

Olerup SSP[®] DRB1*08

Product number:	101.127-12/04 – including <i>Taq</i> pol.
Lot number:	01G
Expiry date:	2011-August-01
Number of tests:	12 tests – Product No. 101.127-12 4 tests – Product No. 101.127-04
Number of wells per test:	24
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. 01G.

**CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP[®]*
DRB1*08 Lot**

The DRB1*08 specificity and interpretation tables have been updated for the DRB1 alleles described since the previous *Olerup SSP[®]* DRB1*08 lot was made (Lot No. 72E).

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

Well	5'-primer	3'-primer	rationale
5	-	Modified	Increased specificity of amplification.
10	-	-	Exchanged positive control primer pair.
11	-	-	Exchanged positive control primer pair.
12	-	-	Exchanged positive control primer pair.
22	-	Added	Primer added for the DRB1*0829 allele.
24	Added	-	Primer added for the DRB1*0836 allele.

PRODUCT DESCRIPTION

DRB1*08 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB1*0801 to DRB1*0836 alleles.

PLATE LAYOUT

Each test consists of 24 PCR reactions in a 24 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

The 24 well cut PCR plate is marked with 'DRB1*08' in silver/gray ink.

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

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

Please note: When removing each 24 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*08 SSP subtypings will be influenced by the DRB1*0312 allele, seven DRB1*04 alleles, six DRB1*11 alleles, all DRB1*12 alleles, several DRB1*13 alleles, several DRB1*14 alleles and two DRB1*15 allele when present on the other haplotype.

UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DRB1*08 alleles, i.e. **DRB1*0801 to DRB1*0836**, recognized by the HLA Nomenclature Committee in July 2009¹ will give rise to unique amplification patterns by the primers in the DRB1*08 subtyping kit².

The DRB1*08 subtyping kit cannot distinguish the DRB1*080101 to DRB1*080104 alleles, the DRB1*080201 to DRB1*080203 alleles, the DRB1*080401 and DRB1*080404 alleles or the DRB1*080402 and DRB1*080403 alleles.

¹DRB1 alleles listed on the IMGT/HLA web page 2009-July-17, release 2.26.0, www.ebi.ac.uk/imgt/hla.

²The DRB1*0820 and DRB1*1412 give rise to identical amplification patterns with the DRB1*08 subtyping kit. These two alleles can be distinguished by e.g. the DR low resolution kit and/or the DRB1*14 subtyping kit.

RESOLUTION IN HOMO- AND HETEROZYGOTES

The 36 DRB1*08 alleles can be combined in 666 homozygous and heterozygous combinations. 239 of these genotypes do not give rise to unique amplification patterns. The different lengths of the specific products in vials 12, 13, 17, 18, 19, 22 and 24 were not considered in these calculations.

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Lot-specific information

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+++++++-	-----+	-----	0802, 0818 = 080302, 0824
+++++-++	+------+	+--+-----	0809, 0812 = 0812, 0821
+++++-++	+-----+	+--+-----	0809, 0810 = 0810, 0821
+++++-++	-----+-+	+--+-----	0823, 0828 = 0828, 0829
+++++-++	-----+-+	+--+-----	0814, 0828 = 0828, 0836
+++++-++	-----+-+	+--+-----	0804, 0823 = 0804, 0829
+++++-++	-----+-+	+--+-----	0804, 0814 = 0804, 0836
+++++-+-	+--+-----	-----	0809, 0827 = 0821, 0827
+++++-+-	+--+-----	-----	0809, 0833 = 0821, 0833
+++++-+-	+--+-----	-----	0809, 0832 = 0821, 0832
+++++-+-	+--+-----	-----	0809, 0823 = 0809, 0829 =
			0821, 0823
+++++-+-	+--+-----	-----	0802, 0835 = 0809, 0835 =
			0809, 0836 = 0821, 0835 =
			0821, 0836
+++++-+-	+--+-----	-----	080302, 0809 = 080302, 0821
+++++-+-	-----+	-----	0802, 0823 = 0802, 0829
+++-+++-	-----	-----	0801, 0824 = 0802, 0805
+++-+++-	+++-----	+--+-----	0809, 0822 = 0821, 0822
+++-+++-	+-----	+--+-----	0806, 0809 = 0806, 0821
+++-+++-	-----+-	+--+-----	0801, 0828 = 0804, 0817 =
			0817, 0828
+++-+++-	+-----+-	-----	0809, 0817 = 0817, 0821
+++-+++-	+-----	-----	0809, 0816 = 0816, 0821
+++-+++-	+-----	-----	0809, 0826 = 0821, 0826
+++-+++-	+-----	-----	0801, 0809 = 0801, 0821
++-+++-	-----+-	-----	0813, 0823 = 0813, 0829
++-+++-	-----+-	-----	080302, 0813 = 0813, 0827 =
			0827, 0830
++-+++-	-----+-	-----	0823, 0830 = 0829, 0830
+-----	+-----	+--+-----	0805, 0812 = 0818, 0822
+-----	+-----	+--+-----	0805, 0810 = 0806, 0818
+-----	+-----	+--+-----	0805, 0833 = 0811, 0818
+-----	+-----	+--+-----	0801, 0825 = 0805, 0834
+-----	+-----	+--+-----	0807, 0818 = 0816, 0818
+-----	+-----	+--+-----	0805, 0836 = 0818, 0826
+-----	+-----	+--+-----	0801, 0818 = 080302, 0805
+-----	+-----	+--+-----	0811, 0812 = 0822, 0833
+-----	+-----	+--+-----	0807, 0812 = 0812, 0816
+-----	+-----	+--+-----	0822, 0823 = 0822, 0829
+-----	+-----	+--+-----	0812, 0826 = 0814, 0822 =
			0822, 0836
+-----	+-----	+--+-----	0801, 0812 = 080302, 0822
+-----	+-----	+--+-----	0806, 0833 = 0810, 0811
+-----	+-----	+--+-----	0807, 0810 = 0810, 0816
+-----	+-----	+--+-----	0806, 0823 = 0806, 0829
+-----	+-----	+--+-----	0806, 0814 = 0806, 0836 =
			0810, 0826
+-----	+-----	+--+-----	0801, 0810 = 080302, 0806

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+ - + + + - + -	+ - - - - - +	- - + - - - +	0807, 0835 = 0816, 0835
+ - + + + - + -	+ - - - - - +	- - - - - - +	0801, 0835 = 0826, 0835
+ - + + + - + -	- - + - - - +	- - - - - + -	0808, 0823 = 0808, 0829
+ - + + + - + -	- - - + - - +	- - + - - - -	0807, 0827 = 0816, 0827
+ - + + + - + -	- - - - + - +	- - + - - - -	0807, 0833 = 0816, 0833
+ - + + + - + -	- - - - + - +	- - - - - + -	0811, 0823 = 0811, 0829
+ - + + + - + -	- - - - + - +	- - - - - - +	0811, 0836 = 0826, 0833
+ - + + + - + -	- - - - + - +	- - - - - - -	0801, 0833 = 080302, 0811 = 0811, 0833
+ - + + + - + -	- - - - - + -	- - - - + + -	0817, 0823 = 0817, 0829
+ - + + + - + -	- - - - - - +	+ - + - - - +	0807, 0814 = 0814, 0816
+ - + + + - + -	- - - - - - +	+ - - - - - +	0801, 0814 = 0814, 0826
+ - + + + - + -	- - - - - - +	- + + - - - -	0807, 0832 = 0816, 0832
+ - + + + - + -	- - - - - - +	- - + - - + -	0807, 0823 = 0807, 0829 = 0816, 0823 = 0816, 0829
+ - + + + - + -	- - - - - - +	- - + - - - +	0807, 0836 = 0816, 0836
+ - + + + - + -	- - - - - - +	- - + - - - -	080302, 0807 = 080302, 0816
+ - + + + - + -	- - - - - - +	- - - - - + +	0823, 0826 = 0826, 0829
+ - + + + - + -	- - - - - - +	- - - - - + -	0801, 0823 = 0801, 0829
+ - + + + - + -	- - - - - - +	- - - - - - +	0801, 0836 = 080302, 0826 = 0826, 0836
+ - + + + - + -	- + - - - - +	+ - - + - - +	0806, 0812 = 0810, 0822
+ - + - + + + -	- - - - - - -	- - + - - - -	0805, 0807 = 0805, 0816
+ - + - + - + +	- + - - - - -	+ - + + - - -	0807, 0822 = 0816, 0822
+ - + - + - + +	- - - - - - -	+ - + + - - +	0806, 0807 = 0806, 0816
+ - + - + - + -	- - - - - + -	- - + - + - -	0807, 0817 = 0816, 0817
+ - + - + - + -	- - - - - + -	- - - - + - -	0801, 0817 = 0817, 0817
+ - + - + - + -	- - - - - - -	- - + - - - +	0807, 0826 = 0816, 0826
+ - + - + - + -	- - - - - - -	- - + - - - -	0801, 0807 = 0801, 0816 = 0807, 0816 = 0816, 0816
+ - + - + - + -	- - - - - - -	- - - - - - +	0801, 0826 = 0826, 0826
+ - - + + + + -	- - - - - + +	- - - - - + -	0818, 0819 = 0823, 0825
+ - - + + + + -	- - - - - + +	- - - - - - -	080302, 0825 = 0818, 0834
+ - - + + - + +	- + - - - - +	+ - - + - - -	0812, 0823 = 0812, 0829
+ - - + + - + +	- + - - - - +	+ - - + - - +	0812, 0814 = 0812, 0836
+ - - + + - + +	- - - - - - +	+ - - + - + +	0810, 0823 = 0810, 0829
+ - - + + - + +	- - - - - - +	+ - - + - - + +	0810, 0814 = 0810, 0836
+ - - + + - + -	+ - - - - - +	- - - - - + +	0823, 0835 = 0829, 0835
+ - - + + - + -	+ - - - - - +	- - - - - - +	080302, 0835 = 0835, 0835 = 0835, 0836
+ - - + + - + -	- - + - - - +	- - - - - + -	0815, 0823 = 0815, 0829
+ - - + + - + -	- - - + - - +	- - - - - + -	0823, 0827 = 0827, 0829
+ - - + + - + -	- - - + - - +	- - - - - - -	080302, 0827 = 0827, 0827
+ - - + + - + -	- - - - + - +	- - - - - + -	0823, 0833 = 0829, 0833
+ - - + + - + -	- - - - + - +	- - - - - - -	080302, 0833 = 0833, 0833
+ - - + + - + -	- - - - - + +	- - - - - + -	080302, 0819 = 0819, 0823 = 0819, 0829 = 0823, 0834 = 0829, 0834
+ - - + + - + -	- - - - - - +	+ + - - - + -	0820, 0823 = 0820, 0829

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+ - - + + - + -	- - - - - +	++ - - - - +	0814, 0820 = 0814, 0832 = 0820, 0836
+ - - + + - + -	- - - - - +	++ - - - - -	080302, 0820 = 0820, 0832
+ - - + + - + -	- - - - - +	+ - - - - +	080302, 0814 = 0814, 0836
+ - - + + - + -	- - - - - +	- + - - - + -	0823, 0832 = 0829, 0832
+ - - + + - + -	- - - - - +	- + - - - - -	080302, 0832 = 0832, 0832
+ - - + + - + -	- - - - - +	- - - - - + +	0823, 0836 = 0829, 0836
+ - - + + - + -	- - - - - +	- - - - - + -	080302, 0823 = 080302, 0829 = 0823, 0823 = 0823, 0829
+ - - + + - + -	- - - - - +	- - - - - +	080302, 0836 = 0836, 0836
- + + + + + + -	- - - - - + -	- - - - - - -	0802, 0825 = 0824, 0834
- + + + + - + -	+ - + - - - -	- - - - - - -	0809, 0815 = 0815, 0821
- + + + + - + -	+ - - - - + -	- - - - - + -	0809, 0819 = 0819, 0821
- + + + + - + -	+ - - - - + -	- - - - - - -	0809, 0834 = 0821, 0834
- + + + + - + -	+ - - - - - -	- - - - - - -	0809, 0830 = 0821, 0830
- + + + + - + -	- - + - - - -	- - - - - - -	0802, 0815 = 0808, 0830
- + + - + - + +	+ - - - - + -	+ - - - + - + -	0809, 0828 = 0821, 0828
- + + - + - + +	+ - - - - - -	+ - - - - + -	0804, 0809 = 0804, 0821
- + + - + - + -	+ - + - - - -	- - - - - - -	0808, 0809 = 0808, 0821
- + + - + - + -	+ - - + - - -	- - - - - - -	0809, 0813 = 0813, 0821
- + + - + - + -	+ - - - + - -	- - - - - - -	0809, 0811 = 0811, 0821
- + + - + - + -	+ - - - - - -	++ - - - - -	0809, 0820 = 0820, 0821
- + + - + - + -	+ - - - - - -	- - + - - - -	0807, 0809 = 0807, 0821
- + + - + - + -	+ - - - - - -	- - - - - - -	0802, 0809 = 0802, 0821 = 0809, 0809 = 0809, 0821
- + + - + - + -	- - - - - + -	+ - - - + - + -	0804, 0828 = 0828, 0828
- - - + + - + -	- - - - - + -	- - - - - + -	0819, 0819 = 0819, 0834

0801 = 080101-080104
0802 = 080201-080203
0803 = 080302
0804 = 080401-080404
0820 = 0820 + 1412

SPECIFICITY TABLE

DRB1*08 SSP subtyping

Specificities and sizes of the PCR products of the 24 primer mixes used for DRB1*08 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified DRB1*08 alleles ³	Other amplified DRB1 alleles ⁴
1	165 bp	515 bp	*080101-080104, 080302, 0805, 0806, 0810, 0812, 0814, 0816-0818, 0822, 0823, 0826, 0827, 0829, 0832, 0833, 0835, 0836	
2	165 bp	430 bp	*080201-080203, 080401-080404, 0809, 0813, 0821, 0824, 0828, 0830	*1209, 1317, 1415, 1452
3	195 bp	430 bp	*080101-080203, 080401-0809, 0811, 0816, 0817, 0821, 0822, 0824, 0826, 0828, 0831	*1167, 120201- 120204, 1213, 1215, 1216, 1218, 1219, 1415, 1473
4	195 bp	430 bp	*080302, 0810, 0812, 0814, 0815, 0818, 0819, 0823, 0825, 0827, 0829, 0830, 0832-0836	*120101, 120102, 120302-1206, 1208-1211, 1214, 1217, 1317
5	225 bp	515 bp	*080101-080203, 080302-080404, 0806-0813, 0815- 0817, 0819, 0820, 0822, 0823, 0826- 0828, 0830, 0832- 0836	*1123, 1125, 1145, 1155, 1164, 1167, 1313, 1318, 1347, 1355, 140301, 140302, 1412, 1415, 1427, 1440, 1455, 1463, 1467, 1477, 1478, 1484, 1485
6	215 bp	430 bp	*0805, 0818, 0824, 0825, 0831	*120101-120204, 120302-1219, 1317, 1431, 1452
7	250 bp	430 bp	*080101-080203, 080302, 0805, 0807- 0809, 0811, 0813- 0819, 0821, 0823- 0827, 0829, 0830,	*1216, 1468

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			0832-0836	
8	250 bp	430 bp	*080401-080404, 0806, 0810, 0812, 0822, 0828, 0831	*1167, 120101- 1215, 1217-1219, 1317, 1404, 1411, 1415, 1428, 1431, 1450, 1452, 1471, 1473, 1476, 1479
9	150 bp	430 bp	*0809, 0821, 0835	*1415, 1440, 1455, 1477, 1484
10	250 bp	515 bp	*0812, 0822	*120101-120204, 1204-1215, 1217, 1218, 1428
11	170 bp	515 bp	*0808, 0815, 0831	*1167, 1204, 1404, 1411, 1428, 1431, 1450, 1468, 1471, 1473, 1476, 1479
12^{5,7}	95, 195 bp	430 bp	*0813, 0827	*1212
13^{6,8}	135, 165 bp	430 bp	*0811, 0833	
14	135 bp	430 bp	*0817, 0828	*1167, 120101- 120204, 120302- 1219, 1317
15	165 bp	430 bp	*0819, 0825, 0834	*120101-120204, 120302, 1205- 1208, 1210-1217, 1219
16	70 bp	430 bp	*080302, 0810, 0812, 0814, 0818, 0823, 0827, 0829, 0832, 0833, 0835, 0836	*0412, 130301- 1304, 1312, 1313, 1330, 1332, 133301, 1338, 1348, 1358, 1365, 1366, 1381, 1463, 1478
17⁹	75, 175 bp	430 bp	*080401, 080402 ^w , 080403 ^w , 080404, 0806, 0810, 0812, 0814, 0820, 0822, 0828	*0412, 0418, 0425, 0458, 1125, 1167, 1318, 1412, 1415, 1478, 1484, 1521
18¹⁰	150, 225 bp	430 bp	*0820, 0832	*1123, 1125, 1145, 1155, 1164, 1313, 1318, 1347, 1355, 140301, 140302, 1412, 1427, 1440, 1455, 1463, 1467, 1477, 1478, 1484, 1485
19¹¹	105, 165 bp	515 bp	*0807, 0816	

20	125 bp	515 bp	*0806, 0810, 0812, 0822	*0312, 0410-0412, 0467, 1304, 1332, 1348, 1358, 1375, 1381, 1465, 1478, 1512
21	120 bp	515 bp	*0817, 0828	*1123, 1125, 1145, 1155, 1164, 1167, 1318, 1521
22¹²	130, 165, 215 bp	430 bp	*0819, 0823, 0829	*1404, 1411, 1428, 1468, 1471, 1473
23	250 bp	430 bp	*080401, 080402 ^w , 080403 ^w , 080404, 0806, 0810, 0828, 0831	*1167, 120302, 1219, 1317, 1404, 1411, 1415, 1431, 1450, 1452, 1473, 1476, 1479
24^{6,13}	125, 175 bp	430 bp	*0814, 0826, 0835, 0836	*0312, 1332, 1365, 1413, 1463, 1465, 1478, 1485

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*08SSP 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*08 subtyping.

In addition, wells number 5, 10, 11, 19, 20 and 21 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 and fourth 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, the DRB1*0312 allele, seven DRB1*04 alleles, six DRB1*11 alleles, all DRB1*12 alleles, several DRB1*13 alleles, several DRB1*14 alleles and two DRB1*15 alleles are amplified by some of the DRB1*08 primer mixes.

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Lot-specific information

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The DRB1*0820 and DRB1*1412 give rise to identical amplification patterns with the DRB1*08 subtyping kit. These two alleles can be distinguished by e.g. the DR low resolution kit and/or the DRB1*14 subtyping kit.

⁵Primer mix 12 might have a tendency of giving rise to primer dimer artifacts.

⁶Primer mix 13 and 24 may give rise to nonspecific amplifications.

⁷Primer mix 12: Specific PCR fragment of 95 bp in the DRB1*0827 allele. Specific PCR fragment of 195 bp in the DRB1*0813 and DRB1*1212 alleles.

⁸Primer mix 13: Specific PCR fragment of 135 bp in the DRB1*0833 allele. Specific PCR fragment of 165 bp in the DRB1*0811 allele.

⁹Primer mix 17: Specific PCR fragment of 75 bp in the DRB1*080401, 080402-080403^w, 080404, 0806, 0810, 0812, 0820, 0822, 0828 and DRB1*0412, 0418, 0425, 0458, 1125, 1167, 1318, 1412, 1415, 1478, 1484 and 1521 alleles. Specific PCR fragment of 175 bp in the DRB1*0814 allele.

¹⁰Primer mix 18: Specific PCR fragment of 150 bp in the DRB1*0832 allele. Specific PCR fragment of 225 bp in the DRB1*0820 and DRB1* 1123, 1125, 1145, 1155, 1164, 1313, 1318, 1347, 1355, 140301, 140302, 1412, 1427, 1440, 1455, 1463, 1467, 1477, 1478, 1484 and 1485 alleles.

¹¹Primer mix 19: Specific PCR fragment of 105 bp in the DRB1*0816 allele. Specific PCR fragment of 165 bp in the DRB1*0807 allele.

¹²Primer mix 22: Specific PCR fragment of 130 bp in the DRB1*0823 allele. Specific PCR fragment of 165 bp in the DRB1*0819 allele. Specific PCR fragment of 215 bp in the DRB1*0829 and in the DRB1*1404, 1411, 1428, 1468, 1471 and 1473 alleles.

¹³Primer mix 24: Specific PCR fragment of 125 bp in the DRB1*0826, 0835 and 0836 and in the 0312, 1332, 1365, 1413, 1463, 1465, 1478 and 1485 alleles. Specific PCR fragment of 175 bp in the DRB1*0814 allele.

^w, may be weakly amplified.

INTERPRETATION TABLE**DRB1*08 SSP subtyping**

Amplification patterns of the DRB1*0801 to 0836 alleles

	Well ⁵											
	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	165	165	195	195	225	215	250	250	150	250	170	95
PCR product												195
Length of int.	515	430	430	430	515	430	430	430	430	515	515	430
pos. control ¹												
5'-primer(s) ²	16(133)	16(133)	16(133)	16(133)	12(122)	16(133)	16(133)	16(133)	37(197)	16(133)	16(133)	16(133)
	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-TAC 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'
3'-primer(s) ³	57(256)	57(257)	67(286)	67(286)	74(307)	74(307)	86(344)	86(344)	74(307)	85(341)	58(261)	34(188)
	5'-gCT 3'	5'-CAT 3'	5'-gAA 3'	5'-gAT 3'	5'-CAg 3'	5'-CgC 3'	5'-CAC 3'	5'-CCA 3'	5'-CAg 3'	5'-CAg 3'	5'-TCC 3'	5'-CTC 3'
				67(286)				86(344)			58(261)	67(286)
				5'-gAT 3'				5'-CAA 3'			5'-TCC 3'	5'-gAg 3'
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
DRB1 allele ⁴												
*080101-080104	1		3		5		7					
*080201-080203		2	3		5		7					
*080302	1			4	5		7					
*080401, 080404		2	3		5			8				
*080402, 080403		2	3		5			8				
*0805	1		3			6	7					
*0806	1		3		5			8				
*0807			3		5		7					
*0808			3		5		7				11	
*0809		2	3		5		7		9			
*0810	1			4	5			8				
*0811			3		5		7					
*0812	1			4	5			8		10		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

INTERPRETATION TABLE												
DRB1*08 SSP subtyping												
Amplification patterns of the DRB1*0801 to 0836 alleles												
Well ⁵												
13	14	15	16	17	18	19	20	21	22	23	24	
135	135	165	70	75	150	105	125	120	130	250	125	Length of spec.
165				175	225	165			165		175	PCR product
									215			
430	430	430	430	430	430	515	515	515	430	430	430	Length of int. pos. control ¹
16(133)	16(133)	16(133)	57(258)	12(122)	13(125)	16(133)	57(258)	47(227)	16(133)	16(133)	12(122)	5'-primer(s) ²
5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-AqC 3'	5'-TAq 3'	5'-gTC 3'	5'-gTT 3'	5'-AqC 3'	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-TAq 3'	
				74(308)	37(196)						25(161)	
				5'-CCT 3'	5'-AqC 3'						5'-gCT 3'	
											32(181)	
											5'-TCC 3'	
48(229)	47(227)	57(257)	67(286)	57(256)	74(307)	37(196)	86(344)	74(307)	45(220)	85(341)	57(256)	3'-primer(s) ³
5'-CCA 3'	5'-ggA 3'	5'-CgA 3'	5'-gAT 3'	5'-gCT 3'	5'-CAg 3'	5'-gTC 3'	5'-CCA 3'	5'-CAg 3'	5'-CCT 3'	5'-CAA 3'	5'-gCT 3'	
57(257)			67(286)	86(344)		57(257)			57(256)			
5'-CAg 3'			5'-gAT 3'	5'-CCA 3'		5'-CAA 3'			5'-gAT 3'			
									74(308)			
									5'-CCT 3'			
13	14	15	16	17	18	19	20	21	22	23	24	Well No. DRB1 allele ⁴
												*080101-080104
												*080201-080203
			16									*080302
				17						23		*080401, 080404
				W						W		*080402, 080403
												*0805
				17			20			23		*0806
						19						*0807
												*0808
												*0809
			16	17			20			23		*0810
13												*0811
			16	17			20					*0812
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Length of spec.	165	165	195	195	225	215	250	250	150	250	170	95
PCR product												195
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*0813	2				5	7			12			
*0814	1			4			7					
*0815	4				5	7			11			
*0816	1		3		5		7					
*0817	1	3			5	7						
*0818	1			4		6	7					
*0819	4				5	7						
*0820, 1412 ⁶					5							
*0821	2		3		7				9			
*0822	1		3		5			8		10		
*0823	1	4			5	7						
*0824		2	3			6	7					
*0825	4				6		7					
*0826	1		3		5		7					
*0827	1	4			5	7			12			
*0828		2	3		5			8				
*0829	1	4			7							
*0830		2		4	5		7					
*0831	3				6		8		11			
*0832	1			4	5		7					
*0833	1	4			5	7						
*0834				4	5		7					
*0835	1	4			5	7			9			
*0836	1			4	5		7					
*0312, 1465												
*0410, 0411, 0467, 1375, 1512												
*0412												
*0418, 0425, 0458												
*1123, 1145, 1155, 1164					5							
*1125, 1318					5							
*1167	3				5	8			11			
*120101, 120102, 1205, 1206, 1208, 1210, 1211, 1214, 1217				4		6		8		10		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **01G**

Lot-specific information

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135	135	165	70	75	150	105	125	120	130	250	125	Length of spec.
165				175	225	165			165		175	PCR product
									215			
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
			16	17							24	*0813
												*0814
												*0815
						19						*0816
14			16					21				*0817
												*0818
		15							22			*0819
				17	18							*0820, 1412 ⁶
												*0821
				17			20					*0822
			16						22			*0823
												*0824
		15										*0825
											24	*0826
			16									*0827
	14			17				21		23		*0828
			16						22			*0829
												*0830
										23		*0831
			16		18							*0832
13			16									*0833
		15										*0834
			16								24	*0835
			16								24	*0836
							20				24	*0312, 1465
							20					*0410, 0411, 0467,
												1375, 1512
			16	17			20					*0412
				17								*0418, 0425, 0458
					18			21				*1123, 1145, 1155,
				17	18			21				1164
												*1125, 1318
	14			17				21		23		*1167
												*120101, 120102,
	14	15										1205, 1206, 1208,
												1210, 1211, 1214,
												1217
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Length of spec.	165	165	195	195	225	215	250	250	150	250	170	95
PCR product												195
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*120201-120204, 1213, 1215			3			6		8		10		
*120302				4		6		8				
*1204				4		6		8		10	11	
*1207						6		8		10		
*1209		2		4		6		8		10		
*1212						6		8		10		12
*1216			3			6	7					
*1218			3			6		8		10		
*1219			3			6		8				
*130301, 130302, 1312, 1330, 133301, 1338, 1366												
*1304, 1348, 1358, 1381												
*1313					5							
*1317		2		4		6		8				
*1332												
*1347, 1355, 140301, 140302, 1427, 1467					5							
*1365												
*1404, 1411								8			11	
*1413												
*1415		2	3		5			8	9			
*1428								8		10	11	
*1431						6		8			11	
*1440, 1455, 1477					5				9			
*1450, 1476, 1479								8			11	
*1452		2				6		8				
*1463					5							
*1468							7				11	
*1471								8			11	
*1473			3					8			11	
*1478					5							
*1484					5				9			
*1485					5							
*1521												
DRB1 allele ⁴												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **01G**

Lot-specific information

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135	135	165	70	75	150	105	125	120	130	250	125	Length of spec.
165				175	225	165			165		175	PCR product
									215			
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
	14	15										*120201-120204, 1213, 1215
	14	15								23		*120302
	14											*1204
	14	15										*1207
	14											*1209
	14	15										*1212
	14	15										*1216
	14											*1218
	14	15								23		*1219
			16									*130301, 130302, 1312, 1330, 133301, 1338, 1366
			16				20					*1304, 1348, 1358, 1381
			16		18							*1313
	14									23		*1317
			16				20				24	*1332
					18							*1347, 1355, 140301, 140302, 1427, 1467
			16								24	*1365
									22	23		*1404, 1411
											24	*1413
				17						23		*1415
									22			*1428
					18					23		*1431
												*1440, 1455, 1477
										23		*1450, 1476, 1479
										23		*1452
			16		18						24	*1463
									22			*1468
									22			*1471
									22	23		*1473
			16	17	18		20				24	*1478
				17	18							*1484
					18						24	*1485
				17				21				*1521
13	14	15	16	17	18	19	20	21	22	23	24	DRB1 allele ⁴
												Well No.

Lot No.: **01G**

Lot-specific information

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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*08 subtyping.

In addition, wells number 5, 10, 11, 19, 20 and 21 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.

⁴The sequence of the DRB1*080301 allele has been shown to be identical to DRB1*080302.

⁵Primer mix 12: Specific PCR fragment of 95 bp in the DRB1*0827 allele. Specific PCR fragment of 195 bp in the DRB1*0813 and DRB1*1212 alleles.

Primer mix 13: Specific PCR fragment of 135 bp in the DRB1*0833 allele. Specific PCR fragment of 165 bp in the DRB1*0811 allele.

Primer mix 17: Specific PCR fragment of 75 bp in the DRB1*080401, 080402-080403^w, 080404, 0806, 0810, 0812, 0820, 0822, 0828 and DRB1*0412, 0418, 0425, 0458, 1125, 1167, 1318, 1412, 1415, 1478, 1484 and 1521 alleles. Specific PCR fragment of 175 bp in the DRB1*0814 allele.

Primer mix 18: Specific PCR fragment of 150 bp in the DRB1*0832 allele. Specific PCR fragment of 225 bp in the DRB1*0820 and DRB1* 1123, 1125, 1145, 1155, 1164, 1313, 1318, 1347, 1355, 140301, 140302, 1412, 1427, 1440, 1455, 1463, 1467, 1477, 1478, 1484 and 1485 alleles.

Primer mix 19: Specific PCR fragment of 105 bp in the DRB1*0816 allele. Specific PCR fragment of 165 bp in the DRB1*0807 allele.

Primer mix 22: Specific PCR fragment of 130 bp in the DRB1*0823 allele. Specific PCR fragment of 165 bp in the DRB1*0819 allele. Specific PCR fragment of 215 bp in the DRB1*0829 and in the DRB1*1404, 1411, 1428, 1468, 1471 and 1473 alleles.

Primer mix 24: Specific PCR fragment of 125 bp in the DRB1*0826, 0835 and 0836 and in the 0312, 1332, 1365, 1413, 1463, 1465, 1478 and 1485 alleles. Specific PCR fragment of 175 bp in the DRB1*0814 allele.

⁶The DRB1*0820 and DRB1*1412 give rise to identical amplification patterns with the DRB1*08 subtyping kit. These two alleles can be distinguished by e.g. the DR low resolution kit and/or the DRB1*14 subtyping kit.

'w', may be weakly amplified.

CELL LINE VALIDATION SHEET																				
DRB1*08 SSP subtyping kit																				
					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	200961001	200961002	200961003	200961004	200961005	200961006	200961007	200961008	200961009	200961010	200961011	200961012	200961013	200961014	200961015	200961016
	IHWC cell line		DRB1																	
1	9001	SA	*0101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*1502	*0405	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*1502		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*0407	*0803	+	-	-	+	+	-	+	-	-	-	-	-	-	-	-	+
7	9020	QBL	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*0401		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*0402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*0405		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*0101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*0802		-	+	+	-	+	-	+	-	-	-	-	-	-	-	-	-
15	9075	DKB	*0901		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*1101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*0301	*1301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*0901	*1101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*1201		-	-	-	+	-	+	-	+	-	+	-	-	-	+	+	-
20	9059	SLE005	*1302		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*1302	*1401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*0803	*1414	+	-	-	+	+	-	+	-	-	-	-	-	-	-	-	+
24	9035	JBUSH	*1101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*0405	*1001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*0416	*0701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*0302		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*1303		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
33	9098	MT14B	*0404		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*1101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*0403		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*0403	*0406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*1301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*0301	*0401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*0701	*0901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*1302		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*0803		+	-	-	+	+	-	+	-	-	-	-	-	-	-	-	+
43	9076	T7526	*0901		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*1401		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*1501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*1104	*1201	-	-	-	+	-	+	-	+	-	+	-	-	-	+	+	-
48	9303	TER-ND	*0103		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET												
DRB1*08 SSP subtyping kit												
					Well							
					17	18	19	20	21	22	23	24
				Prod. No.:	200961017	200961018	200961019	200961020	200961021	200961022	200961023	200961024
	IHCW cell line		DRB1									
1	9001	SA	*0101		-	-	-	-	-	-	-	-
2	9280	LK707	*1502	*0405	-	-	-	-	-	-	-	-
3	9011	E4181324	*1502		-	-	-	-	-	-	-	-
4	9275	GU373	*0301		-	-	-	-	-	-	-	-
5	9009	KAS011	*1601		-	-	-	-	-	-	-	-
6	9353	SM	*0407	*0803	-	-	-	-	-	-	-	-
7	9020	QBL	*0301		-	-	-	-	-	-	-	-
8	9025	DEU	*0401		-	-	-	-	-	-	-	-
9	9026	YAR	*0402		-	-	-	-	-	-	-	-
10	9107	LKT3	*0405		-	-	-	-	-	-	-	-
11	9051	PITOUT	*0701		-	-	-	-	-	-	-	-
12	9052	DBB	*0701		-	-	-	-	-	-	-	-
13	9004	JESTHOM	*0101		-	-	-	-	-	-	-	-
14	9071	OLGA	*0802		-	-	-	-	-	-	-	-
15	9075	DKB	*0901		-	-	-	-	-	-	-	-
16	9037	SWEIG007	*1101		-	-	-	-	-	-	-	-
17	9282	CTM3953540	*0301	*1301	-	-	-	-	-	-	-	-
18	9257	32367	*0901	*1101	-	-	-	-	-	-	-	-
19	9038	BM16	*1201		-	-	-	-	-	-	-	-
20	9059	SLE005	*1302		-	-	-	-	-	-	-	-
21	9064	AMALA	*1402		-	-	-	-	-	-	-	-
22	9056	KOSE	*1302	*1401	-	-	-	-	-	-	-	-
23	9124	IHL	*0803	*1414	-	-	-	-	-	-	-	-
24	9035	JBUSH	*1101		-	-	-	-	-	-	-	-
25	9049	IBW9	*0701		-	-	-	-	-	-	-	-
26	9285	WT49	*0301		-	-	-	-	-	-	-	-
27	9191	CH1007	*0405	*1001	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*0416	*0701	-	-	-	-	-	-	-	-
29	9050	MOU	*0701		-	-	-	-	-	-	-	-
30	9021	RSH	*0302		-	-	-	-	-	-	-	-
31	9019	DUCAF	*0301		-	-	-	-	-	-	-	-
32	9297	HAG	*1303		-	-	-	-	-	-	-	-
33	9098	MT14B	*0404		-	-	-	-	-	-	-	-
34	9104	DHIF	*1101		-	-	-	-	-	-	-	-
35	9302	SSTO	*0403		-	-	-	-	-	-	-	-
36	9024	KT17	*0403	*0406	-	-	-	-	-	-	-	-
37	9065	HHKB	*1301		-	-	-	-	-	-	-	-
38	9099	LZL	*1402		-	-	-	-	-	-	-	-
39	9315	CML	*0301	*0401	-	-	-	-	-	-	-	-
40	9134	WHONP199	*0701	*0901	-	-	-	-	-	-	-	-
41	9055	H0301	*1302		-	-	-	-	-	-	-	-
42	9066	TAB089	*0803		-	-	-	-	-	-	-	-
43	9076	T7526	*0901		-	-	-	-	-	-	-	-
44	9057	TEM	*1401		-	-	-	-	-	-	-	-
45	9239	SHJO	*0701		-	-	-	-	-	-	-	-
46	9013	SCHU	*1501		-	-	-	-	-	-	-	-
47	9045	TUBO	*1104	*1201	-	-	-	-	-	-	-	-
48	9303	TER-ND	*0103		-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP® DRB1*08 SSP

Product number: 101.127-12/04 – including *Taq* pol.
Lot number: 01G
Expiry date: 2011-August-01
Number of tests: 12 tests – Product No. 101.127-12
4 tests – Product No. 101.127-04
Number of wells per test: 24

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2009-610-01	9	2009-610-09	17	2009-610-17
2	2009-610-02	10	2009-610-10	18	2009-610-18
3	2009-610-03	11	2009-610-11	19	2009-610-19
4	2009-610-04	12	2009-610-12	20	2009-610-20
5	2009-610-05	13	2009-610-13	21	2009-610-21
6	2009-610-06	14	2009-610-14	22	2009-610-22
7	2009-610-07	15	2009-610-15	23	2009-610-23
8	2009-610-08	16	2009-610-16	24	2009-610-24

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 No. 9, 12, 21 and 24 were available. The specificities of the primers in primer solutions 9, 21 and 24 were tested by separately adding one additional 5'-primer, respectively, one additional 3'-primer. In primer solution 12 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 8, 13 and 19 one 3'-primer was not possible to test, and in primer solution 17 one 5'-primer was not possible to test. Additional primers in primer solutions 11, 17 and 18 were tested by separately adding one additional 5'-primer or 3'-primer.

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

Date of approval: 2009-August-20

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: Olerup SSP® DRB1*08

Product number: 101.127-12/04

Lot number: 01G

Intended use: DRB1*08 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-August 20

Olle Olerup
Managing Director

Lot No.: **01G**

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**.