 1426,1461 = 1454,1461

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++---+--	---++---	---+---+	-----+--	+---+-----	+	1470, 1476 = 1470, 1479
++---+--	++---+--	---+---+	-----	+-----	--	140503, 1439 = 1439, 1462
++---+--	++---+--	++---+--	-----	+-----	--	1432, 1443 = 1443, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1456 = 1456, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1445 = 1445, 1474
++---+--	++---+--	++---+--	-----	+-----	--	1405, 1432 = 1405, 1474 = 1434, 1462
++---+--	++---+--	++---+--	-----	+-----	--	140503, 1416 = 1416, 1462
++---+--	++---+--	++---+--	-----	+-----	--	140503, 1432 = 140503, 1474 = 1432, 1462 = 1462, 1474
++---+--	++---+--	++---+--	-----	+-----	--	1432, 1465 = 1465, 1474
++---+--	++---+--	++---+--	-----	+-----	--	1443, 1454 = 1443, 1462
++---+--	++---+--	++---+--	-----	+-----	--	1405, 1435 = 1462, 1472
++---+--	++---+--	++---+--	++---+--	+-----	--	1454, 1456 = 1456, 1462
++---+--	++---+--	++---+--	++---+--	+-----	--	1401, 1405 = 1401, 1445 = 1445, 1454 = 1445, 1462
++---+--	++---+--	++---+--	-----	+-----	--	1405, 1454 = 1405, 1462 = 1408, 1462 = 1423, 1462
++---+--	++---+--	++---+--	-----	+-----	--	1454, 1465 = 1462, 1465
++---+--	++---+--	++---+--	-----	+-----	--	1437, 1454 = 1437, 1462
++---+--	++---+--	++---+--	-----	+-----	--	140503, 1435 = 1435, 1462
++---+--	++---+--	++---+--	++---+--	+-----	--	1401, 140503 = 1401, 1462
++---+--	++---+--	++---+--	++---+--	+-----	--	140503, 1438 = 1438, 1462
++---+--	++---+--	++---+--	++---+--	+-----	--	140503, 1460 = 1460, 1462
++---+--	++---+--	++---+--	++---+--	+-----	--	140503, 1470 = 1462, 1470
++---+--	++---+--	++---+--	++---+--	+-----	+	140503, 1475 = 1462, 1475
++---+--	++---+--	++---+--	++---+--	+-----	--	140503, 1454 = 140503, 1462 = 1454, 1462 = 1462, 1462
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1439 = 1439, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1439 = 1423, 1439
++---+--	++---+--	++---+--	++---+--	+-----	--	1410, 1439 = 1410, 1458 = 1439, 1439 = 1439, 1454 = 1439, 1458
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1416 = 1416, 1423
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1464 = 1464, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1472 = 1434, 1435 = 1472, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1459 = 1459, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1432 = 1408, 1474 = 1423, 1432 = 1423, 1474 = 1434, 1454
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1458 = 1458, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1435 = 1435, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1401, 1432 = 1401, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1438 = 1438, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1460 = 1460, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1470 = 1470, 1474
++---+--	++---+--	++---+--	++---+--	+-----	+	1432, 1475 = 1474, 1475
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1454 = 1454, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1434 = 1434, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1432, 1432 = 1432, 1474
++---+--	++---+--	++---+--	++---+--	+-----	--	1454, 1464 = 1464, 1470
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1435 = 1423, 1435 = 1454, 1472
++---+--	++---+--	++---+--	++---+--	+-----	--	1401, 1408 = 1401, 1423
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1438 = 1423, 1438
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1460 = 1423, 1460
++---+--	++---+--	++---+--	++---+--	+-----	--	1454, 1459 = 1459, 1470
++---+--	++---+--	++---+--	++---+--	+-----	--	1408, 1470 = 1423, 1470

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++---+--	---++--+	-+---+--	-----	+-----	+-	1408,1475 = 1423,1475
++---+--	---++--+	-+---+--	-----	+-----	--	1408,1454 = 1423,1454
++---+--	---++---	-+---+--	-+-----	+-----	--	1401,1401 = 1401,1454
++---+--	---++---	-+---+--	---+-----	+-----	--	1438,1438 = 1438,1454
++---+--	---++---	-+---+--	---+-----	+-----	--	1454,1460 = 1460,1460
++---+--	---++---	-+---+--	-----	+-----	+-	1454,1475 = 1475,1475
+-----	+-----	++---+--	-----	+-----	--	1405,1419 = 1419,1443
+-----	---+-----	-+---+--	-----	+-----	--	1402,1464 = 1418,1430 = 1451,1464
+-----	---+-----	-+---+--	-----	+-----	--	1402,1459 = 1409,1418 = 1451,1459
+-----	---+-----	-----	-----	+-----	--	1402,1418 = 1418,1451
+-----	---+-----	-+---+--	-----	+-----	--	1406,1464 = 1417,1418 = 1418,1433
+-----	---+-----	-+---+--	-----	+-----	--	1406,1459 = 1418,1480
+-----	---+-----	-+---+--	-----	+-----	--	1409,1464 = 1414,1433 = 1430,1459
+-----	---+-----	-+---+--	-----	+-----	--	1414,1417 = 1442,1480
+-----	---+-----	-+---+--	-----	+-----	--	1430,1464 = 1433,1442
+-----	---+-----	-+---+--	-----	+-----	--	1409,1442 = 1414,1430
+-----	---+-----	++---+--	-----	+-----	--	1405,1421 = 1421,1443
+-----	---+-----	-+---+--	-----	+-----	--	1417,1459 = 1423,1433 = 1433,1459 = 1464,1480
+-----	---+-----	-+---+--	-----	+-----	--	1417,1464 = 1433,1464
+-----	---+-----	-+---+--	-----	+-----	--	1418,1436 = 1441,1459
+-----	---+-----	-+---+--	-----	+-----	--	1420,1436 = 1423,1441
+-----	---+-----	-+---+--	+-----	+-----	--	1418,144401 = 1418,144402
+-----	---+-----	++---+--	-----	+-----	--	1414,1477 = 1436,1440 = 1436,1477
+-----	---+-----	-+---+--	-----	+-----	--	1414,1441 = 1436,1441
+-----	---+-----	-+---+--	-----	+-----	--	1405,1478 = 1423,1478
+-----	---+-----	-+---+--	-----	+-----	--	1405,1418 = 140503,1418
+-----	---+-----	-+---+--	-----	+-----	--	1418,1464 = 1420,1464 = 1464,1481
+-----	---+-----	-+---+--	-----	+-----	--	1418,1423 = 1418,1459 = 1420,1459 = 1459,1481
+-----	---+-----	-----	-----	+-----	--	1418,1418 = 1418,1420 = 1418,1481
+-----	-----	-----	-----	+-----	--	1420,1481 = 1481,1481
+-----	---+-----	++---+--	+-----	+-----	--	1443,144401 = 1443,144402
+-----	---+-----	-+---+--	-----	+-----	--	1405,1442 = 140503,1442
+-----	---+-----	-+---+--	-----	+-----	--	1405,1436 = 140503,1436
+-----	---+-----	-+---+--	++-----	+-----	--	144401,1445 = 144402,1445
+-----	---+-----	-+---+--	+-----	+-----	--	1405,144401 = 1405,144402 = 140503,144401 = 1414,1456 = 144401,1456 = 144402,1456
+-----	---+-----	-+---+--	-----	+-----	--	1405,1414 = 140503,1414
+-----	---+-----	-+---+--	+-----	+-----	--	1434,144401 = 1434,144402
+-----	---+-----	-+---+--	+-----	+-----	--	144401,1472 = 144402,1472
+-----	---+-----	-+---+--	+-----	+-----	--	1408,144401 = 1408,144402
+-----	---+-----	-+---+--	+-----	+-----	--	144401,1464 = 144402,1464
+-----	---+-----	-+---+--	-----	+-----	--	1414,1464 = 1442,1459
+-----	---+-----	-+---+--	+-----	+-----	--	144401,1459 = 144402,1459
+-----	---+-----	-+---+--	+-----	+-----	--	1423,144401 = 1423,144402
+-----	---+-----	-+---+--	+-----	+-----	--	1414,1468 = 144401,1468
+-----	---+-----	-+---+--	+-----	+-----	--	1411,144401 = 1411,144402
+-----	---+-----	-+---+--	+-----	+-----	--	1442,144401 = 1442,144402
+-----	---+-----	-+---+--	+-----	+-----	--	1436,144401 = 1436,144402
+-----	---+-----	-+---+--	-----	+-----	--	1414,1436 = 1436,1436

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+-----+-----+-----+-----+-----+-----	--	1414,144401 = 1414,144402 = 144401,144401 = 144401,144402
+-----+-----+-----+-----+-----+-----	--	1405,1468 = 1456,1468
+-----+-----+-----+-----+-----+-----	--	1404,1434 = 1431,1434
+-----+-----+-----+-----+-----+-----	+	1434,1476 = 1434,1479
+-----+-----+-----+-----+-----+-----	+	1408,1476 = 1408,1479
+-----+-----+-----+-----+-----+-----	+	1472,1476 = 1472,1479
+-----+-----+-----+-----+-----+-----	--	1405,1434 = 140503,1434
+-----+-----+-----+-----+-----+-----	--	1405,1411 = 140503,1411
+-----+-----+-----+-----+-----+-----	--	1405,1472 = 140503,1472
+-----+-----+-----+-----+-----+-----	--	1405,1408 = 140503,1408
+-----+-----+-----+-----+-----+-----	--	1405,1443 = 140503,1443 = 1423,1443 = 1443,1443
+-----+-----+-----+-----+-----+-----	--	1405,1465 = 1423,1465
+-----+-----+-----+-----+-----+-----	--	1405,1437 = 1423,1437
+-----+-----+-----+-----+-----+-----	--	1405,1464 = 140503,1464
+-----+-----+-----+-----+-----+-----	--	1405,1456 = 140503,1456 = 1423,1456 = 1456,1456
+-----+-----+-----+-----+-----+-----	--	1405,1445 = 140503,1445 = 1423,1445 = 1445,1445
+-----+-----+-----+-----+-----+-----	--	1405,1459 = 140503,1459
+-----+-----+-----+-----+-----+-----	--	1405,1405 = 1405,140503 = 1405,1423 = 140503,1423
+-----+-----+-----+-----+-----+-----	--	1408,1434 = 1423,1434
+-----+-----+-----+-----+-----+-----	--	1408,1408 = 1408,1423
+-----+-----+-----+-----+-----+-----	--	1423,1464 = 1459,1464
+-----+-----+-----+-----+-----+-----	--	1423,1459 = 1459,1459
+-----+-----+-----+-----+-----+-----	--	1416,1477 = 1474,1477
+-----+-----+-----+-----+-----+-----	--	1403,1416 = 1416,1440 = 1440,1474
+-----+-----+-----+-----+-----+-----	--	1403,1422 = 1422,1427
+-----+-----+-----+-----+-----+-----	--	1403,1453 = 1427,1453
+-----+-----+-----+-----+-----+-----	--	1403,1425 = 1425,1427 = 1427,1469
+-----+-----+-----+-----+-----+-----	--	1404,1449 = 1431,1449
+-----+-----+-----+-----+-----+-----	+	1449,1476 = 1449,1479
+-----+-----+-----+-----+-----+-----	--	1422,1428 = 1425,1428
+-----+-----+-----+-----+-----+-----	--	1422,1450 = 1425,1450
+-----+-----+-----+-----+-----+-----	--	1422,1471 = 1425,1471
+-----+-----+-----+-----+-----+-----	--	1404,1422 = 1404,1425 = 1422,1431 = 1425,1431
+-----+-----+-----+-----+-----+-----	--	1422,1468 = 1425,1468
+-----+-----+-----+-----+-----+-----	+	1422,1476 = 1422,1479 = 1425,1479
+-----+-----+-----+-----+-----+-----	--	1422,1473 = 1425,1473 = 1469,1473
+-----+-----+-----+-----+-----+-----	--	1404,1453 = 1431,1453
+-----+-----+-----+-----+-----+-----	--	1404,1469 = 1431,1469
+-----+-----+-----+-----+-----+-----	--	1422,1425 = 1422,1469
+-----+-----+-----+-----+-----+-----	--	1425,1453 = 1453,1469
+-----+-----+-----+-----+-----+-----	--	1425,1425 = 1425,1469
+-----+-----+-----+-----+-----+-----	--	1404,1416 = 1416,1431
+-----+-----+-----+-----+-----+-----	+	1416,1476 = 1416,1479
+-----+-----+-----+-----+-----+-----	--	1404,1474 = 1431,1474
+-----+-----+-----+-----+-----+-----	+	1474,1476 = 1474,1479
+-----+-----+-----+-----+-----+-----	--	1410,1416 = 1416,1457 = 1457,1474
+-----+-----+-----+-----+-----+-----	--	1415,1416 = 1415,1474

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-+-----	--+-+---	-++-+--	-----	+-----	--	1416, 1416 = 1416, 1474
-----+	-----	-----	-----	-----	--	1402, 1478 = 1413, 1478
-----+	-----	-----	-----	-----	--	1403, 1417 = 1412, 1430
-----+	-----	-----	-----	-----	--	1403, 1480 = 1409, 1412
-----+	-----	-----	-----	-----	--	1402, 1412 = 1403, 1406
-----+	-----	-----	-----	-----	--	1419, 1433 = 1421, 1451
-----+	-----	-----	-----	-----	--	1402, 1433 = 1417, 1451 =
						1433, 1451
-----+	-----	-----	-----	-----	--	1413, 1421 = 1421, 1424
-----+	-----	-----	-----	-----	--	1402, 1421 = 1417, 1419 =
						1419, 1421
-----+	-----	-----	-----	-----	--	1402, 1417 = 1406, 1430
-----+	-----	-----	-----	-----	--	1402, 1480 = 1406, 1409
-----+	-----	-----	-----	-----	--	1402, 1463 = 1413, 1463 =
						1413, 1467
-----+	-----	-----	-----	-----	--	1402, 1450 = 1404, 1447 =
						1447, 1450
-----+	-----	-----	-----	-----	--	1402, 1451 = 1451, 1451
-----+	-----	-----	-----	-----	--	1413, 1419 = 1419, 1424
-----+	-----	-----	-----	-----	--	1402, 1419 = 1419, 1419
-----+	-----	-----	-----	-----	--	1402, 1413 = 1413, 1413 =
						1413, 1424
-----+	-----	-----	-----	-----	--	1402, 1447 = 1447, 1447
-----+	-----	-----	-----	-----	--	1402, 1448 = 1448, 1448
-----+	-----	-----	-----	-----	--	1404, 1429 = 1406, 1428 =
						1428, 1429
-----+	-----	-----	-----	-----	--	1406, 1452 = 1420, 1452
-----+	-----	-----	-----	-----	--	1406, 1433 = 1420, 1433
-----+	-----	-----	-----	-----	--	1406, 1429 = 1420, 1429 =
						1429, 1429
-----+	-----	-----	-----	-----	--	1406, 1421 = 1420, 1421
-----+	-----	-----	-----	-----	--	1406, 1417 = 1417, 1420
-----+	-----	-----	-----	-----	--	1406, 1480 = 1420, 1480
-----+	-----	-----	-----	-----	--	1406, 1406 = 1406, 1420
-----+	-----	-----	-----	-----	--	1409, 1417 = 1430, 1480
-----+	-----	-----	-----	-----	--	1417, 1433 = 1433, 1433
-----+	-----	-----	-----	-----	--	1417, 1421 = 1421, 1421
-----+	-----	-----	-----	-----	--	1404, 1452 = 1431, 1452
-----+	-----	-----	-----	-----	--	1403, 1478 = 1424, 1478 =
						1463, 1478 = 1467, 1478
-----+	-----	-----	-----	-----	--	1403, 1473 = 1427, 1473
-----+	-----	-----	-----	-----	--	1403, 1457 = 1440, 1457
-----+	-----	-----	-----	-----	--	1403, 1427 = 1427, 1427
-----+	-----	-----	-----	-----	--	1403, 1415 = 1415, 1440
-----+	-----	-----	-----	-----	--	1403, 1477 = 1440, 1441 =
						1440, 1477 = 1441, 1477 =
						1477, 1477
-----+	-----	-----	-----	-----	--	1403, 1440 = 1440, 1440
-----+	-----	-----	-----	-----	--	1403, 1463 = 1424, 1463 =
						1463, 1463 = 1463, 1467
-----+	-----	-----	-----	-----	--	1403, 1467 = 1467, 1467
-----+	-----	-----	-----	-----	--	1412, 1478 = 1420, 1478 =
						1478, 1478
-----+	-----	-----	-----	-----	--	1412, 1412 = 1412, 1420
-----+	-----	-----	-----	-----	--	1410, 1476 = 1410, 1479
-----+	-----	-----	-----	-----	--	1404, 1411 = 1411, 1431
-----+	-----	-----	-----	-----	--	1431, 1476 = 1431, 1479
-----+	-----	-----	-----	-----	--	1404, 1431 = 1431, 1431 =
						1431, 1461

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-----+ -----++-- ---+----- ----- --+----- -+ 1473,1476 = 1473,1479
-----+ -----++-- ---+----- ----- --+----- -- 1461,1473 = 1473,1473
-----+ -----++-- ---+----- ----- --+----- -+ 1428,1476 = 1428,1479
-----+ -----++-- ---+----- ----- --+----- -- 1404,1428 = 1428,1428 =
1428,1461
-----+ -----++-- ---+----- +----- --+----- -+ 1468,1476 = 1468,1479
-----+ -----++-- ---+----- +----- -+----- -- 1461,1468 = 1468,1468
-----+ -----++-- ---+----- ---+----- --+----- -+ 1450,1476 = 1450,1479
-----+ -----++-- ---+----- ---+----- --+----- -- 1404,1450 = 1450,1450 =
1450,1461
-----+ -----++-- ---+----- ----- --+-----+ -+ 1471,1476 = 1471,1479
-----+ -----++-- ---+----- ----- --+-----+ -- 1404,1471 = 1461,1471 =
1471,1471
-----+ -----++-- ---+----- ----- --+----- -+ 1404,1476 = 1404,1479
-----+ -----++-- ---+----- ----- --+----- -- 1404,1404 = 1404,1461
-----+ -----++-- ---+----- ----- --+----- -+ 1461,1476 = 1461,1479 =
1476,1479 = 1479,1479

```

1405 = 140501-140502

SPECIFICITY TABLE

DRB1*14 SSP subtyping

Specificities and sizes of the PCR products of the 42 primer mixes used for DRB1*14 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of contr. band ²	Amplified DRB1*14 alleles ³	Other amplified DRB alleles ^{3,4}
1	210 bp	515 bp	140101-140103, 140501-140503, 140701-1408, 1414, 1418, 142301-142302, 1426, 143201- 143202, 1434- 1436, 1438, 1439, 1442-1445, 1454, 1455 ^{weakly} , 1456, 1458-1460, 1462, 1464, 1465, 1470, 1472, 1475, 1481	1113, 1117, 1152
2	175 bp	430 bp	140101-140103, 140701-140702, 1416, 1422, 1425, 1426, 143201- 143202, 1435, 1438, 1439, 1449, 1453-1455, 1458, 1460, 1462, 1469, 1470, 1474, 1475	0310, 1343, 1345
3^{5,6,7,8}	140 bp	515 bp	1402, 1406, 1409, 1413, 1417, 1419, 1421, 1429, 1430, 1433, 1446-1448, 1451, 1452, 1480	1385
4^{6,7}	85 bp	430 bp	1402-140302, 1406, 1412, 1413, 1418-1420, 1424, 1427, 1429, 1440, 1441, 1447-1449, 1451, 1463, 1467, 1477, 1478, 1481	030201-0303, 0327, 0329, 0338, 1315, 1319, 1326, 1353, 1357, 1385, 1386
5	260 bp	430 bp	1402-140302, 140701-140702, 1409, 1413, 1414,	030201-030202, 030501- 030502, 0309, 0314, 0317, 0327, 0329, 0335, 0338, 0340,

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			1419, 1422, 1424, 1425, 1427, 1430, 1436, 1440-1442, 144401-144402, 1447-1449, 1451, 1453, 1463, 1467, 1469, 1477	110101-110107, 110801- 111202, 111401-1115, 111901- 1120, 1123, 1124, 1126-1129, 1131-1133, 1137, 1139, 1145, 1149, 1151, 1153, 1161, 1162, 1164, 1166, 1168, 1169, 130201-130302, 130501- 130502, 130701-130702, 1312- 131403, 1321, 1323, 1325, 1326, 1329-1331, 1333, 1334, 1336-1339, 1341, 1345-1347, 1349-135002, 1355, 1356, 1360, 1362, 1363, 1365, 1366, 1373, 1374, 1382, 1385, 1386
6	260 bp	515 bp	140101-140103, 140501-1406, 1408, 1412, 1416- 1418, 1420, 1421, 142301-142302, 1426, 1429, 143201-1435, 1437-1439, 1443, 1445, 1454-1456, 1458-1460, 1462, 1464, 1465, 1470, 1472, 1474, 1475, 1478	030101-030106, 0303, 0304, 0306-0308, 0310-0313, 0315, 0316, 0318-0326, 0328, 0330- 0334, 0336, 0337, 0339, 0820, 110201-110404, 110601-1107, 1113, 1116-1118, 1121, 1125, 1134-1136, 1138, 1140-1144, 1146-1148, 1150, 1152, 115401- 1160, 1163, 116501-116502, 130101-130103, 1304, 1306, 1308-131102, 1315, 1318-1320, 1322, 1324, 1327, 1328, 1332, 1335, 1340, 1342-1344, 1348, 1351-1354, 1357-1359, 1361, 1364, 1368-1372, 1375-1381, 1383, 1384, 1480, 1481
7	225 bp	430 bp	140301-140302, 1412, 1427, 1440, 1455, 1463, 1467, 1477, 1478	0820, 1123, 1125, 1145, 1155, 1164, 1313, 1318, 1347, 1355
8^{6,9}	135, 170 bp	430 bp	1404, 1426, 1428, 1431, 1450, 1461, 1468, 1471, 1473, 1476, 1479	0706, 0808, 0811 ^{weakly}
9^{6,10}	130, 250 bp	430 bp	140501-140503, 1437, 1443, 1445, 1456, 1462, 1465, 1478	0312, 0410-0412, 0467, 0806, 0810, 0812, 0822, 1304, 1332, 1348, 1358, 1372, 1375, 1381, 1512
10⁵	175 bp	430 bp	1410, 1439, 1457	0462, 0469
11^{6,11}	85, 170, 215 bp	430 bp	1411, 1416, 1422, 1425, 1431- 143202, 1434, 1449, 1452, 1453,	0114, 0462, 0805, 0818, 0824, 0825, 0831, 1167, 120101- 120203, 120302-1216, 1317, 1343, 1345

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12⁷	225 bp	515 bp	1469, 1474 140101-140103, 140501-140503, 140701-1408, 1414, 1418, 142301-142302, 1426, 1433, 1435, 1436, 1438, 1439, 1442-1445, 1451, 1454, 1456, 1458- 1460, 1462, 1464, 1470, 1472, 1475	0311, 0317, 0324, 0327, 0335, 1117, 1152-115402, 1376
13^{5,6}	115 bp	430 bp	140101-140103, 1404, 140701- 1408, 1410, 1416, 1422, 1426, 1428, 1431-143202, 1434, 1435, 1438, 1439, 1449, 1450, 1454, 1455, 1460- 1462, 1468, 1470- 1475, 1479	0310, 1152, 1343
14^{6,12}	60, 130 bp	515 bp	1422, 1425, 1427, 1453, 1473	0808, 1109, 1128, 1140, 1158, 1159, 130501-130502, 1318, 1326, 1342, 135001-135002, 1363, 1608
15	185 bp	430 bp	1428, 1429	0320, 1205, 1214, 1215
16⁶	105 bp	430 bp	140501-140502, 1408, 1411, 1414, 1418, 142301- 142302, 1434, 1436, 1442- 144401, 1445, 1456, 1459, 1464, 1472	010201-010204, 110105, 110403, 110602, 1113, 1117, 1152, 115401, 1204, 1209, 130103, 1376
17	220 bp	430 bp	1419, 1421, 1443	130301-130302, 1310, 1333, 1337, 1366, 1381, 1385
18⁶	85 bp	430 bp	140101-140103, 140501-140503, 140701-1409, 1414, 1416, 1417, 1421-142302, 1425, 1426, 1430, 143201-1439, 1442-1445, 1453- 1456, 1458-1460, 1462, 1464, 1465,	030101-030106, 0304-0326, 0328, 0330-0337, 0339, 0340, 0820, 110101-110404, 110601- 1121, 1123-1129, 1131-1166, 1168, 1169, 130101-131403, 1316, 1318, 1320-1325, 1327- 1352, 1354-1356, 1358-1366, 1368-1384

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			1469, 1472, 1474, 1475, 1480	
19⁶	145 bp	430 bp	1415, 1416, 1440, 1455, 1457, 1477	0809, 0821, 0835, 1308, 1319, 1357, 1364, 1372, 1376, 1383
20^{5,6,8,13}	60, 110, 170, 215 bp	430 bp	1404, 1415, 1425, 1428, 1431, 1439, 1450, 1453, 1458, 1463, 1467-1469, 1471, 1473, 1476, 1478, 1479	0114, 0412, 0418, 080101- 080203, 080302-080404, 0806- 0817, 0819-0823, 0826-0828, 0830, 0832-0835, 1123, 1125, 1145, 1155, 1164, 1167, 1313, 1345, 1347, 1355, 1521
21¹⁴	170, 215 bp	515 bp	1413, 1424, 1437, 1463, 1465, 1478	0312, 1169, 130301-1304, 1309, 1312, 1313, 1321, 1330, 1332, 1333, 1338, 1348, 1349, 1355, 1358, 1365, 1366, 1375, 1381
22⁶	145 bp	430 bp	140101-140302, 140501-1409, 1412-1414, 1416, 1418-1420, 1422- 1427, 1429, 143201-143202, 1434, 1436-1441, 1443-1445, 1447- 1449, 1451, 1454- 1456, 1458-1460, 1462, 1463, 1467, 1469, 1470, 1474, 1475, 1477, 1478, 1480, 1481	030201-0303, 0306, 0317, 0326, 0327, 0331, 0335, 0338, 0820, 1117, 1137, 1141, 1148, 1150, 1152, 1156, 130301-130302, 130701-1308, 1312, 1313, 1319, 1326, 1332, 1333, 1336-1338, 1340, 1347-1349, 1353, 1355, 1358, 1360, 1365, 1370, 1372, 1376, 1381, 1384, 1385
23⁶	145 bp	430 bp	1417, 1421, 1430, 1433, 1435, 1442, 1453, 1464, 1465, 1472	030101-030106, 0304-030502, 0307-0315, 0318-0325, 0328- 0330, 0332-0334, 0336, 0337, 0339, 0340, 110101-110106, 110201-110404, 110601-1116, 1118-1121, 1123-1129, 1131- 1136, 1138-1140, 1142-1147, 1149, 1151, 1153-1155, 1157- 1166, 1168, 1169, 130101- 130203, 1304-1306, 1309- 131102, 131401-1316, 1318, 1320-1325, 1327-1331, 1334, 1339, 1341-1346, 135002-1352, 1354, 1356, 1357, 1359, 1361- 1364, 1366, 1368, 1369, 1371, 1373-1375, 1377-1379, 1382, 1383, 1386
24^{6,15}	115, 135 bp	430 bp	1436, 1441, 1477	0318, 1334, 1364

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25¹⁶	120, 210, 250 bp	430 bp	140701-140702, 1422, 1425, 144401-144402, 1449, 1453, 1456, 1468, 1469	0114, 0335, 0462, 0469, 0808, 0815, 1345, DRB3*0216
26^{5,8,17}	190, 250 bp	515 bp	140101-140103, 1445	
27⁵	220 bp	515 bp	1446	
28⁸	230 bp	430 bp	1438, 1447, 1450	030102, 030202, 0317, 0324, 0327, 0335, 112701, 1361
29^{6,18}	135, 175 bp	515 bp	1448, 1460	0338, 1331, 1346, 1354, 1377
30	200 bp	430 bp	1406, 1412, 1417, 1418, 1421, 1429, 1433, 1452, 1459, 1464, 1470, 1478, 1480, 1481	030101-030106, 0303, 0306- 0308, 0310-0313, 0315, 0316, 0318-0320, 0322-0324, 0326, 0328, 0332-0334, 0336, 0337, 0339, 1116, 1140, 1158, 1159, 130101-130103, 1306, 1309, 1310, 1315, 1318, 1320, 1327, 1328, 1332, 1335, 1340, 1342, 1343, 1351, 1353, 1359, 1361, 1369, 1371, 1377-1380, 1503, 1523
31⁶	80 bp	515 bp	1435, 1453, 1472	0310, 1131, 1343, 1345
32^{6,8,19}	100, 145 bp	430 bp	1413, 1419, 1421, 1463, 1478	0477, 1310, 1332, 1365, 1385
33	175 bp	430 bp	140101-140103, 140701-1408, 1416, 1422, 1425, 1426, 143201- 143202, 1434, 1435, 1438, 1439, 1449, 1453-1455, 1458, 1460, 1462, 1469, 1470, 1474, 1475	0310, 1343, 1345
34	205 bp	515 bp	1404, 1411, 1428, 1431, 1450, 1468, 1471	
35	250 bp	430 bp	1404, 1411, 1415, 1428, 1431, 1450, 1452, 1471, 1473, 1476, 1479	080401, 080404, 0806, 0810, 0812, 0822, 0828, 0831, 1167, 120101-120203, 120302-1215, 1317
36	130 bp	515 bp	1463, 1467, 1478	1116, 1120, 130101-130203, 1306, 1310, 1315, 1316, 1327, 1328, 1331, 1332, 1334-1336, 1339-1341, 1351, 1353, 1359,

				1361, 1365, 1367, 1369, 1373, 1377, 1379, 1380, 1385
37	175 bp	430 bp		0308, 110101-110404, 110601- 1121, 1123-1129, 1131-1166, 1168, 1169
38	205 bp	515 bp	1437	1372
39	155 bp		1418, 1433, 1451, 1459, 1464	
40	250 bp	430 bp	1471	
41	245 bp	430 bp	1475	
42	225 bp	515 bp	1476, 1479	

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 DRB1*14 SSP typings.

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

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

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 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DRB1*14 subtyping.

In addition, wells number 3, 6, 12, 14, 21, 26, 27, 29, 31, 34, 36, 38 and 42 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.

³For 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 sets 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.

⁴Due to the sharing of sequence motifs within the DR52 group of DRB1 alleles, all DRB1*03 alleles, all DRB1*12 alleles, all DRB1*13 alleles as well as most DRB1*11 alleles are amplified by some of the DRB1*14 primer mixes. In addition, five DRB1*01 alleles, eight DRB1*04 alleles, one DRB1*07 allele, all DRB1*08 alleles, one DRB1*09 allele, four DRB1*15 allele and one DRB1*16 allele are amplified by some of the DRB1*14 primer mixes. Finally, the DRB3*0216 allele will be amplified by primer mix 25.

⁵Primer mixes 3, 10, 13, 20, 26 and 27 have a tendency of giving rise to nonspecific amplifications.

⁶Short specific PCR fragments are less intense and not as sharp as longer specific bands.

⁷Primer mixes 3, 4 and 12 may yield less specific PCR product than the other DRB1*14 primer mixes.

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⁸Primer mixes 3, 20, 26, 28 and 32 have tendencies of giving rise to primer oligomer formation, most pronounced for primer mix 20.

⁹Primer mix 8: Specific PCR fragment of 135 bp in the DRB1*1426 and DRB1*0706 alleles. Specific PCR fragment of 170 bp in the DRB1*1404, 1428, 1431, 1450, 1461, 1468, 1471, 1473, 1476, 1479 and DRB1*0808 and 0811^{weakly} alleles.

¹⁰Primer mix 9: Specific PCR fragment of 130 bp in the DRB1*1462, 1465 and 1478 and in the DRB1*0312, 0410-0412, 0467, 0806, 0810, 0812, 0822, 1304, 1332, 1348, 1358, 1375, 1381 and 1512 alleles. Specific PCR fragment of 250 bp in the DRB1*140501-140503, 1437, 1443, 1445, 1456 and DRB1*1372 alleles.

¹¹Primer mix 11: Specific PCR fragment of 85 bp in the DRB1*1416, 1422, 1425, 1431-143202, 1434, 1449, 1453, 1469, 1474 and DRB1*0114, 0462, 1343 and 1345 alleles. Specific PCR fragment of 170 bp in the DRB1*1411 and DRB1*1167 allele. Specific PCR fragment of 215 bp in the DRB1*1431, 1452 and DRB1*0805, 0818, 0824, 0825, 120101 to 120202, 120302, 1205 to 1216 and 1317 alleles. Specific PCR fragment of 170 and 215 bp in the DRB1*0831 and 1204 alleles.

¹²Primer mix 14: Specific PCR fragment of 60 bp in the DRB1*1422, 1425, 1453, 1473 and DRB1*0808 alleles. Specific PCR fragment of 130 bp in the DRB1*1427 and DRB1*1109, 1128, 1140, 1158, 1159, 130501-130502, 1318, 1326, 1342, 135001-135002, 1363 and 1608 alleles.

¹³Primer mix 20: Specific PCR fragment of 60 bp in the DRB1*1463, 1467, 1478 and DRB1*0412, 0418, 080302, 0810, 0812, 0814, 0815, 0819, 0823, 0827, 0830, 0832-0835, 1145, 1313 and 1521 alleles. Specific PCR fragment of 110 bp in the DRB1*1425, 1453, 1458, 1469 and DRB1*0114, 0808 and 1345 alleles. Specific PCR fragment of 170 bp in the DRB1*1404, 1428, 1431, 1439, 1450, 1468, 1471, 1473, 1476, 1479 and DRB1*080101-080203, 080302-080404, 0806-0808, 0810-0817, 0819, 0820, 0822, 0823, 0826, 0828, 0830, 0833, 0834, 1123, 1125, 1145, 1155, 1164, 1167, 1313, 1347 and 1355 alleles. Specific PCR fragment of 215 bp in the DRB1*1415 and DRB1*080101 to 080203, 080302 to 080404, 0806 to 0817, 0819 to 0823, 0826 to 0828, 0830 and 0832 to 0835 alleles. Not both specific PCR fragments may be obtained in alleles being amplified by more than one primer pair.

¹⁴Primer mix 21: Specific PCR fragment of 170 bp in DRB1*1413, 1463, 1465, 1478 and DRB1*0312, 130301-1304, 1312, 1313, 1321, 1330, 1332, 1333, 1338, 1348, 1349, 1355, 1358, 1365, 1366, 1375 and 1381 alleles. Specific PCR fragment of 215 bp in the DRB1*1424, 1437 and DRB1*1169 and 1309 alleles.

¹⁵Primer mix 24: Specific PCR fragment of 115 bp in the DRB1*1441, 1477 and DRB1*1334 and 1364 alleles. Specific PCR fragment of 135 bp in the DRB1*1436 and DRB1*0318 alleles.

¹⁶Primer mix 25: Specific PCR fragment of 120 bp in the DRB1*140701-140702, 1422, 1425, 1449, 1453, 1468, 1469 and DRB1*0114, 0462, 0469, 0808, 0815, 1345 and the DRB3*0216 allele. Specific PCR fragment of 210 bp in DRB1*1456 allele. Specific PCR fragment of 250 bp in the DRB1*144401-14402 and DRB1*0335 alleles.

¹⁷Primer mix 26: Specific PCR fragment of 190 bp in the DRB1*1445 allele. Specific PCR fragment of 250 bp in the DRB1*140101 to 140103 alleles.

¹⁸Primer mix 29: Specific PCR fragment of 135 bp in the DRB1*1460 allele. Specific PCR fragment of 175 bp in the DRB1*1448 and DRB1*0338, 1331, 1346, 1354 and 1377 alleles.

¹⁹Primer mix 32: Specific PCR fragment of 100 bp in the DRB1*1413, 1463, 1478 and DRB1*0477, 1332 and 1365 alleles. Specific PCR fragment of 145 bp in the DRB1*1419, 1421 and DRB1*1310 and 1385 alleles.

INTERPRETATION TABLE																								
DRB1*14 SSP subtyping																								
Amplification patterns of the DRB1*1401 to DRB1*1481 alleles																								
	Well ⁴																							
	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.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		215	170		130						110	215			135
																				170				
																				215				
Length of int.	515	430	515	430	430	515	430	430	430	430	430	515	430	515	430	430	430	430	430	430	515	430	430	430
pos. control ¹																								
5'-primer(s) ²	13	13	37	13	13	13	13	13	16	11	16	13	34	37	37	57	13	13	37	11	13	13	13	13
	5'-g TC ³	5'-g TC ³	5'-Ag A ³	5'-g TC ³	5'-g TC ³	5'-g TC ³	5'-g TC ³	5'-g gg ³	5'-CA A ³	5'-AC C ³	5'-g T ³	5'-g TC ³	5'-CAG ³	5'-Ag A ³	5'-Ag A ³	5'-gAT ³	5'-g TC ³	5'-g TC ³	5'-g TT ³	5'-AC C ³	5'-g TC ³	5'-g TC ³	5'-g TC ³	5'-g TC ³
								16	57	13	60			60	37					16				
								5'-g T ³	5'-C TA ³	5'-A CA ³	5'-Ag C ³			5'-Ag C ³	5'-g TT ³					5'-g T ³				
								25												34				
								5'-g CA ³												5'-CAA ³				
																				67				
																				5'-AC A ³				
3'-primer(s) ³	70	57	70	28	86	86	74	57	86	57	58	74	60	67	85	78	71	28	71	57	57	47	47	38
	5'-T CC ³	5'-C Ag ³	5'-CTg ³	5'-CT C ³	5'-C AC ³	5'-C CA ³	5'-CAG ³	5'-C Ag ³	5'-C CA ³	5'-C Ag ³	5'-C CT ³	5'-C CT ³	5'-gTg ³	5'-gAA ³	5'-C Ag ³	5'-CA A ³	5'-CTT ³	5'-CT g ³	5'-CTC ³	5'-C Ag ³	5'-gCT ³	5'-g gT ³	5'-g gA ³	5'-CAG ³
			71								74						77	28	74	74	71			45
			5'-CTT ³								5'-CgC ³						5'-ggC ³	5'-CT g ³	5'-CAG ³	5'-CAG ³	5'-CgC ³			5'-CCg ³
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DRB1 allele ⁵																								
*140101-140103	1	2				6						12	13					18				22		
*1402			3	4	5																	22		
*140301-140302				4	5		7															22		
*1404								8					13						20					
*140501-140502	1					6			9			12				16		18				22		
*140503	1					6			9			12						18				22		
*1406			3	4		6																22		
*140701-140702	1	2			5							12	13					18				22		
*1408	1					6						12	13			16		18				22		
*1409			3		5													18				22		
*1410										10			13											
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

INTERPRETATION TABLE																							
DRB1*14 SSP subtyping																							
Amplification patterns of the DRB1*1401 to DRB1*1481 alleles																							
Well ⁴																							
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42						
120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.					
210	250			175			145											PCR product(s)					
250																							
430	515	515	430	515	430	515	430	430	515	430	515	430	515	430	430	430	515	Length of int.					
																		pos. control ¹					
16	16	10	13	13	30	37	37	13	16	16	37	13	16	37	16	13	16	5'-primer(s) ²					
5'-CAA ³	5'-CAA ³	5'-g CT ³	5'-g TC ³	5'-g TC ³	5'-gA C ³	5'-g TT ³	5'-Ag A ³	5'-g TC ³	5'-g TT ³	5'-g TT ³	5'-Ag A ³	5'-g TC ³	5'-CAA ³	5'-Ag A ³	5'-g TT ³	5'-g TC ³	5'-g TT ³						
60	112		16		37																		
5'-Ag C ³	5'-AC T ³		5'-g TT ³		5'-Ag A ³																		
73	67	70	77	45	86	60	57	58	70	86	67	58	71	74	86	81	77	3'-primer(s) ³					
5'-ggA ³	5'-gAT ³	5'-CTg ³	5'-TA A ³	5'-CCt ³	5'-C CA ³	5'-gTg ³	5'-gCT ³	5'-CC g ³	5'-T CC ³	5'-C CA ³	5'-gAT ³	5'-CC T ³	5'-CgC ³	5'-CCt ³	5'-CAT ³	5'-gTA ³	5'-AgT ³						
86	181			57			71						71										
5'-C AC ³	5'-gT T ³			5'-C gA ³			5'-CTT ³						5'-CTC ³										
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.					
																		DRB1 allele ⁵					
	26							33										*140101-140103					
																		*1402					
																		*140301-140302					
									34	35								*1404					
																		*140501-140502					
																		*140503					
					30													*1406					
25								33										*140701-140702					
								33										*1408					
																		*1409					
																		*1410					
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.					

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Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		215			130						215	110	215		135
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
*1411											11					16								
*1412				4		6	7															22		
*1413			3	4	5																21	22		
*1414	1				5							12				16		18				22		
*1415																			19	20				
*1416		2				6					11		13					18	19			22		
*1417			3			6												18				23		
*1418	1			4		6						12				16						22		
*1419			3	4	5													17				22		
*1420				4		6																22		
*1421			3			6												17	18			23		
*1422		2			5						11		13	14				18				22		
*142301-142302	1					6					12					16		18				22		
*1424				4	5																21	22		
*1425		2			5						11			14				18		20		22		
*1426	1	2				6		8				12	13					18				22		
*1427				4	5		7							14								22		
*1428								8					13		15					20				
*1429			3	4		6									15							22		
*1430			3		5													18					23	
*1431							8				11		13						20					
*143201-143202	1	2				6					11		13					18				22		
*1433			3			6						12						18				23		
*1434	1					6					11		13			16		18				22		
*1435	1	2				6						12	13					18				23		
*1436	1				5							12				16		18				22		24
*1437						6			9									18			21	22		
*1438	1	2				6						12	13					18				22		
*1439	1	2				6				10		12	13					18		20		22		
*1440				4	5		7												19			22		
*1441				4	5																	22		24
*1442	1				5							12				16		18					23	
*1443	1					6			9			12				16	17	18				22		
*144401	1				5							12				16		18				22		
*144402	1				5							12						18				22		
*1445	1					6			9			12				16		18				22		
*1446			3																					
*1447			3	4	5																	22		
*1448			3	4	5																	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

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120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.
210	250			175			145											PCR product(s)
250																		
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
									34	35								*1411
					30													*1412
							32											*1413
																		*1414
									35									*1415
								33										*1416
					30													*1417
					30									39				*1418
							32											*1419
																		*1420
					30		32											*1421
25								33										*1422
																		*142301-142302
																		*1424
25								33										*1425
								33										*1426
									34	35								*1427
					30													*1428
																		*1429
																		*1430
									34	35								*1431
								33										*143201-143202
					30									39				*1433
								33										*1434
					31			33										*1435
																		*1436
													38					*1437
			28					33										*1438
								33										*1439
																		*1440
																		*1441
																		*1442
25																		*1443
25																		*144401
	26																	*144402
		27																*1445
																		*1446
			28															*1447
				29														*1448
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.

Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		170			130						110	215			135
											215									215				
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
*1449		2		4	5						11		13									22		
*1450								8					13							20				
*1451			3	4	5							12										22		
*1452			3								11													
*1453		2			5						11			14				18		20			23	
*1454	1	2				6						12	13					18				22		
*1455	w	2				6	7						13					18	19			22		
*1456	1					6			9			12				16		18				22		
*1457									10										19					
*1458	1	2				6						12						18		20		22		
*1459	1					6						12				16		18				22		
*1460	1	2				6						12	13					18				22		
*1461								8					13											
*1462	1	2				6			9			12	13					18				22		
*1463				4	5		7													20	21	22		
*1464	1					6						12				16		18					23	
*1465	1					6			9									18			21	23		
*1467				4	5		7													20		22		
*1468								8					13							20				
*1469		2			5						11							18		20		22		
*1470	1	2				6						12	13									22		
*1471								8					13							20				
*1472	1					6						12	13			16		18				23		
*1473								8					13	14						20				
*1474		2				6					11		13					18				22		
*1475	1	2				6						12	13					18				22		
*1476								8												20				
*1477				4	5		7												19			22		24
*1478				4		6	7		9											20	21	22		
*1479								8					13							20				
*1480			3			6												18				22		
*1481	1			4		6																22		
*010201-010204																16								
*0114											11									20				
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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120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.
210	250			175			145											PCR product(s)
250																		
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
25			28					33	34	35								*1449
																		*1450
														39				*1451
					30					35								*1452
25					31			33										*1453
								33										*1454
								33										*1455
25																		*1456
																		*1457
								33										*1458
				30										39				*1459
				29				33										*1460
								33										*1461
							32				36							*1462
					30									39				*1463
																		*1464
																		*1465
											36							*1467
25									34									*1468
25								33										*1469
				30				33										*1470
									34	35					40			*1471
					31													*1472
										35								*1473
								33										*1474
								33								41		*1475
										35							42	*1476
																		*1477
				30		32					36							*1478
										35							42	*1479
				30														*1480
				30														*1481
																		*010201-010204
25																		*0114
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.

Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		170			130						110	215			135
											215									215				
																				215				
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
*030101, 030103- 030106, 0307, 0313, 0315, 0319, 0322, 0323, 0328, 0332- 0334, 0336, 0337, 0339, 1320, 1371, 1378						6												18				23		
*030102						6												18					23	
*030201				4	5																	22		
*030202				4	5																	22		
*0303				4	6																	22		
*0304, 0321, 0325, 0330, 131101-131102, 1322, 1324, 1344, 1352, 1368						6												18					23	
*030501-030502, 0309, 0314, 0340, 131401- 131403, 1323, 1325, 1329, 1356, 1362, 1374, 1382					5													18					23	
*0306, 0326						6												18				22		
*0308						6												18					23	
*0310		2				6							13					18					23	
*0311						6						12						18					23	
*0312						6			9									18			21		23	
*0316						6												18						
*0317					5							12						18				22		
*0318						6												18					23	24
*0320						6									15			18					23	
*0324						6						12						18					23	
*0327				4	5							12										22		
*0329, 1386				4	5																		23	
*0331, 1370, 1384						6												18				22		
*0335					5							12						18					22	
*0338				4	5																	22		
*0410, 0411, 0467, 1512									9															
*0412									9											20				
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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120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.
210	250			175			145											PCR product(s)
250																		
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
					30													*030101, 030103- 030106, 0307, 0313, 0315, 0319, 0322, 0323, 0328, 0332- 0334, 0336, 0337, 0339, 1320, 1371, 1378
			28		30													*030102
																		*030201
			28															*030202
					30													*0303
																		*0304, 0321, 0325, 0330, 131101-131102, 1322, 1324, 1344, 1352, 1368
																		*030501-030502, 0309, 0314, 0340, 131401- 131403, 1323, 1325, 1329, 1356, 1362, 1374, 1382
					30													*0306, 0326
					30							37						*0308
					30	31		33										*0310
					30													*0311
					30													*0312
					30													*0316
			28															*0317
					30													*0318
					30													*0320
			28		30													*0324
			28															*0327
																		*0329, 1386
																		*0331, 1370, 1384
25			28															*0335
				29														*0338
																		*0410, 0411, 0467, 1512
																		*0412
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.

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Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		170			130						110	215			135
											215									215				
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
*0418, 080101-080203, 080302, 080402- 080403, 0807, 0813, 0814, 0816, 0817, 0819, 0823, 0826, 0827, 0830, 0832- 0834, 1521																			20					
*0462										10	11													
*0469										10														
*0477																								
*0706								8																
*080401, 080404, 0828																			20					
*0805, 0818, 0824, 0825, 1216											11													
*0806, 0810, 0812, 0822									9											20				
*0808								8						14					20					
*0809, 0821, 0835																		19	20					
*0811								w											20					
*0815																			20					
*0820						6	7											18	20		22			
*0831, 120101-120203, 120302, 1206-1208, 1210-1213, 1317											11													
*110101-110104, 110106, 110801- 110802, 1110-111202, 111401-1115, 111901- 111902, 1124,1126, 112702, 1129, 1132, 1133, 1139, 1149, 1151, 1161, 1162, 1166, 1168					5													18			23			
*110105					5											16		18				23		
*110107					5													18						
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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Lot-specific information

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120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.
210	250			175			145											PCR product(s)
250																		
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
																		*0418, 080101-080203, 080302, 080402- 080403, 0807, 0813, 0814, 0816, 0817, 0819, 0823, 0826, 0827, 0830, 0832- 0834, 1521
25																		*0462
25																		*0469
							32											*0477
																		*0706
									35									*080401, 080404, 0828
																		*0805, 0818, 0824, 0825, 1216
										35								*0806, 0810, 0812, 0822
25																		*0808
																		*0809, 0821, 0835
																		*0811
25																		*0815
																		*0820
										35								*0831, 120101-120203, 120302, 1206-1208, 1210-1213, 1317
																		*110101-110104, 110106, 110801- 110802, 1110-111202, 111401-1115, 111901- 111902, 1124,1126, 112702, 1129, 1132, 1133, 1139, 1149, 1151, 1161, 1162, 1166, 1168
												37						*110105
												37						*110107
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.

Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		215			130						215	110	215		135
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
*110201-110402, 110404, 110601, 1107, 1118, 1121, 1134- 1136, 1138, 1142- 1144, 1146, 1147, 1157, 1160, 1163, 116501-116502						6												18					23	
*110403, 110602						6										16		18					23	
*1109, 1128					5									14				18					23	
*1113	1					6										16		18					23	
*1116						6												18					23	
*1117	1					6						12				16		18				22		
*1120					5													18					23	
*1123, 1145, 1164					5		7											18		20			23	
*1125, 1155						6	7											18		20			23	
*112701					5													18					23	
*1131					5													18					23	
*1137					5													18				22		
*1140, 1158, 1159						6								14				18					23	
*1141, 1148, 1150, 1156						6												18				22		
*1152	1					6						12	13			16		18				22		
*1153					5							12						18					23	
*115401						6						12				16		18					23	
*115402						6						12						18					23	
*1167											11									20				
*1169					5													18			21	23		
*1204, 1209											11					16								
*1205, 1214, 1215											11				15									
*130101, 130102, 1306, 1327, 1328, 1351, 1359, 1369, 1379						6												18					23	
*130103						6										16		18					23	
*130201-130203, 1339, 1341, 1373					5													18					23	
*130301-130302, 1333					5												17	18			21	22		
*1304, 1375						6			9									18			21		23	
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.: **17F**

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120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.
210	250			175			145											PCR product(s)
250																		
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
												37						*110201-110402, 110404, 110601, 1107, 1118, 1121, 1134- 1136, 1138, 1142- 1144, 1146, 1147, 1157, 1160, 1163, 116501-116502
												37						*110403, 110602
												37						*1109, 1128
												37						*1113
					30						36	37						*1116
												37						*1117
											36	37						*1120
												37						*1123, 1145, 1164
												37						*1125, 1155
			28									37						*112701
						31						37						*1131
												37						*1137
					30							37						*1140, 1158, 1159
												37						*1141, 1148, 1150, 1156
												37						*1152
												37						*1153
												37						*115401
												37						*115402
										35								*1167
												37						*1169
										35								*1204, 1209
										35								*1205, 1214, 1215
					30						36							*130101, 130102, 1306, 1327, 1328, 1351, 1359, 1369, 1379
					30						36							*130103
											36							*130201-130203, 1339, 1341, 1373
																		*130301-130302, 1333
																		*1304, 1375
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.

Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115	
PCR product(s)								170	250		170			130	185					110	215			135	
											215									170					
																				215					
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	
*130501-130502, 135001-135002, 1363					5								14				18				23				
*130701-130702, 1360					5													18				22			
*1308					6												18 19				22				
*1309						6												18			21		23		
*1310					6												17 18				23				
*1312, 1338, 1349					5													18			21	22			
*1313, 1355					5	7											18 20				21 22				
*1315				4		6																	23		
*1316																	18				23				
*1318						6	7							14				18					23		
*1319	4				6												19				22				
*1321, 1330					5													18			21		23		
*1326	4				5								14								22				
*1331					5													18					23		
*1332					6				9									18				21 22			
*1334					5													18					23 24		
*1335, 1380					6												18								
*1336					5													18				22			
*1337					5												17 18				22				
*1340						6												18				22			
*1342					6								14				18				23				
*1343		2				6					11		13					18					23		
*1345	2				5				11								18 20				23				
*1346					5													18					23		
*1347					5	7											18 20				22				
*1348, 1358						6			9									18			21	22			
*1353	4				6																22				
*1354						6												18					23		
*1357	4				6												19				23				
*1361						6												18					23		
*1364					6												18 19				23 24				
*1365					5													18			21	22			
*1366					5												17 18				21 23				
*1367																									
*1372					6				9									18 19				22			
*1376						6						12				16		18 19				22			
*1377					6												18				23				
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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For *In Vitro* Diagnostic Use.

Length of spec.	210	175	140	85	260	260	225	135	130	175	85	225	115	60	185	105	220	85	145	60	170	145	145	115
PCR product(s)								170	250		170			130						110	215			135
											215									215				
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
*1381						6			9								17	18			21	22		
*1383						6												18	19			23		
*1385			3	4	5												17					22		
*1503, 1523																								
*1608														14										
DRB1 allele ⁵																								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DRB3*0216																								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 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 DRB1*14 subtyping.

In addition, wells number 3, 6, 12, 14, 21, 26, 27, 29, 31, 34, 36, 38 and 42 contain the primer pair giving rise to the longer, 515 bp, internal positive control band in order to allow kit identification.

²The codon, in the 2nd and 3rd exon, matching the specificity-determining 3'-end of the primer is given. 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. Empty spaces indicate codon boundaries.

³The codon, in the 2nd and 3rd exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. 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. Empty spaces indicate codon boundaries.

⁴The DRB1*1466 allele has been renamed to DRB1*143202

120	190	220	230	135	200	80	100	175	205	250	130	175	205	155	250	245	225	Length of spec.
210	250			175			145											PCR product(s)
250																		
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
																		*1381
																		*1383
							32				36							*1385
					30													*1503, 1523
																		*1608
																		DRB1 allele ⁵
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.
25																		DRB3*0216
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	Well No.

⁵Primer mix 8: Specific PCR fragment of 135 bp in the DRB1*1426 and DRB1*0706 alleles. Specific PCR fragment of 170 bp in the DRB1*1404, 1428, 1431, 1450, 1461, 1468, 1471, 1473, 1476, 1479 and DRB1*0808 and 0811^{weakly} alleles.

Primer mix 9: Specific PCR fragment of 130 bp in the DRB1*1462, 1465 and 1478 and in the DRB1*0312, 0410-0412, 0467, 0806, 0810, 0812, 0822, 1304, 1332, 1348, 1358, 1375, 1381 and 1512 alleles. Specific PCR fragment of 250 bp in the DRB1*140501-140503, 1437, 1443, 1445, 1456 and DRB1*1372 alleles.

Primer mix 11: Specific PCR fragment of 85 bp in the DRB1*1416, 1422, 1425, 1431-143202, 1434, 1449, 1453, 1469, 1474 and DRB1*0114, 0462, 1343 and 1345 alleles. Specific PCR fragment of 170 bp in the DRB1*1411 and DRB1*1167 allele. Specific PCR fragment of 215 bp in the DRB1*1431, 1452 and DRB1*0805, 0818, 0824, 0825, 120101 to 120202, 120302, 1205 to 1216 and 1317 alleles. Specific PCR fragment of 170 and 215 bp in the DRB1*0831 and 1204 alleles.

Primer mix 14: Specific PCR fragment of 60 bp in the DRB1*1422, 1425, 1453, 1473 and DRB1*0808 alleles. Specific PCR fragment of 130 bp in the DRB1*1427 and DRB1*1109, 1128, 1140, 1158, 1159, 130501-130502, 1318, 1326, 1342, 135001-135002, 1363 and 1608 alleles.

Primer mix 20: Specific PCR fragment of 60 bp in the DRB1*1463, 1467, 1478 and DRB1*0412, 0418, 080302, 0810, 0812, 0814, 0815, 0819, 0823, 0827, 0830, 0832-0835, 1145, 1313 and 1521 alleles. Specific PCR fragment of 110 bp in the DRB1*1425, 1453, 1458, 1469 and DRB1*0114, 0808 and 1345 alleles. Specific PCR fragment of 170 bp in the DRB1*1404, 1428, 1431, 1439, 1450, 1468, 1471, 1473, 1476, 1479 and DRB1*080101-080203, 080302-080404, 0806-0808, 0810-0817, 0819, 0820, 0822, 0823, 0826, 0828, 0830, 0833, 0834, 1123, 1125, 1145, 1155, 1164, 1167, 1313, 1347 and 1355 alleles. Specific PCR fragment of 215 bp in the DRB1*1415 and DRB1*080101 to 080203, 080302 to 080404, 0806 to 0817, 0819 to 0823, 0826 to 0828, 0830 and 0832 to 0835 alleles. Not both specific PCR fragments may be obtained in alleles being amplified by more than one primer pair.

Primer mix 21: Specific PCR fragment of 170 bp in DRB1*1413, 1463, 1465, 1478 and DRB1*0312, 130301-1304, 1312, 1313, 1321, 1330, 1332, 1333, 1338, 1348, 1349, 1355, 1358, 1365, 1366, 1375 and 1381 alleles. Specific PCR fragment of 215 bp in the DRB1*1424, 1437 and DRB1*1169 and 1309 alleles.

Primer mix 24: Specific PCR fragment of 115 bp in the DRB1*1441, 1477 and DRB1*1334 and 1364 alleles. Specific PCR fragment of 135 bp in the DRB1*1436 and DRB1*0318 alleles.

Primer mix 25: Specific PCR fragment of 120 bp in the DRB1*140701-140702, 1422, 1425, 1449, 1453, 1468, 1469 and DRB1*0114, 0462, 0469, 0808, 0815, 1345 and the DRB3*0216 allele. Specific PCR fragment of 210 bp in DRB1*1456 allele. Specific PCR fragment of 250 bp in the DRB1*144401-144402 and DRB1*0335 alleles.

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Primer mix 26: Specific PCR fragment of 190 bp in the DRB1*1445 allele. Specific PCR fragment of 250 bp in the DRB1*140101 to 140103 alleles.

Primer mix 29: Specific PCR fragment of 135 bp in the DRB1*1460 allele. Specific PCR fragment of 175 bp in the DRB1*1448 and DRB1*0338, 1331, 1346, 1354 and 1377 alleles.

Primer mix 32: Specific PCR fragment of 100 bp in the DRB1*1413, 1463, 1478 and DRB1*0477, 1332 and 1365 alleles. Specific PCR fragment of 145 bp in the DRB1*1419, 1421 and DRB1*1310 and 1385 alleles.

'w', might be weakly amplified.

CELL LINE VALIDATION SHEET																																
DRB1*14 SSP subtyping kit																																
					Well																											
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32												
				Prod. No.:	200737317	200737318	200737319	200737320	200737321	200737322	200737323	200737324	200737325	200737326	200737327	200737328	200852029	200737330	200737331	200737332												
	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	9007	DEM	*0401	*1602	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
9	9026	YAR	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
10	9107	LKT3	*0405		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
11	9051	PITOUT	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
12	9052	DBB	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
13	9067	BTB	*0801		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-											
14	9071	OLGA	*0802		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-											
15	9075	DKB	*0901		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
16	9037	SWEIG007	*1101		-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-											
17	9008	WILJON	*1501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											

[illegible]

CERTIFICATE OF ANALYSIS

Olerup SSP® DRB1*14 SSP

Product number: 101.117-12/03 – including *Taq* pol.
Lot number: 17F
Expiry date: 2010-September-01
Number of tests: 12 tests – Product No. 101.117-12
 3 tests – Product No. 101.117-03
Number of wells per test: 42

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2007-373-01	15	2007-373-15	29	2008-520-29
2	2007-373-02	16	2007-373-16	30	2007-373-30
3	2008-520-03	17	2007-373-17	31	2007-373-31
4	2007-373-04	18	2007-373-18	32	2007-373-32
5	2007-373-05	19	2007-373-19	33	2008-520-33
6	2007-373-06	20	2007-373-20	34	2008-520-34
7	2007-373-07	21	2007-373-21	35	2008-520-35
8	2007-373-08	22	2007-373-21	36	2008-520-36
9	2007-373-09	23	2007-373-23	37	2008-520-37
10	2007-373-10	24	2007-373-24	38	2008-520-38
11	2007-373-11	25	2007-373-25	39	2008-520-39
12	2007-373-12	26	2007-373-26	40	2008-520-40
13	2007-373-13	27	2007-373-27	41	2008-520-41
14	2007-373-14	28	2007-373-28	42	2008-520-42

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

No DNAs carrying the alleles to be amplified by primer solutions 8, 10, 11, 14, 15, 19 to 21, 24 to 29 to 32 and 38 to 42 were available. The specificities of the primers in primer solutions 10, 14, 15, 19, 25 to 29, 32, 38, 39, 41 and 42 were tested by separately adding one additional 5'-primer, respectively, one or several additional 3'-primer(s). In primer solution 24 it was only possible to test the 5'-primer and one of the 3'-primers, one of the 3'-primers was not possible to test. Additional 3'-primers in primer solutions 21 and 32 were tested by separately adding one 5'-primer. In primer solutions 8, 11, 26, 30 and 40 additional 5' primers were tested by separately adding one 3'-primer.

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

Date of approval: 2009-May-26

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP® DRB1*14
Product number: 101.117-12/03
Lot number: 17F

Intended use: DRB1*14 high resolution histocompatibility testing

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

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2000 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

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

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

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

Saltsjöbaden, Sweden
2009-May-26

Olle Olerup
Managing Director

Lot No.: **17F**

Lot-specific information

www.olerup.com**ADDRESSES:****Manufacturer:****Olerup SSP AB**, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.**Tel:** +46-8-717 88 27**Fax:** +46-8-717 88 18**E-mail:** info-ssp@olerup.com**Web page:** <http://www.olerup.com>**Distributed by:****Olerup GmbH**, Löwengasse 47 / 6, AT-1030 Vienna, Austria.**Tel:** +43-1-710 15 00**Fax:** +43-1-710 15 00 10**E-mail:** support-at@olerup.com**Web page:** <http://www.olerup.com>**Olerup Inc.**, 901 S. Bolmar St., Suite R, West Chester, PA 19382**Tel:** 1-877-OLERUP1**Fax:** 610-344-7989**E-mail:** info.us@olerup.com**Web page:** <http://www.olerup.com>For information on *Olerup* SSP distributors worldwide, contact **Olerup GmbH**.