

Olerup SSP® HLA-C*15

Product number:	101.626-12 – including <i>Taq</i> polymerase
Lot number:	06M
Expiry date:	2013-October-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. 06M.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® HLA-C*15 Lot

The HLA-C*15 specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup SSP*® HLA-C*15 lot was made (Lot No. 03K).

Eight wells have been added to the HLA-C*15 kit,
wells **17 to 24**.
The amplification patterns for some rare HLA-C*15 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
13	-	-	Exchanged positive control primer pair.
16	Added	Added	Primer added for resolution of the C*15:26 and C*15:37 alleles.
17	New	New	New primer pairs for the C*15:34, 15:36 and 15:39 alleles.
18	New	New	New primer pairs for the C*15:31 and 15:33 alleles.
19	New	New	New primer pairs for the C*15:30, 15:42 and 15:46 alleles.

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20	New	New	New primer pairs for the C*15:44 and 15:45 alleles.
21	New	New	New primer pairs for the C*15:35 and 15:47 alleles.
22	New	New	New primer pair for the C*15:38 allele.
23	New	New	New primer pairs for the C*15:29 and 15:48 alleles.
24	New	New	New primer pairs for the C*15:32Q and 15:41 alleles.

PRODUCT DESCRIPTION

HLA-C*15 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*15:02 to C*15:48 alleles.

PLATE LAYOUT

Each HLA-C*15 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 PCR plate is marked with 'HLA-C*15' in silver/gray ink.

Well No. 1 is marked with the Lot No. '06M'.

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-C*15 SSP subtypings will be influenced by three C*01, the C*02, most C*03, the C*04, the C*05, most C*06, most C*07, the C*08, the C*12, the C*14, the C*16, the C*17 and the C*18:04 alleles, when present on the other haplotype. In addition, primer mix 7 amplifies the B*35:08:02 and B*67:02 alleles, primer mix 8 weakly amplifies the B*07:78, B*13:18, B*13:31, B*13:41, B*15:73, B*54:10, B*54:20, B*55:09, B*55:21 and B*55:37 alleles, primer mix 14 amplifies the B*46:11, B*46:18, B*56:08 and B*56:14 alleles and primer mix 18 amplifies the B*15:200 and B*58:05 alleles.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*15 alleles, i.e. **C*15:02 to C*15:48**, recognized by the HLA Nomenclature Committee in January 2011¹ will be amplified by the primers in the HLA-C*15 SSP kit.

The HLA-C*15 subtyping kit cannot distinguish the C*15:02:01 to C*15:02:07 alleles, the C*15:05:01 to C*15:05:05 alleles, the C*15:06:01 to C*15:06:03 alleles or the C*15:10:01 and C*15:10:02 alleles.

The C*15:31 and C*15:33 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 18.

The C*15:32Q and C*15:41 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 24.

The C*15:34 and C*15:39 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 17.

The C*15:35 and C*15:47 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 21.

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The C*15:44 and C*15:45 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 20.

¹HLA-C alleles listed on the IMGT/HLA web page 2011-January-14, release 3.3.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 59 alleles generate 41 amplification patterns that can be combined in 861 homozygous and heterozygous combinations. 480 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.

++++-----	---+-----	-----	*15:04, *15:28 = *15:09, *15:28 = *15:20, *15:28
++++-----	---+-----	-----	*15:04, *15:16 = *15:09, *15:16
++++-----	---+-----	-----	*15:03, *15:04 = *15:03, *15:09 = *15:03, *15:20
+++-----	---+-----	-----	*15:06:01, *15:28 = *15:28, *15:37 = *15:28, *15:40
+++-----	---+-----	-----	*15:06:01, *15:16 = *15:16, *15:37 = *15:16, *15:40
+++-----	---+-----	-----	*15:03, *15:06:01 = *15:03, *15:37 = *15:03, *15:40
+++-----	---+-----	-----	*15:13, *15:25 = *15:16, *15:21
+++-----	---+-----	-----	*15:02:01, *15:25 = *15:03, *15:07 = *15:03, *15:21 = *15:03, *15:25 = *15:07, *15:28 = *15:21, *15:25 = *15:21, *15:28 = *15:25, *15:28
+++-----	+-----	-----	*15:03, *15:11 = *15:16, *15:18
+++-----	---+-----	-----	*15:12, *15:28 = *15:24, *15:28
+++-----	---+-----	-----	*15:03, *15:43 = *15:13, *15:28 = *15:16, *15:28 = *15:17, *15:28 = *15:28, *15:43
+++-----	---+-----	-----	*15:02:01, *15:28 = *15:03, *15:28 = *15:28, *15:28
+++-----	---+-----	-----	*15:12, *15:16 = *15:16, *15:24
+++-----	---+-----	-----	*15:03, *15:12 = *15:03, *15:24
+++-----	---+-----	-----	*15:02:01, *15:16 = *15:03, *15:13 = *15:03, *15:16 = *15:03, *15:17 = *15:13, *15:16
+++-----	---+-----	-----	*15:02:01, *15:03 = *15:03, *15:03
+++-----	---+-----	-----	*15:04, *15:22 = *15:09, *15:22 = *15:20, *15:22
+++-----	+-----	-----	*15:04, *15:23 = *15:09, *15:23 = *15:20, *15:23
+++-----	---+-----	-----	*15:04, *15:36 = *15:09, *15:36 = *15:20, *15:36
+++-----	---+-----	-----	*15:04, *15:46 = *15:05:01, *15:30 = *15:09, *15:46 = *15:20, *15:46 = *15:30, *15:46
+++-----	---+-----	-----	*15:04, *15:29 = *15:09, *15:29 = *15:20, *15:29
+++-----	---+-----	-----	*15:04, *15:05:01 = *15:05:01, *15:09 = *15:05:01, *15:20
+++-----	---+-----	-----	*15:06:01, *15:19 = *15:19, *15:40
+++-----	---+-----	-----	*15:04, *15:26 = *15:09, *15:26 = *15:20, *15:26 = *15:26, *15:27 = *15:27, *15:37
+++-----	---+-----	-----	*15:04, *15:37 = *15:09, *15:37 = *15:20, *15:37
+++-----	---+-----	-----	*15:06:01, *15:27 = *15:27, *15:40
+++-----	---+-----	-----	*15:04, *15:06:01 = *15:06:01, *15:09 = *15:06:01, *15:20 = *15:09, *15:40 = *15:20, *15:40
+++-----	---+-----	-----	*15:07, *15:19 = *15:19, *15:21
+++-----	---+-----	-----	*15:07, *15:30 = *15:21, *15:30
+++-----	---+-----	-----	*15:04, *15:07 = *15:04, *15:21 = *15:07, *15:09 = *15:09, *15:21 = *15:20, *15:21
+++-----	---+-----	-----	*15:13, *15:19 = *15:17, *15:19
+++-----	---+-----	-----	*15:08, *15:27 = *15:15, *15:19
+++-----	---+-----	-----	*15:08, *15:30 = *15:19, *15:42
+++-----	---+-----	-----	*15:02:01, *15:19 = *15:04, *15:08 = *15:08, *15:09 = *15:08, *15:19 = *15:08, *15:20
+++-----	---+-----	-----	*15:04, *15:19 = *15:09, *15:19 = *15:19, *15:19 = *15:19, *15:20
+++-----	+-----	-----	*15:04, *15:11 = *15:09, *15:11
+++-----	+-----	-----	*15:04, *15:18 = *15:09, *15:18 = *15:18, *15:20
+++-----	+-----	-----	*15:04, *15:10:01 = *15:09, *15:10:01
+++-----	---+-----	-----	*15:04, *15:43 = *15:09, *15:43
+++-----	---+-----	-----	*15:04, *15:12 = *15:09, *15:12 = *15:12, *15:20

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+++----- --+----- --+-----	*15:13, *15:30 = *15:17, *15:30
+++----- --+----- -----	*15:04, *15:13 = *15:04, *15:17 = *15:09, *15:13 = *15:09, *15:17 = *15:13, *15:20
+++----- --+-----+ --+-----	*15:15, *15:30 = *15:27, *15:42
+++----- --+-----+ -----	*15:02:01, *15:27 = *15:04, *15:15 = *15:09, *15:15 = *15:15, *15:20 = *15:15, *15:27
+++----- --+-----+ +-----	*15:04, *15:34 = *15:09, *15:34 = *15:20, *15:34
+++----- --+-----+ -+-----	*15:04, *15:31 = *15:09, *15:31 = *15:20, *15:31
+++----- --+-----+ --+-----	*15:02:01, *15:30 = *15:04, *15:42 = *15:09, *15:42 = *15:20, *15:42 = *15:30, *15:42
+++----- --+-----+ -----	*15:04, *15:44 = *15:09, *15:44 = *15:20, *15:44
+++----- --+-----+ -----	*15:04, *15:35 = *15:09, *15:35 = *15:20, *15:35
+++----- --+-----+ -----	*15:04, *15:38 = *15:09, *15:38 = *15:20, *15:38
+++----- --+-----+ -----	*15:04, *15:48 = *15:09, *15:48
+++----- --+-----+ -----	*15:04, *15:32Q = *15:09, *15:32Q = *15:20, *15:32Q
+++----- --+-----+ -----	*15:02:01, *15:04 = *15:02:01, *15:09 = *15:02:01, *15:20
+++----- --+-----+ -----	*15:04, *15:24 = *15:09, *15:24 = *15:20, *15:24
+++----- --+-----+ -----	*15:04, *15:27 = *15:09, *15:27
+++----- --+-----+ -----	*15:09, *15:30 = *15:20, *15:30
+++----- --+-----+ -----	*15:04, *15:09 = *15:04, *15:20 = *15:09, *15:09 = *15:09, *15:20
+++----- --+-----+ -----	*15:07, *15:22 = *15:21, *15:22
+++----- --+-----+ -----	*15:18, *15:22 = *15:23, *15:37
+++----- --+-----+ -----	*15:06:01, *15:23 = *15:22, *15:23 = *15:23, *15:40
+++----- --+-----+ -----	*15:13, *15:22 = *15:17, *15:22
+++----- --+-----+ -----	*15:05:01, *15:26 = *15:15, *15:22 = *15:22, *15:26
+++----- --+-----+ -----	*15:22, *15:34 = *15:36, *15:37
+++----- --+-----+ -----	*15:22, *15:42 = *15:37, *15:46
+++----- --+-----+ -----	*15:22, *15:48 = *15:29, *15:37
+++----- --+-----+ -----	*15:02:01, *15:22 = *15:05:01, *15:37 = *15:22, *15:37
+++----- --+-----+ -----	*15:06:01, *15:36 = *15:22, *15:36 = *15:36, *15:40
+++----- --+-----+ -----	*15:06:01, *15:46 = *15:22, *15:46 = *15:40, *15:46
+++----- --+-----+ -----	*15:06:01, *15:29 = *15:22, *15:29 = *15:29, *15:40
+++----- --+-----+ -----	*15:05:01, *15:06:01 = *15:05:01, *15:22 = *15:05:01, *15:40 = *15:06:01, *15:22 = *15:22, *15:22 = *15:22, *15:40
+++----- --+-----+ -----	*15:07, *15:23 = *15:21, *15:23
+++----- --+-----+ -----	*15:07, *15:36 = *15:21, *15:36
+++----- --+-----+ -----	*15:07, *15:46 = *15:21, *15:46
+++----- --+-----+ -----	*15:07, *15:29 = *15:21, *15:29
+++----- --+-----+ -----	*15:05:01, *15:07 = *15:05:01, *15:21
+++----- --+-----+ -----	*15:05:01, *15:11 = *15:11, *15:23 = *15:13, *15:23 = *15:17, *15:23
+++----- --+-----+ -----	*15:18, *15:36 = *15:23, *15:34
+++----- --+-----+ -----	*15:18, *15:46 = *15:23, *15:42
+++----- --+-----+ -----	*15:18, *15:29 = *15:23, *15:48
+++----- --+-----+ -----	*15:02:01, *15:23 = *15:05:01, *15:18 = *15:18, *15:23
+++----- --+-----+ -----	*15:05:01, *15:23 = *15:23, *15:23
+++----- --+-----+ -----	*15:13, *15:36 = *15:17, *15:36
+++----- --+-----+ -----	*15:13, *15:46 = *15:17, *15:46
+++----- --+-----+ -----	*15:13, *15:29 = *15:17, *15:29
+++----- --+-----+ -----	*15:05:01, *15:13 = *15:05:01, *15:17
+++----- --+-----+ -----	*15:34, *15:46 = *15:36, *15:42
+++----- --+-----+ -----	*15:29, *15:34 = *15:36, *15:48
+++----- --+-----+ -----	*15:02:01, *15:36 = *15:05:01, *15:34 = *15:34, *15:36
+++----- --+-----+ -----	*15:29, *15:42 = *15:46, *15:48
+++----- --+-----+ -----	*15:02:01, *15:46 = *15:05:01, *15:42 = *15:42, *15:46
+++----- --+-----+ -----	*15:02:01, *15:29 = *15:05:01, *15:48 = *15:29, *15:48
+++----- --+-----+ -----	*15:05:01, *15:36 = *15:36, *15:36
+++----- --+-----+ -----	*15:05:01, *15:46 = *15:46, *15:46
+++----- --+-----+ -----	*15:05:01, *15:29 = *15:29, *15:29
+++----- --+-----+ -----	*15:07, *15:26 = *15:21, *15:26
+++----- --+-----+ -----	*15:06:01, *15:07 = *15:06:01, *15:21 = *15:07, *15:37 = *15:07, *15:40 = *15:21, *15:37 = *15:21, *15:40
+++----- --+-----+ -----	*15:06:01, *15:08 = *15:08, *15:37 = *15:08, *15:40
+++----- --+-----+ -----	*15:06:01, *15:11 = *15:11, *15:37 = *15:11, *15:40



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+++++--	+-----	-----	*15:06:01, *15:18 = *15:18, *15:37 = *15:18, *15:40
+++++--	-+-----	-----	*15:06:01, *15:10:01 = *15:10:01, *15:37 = *15:10:01, *15:40
+++++--	---+---+	-----	*15:06:01, *15:43 = *15:37, *15:43 = *15:40, *15:43
+++++--	--+---++	-----	*15:12, *15:26 = *15:24, *15:26
+++++--	--+---+-	-----	*15:06:01, *15:12 = *15:12, *15:37 = *15:12, *15:40 = *15:24, *15:37
+++++--	--+---++	-----	*15:13, *15:26 = *15:17, *15:26
+++++--	--+---+-	-----	*15:06:01, *15:13 = *15:06:01, *15:17 = *15:13, *15:37 = *15:13, *15:40 = *15:17, *15:37 = *15:17, *15:40
+++++--	--+---++	-----	*15:02:01, *15:26 = *15:06:01, *15:15 = *15:06:01, *15:26 = *15:15, *15:26 = *15:15, *15:37 = *15:15, *15:40 = *15:26, *15:26 = *15:26, *15:37 = *15:26, *15:40
+++++--	--+---+-	+-----	*15:06:01, *15:34 = *15:34, *15:37 = *15:34, *15:40
+++++--	--+---+-	-+-----	*15:06:01, *15:31 = *15:31, *15:37 = *15:31, *15:40
+++++--	--+---+-	--+-----	*15:06:01, *15:42 = *15:37, *15:42 = *15:40, *15:42
+++++--	--+---+-	---+-----	*15:06:01, *15:44 = *15:37, *15:44 = *15:40, *15:44
+++++--	--+---+-	-----+---	*15:06:01, *15:35 = *15:35, *15:37 = *15:35, *15:40
+++++--	--+---+-	-----+---	*15:06:01, *15:38 = *15:37, *15:38 = *15:38, *15:40
+++++--	--+---+-	-----+---	*15:06:01, *15:48 = *15:37, *15:48 = *15:40, *15:48
+++++--	--+---+-	-----+---	*15:06:01, *15:32Q = *15:32Q, *15:37 = *15:32Q, *15:40
+++++--	--+---+-	-----+---	*15:02:01, *15:06:01 = *15:02:01, *15:37 = *15:02:01, *15:40 = *15:06:01, *15:37 = *15:37, *15:37 = *15:37, *15:40
+++++--	-----+---	-----	*15:06:01, *15:24 = *15:24, *15:40
+++++--	-----+---	-----	*15:06:01, *15:06:01 = *15:06:01, *15:40
+++++--	-----+---	-----	*15:07, *15:08 = *15:08, *15:21
+++++--	+-----+---	-----	*15:07, *15:18 = *15:18, *15:21
+++++--	-+-----+---	-----	*15:07, *15:10:01 = *15:10:01, *15:21
+++++--	-----+---	-----	*15:07, *15:12 = *15:07, *15:24 = *15:12, *15:21 = *15:21, *15:24
+++++--	-----+---	-----	*15:07, *15:13 = *15:13, *15:21 = *15:17, *15:21 = *15:21, *15:43
+++++--	-----+---	-----	*15:07, *15:17 = *15:07, *15:43
+++++--	-----+---	-----	*15:07, *15:15 = *15:15, *15:21
+++++--	-----+---	+-----	*15:07, *15:34 = *15:21, *15:34
+++++--	-----+---	-+-----	*15:07, *15:31 = *15:21, *15:31
+++++--	-----+---	--+-----	*15:07, *15:42 = *15:21, *15:42
+++++--	-----+---	---+-----	*15:07, *15:44 = *15:21, *15:44
+++++--	-----+---	-----+---	*15:07, *15:35 = *15:21, *15:35
+++++--	-----+---	-----+---	*15:07, *15:38 = *15:21, *15:38
+++++--	-----+---	-----+---	*15:07, *15:32Q = *15:21, *15:32Q
+++++--	-----+---	-----	*15:02:01, *15:07 = *15:02:01, *15:21 = *15:07, *15:21 = *15:21, *15:21
+++++--	-----+---	-----	*15:08, *15:12 = *15:08, *15:24
+++++--	-----+---	-----	*15:08, *15:13 = *15:08, *15:17
+++++--	-----+---	-----	*15:02:01, *15:08 = *15:08, *15:08
+++++--	+-----+---	-----	*15:11, *15:12 = *15:11, *15:24
+++++--	+-----+---	-----	*15:12, *15:18 = *15:18, *15:24
+++++--	+-----+---	-----	*15:02:01, *15:11 = *15:11, *15:13 = *15:11, *15:18 = *15:13, *15:18 = *15:17, *15:18
+++++--	+-----+---	-----	*15:02:01, *15:18 = *15:18, *15:18
+++++--	-+-----+---	-----	*15:10:01, *15:12 = *15:10:01, *15:24
+++++--	-----+---	-----	*15:12, *15:43 = *15:24, *15:43
+++++--	-----+---	-----	*15:02:01, *15:43 = *15:13, *15:43
+++++--	-----+---	-----	*15:12, *15:13 = *15:12, *15:17 = *15:13, *15:24 = *15:17, *15:24
+++++--	-----+---	-----	*15:12, *15:15 = *15:15, *15:24
+++++--	-----+---	+-----	*15:12, *15:34 = *15:24, *15:34
+++++--	-----+---	-+-----	*15:12, *15:31 = *15:24, *15:31
+++++--	-----+---	--+-----	*15:12, *15:42 = *15:24, *15:42
+++++--	-----+---	---+-----	*15:12, *15:44 = *15:24, *15:44
+++++--	-----+---	-----+---	*15:12, *15:35 = *15:24, *15:35
+++++--	-----+---	-----+---	*15:12, *15:38 = *15:24, *15:38
+++++--	-----+---	-----+---	*15:12, *15:48 = *15:24, *15:48
+++++--	-----+---	-----+---	*15:12, *15:32Q = *15:24, *15:32Q
+++++--	-----+---	-----	*15:02:01, *15:12 = *15:02:01, *15:24 = *15:12, *15:12 = *15:12, *15:24
+++++--	-----+---	-----	*15:13, *15:15 = *15:15, *15:17



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++----- --+++++ -+-----	*15:13, *15:34 = *15:17, *15:34
++----- --+++++ -+-----	*15:13, *15:31 = *15:17, *15:31
++----- --+++++ --+-----	*15:13, *15:42 = *15:17, *15:42
++----- --+++++ ---+-----	*15:13, *15:44 = *15:17, *15:44
++----- --+++++ -----+	*15:13, *15:35 = *15:17, *15:35
++----- --+++++ -----+	*15:13, *15:38 = *15:17, *15:38
++----- --+++++ -----+	*15:13, *15:32Q = *15:17, *15:32Q
++----- --+++++ -----	*15:02:01, *15:13 = *15:02:01, *15:17 = *15:13, *15:13 = *15:13, *15:17
++----- --+++++ -----	*15:02:01, *15:15 = *15:15, *15:15
++----- --+++++ +-----	*15:02:01, *15:34 = *15:34, *15:34
++----- --+++++ -+-----	*15:02:01, *15:31 = *15:31, *15:31
++----- --+++++ --+-----	*15:02:01, *15:42 = *15:42, *15:42
++----- --+++++ ---+-----	*15:02:01, *15:44 = *15:44, *15:44
++----- --+++++ -----+	*15:02:01, *15:35 = *15:35, *15:35
++----- --+++++ -----+	*15:02:01, *15:38 = *15:38, *15:38
++----- --+++++ -----+	*15:02:01, *15:32Q = *15:32Q, *15:32Q
+--+----- --+++++ -----	*15:16, *15:25 = *15:17, *15:25 = *15:25, *15:43
+--+----- --+++++ -----	*15:16, *15:16 = *15:16, *15:17
+--+----- --+++++ -----	*15:20, *15:27 = *15:27, *15:27
+----- +--+----- -----	*15:11, *15:11 = *15:11, *15:17
+----- --+++++ -----	*15:17, *15:43 = *15:43, *15:43
-+--+----- -----+ -+-----	*15:04, *15:30 = *15:30, *15:30

*15:02:01 = *15:02:01-15:02:07
*15:05:01 = *15:05:01-15:05:05
*15:06:01 = *15:06:01-15:06:03
*15:10:01 = *15:10:01-15:10:02
*15:31 = *15:31 and 15:33
*15:32Q = *15:32Q and 15:41
*15:34 = *15:34 and 15:39
*15:35 = *15:35 and 15:47
*15:44 = *15:44 and 15:45



SPECIFICITY TABLE

HLA-C*15 SSP subtyping

Specificities and sizes of the PCR products of the 24 primer mixes used for HLA-C*15 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*15 alleles ³	Other amplified HLA Class I alleles ⁴
1	325 bp	800 bp	*15:02:01-15:03, 15:05:01-15:13, 15:15-15:24, 15:26-15:29, 15:31-15:39, 15:41-15:48	*02:06, 02:23, 02:36, 03:81, 07:123, 12:15, 16:20
2	175 bp	1070 bp	*15:02:01-15:09, 15:12-15:13, 15:15, 15:18-15:19, 15:21-15:24, 15:26, 15:28-15:42, 15:44-15:48	*03:08, 03:29, 03:31, 07:20, 07:96
3^{5,9}	70 bp, 195 bp	1070 bp	*15:03, 15:16, 15:25 ^w , 15:28	*02:12 ^w , 03:15, 03:27 ^w , 03:38:01 ^w -03:38:02 ^w , 03:69 ^w , 04:03, 04:06, 04:16, 04:80, 07:20 ^w , 07:96 ^w , 07:127 ^w
4	315 bp	1070 bp	*15:04, 15:09, 15:19-15:20, 15:27, 15:30	*01:04, 01:21, 02:02:01-02:02:03, 02:02:05-02:05, 02:08-02:18, 02:20-02:21, 02:24-02:40, 02:42-02:46, 03:02:01-03:02:07, 03:14-03:16, 03:33, 03:36, 03:40, 03:42-03:43:02, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108, 04:54, 05:04, 06:02:01:01-06:02:01:02, 06:02:03-06:08, 06:10-06:33, 06:35-06:37, 06:39-06:58, 07:01:01-07:03, 07:05-07:10, 07:14-07:27:02, 07:30-07:33N, 07:35-07:40, 07:42-07:44, 07:46-07:62, 07:64-07:100, 07:102-07:138, 07:140-07:141, 07:143-07:171, 08:09, 08:11, 12:02:01-12:14:02, 12:16-12:30, 12:32-12:51, 14:02:01-14:25, 14:27-14:29, 16:01:01-16:02:06, 16:04:01, 16:06-16:09, 16:11-16:32

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5^{5,6}	100 bp	1070 bp	*15:05:01- 15:05:05, 15:22- 15:23, 15:29, 15:36, 15:46	
6¹⁰	305 bp, 345 bp, 370 bp	1070 bp	*15:06:01- 15:06:03, 15:22, 15:26, 15:37, 15:40	
7	140 bp	800 bp	*15:07, 15:21, 15:25	*01:21, 02:12, 02:27:01-02:27:02, 04:11, 04:29, 04:36, 04:55, 07:02:09, 08:01:01-08:09, 08:11- 08:46, 12:02:01-12:03:03, 12:03:05- 12:03:08, 12:03:10-12:03:15, 12:06- 12:08, 12:10:01-12:20, 12:22-12:26, 12:28-12:32, 12:34-12:40, 12:42Q- 12:51, 14:02:03, 14:03, 14:08, 14:10, 14:22, 16:01:01, 16:01:03- 16:01:06, 16:04:01, 16:06-16:08, 16:10-16:11, 16:13-16:18, 16:20- 16:24, 16:26-16:32, B*35:08:02 , B*67:02
8¹¹	160 bp, 185 bp	1070 bp	*15:08, 15:19	*02:06, 02:47, 12:15, B*07:78^w , B*13:18^w , B*13:31^w , B*13:41^w , B*15:73^w , B*54:10^w , 54:20^w , B*55:09^w , B*55:21^w , B*55:37
9¹²	135 bp, 305 bp	1070 bp	*15:11, 15:18, 15:23	*02:02:01-02:02:03, 02:02:05- 02:02:12, 02:02:14-02:20, 02:22- 02:25Q, 02:27:01-02:38N, 02:40, 02:42-02:44, 02:46-02:47, 04:03, 04:06, 04:42, 04:80, 05:26, 05:43, 06:05, 07:02:09, 08:37, 12:16, 16:21
10	170 bp	1070 bp	*15:10:01- 15:10:02	*02:08, 03:18, 03:64, 04:01:01:01- 04:01:02, 04:01:04-04:01:26, 04:04:01-04:05, 04:07-04:15:03, 04:17-04:20, 04:23-04:79, 04:81- 04:84, 05:01:01:01-05:01:15, 05:03- 05:53, 06:28, 07:64, 07:73, 07:92, 08:01:01-08:13, 08:15:01-08:46, 12:02:01-12:15, 12:17-12:51, 14:02:01-14:02:07, 14:04-14:09, 14:11-14:17, 14:19-14:21N, 14:23- 14:29, 16:01:01-16:02:06, 16:04:01, 16:06-16:32, 17:01:01:01-17:08, 18:04

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11	315 bp	800 bp	*15:02:01-15:03, 15:07-15:08, 15:10:01-15:13, 15:15-15:18, 15:21, 15:26, 15:28, 15:31- 15:35, 15:37- 15:39, 15:41- 15:45, 15:47- 15:48	*02:06, 02:47, 03:12, 03:19, 03:102, 12:15
12^{5,13}	100 bp, 240 bp	1070 bp	*15:07, 15:21, 15:25, 15:28, 15:43	*02:12, 02:27:01-02:27:02, 03:02:01-03:04:16, 03:04:18-03:06, 03:08-03:14, 03:16-03:17, 03:19- 03:38:02, 03:40-03:44, 03:46-03:66, 03:68-03:98, 03:100-03:108, 07:96
13^{5,7,14}	125 bp, 185 bp	800 bp	*15:12, 15:24	*04:52, 04:55, 05:47, 14:10
14¹⁵	130 bp, 440 bp	800 bp	*15:11, 15:13, 15:16-15:17, 15:43	*02:06, 02:47, 03:12, 03:19, 03:102, 12:15, B*46:11, B*46:18, B*56:08, B*56:14
15^{5,6}	85 bp	1070 bp	*15:02:01- 15:06:03, 15:08- 15:10:02, 15:12- 15:13, 15:15, 15:18-15:19, 15:21-15:24, 15:26, 15:28- 15:42, 15:44- 15:47	*03:29, 05:36, 06:44, 07:07, 07:09
16^{5,16}	90 bp, 165 bp, 345 bp	1070 bp	*15:15, 15:26- 15:27	
17^{8,17}	140 bp, 215 bp, 295 bp	1070 bp	*15:34, 15:36, 15:39	*01:30
18^{5,7,18}	85 bp, 160 bp	1070 bp	*15:31, 15:33	*07:123, B*15:200, B*58:05
19^{7,19}	165 bp, 320 bp, 355 bp	1070 bp	*15:30, 15:42, 15:46	
20^{5,20}	120 bp, 235 bp	1070 bp	*15:44-15:45	
21²¹	170 bp, 445 bp	1070 bp	*15:35, 15:47	*02:35, 05:21
22	225 bp	800 bp	*15:38	
23^{6,22}	175 bp, 545 bp	1070 bp	*15:29, 15:48	*08:22
24²³	175 bp, 380 bp	1070 bp	*15:32Q, 15:41	

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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 C*15 high resolution 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-C*15 SSP subtyping.

In addition, wells number 7, 11, 13, 14 and 22 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band.

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

³The C*15:31 and C*15:33 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 18.

The C*15:32Q and C*15:41 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 24.

The C*15:34 and C*15:39 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 17.

The C*15:35 and C*15:47 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 21.

The C*15:44 and C*15:45 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 20.

⁴Due to the sharing of sequence motifs between HLA Class I alleles non-HLA-C*15 alleles will be amplified by most primer mixes. In addition, primer mix 7 amplifies the B*35:08:02 and B*67:02 alleles, primer mix 8 weakly amplifies the B*07:78, B*13:18, B*13:31, B*13:41, B*15:73, B*54:10, B*54:20, B*55:09, B*55:21 and B*55:37 alleles, primer mix 14 amplifies the B*46:11, B*46:18, B*56:08 and B*56:14 alleles and primer mix 18 amplifies the B*15:200 and B*58:05 alleles.

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

⁶Primer mixes 5, 15 and 23 may give a lower yield of HLA-specific PCR products than the other HLA-C*15 primer mixes.

⁷Primer mixes 13, 18 and 19 may have tendencies of primer oligomer formation.

⁸Primer mix 17 may have a tendency of giving rise to nonspecific amplifications.

⁹Primer mix 3: Specific PCR fragment of 70 bp in the C*15:28 allele. Specific PCR fragment of 195 bp in the C*15:03, 15:16 and 15:25^w and in the C*02:12^w, 03:15, 03:27^w, 03:38:01^w-03:38:02^w, 03:69^w, 04:03, 04:06, 04:16, 04:80, 07:20^w, 07:96^w and 07:127^w alleles.

¹⁰Primer mix 6: Specific PCR fragment of 305 bp in the C*15:06:01-15:06:03 and C*15:40 alleles. Specific PCR fragment of 345 bp in the C*15:26 allele. Specific PCR fragment of 370 bp in the C*15:22 and 15:37 alleles.

¹¹Primer mix 8: Specific PCR fragment of 160 bp in the C*15:08 and the C*02:06, 02:47, 12:15, B*07:78^w, B*13:18^w, 13:31^w and 13:41^w and in the B*15:73^w, B*54:10^w, B*54:20^w, B*55:09^w, B*55:21^w and B*55:37^w alleles. Specific PCR fragment of 185 bp in the C*15:19 allele.

¹²Primer mix 9: Specific PCR fragment of 135 bp in the C*15:11 and 15:23 and the C*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:20, 02:22-02:25Q, 02:27:01-02:38N, 02:40, 02:42-02:44, 02:46-02:47, 04:03, 04:06, 04:42, 04:80, 05:26, 05:43, 06:05, 07:02:09, 08:37, 12:16 and 16:21 alleles. Specific PCR fragment of 305 bp in the C*15:18 allele.

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¹³Primer mix 12: Specific PCR fragment of 100 bp in the C*15:28 allele. Specific PCR fragment of 240 bp in the C*15:07, 15:21, 15:25 and 15:43 and the C*02:12, 02:27:01-02:27:02, 03:02:01-03:04:16, 03:04:18-03:06, 03:08-03:14, 03:16-03:17, 03:19-03:38:02, 03:40-03:44, 03:46-03:66, 03:68-03:98, 03:100-03:108 and 07:96 alleles.

¹⁴Primer mix 13: Specific PCR fragment of 125 bp in the C*15:24 allele. Specific PCR fragment of 185 bp in the C*15:12 and C*04:52, 04:55 and 14:10 alleles.

¹⁵Primer mix 14: Specific PCR fragment of 130 bp in the C*15:13 allele. Specific PCR fragment of 440 bp the C*15:11, 15:16-15:17 and 15:43 and the C*02:06, 02:47, 03:12, 03:19, 03:102 and 12:15 and in the B*46:11, B*46:18, B*56:08 and B*56:14 alleles.

¹⁶Primer mix 16: Specific PCR fragment of 90 bp in the C*15:27 allele. Specific PCR fragment of 165 bp in the C*15:15 allele. Specific PCR fragment of 345 bp in the C*15:26 allele.

¹⁷Primer mix 17: Specific PCR fragment of 140 bp in the C*15:34 allele. Specific PCR fragment of 215 bp in the C *15:36 allele. Specific PCR fragment of 295 bp in the C*15:39 and the C*01:30 alleles.

¹⁸Primer mix 18: Specific PCR fragment of 85 bp in the C*15:33 allele. Specific PCR fragment of 160 bp in the C*15:31 and the C*07:123 and in the B*15:200 and B*58:05 alleles.

¹⁹Primer mix 19: Specific PCR fragment of 165 bp in the C*15:42 allele. Specific PCR fragment of 320 bp in the C*15:30 allele. Specific PCR fragment of 355 bp in the C*15:46 allele.

²⁰Primer mix 20: Specific PCR fragment of 120 bp in the C*15:44 allele. Specific PCR fragment of 235 bp in the C*15:45 allele.

²¹Primer mix 21: Specific PCR fragment of 170 bp in the C*15:47 allele. Specific PCR fragment of 445 bp in the C*15:35 and the C*02:35 and 05:21 alleles.

²²Primer mix 23: Specific PCR fragment of 175 bp in the C*15:48 allele. Specific PCR fragment of 545 bp in the C*15:29 and the C*08:22 alleles.

²³Primer mix 24: Specific PCR fragment of 175 bp in the C*15:32Q allele. Specific PCR fragment of 380 bp in the C*15:41 allele.

‘w’, might be weakly amplified.

INTERPRETATION TABLE												
HLA-C*15 SSP subtyping												
Amplification patterns of the HLA-C*15:02 to 15:48 alleles												
	Well ¹⁰											
	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	325	175	70	315	100	305	140	160	135	170	315	100
PCR product			195			345		185	305			240
Length of int. pos. control ¹	800	1070	1070	1070	1070	1070	800	1070	1070	1070	800	1070
5'-primer ²	409	134	134	419	420	355	201	125	97	1 st	420	105
	5' -ggC ^{3'}	5' -CCA ^{3'}	5' -CCA ^{3'}	5' -gTC ^{3'}	5' -TTC ^{3'}	5' -CCC ^{3'}	5' -CCA ^{3'}	5' -CgA ^{3'}	5' -TCg ^{3'}	5' -CgA ^{3'}	5' -TTA ^{3'}	5' -gCT ^{3'}
						379		420	118			
						5' -ACg ^{3'}		5' -TTA ^{3'}	5' -CCA ^{3'}			
						419			430			
						5' -gTA ^{3'}			5' -ACC ^{3'}			
3'-primer ³	3 rd	270	164	3 rd	477	3 rd	302	270	201	134	3 rd	164
	5' -CTC ^{3'}	5' -TAG ^{3'}	5' -gCA ^{3'}	5' -CTC ^{3'}	5' -gCg ^{3'}	5' -ggA ^{3'}	5' -ggC ^{3'}	5' -TAG ^{3'}	5' -CTT ^{3'}	5' -AgC ^{3'}	5' -CTC ^{3'}	5' -gCA ^{3'}
			289				302	539	3 rd			302
			5' -AgC ^{3'}				5' -ggC ^{3'}	5' -TCC ^{3'}	5' -CTC ^{3'}			5' -ggC ^{3'}
												302
												5' -ggC ^{3'}
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
HLA-C allele ⁴												
*15:02:01-15:02:07	1	2									11	
*15:03	1	2	3								11	
*15:04		2		4								
*15:05:01-15:05:05	1	2			5							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

INTERPRETATION TABLE												
HLA-C*15 SSP subtyping												
Amplification patterns of the HLA-C*15:02 to 15:48 alleles												
Well ¹⁰												
13	14	15	16	17	18	19	20	21	22	23	24	
125	130	85	90	140	85	165	120	170	225	175	175	Length of spec. PCR product
185	440		165	215	160	320	235	445		545	380	
			345	295		355						Length of int. pos. control ¹
800	800	1070	1070	1070	1070	1070	1070	1070	800	1070	1070	
201	270	270	261	98	409	368	105	322	128	134	356	5'-primer ²
5'-CCA 3'	5'-AAG 3'	5'-AAC 3'	5'-AAC 3'	5'-CTC 3'	5'-ggC 3'	5'-gTC 3'	5'-gCT 3'	5'-gCC 3'	5'-AgT 3'	5'-CCA 3'	5'-CAA 3'	
2 nd	757		379	2 nd		404		715		972	562	
5'-CCA 3'	5'-CCC 3'		5'-ACg 3'	5'-CCA 3'		5'-CCA 3'		5'-Cag 3'		5'-CTA 3'	5'-Cgg 3'	
			560			560						
			5'-CCT 3'			5'-CgA 3'						
343	420	312	312	270	455	3 rd	186	477	312	266	3 rd	3'-primer ³
5'-T 3'	5'-gCT 3'	5'-AgT 3'	5'-AgT 3'	5'-TAG 3'	5'-CCA 3'	5'-ggA 3'	5'-TCC 3'	5'-gCg 3'	5'-AgT 3'	5'-TCA 3'	5'-CTC 3'	
412	846		3 rd	427	527		299	846		1034		
5'-gTT 3'	5'-CAC 3'		5'-ggA 3'	5'-gTT 3'	5'-CCg 3'		5'-TCT 3'	5'-CAC 3'		5'-AgT 3'		
				583								
				5'-gTg 3'								
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												HLA-C allele ⁴
		15										*15:02:01-15:02:07
		15										*15:03
		15										*15:04
		15										*15:05:01-15:05:05
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

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Length of spec.	325	175	70	315	100	305	140	160	135	170	315	100
PCR product			195			345		185	305			240
						370						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*15:06:01-15:06:03	1	2				6						
*15:07	1	2					7				11	12
*15:08	1	2						8			11	
*15:09	1	2		4								
*15:10:01-15:10:02	1									10	11	
*15:11	1								9		11	
*15:12	1	2									11	
*15:13	1	2									11	
*15:15	1	2									11	
*15:16	1		3								11	
*15:17	1										11	
*15:18	1	2							9		11	
*15:19	1	2		4				8				
*15:20	1			4								
*15:21	1	2					7				11	12
*15:22	1	2			5	6						
*15:23	1	2			5				9			
*15:24	1	2										
*15:25			w				7					12
*15:26	1	2				6					11	
*15:27	1			4								
*15:28	1	2	3								11	12
*15:29	1	2			5							
*15:30		2		4								
*15:31, 15:33 ⁵	1	2									11	
*15:32Q, 15:41 ⁶	1	2									11	
*15:34, 15:39 ⁷	1	2									11	
*15:35, 15:47 ⁸	1	2									11	
*15:36	1	2			5							
*15:37	1	2				6					11	
*15:38	1	2									11	
*15:40		2				6						
*15:42	1	2									11	
*15:43	1										11	12
*15:44, 15:45 ⁹	1	2									11	
*15:46	1	2			5							
*15:48	1	2									11	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

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125	130	85	90	140	85	165	120	170	225	175	175	Length of spec.
185	440		165	215	160	320	235	445		545	380	PCR product
			345	295		355						
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
		15										*15:06:01-15:06:03
												*15:07
		15										*15:08
		15										*15:09
		15										*15:10:01-15:10:02
	14											*15:11
13		15										*15:12
	14	15										*15:13
		15	16									*15:15
	14											*15:16
	14											*15:17
		15										*15:18
		15										*15:19
												*15:20
		15										*15:21
		15										*15:22
		15										*15:23
13		15										*15:24
												*15:25
		15	16									*15:26
			16									*15:27
		15										*15:28
		15								23		*15:29
		15				19						*15:30
		15			18							*15:31, 15:33 ⁵
		15									24	*15:32Q, 15:41 ⁶
		15		17								*15:34, 15:39 ⁷
		15						21				*15:35, 15:47 ⁸
		15		17								*15:36
		15										*15:37
		15							22			*15:38
		15										*15:40
		15				19						*15:42
	14											*15:43
		15					20					*15:44, 15:45 ⁹
		15				19						*15:46
										23		*15:48
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	325	175	70	315	100	305	140	160	135	170	315	100
PCR product			195			345		185	305			240
						370						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*01:04, 02:02:13, 02:21, 02:26:01-02:26:02, 02:39, 02:45, 06:02:01:01- 06:02:01:02, 06:02:03- 06:04, 06:06-06:08, 06:10- 06:27, 06:29-06:33, 06:35- 06:37, 06:39-06:43, 06:45- 06:58, 07:01:01-07:02:08, 07:02:10-07:03, 07:05- 07:06, 07:08, 07:10, 07:14- 07:19, 07:21-07:27:02, 07:30-07:33N, 07:35- 07:40, 07:42-07:44, 07:46- 07:62, 07:65-07:72, 07:74- 07:91, 07:93-07:95, 07:97- 07:100, 07:102-07:122, 07:124-07:126, 07:128- 07:138, 07:140-07:141, 07:143-07:171, 14:18				4								
*01:21, 14:03, 14:22				4			7					
*01:30												
*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:05, 02:09- 02:11, 02:13-02:18, 02:20, 02:24-02:25Q, 02:28- 02:34, 02:37-02:38N, 02:40, 02:42-02:44, 02:46, 06:05				4					9			
*02:06	1							8	9		11	
*02:07, 02:19, 02:22									9			
*02:08				4					9	10		
*02:12			w	4			7		9			12
*02:23	1								9			
*02:27:01-02:27:02				4			7		9			12
*02:35				4					9			
*02:36	1			4					9			
*02:47								8	9		11	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

125	130	85	90	140	85	165	120	170	225	175	175	Length of spec.
185	440		165	215	160	320	235	445		545	380	PCR product
			345	295		355						
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*01:04, 02:02:13, 02:21, 02:26:01-02:26:02, 02:39, 02:45, 06:02:01:01-06:02:01:02, 06:02:03-06:04, 06:06-06:08, 06:10-06:27, 06:29-06:33, 06:35-06:37, 06:39-06:43, 06:45-06:58, 07:01:01-07:02:08, 07:02:10-07:03, 07:05-07:06, 07:08, 07:10, 07:14-07:19, 07:21-07:27:02, 07:30-07:33N, 07:35-07:40, 07:42-07:44, 07:46-07:62, 07:65-07:72, 07:74-07:91, 07:93-07:95, 07:97-07:100, 07:102-07:122, 07:124-07:126, 07:128-07:138, 07:140-07:141, 07:143-07:171, 14:18
												*01:21, 14:03, 14:22
				17								*01:30
												*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:05, 02:09-02:11, 02:13-02:18, 02:20, 02:24-02:25Q, 02:28-02:34, 02:37-02:38N, 02:40, 02:42-02:44, 02:46, 06:05
	14											*02:06
												*02:07, 02:19, 02:22
												*02:08
												*02:12
												*02:23
												*02:27:01-02:27:02
								21				*02:35
												*02:36
	14											*02:47
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	325	175	70	315	100	305	140	160	135	170	315	100
PCR product			195			345		185	305			240
						370						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*03:02:01-03:02:07, 03:14, 03:16, 03:33, 03:36, 03:40, 03:42- 03:43:02, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108				4								12
*03:03:01-03:04:16, 03:04:18-03:06, 03:09- 03:11:02, 03:13, 03:17, 03:20N-03:26, 03:28, 03:30, 03:32, 03:34-03:35, 03:37, 03:41, 03:44, 03:46- 03:59, 03:61-03:63, 03:65- 03:66, 03:68, 03:70, 03:72- 03:80, 03:82-03:83, 03:85- 03:88, 03:90-03:94, 03:96- 03:98, 03:100-03:101, 03:103-03:107												12
*03:08, 03:31		2										12
*03:12, 03:19, 03:102											11	12
*03:15			3	4								
*03:18, 04:01:01:01- 04:01:02, 04:01:04- 04:01:26, 04:04:01-04:05, 04:07-04:10, 04:12- 04:15:03, 04:17-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:41, 04:43-04:51, 04:53, 04:56-04:79, 04:81- 04:84, 05:01:01:01- 05:01:15, 05:03, 05:05- 05:20, 05:22-05:25, 05:27- 05:35, 05:37-05:42, 05:44- 05:46, 05:48N-05:53, 08:10, 14:26, 17:01:01:01- 17:08, 18:04										10		
*03:27, 03:38:01- 03:38:02, 03:69			w									12
*03:29		2										12
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

125	130	85	90	140	85	165	120	170	225	175	175	Length of spec.	
185	440		165	215	160	320	235	445		545	380	PCR product	
			345	295		355							
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	
												*03:02:01-03:02:07, 03:14, 03:16, 03:33, 03:36, 03:40, 03:42- 03:43:02, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108	
												*03:03:01-03:04:16, 03:04:18-03:06, 03:09- 03:11:02, 03:13, 03:17, 03:20N-03:26, 03:28, 03:30, 03:32, 03:34-03:35, 03:37, 03:41, 03:44, 03:46- 03:59, 03:61-03:63, 03:65- 03:66, 03:68, 03:70, 03:72- 03:80, 03:82-03:83, 03:85- 03:88, 03:90-03:94, 03:96- 03:98, 03:100-03:101, 03:103-03:107	
												*03:08, 03:31	
	14											*03:12, 03:19, 03:102	
												*03:15	
												*03:18, 04:01:01:01- 04:01:02, 04:01:04- 04:01:26, 04:04:01-04:05, 04:07-04:10, 04:12- 04:15:03, 04:17-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:41, 04:43-04:51, 04:53, 04:56-04:79, 04:81- 04:84, 05:01:01:01- 05:01:15, 05:03, 05:05- 05:20, 05:22-05:25, 05:27- 05:35, 05:37-05:42, 05:44- 05:46, 05:48N-05:53, 08:10, 14:26, 17:01:01:01- 17:08, 18:04	
												*03:27, 03:38:01- 03:38:02, 03:69	
		15										*03:29	
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	325	175	70	315	100	305	140	160	135	170	315	100
PCR product			195			345		185	305			240
						370						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*03:64										10		12
*03:81	1											12
*04:03, 04:06, 04:80			3						9			
*04:11, 04:29, 04:36, 08:01:01-08:08, 08:12- 08:13, 08:15:01-08:21, 08:23-08:36N, 08:38- 08:46, 12:31, 16:10							7			10		
*04:16			3									
*04:42, 05:26, 05:43									9	10		
*04:52, 05:47										10		
*04:54, 05:04, 06:28, 07:64, 07:73, 07:92, 12:03:04, 12:03:09, 12:04:01-12:05, 12:09, 12:21, 12:27, 12:33, 12:41, 14:02:01-14:02:02, 14:02:04-14:02:07, 14:04- 14:07N, 14:09, 14:11- 14:17, 14:19-14:21N, 14:23-14:25, 14:27-14:29, 16:01:02, 16:02:01- 16:02:06, 16:09, 16:12, 16:19, 16:25				4						10		
*04:55							7			10		
*05:21										10		
*05:36										10		
*06:44, 07:07, 07:09				4								
*07:02:09, 12:16				4			7		9			
*07:20		2	w	4								
*07:96		2	w	4								12
*07:123	1			4								
*07:127			w	4								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

125	130	85	90	140	85	165	120	170	225	175	175	Length of spec.
185	440		165	215	160	320	235	445		545	380	PCR product
			345	295		355						
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*03:64
												*03:81
												*04:03, 04:06, 04:80
												*04:11, 04:29, 04:36, 08:01:01-08:08, 08:12- 08:13, 08:15:01-08:21, 08:23-08:36N, 08:38- 08:46, 12:31, 16:10
												*04:16
												*04:42, 05:26, 05:43
13												*04:52, 05:47
												*04:54, 05:04, 06:28, 07:64, 07:73, 07:92, 12:03:04, 12:03:09, 12:04:01-12:05, 12:09, 12:21, 12:27, 12:33, 12:41, 14:02:01-14:02:02, 14:02:04-14:02:07, 14:04- 14:07N, 14:09, 14:11- 14:17, 14:19-14:21N, 14:23-14:25, 14:27-14:29, 16:01:02, 16:02:01- 16:02:06, 16:09, 16:12, 16:19, 16:25
13												*04:55
								21				*05:21
		15										*05:36
		15										*06:44, 07:07, 07:09
												*07:02:09, 12:16
												*07:20
												*07:96
					18							*07:123
												*07:127
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	325	175	70	315	100	305	140	160	135	170	315	100
PCR product			195			345		185	305			240
						370						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*08:09, 08:11, 12:02:01-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:15, 12:06-12:08, 12:10:01-12:14:02, 12:17-12:20, 12:22-12:26, 12:28-12:30, 12:32, 12:34-12:40, 12:42Q-12:51, 14:02:03, 14:08, 16:01:01, 16:01:03-16:01:06, 16:04:01, 16:06-16:08, 16:11, 16:13-16:18, 16:22-16:24, 16:26-16:32				4			7			10		
*08:14, B*35:08:02, B*67:02							7					
*08:22							7			10		
*08:37							7		9	10		
*12:15	1						7	8		10	11	
*14:10				4			7					
*16:20	1			4			7			10		
*16:21				4			7		9	10		
B*07:78, B*13:18, B*13:31, B*13:41, B*15:73, B*54:10, B*54:20, B*55:09, B*55:21, B*55:37								w				
B*15:200, B*58:05												
B*46:11, B*46:18, B*56:08, B*56:14												
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-C*15 SSP subtyping.

In addition, wells number 7, 11, 13,14 and 22 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band.

²The nucleotide position, in the 2nd, 3rd, 4th or 5th exon or the 1st or 2nd intron, 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 the 2nd, 3rd, 4th or 6th 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.

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

125	130	85	90	140	85	165	120	170	225	175	175	Length of spec.
185	440		165	215	160	320	235	445		545	380	PCR product
			345	295		355						
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*08:09, 08:11, 12:02:01- 12:03:03, 12:03:05- 12:03:08, 12:03:10- 12:03:15, 12:06-12:08, 12:10:01-12:14:02, 12:17- 12:20, 12:22-12:26, 12:28- 12:30, 12:32, 12:34-12:40, 12:42Q-12:51, 14:02:03, 14:08, 16:01:01, 16:01:03- 16:01:06, 16:04:01, 16:06- 16:08, 16:11, 16:13-16:18, 16:22-16:24, 16:26-16:32
												*08:14, B*35:08:02, B*67:02
										23		*08:22
												*08:37
	14											*12:15
13												*14:10
												*16:20
												*16:21
												B*07:78, B*13:18, B*13:31, B*13:41, B*15:73, B*54:10, B*54:20, B*55:09, B*55:21, B*55:37
					18							B*15:200, B*58:05
	14											B*46:11, B*46:18, B*56:08, B*56:14
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

⁴The HLA-Cw*1501 nucleotide sequence has been shown to be identical to C*15:02.

The HLA-Cw*1514 nucleotide sequence has been renamed C*15:10:02.

⁵The C*15:31 and C*15:33 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 18.

⁶The C*15:32Q and C*15:41 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 24.

⁷The C*15:34 and C*15:39 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 17.

⁸The C*15:35 and C*15:47 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 21.

⁹The C*15:44 and C*15:45 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 20.

Lot No.: **06M**

Lot-specific information

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¹⁰Primer mix 3: Specific PCR fragment of 70 bp in the C*15:28 allele. Specific PCR fragment of 195 bp in the C*15:03, 15:16 and 15:25^w and in the C*02:12^w, 03:15, 03:27^w, 03:38:01^w-03:38:02^w, 03:69^w, 04:03, 04:06, 04:16, 04:80, 07:20^w, 07:96^w and 07:127^w alleles.

Primer mix 6: Specific PCR fragment of 305 bp in the C*15:06:01-15:06:03 and C*15:40 alleles. Specific PCR fragment of 345 bp in the C*15:26 allele. Specific PCR fragment of 370 bp in the C*15:22 and 15:37 alleles.

Primer mix 8: Specific PCR fragment of 160 bp in the C*15:08 and the C*02:06, 02:47, 12:15, B*07:78^w, B*13:18^w, 13:31^w and 13:41^w and in the B*15:73^w, B*54:10^w, B*54:20^w, B*55:09^w, B*55:21^w and B*55:37^w alleles. Specific PCR fragment of 185 bp in the C*15:19 allele.

Primer mix 9: Specific PCR fragment of 135 bp in the C*15:11 and 15:23 and the C*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:20, 02:22-02:25Q, 02:27:01-02:38N, 02:40, 02:42-02:44, 02:46-02:47, 04:03, 04:06, 04:42, 04:80, 05:26, 05:43, 06:05, 07:02:09, 08:37, 12:16 and 16:21 alleles. Specific PCR fragment of 305 bp in the C*15:18 allele.

Primer mix 12: Specific PCR fragment of 100 bp in the C*15:28 allele. Specific PCR fragment of 240 bp in the C*15:07, 15:21, 15:25 and 15:43 and the C*02:12, 02:27:01-02:27:02, 03:02:01-03:04:16, 03:04:18-03:06, 03:08-03:14, 03:16-03:17, 03:19-03:38:02, 03:40-03:44, 03:46-03:66, 03:68-03:98, 03:100-03:108 and 07:96 alleles.

Primer mix 13: Specific PCR fragment of 125 bp in the C*15:24 allele. Specific PCR fragment of 185 bp in the C*15:12 and C*04:52, 04:55 and 14:10 alleles.

Primer mix 14: Specific PCR fragment of 130 bp in the C*15:13 allele. Specific PCR fragment of 440 bp the C*15:11, 15:16-15:17 and 15:43 and the C*02:06, 02:47, 03:12, 03:19, 03:102 and 12:15 and in the B*46:11, B*46:18, B*56:08 and B*56:14 alleles.

Primer mix 16: Specific PCR fragment of 90 bp in the C*15:27 allele. Specific PCR fragment of 165 bp in the C*15:15 allele. Specific PCR fragment of 345 bp in the C*15:26 allele.

Primer mix 17: Specific PCR fragment of 140 bp in the C*15:34 allele. Specific PCR fragment of 215 bp in the C*15:36 allele. Specific PCR fragment of 295 bp in the C*15:39 and the C*01:30 alleles.

Primer mix 18: Specific PCR fragment of 85 bp in the C*15:33 allele. Specific PCR fragment of 160 bp in the C*15:31 and the C*07:123 and in the B*15:200 and B*58:05 alleles.

Primer mix 19: Specific PCR fragment of 165 bp in the C*15:42 allele. Specific PCR fragment of 320 bp in the C*15:30 allele. Specific PCR fragment of 355 bp in the C*15:46 allele.

Primer mix 20: Specific PCR fragment of 120 bp in the C*15:44 allele. Specific PCR fragment of 235 bp in the C*15:45 allele.

Primer mix 21: Specific PCR fragment of 170 bp in the C*15:47 allele. Specific PCR fragment of 445 bp in the C*15:35 and the C*02:35 and 05:21 alleles.

Primer mix 23: Specific PCR fragment of 175 bp in the C*15:48 allele. Specific PCR fragment of 545 bp in the C*15:29 and the C*08:22 alleles.

Primer mix 24: Specific PCR fragment of 175 bp in the C*15:32Q allele. Specific PCR fragment of 380 bp in the C*15:41 allele.

'w', might be weakly amplified.

CELL LINE VALIDATION SHEET																				
HLA-C*15 SSP primer set																				
				Well																
				Prod. No.:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					201071801	201071802	201071803	201071804	201071805	201071806	201071807	201071808	201071809	201071810	201071811	201071812	201184813	201071814	201071815	201184816
IHWC cell line			C*																	
1	9001	SA	*07:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*07:01	*15:05	+	+	-	+	+	-	-	-	-	-	-	-	-	-	+	-
3	9011	E4181324	*12:02		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
4	9275	GU373	*03:04	*04:01	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
5	9009	KAS011	*06:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*03:04	*07:02	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-
7	9020	QBL	*05:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
8	9025	DEU	*04:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
9	9026	YAR	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
10	9107	LKT3	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*16:01		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
12	9052	DBB	*06:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*01:02	*03:04	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
15	9075	DKB	*03:04		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
16	9037	SWEIG007	*02:02		-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:03	*07:01	-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	-
18	9257	32367	*01:02	*07:05	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*07:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*03:04		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
21	9064	AMALA	*03:03		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
22	9056	KOSE	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
23	9124	IHL	*01:02	*15:02	+	+	-	-	-	-	-	-	-	-	+	-	-	-	+	-
24	9035	JBUSH	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
25	9049	IBW9	*08:02		-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-
26	9285	WT49	*07:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:29	+	+	-	-	+	-	-	-	-	-	-	-	-	-	+	-
28	9320	BEL5GB	*05:01	*16:01	-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
29	9050	MOU	*16:01		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
30	9021	RSH	*17:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
31	9019	DUCAF	*05:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
32	9297	HAG	*17:01	*17:03	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
33	9098	MT14B	*03:04		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
34	9104	DHIF	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
35	9302	SSTO	*05:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
36	9024	KT17	*03:03	*04:01	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*03:03		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
39	9315	CML	*02:02	*07:01	-	-	-	+	-	-	-	-	+	+	-	-	-	-	-	-
40	9134	WHONP199	*01:02	*06:02	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*08:02		-	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
42	9066	TAB089	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*01:02	*08:01	-	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-
44	9057	TEM	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-
45	9239	SHJO	*06:02	*17:01	-	-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*07:04	*15:02	+	+	-	-	-	-	-	-	-	-	+	-	-	-	+	-
48	9303	TER-ND	*04:01	*16:01	-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-

CELL LINE VALIDATION SHEET														
HLA-C*15 SSP primer set														
				Prod. No.:	Well									
					17	18	19	20	21	22	23	24		
					201184817	201184818	201184819	201184820	201184821	201184822	201184823	201184824		
	IHWC cell line		C*											
1	9001 SA		*07:02		-	-	-	-	-	-	-	-	-	-
2	9280 LK707		*07:01	*15:05	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324		*12:02		-	-	-	-	-	-	-	-	-	-
4	9275 GU373		*03:04	*04:01	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011		*06:02		-	-	-	-	-	-	-	-	-	-
6	9353 SM		*03:04	*07:02	-	-	-	-	-	-	-	-	-	-
7	9020 QBL		*05:01		-	-	-	-	-	-	-	-	-	-
8	9025 DEU		*04:01		-	-	-	-	-	-	-	-	-	-
9	9026 YAR		*12:03		-	-	-	-	-	-	-	-	-	-
10	9107 LKT3		*01:02		-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT		*16:01		-	-	-	-	-	-	-	-	-	-
12	9052 DBB		*06:02		-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM		*01:02		-	-	-	-	-	-	-	-	-	-
14	9071 OLGA		*01:02	*03:04	-	-	-	-	-	-	-	-	-	-
15	9075 DKB		*03:04		-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007		*02:02		-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540		*03:03	*07:01	-	-	-	-	-	-	-	-	-	-
18	9257 32367		*01:02	*07:05	-	-	-	-	-	-	-	-	-	-
19	9038 BM16		*07:01		-	-	-	-	-	-	-	-	-	-
20	9059 SLE005		*03:04		-	-	-	-	-	-	-	-	-	-
21	9064 AMALA		*03:03		-	-	-	-	-	-	-	-	-	-
22	9056 KOSE		*12:03		-	-	-	-	-	-	-	-	-	-
23	9124 IHL		*01:02	*15:02	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH		*12:03		-	-	-	-	-	-	-	-	-	-
25	9049 IBW9		*08:02		-	-	-	-	-	-	-	-	-	-
26	9285 WT49		*07:01		-	-	-	-	-	-	-	-	-	-
27	9191 CH1007		*07:04	*15:29	-	-	-	-	-	-	-	+	-	-
28	9320 BEL5GB		*05:01	*16:01	-	-	-	-	-	-	-	-	-	-
29	9050 MOU		*16:01		-	-	-	-	-	-	-	-	-	-
30	9021 RSH		*17:01		-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF		*05:01		-	-	-	-	-	-	-	-	-	-
32	9297 HAG		*17:01	*17:03	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B		*03:04		-	-	-	-	-	-	-	-	-	-
34	9104 DHIF		*12:03		-	-	-	-	-	-	-	-	-	-
35	9302 SSTO		*05:01		-	-	-	-	-	-	-	-	-	-
36	9024 KT17		*03:03	*04:01	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB		*07:02		-	-	-	-	-	-	-	-	-	-
38	9099 LZL		*03:03		-	-	-	-	-	-	-	-	-	-
39	9315 CML		*02:02	*07:01	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199		*01:02	*06:02	-	-	-	-	-	-	-	-	-	-
41	9055 H0301		*08:02		-	-	-	-	-	-	-	-	-	-
42	9066 TAB089		*01:02		-	-	-	-	-	-	-	-	-	-
43	9076 T7526		*01:02	*08:01	-	-	-	-	-	-	-	-	-	-
44	9057 TEM		*12:03		-	-	-	-	-	-	-	-	-	-
45	9239 SHJO		*06:02	*17:01	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU		*07:02		-	-	-	-	-	-	-	-	-	-
47	9045 TUBO		*07:04	*15:02	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND		*04:01	*16:01	-	-	-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-C*15 SSP

Product number: 101.626-12 – including *Taq* polymerase
Lot number: 06M
Expiry date: 2013-October-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	2010-718-01	9	2010-718-09	17	2011-848-17
2	2010-718-02	10	2010-718-10	18	2011-848-18
3	2010-718-03	11	2010-718-11	19	2011-848-19
4	2010-718-04	12	2010-718-12	20	2011-848-20
5	2010-718-05	13	2011-848-13	21	2011-848-21
6	2010-718-06	14	2010-718-14	22	2011-848-22
7	2010-718-07	15	2010-718-15	23	2011-848-23
8	2010-718-08	16	2011-848-16	24	2011-848-24

The specificity of each primer solution of the HLA-C*15 primer set has been tested against 48 well characterized cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 6, 8, 13, 14, 16 to 22 and 24 were available. The specificity of the primers in primer solutions 6, 8, 13, 14 and 16 to 19 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer.

In primer solution 20 it was only possible to test the 5'-primer, the 3'-primers were not possible to test. In primer solutions 21, 22 and 24 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

In primer mixes 8, 9, 14 and 19 one of the 5'-primers could not be tested, and in primer mixes 3, 7, 12, 17, 18 and 23 one or two of the 3'-primers could not be tested. Additional primers in primer solutions 9 and 23 were tested by separately adding either one 5'-primer or one 3'-primer.

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

Date of approval: 2011-May-02

Approved by:

Quality Control, Supervisor

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

Declaration of Conformity

Product name: *Olerup* SSP® HLA-C*15
Product number: 101.626-12
Lot number: 06M

Intended use: HLA-C*15 high resolution histocompatibility testing

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

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex III, 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.

Saltsjöbaden, Sweden
2011-May-02

Olle Olerup
Managing Director

Lot No.: **06M**

Lot-specific information

www.olerup-ssp.com

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