

Olerup SSP® DRB1*03

Product number:	101.113-24u/04u – without <i>Taq</i> pol.
Lot number:	01K
Expiry date:	2012-May-01
Number of tests:	24 tests – Product No. 101.113-24u 4 tests – Product No. 101.113-04u
Number of wells per test:	32
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. 01K.

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP®
DRB1*03 Lot**

The DRB1*03 specificity and interpretation tables have been updated for the DRB alleles described since the previous *Olerup SSP®* DRB1*03 lot was made (**Lot No. 65F**).

Two wells has been added to the DRB1*03 kit,
wells **31** and **32**.

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

Well	5'-primer	3'-primer	rationale
12	-	Added	New 3'-primer for the DRB1*03:51 allele.
13	-	Added	New 3'-primer for the DRB1*03:47 allele.
21	Added	-	New 5'-primer for the DRB1*03:42 allele.
26	-	Added	New 3'-primer for the DRB1*03:43 allele.
27	-	Added	New 3'-primer for the DRB1*03:46 allele.
28	Added	-	New 5'-primer for the DRB1*03:45 allele.
29	Added	-	New 5'-primer for the DRB1*03:41 and DRB1*03:52 alleles.
31	New	New	New primer pair for the DRB1*03:45 and DRB1*03:50 alleles.
32	New	New	New primer pair for the DRB1*03:48 allele.

PRODUCT DESCRIPTION

DRB1*03 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB1*03:01 to DRB1*03:52 alleles.

PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 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

The 32 well cut PCR plate is marked with 'DRB1*03' in silver/gray ink.

Well No. 1 is marked with the Lot No. '01K'.

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 heat-sealed with a PCR-compatible foil.

Please note: When removing each 32 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

The interpretation of DRB1*03 PCR-SSP subtypings will be influenced by the DRB1*01:16 allele, the DRB1*04:22 allele, the DRB1*08:20 allele, four DRB1*09 alleles, several DRB1*11 alleles, three DRB1*12 alleles, two DRB1*15 alleles, the DRB1*16:08 allele, as well as by many DRB1*13 and DRB1*14 alleles, when present on the other haplotype and also by the DRB3*01:07 to DRB3*01:09, DRB3*01:14, DRB3*02:04, DRB3*02:06, DRB3*02:19, DRB3*02:20, DRB3*02:22 and DRB3*03:03 alleles.

UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DRB1*03 alleles, i.e. **DRB1*03:01 to DRB1*03:52**, recognized by the HLA Nomenclature Committee in April 2010¹ will give rise to unique amplification patterns by the primers in the DRB1*03 subtyping kit.

The DRB1*03 subtyping kit cannot distinguish the DRB1* 03:01:01:01 to 03:01:09, the DRB1*03:02:01 and 03:02:02, the DRB1*03:05:01 to 03:05:03, the DRB1*03:11:01 and 03:11:02 or the DRB1*03:13:01 and 03:13:02 alleles.

¹DRB1 alleles listed on the IMGT/HLA web page 2010-April-01, release 3.0.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

The 52 DRB1*03 alleles can be combined in 1320 homozygous and heterozygous combinations. 678 of these genotypes do not give rise to unique amplification patterns. The different sizes of the specific PCR products generated by the primers in vials 11 to 14, 20, 21, 23, 27 to 29 and 31 have not been considered in these calculations.

++++-++	+++-----	-+-----+	-----+	03:02, 03:23 = 03:19, 03:38 = 03:23, 03:38
++++-++	+++-----	-+-----+	-----+	03:01, 03:38 = 03:02, 03:13 = 03:13, 03:38
++++-++	+---+---	-+-----+	-----+	03:11, 03:29 = 03:29, 03:47
++++-++	+---+---	-+-----+	-----+	03:01, 03:27 = 03:27, 03:47
++-+-++	+++-----	-+-----+	-----+	03:03, 03:25 = 03:03, 03:28
++-+-++	+++-----	-+-----+	-----+	03:03, 03:30 = 03:03, 03:42
++-+-++	+++-----	-+-----+	-+-----+	03:03, 03:33 = 03:03, 03:44
++-+-++	+++-----	-+-----+	-----+	03:03, 03:39 = 03:03, 03:52
+--+--+	+--+--+	-+-----+	-----+	03:09, 03:10 = 03:09, 03:51
+--+--+	+--+--+	-+-----+	-----+	03:09, 03:11 = 03:09, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:09, 03:12 = 03:09, 03:16
+--+--+	+--+--+	-+-----+	-----+	03:09, 03:15 = 03:14, 03:23
+--+--+	+--+--+	-+-----+	-+-----+	03:09, 03:34 = 03:09, 03:46
+--+--+	+--+--+	-+-----+	-----+	03:01, 03:09 = 03:05, 03:23 = 03:09, 03:13 = 03:09, 03:19 = 03:09, 03:23
+--+--+	+--+--+	-+-----+	-----+	03:10, 03:14 = 03:14, 03:51
+--+--+	+--+--+	-+-----+	-----+	03:05, 03:10 = 03:05, 03:51
+--+--+	+--+--+	-+-----+	-----+	03:11, 03:14 = 03:14, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:05, 03:11 = 03:05, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:12, 03:14 = 03:14, 03:16
+--+--+	+--+--+	-+-----+	-----+	03:05, 03:12 = 03:05, 03:16
+--+--+	+--+--+	-+-----+	-+-----+	03:14, 03:34 = 03:14, 03:46
+--+--+	+--+--+	-+-----+	-----+	03:01, 03:14 = 03:05, 03:15 = 03:14, 03:15
+--+--+	+--+--+	-+-----+	-+-----+	03:05, 03:34 = 03:05, 03:46
+--+--+	+--+--+	-+-----+	-----+	03:04, 03:10 = 03:04, 03:51
+--+--+	+--+--+	-+-----+	-----+	03:04, 03:11 = 03:04, 03:24 = 03:04, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:04, 03:12 = 03:04, 03:16
+--+--+	+--+--+	-+-----+	-+-----+	03:04, 03:34 = 03:04, 03:46
+--+--+	+--+--+	-+-----+	-----+	03:01, 03:04 = 03:04, 03:28
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:08 = 03:08, 03:49
+--+--+	+--+--+	-+-----+	-----+	03:08, 03:11 = 03:08, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:08, 03:25 = 03:08, 03:28
+--+--+	+--+--+	-+-----+	-+-----+	03:08, 03:33 = 03:08, 03:44
+--+--+	+--+--+	-+-----+	-----+	03:08, 03:39 = 03:08, 03:52
+--+--+	+--+--+	-+-----+	-----+	03:01, 03:41 = 03:39, 03:41
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:23 = 03:23, 03:49
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:13 = 03:13, 03:49
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:51 = 03:49, 03:51
+--+--+	+--+--+	-+-----+	-----+	03:11, 03:21 = 03:21, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:11, 03:40 = 03:40, 03:47
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:11 = 03:07, 03:47 = 03:11, 03:49 = 03:47, 03:49
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:16 = 03:16, 03:49
+--+--+	+--+--+	-+-----+	-----+	03:07, 03:37 = 03:37, 03:49

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+--+--+	+-----+	-+-----	-----+--	03:07, 03:15 = 03:15, 03:49
+--+--+	+-----	++-----	-----+--	03:07, 03:20 = 03:20, 03:49
+--+--+	+-----	-++-----	-----+--	03:07, 03:22 = 03:22, 03:49
+--+--+	+-----	-++-----	-----+--	03:07, 03:25 = 03:07, 03:28 = 03:28, 03:49
+--+--+	+-----	-+--+-----	-+--+-----	03:07, 03:43 = 03:21, 03:33
+--+--+	+-----	-+--+-----	-----++--	03:21, 03:39 = 03:40, 03:42
+--+--+	+-----	-+--+-----	-----+--	03:01, 03:21 = 03:07, 03:30 = 03:07, 03:42 = 03:21, 03:42 = 03:42, 03:49
+--+--+	+-----	-+--+-----	-----+--	03:07, 03:18 = 03:18, 03:49
+--+--+	+-----	-+--+-----	-----+--	03:07, 03:19 = 03:19, 03:49
+--+--+	+-----	-+-----	+-----+--	03:07, 03:32 = 03:32, 03:49
+--+--+	+-----	-+-----	-+-----+--	03:07, 03:33 = 03:07, 03:44 = 03:33, 03:49
+--+--+	+-----	-+-----	---+-----	03:07, 03:34 = 03:34, 03:49
+--+--+	+-----	-+-----	---+-----	03:07, 03:45 = 03:45, 03:49
+--+--+	+-----	-+-----	---+-----	03:07, 03:36 = 03:36, 03:49
+--+--+	+-----	-+-----	---+-----	03:01, 03:40 = 03:07, 03:39 = 03:07, 03:52 = 03:39, 03:40 = 03:39, 03:49
+--+--+	+-----	-+-----	-----++--	03:07, 03:50 = 03:49, 03:50
+--+--+	+-----	-+-----	-----++--	03:07, 03:48 = 03:48, 03:49
+--+--+	+-----	-+-----	-----+--	03:01, 03:07 = 03:01, 03:49
+--+--+	---+-----	-+-----	-----+--	03:07, 03:10 = 03:10, 03:49
+--+--+	-----+--	-+-----	-----+--	03:07, 03:12 = 03:12, 03:49
+--+--+	-----	-+-----	-+-----	03:07, 03:46 = 03:46, 03:49
+--+--+	++-----	-+-----	-----+--	03:10, 03:31 = 03:31, 03:51
+--+--+	++-----	-+-----	-+-----	03:10, 03:26 = 03:26, 03:51
+--+--+	++-----	-+-----	-----+--	03:06, 03:10 = 03:06, 03:51
+--+--+	++-----	-+-----	-----+--	03:01, 03:17 = 03:17, 03:37 = 03:17, 03:47 = 03:35, 03:37
+--+--+	++-----	-+-----	-----+--	03:28, 03:35 = 03:31, 03:47
+--+--+	++-----	-+-----	-+-----	03:26, 03:47 = 03:33, 03:35
+--+--+	++-----	-+-----	-----+--	03:01, 03:35 = 03:06, 03:47 = 03:35, 03:47
+--+--+	++-----	-----	-----+--	03:06, 03:11 = 03:11, 03:35
+--+--+	++-----	-+-----	-----+--	03:12, 03:31 = 03:16, 03:31
+--+--+	++-----	-+-----	-+-----	03:12, 03:26 = 03:16, 03:26
+--+--+	++-----	-+-----	-----+--	03:06, 03:12 = 03:06, 03:16
+--+--+	++-----	-+-----	-+-----	03:25, 03:26 = 03:26, 03:28 = 03:31, 03:33
+--+--+	++-----	-+-----	---+-----	03:31, 03:34 = 03:31, 03:46
+--+--+	++-----	-+-----	-----+--	03:01, 03:31 = 03:06, 03:25 = 03:06, 03:28 = 03:28, 03:31
+--+--+	++-----	-+-----	-+-----	03:06, 03:43 = 03:26, 03:30 = 03:26, 03:42 = 03:26, 03:43
+--+--+	++-----	-+-----	-----+--	03:06, 03:30 = 03:06, 03:42
+--+--+	++-----	-+-----	---+-----	03:26, 03:34 = 03:26, 03:46
+--+--+	++-----	-+-----	-+-----	03:26, 03:39 = 03:26, 03:52
+--+--+	++-----	-+-----	-+-----	03:01, 03:26 = 03:06, 03:33 = 03:06, 03:44 = 03:26, 03:33 = 03:26, 03:44
+--+--+	++-----	-+-----	---+-----	03:06, 03:34 = 03:06, 03:46
+--+--+	++-----	-+-----	-----+--	03:06, 03:39 = 03:06, 03:52
+--+--+	+-----	-+-----	-----+--	03:10, 03:23 = 03:23, 03:51

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+--+--	+--+--	-+-----	-----+	03:10, 03:13 = 03:13, 03:51
+--+--	+--+--	-+-----	-----+	03:11, 03:23 = 03:23, 03:24 = 03:23, 03:47
+--+--	+--+--	-+-----	-----+	03:11, 03:13 = 03:13, 03:24 = 03:13, 03:47
+--+--	+--+--	-+-----	-----+	03:12, 03:23 = 03:16, 03:23
+--+--	+--+--	-+-----	-----+	03:12, 03:13 = 03:13, 03:16
+--+--	+--+--	-+-----	-----+	03:23, 03:25 = 03:23, 03:28
+--+--	+--+--	-+-----	-----+	03:13, 03:25 = 03:13, 03:28
+--+--	+--+--	-+-----	-----+	03:23, 03:30 = 03:23, 03:42
+--+--	+--+--	-+-----	-----+	03:13, 03:30 = 03:13, 03:42
+--+--	+--+--	-+-----	-+-----	03:23, 03:33 = 03:23, 03:44
+--+--	+--+--	-+-----	-+-----	03:23, 03:34 = 03:23, 03:46
+--+--	+--+--	-+-----	-----+	03:23, 03:39 = 03:23, 03:52
+--+--	+--+--	-+-----	-----+	03:01, 03:23 = 03:13, 03:19 = 03:13, 03:23 = 03:19, 03:23 = 03:23, 03:23
+--+--	+--+--	-+-----	-+-----	03:13, 03:33 = 03:13, 03:44
+--+--	+--+--	-+-----	-+-----	03:13, 03:34 = 03:13, 03:46
+--+--	+--+--	-+-----	-----+	03:13, 03:39 = 03:13, 03:52
+--+--	+--+--	-+-----	-----+	03:01, 03:13 = 03:13, 03:13
+--+--	+--+--	-+-----	-----+	03:10, 03:11 = 03:10, 03:47 = 03:11, 03:51 = 03:24, 03:51 = 03:47, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:16 = 03:12, 03:51 = 03:16, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:37 = 03:37, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:15 = 03:15, 03:51
+--+--	+--+--	+-----	-----+	03:10, 03:20 = 03:20, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:22 = 03:22, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:25 = 03:10, 03:28 = 03:25, 03:51 = 03:28, 03:51
+--+--	+--+--	-+-----	-+-----	03:10, 03:43 = 03:43, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:30 = 03:30, 03:51 = 03:42, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:18 = 03:18, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:19 = 03:19, 03:51
+--+--	+--+--	-+-----	+-----	03:10, 03:32 = 03:32, 03:51
+--+--	+--+--	-+-----	-+-----	03:10, 03:33 = 03:10, 03:44 = 03:33, 03:51 = 03:44, 03:51
+--+--	+--+--	-+-----	-+-----	03:10, 03:34 = 03:34, 03:51 = 03:46, 03:51
+--+--	+--+--	-+-----	---+---	03:10, 03:45 = 03:45, 03:51
+--+--	+--+--	-+-----	---+---	03:10, 03:36 = 03:36, 03:51
+--+--	+--+--	-+-----	---+---	03:10, 03:39 = 03:10, 03:52 = 03:39, 03:51 = 03:51, 03:52
+--+--	+--+--	-+-----	-----+	03:10, 03:50 = 03:50, 03:51
+--+--	+--+--	-+-----	-----+	03:10, 03:48 = 03:48, 03:51
+--+--	+--+--	-+-----	-----+	03:01, 03:10 = 03:01, 03:51 = 03:10, 03:51 = 03:51, 03:51
+--+--	+--+--	-+-----	-----+	03:11, 03:12 = 03:11, 03:16 = 03:12, 03:47 = 03:16, 03:24 = 03:16, 03:47
+--+--	+--+--	-+-----	-----+	03:11, 03:37 = 03:24, 03:37 = 03:37, 03:47

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+--+--+ +--+--+ -+-----	03:11, 03:15 = 03:15, 03:24 =
-----+--	03:15, 03:47
+--+--+ +--+--+ ++-----	03:11, 03:20 = 03:20, 03:24 =
-----+--	03:20, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:22 = 03:22, 03:24 =
-----+--	03:22, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:25 = 03:11, 03:28 =
-----+--	03:24, 03:25 = 03:24, 03:28 =
	03:25, 03:47 = 03:28, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:43 = 03:24, 03:43 =
-----+--	03:43, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:30 = 03:11, 03:42 =
-----+--	03:24, 03:30 = 03:24, 03:42 =
	03:30, 03:47 = 03:42, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:18 = 03:18, 03:24 =
-----+--	03:18, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:19 = 03:19, 03:24 =
-----+--	03:19, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:32 = 03:24, 03:32 =
+-----+--	03:32, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:33 = 03:11, 03:44 =
-----+--	03:24, 03:33 = 03:24, 03:44 =
	03:33, 03:47 = 03:44, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:34 = 03:11, 03:46 =
-----+--	03:24, 03:34 = 03:34, 03:47 =
	03:46, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:45 = 03:24, 03:45 =
---+----	03:45, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:36 = 03:24, 03:36 =
---+----	03:36, 03:47
+--+--+ +--+--+ -+-----	03:11, 03:39 = 03:11, 03:52 =
-----+--	03:24, 03:39 = 03:24, 03:52 =
	03:39, 03:47 = 03:47, 03:52
+--+--+ +--+--+ -+-----	03:11, 03:50 = 03:24, 03:50 =
-----+--	03:47, 03:50
+--+--+ +--+--+ -+-----	03:11, 03:48 = 03:24, 03:48 =
-----+--	03:47, 03:48
+--+--+ +--+--+ -+-----	03:01, 03:11 = 03:01, 03:24 =
-----+--	03:01, 03:47 = 03:11, 03:47 =
	03:24, 03:47 = 03:47, 03:47
+--+--+ +--+--+ -----	03:11, 03:11 = 03:11, 03:24
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:37 = 03:16, 03:37
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:15 = 03:15, 03:16
-----+--	
+--+--+ +-----+ ++-----	03:12, 03:20 = 03:16, 03:20
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:22 = 03:16, 03:22
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:25 = 03:12, 03:28 =
-----+--	03:16, 03:25 = 03:16, 03:28
+--+--+ +-----+ -+-----	03:12, 03:43 = 03:16, 03:43
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:30 = 03:12, 03:42 =
-----+--	03:16, 03:30 = 03:16, 03:42
+--+--+ +-----+ -+-----	03:12, 03:18 = 03:16, 03:18
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:19 = 03:16, 03:19
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:32 = 03:16, 03:32
-----+--	
+--+--+ +-----+ -+-----	03:12, 03:33 = 03:12, 03:44 =
-----+--	03:16, 03:33 = 03:16, 03:44

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+---+---+ +-----+--- -+----- -+---+---	03:12, 03:34 = 03:16, 03:34 = 03:16, 03:46
+---+---+ +-----+--- -+----- ---+---+	03:12, 03:45 = 03:16, 03:45
+---+---+ +-----+--- -+----- ---+---+	03:12, 03:36 = 03:16, 03:36
+---+---+ +-----+--- -+----- ---+---+	03:12, 03:39 = 03:12, 03:52 = 03:16, 03:39 = 03:16, 03:52
+---+---+ +-----+--- -+----- ---+---+	03:12, 03:50 = 03:16, 03:50
+---+---+ +-----+--- -+----- ---+---+	03:12, 03:48 = 03:16, 03:48
+---+---+ +-----+--- -+----- ---+---+	03:01, 03:12 = 03:01, 03:16 = 03:12, 03:16 = 03:16, 03:16
+---+---+ +-----+--- -+---+--- ---+---+	03:25, 03:37 = 03:28, 03:37
+---+---+ +-----+--- -+---+--- ---+---+	03:30, 03:37 = 03:37, 03:42
+---+---+ +-----+--- -+----- -+---+---	03:33, 03:37 = 03:37, 03:44
+---+---+ +-----+--- -+----- -+---+---	03:34, 03:37 = 03:37, 03:46
+---+---+ +-----+--- -+----- ---+---+	03:37, 03:39 = 03:37, 03:52
+---+---+ +-----+--- -+----- ---+---+	03:01, 03:37 = 03:37, 03:37
+---+---+ +-----+--- -+---+--- ---+---+	03:15, 03:25 = 03:15, 03:28
+---+---+ +-----+--- -+---+--- ---+---+	03:15, 03:30 = 03:15, 03:42
+---+---+ +-----+--- -+----- -+---+---	03:15, 03:33 = 03:15, 03:44
+---+---+ +-----+--- -+----- -+---+---	03:15, 03:34 = 03:15, 03:46
+---+---+ +-----+--- -+----- ---+---+	03:15, 03:39 = 03:15, 03:52
+---+---+ +-----+--- -+----- ---+---+	03:01, 03:15 = 03:15, 03:15
+---+---+ +-----+--- ++---+--- ---+---+	03:20, 03:25 = 03:20, 03:28
+---+---+ +-----+--- ++---+--- ---+---+	03:20, 03:30 = 03:20, 03:42
+---+---+ +-----+--- ++----- -+---+---	03:20, 03:33 = 03:20, 03:44
+---+---+ +-----+--- ++----- -+---+---	03:20, 03:34 = 03:20, 03:46
+---+---+ +-----+--- ++----- ---+---+	03:20, 03:39 = 03:20, 03:52
+---+---+ +-----+--- ++----- ---+---+	03:01, 03:20 = 03:20, 03:20
+---+---+ +-----+--- -+++----- ---+---+	03:22, 03:25 = 03:22, 03:28
+---+---+ +-----+--- -+++----- ---+---+	03:22, 03:30 = 03:22, 03:42
+---+---+ +-----+--- -+++----- -+---+---	03:22, 03:33 = 03:22, 03:44
+---+---+ +-----+--- -+++----- -+---+---	03:22, 03:34 = 03:22, 03:46
+---+---+ +-----+--- -+++----- ---+---+	03:22, 03:39 = 03:22, 03:52
+---+---+ +-----+--- -+++----- ---+---+	03:01, 03:22 = 03:22, 03:22
+---+---+ +-----+--- -+++----- ---+---+	03:25, 03:42 = 03:28, 03:30 = 03:28, 03:42
+---+---+ +-----+--- -+---+--- ---+---+	03:18, 03:25 = 03:18, 03:28
+---+---+ +-----+--- -+---+--- ---+---+	03:19, 03:25 = 03:19, 03:28
+---+---+ +-----+--- -+---+--- +---+---+	03:25, 03:32 = 03:28, 03:32
+---+---+ +-----+--- -+---+--- -+---+---	03:25, 03:33 = 03:28, 03:33 = 03:28, 03:44
+---+---+ +-----+--- -+---+--- -+---+---	03:25, 03:34 = 03:25, 03:46 = 03:28, 03:34 = 03:28, 03:46
+---+---+ +-----+--- -+---+--- ---+---+	03:25, 03:45 = 03:28, 03:45
+---+---+ +-----+--- -+---+--- ---+---+	03:25, 03:36 = 03:28, 03:36
+---+---+ +-----+--- -+---+--- ---+---+	03:25, 03:39 = 03:28, 03:39 = 03:28, 03:52
+---+---+ +-----+--- -+---+--- ---+---+	03:25, 03:50 = 03:28, 03:50
+---+---+ +-----+--- -+---+--- ---+---+	03:25, 03:48 = 03:28, 03:48
+---+---+ +-----+--- -+---+--- ---+---+	03:01, 03:25 = 03:01, 03:28 = 03:25, 03:28 = 03:28, 03:28
+---+---+ +-----+--- -+---+--- ---+---+	03:18, 03:30 = 03:18, 03:42
+---+---+ +-----+--- -+---+--- ---+---+	03:19, 03:30 = 03:19, 03:42
+---+---+ +-----+--- -+---+--- +---+---+	03:30, 03:32 = 03:32, 03:42
+---+---+ +-----+--- -+---+--- -+---+---	03:34, 03:43 = 03:43, 03:46

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+--+--	+-----	-+--+--	-+--+--	03:01, 03:43 = 03:30, 03:33 =
				03:33, 03:42 = 03:33, 03:43 =
				03:42, 03:43 = 03:42, 03:44
+--+--	+-----	-+--+--	-+--+--	03:30, 03:34 = 03:30, 03:46 =
				03:34, 03:42
+--+--	+-----	-+--+--	---+--+	03:30, 03:45 = 03:42, 03:45
+--+--	+-----	-+--+--	---+--+	03:30, 03:36 = 03:36, 03:42
+--+--	+-----	-+--+--	---+--+	03:30, 03:39 = 03:39, 03:42 =
				03:42, 03:52
+--+--	+-----	-+--+--	---+--+	03:30, 03:50 = 03:42, 03:50
+--+--	+-----	-+--+--	---+--+	03:30, 03:48 = 03:42, 03:48
+--+--	+-----	-+--+--	---+--+	03:01, 03:30 = 03:01, 03:42 =
				03:30, 03:42
+--+--	+-----	-+--+--	-+--+--	03:18, 03:33 = 03:18, 03:44
+--+--	+-----	-+--+--	-+--+--	03:18, 03:34 = 03:18, 03:46
+--+--	+-----	-+--+--	---+--+	03:18, 03:39 = 03:18, 03:52
+--+--	+-----	-+--+--	---+--+	03:01, 03:18 = 03:18, 03:18
+--+--	+-----	-+--+--	-+--+--	03:19, 03:33 = 03:19, 03:44
+--+--	+-----	-+--+--	-+--+--	03:19, 03:34 = 03:19, 03:46
+--+--	+-----	-+--+--	---+--+	03:19, 03:39 = 03:19, 03:52
+--+--	+-----	-+--+--	---+--+	03:01, 03:19 = 03:19, 03:19
+--+--	+-----	-+--+--	+--+--+	03:32, 03:33 = 03:32, 03:44
+--+--	+-----	-+--+--	+--+--+	03:32, 03:34 = 03:32, 03:46
+--+--	+-----	-+--+--	+--+--+	03:32, 03:39 = 03:32, 03:52
+--+--	+-----	-+--+--	+--+--+	03:01, 03:32 = 03:32, 03:32
+--+--	+-----	-+--+--	-+--+--	03:33, 03:34 = 03:33, 03:46 =
				03:34, 03:44 = 03:44, 03:46
+--+--	+-----	-+--+--	-+--+--	03:33, 03:45 = 03:44, 03:45
+--+--	+-----	-+--+--	-+--+--	03:33, 03:36 = 03:36, 03:44
+--+--	+-----	-+--+--	-+--+--	03:33, 03:39 = 03:33, 03:52 =
				03:39, 03:44
+--+--	+-----	-+--+--	-+--+--	03:33, 03:50 = 03:44, 03:50
+--+--	+-----	-+--+--	-+--+--	03:33, 03:48 = 03:44, 03:48
+--+--	+-----	-+--+--	-+--+--	03:01, 03:33 = 03:01, 03:44 =
				03:33, 03:33 = 03:33, 03:44
+--+--	+-----	-+--+--	---+--+	03:34, 03:45 = 03:45, 03:46
+--+--	+-----	-+--+--	---+--+	03:34, 03:36 = 03:36, 03:46
+--+--	+-----	-+--+--	---+--+	03:34, 03:39 = 03:34, 03:52 =
				03:39, 03:46 = 03:46, 03:52
+--+--	+-----	-+--+--	---+--+	03:34, 03:50 = 03:46, 03:50
+--+--	+-----	-+--+--	---+--+	03:34, 03:48 = 03:46, 03:48
+--+--	+-----	-+--+--	---+--+	03:01, 03:34 = 03:01, 03:46 =
				03:34, 03:34 = 03:34, 03:46
+--+--	+-----	-+--+--	---+--+	03:39, 03:45 = 03:45, 03:52
+--+--	+-----	-+--+--	---+--+	03:36, 03:39 = 03:36, 03:52
+--+--	+-----	-+--+--	---+--+	03:01, 03:45 = 03:36, 03:45 =
				03:36, 03:50 = 03:45, 03:45 =
				03:45, 03:50
+--+--	+-----	-+--+--	---+--+	03:01, 03:36 = 03:36, 03:36
+--+--	+-----	-+--+--	---+--+	03:39, 03:50 = 03:50, 03:52
+--+--	+-----	-+--+--	---+--+	03:39, 03:48 = 03:48, 03:52
+--+--	+-----	-+--+--	---+--+	03:01, 03:39 = 03:01, 03:52 =
				03:39, 03:39 = 03:39, 03:52
+--+--	+-----	-+--+--	---+--+	03:01, 03:50 = 03:50, 03:50
+--+--	+-----	-+--+--	---+--+	03:01, 03:48 = 03:48, 03:48
+--+--	+-----	-+--+--	-+--+--	03:07, 03:26 = 03:26, 03:49

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+--+----+ ++----- -+----- -----+--	03:06, 03:07 = 03:06, 03:49
+--+----+ ++--+--- -+----- -+-----	03:24, 03:26 = 03:26, 03:35
+--+----+ ++--+--- -+----- -+-----	03:06, 03:24 = 03:06, 03:35
+--+----+ ++----- -+----- -+-----	03:06, 03:26 = 03:26, 03:26
+--+++-- +----- -+----- -+-----	03:04, 03:04 = 03:04, 03:25
+-----++ +----- -+----- -+-----	03:21, 03:43 = 03:21, 03:44 = 03:43, 03:49
+-----++ +----- -+----- -+-----	03:21, 03:52 = 03:30, 03:40
+-----++ +----- -+----- -+-----	03:21, 03:30 = 03:30, 03:49
+-----++ +----- -+----- -+-----	03:40, 03:52 = 03:49, 03:52
+-----++ +----- -+----- -+-----	03:30, 03:43 = 03:30, 03:44 = 03:43, 03:43 = 03:43, 03:44
-+++----+ -+--+--- -+----- -+-----	03:02, 03:24 = 03:03, 03:27
-+++----+ -+----- -+----- -+-----	03:02, 03:07 = 03:03, 03:29
-+++----+ +++----- -+----- -+-----	03:02, 03:09 = 03:09, 03:38
-+++----+ -+--+--- -+----- -+-----	03:27, 03:38 = 03:35, 03:38
-+++----+ -+----- -+----- -+-----	03:29, 03:38 = 03:38, 03:49
-+++----+ -+----- -+----- -+-----	03:02, 03:38 = 03:38, 03:38
-+++----+ -+--+--- -+----- -+-----	03:27, 03:29 = 03:27, 03:49 = 03:29, 03:35
-+++----+ -+--+--- -+----- -+-----	03:02, 03:27 = 03:02, 03:35
-+++----+ -+----- -+----- -+-----	03:02, 03:40 = 03:29, 03:41
-+++----+ -+----- -+----- -+-----	03:02, 03:29 = 03:02, 03:49
-+++----+ -+----- -+----- -+-----	03:29, 03:29 = 03:29, 03:49
-+++----+ -+--+--- -+----- -+-----	03:27, 03:27 = 03:27, 03:35
-+--+---+ -+--+--- -+----- -+-----	03:03, 03:24 = 03:03, 03:35
-+--+---+ -+----- -+----- -+-----	03:03, 03:07 = 03:03, 03:49
--+---++ +----- -+----- -+-----	03:05, 03:09 = 03:09, 03:09
--+---++ +----- -+----- -+-----	03:05, 03:14 = 03:14, 03:14
--+---++ -+----- -+----- -+-----	03:07, 03:24 = 03:24, 03:49
--+---++ -+----- -+----- -+-----	03:07, 03:07 = 03:07, 03:49
-----+ -+----- -+----- -+-----	03:40, 03:41 = 03:41, 03:49
-----+ -+----- -+----- -+-----	03:21, 03:21 = 03:21, 03:49
-----+ -+----- -+----- -+-----	03:40, 03:40 = 03:40, 03:49
-----+ -+--+--- -+----- -+-----	03:17, 03:17 = 03:17, 03:35

03:01 = 03:01:01:01-03:01:09
03:02 = 03:02:01-03:02:02
03:05 = 03:05:01-03:05:03
03:11 = 03:11:01-03:11:02
03:13 = 03:13:01-03:13:02

SPECIFICITY TABLE

DRB1*03 SSP subtyping

Specificities and sizes of the PCR products of the 32 primer mixes used for DRB1*03 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified DRB1*03 alleles ³	Other amplified DRB alleles ⁴
1	220 bp	515 bp	*03:01:01:01-03:01:09, 03:04, 03:06, 03:08, 03:10-03:13:02, 03:15, 03:16 [?] , 03:18-03:20, 03:22-03:23, 03:25-03:26, 03:28, 03:30-03:34, 03:36-03:37, 03:39, 03:42-03:48, 03:50-03:52	*09:06, 11:59, 11:83, 13:27, 13:71, 14:82, 14:95
2⁵	85 bp	430 bp	*03:02:01-03:03, 03:27, 03:29, 03:38	*13:15, 13:19, 13:26, 13:53, 13:57, 13:85-13:86, 14:02-14:03:02, 14:06:01-14:06:02, 14:12-14:13, 14:18-14:20, 14:24, 14:27, 14:29, 14:40-14:41, 14:47-14:49, 14:51, 14:63, 14:67, 14:77-14:78, 14:81, 14:83, 14:85, 14:89, 14:94, 14:98
3	190 bp	515 bp	*03:02:01-03:02:02, 03:05:01-03:05:03, 03:09, 03:14, 03:27, 03:29, 03:38	*11:09, 11:20, 11:28:02, 11:87, 13:02:01-13:02:03, 13:05:01-13:05:02, 13:26, 13:29, 13:31, 13:34, 13:36, 13:39, 13:41, 13:50:02, 13:56, 13:63, 13:65, 13:67, 13:73-13:74, 13:85, 13:96, 14:02-14:03:02, 14:09, 14:13, 14:19, 14:24, 14:27, 14:30, 14:46-14:48, 14:51, 14:63, 14:67, 14:85, 14:89, 14:98, 16:08, DRB3*01:08, DRB3*02:06, 02:20
4	190 bp	430 bp	*03:01:01:01-03:01:09, 03:03, 03:06-03:08, 03:10-03:13:02, 03:15, 03:16 [?] , 03:18-03:20, 03:22-03:24, 03:26, 03:28, 03:32-03:34,	*11:16, 11:40, 11:58:01, 11:59, 11:83, 13:01:01-13:01:07, 13:06, 13:09-13:10, 13:15, 13:18, 13:20, 13:27-13:28, 13:32, 13:35, 13:40, 13:42-13:43, 13:51,

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			03:36-03:37, 03:39, 03:42, 03:45-03:48, 03:50-03:51	13:53, 13:59, 13:61, 13:69, 13:71, 13:77-13:80, 13:87, 13:91-13:93, 13:98, 14:06:01-14:06:02, 14:12, 14:17-14:18, 14:21, 14:29, 14:33, 14:52, 14:59, 14:64, 14:78, 14:80-14:81, 14:83, 14:95, 15:32
5⁵	75 bp	430 bp	*03:04	
6⁵	105 bp	430 bp	*03:01:01:01-03:01:09, 03:04-03:05:03, 03:08- 03:15, 03:16 ^w , 03:18- 03:20, 03:22-03:23, 03:25, 03:28, 03:30, 03:32-03:34, 03:36- 03:37, 03:39, 03:42- 03:48, 03:50-03:52	*11:59, 11:80, 11:87, 13:27, 13:41, 13:71, 14:95
7⁵	135 bp	430 bp	*03:08	*11:59, 11:80, 11:83, 11:87
8	185 bp	430 bp	*03:02:01-03:03, 03:07, 03:21, 03:29, 03:38, 03:40-03:41, 03:49	*01:16, 04:22, 11:07, 14:76, 14:79, 15:25, DRB3*01:09, DRB3*02:04, 02:19, 02:22, DRB3*03:03
9⁵	135 bp	430 bp	*03:01:01:01-03:01:09, 03:04-03:06, 03:09, 03:11:01-03:11:02, 03:13:01 ^w -03:13:02 ^w , 03:14-03:16, 03:18- 03:20, 03:22-03:23, 03:25-03:26, 03:28, 03:30-03:34, 03:36- 03:37, 03:39, 03:42- 03:45, 03:47-03:48, 03:50-03:52	*09:02:02, 13:27, 13:41, 13:71, 14:95, DRB3*01:07
10⁵	145 bp	430 bp	*03:02:01-03:03, 03:06, 03:17, 03:26- 03:27, 03:31, 03:35, 03:38, 03:41	*08:20, 11:17, 11:37, 11:41, 11:48, 11:50, 11:52, 11:56, 11:83, 13:03:01-13:03:05, 13:07:01-13:08, 13:12- 13:13, 13:19, 13:26, 13:32- 13:33:03, 13:36-13:38, 13:40, 13:47-13:49, 13:53, 13:55, 13:58, 13:60, 13:65, 13:70, 13:72, 13:76, 13:81, 13:84-13:85, 13:88-13:90, 13:94-13:95, 14:01:01- 14:03:01, 14:05:01-14:09, 14:12-14:14, 14:16, 14:18- 14:20, 14:22-14:27, 14:29,

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				14:32:01-14:32:02, 14:34, 14:36-14:41, 14:43-14:45, 14:47-14:49, 14:51, 14:54-14:56, 14:58-14:60, 14:62-14:63, 14:67, 14:69-14:70, 14:74-14:75, 14:77-14:78, 14:80-14:92N, 14:94, 14:96-14:99, DRB3*01:14
11^{5,7}	105 bp, 180 bp	515 bp	*03:09, 03:13:01-03:13:02, 03:23, 03:38	*13:39, 13:54, 13:77-13:79, 14:48, 14:64, DRB3*01:14
12^{5,8}	135 bp, 200 bp	430 bp	*03:10, 03:51	*14:82
13⁹	170 bp, 225 bp	430 bp	*03:11:01-03:11:02, 03:17, 03:24, 03:27, 03:35, 03:47	*14:38
14^{5,10}	105 bp, 135 bp	515 bp	*03:12, 03:16	*09:08
15	155 bp	430 bp	*03:17, 03:37	*11:39, 11:43, 11:50, 14:59, 14:86, 14:96
16	195 bp	430 bp	*03:14-03:15	*09:05, 11:59, 11:80, 11:83, 11:87, 13:27, 13:41, 13:71
17	255 bp	515 bp	*03:20	*11:06:01-11:06:02, 11:21, 11:47, 11:57, 13:58, 13:81, 14:29, 14:99
18⁵	120 bp	430 bp	*03:01:01:01-03:01:09, 03:04-03:05:03, 03:07-03:10, 03:12-03:16, 03:18-03:23, 03:25, 03:28-03:30, 03:32-03:34, 03:36-03:37, 03:39-03:40, 03:42-03:52	*11:07, 15:25
19	175 bp	515 bp	*03:22	
20^{5,11}	75 bp, 120 bp	430 bp	*03:04 ^w , 03:25, 03:28, 03:31	*11:80
21^{5,12}	70 bp, 150 bp	430 bp	*03:21, 03:30, 03:42-03:43	*11:10:01-11:10:02, 11:12:01-11:13:02, 11:30, 12:05, 12:14-12:15, 13:57, 13:64, 13:67, 13:83, 14:35, 14:65, 14:72
22⁵	95 bp	430 bp	*03:18	
23^{5,13}	65 bp, 165 bp	430 bp	*03:09, 03:19, 03:23	
24⁵	65 bp	430 bp	*03:02:01-03:03, 03:27, 03:29, 03:38	*13:15, 13:26, 13:53, 13:85, 14:02-14:03:02, 14:06:01-14:06:02, 14:12-14:13, 14:18-14:19, 14:24, 14:27,

				14:29, 14:46-14:48, 14:51-14:52, 14:63, 14:67, 14:78, 14:81, 14:85, 14:89, 14:98, DRB3*02:20
25	180 bp	430 bp	*03:32	
26^{5,6}	115 bp	515 bp	*03:26, 03:33, 03:43-03:44	*11:44, 11:49-11:50, 11:76, 11:85, 13:34, 13:64, 14:41, 14:77, 14:97, DRB3*01:14
27¹⁴	175 bp, 230 bp	515 bp	*03:34, 03:46	
28¹⁵	160 bp, 195 bp	430 bp	*03:36, 03:45	
29¹⁶	155 bp, 180 bp	430 bp	*03:39-03:41, 03:52	*11:07
30	175 bp	430 bp	*03:01:01:01-03:07, 03:09, 03:11:01-03:41, 03:43-03:45, 03:47- 03:52	*08:20, 13:01:01-13:16, 13:18-13:42, 13:44, 13:46- 13:66:02, 13:68-13:98, 14:02-14:03:02, 14:05:01- 14:06:02, 14:09, 14:12- 14:14, 14:17-14:21, 14:23:01, 14:23:03-14:24, 14:27, 14:29-14:30, 14:33, 14:36-14:37, 14:40-14:45, 14:47-14:48, 14:51, 14:56, 14:59, 14:63-14:65, 14:67, 14:77-14:78, 14:80-14:81, 14:83-14:85, 14:89, 14:91, 14:94-14:96, 14:98
31¹⁷	195 bp, 245 bp	515 bp	*03:45, 03:50	
32	215 bp	430 bp	*03:48	

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*03 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 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*03 subtyping.

In addition, wells number 3, 11, 14, 17, 19, 26 and 27 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*01:01 consensus sequence.

⁴Due to the sharing of sequence motifs within the DR52 group of DRB1 alleles, the DRB1*01:16 allele, the DRB1*04:22 allele, the DRB1*08:20 allele, four DRB1*09 alleles, several DRB1*11 alleles, three DRB1*12 alleles, two DRB1*15 alleles, the DRB1*16:08 allele, as well as by many DRB1*13 and DRB1*14 alleles are amplified by primer mixes 1 to 4, 6 to 18, 20, 21, 24, 26, 29 and 30. Finally, the DRB3*01:07 allele is amplified by primer mix 9, the DRB3*01:08, DRB3*02:06 and DRB3*02:20 alleles are amplified by primer mix 3, the DRB3*01:09, DRB3*02:04, DRB3*02:19, DRB3*02:22 and DRB3*03:03 alleles by primer mix 8 and the DRB1*02:20 allele by primer mixes 3 and 24.

⁵Specific PCR fragments shorter than 150 base pairs have a lower intensity than longer PCR bands.

⁶Primer mix 26 may have a tendency of giving rise to non specific amplifications.

⁷Primer mix 11: Specific PCR fragment of 105 bp in the DRB1*03:09 and 03:23 alleles. Specific PCR fragment of 180 bp in the DRB1*03:13:01-03:13:02 and 03:38 and the DRB1*03:39, 13:54, 13:77-13:79, 14:48 and 14:64 and the DRB3*01:14 alleles.

⁸Primer mix 12: Specific PCR fragment of 135 bp in the DRB1*03:10 and the DRB1*14:82 alleles. Specific PCR fragment of 200 bp in the DRB1*03:51 allele.

⁹Primer mix 13: Specific PCR fragment of 170 bp in the DRB1*03:47 allele. Specific PCR fragment of 225 bp in the DRB1*03:11:01-03:11:02, 03:17, 03:24, 03:27 and 03:35 and the DRB1*14:38 alleles.

¹⁰Primer mix 14: Specific PCR fragment of 105 bp in the DRB1*03:16 allele. Specific PCR fragment of 135 bp in the DRB1*03:12 and in the DRB1*09:08 alleles.

¹¹Primer mix 20: Specific PCR fragment of 75 bp in the DRB1*03:04^w, 03:25 and 03:31 and the DRB1*11:80 alleles. Specific PCR fragment of 120 bp in the DRB1*03:28 allele.

¹²Primer mix 21: Specific PCR fragment of 70 bp in the DRB1*03:21, 03:30 and 03:43 and the DRB1*11:10:01-11:10:02, 11:12:01-11:13:02, 12:05, 12:14-12:15, 13:57, 13:64, 13:83, 14:35, 14:65 and 14:72 alleles. Specific PCR fragment of 150 bp in the DRB1*03:42 and the DRB1*11:30 and DRB1*13:67 alleles.

¹³Primer mix 23: Specific PCR fragment of 65 bp in the DRB1*03:09 and 03:23 alleles. Specific PCR fragment of 165 bp in the DRB1*03:19 allele.

¹⁴Primer mix 27: Specific PCR fragment of 175 bp in the DRB1*03:46 alleles. Specific PCR fragment of 230 bp in the DRB1*03:34 allele.

¹⁵Primer mix 28: Specific PCR fragment of 160 bp in the DRB1*03:36 alleles. Specific PCR fragment of 195 bp in the DRB1*03:45 allele.

¹⁶Primer mix 29: Specific PCR fragment of 155 bp in the DRB1*03:40-03:41 and the DRB1*03:52 and DRB1*11:07 alleles. Specific PCR fragment of 180 bp in the DRB1*03:39 allele.

¹⁷Primer mix 31: Specific PCR fragment of 195 bp in the DRB1*03:45 allele. Specific PCR fragment of 245 bp in the DRB1*03:50 allele.

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

“w” , may be weakly amplified.

INTERPRETATION TABLE																
DRB1*03 SSP subtyping																
Amplification patterns of the DRB1*03:01 to *03:52 alleles																
	Well ⁴															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Length of spec.	220	85	190	190	75	105	135	185	135	145	105	135	170	105	155	195
PCR product											180	200	225	135		
Length of int.	515	430	515	430	430	430	430	430	430	430	515	430	430	515	430	430
pos. control ¹																
5'-primer ²	5'-gTA ^{3'} 26(164)	5'-gTC ^{3'} 13(125)	5'-AgA ^{3'} 37(196)	5'-AgA ^{3'} 37(196)	5'-gTA ^{3'} 26(164)	5'-gTA ^{3'} 26(164)	5'-gTA ^{3'} 26(164)	5'-gTT ^{3'} 26(164)	5'-gTA ^{3'} 26(164)	5'-gTC ^{3'} 13(125)	5'-gTC ^{3'} 13(125)	5'-gTA ^{3'} 26(164)	5'-gTC ^{3'} 13(125)	5'-gTA ^{3'} 26(164)	5'-gTC ^{3'} 13(125)	5'-gTA ^{3'} 26(164)
3'-primer(s) ³	5'-CCA ^{3'} 86(344)	5'-CTC ^{3'} 28(171)	5'-CAC ^{3'} 86(344)	5'-CCA ^{3'} 86(344)	5'-Cgg ^{3'} 37(197)	5'-gga ^{3'} 47(227)	5'-CCT ^{3'} 58(260)	5'-CCC ^{3'} 74(308)	5'-CAT ^{3'} 57(257)	5'-ggT ^{3'} 47(227)	5'-Agg ^{3'} 60(266)	5'-CAG ^{3'} 57(257)	5'-CCT ^{3'} 74(308)	5'-CCA ^{3'} 48(229)	5'-CCC ^{3'} 51(239)	5'-Agg ^{3'} 77(317)
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DRB1 allele																
*03:01:01-03:01:09	1			4		6			9							
*03:02:01-03:02:02		2	3					8		10						
*03:03		2		4				8		10						
*03:04	1				5	6			9							
*03:05:01-03:05:03			3			6			9							
*03:06	1			4					9	10						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

INTERPRETATION TABLE																
DRB1*03 SSP subtyping																
Amplification patterns of the DRB1*03:01 to *03:52 alleles																
Well ⁴																
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
255	120	175	75	70	95	65	65	180	115	175	160	155	175	195	215	Length of spec. PCR product
			120	150		165				230	195	180		245		
515	430	515	430	430	430	430	430	430	515	515	430	430	430	515	430	Length of int. pos. control ¹
5'-gTC 3'	5'-gTT 3'	5'-TCg 3'	5'-gTA 3'	5'-gCT 3'	5'-gTA 3'	5'-gTA 3'	5'-gAg 3'	5'-ACg 3'	5'-gTC 3'	5'-gTC 3'	5'-gAT 3'	5'-CCg 3'	5'-gTC 3'	5'-CAG 3'	5'-gTA 3'	5'-primer ²
				5'-gTT 3'							5'-AAA 3'	5'-CAA 3'		5'-gAT 3'		
13(125)	47(227)	32(181)	26(164)	10(116)	26(164)	26(164)	28(171)	27(166)	13(125)	13(125)	21(149)	27(167)	13(125)	6(103)	26(164)	3'-primer(s) ³
5'-Cag 3'	5'-ggC 3'	5'-AgT 3'	5'-gTA 3'	5'-ggA 3'	5'-CCg 3'	5'-CCC 3'	5'-gTT 3'	5'-ggC 3'	5'-CAG 3'	5'-CgC 3'	5'-ggC 3'	5'-ggC 3'	5'-Cgg 3'	5'-ggC 3'	5'-AAT 3'	Well No. DRB1 allele
85(341)	73(305)	77(317)	37(196)	47(227)	45(220)	34(188)	37(196)	73(305)	38(199)	58(260)	73(305)	73(305)	58(260)	73(305)	85(340)	
			5'-CTT 3'			5'-gAT 3'			5'-gCg 3'	5'-gTT 3'			5'-CAG 3'			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	18						24						30			
							24						30			
	18												30			
			w										30			
	18												30			
													30			
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	

Lot No.: **01K**

Lot-specific information

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Length of spec.	220	85	190	190	75	105	135	185	135	145	105	135	170	105	155	195
PCR product											180	200	225	135		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*03:07				4				8								
*03:08	1			4		6	7									
*03:09			3			6			9		11					
*03:10	1			4		6						12				
*03:11:01-03:11:02	1			4		6			9				13			
*03:12	1			4		6								14		
*03:13:01-03:13:02	1			4		6			w		11					
*03:14			3			6			9							16
*03:15	1			4		6			9							16
*03:16	?			?		w			9					14		
*03:17										10			13		15	
*03:18	1			4		6			9							
*03:19	1			4		6			9							
*03:20	1			4		6			9							
*03:21								8								
*03:22	1			4		6			9							
*03:23	1			4		6			9		11					
*03:24				4									13			
*03:25	1					6			9							
*03:26	1			4					9	10						
*03:27		2	3							10			13			
*03:28	1			4		6			9							
*03:29		2	3					8								
*03:30	1					6			9							
*03:31	1								9	10						
*03:32	1			4		6			9							
*03:33	1			4		6			9							
*03:34	1			4		6			9							
*03:35										10			13			
*03:36	1			4		6			9							
*03:37	1			4		6			9						15	
*03:38		2	3					8		10	11					
*03:39	1			4		6			9							
*03:40								8								
*03:41								8		10						
*03:42	1			4		6			9							
*03:43	1					6			9							
*03:44	1					6			9							
*03:45	1			4		6			9							
*03:46	1			4		6										
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **01K**

Lot-specific information

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255	120	175	75	70	95	65	65	180	115	175	160	155	175	195	215	Length of spec. PCR product
			120	150		165				230	195	180		245		
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
	18												30			*03:07
	18															*03:08
	18					23							30			*03:09
	18															*03:10
													30			*03:11:01-03:11:02
	18												30			*03:12
	18												30			*03:13:01-03:13:02
	18												30			*03:14
	18												30			*03:15
	18												30			*03:16
													30			*03:17
	18				22								30			*03:18
	18					23							30			*03:19
17	18												30			*03:20
	18			21									30			*03:21
	18	19											30			*03:22
	18					23							30			*03:23
													30			*03:24
	18		20										30			*03:25
									26				30			*03:26
							24						30			*03:27
	18		20										30			*03:28
	18						24						30			*03:29
	18			21									30			*03:30
			20										30			*03:31
	18							25					30			*03:32
	18								26				30			*03:33
	18									27			30			*03:34
													30			*03:35
	18										28		30			*03:36
	18												30			*03:37
							24						30			*03:38
	18											29	30			*03:39
	18											29	30			*03:40
												29	30			*03:41
	18			21												*03:42
	18			21					26				30			*03:43
	18								26				30			*03:44
	18										28		30	31		*03:45
	18									27						*03:46
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **01K**

Lot-specific information

www.olerup-ssp.com

Length of spec.	220	85	190	190	75	105	135	185	135	145	105	135	170	105	155	195
PCR product											180	200	225	135		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*03:47	1			4		6			9				13			
*03:48	1			4		6			9							
*03:49								8								
*03:50	1			4		6			9							
*03:51	1			4		6			9			12				
*03:52	1					6			9							
*01:16, 04:22, 14:76, 14:79, <i>DRB3*01:09</i> , <i>DRB3*02:04</i> , <i>DRB3*02:19</i> , <i>DRB3*02:22</i> , <i>DRB3*03:03</i>								8								
*08:20, 13:03:01- 13:03:05, 13:07:01- 13:08, 13:12-13:13, 13:33:01-13:33:03, 13:37-13:38, 13:47- 13:49, 13:55, 13:60, 13:70, 13:72, 13:76, 13:84, 13:88-13:90, 13:94-13:95, 14:05:01-14:05:03, 14:14, 14:23:01, 14:23:03, 14:36- 14:37, 14:43-14:45, 14:56, 14:84, 14:91										10						
*09:02:02, <i>DRB3*01:07</i>									9							
*09:05																16
*09:06	1															
*09:08													14			
*11:06:01- 11:06:02, 11:21, 11:47, 11:57																
*11:07								8								
*11:09, 11:20, 11:28:02, 16:08, <i>DRB3*01:08</i> , <i>DRB3*02:06</i>			3													
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **01K**

Lot-specific information

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255	120	175	75	70	95	65	65	180	115	175	160	155	175	195	215	Length of spec. PCR product
			120	150		165				230	195	180		245		Well No.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	18												30			*03:47
	18												30		32	*03:48
	18												30			*03:49
	18												30	31		*03:50
	18												30			*03:51
	18											29	30			*03:52
																*01:16, 04:22, 14:76, 14:79, <i>DRB3</i> *01:09, <i>DRB3</i> *02:04, <i>DRB3</i> *02:19, <i>DRB3</i> *02:22, <i>DRB3</i> *03:03
													30			*08:20, 13:03:01- 13:03:05, 13:07:01- 13:08, 13:12-13:13, 13:33:01-13:33:03, 13:37-13:38, 13:47- 13:49, 13:55, 13:60, 13:70, 13:72, 13:76, 13:84, 13:88-13:90, 13:94-13:95, 14:05:01-14:05:03, 14:14, 14:23:01, 14:23:03, 14:36- 14:37, 14:43-14:45, 14:56, 14:84, 14:91
																*09:02:02, <i>DRB3</i> *01:07
																*09:05
																*09:06
																*09:08
17																*11:06:01- 11:06:02, 11:21, 11:47, 11:57
	18											29				*11:07
																*11:09, 11:20, 11:28:02, 16:08, <i>DRB3</i> *01:08, <i>DRB3</i> *02:06
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **01K**

Lot-specific information

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Length of spec.	220	85	190	190	75	105	135	185	135	145	105	135	170	105	155	195
PCR product											180	200	225	135		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*11:10:01- 11:10:02, 11:12:01- 11:13:02, 11:30, 12:05, 12:14-12:15, 14:35, 14:72																
*11:16, 11:40, 11:58:01, 13:43, 15:32				4												
*11:17, 11:37, 11:41, 11:48, 11:52, 11:56, 14:01:01-14:01:03, 14:07:01-14:08, 14:16, 14:22, 14:23:02, 14:25- 14:26, 14:32:01- 14:32:02, 14:34, 14:39, 14:54-14:55, 14:58, 14:60, 14:62, 14:69-14:70, 14:74-14:75, 14:87- 14:88, 14:90, 14:92N										10						
*11:39, 11:43															15	
*11:44, 11:49, 11:76, 11:85																
*11:50										10					15	
*11:59	1			4		6	7									16
*11:80						6	7									16
*11:83	1			4			7			10						16
*11:87			3			6	7									16
*13:01:01- 13:01:07, 13:06, 13:09-13:10, 13:18, 13:20, 13:28, 13:35, 13:42, 13:51, 13:59, 13:61, 13:69, 13:80, 13:87, 13:91- 13:93, 13:98, 14:17, 14:21, 14:33				4												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **01K**

Lot-specific information

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255	120	175	75	70	95	65	65	180	115	175	160	155	175	195	215	Length of spec.
			120	150		165				230	195	180		245		PCR product
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
				21												*11:10:01- 11:10:02, 11:12:01- 11:13:02, 11:30, 12:05, 12:14-12:15, 14:35, 14:72
																*11:16, 11:40, 11:58:01, 13:43, 15:32
																*11:17, 11:37, 11:41, 11:48, 11:52, 11:56, 14:01:01-14:01:03, 14:07:01-14:08, 14:16, 14:22, 14:23:02, 14:25- 14:26, 14:32:01- 14:32:02, 14:34, 14:39, 14:54-14:55, 14:58, 14:60, 14:62, 14:69-14:70, 14:74-14:75, 14:87- 14:88, 14:90, 14:92N
																*11:39, 11:43
									26							*11:44, 11:49, 11:76, 11:85
									26							*11:50
																*11:59
			20													*11:80
																*11:83
																*11:87
													30			*13:01:01- 13:01:07, 13:06, 13:09-13:10, 13:18, 13:20, 13:28, 13:35, 13:42, 13:51, 13:59, 13:61, 13:69, 13:80, 13:87, 13:91- 13:93, 13:98, 14:17, 14:21, 14:33
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **01K**

Lot-specific information

www.olerup-ssp.com

Length of spec.	220	85	190	190	75	105	135	185	135	145	105	135	170	105	155	195
PCR product											180	200	225	135		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*13:02:01- 13:02:03, 13:05:01- 13:05:02, 13:29, 13:31, 13:50:02, 13:56, 13:63, 13:73- 13:74, 13:96, 14:30			3													
*13:04, 13:11:01- 13:11:02, 13:14:01- 13:14:03, 13:16, 13:21:01-13:25, 13:30, 13:44, 13:46, 13:50:01, 13:52, 13:62, 13:66:01-13:66:02, 13:68, 13:75, 13:82, 13:97, 14:42																
*13:15		2		4												
*13:19, 14:20, 14:40, 14:94		2								10						
*13:26, 13:85, 14:02-14:03:01, 14:13, 14:19, 14:24, 14:27, 14:47, 14:51, 14:63, 14:67, 14:85, 14:89, 14:98		2	3							10						
*13:27, 13:71	1			4		6			9							16
*13:32, 13:40, 14:80				4						10						
*13:34			3													
*13:36, 13:65, 14:09			3							10						
*13:39			3								11					
*13:41			3			6			9							16
*13:53, 14:06:01- 14:06:02, 14:12, 14:18, 14:78, 14:81		2		4						10						
*13:54											11					
*13:57		2														
*13:58, 13:81										10						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **01K**

Lot-specific information

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255	120	175	75	70	95	65	65	180	115	175	160	155	175	195	215	Length of spec. PCR product
			120	150		165				230	195	180		245		Well No.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
													30			*13:02:01- 13:02:03, 13:05:01- 13:05:02, 13:29, 13:31, 13:50:02, 13:56, 13:63, 13:73- 13:74, 13:96, 14:30
													30			*13:04, 13:11:01- 13:11:02, 13:14:01- 13:14:03, 13:16, 13:21:01-13:25, 13:30, 13:44, 13:46, 13:50:01, 13:52, 13:62, 13:66:01-13:66:02, 13:68, 13:75, 13:82, 13:97, 14:42
							24						30			*13:15
													30			*13:19, 14:20, 14:40, 14:94
							24						30			*13:26, 13:85, 14:02-14:03:01, 14:13, 14:19, 14:24, 14:27, 14:47, 14:51, 14:63, 14:67, 14:85, 14:89, 14:98
													30			*13:27, 13:71
													30			*13:32, 13:40, 14:80
								26					30			*13:34
													30			*13:36, 13:65, 14:09
													30			*13:39
													30			*13:41
							24						30			*13:53, 14:06:01- 14:06:02, 14:12, 14:18, 14:78, 14:81
													30			*13:54
				21									30			*13:57
17													30			*13:58, 13:81
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **01K**

Lot-specific information

www.olerup-ssp.com

Length of spec.	220	85	190	190	75	105	135	185	135	145	105	135	170	105	155	195
PCR product											180	200	225	135		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*13:64																
*13:67			3													
*13:77-13:79, 14:64				4							11					
*13:83, 14:65																
*13:86		2														
*14:03:02		2	3													
*14:29		2		4						10						
*14:38										10			13			
*14:41, 14:77		2								10						
*14:46, <i>DRB3*02:20</i>			3													
*14:48		2	3							10	11					
*14:49		2								10						
*14:52				4												
*14:59				4						10					15	
*14:82	1									10		12				
*14:83		2		4						10						
*14:86										10					15	
*14:95	1			4		6			9							
*14:96										10					15	
*14:97										10						
*14:99										10						
*15:25								8								
<i>DRB3*01:14</i>										10	11					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

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*03 subtyping.

In addition, wells number 3, 11, 14, 17, 19, 26 and 27 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.

⁴Primer mix 11: Specific PCR fragment of 105 bp in the DRB1*03:09 and 03:23 alleles. Specific PCR fragment of 180 bp in the DRB1*03:13:01-03:13:02 and 03:38 and the DRB1*03:39, 13:54, 13:77-13:79, 14:48 and 14:64 and the DRB3*01:14 alleles.

Primer mix 12: Specific PCR fragment of 135 bp in the DRB1*03:10 and the DRB1*14:82 alleles. Specific PCR fragment of 200 bp in the DRB1*03:51 allele.

Lot No.: **01K**

Lot-specific information

www.olerup-ssp.com

255	120	175	75	70	95	65	65	180	115	175	160	155	175	195	215	Length of spec. PCR product
			120	150		165				230	195	180		245		Well No.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
				21					26				30			*13:64
				21												*13:67
													30			*13:77-13:79, 14:64
				21									30			*13:83, 14:65
													30			*13:86
							24						30			*14:03:02
17							24						30			*14:29
																*14:38
									26				30			*14:41, 14:77
							24									*14:46, <i>DRB3*02:20</i>
							24						30			*14:48
																*14:49
							24									*14:52
													30			*14:59
																*14:82
													30			*14:83
																*14:86
													30			*14:95
													30			*14:96
									26							*14:97
17																*14:99
	18															*15:25
									26							<i>DRB3*01:14</i>
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Primer mix 13: Specific PCR fragment of 170 bp in the DRB1*03:47 allele. Specific PCR fragment of 225 bp in the DRB1*03:11:01-03:11:02, 03:17, 03:24, 03:27 and 03:35 and the DRB1*14:38 alleles.

Primer mix 14: Specific PCR fragment of 105 bp in the DRB1*03:16 allele. Specific PCR fragment of 135 bp in the DRB1*03:12 and in the DRB1*09:08 alleles.

Primer mix 20: Specific PCR fragment of 75 bp in the DRB1*03:04^w, 03:25 and 03:31 and the DRB1*11:80 alleles. Specific PCR fragment of 120 bp in the DRB1*03:28 allele.

Primer mix 21: Specific PCR fragment of 70 bp in the DRB1*03:21, 03:30 and 03:43 and the DRB1*11:10:01-11:10:02, 11:12:01-11:13:02, 12:05, 12:14-12:15, 13:57, 13:64, 13:83, 14:35, 14:65 and 14:72 alleles. Specific PCR fragment of 150 bp in the DRB1*03:42 and the DRB1*11:30 and DRB1*13:67 alleles.

Primer mix 23: Specific PCR fragment of 65 bp in the DRB1*03:09 and 03:23 alleles. Specific PCR fragment of 165 bp in the DRB1*03:19 allele.

Primer mix 27: Specific PCR fragment of 175 bp in the DRB1*03:46 alleles. Specific PCR fragment of 230 bp in the DRB1*03:34 allele.

Primer mix 28: Specific PCR fragment of 160 bp in the DRB1*03:36 alleles. Specific PCR fragment of 195 bp in the DRB1*03:45 allele.

Primer mix 29: Specific PCR fragment of 155 bp in the DRB1*03:40-03:41 and the DRB1*03:52 and DRB1*11:07 alleles. Specific PCR fragment of 180 bp in the DRB1*03:39 allele.

Primer mix 31: Specific PCR fragment of 195 bp in the DRB1*03:45 allele. Specific PCR fragment of 245 bp in the DRB1*03:50 allele.

‘?’ , nucleotide sequence information not available for the primer matching sequence. “w”, may be weakly amplified.

CELL LINE VALIDATION SHEET																				
DRB1*03 SSP subtyping																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201071301	201071302	201071303	201071304	201071305	201071306	201071307	201071308	201071309	201071310	201071311	201071312	201071313	201071314	201071315	201071316
	IHWC cell line		DRB1																	
1	9001 SA		*01:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707		*15:02	*04:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324		*15:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373		*03:01		+	-	-	+	-	+	-	-	+	-	-	-	-	-	-	-
5	9009 KAS011		*16:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM		*04:07	*08:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL		*03:01		+	-	-	+	-	+	-	-	+	-	-	-	-	-	-	-
8	9025 DEU		*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR		*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3		*04:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT		*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB		*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM		*01:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA		*08:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB		*09:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007		*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540		*03:01	*13:01	+	-	-	+	-	+	-	-	+	-	-	-	-	-	-	-
18	9257 32367		*09:01	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16		*12:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005		*13:02		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA		*14:02		-	+	+	-	-	-	-	-	-	+	-	-	-	-	-	-
22	9056 KOSE		*13:02	*14:01	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-	-
23	9124 IHL		*08:03	*14:14	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
24	9035 JBUSH		*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9		*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49		*03:01		+	-	-	+	-	+	-	-	+	-	-	-	-	-	-	-
27	9191 CH1007		*04:05	*10:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB		*04:16	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU		*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH		*03:02		-	+	+	-	-	-	-	+	-	+	-	-	-	-	-	-
31	9019 DUCAF		*03:01		+	-	-	+	-	+	-	-	+	-	-	-	-	-	-	-
32	9297 HAG		*13:03		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
33	9098 MT14B		*04:04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF		*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO		*04:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17		*04:03	*04:06	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB		*13:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL		*14:02		-	+	+	-	-	-	-	-	-	+	-	-	-	-	-	-
39	9315 CML		*03:01	*04:01	+	-	-	+	-	+	-	-	+	-	-	-	-	-	-	-
40	9134 WHONP199		*07:01	*09:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301		*13:02		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089		*08:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526		*09:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM		*14:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
45	9239 SHJO		*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU		*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO		*11:04	*12:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND		*01:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET																					
DRB1*03 SSP subtyping																					
				Prod. No.:	Well																
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	IHWC cell line	DRB1			201071317	201071318	201071319	201071320	201071321	201071322	201071323	201071324	201071325	201071326	201071327	201071328	201071329	201071330	201071331	201071332	
1	9001 SA	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*15:02	*04:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*15:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*03:01			-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
5	9009 KAS011	*16:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*04:07	*08:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL	*03:01			-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
8	9025 DEU	*04:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*04:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*04:05			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*08:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*09:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*03:01	*13:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
18	9257 32367	*09:01	*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*12:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*13:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
21	9064 AMALA	*14:02			-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	-	-
22	9056 KOSE	*13:02	*14:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
23	9124 IHL	*08:03	*14:14		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
24	9035 JBUSH	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*03:01			-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
27	9191 CH1007	*04:05	*10:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*04:16	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*03:02			-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	-	-
31	9019 DUCAF	*03:01			-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
32	9297 HAG	*13:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
33	9098 MT14B	*04:04			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*04:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*04:03	*04:06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*13:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
38	9099 LZL	*14:02			-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	-	-
39	9315 CML	*03:01	*04:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
40	9134 WHONP199	*07:01	*09:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301	*13:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
42	9066 TAB089	*08:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526	*09:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*14:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*15:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*11:04	*12:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*01:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS**Olerup SSP® DRB1*03 SSP**

Product number: 101.113-24u/04u – without *Taq* pol.
Lot number: 01K
Expiry date: 2012-May-01
Number of tests: 24 tests – Product No. 101.113-24u
 4 tests – Product No. 101.113-04u
Number of wells per test: 32

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-713-01	13	2010-713-13	25	2010-713-25
2	2010-713-02	14	2010-713-14	26	2010-713-26
3	2010-713-03	15	2010-713-15	27	2010-713-27
4	2010-713-04	16	2010-713-16	28	2010-713-28
5	2010-713-05	17	2010-713-17	29	2010-713-29
6	2010-713-06	18	2010-713-18	30	2010-713-30
7	2010-713-07	19	2010-713-19	31	2010-713-31
8	2010-713-08	20	2010-713-20	32	2010-713-32
9	2010-713-09	21	2010-713-21		
10	2010-713-10	22	2010-713-22		
11	2010-713-11	23	2010-713-23		
12	2010-713-12	24	2010-713-24		

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 7, 11 to 15, 17, 19 to 23, 25 to 29, 31 and 32 were available. The specificities of the primers in primer solutions 7, 12 to 15, 17, 21 and 26 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer solutions 19, 25, 28 and 31 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 20, 22, 23, 27 and 32 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 11 to 14 one of the 3'-primer was not possible to test. In primer solution 21 one of the 5'-primers was not possible to test.

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

Date of approval: 2010-May-12

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP® DRB1*03
Product number: 101.113-24u/04u
Lot number: 01K
Intended use: DRB1*03 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 9001:2008 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-May-12

Olle Olerup
Managing Director

Lot No.: **01K**

Lot-specific information

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