

Olerup SSP® HLA-B*13

Product number:	101.515-12 – including <i>Taq</i> polymerase
Lot number:	13M
Expiry date:	2013-November-01
Number of tests:	12
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. 13M.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® HLA-B*13 LOT

The HLA-B*13 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP*® HLA-B*13 lot was made (Lot No. 25K).

One well has been added to the HLA-B*13 kit, well **24**.
The amplification patterns for some rare HLA-B*13 alleles only differ by the length of the specific PCR products.

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

Well	5'-primer	3'-primer	rationale
9	-	Added	Primer added for the B*13:42 allele.
17	Added	-	Primer added for the B*13:43 allele.
18	-	Added	Primer added for the B*13:44 allele.
19	Added	Added	Added primer pair for the B*13:38 allele.
20	Added	-	Added primer for increased yield of HLA-specific PCR product.
21	Added	Added	Added primer pair for the B*13:40 allele.
22	Added	Added	Added primer pair for the B*13:40 allele.
23	-	Added	Primers added for the B*13:42 and 13:44 alleles.
24	New	New	New primer pair for resolution of the B*13:31 and 13:41 alleles.

Change in revision R01 compared to R00:

1. Primer mixes 2 and 3 amplify the B*13:12 allele. This has been corrected in the specificity and amplification tables.

PRODUCT DESCRIPTION

HLA-B*13 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*13:01 to B*13:46 alleles.

PLATE LAYOUT

Each test consists of 24 PCR reactions in a 24 well 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 ‘HLA-B*13’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘13M’.

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 24 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 HLA-B*13 subtypings will be influenced by the B*07, most B*08, the B*14, most B*15, most B*18, several B*27, most B*35, four B*37, the B*38, most B*39, the B*40, the B*41, the B*42, several B*44, the B*45, the B*46, two B*47, most B*48, most B*49, the B*50, most B*51, most B*52, most B*53, most B*54, most B*55, most B*56, most B*57, most B*58, the B*59, the B*67, the B*73, most B*78, the B*81 and the B*82 alleles when present on the other haplotype. In addition, the C*02:06 and C*02:47 alleles will be amplified by primer mix 12, the C*03:34 and C*15:42 alleles will be amplified by primer mix 3, the C*15:24 allele will be amplified by primer mixes 7 and 10 and the C*17:08 allele will be amplified by primer mix 19.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*13 alleles, i.e. **B*13:01 to B*13:46**, recognized by the HLA Nomenclature Committee in April 2011¹ will give rise to unique amplification patterns by the primers in the HLA-B*13 subtyping kit.

The HLA-B*13 kit cannot distinguish the B*13:01:01-13:01:06 alleles or the 13:02:01-13:02:10 alleles.

The B*13:15 and B*13:33 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 16.

The B*13:34 and B*13:38 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 19.

¹HLA-B alleles listed on the IMGT/HLA web page 2011-April-08, release 3.4.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 59 alleles generate 43 amplification patterns that can be combined in 946 homozygous and heterozygous combinations. 370 of these genotypes do not give rise to unique amplification patterns. The different lengths of the specific PCR products were not considered in these calculations.

+++++--+	-----+-	-----+	*13:22:01, *13:31 = *13:23, *13:31
+++++--+	-----+-	-----	*13:18, *13:22:01 = *13:22:01, *13:41 = *13:23, *13:41
+++++--+	-----	-----+	*13:01:01, *13:31 = *13:07N, *13:16 = *13:07N, *13:31 = *13:18, *13:20 = *13:20, *13:31 = *13:20, *13:41 = *13:22:02, *13:31
+++++--+	-----	-----	*13:01:01, *13:41 = *13:07N, *13:41 = *13:07N, *13:45 = *13:18, *13:22:02 = *13:22:02, *13:41
+++++---	-+-----	-----+	*13:09, *13:20 = *13:16, *13:39
+++++---	-+-----	-----	*13:09, *13:22:02 = *13:39, *13:45
+++++---	-----+-	-----+	*13:13, *13:16 = *13:20, *13:35
+++++---	-----+-	-----	*13:13, *13:45 = *13:22:02, *13:35
+++++---	-----+-	-----+	*13:14, *13:20 = *13:16, *13:22:01 = *13:16, *13:23
+++++---	-----+-	-----	*13:02:01, *13:22:01 = *13:14, *13:22:01 = *13:14, *13:22:02 = *13:23, *13:45
+++++---	-----+	-----+	*13:15, *13:20 = *13:16, *13:17
+++++---	-----+	-----	*13:15, *13:22:02 = *13:17, *13:45
+++++---	-----	+-----+	*13:16, *13:43 = *13:20, *13:27
+++++---	-----	+-----	*13:22:02, *13:27 = *13:43, *13:45
+++++---	-----	-+-----+	*13:16, *13:28 = *13:20, *13:32
+++++---	-----	-+-----	*13:22:02, *13:32 = *13:28, *13:45
+++++---	-----	-----+	*13:16, *13:29 = *13:20, *13:30
+++++---	-----	-----+	*13:22:02, *13:30 = *13:29, *13:45
+++++---	-----	-----+	*13:01:01, *13:16 = *13:02:01, *13:20 = *13:16, *13:20 = *13:16, *13:22:02 = *13:20, *13:45
+++++---	-----	-----	*13:01:01, *13:45 = *13:02:01, *13:22:02
+++++--+	-+-----	-----	*13:07N, *13:09 = *13:18, *13:39
+++++--+	-----+-	-----	*13:07N, *13:35 = *13:13, *13:18
+++++--+	-----+-	-----	*13:07N, *13:14 = *13:18, *13:23
+++++--+	-----+	-----	*13:07N, *13:15 = *13:17, *13:18
+++++--+	-----	+-----	*13:07N, *13:27 = *13:18, *13:43
+++++--+	-----	+-----	*13:07N, *13:32 = *13:18, *13:28
+++++--+	-----	-----+	*13:07N, *13:30 = *13:18, *13:29
+++++--+	-----	-----	*13:01:01, *13:18 = *13:02:01, *13:07N = *13:07N, *13:18
+++++---	-+-----	-----	*13:02:01, *13:21 = *13:09, *13:13 = *13:09, *13:21 = *13:21, *13:35 = *13:35, *13:39
+++++---	-+-----	-----	*13:09, *13:23 = *13:14, *13:39
+++++---	-+-----	-----	*13:09, *13:17 = *13:15, *13:39
+++++---	-+-----	+-----	*13:09, *13:43 = *13:27, *13:39
+++++---	-+-----	-+-----	*13:09, *13:28 = *13:32, *13:39
+++++---	-+-----	-+-----	*13:09, *13:29 = *13:30, *13:39
+++++---	-+-----	-----	*13:01:01, *13:09 = *13:02:01, *13:39
+++++---	-----+-	-----	*13:13, *13:14 = *13:23, *13:35
+++++---	-----+-	-----	*13:13, *13:15 = *13:17, *13:35
+++++---	-----+-	+-----	*13:13, *13:27 = *13:35, *13:43
+++++---	-----+-	-+-----	*13:13, *13:32 = *13:28, *13:35
+++++---	-----+-	-----	*13:13, *13:30 = *13:29, *13:35
+++++---	-----+-	-----	*13:01:01, *13:35 = *13:02:01, *13:13 = *13:13, *13:35

Lot No.: **13M**

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++++----- +-----+ +----- *13:14, *13:17 = *13:15, *13:23
++++----- +-----+ +----- *13:14, *13:43 = *13:23, *13:27
++++----- +-----+ -+----- *13:14, *13:28 = *13:23, *13:32
++++----- +-----+ -+----- *13:14, *13:29 = *13:23, *13:30
++++----- +-----+ -+----- *13:01:01, *13:14 = *13:02:01, *13:23 = *13:14, *13:23
++++----- +-----+ +----- *13:15, *13:43 = *13:17, *13:27
++++----- +-----+ -+----- *13:15, *13:28 = *13:17, *13:32
++++----- +-----+ -+----- *13:15, *13:29 = *13:17, *13:30
++++----- +-----+ -+----- *13:01:01, *13:15 = *13:02:01, *13:17 = *13:15, *13:17
++++----- +-----+ +----- *13:27, *13:28 = *13:32, *13:43
++++----- +-----+ +----- *13:27, *13:29 = *13:30, *13:43
++++----- +-----+ +----- *13:01:01, *13:27 = *13:02:01, *13:43 = *13:27, *13:43
++++----- +-----+ -+----- *13:28, *13:30 = *13:29, *13:32
++++----- +-----+ -+----- *13:01:01, *13:44 = *13:28, *13:37 = *13:28, *13:44
++++----- +-----+ -+----- *13:01:01, *13:32 = *13:02:01, *13:28 = *13:28, *13:32
++++----- +-----+ -+----- *13:01:01, *13:40 = *13:25, *13:30 = *13:25, *13:40 =
*13:29, *13:40
++++----- +-----+ -+----- *13:01:01, *13:30 = *13:02:01, *13:29 = *13:29, *13:30
+++-+----- +-----+ -+----- *13:03, *13:07N = *13:07N, *13:22:02
+++-+----- -+-----+ -+----- *13:03, *13:21 = *13:21, *13:22:02
+++-+----- -+-----+ -+----- *13:03, *13:39 = *13:22:02, *13:39
+++-+----- -+-----+ -+----- *13:10, *13:22:01 = *13:22:01, *13:26
+++-+----- -+-----+ -+----- *13:10, *13:20 = *13:20, *13:26
+++-+----- -+-----+ -+----- *13:03, *13:26 = *13:10, *13:22:02 = *13:22:02, *13:26
+++-+----- -+-----+ -+----- *13:03, *13:13 = *13:13, *13:22:02
+++-+----- -+-----+ -+----- *13:20, *13:22:01 = *13:20, *13:23
+++-+----- -+-----+ -+----- *13:01:01, *13:22:01 = *13:03, *13:23 = *13:22:01, *13:23
*13:22:02, *13:23
+++-+----- +-----+ -+----- *13:03, *13:17 = *13:17, *13:22:02
+++-+----- +-----+ +----- *13:03, *13:43 = *13:22:02, *13:43
+++-+----- +-----+ -+----- *13:03, *13:28 = *13:22:02, *13:28
+++-+----- +-----+ -+----- *13:03, *13:36 = *13:22:02, *13:36
+++-+----- +-----+ -+----- *13:03, *13:29 = *13:22:02, *13:29
+++-+----- +-----+ -+----- *13:03, *13:25 = *13:22:02, *13:25
+++-+----- +-----+ -+----- *13:01:01, *13:20 = *13:03, *13:20 = *13:20, *13:20 =
*13:20, *13:22:02
+++-+----- +-----+ -+----- *13:01:01, *13:03 = *13:01:01, *13:22:02
+++-+----- -+-----+ -+----- *13:01:01, *13:04 = *13:04, *13:26 = *13:26, *13:46
+++-+----- -+-----+ -+----- *13:07N, *13:10 = *13:07N, *13:26
+++-+----- -+-----+ -+----- *13:01:01, *13:07N = *13:07N, *13:07N
+++-+----- -+-----+ -+----- *13:10, *13:21 = *13:21, *13:26
+++-+----- -+-----+ -+----- *13:10, *13:39 = *13:26, *13:39
+++-+----- -+-----+ -+----- *13:01:01, *13:21 = *13:13, *13:21 = *13:13, *13:39 =
*13:21, *13:21 = *13:21, *13:39
+++-+----- -+-----+ -+----- *13:10, *13:13 = *13:13, *13:26
+++-+----- -+-----+ -+----- *13:10, *13:23 = *13:23, *13:26
+++-+----- -+-----+ -+----- *13:10, *13:17 = *13:17, *13:26
+++-+----- -+-----+ -+----- *13:10, *13:43 = *13:26, *13:43
+++-+----- -+-----+ -+----- *13:10, *13:28 = *13:26, *13:28
+++-+----- -+-----+ -+----- *13:10, *13:36 = *13:26, *13:36
+++-+----- -+-----+ -+----- *13:10, *13:29 = *13:26, *13:29
+++-+----- -+-----+ -+----- *13:10, *13:25 = *13:25, *13:26
+++-+----- -+-----+ -+----- *13:01:01, *13:10 = *13:01:01, *13:26 = *13:10, *13:26 =
*13:26, *13:26
+++-+----- -+-----+ -+----- *13:01:01, *13:13 = *13:13, *13:13
+++-+----- -+-----+ -+----- *13:01:01, *13:23 = *13:23, *13:23
+++-+----- -+-----+ -+----- *13:01:01, *13:17 = *13:17, *13:17
+++-+----- -+-----+ -+----- *13:01:01, *13:43 = *13:43, *13:43

Lot No.: **13M**

Lot-specific information

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+++-----	-----	-+-----	*13:01:01, *13:28 = *13:28, *13:28
+++-----	-----	----+-----	*13:01:01, *13:36 = *13:36, *13:36
+++-----	-----	-----+-----	*13:01:01, *13:29 = *13:29, *13:29
+++-----	-----	-----+--	*13:01:01, *13:25 = *13:25, *13:25
+++-----	-----	-----+--	*13:12, *13:31 = *13:19, *13:31
+++-----	-----	-----+--	*13:12, *13:41 = *13:19, *13:41
+++-----	-----	-----+--	*13:02:01, *13:31 = *13:03, *13:31 = *13:16, *13:18 = *13:16, *13:31 = *13:16, *13:41 = *13:18, *13:31 = *13:31 *13:31 = *13:31, *13:41 = *13:31, *13:45
+++-----	-----	-----+--	*13:02:01, *13:41 = *13:03, *13:18 = *13:03, *13:41 = *13:18, *13:41 = *13:18, *13:45 = *13:41, *13:41 = *13:41 *13:45
+++-----	-----	-----+--	*13:03, *13:42 = *13:42, *13:45
+++-----	-----	-----+--	*13:03, *13:08Q = *13:08Q, *13:45
+++-----	-----	-----+--	*13:03, *13:09 = *13:09, *13:45
+++-----	-----	-----+--	*13:12, *13:16 = *13:16, *13:19
+++-----	-----	-----+--	*13:03, *13:19 = *13:19, *13:45
+++-----	-----	-----+--	*13:03, *13:35 = *13:35, *13:45
+++-----	-----	-----+--	*13:03, *13:14 = *13:14, *13:45
+++-----	-----	-----+--	*13:03, *13:15 = *13:15, *13:45
+++-----	-----	-----+--	*13:03, *13:27 = *13:27, *13:45
+++-----	-----	-----+--	*13:03, *13:44 = *13:44, *13:45
+++-----	-----	-----+--	*13:03, *13:32 = *13:32, *13:45
+++-----	-----	-----+--	*13:03, *13:34 = *13:34, *13:45
+++-----	-----	-----+--	*13:03, *13:40 = *13:40, *13:45
+++-----	-----	-----+--	*13:03, *13:30 = *13:30, *13:45
+++-----	-----	-----+--	*13:03, *13:37 = *13:37, *13:45
+++-----	-----	-----+--	*13:02:01, *13:16 = *13:03, *13:16 = *13:16, *13:16 = *13:16, *13:45
+++-----	-----	-----+--	*13:02:01, *13:03 = *13:02:01, *13:45
+++-----	-----	-----+--	*13:12, *13:18 = *13:18, *13:19
+++-----	-----	-----+--	*13:02:01, *13:18 = *13:18, *13:18
+++-----	-----	-----+--	*13:12, *13:42 = *13:19, *13:42
+++-----	-----	-----+--	*13:08Q, *13:12 = *13:08Q, *13:19
+++-----	-----	-----+--	*13:08Q, *13:44 = *13:32, *13:42 = *13:42, *13:44
+++-----	-----	-----+--	*13:02:01, *13:42 = *13:08Q, *13:37 = *13:08Q, *13:42 = *13:37, *13:42 = *13:42, *13:42
+++-----	-----	-----+--	*13:02:01, *13:08Q = *13:08Q, *13:08Q
+++-----	-----	-----+--	*13:09, *13:12 = *13:09, *13:19
+++-----	-----	-----+--	*13:12, *13:35 = *13:19, *13:35
+++-----	-----	-----+--	*13:12, *13:14 = *13:14, *13:19
+++-----	-----	-----+--	*13:12, *13:15 = *13:15, *13:19
+++-----	-----	-----+--	*13:12, *13:27 = *13:19, *13:27
+++-----	-----	-----+--	*13:12, *13:44 = *13:19, *13:44
+++-----	-----	-----+--	*13:12, *13:32 = *13:19, *13:32
+++-----	-----	-----+--	*13:12, *13:34 = *13:19, *13:34
+++-----	-----	-----+--	*13:12, *13:40 = *13:19, *13:40
+++-----	-----	-----+--	*13:12, *13:30 = *13:19, *13:30
+++-----	-----	-----+--	*13:12, *13:37 = *13:19, *13:37
+++-----	-----	-----+--	*13:02:01, *13:12 = *13:02:01, *13:19 = *13:12, *13:19 = *13:19, *13:19
+++-----	-----	-----+--	*13:02:01, *13:35 = *13:35, *13:35
+++-----	-----	-----+--	*13:02:01, *13:14 = *13:14, *13:14
+++-----	-----	-----+--	*13:02:01, *13:15 = *13:15, *13:15
+++-----	-----	-----+--	*13:02:01, *13:27 = *13:27, *13:27
+++-----	-----	-----+--	*13:02:01, *13:44 = *13:32, *13:37 = *13:32, *13:44 = *13:37, *13:44 = *13:44, *13:44
+++-----	-----	-----+--	*13:02:01, *13:32 = *13:32, *13:32

Lot No.: **13M**

Lot-specific information

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+++-----	-----	---+-----	*13:02:01, *13:34 = *13:34, *13:34
+++-----	-----	-----+--	*13:02:01, *13:40 = *13:30, *13:40 = *13:40, *13:40
+++-----	-----	-----+--	*13:02:01, *13:30 = *13:30, *13:30
+++-----	-----	-----+-	*13:02:01, *13:37 = *13:37, *13:37
+++-----	-----	-----	*13:04, *13:10 = *13:10, *13:46
+--+-----	-----+	-----	*13:03, *13:22:01 = *13:22:01, *13:22:01 = *13:22:01, *13:22:02
+--+-----	-----	-----	*13:03, *13:22:02 = *13:22:02, *13:22:02
+--+-----	-----	-----	*13:03, *13:45 = *13:45, *13:45
+--+-----	-----+	-----	*13:04, *13:04 = *13:04, *13:46

*13:01:01 = *13:01:01-13:01:06

*13:02:01 = *13:02:01-13:02:10

*13:15 = *13:15 and *13:33

*13:34 = *13:34 and *13:38

SPECIFICITY TABLE

HLA-B*13 SSP subtyping

Specificities and sizes of the PCR products of the 24 primer mixes used for HLA-B*13 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*13 alleles ³	Other amplified HLA Class I alleles ⁴
1⁷	140 bp	800 bp	*13:01:01-13:04, 13:06-13:08Q, 13:10-13:23, 13:25-13:38, 13:40-13:46	*44:60
2^{5,6}	95 bp	800 bp	*13:01:01-13:02:10, 13:07N-13:21, 13:23, 13:25-13:44	*40:91, 51:93
3	245 bp	800 bp	*13:01:01-13:01:06, 13:07N, 13:12-13:13, 13:17, 13:20-13:23, 13:25-13:26, 13:28-13:29, 13:36, 13:39, 13:43	*07:12, 07:14, 07:18:01-07:18:02, 27:19, 27:30, 35:15, 35:33, 35:88, 40:04, 40:30, 40:34, 40:59, 40:64, 40:68, 40:120, 40:129, 40:137, 40:160, 44:16, 44:21, 44:64:01-44:64:02, 44:124, 48:17, 57:13, 57:25, C*03:34, C*15:42
4	245 bp	1070 bp	*13:02:01-13:02:10, 13:08Q-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:44-13:45	*07:78, 07:84, 27:14, 39:50, 40:06:01:01-40:06:03, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 45:10, 49:07, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 52:08, 55:09, 55:22, 55:24, 73:01-73:02
5^{5,7,10}	125 bp, 150 bp, 180 bp	800 bp	*13:03, 13:16, 13:20, 13:22:01-13:22:02, 13:31, 13:41, 13:45	*07:78, 15:42, 15:73, 15:86, 15:224, 35:60, 40:71, 44:10, 46:11, 46:18, 51:62, 51:106, 54:01:01-54:03, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:17-54:24, 55:01:01-55:03, 55:05, 55:07, 55:09-55:12, 55:15-55:16, 55:18-55:19, 55:21-55:22, 55:24-55:26, 55:29-55:31, 55:33-55:40, 55:42-55:45, 55:47-55:48, 56:01:01-56:02, 56:04, 56:07-56:08, 56:10, 56:13-56:14, 56:16-56:17, 56:19N-56:20, 56:23-56:30, 59:01:01:01-59:01:01:02, 59:04-59:05, 82:01-82:03
6^{5,9}	105 bp	1070 bp	*13:04, 13:46	*15:04, 15:16:01-15:16:02, 15:67, 15:95, 15:137, 15:155, 15:222, 35:37, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 39:62, 40:86, 40:159, 45:02, 45:09, 49:04-49:05, 50:09, 51:13:01-51:13:02, 51:37, 51:63, 51:92, 51:97, 52:14, 54:14, 55:13, 55:23, 55:32, 56:22, 59:03, 73:01-73:02

Lot No.: **13M**

Lot-specific information

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7⁸	190 bp	1070 bp	*13:06	*07:34, 08:01:01-08:05, 08:08N-08:10, 08:12:01-08:13, 08:15-08:20, 08:22-08:24, 08:26-08:27, 08:29-08:36, 08:38-08:39, 08:41-08:48, 08:50-08:70, 14:13, 15:42, 15:83, 15:86, 15:188, 15:224, 18:26, 18:61, 35:60, 35:87, 35:157 ^w , 37:12, 38:01:01, 38:01:03-38:07, 38:09-38:21, 38:23-38:28, 39:01:01:01-39:01:01:02L, 39:01:03-39:06:02, 39:08-39:14, 39:16, 39:18-39:20, 39:22-39:24:02, 39:26-39:28, 39:30-39:31, 39:34-39:37, 39:39, 39:41-39:42, 39:44-39:46, 39:48, 39:51-39:54, 39:56-39:63, 40:39, 40:51, 40:163, 41:01-41:03:02, 41:05-41:09, 41:11-41:16, 42:01:01-42:02, 42:04-42:08, 42:10-42:15, 46:18, 51:21, 51:36, 51:101, 54:01:01-54:02, 54:04-54:05N, 54:07-54:08N, 54:10-54:13, 54:17-54:24, 55:01:01-55:05, 55:07, 55:10-55:13, 55:15-55:21, 55:25-55:26, 55:28-55:40, 55:42-55:45, 55:47-55:50, 56:10, 56:12, 56:23, 58:20, 59:01:01:01-59:03, 59:05, 67:01:01-67:03, 78:07, C*15:24
8^{8,11}	185 bp, 225 bp	1070 bp	*13:07N, 13:18, 13:31, 13:41	*07:78, 07:84, 15:04, 15:137, 39:33, 40:161, 51:05, 51:29, 51:54, 51:61, 51:82, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21, 55:37
9^{5,12}	130 bp, 230 bp	1070 bp	*13:08Q, 13:42	*51:38
10^{5,13}	105 bp, 210 bp	800 bp	*13:09, 13:21, 13:39	*07:05:01-07:06, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 08:01:02, 08:01:13, 08:20, 15:53, 15:150, 15:183, 15:188, 15:212, 27:07-27:08, 27:11-27:12, 27:18, 27:20, 27:24, 27:26-27:27, 27:33, 27:40, 27:42-27:44, 35:09:02, 35:18, 35:31, 35:63, 35:84, 35:88, 35:90, 35:150, 40:01:01-40:16, 40:18-40:40, 40:42-40:164, 41:01-41:04, 41:06-41:11, 41:13-41:18, 44:09, 44:31, 44:46, 44:75, 44:90, 44:129, 45:01-45:13, 46:10, 47:02, 47:03 ^w , 48:01:01-48:01:03, 48:03:01-48:07, 48:09-48:11, 48:13, 48:15-48:16, 48:18-48:22, 48:24, 50:01:01-50:02, 50:04-50:13, 51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 51:81, 54:11, 55:04, 55:08, 55:49, 58:27, 67:03, 73:01-73:02, 81:01-81:05, C*15:24

11	280 bp	800 bp	*13:04, 13:10, 13:26	*07:09, 07:11, 07:17, 08:28, 08:35, 08:37, 15:01:01:01-15:01:04, 15:01:06-15:08, 15:11:01-15:16:02, 15:18:01-15:21, 15:23-15:29, 15:31-15:36, 15:38:01-15:40, 15:43-15:44, 15:46-15:47, 15:49-15:57, 15:60-15:62, 15:64-15:72, 15:74-15:76, 15:78:01-15:82, 15:84-15:85, 15:87-15:89, 15:91-15:98, 15:101-15:129, 15:131-15:132, 15:134-15:136, 15:138-15:149N, 15:151-15:161, 15:163-15:167, 15:169-15:176, 15:178-15:187, 15:189-15:195, 15:197-15:207, 15:209N-15:215, 15:217-15:219, 15:221-15:223, 18:01:01-18:15, 18:17N-18:25, 18:27-18:40, 18:42-18:60, 18:62-18:63, 27:41, 35:01:01:01-35:01:26, 35:05:01-35:05:02, 35:07-35:08:04, 35:10-35:11:02, 35:14:01-35:17, 35:19-35:21, 35:23-35:30, 35:32, 35:35, 35:37, 35:40N-35:43:02, 35:45-35:54, 35:57-35:58, 35:61-35:64, 35:66-35:69, 35:71-35:72, 35:76-35:80, 35:82, 35:86, 35:89-35:94, 35:97, 35:99-35:105, 35:107-35:108:02, 35:110-35:126, 35:130N-35:135, 35:137-35:148, 35:158-35:159, 35:161, 39:07, 39:43, 40:03, 40:20, 40:38, 40:52, 40:59-40:60, 40:105, 40:158-40:159, 42:09, 44:17, 44:43:01-44:43:02, 45:09, 46:01:01-46:10, 46:12-46:17, 46:19-46:27, 48:02:01-48:02:02, 48:14, 48:23, 48:25, 49:04-49:05, 51:37, 51:45, 51:63, 51:97, 53:01:01-53:03, 53:05-53:06, 53:08:01-53:18, 53:20-53:24, 54:06, 54:09, 54:14, 55:14, 55:23, 55:32, 56:03, 56:09, 56:18, 56:31-56:32, 57:01:01-57:01:11, 57:06, 57:08, 57:10-57:11, 57:13-57:16, 57:18-57:27, 57:29-57:31, 57:33-57:38, 57:40-57:41, 57:43-57:44, 58:01:01-58:02, 58:04-58:07, 58:09-58:19, 58:21-58:26, 58:29-58:33
12^{5,8}	90 bp	1070 bp	*13:11	*15:18:03, 15:73, 15:224, 39:17, 40:48, 40:71, 51:62, 56:02, 56:04, 56:10, C*02:06, C*02:47
13^{5,14}	90 bp, 180 bp	800 bp	*13:12, 13:19	
14⁵	130 bp	1070 bp	*13:13, 13:21, 13:35	*40:91, 51:93
15^{5,15}	105 bp, 250 bp	800 bp	*13:14, 13:22:01, 13:23	*07:78, 15:73, 18:09, 27:01, 37:10, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 40:47-40:48, 40:96, 40:157, 44:15, 44:55, 44:103, 44:130, 49:02, 54:22, 56:01:03

Lot No.: **13M**

Lot-specific information

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16 ^{5,16}	90 bp, 205 bp	1070 bp	*13:15, 13:17, 13:33	*35:46, 49:09, 51:62, 51:106
17	225 bp	1070 bp	*13:27, 13:43	
18 ¹⁷	155 bp, 205 bp, 275 bp	1070 bp	*13:28, 13:32, 13:44	
19 ¹⁸	195 bp, 340 bp	1070 bp	*13:34, 13:38	C*17:08
20 ^{5,7}	105 bp	1070 bp	*13:36	*18:48, 35:46-35:47, 35:154, 38:12, 40:08, 40:25, 40:68, 40:106, 44:12, 51:74
21 ^{5,19}	120 bp, 180 bp	1070 bp	*13:29-13:30, 13:40	
22 ^{9,20}	135 bp, 175 bp	800 bp	*13:25, 13:40	
23 ^{5,21}	130 bp, 200 bp, 275 bp	1070 bp	*13:37, 13:42, 13:44	*51:38
24 ⁷	170 bp	1070 bp	*13:16, 13:20, 13:31	*07:02:01-07:24, 07:26-07:47, 07:49N- 07:50, 07:52-07:130, 08:20, 08:53, 14:01:01-14:24, 15:01:01:01-15:01:04, 15:01:06-15:04, 15:06-15:19, 15:21, 15:23-15:30, 15:32-15:40, 15:42-15:47, 15:49-15:50, 15:53-15:54, 15:56-15:58, 15:60-15:74, 15:76-15:82, 15:85, 15:87, 15:89-15:90, 15:92-15:99, 15:101-15:104, 15:106, 15:108-15:110, 15:112-15:113, 15:115-15:122, 15:125-15:129, 15:131- 15:135, 15:137-15:144, 15:146-15:150, 15:152-15:154, 15:156-15:161, 15:163- 15:175, 15:177-15:178, 15:180-15:184, 15:187, 15:189-15:199, 15:201-15:217, 15:219, 15:221, 15:223, 18:15, 18:19, 18:21, 18:30, 18:57, 27:04:01-27:04:03, 27:06, 27:10, 27:15, 27:18, 27:20-27:21, 27:24-27:25, 27:40, 27:54, 27:63, 27:66N, 27:68-27:69, 27:79, 35:11:01-35:11:02, 35:14:01-35:14:02, 35:21, 35:43:01- 35:44, 35:58, 35:67, 35:79, 35:86, 35:96, 35:99, 35:102, 35:117-35:118, 35:135, 37:07, 37:13, 38:10, 39:18, 39:35-39:36, 40:05, 40:15-40:16, 40:23, 40:26, 40:28, 40:32, 40:51, 40:95, 40:98, 40:148, 40:158, 40:161, 44:76, 44:79, 46:01:01- 46:05, 46:07N-46:08, 46:10, 46:12, 46:14-46:17, 46:20, 46:22-46:24, 46:27, 48:05, 48:08, 48:15, 48:25, 49:01:01- 49:10, 49:12-49:17, 50:01:01-50:02, 50:04-50:13, 51:01:01-51:04, 51:06:01- 51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:24:04, 51:26-51:30, 51:32- 51:39, 51:41N, 51:43, 51:45-51:46,

51:48-51:52, 51:55-51:72, 51:74-51:80,
51:82-51:92, 51:94-51:96, 51:98N-
51:107, 51:109-51:113, 52:01:01:01-
52:02, 52:04-52:09, 52:11-52:18, 52:20-
52:24, 53:06, 53:08:01-53:08:02, 54:06,
54:20, 55:01:01-55:01:07, 55:03, 55:05,
55:09, 55:11, 55:14-55:15, 55:17, 55:21,
55:24-55:25, 55:28-55:29, 55:31, 55:33,
55:36, 55:38, 55:40, 55:44-55:45, 56:03,
56:05:01-56:06, 56:21, 56:25, 56:32,
57:09, 57:13, 57:22, 58:06, 58:08, 58:19,
78:01-78:03, 78:05-78:07

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*13 SSP typings.

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

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

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

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

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

²The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*13 subtyping.

In addition, wells number 2, 3, 5, 10, 11, 13, 15 and 22 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

In the presence of a specific amplification the intensity of the control band often decreases.

³The B*13:15 and B*13:33 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 16.

The B*13:34 and B*13:38 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 19.

⁴Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*13 alleles will be amplified by primer mixes 1 to 12, 14 to 16, 20 23 and 24. In addition, the C*02:06 and C*02:47 alleles will be amplified by primer mix 12, the C*03:34 and C*15:42 alleles will be amplified by primer mix 3, the C*15:24 allele will be amplified by primer mixes 7 and 10 and the C*17:08 allele will be amplified by primer mix 19

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

⁶Primer mix 2 may give rise to a weak band of about 400 bp. This band should be disregarded when interpreting HLA-B*13 SSP subtypings.

⁷Primer mixes 1, 5, 20 and 24 may give a lower yield of specific PCR product than the other HLA-B*13 primer mixes.

⁸Primer mixes 7, 8 and 12 have a weak tendency of nonspecific amplifications.

⁹Primer mixes 6 and 22 may have a tendency of giving rise to primer oligomer formation.

¹⁰Primer mix 5: Specific PCR fragment of 125 bp in the B*13:22:01-13:22:02 and 13:45 and the B*15:86, 15:224, 35:60, 46:18, 54:01:01-54:02, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:17-54:19, 54:21-54:24, 55:02:01-55:02:06, 55:07, 55:10, 55:12, 55:16, 55:18-55:19, 55:22, 55:26, 55:30, 55:34, 55:35, 55:37, 55:39, 55:42-55:43, 55:47-55:48, 56:10, 56:23, 59:01:01:01-59:01:01:02 and 59:05 alleles.

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Specific PCR fragment of 150 bp in the B*13:16, 13:20, 13:31 and 13:41 alleles. Specific PCR fragment of 125 and 150 bp in the B*07:78, 15:42, 54:20, 55:01:01-55:01:07, 55:03, 55:05, 55:09, 55:11, 55:15, 55:21, 55:24-55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:40 and 55:44-55:45 alleles. Specific PCR fragments of 125 and 180 bp in the B*13:03 and the B*40:71, 44:10, 46:11, 54:03, 56:01:01-56:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:19N-56:20, 56:24, 56:26-56:30, 59:04 and 82:01-82:03 alleles. Specific PCR fragments of 125, 150 and 180 bp in the B*15:73, 51:62, 51:106 and 56:25 alleles.

All bands may not always be visible.

¹¹Primer mix 8: Specific PCR fragment of 185 bp in the B*13:07N allele. Specific PCR fragment of 225 bp in the B*13:18, 13:31 and 13:41 and the B*07:78, 07:84, 15:04, 15:137, 39:33, 40:161, 51:05, 51:29, 51:54, 51:61, 51:82, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21 and 55:37 alleles.

¹²Primer mix 9: Specific PCR fragment of 130 bp in the B*13:42 and the B*51:38 alleles. Specific PCR fragment of 230 bp in the B*13:08Q allele.

¹³Primer mix 10: Specific PCR fragment of 105 bp in the B*13:21 and the B*07:05:01-07:06, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 08:01:02, 08:01:13, 08:20, 15:150, 15:188, 27:07, 27:11, 27:20, 27:24, 27:27, 27:43, 35:09:02, 35:18, 35:31, 35:88, 40:01:11, 40:10:01-40:10:02, 40:12-40:13, 40:19, 40:21, 40:47, 40:58, 40:76, 40:96, 40:109-40:110, 40:117, 40:137, 40:149, 40:157, 44:31, 48:01:01-48:01:03, 48:03:01-48:07, 48:09-48:11, 48:13, 48:15-48:16, 48:18-48:22, 48:24, 51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 51:81, 54:11, 55:04, 55:08, 55:49, 58:27, 67:03 and 81:01-81:05 and in the C*15:24 alleles. Specific PCR fragment of 210 bp in the B*13:09 and 13:39 and the B*15:53, 15:183, 15:212, 27:08, 27:12, 27:18, 27:26, 27:40, 27:42, 27:44, 35:63, 35:84, 35:90, 35:150, 40:01:14, 40:03, 40:09, 40:14:01-40:14:02, 40:18, 40:20, 40:24, 40:26, 40:28, 40:31-40:33, 40:42, 40:44, 40:52, 40:59-40:60, 40:71-40:72:01, 40:77, 40:87:01, 40:95, 40:98, 40:120-40:121, 40:124:01-40:124:02, 40:136, 40:158-40:159, 41:01-41:04, 41:06-41:07, 41:09-41:11, 41:13-41:18, 44:09, 44:46, 44:75, 44:90, 44:129, 45:01-45:13, 46:10, 47:02, 47:03^w, 50:01:01-50:02 and 50:04-50:13 alleles. Specific PCR fragments of 105 and 210 bp in the B*27:33, 40:01:01-40:01:10, 40:01:12-40:01:13, 40:01:15-40:02:12, 40:04-40:08, 40:11:01-40:11:02, 40:14:03-40:16, 40:22N-40:23, 40:25, 40:27:01-40:27:02, 40:29-40:30, 40:34-40:40, 40:43, 40:45-40:46, 40:48-40:51, 40:53-40:57, 40:61-40:70, 40:72:02-40:75, 40:78-40:86, 40:87:02-40:94, 40:97, 40:99-40:108, 40:111-40:116, 40:118N-40:119, 40:122-40:123, 40:125-40:135, 40:138-40:148, 40:150-40:156, 40:160-40:164, 41:08 and 73:01-73:02 alleles. Both bands may not always be visible.

¹⁴Primer mix 13: Specific PCR fragment of 90 bp in the B*13:19 allele. Specific PCR fragment of 180 bp in the B*13:12 allele.

¹⁵Primer mix 15: Specific PCR fragment of 105 bp in the B*13:22:01 and in the B*07:78, 15:73, 40:48, 54:22 and 56:01:03 alleles. Specific PCR fragment of 250 bp in the B*13:14 and 13:23 and the B*18:09, 27:01, 37:10, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 40:47, 40:96, 40:157, 44:15, 44:55, 44:103, 44:130 and 49:02 alleles.

¹⁶Primer mix 16: Specific PCR fragment of 90 bp in the B*13:17 and 13:33 and the B*35:46 alleles. Specific PCR fragment of 205 bp in the B*13:15 and in the B*49:09, 51:62 and 51:106 alleles.

¹⁷Primer mix 18: Specific PCR fragment of 155 bp in the B*13:28 allele. Specific PCR fragment of 205 bp in the B*13:32 allele. Specific PCR fragment of 275 bp in the B*13:44 allele.

¹⁸Primer mix 19: Specific PCR fragment of 195 bp in the B*13:34 and in the C*17:08 alleles. Specific PCR fragment of 340 bp in the B*13:38 allele.

¹⁹Primer mix 21: Specific PCR fragment of 120 bp in the B*13:29 allele. Specific PCR fragment of 180 bp in the B*13:30 and 13:40 alleles.

²⁰Primer mix 22: Specific PCR fragment of 135 bp in the B*13:25 allele. Specific PCR fragment of 175 bp in the B*13:40 allele.

²¹Primer mix 23: Specific PCR fragment of 130 bp in the B*13:42 and the B*51:38 alleles. Specific PCR fragment of 200 bp in the B*13:37 allele. Specific PCR fragment of 275 bp in the B*13:44 allele.

^w, may be weakly amplified.

INTERPRETATION TABLE												
HLA-B*13 SSP subtyping												
Amplification patterns of the B*13:01 to *13:46 alleles												
	Well⁷											
	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Length of int. pos. control¹	800	800	800	1070	800	1070	1070	1070	1070	800	800	1070
5'-primer(s)²	209	506	355	357	420	357	412	106	357	142	419	369
	5'-ggC ^{3'}	5'-gCT ^{3'}	5'-TCA ^{3'}	5'-Tgg ^{3'}	5'-TTA ^{3'}	5'-Tgg ^{3'}	5'-ATA ^{3'}	5'-CCA ^{3'}	5'-Tgg ^{3'}	5'-TCA ^{3'}	5'-gTC ^{3'}	5'-TAC ^{3'}
								357		412		
								5'-Tgg ^{3'}		5'-ATA ^{3'}		
3'-primer(s)³	309	559	559	559	506	419	559	251	445	311	3 rd	420
	5'-gTg ^{3'}	5'-CTC ^{3'}	5'-CTC ^{3'}	5'-CTC ^{3'}	5'-TgC ^{3'}	5'-Cgg ^{3'}	5'-CgT ^{3'}	5'-CCC ^{3'}	5'-ggA ^{3'}	5'-ggT ^{3'}	5'-TAT ^{3'}	5'-gCT ^{3'}
					527	419		539	548	477		
					5'-CCT ^{3'}	5'-CgA ^{3'}		5'-TCC ^{3'}	5'-ggC ^{3'}	5'-gCg ^{3'}		
					538							
					5'-CCA ^{3'}							
					559							
					5'-Cag ^{3'}							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
HLA-B allele⁴												
*13:01:01-13:01:06	1	2	3									
*13:02:01-13:02:10	1	2		4								
*13:03	1				5							
*13:04	1					6					11	
*13:06	1						7					
*13:07N	1	2	3					8				
*13:08Q	1	2		4					9			
*13:09		2		4						10		
*13:10	1	2									11	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

INTERPRETATION TABLE

HLA-B*13 SSP subtyping

Amplification patterns of the B*13:01 to *13:46 alleles

Well ⁷													
13	14	15	16	17	18	19	20	21	22	23	24		
90	130	105	90	225	155	195	105	120	135	130	170	Length of spec. PCR product(s)	
180		250	205		205	340		180	175	200			
					275					275			
800	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	Length of int. pos. control ¹	
268	419	97	144	368	209	406	193	160	209	357	527	5'-primer(s) ²	
5' -Agg 3'	5' -gTA 3'	5' -TCC 3'	5' -gCA 3'	5' -gTT 3'	5' -ggC 3'	5' -gCA 3'	5' -CCA 3'	5' -ACT 3'	5' -ggC 3'	5' -Tgg 3'	5' -TgA 3'		
420		103	420	385	357	712		229	520				
5' -TTA 3'		5' -CCT 3'	5' -TTA 3'	5' -ggT 3'	5' -Tgg 3'	5' -TCT 3'		5' -TAA 3'	5' -AgA 3'				
		420						520					
		5' -TTA 3'						5' -AgA 3'					
317	506	309	193	559	323	559	259	309	302	445	3 rd I	3'-primer(s) ³	
5' -ggA 3'	5' -TgA 3'	5' -gTg 3'	5' -CgT 3'	5' -CTC 3'	5' -AgC 3'	5' -CTC 3'	5' -gTT 3'	5' -gTg 3'	5' -ggC 3'	5' -ggA 3'	5' -TAT 3'		
559		486	583		523	916		3 rd I	3 rd I	515			
5' -CCC 3'		5' -gCC 3'	5' -gTg 3'		5' -ACC 3'	5' -gAC 3'		5' -TAT 3'	5' -TAT 3'	5' -CCC 3'			
					593					593			
					5' -CgC 3'					5' -CgC 3'			
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	
												HLA-B allele ⁴	
												*13:01:01-13:01:06	
												*13:02:01-13:02:10	
												*13:03	
												*13:04	
												*13:06	
												*13:07N	
												*13:08Q	
												*13:09	
												*13:10	
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*13:11	1	2										12
*13:12	1	2	3									
*13:13	1	2	3									
*13:14	1	2		4								
*13:15, 13:33 ⁵	1	2		4								
*13:16	1	2		4	5							
*13:17	1	2	3									
*13:18	1	2		4				8				
*13:19	1	2		4								
*13:20	1	2	3		5							
*13:21	1	2	3							10		
*13:22:01	1		3		5							
*13:22:02	1		3		5							
*13:23	1	2	3									
*13:25	1	2	3									
*13:26	1	2	3								11	
*13:27	1	2		4								
*13:28	1	2	3									
*13:29	1	2	3									
*13:30	1	2		4								
*13:31	1	2		4	5			8				
*13:32	1	2		4								
*13:34, 13:38 ⁶	1	2		4								
*13:35	1	2		4								
*13:36	1	2	3									
*13:37	1	2		4								
*13:39		2	3							10		
*13:40	1	2		4								
*13:41	1	2		4	5			8				
*13:42	1	2		4					9			
*13:43	1	2	3									
*13:44	1	2		4								
*13:45	1			4	5							
*13:46	1					6						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

90	130	105	90	225	155	195	105	120	135	130	170	Length of spec. PCR product(s)	
180		250	205		205	340		180	175	200			
					275					275			
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	
													*13:11
13													*13:12
	14												*13:13
		15											*13:14
			16										*13:15, 13:33 ⁵
											24		*13:16
			16										*13:17
													*13:18
13													*13:19
											24		*13:20
	14												*13:21
		15											*13:22:01
													*13:22:02
		15											*13:23
									22				*13:25
													*13:26
				17									*13:27
					18								*13:28
								21					*13:29
								21					*13:30
											24		*13:31
					18								*13:32
						19							*13:34, 13:38 ⁶
	14												*13:35
							20						*13:36
										23			*13:37
													*13:39
								21	22				*13:40
										23			*13:41
					17								*13:42
						18				23			*13:43
											23		*13:44
													*13:45
													*13:46
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*07:02:01-07:04, 07:07-07:08, 07:10, 07:13, 07:15-07:16, 07:19-07:24, 07:26-07:31, 07:33, 07:35-07:39, 07:41-07:47, 07:49N-07:50, 07:52, 07:54-07:68:02, 07:70-07:77, 07:79, 07:81-07:83, 07:85-07:89, 07:91-07:96:02, 07:98-07:104, 07:106-07:111N, 07:113-07:122, 07:124-07:130, 14:01:01-14:12, 14:14-14:24, 15:09-15:10:02, 15:17:01:01-15:17:02, 15:30, 15:37, 15:45, 15:58, 15:63, 15:77, 15:90, 15:99, 15:133, 15:168, 15:177, 15:196, 15:208, 15:216, 27:04:01-27:04:03, 27:06, 27:10, 27:15, 27:21, 27:25, 27:54, 27:63, 27:66N, 27:68-27:69, 27:79, 35:44, 35:96, 37:07, 37:13, 44:76, 44:79, 48:08, 49:01:01-49:01:03, 49:03, 49:06, 49:08, 49:10, 49:12-49:17, 51:01:01-51:01:08, 51:01:10-51:01:20, 51:01:22-51:01:24, 51:01:26-51:04, 51:06:01-51:07:02, 51:11N-51:12, 51:14, 51:17-51:18, 51:22-51:24:01, 51:26-51:28, 51:30, 51:32-51:33, 51:35, 51:39, 51:41N, 51:43, 51:46, 51:48-51:52, 51:55-51:60, 51:64-51:72, 51:75-51:80, 51:83-51:91, 51:94-51:96, 51:98N-51:100, 51:102-51:105, 51:107, 51:109-51:113, 52:01:01:01-52:02, 52:04-52:07, 52:09, 52:11-52:13, 52:15-52:18, 52:20, 52:22-52:23, 56:05:01-56:06, 56:21, 57:09, 58:08, 78:01-78:03, 78:05-78:06												
*07:05:01-07:06, 07:32, 07:40, 07:53, 07:69, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 15:150, 27:18, 27:20, 27:24, 27:40, 40:05, 40:15-40:16, 40:23, 40:26, 40:28, 40:32, 40:98, 48:05, 48:15, 50:01:01-50:02, 50:04-50:08, 50:10-50:13, 51:01:09, 51:01:21, 51:01:25, 51:24:02-51:24:04										10		
*07:09, 07:11, 07:17, 15:01:01:01-15:01:04, 15:01:06-15:03:03, 15:06-15:08, 15:11:01-15:15, 15:18:01-15:18:02, 15:18:04-15:19, 15:21, 15:23-15:29, 15:32-15:36, 15:38:01-15:40, 15:43-15:44, 15:46-15:47, 15:49-15:50, 15:54, 15:56-15:57, 15:60-15:62, 15:64-15:66, 15:68-15:72, 15:74, 15:76, 15:78:01-15:82, 15:85, 15:87, 15:89, 15:92-15:94N, 15:96-15:98, 15:101-15:104, 15:106, 15:108-15:110, 15:112-15:113, 15:115-15:122, 15:125-15:129, 15:131-15:132, 15:134-15:135, 15:138-15:144, 15:146-15:149N, 15:152-15:154, 15:156-15:161, 15:163-15:167, 15:169-15:175, 15:178, 15:180-15:182N, 15:184, 15:187, 15:189-15:195, 15:197-15:199, 15:201-15:207, 15:209N-15:211, 15:213-15:215, 15:217, 15:219, 15:221, 15:223, 18:15, 18:19, 18:21, 18:30, 18:57, 35:11:01-35:11:02, 35:14:01-35:14:02, 35:21, 35:43:01-35:43:02, 35:58, 35:67, 35:79, 35:86, 35:99, 35:102, 35:117-35:118, 35:135, 46:01:01-46:05, 46:07N-46:08, 46:12, 46:14-46:17, 46:20, 46:22-46:24, 46:27, 48:25, 51:45, 53:06, 53:08:01-53:08:02, 54:06, 55:14, 56:03, 56:32, 57:22, 58:06, 58:19											11	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

90	130	105	90	225	155	195	105	120	135	130	170	Length of spec. PCR product(s)	
180		250	205		205	340		180	175	200			
					275					275			
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	
											24	*07:02:01-07:04, 07:07-07:08, 07:10, 07:13, 07:15-07:16, 07:19-07:24, 07:26-07:31, 07:33, 07:35-07:39, 07:41-07:47, 07:49N-07:50, 07:52, 07:54-07:68:02, 07:70-07:77, 07:79, 07:81-07:83, 07:85-07:89, 07:91-07:96:02, 07:98-07:104, 07:106-07:111N, 07:113-07:122, 07:124-07:130, 14:01:01- 14:12, 14:14-14:24, 15:09-15:10:02, 15:17:01:01-15:17:02, 15:30, 15:37, 15:45, 15:58, 15:63, 15:77, 15:90, 15:99, 15:133, 15:168, 15:177, 15:196, 15:208, 15:216, 27:04:01- 27:04:03, 27:06, 27:10, 27:15, 27:21, 27:25, 27:54, 27:63, 27:66N, 27:68-27:69, 27:79, 35:44, 35:96, 37:07, 37:13, 44:76, 44:79, 48:08, 49:01:01-49:01:03, 49:03, 49:06, 49:08, 49:10, 49:12-49:17, 51:01:01-51:01:08, 51:01:10-51:01:20, 51:01:22-51:01:24, 51:01:26-51:04, 51:06:01-51:07:02, 51:11N-51:12, 51:14, 51:17-51:18, 51:22-51:24:01, 51:26- 51:28, 51:30, 51:32-51:33, 51:35, 51:39, 51:41N, 51:43, 51:46, 51:48-51:52, 51:55-51:60, 51:64-51:72, 51:75-51:80, 51:83-51:91, 51:94-51:96, 51:98N-51:100, 51:102-51:105, 51:107, 51:109-51:113, 52:01:01:01-52:02, 52:04-52:07, 52:09, 52:11-52:13, 52:15-52:18, 52:20, 52:22-52:23, 56:05:01- 56:06, 56:21, 57:09, 58:08, 78:01-78:03, 78:05-78:06	
											24	*07:05:01-07:06, 07:32, 07:40, 07:53, 07:69, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 15:150, 27:18, 27:20, 27:24, 27:40, 40:05, 40:15-40:16, 40:23, 40:26, 40:28, 40:32, 40:98, 48:05, 48:15, 50:01:01-50:02, 50:04-50:08, 50:10-50:13, 51:01:09, 51:01:21, 51:01:25, 51:24:02-51:24:04	
											24	*07:09, 07:11, 07:17, 15:01:01:01-15:01:04, 15:01:06- 15:03:03, 15:06-15:08, 15:11:01-15:15, 15:18:01-15:18:02, 15:18:04-15:19, 15:21, 15:23-15:29, 15:32-15:36, 15:38:01- 15:40, 15:43-15:44, 15:46-15:47, 15:49-15:50, 15:54, 15:56- 15:57, 15:60-15:62, 15:64-15:66, 15:68-15:72, 15:74, 15:76, 15:78:01-15:82, 15:85, 15:87, 15:89, 15:92-15:94N, 15:96- 15:98, 15:101-15:104, 15:106, 15:108-15:110, 15:112-15:113, 15:115-15:122, 15:125-15:129, 15:131-15:132, 15:134- 15:135, 15:138-15:144, 15:146-15:149N, 15:152-15:154, 15:156-15:161, 15:163-15:167, 15:169-15:175, 15:178, 15:180- 15:182N, 15:184, 15:187, 15:189-15:195, 15:197-15:199, 15:201-15:207, 15:209N-15:211, 15:213-15:215, 15:217, 15:219, 15:221, 15:223, 18:15, 18:19, 18:21, 18:30, 18:57, 35:11:01-35:11:02, 35:14:01-35:14:02, 35:21, 35:43:01- 35:43:02, 35:58, 35:67, 35:79, 35:86, 35:99, 35:102, 35:117- 35:118, 35:135, 46:01:01-46:05, 46:07N-46:08, 46:12, 46:14- 46:17, 46:20, 46:22-46:24, 46:27, 48:25, 51:45, 53:06, 53:08:01-53:08:02, 54:06, 55:14, 56:03, 56:32, 57:22, 58:06, 58:19	
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*07:12, 07:14, 07:18:01-07:18:02			3									
*07:34, 08:20, 40:51							7			10		
*07:78				4	5			8		10		
*07:84, 51:82				4				8				
*08:01:01, 08:01:03-08:01:12, 08:01:14-08:05, 08:08N-08:10, 08:12:01-08:13, 08:15-08:19N, 08:22-08:24, 08:26-08:27, 08:29-08:34, 08:36, 08:38-08:39, 08:41-08:48, 08:50-08:52, 08:54-08:70, 15:83, 18:26, 18:61, 35:87, 37:12, 38:01:01, 38:01:03-38:01:05, 38:05-38:07, 38:09, 38:11, 38:13-38:14, 38:16-38:17, 38:19-38:21, 38:24-38:28, 39:01:01:01-39:01:01:02L, 39:01:03-39:05:02, 39:08-39:14, 39:16, 39:19:01-39:20, 39:22-39:24:02, 39:26-39:28, 39:30-39:31, 39:37, 39:39, 39:41-39:42, 39:44-39:46, 39:48, 39:51-39:54, 39:56, 39:58-39:61, 39:63, 41:05, 41:12, 42:01:01-42:02, 42:04-42:08, 42:10-42:15, 54:04, 55:20, 55:50, 56:12, 58:20, 59:02, 67:01:01-67:02							7					
*08:01:02, 08:01:13, 15:188, 40:39, 40:163, 41:01-41:03:02, 41:06-41:09, 41:11, 41:13-41:16, 54:11, 55:04, 55:49, 67:03, C*15:24								7		10		
*08:28, 08:37, 15:05:01-15:05:02, 15:20, 15:31, 15:51-15:52, 15:55, 15:75, 15:84, 15:88, 15:91, 15:105, 15:107, 15:111N, 15:114, 15:123-15:124, 15:136, 15:145, 15:151, 15:176, 15:179, 15:185-15:186, 15:200, 15:218Q, 18:01:01-18:08, 18:10-18:14, 18:17N-18:18, 18:20, 18:22-18:25, 18:27-18:29, 18:31-18:40, 18:42-18:47, 18:49-18:56, 18:58-18:60, 18:62-18:63, 27:41, 35:01:01:01-35:01:26, 35:05:01-35:05:02, 35:07-35:08:04, 35:10, 35:16-35:17, 35:19-35:20:02, 35:23-35:30, 35:32, 35:35, 35:40N-35:42:02, 35:45, 35:48-35:54, 35:57, 35:61-35:62, 35:64, 35:66, 35:68:01-35:69, 35:71-35:72, 35:76-35:78, 35:80, 35:82, 35:89, 35:91-35:94, 35:97, 35:100-35:101:02, 35:103-35:105, 35:107-35:108:02, 35:110-35:116, 35:119-35:126, 35:130N-35:134N, 35:137-35:148, 35:158-35:159, 35:161, 39:07, 39:43, 42:09, 44:17, 44:43:01-44:43:02, 46:06, 46:09, 46:13:01-46:13:03, 46:19, 46:21:01-46:21:02, 46:25-46:26, 48:02:01-48:02:02, 48:14, 48:23, 53:01:01-53:03, 53:05, 53:09-53:18, 53:20-53:24, 54:09, 56:09, 56:18, 56:31, 57:01:01-57:01:11, 57:06, 57:08, 57:10-57:11, 57:14-57:16, 57:18-57:21, 57:23-57:24, 57:26-57:27, 57:29-57:31, 57:33-57:38, 57:40-57:41, 57:43-57:44, 58:01:01-58:02, 58:04-58:05, 58:07, 58:09-58:18, 58:21-58:26, 58:29-58:33											11	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

90	130	105	90	225	155	195	105	120	135	130	170	Length of spec.	
180		250	205		205	340		180	175	200		PCR product(s)	
					275					275			
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	
											24	*07:12, 07:14, 07:18:01-07:18:02	
											24	*07:34, 08:20, 40:51	
		15									24	*07:78	
											24	*07:84, 51:82	
												*08:01:01, 08:01:03-08:01:12, 08:01:14-08:05, 08:08N-08:10, 08:12:01-08:13, 08:15-08:19N, 08:22-08:24, 08:26-08:27, 08:29-08:34, 08:36, 08:38-08:39, 08:41-08:48, 08:50-08:52, 08:54-08:70, 15:83, 18:26, 18:61, 35:87, 37:12, 38:01:01, 38:01:03-38:01:05, 38:05-38:07, 38:09, 38:11, 38:13-38:14, 38:16-38:17, 38:19-38:21, 38:24-38:28, 39:01:01:01-39:01:01:02L, 39:01:03-39:05:02, 39:08-39:14, 39:16, 39:19:01-39:20, 39:22-39:24:02, 39:26-39:28, 39:30-39:31, 39:37, 39:39, 39:41-39:42, 39:44-39:46, 39:48, 39:51-39:54, 39:56, 39:58-39:61, 39:63, 41:05, 41:12, 42:01:01-42:02, 42:04-42:08, 42:10-42:15, 54:04, 55:20, 55:50, 56:12, 58:20, 59:02, 67:01:01-67:02	
												*08:01:02, 08:01:13, 15:188, 40:39, 40:163, 41:01-41:03:02, 41:06-41:09, 41:11, 41:13-41:16, 54:11, 55:04, 55:49, 67:03, C*15:24	
												*08:28, 08:37, 15:05:01-15:05:02, 15:20, 15:31, 15:51-15:52, 15:55, 15:75, 15:84, 15:88, 15:91, 15:105, 15:107, 15:111N, 15:114, 15:123-15:124, 15:136, 15:145, 15:151, 15:176, 15:179, 15:185-15:186, 15:200, 15:218Q, 18:01:01-18:08, 18:10-18:14, 18:17N-18:18, 18:20, 18:22-18:25, 18:27-18:29, 18:31-18:40, 18:42-18:47, 18:49-18:56, 18:58-18:60, 18:62-18:63, 27:41, 35:01:01:01-35:01:26, 35:05:01-35:05:02, 35:07-35:08:04, 35:10, 35:16-35:17, 35:19-35:20:02, 35:23-35:30, 35:32, 35:35, 35:40N-35:42:02, 35:45, 35:48-35:54, 35:57, 35:61-35:62, 35:64, 35:66, 35:68:01-35:69, 35:71-35:72, 35:76-35:78, 35:80, 35:82, 35:89, 35:91-35:94, 35:97, 35:100-35:101:02, 35:103-35:105, 35:107-35:108:02, 35:110-35:116, 35:119-35:126, 35:130N-35:134N, 35:137-35:148, 35:158-35:159, 35:161, 39:07, 39:43, 42:09, 44:17, 44:43:01-44:43:02, 46:06, 46:09, 46:13:01-46:13:03, 46:19, 46:21:01-46:21:02, 46:25-46:26, 48:02:01-48:02:02, 48:14, 48:23, 53:01:01-53:03, 53:05, 53:09-53:18, 53:20-53:24, 54:09, 56:09, 56:18, 56:31, 57:01:01-57:01:11, 57:06, 57:08, 57:10-57:11, 57:14-57:16, 57:18-57:21, 57:23-57:24, 57:26-57:27, 57:29-57:31, 57:33-57:38, 57:40-57:41, 57:43-57:44, 58:01:01-58:02, 58:04-58:05, 58:07, 58:09-58:18, 58:21-58:26, 58:29-58:33	
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*08:35							7				11	
*08:53, 14:13, 38:10, 39:18, 39:35-39:36, 51:21, 51:36, 51:101, 55:17, 55:28, 78:07							7					
*15:04						6		8			11	
*15:16:01-15:16:02, 15:67, 15:95, 49:04-49:05, 51:37, 51:63						6					11	
*15:18:03											11	12
*15:42, 55:01:01-55:01:07, 55:03, 55:05, 55:11, 55:15, 55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45					5		7					
*15:53, 15:183, 15:212, 40:158, 46:10										10	11	
*15:73					5							12
*15:86, 35:60, 46:18, 54:01:01-54:02, 54:05N, 54:07-54:08N, 54:12-54:13, 54:17-54:19, 54:21, 54:23-54:24, 55:02:01-55:02:06, 55:07, 55:10, 55:12, 55:16, 55:18-55:19, 55:26, 55:30, 55:34-55:35, 55:39, 55:42-55:43, 55:47-55:48, 56:23, 59:01:01:01-59:01:01:02, 59:05					5		7					
*15:137							6			8		
*15:155, 15:222, 35:37, 51:97, 54:14, 55:23							6				11	
*15:224, 56:10					5		7					12
*18:09											11	
*18:48, 35:47											11	
*27:01, 37:10, 38:08, 38:29, 44:15, 44:55, 44:103, 44:130												
*27:07-27:08, 27:11-27:12, 27:26-27:27, 27:33, 27:42-27:44, 35:09:02, 35:18, 35:31, 35:84, 35:150, 40:01:01-40:02:12, 40:07, 40:09-40:14:03, 40:18-40:19, 40:21-40:22N, 40:24, 40:27:01-40:27:02, 40:29, 40:31, 40:33, 40:35-40:37, 40:40, 40:42-40:43, 40:45-40:46, 40:49-40:50, 40:54-40:58, 40:61-40:63, 40:65-40:67, 40:69, 40:72:01-40:74, 40:76-40:82, 40:84-40:85, 40:87:01-40:90, 40:92, 40:94, 40:97, 40:99-40:102, 40:104, 40:107-40:108, 40:111-40:119, 40:121-40:126, 40:128, 40:130, 40:132-40:136, 40:138-40:147, 40:149-40:156, 40:164, 41:04, 41:10, 41:17-41:18, 44:09, 44:31, 44:46, 44:75, 44:90, 44:129, 45:01, 45:03-45:08, 45:11-45:13, 47:02, 48:01:01-48:01:03, 48:03:01-48:04, 48:06-48:07, 48:09-48:11, 48:13, 48:16, 48:18-48:22, 48:24, 51:81, 55:08, 58:27, 81:01-81:05										10		
*27:14, 51:31				4								
*27:19, 27:30, 35:33, 44:16, 44:21, 44:64:01-44:64:02, 44:124, 48:17, C*03:34, C*15:42			3									
*35:15, 57:25			3								11	
*35:46											11	
*35:63, 35:90, 40:03, 40:20, 40:38, 40:52, 40:60, 40:105										10	11	
*35:88, 40:04, 40:30, 40:34, 40:64, 40:120, 40:129, 40:137, 40:160			3							10		
*35:154, 44:12												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

90	130	105	90	225	155	195	105	120	135	130	170	Length of spec.
180		250	205		205	340		180	175	200		PCR product(s)
					275					275		
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*08:35
											24	*08:53, 14:13, 38:10, 39:18, 39:35-39:36, 51:21, 51:36, 51:101, 55:17, 55:28, 78:07
											24	*15:04
											24	*15:16:01-15:16:02, 15:67, 15:95, 49:04-49:05, 51:37, 51:63
											24	*15:18:03
											24	*15:42, 55:01:01-55:01:07, 55:03, 55:05, 55:11, 55:15, 55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45
											24	*15:53, 15:183, 15:212, 40:158, 46:10
		15									24	*15:73
											24	*15:86, 35:60, 46:18, 54:01:01-54:02, 54:05N, 54:07-54:08N, 54:12-54:13, 54:17-54:19, 54:21, 54:23-54:24, 55:02:01-55:02:06, 55:07, 55:10, 55:12, 55:16, 55:18-55:19, 55:26, 55:30, 55:34-55:35, 55:39, 55:42-55:43, 55:47-55:48, 56:23, 59:01:01:01-59:01:01:02, 59:05
											24	*15:137
												*15:155, 15:222, 35:37, 51:97, 54:14, 55:23
												*15:224, 56:10
		15										*18:09
							20					*18:48, 35:47
		15										*27:01, 37:10, 38:08, 38:29, 44:15, 44:55, 44:103, 44:130
												*27:07-27:08, 27:11-27:12, 27:26-27:27, 27:33, 27:42-27:44, 35:09:02, 35:18, 35:31, 35:84, 35:150, 40:01:01-40:02:12, 40:07, 40:09-40:14:03, 40:18-40:19, 40:21-40:22N, 40:24, 40:27:01-40:27:02, 40:29, 40:31, 40:33, 40:35-40:37, 40:40, 40:42-40:43, 40:45-40:46, 40:49-40:50, 40:54-40:58, 40:61-40:63, 40:65-40:67, 40:69, 40:72:01-40:74, 40:76-40:82, 40:84-40:85, 40:87:01-40:90, 40:92, 40:94, 40:97, 40:99-40:102, 40:104, 40:107-40:108, 40:111-40:119, 40:121-40:126, 40:128, 40:130, 40:132-40:136, 40:138-40:147, 40:149-40:156, 40:164, 41:04, 41:10, 41:17-41:18, 44:09, 44:31, 44:46, 44:75, 44:90, 44:129, 45:01, 45:03-45:08, 45:11-45:13, 47:02, 48:01:01-48:01:03, 48:03:01-48:04, 48:06-48:07, 48:09-48:11, 48:13, 48:16, 48:18-48:22, 48:24, 51:81, 55:08, 58:27, 81:01-81:05
												*27:14, 51:31
												*27:19, 27:30, 35:33, 44:16, 44:21, 44:64:01-44:64:02, 44:124, 48:17, C*03:34, C*15:42
												*35:15, 57:25
			16				20					*35:46
												*35:63, 35:90, 40:03, 40:20, 40:38, 40:52, 40:60, 40:105
												*35:88, 40:04, 40:30, 40:34, 40:64, 40:120, 40:129, 40:137, 40:160
							20					*35:154, 44:12
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*35:157							w					
*38:02:01-38:04, 38:15, 38:18, 38:23							7					
*38:12							7					
*39:06:01-39:06:02, 39:34, 39:57, 39:62, 55:13, 59:03						6	7					
*39:17, 02:47, C*02:06												12
*39:33						6		8				
*39:50				4		6						
*40:06:01:01-40:06:03, 40:44, 40:53, 40:70, 40:75, 40:83, 40:93, 40:103, 40:109-40:110, 40:127, 40:131, 40:162, 45:10, 51:10				4						10		
*40:08, 40:25, 40:106										10		
*40:47, 40:157										10		
*40:48										10		12
*40:59			3							10	11	
*40:68			3							10		
*40:71					5					10		12
*40:86, 73:01-73:02				4		6				10		
*40:91		2								10		
*40:95, 40:148				4						10		
*40:96				4						10		
*40:159				4		6				10	11	
*40:161				4				8		10		
*44:10, 46:11, 54:03, 56:01:01-56:01:02, 56:01:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:19N-56:20, 56:24, 56:26-56:30, 59:04, 82:01-82:03					5							
*44:60	1											
*45:02						6				10		
*45:09						6				10	11	
*47:03										w		
*49:02												
*49:07, 51:16, 51:34, 52:08				4								
*49:09												
*50:09						6				10		
*51:05, 51:54								8				
*51:13:01-51:13:02, 51:92, 52:14						6						
*51:29, 51:61, 52:21, 52:24								8				
*51:38									9			
*51:62					5							12
*51:74												
*51:93		2		4								
*51:106					5							
*54:10, 55:37					5		7	8				
*54:20, 55:21					5		7	8				
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

90	130	105	90	225	155	195	105	120	135	130	170	Length of spec.
180		250	205		205	340		180	175	200		PCR product(s)
					275					275		
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*35:157
		15										*38:02:01-38:04, 38:15, 38:18, 38:23
							20					*38:12
												*39:06:01-39:06:02, 39:34, 39:57, 39:62, 55:13, 59:03
												*39:17, 02:47, C*02:06,
												*39:33
												*39:50
												*40:06:01:01-40:06:03, 40:44, 40:53, 40:70, 40:75, 40:83, 40:93, 40:103, 40:109-40:110, 40:127, 40:131, 40:162, 45:10, 51:10
							20					*40:08, 40:25, 40:106
		15										*40:47, 40:157
		15										*40:48
												*40:59
							20					*40:68
												*40:71
												*40:86, 73:01-73:02
	14											*40:91
											24	*40:95, 40:148
		15										*40:96
												*40:159
											24	*40:161
												*44:10, 46:11, 54:03, 56:01:01-56:01:02, 56:01:04, 56:07- 56:08, 56:13-56:14, 56:16-56:17, 56:19N-56:20, 56:24, 56:26- 56:30, 59:04, 82:01-82:03
												*44:60
												*45:02
												*45:09
												*47:03
		15									24	*49:02
											24	*49:07, 51:16, 51:34, 52:08
			16								24	*49:09
											24	*50:09
												*51:05, 51:54
											24	*51:13:01-51:13:02, 51:92, 52:14
											24	*51:29, 51:61, 52:21, 52:24
										23	24	*51:38
			16								24	*51:62
							20				24	*51:74
	14											*51:93
			16								24	*51:106
												*54:10, 55:37
											24	*54:20, 55:21
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Length of spec.	140	95	245	245	125	105	190	185	130	105	280	90
PCR product(s)					150			225	230	210		
					180							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*54:22					5		7					
*55:09				4	5			8				
*55:22				4	5							
*55:24				4	5							
*55:32						6	7				11	
*56:01:03					5							
*56:02, 56:04					5							12
*56:22						6						
*56:25					5							
*57:13			3								11	
C*17:08												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

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

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*13 subtyping.

In addition, wells number 2, 3, 5, 10, 11, 13, 15 and 22 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

²The nucleotide position, in the 2nd, 3rd or 4th exon, matching the specificity-determining 3'-end of the primer is given. 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 nucleotide position, in 2nd, 3rd or 5th exon or the 3rd intron, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. 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 B*1305 allele has been shown to be identical to B*13:04.

The B*1324 allele has been renamed B*13:22:02.

⁵The B*13:15 and B*13:33 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 16.

⁶The B*13:34 and B*13:38 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 19.

⁷Primer mix 5: Specific PCR fragment of 125 bp in the B*13:22:01-13:22:02 and 13:45 and the B*15:86, 15:224, 35:60, 46:18, 54:01:01-54:02, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:17-54:19, 54:21-54:24, 55:02:01-55:02:06, 55:07, 55:10, 55:12, 55:16, 55:18-55:19, 55:22, 55:26, 55:30, 55:34, 55:35, 55:37, 55:39, 55:42-55:43, 55:47-55:48, 56:10, 56:23, 59:01:01:01-59:01:01:02 and 59:05 alleles.

Specific PCR fragment of 150 bp in the B*13:16, 13:20, 13:31 and 13:41 alleles. Specific PCR fragment of 125 and 150 bp in the B*07:78, 15:42, 54:20, 55:01:01-55:01:07, 55:03, 55:05, 55:09, 55:11, 55:15, 55:21, 55:24-55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:40 and 55:44-55:45 alleles. Specific PCR fragments of 125 and 180 bp in the B*13:03 and the B*40:71, 44:10, 46:11, 54:03, 56:01:01-56:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:19N-56:20, 56:24, 56:26-56:30, 59:04 and 82:01-82:03 alleles. Specific PCR fragments of 125, 150 and 180 bp in the B*15:73, 51:62, 51:106 and 56:25 alleles. All bands may not always be visible.

Primer mix 8: Specific PCR fragment of 185 bp in the B*13:07N allele. Specific PCR fragment of 225 bp in the B*13:18, 13:31 and 13:41 and the B*07:78, 07:84, 15:04, 15:137, 39:33, 40:161, 51:05, 51:29, 51:54, 51:61, 51:82, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21 and 55:37 alleles.

Primer mix 9: Specific PCR fragment of 130 bp in the B*13:42 and the B*51:38 alleles. Specific PCR fragment of 230 bp in the B*13:08Q allele.

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

90	130	105	90	225	155	195	105	120	135	130	170	Length of spec.
180		250	205		205	340		180	175	200		PCR product(s)
					275					275		
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
		15										*54:22
											24	*55:09
												*55:22
											24	*55:24
												*55:32
		15										*56:01:03
												*56:02, 56:04
												*56:22
											24	*56:25
											24	*57:13
						19						C*17:08
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Primer mix 10: Specific PCR fragment of 105 bp in the B*13:21 and the B*07:05:01-07:06, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 08:01:02, 08:01:13, 08:20, 15:150, 15:188, 27:07, 27:11, 27:20, 27:24, 27:27, 27:43, 35:09:02, 35:18, 35:31, 35:88, 40:01:11, 40:10:01-40:10:02, 40:12-40:13, 40:19, 40:21, 40:47, 40:58, 40:76, 40:96, 40:109-40:110, 40:117, 40:137, 40:149, 40:157, 44:31, 48:01:01-48:01:03, 48:03:01-48:07, 48:09-48:11, 48:13, 48:15-48:16, 48:18-48:22, 48:24, 51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 51:81, 54:11, 55:04, 55:08, 55:49, 58:27, 67:03 and 81:01-81:05 and in the C*15:24 alleles. Specific PCR fragment of 210 bp in the B*13:09 and 13:39 and the B*15:53, 15:183, 15:212, 27:08, 27:12, 27:18, 27:26, 27:40, 27:42, 27:44, 35:63, 35:84, 35:90, 35:150, 40:01:14, 40:03, 40:09, 40:14:01-40:14:02, 40:18, 40:20, 40:24, 40:26, 40:28, 40:31-40:33, 40:42, 40:44, 40:52, 40:59-40:60, 40:71-40:72:01, 40:77, 40:87:01, 40:95, 40:98, 40:120-40:121, 40:124:01-40:124:02, 40:136, 40:158-40:159, 41:01-41:04, 41:06-41:07, 41:09-41:11, 41:13-41:18, 44:09, 44:46, 44:75, 44:90, 44:129, 45:01-45:13, 46:10, 47:02, 47:03^w, 50:01:01-50:02 and 50:04-50:13 alleles. Specific PCR fragments of 105 and 210 bp in the B*27:33, 40:01:01-40:01:10, 40:01:12-40:01:13, 40:01:15-40:02:12, 40:04-40:08, 40:11:01-40:11:02, 40:14:03-40:16, 40:22N-40:23, 40:25, 40:27:01-40:27:02, 40:29-40:30, 40:34-40:40, 40:43, 40:45-40:46, 40:48-40:51, 40:53-40:57, 40:61-40:70, 40:72:02-40:75, 40:78-40:86, 40:87:02-40:94, 40:97, 40:99-40:108, 40:111-40:116, 40:118N-40:119, 40:122-40:123, 40:125-40:135, 40:138-40:148, 40:150-40:156, 40:160-40:164, 41:08 and 73:01-73:02 alleles. Both bands may not always be visible.

Primer mix 13: Specific PCR fragment of 90 bp in the B*13:19 allele. Specific PCR fragment of 180 bp in the B*13:12 allele.

Primer mix 15: Specific PCR fragment of 105 bp in the B*13:22:01 and in the B*07:78, 15:73, 40:48, 54:22 and 56:01:03 alleles. Specific PCR fragment of 250 bp in the B*13:14 and 13:23 and the B*18:09, 27:01, 37:10, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 40:47, 40:96, 40:157, 44:15, 44:55, 44:103, 44:130 and 49:02 alleles.

Primer mix 16: Specific PCR fragment of 90 bp in the B*13:17 and 13:33 and the B*35:46 alleles. Specific PCR fragment of 205 bp in the B*13:15 and in the B*49:09, 51:62 and 51:106 alleles.

Primer mix 18: Specific PCR fragment of 155 bp in the B*13:28 allele. Specific PCR fragment of 205 bp in the B*13:32 allele. Specific PCR fragment of 275 bp in the B*13:44 allele.

Primer mix 19: Specific PCR fragment of 195 bp in the B*13:34 and in the C*17:08 alleles. Specific PCR fragment of 340 bp in the B*13:38 allele.

Primer mix 21: Specific PCR fragment of 120 bp in the B*13:29 allele. Specific PCR fragment of 180 bp in the B*13:30 and 13:40 alleles.

Primer mix 22: Specific PCR fragment of 135 bp in the B*13:25 allele. Specific PCR fragment of 175 bp in the B*13:40 allele.

Primer mix 23: Specific PCR fragment of 130 bp in the B*13:42 and the B*51:38 alleles. Specific PCR fragment of 200 bp in the B*13:37 allele. Specific PCR fragment of 275 bp in the B*13:44 allele.

^w, may be weakly amplified.

				Well															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Prod. No.:				201072201	201072202	201072203	201072204	201072205	201072206	201072207	201072208	201185409	201072210	201072211	201072212	201072213	201072214	201072215	201072216
IHWC cell line		B*																	
1	9001	SA	*07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	+	-	+	-	-	-	+	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	+	-	+	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	+	-	-	-	-	+	-	+	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	+	+	-	+	-	-	-	-	-	-	+	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-

CELL LINE VALIDATION SHEET												
HLA-B*13 SSP subtyping kit												
				Well								
				17	18	19	20	21	22	23	24	
				Prod. No.:	201185417	201185418	201185419	201185420	201185421	201185422	201185423	201185424
	IHWC cell line		B*									
1	9001 SA		*07:02		-	-	-	-	-	-	-	+
2	9280 LK707		*52:01	*73:01	-	-	-	-	-	-	-	+
3	9011 E4181324		*52:01		-	-	-	-	-	-	-	+
4	9275 GU373		*15:10	*53:01	-	-	-	-	-	-	-	+
5	9009 KAS011		*37:01		-	-	-	-	-	-	-	-
6	9353 SM		*39:01	*51:01	-	-	-	-	-	-	-	+
7	9020 QBL		*18:01		-	-	-	-	-	-	-	-
8	9025 DEU		*35:01		-	-	-	-	-	-	-	-
9	9026 YAR		*38:01		-	-	-	-	-	-	-	-
10	9107 LKT3		*54:01		-	-	-	-	-	-	-	-
11	9051 PITOUT		*44:03		-	-	-	-	-	-	-	-
12	9052 DBB		*57:01		-	-	-	-	-	-	-	-
13	9004 JESTHOM		*27:05		-	-	-	-	-	-	-	-
14	9071 OLGA		*15:01	*15:20	-	-	-	-	-	-	-	+
15	9075 DKB		*40:01		-	-	-	-	-	-	-	-
16	9037 SWEIG007		*40:02		-	-	-	-	-	-	-	-
17	9282 CTM3953540		*08:01	*55:01	-	-	-	-	-	-	-	+
18	9257 32367		*14:01	*56:01	-	-	-	-	-	-	-	+
19	9038 BM16		*18:01		-	-	-	-	-	-	-	-
20	9059 SLE005		*40:01		-	-	-	-	-	-	-	-
21	9064 AMALA		*15:01		-	-	-	-	-	-	-	+
22	9056 KOSE		*35:03		-	-	-	-	-	-	-	-
23	9124 IHL		*40:02	*56:02	-	-	-	-	-	-	-	-
24	9035 JBUSH		*38:01		-	-	-	-	-	-	-	-
25	9049 IBW9		*14:02		-	-	-	-	-	-	-	+
26	9285 WT49		*58:01		-	-	-	-	-	-	-	-
27	9191 CH1007		*07:05	*51:01	-	-	-	-	-	-	-	+
28	9320 BEL5GB		*44:02	*44:03	-	-	-	-	-	-	-	-
29	9050 MOU		*44:03		-	-	-	-	-	-	-	-
30	9021 RSH		*42:01		-	-	-	-	-	-	-	-
31	9019 DUCAF		*18:01		-	-	-	-	-	-	-	-
32	9297 HAG		*41:02		-	-	-	-	-	-	-	-
33	9098 MT14B		*40:01		-	-	-	-	-	-	-	-
34	9104 DHIF		*38:01		-	-	-	-	-	-	-	-
35	9302 SSTO		*44:02		-	-	-	-	-	-	-	-
36	9024 KT17		*15:01	*35:01	-	-	-	-	-	-	-	+
37	9065 HHKB		*07:02		-	-	-	-	-	-	-	+
38	9099 LZL		*15:01		-	-	-	-	-	-	-	+
39	9315 CML		*08:01	*27:05	-	-	-	-	-	-	-	-
40	9134 WHONP199		*13:02	*46:01	-	-	-	-	-	-	-	+
41	9055 H0301		*14:02		-	-	-	-	-	-	-	+
42	9066 TAB089		*46:01		-	-	-	-	-	-	-	+
43	9076 T7526		*46:01		-	-	-	-	-	-	-	+
44	9057 TEM		*38:01		-	-	-	-	-	-	-	-
45	9239 SHJO		*42:01	*50:01	-	-	-	-	-	-	-	+
46	9013 SCHU		*07:02		-	-	-	-	-	-	-	+
47	9045 TUBO		*51:01		-	-	-	-	-	-	-	+
48	9303 TER-ND		*35:01	*44:03	-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-B*13 SSP

Product number: 101.515-12 – including *Taq* polymerase
Lot number: 13M
Expiry date: 2013-November-01
Number of tests: 12
Number of wells per test: 24

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-722-01	9	2011-854-09	17	2011-854-17
2	2010-722-02	10	2010-722-10	18	2011-854-18
3	2010-722-03	11	2010-722-11	19	2011-854-19
4	2010-722-04	12	2010-722-12	20	2011-854-20
5	2010-722-05	13	2010-722-13	21	2011-854-21
6	2010-722-06	14	2010-722-14	22	2011-854-22
7	2010-722-07	15	2010-722-15	23	2011-854-23
8	2010-722-08	16	2010-722-16	24	2011-854-24

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 9, 13, 14, 16 to 19 and 21 to 23 were available. The specificities of the primers in primer mixes 13, 14, 16 and 22 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer solutions 9, 18 and 23 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 17, 19 and 21 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 13 and 22, one 5'-primer was not possible to test and in primer solutions 8, 13 and 22 one 3'-primer was not possible to test.

Additional primers in primer solutions 5, 8 and 15 were tested by separately adding one 5'-primer and/or one 3'-primer. In primer solution 8, one 3'-primer was not possible to test.

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

Date of approval: 2011-June-22

Approved by:

Quality Control, Supervisor

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

Declaration of Conformity

Product name: *Olerup* SSP® HLA-B*13
Product number: 101.515-12
Lot number: 13M

Intended use: HLA-B*13 high resolution histocompatibility testing

Manufacturer: *Olerup* SSP AB
Franzengatan 5
SE-112 51 Stockholm, 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, Franzengatan 5, SE-112 51 Stockholm, 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.)

Stockholm, Sweden
2011-June-22

Olle Olerup
Managing Director

Lot No.: **13M**

Lot-specific information

www.olerup-ssp.com

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