

Olerup SSP® HLA-B*56

Product number:	101.571-06 – including <i>Taq</i> polymerase
Lot number:	60M
Expiry date:	2014-March-01
Number of tests:	6
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. 60M.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® HLA-B*56 LOT

The HLA-B*56 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP*® HLA-B*56 lot was made (Lot No. 35K).

The amplification patterns for some rare HLA-B*56 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
6	Added	Added	Primer pair added for the B*56:32 allele.
9	Added	Added	Primer pair added for the B*56:31 allele, exchanged positive control primer pair.
13	Added	-	Primer pair added for the B*56:30 allele
17	Modified	-	Improved specificity of primer pair, exchanged positive control primer pair.
18	Modified	-	Increased yield of HLA-specific PCR product.

Change in revision R01 compared to R00:

1. The B*56:06 allele is not amplified by primer mix 5. This has been revised in the specificity and interpretation tables.

PRODUCT DESCRIPTION

HLA-B*56 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*56:01 to B*56:32 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 PCR plate is marked with ‘HLA-B*56’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘60M’.

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 covered with a PCR-compatible foil.

Please note: When removing each 24 well PCR plate, make sure that the remaining plates stay covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

The interpretation of HLA-B*56 SSP subtypings will be influenced by twelve B*07, seven B*08, most B*13, three B*14, many B*15, most B*18, six B*27, most B*35, most B*37, thirteen B*38, eight B*39, several B*40, the B*41:17, the B*42:09, most B*44, the B*45, six B*46, four B*48, the B*49, the B*50, the B*51, the B*52, the B*53, the B*54, the B*55, most B*57, most B*58, the B*59, the B*78, most B*81, the B*82 and the B*83:01 alleles when present on the other haplotype.

In addition, the A*24:146 allele will be amplified by primer mix 24, the C*02:06, C*02:47, C*12:15 and C*15:37 alleles will be amplified by primer mix 4, the C*03:19 and 15:26 alleles weakly by primer mix 14, the C*03:12, C*03:19 and 15:26 alleles weakly by primer mix 14, the C*03:81 by primer mix 17, the C*03:102 allele by primer mix 10 and weakly by primer mix 14, the C*06:20, C*07:81 and C*07:168 by primer mix 1, the C*15:09, C*15:19, C*15:20 and 15:27 by primer mixes 6 and 22 and the C*07:123, C*07:173 and C*16:20 alleles will be amplified by primer mix 22.

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UNIQUELY IDENTIFIED ALLELES

All the HLA-B*56 alleles, i.e. **B*56:01 to B*56:32**, recognized by the HLA Nomenclature Committee in July 2011¹ will give rise to unique amplification patterns by the primers in the HLA-B*56 subtyping kit².

The HLA-B*56 subtyping kit cannot distinguish the B*56:01:01- 56:01:04 alleles or the B*56:20:01-56:20:02 alleles.

¹HLA-B alleles listed on the IMGT/HLA web page 2011-July-14, release 3.5.0, www.ebi.ac.uk/imgt/hla.

²The HLA-B*56 primer set cannot separate the B*56:05:02 and B*56:06 alleles. These two alleles can be distinguished by the HLA-B low resolution kit.

The HLA-B*56 primer set cannot separate the B*56:09, B*35:76 and B*35:78 alleles. These alleles can be distinguished by the HLA-B low resolution and/or B*35 kits.

The B*56:13 and 56:28N alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 15.

The B*56:17 and 56:26 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 21.

The B*56:19N and 56:29 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 19.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 37 alleles generate 30 amplification patterns that can be combined in 465 homozygous and heterozygous combinations. 192 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.

+++++---+ -++-----	-----	*56:08, *56:10 = *56:10, *56:14
+++++---+ -++-----	-----	*56:04, *56:08 = *56:04, *56:14
+++++---+ -++-----	-----	*56:02, *56:08 = *56:02, *56:14
+++++---+ -++-----	-----	*56:02, *56:09 = *56:02, *56:12
+++++---+ -++-----	-----	*56:02, *56:23 = *56:10, *56:17
+++++---+ -++-----	-----	*56:10, *56:20:01 = *56:10, *56:24
+++++---+ -++-----	-----	*56:01:01, *56:04 = *56:02, *56:27
+++++---+ -++-----	-----	*56:02, *56:20:01 = *56:02, *56:24
+++-+---+ -++-----	-----	*56:06, *56:08 = *56:06, *56:14
+++-+---+ -++-----	-----	*56:01:01, *56:06 = *56:06, *56:25
+++-+---+ -++-----	-----	*56:03, *56:08 = *56:03, *56:14
+++-+---+ -++-----	-----	*56:05:01, *56:08 = *56:05:01, *56:14
+++-+---+ -++-----	-----	*56:01:01, *56:05:01 = *56:05:01, *56:25
+++-+---+ -++-----	-----	*56:08, *56:32 = *56:14, *56:32
+++-+---+ -++-----	-----	*56:08, *56:21 = *56:14, *56:21
+++-+---+ -++-----	-----	*56:05:02, *56:08 = *56:05:02, *56:14
+++-+---+ -++-----	-----	*56:08, *56:25 = *56:14, *56:25
+++-+---+ -++-----	-----	*56:09, *56:25 = *56:12, *56:25
+++-+---+ -++-----	-----	*56:22, *56:25 = *56:25, *56:30
+++-+---+ -++-----	-----	*56:01:01, *56:21 = *56:21, *56:25
+++-+---+ -++-----	-----	*56:01:01, *56:05:02 = *56:05:02, *56:25 = *56:15, *56:25
+++-+---+ -++-----	-----	*56:20:01, *56:25 = *56:24, *56:25
+++-+---+ -++-----	-----	*56:01:01, *56:25 = *56:25, *56:25
+++-+---+ -++-----	-----	*56:08, *56:31 = *56:14, *56:31
+++-+---+ -++-----	-----	*56:07, *56:08 = *56:07, *56:14
+++-+---+ -++-----	-----	*56:08, *56:11 = *56:11, *56:14
+++-+---+ -++-----	-----	*56:08, *56:09 = *56:08, *56:12 = *56:09, *56:14 = *56:12, *56:14
+++-+---+ -++-----	-----	*56:08, *56:23 = *56:14, *56:23

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+++-----+ -++-+--- -	*56:08, *56:22 = *56:08, *56:30 = *56:14, *56:22 = *56:14, *56:30
+++-----+ -++-+--- -	*56:08, *56:27 = *56:14, *56:27
+++-----+ -++-+--- -	*56:08, *56:13 = *56:13, *56:14
+++-----+ -++-+--- +	*56:08, *56:15 = *56:14, *56:15
+++-----+ -++-+--- -	*56:08, *56:16 = *56:14, *56:16
+++-----+ -++-+--- -	*56:08, *56:19N = *56:14, *56:19N
+++-----+ -++-+--- -	*56:08, *56:17 = *56:14, *56:17
+++-----+ -++-+--- -	*56:08, *56:18 = *56:14, *56:18
+++-----+ -++-+--- -	*56:08, *56:20:01 = *56:08, *56:24 = *56:14, *56:20:01 = *56:14, *56:24
+++-----+ -++-+--- -	*56:01:01, *56:08 = *56:01:01, *56:14 = *56:08, *56:08 = *56:08, *56:14
+++-----+ +---+--- -	*56:07, *56:09 = *56:07, *56:12
+++-----+ +---+--- -	*56:07, *56:22 = *56:07, *56:30
+++-----+ +---+--- -	*56:01:01, *56:31 = *56:07, *56:18 = *56:07, *56:31
+++-----+ +---+--- -	*56:07, *56:20:01 = *56:07, *56:24
+++-----+ +---+--- -	*56:01:01, *56:07 = *56:07, *56:07
+++-----+ +---+--- -	*56:11, *56:20:01 = *56:11, *56:24
+++-----+ +---+--- -	*56:01:01, *56:11 = *56:09, *56:30 = *56:11, *56:30 = *56:12, *56:30
+++-----+ +---+--- -	*56:09, *56:13 = *56:12, *56:13
+++-----+ +---+--- -	*56:09, *56:16 = *56:12, *56:16
+++-----+ +---+--- -	*56:09, *56:19N = *56:12, *56:19N
+++-----+ +---+--- -	*56:09, *56:17 = *56:12, *56:17
+++-----+ +---+--- -	*56:09, *56:20:01 = *56:09, *56:24 = *56:12, *56:24
+++-----+ +---+--- -	*56:01:01, *56:09 = *56:01:01, *56:12
+++-----+ +---+--- -	*56:20:01, *56:23 = *56:23, *56:24
+++-----+ +---+--- -	*56:01:01, *56:23 = *56:17, *56:23
+++-----+ +---+--- -	*56:22, *56:27 = *56:27, *56:30
+++-----+ +---+--- -	*56:13, *56:22 = *56:13, *56:30
+++-----+ +---+--- -	*56:16, *56:22 = *56:16, *56:30
+++-----+ +---+--- -	*56:19N, *56:22 = *56:19N, *56:30
+++-----+ +---+--- -	*56:17, *56:22 = *56:17, *56:30
+++-----+ +---+--- -	*56:20:01, *56:22 = *56:20:01, *56:30 = *56:22, *56:24 = *56:24, *56:30
+++-----+ +---+--- -	*56:01:01, *56:22 = *56:01:01, *56:30 = *56:22, *56:30 = *56:30, *56:30
+++-----+ +---+--- -	*56:13, *56:20:01 = *56:13, *56:24
+++-----+ +---+--- -	*56:01:01, *56:13 = *56:13, *56:13
+++-----+ +---+--- -	*56:15, *56:20:01 = *56:15, *56:24
+++-----+ +---+--- -	*56:16, *56:20:01 = *56:16, *56:24
+++-----+ +---+--- -	*56:01:01, *56:16 = *56:16, *56:16
+++-----+ +---+--- -	*56:19N, *56:20:01 = *56:19N, *56:24
+++-----+ +---+--- -	*56:01:01, *56:19N = *56:19N, *56:19N
+++-----+ +---+--- -	*56:17, *56:20:01 = *56:17, *56:24
+++-----+ +---+--- -	*56:01:01, *56:17 = *56:17, *56:17
+++-----+ +---+--- -	*56:01:01, *56:20:01 = *56:01:01, *56:24 = *56:20:01, *56:24 = *56:24, *56:24
++-+----- -++-+--- -	*56:09, *56:10 = *56:10, *56:12
++-+----- -++-+--- -	*56:09, *56:23 = *56:12, *56:23
++-+----- -++-+--- -	*56:09, *56:11 = *56:09, *56:22 = *56:11, *56:11 = *56:11, *56:12 = *56:11, *56:22 = *56:12, *56:22
++-+----- -++-+--- -	*56:09, *56:15 = *56:12, *56:15
++-+----- -++-+--- -	*56:09, *56:09 = *56:09, *56:12
-++-++++ -	*56:03, *56:05:01 = *56:05:01, *56:06
-++-++++ -	*56:03, *56:21 = *56:06, *56:21
-++-++++ -	*56:03, *56:05:02 = *56:03, *56:06 = *56:05:02, *56:06 =

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-+-----+-	-----	+-----+-	*56:06, *56:06
-+-----+-	-----	+-----+-	*56:05:01, *56:18 = *56:05:01, *56:32 = *56:05:02, *56:32
-+-----+-	-----	+-----+-	*56:05:01, *56:05:01 = *56:05:01, *56:05:02
-+-----+-	-----	+-----+-	*56:18, *56:32 = *56:32, *56:32
-+-----+-	-----	+-----+-	*56:05:02, *56:21 = *56:21, *56:21
-+-----+-	-----	+-----+-	*56:18, *56:31 = *56:31, *56:31

*56:01:01 = *56:01:01-56:01:04
*56:13 = *56:13 and 56:28N
*56:17 = *56:17 and 56:26
*56:19N = *56:19N and 56:29
*56:20:01 = *56:20:01-56:20:02

SPECIFICITY TABLE

HLA-B*56 SSP subtyping

Specificities and sizes of the PCR products of the 24 primer mixes used for HLA-B*56 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*56 alleles ^{3,4}	Other amplified HLA Class I alleles ⁵
1⁶	125 bp	800 bp	*56:01:01-56:02, 56:07-56:11, 56:13-56:17, 56:19N, 56:22-56:26, 56:28N-56:30	*13:01:01-13:04, 13:06-13:09, 13:11-13:20, 13:22:01-13:23, 13:25-13:34, 13:36-13:50, 14:22, 15:16:01-15:16:03, 15:20, 15:34, 15:42, 15:62, 15:67, 15:85-15:86, 15:95, 15:137, 15:194, 15:222, 18:22, 18:52, 27:14, 35:01:01:01-35:08:04, 35:10-35:11:02, 35:13-35:15, 35:19-35:21, 35:23-35:30, 35:33-35:38, 35:40N-35:42:02, 35:45-35:50, 35:52, 35:54-35:58, 35:60, 35:62-35:63, 35:65Q-35:66, 35:68:01-35:72, 35:74-35:78, 35:80-35:85, 35:89-35:98, 35:100-35:101:02, 35:103-35:112, 35:115-35:116, 35:119-35:124, 35:126-35:134N, 35:136-35:148, 35:150-35:163, 35:166, 35:168-35:173N, 35:175-35:178, 40:28, 44:10, 44:15, 44:18, 44:48, 45:01-45:13, 46:11, 46:18, 48:02:01-48:02:02, 48:25, 49:01:01-49:20, 50:01:01, 50:01:03-50:02, 50:05-50:14, 51:15, 51:56:01-51:56:02, 53:01:01-53:06, 53:08:01-53:26, 54:01:01-54:05N, 54:07-54:08N, 54:10, 54:12-54:24, 55:01:01-55:01:05, 55:01:07-55:02:03, 55:02:05-55:03, 55:05, 55:07, 55:09-55:13, 55:15-55:16, 55:18-55:19, 55:21-55:37, 55:39-55:48, 55:50, 55:52-55:53, 57:05, 58:01:01-58:01:02, 58:01:04-58:02, 58:04-58:07, 58:09, 58:11-58:19, 58:21-58:26, 58:28-58:34, 59:01:01:01-59:01:01:02, 59:03-59:05, 82:01-82:03, C*06:20, C*07:81, C*07:168
2	400 bp	1070 bp	*56:01:01-56:13, 56:15-56:32	*07:65, 27:77, 35:76, 35:78, 40:166 [?] , 44:90, 54:01:01-54:06, 54:08N-54:23, 55:01:01-55:05, 55:07-55:17, 55:19-55:33, 55:35-55:46, 55:48-55:53, 81:01, 81:03 [?] -81:04N [?] , 82:01-82:03, 83:01
3	180 bp	1070 bp	*56:01:01-56:02, 56:04,	*13:03, 13:48, 15:73, 40:71, 44:10, 44:15, 44:18, 45:01, 45:04-45:07, 45:11-45:13,

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			56:07-56:08, 56:13-56:14, 56:16-56:17, 56:19N- 56:20:02, 56:24-56:30	46:11, 49:01:01-49:03, 49:06, 49:08-49:17, 49:19N-49:20, 50:01:01-50:02, 50:04-50:08, 50:10-50:13, 51:15, 51:62, 51:106, 52:25, 54:03, 59:04, 82:01-82:03
4⁶	105 bp	800 bp	*56:02, 56:04, 56:10	*13:11, 15:18:03, 15:73, 15:86, 15:224, 39:17, 40:48, 40:71, 51:62, 82:01-82:03, C*02:06, 02:47, C*12:15, C*15:37
5	285 bp	1070 bp	*56:03	*54:01:02, 55:35
6^{6,9}	105 bp, 150 bp	800 bp	*56:05:01, 56:32	*07:09 ^w , 07:11 ^w , 15:03:01-15:03:03, 15:16:01-15:16:03, 15:18:01-15:18:04, 15:23, 15:29, 15:39:01-15:40, 15:47 ^w , 15:49 ^w , 15:61-15:62, 15:64, 15:65 ^w , 15:67, 15:69, 15:72, 15:74, 15:80, 15:93, 15:95, 15:98, 15:103, 15:108, 15:115, 15:119, 15:127, 15:131-15:132, 15:134, 15:138, 15:153, 15:158, 15:161, 15:173, 15:176, 15:194-15:195, 15:197-15:198, 15:210, 15:220, 15:221 ^w , 15:223, 15:226N, 18:15, 18:21 ^w , 18:30 ^w , 18:57, 35:11:01-35:11:02, 35:21, 35:58, 35:99 ^w , 39:63, 46:03 ^w , 46:08, 48:25, 49:04, 51:37, 51:45, 53:06, 53:08:01- 53:08:02, 55:14, 57:13 ^w , 57:22, 58:06, 58:19, C*15:09, C*15:19-15:20, C*15:27
7^{6,7,10}	120 bp, 210 bp	800 bp	*56:05:01- 56:06, 56:21, 56:25	*07:78 ^w , 07:84 ^w , 13:16, 13:48, 15:16:01- 15:16:03, 15:42, 15:67, 15:95, 40:95, 40:148, 40:161 ^w , 49:01:01, 49:01:03-49:10, 49:12-49:20, 50:01:01-50:01:02, 50:01:03 ^w , 50:02, 50:04-50:11, 50:13-50:14, 51:01:01- 51:03, 51:05, 51:07:01-51:09:02, 51:11N- 51:14, 51:16-51:24:04, 51:26-51:41N, 51:43-51:44N, 51:48-51:55, 51:57-51:58, 51:60-51:61, 51:63, 51:65-51:80, 51:82- 51:122, 52:01:01:01-52:26, 54:20 ^w , 55:01:01-55:01:06, 55:03, 55:05, 55:09 ^w , 55:11, 55:15, 55:17, 55:24-55:25, 55:28- 55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52 ^w , 55:53, 58:08:01- 58:08:02, 78:01:01-78:07
8	395 bp	1070 bp	*56:08, 56:14	
9¹¹	145 bp, 205 bp	800 bp	*56:07, 56:31	*08:02, 15:38:01-15:38:02, 15:115, 15:185, 18:01:01-18:01:13, 18:02-18:09, 18:12- 18:15, 18:17N-18:19, 18:22-18:25, 18:27- 18:34, 18:36-18:40, 18:42-18:55, 18:57, 18:59-18:60, 18:62-18:66, 27:01, 35:21,

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				35:24:01-35:24:02, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 39:43, 44:40, 44:44, 44:130, 51:37, 51:45, 53:02, 53:06, 57:14, 58:09
10⁸	150 bp	800 bp	*56:09, 56:11-56:12	*08:49, 13:01:01-13:01:06, 13:06-13:07N, 13:12-13:13, 13:17, 13:20, 13:22:01-13:23, 13:25-13:26, 13:28-13:29, 13:36, 13:39, 13:43, 13:50, 14:10, 15:02:01-15:02:05, 15:13:01-15:13:02, 15:20-15:21, 15:25:01-15:25:03, 15:36, 15:44, 15:62, 15:77, 15:80, 15:85, 15:88-15:89, 15:106, 15:112, 15:121, 15:139, 15:144, 15:154, 15:165, 15:170, 15:194, 15:204, 15:213-15:214, 15:223, 18:22, 27:19, 27:30, 35:01:01:01-35:04:03, 35:06-35:08:04, 35:10-35:17, 35:19-35:21, 35:23-35:30, 35:33-35:36, 35:38-35:42:02, 35:45-35:50, 35:52, 35:54-35:57, 35:59, 35:61-35:63, 35:65Q, 35:69-35:71, 35:74, 35:76-35:78, 35:80-35:85, 35:90-35:96, 35:98, 35:100-35:101:02, 35:103-35:113, 35:115-35:116, 35:120-35:126, 35:128-35:134N, 35:136-35:150, 35:152-35:166, 35:168-35:173N, 35:175-35:178, 37:01:01-37:01:07, 37:03N-37:06, 37:08, 37:10-37:11, 37:13-37:31, 38:20, 39:42, 40:28, 44:02:01:01-44:14, 44:16-44:17, 44:19N, 44:21-44:30, 44:32-44:40, 44:42-44:46, 44:48-44:52N, 44:55-44:64:02, 44:66-44:98, 44:101-44:105, 44:107-44:134, 48:02:01-48:02:02, 48:25, 51:04, 51:42, 51:46, 51:56:01-51:56:02, 53:01:01-53:13, 53:15-53:26, 55:14, 57:01:01-57:01:04, 57:01:06-57:10, 57:12, 57:14-57:20, 57:22-57:30, 57:32-57:46, 57:48-57:52, 58:01:01-58:01:02, 58:01:04-58:01:09, 58:04-58:05, 58:09-58:15, 58:17N, 58:19, 58:21-58:24, 58:28-58:34, 83:01, C*03:102
11⁶	105 bp	800 bp	*56:01:01-56:01:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:19N-56:20:02, 56:23-56:30	*07:78, 13:02:01-13:03, 13:08Q-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:34, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:48-13:49N, 15:42, 35:60, 44:15, 44:18, 45:01, 45:03-45:08, 45:10-45:13, 46:11, 46:18, 49:01:01-49:03, 49:06-49:17, 49:19N-49:20, 50:01:01-50:02, 50:04-50:08, 50:10-50:11, 50:13, 51:15, 52:25, 54:01:01-54:03, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:16-54:24, 55:01:01-55:01:03, 55:01:05-55:01:06,

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12⁸	180 bp	800 bp	*56:10, 56:23	*13:06, 15:42, 15:86, 15:224, 35:60, 39:17 ^w , 45:08 ^w , 46:18, 54:01:01-54:02, 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, 55:10-55:12, 55:15-55:16, 55:18-55:19, 55:21, 55:25-55:26, 55:29-55:31, 55:33-55:40, 55:41 ^w , 55:42-55:45, 55:47-55:48, 55:50, 55:52-55:53, 59:01:01:01-59:01:01:02, 59:05
13^{6,8,12}	70 bp, 180 bp	1070 bp	*56:11, 56:22, 56:30	*15:58, 15:133, 15:229, 35:03:01-35:03:05, 35:03:07-35:03:10, 35:06, 35:13, 35:36, 35:38, 35:55-35:56, 35:59, 35:70, 35:74-35:75, 35:84-35:85, 35:98, 35:106, 35:109, 35:127-35:128, 35:136, 35:150-35:153, 35:155-35:156, 35:160, 35:163, 35:169, 38:30, 39:32-39:33, 51:13:01-51:13:02, 51:92, 52:14, 53:04, 58:34
14⁶	80 bp	1070 bp	*56:04, 56:27	*15:18:03, 15:73, 15:224, 39:17, 40:48, 40:71, 50:04, 51:62, 55:38, C*03:12^w , 03:19^w , 03:102^w , C*15:26^w
15¹³	160 bp, 380 bp	1070 bp	*56:13, 56:28N	*44:15, 44:18, 45:01, 45:04-45:08, 45:10-45:13, 82:01-82:03
16	160 bp	1070 bp		*44:02:01:01-44:02:21, 44:06, 44:08-44:09, 44:11-44:12, 44:16, 44:19N-44:24, 44:27:01-44:27:02, 44:33-44:34, 44:41:01-44:41:02, 44:44, 44:48-44:49, 44:52N-44:53, 44:55, 44:59, 44:63, 44:66-44:68, 44:71-44:74, 44:80, 44:83-44:84, 44:86-44:87, 44:89-44:91, 44:93, 44:95, 44:97, 44:99-44:102, 44:104, 44:106, 44:112-44:113, 44:116, 44:118-44:119, 44:121, 44:126-44:127, 44:131-44:132, 83:01
17⁸	180 bp	1070 bp	*56:05:01- 56:06, 56:15, 56:21	*07:20, 07:24, 07:60, 07:100, 07:131, 08:21, 08:25, 15:09-15:10:02, 15:30, 15:37, 15:45, 15:48, 15:63, 15:90, 15:99, 15:150, 27:76, 35:02:01-35:02:04, 35:04:01-35:04:03, 35:09:01-35:09:02, 35:12:01-35:12:03, 35:18, 35:22, 35:34, 35:39, 35:44, 35:81, 35:83, 35:95, 35:129N, 35:149, 35:154, 35:162, 35:172, 40:05, 40:26,

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				40:28, 40:63, 40:92, 41:17, 44:62, 44:77, 44:82, 44:107, 44:123, 49:18, 50:14, 51:01:01-51:01:14, 51:01:16-51:09:02, 51:11N-51:12, 51:18-51:20, 51:22-51:24:04, 51:26-51:30, 51:32-51:33, 51:35, 51:38-51:41N, 51:43-51:44N, 51:46, 51:48-51:61, 51:64-51:80, 51:83-51:84, 51:86-51:91, 51:94-51:96, 51:98N-51:100, 51:102-51:105, 51:107-51:122, 52:01:01:01-52:07, 52:09-52:13, 52:15-52:24, 53:19, 55:08, 55:51, 57:02:01-57:03:02, 57:05, 57:07, 57:09, 57:12, 57:17, 57:28N, 57:39, 57:42, 57:46, 58:08:01-58:08:02, 58:28, 78:01:01-78:06, C*03:81
18⁷	295 bp	800 bp	*56:16	*40:149, 54:21, 55:10, 82:01-82:03
19^{6,14}	75 bp, 185 bp	800 bp	*56:19N, 56:29	*14:07N, 39:40N
20	215 bp	1070 bp		*07:02:19, 15:01:04, 37:01:04, 40:94, 51:01:18, 54:01:01, 54:02-54:24, 58:01:08
21^{6,15}	110 bp, 170 bp	1070 bp	*56:17, 56:23, 56:26	*07:37, 27:77
22	180 bp	1070 bp	*56:18, 56:31-56:32	*08:37, 15:50, 15:69, 15:93, 15:186, 15:199, 18:01:01-18:01:13, 18:02-18:09, 18:11-18:15, 18:17N-18:19, 18:22-18:25, 18:27-18:34, 18:37-18:40, 18:42-18:49, 18:51-18:55, 18:59-18:60, 18:62-18:66, 35:35, 35:93, 39:07, 39:43, 42:09, 46:03, 46:21:01-46:21:02, 54:09, 54:14, 55:14, 55:23, 57:26, 58:05, C*07:123, 07:173, C*15:09, C*15:19-15:20, C*15:27, C*16:20
23^{6,16}	85 bp, 350 bp	1070 bp	*56:20:01-56:20:02, 56:24	*07:78, 40:48
24	380 bp	1070 bp	*56:21	*08:03, 08:52, 40:13, 40:19, 40:109, 40:117, 48:18, 49:18, 51:01:01-51:01:07, 51:01:09-51:01:14, 51:01:16-51:12, 51:16-51:24:04, 51:26-51:36, 51:38-51:41N, 51:43-51:44N, 51:46, 51:48-51:49, 51:51-51:53, 51:55-51:61, 51:64-51:77, 51:79-51:84, 51:86-51:89, 51:91, 51:93-51:96, 51:98N-51:105, 51:107-51:122, 52:01:01:01-52:11, 52:13, 52:15-52:19, 52:21-52:24, 53:19, 57:02:01-57:03:02, 57:05, 57:07, 57:09, 57:17, 57:39, 57:42, 57:46, 58:08:01-58:08:02, 58:27-58:28, 59:02, A*24:146

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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 HLA B*56 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 1 070 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*56 subtyping.

In addition, wells number 4, 6, 7, 9 to 12, 18 and 19 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.

³For several HLA-B alleles first exon nucleotide sequences are not available. In these instances it is not known whether some of the primers of the SSP sets are completely matched with the target sequences or not. We assume that unknown sequences in the first exon are conserved within allelic groups.

⁴The HLA-B*56 primer set cannot separate the B*56:05:02 and B*56:06 alleles. These two alleles can be distinguished by the HLA-B low resolution kit.

The HLA-B*56 primer set cannot separate the B*56:09, B*35:76 and B*35:78 alleles. These alleles can be distinguished by the HLA-B low resolution and/or B*35 kits.

The B*56:13 and 56:28N alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 15.

The B*56:17 and 56:26 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 21.

The B*56:19N and 56:29 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 19.

⁵Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*56 alleles will be amplified by primer mixes 1 to 7 and 9 to 24. In addition, the A*24:146 allele will be amplified by primer mix 24, the C*02:06, C*02:47, C*12:15 and C*15:37 alleles will be amplified by primer mix 4, the C*03:19 and 15:26 alleles weakly by primer mix 14, the C*03:12, C*03:19 and 15:26 alleles weakly by primer mix 14, the C*03:81 by primer mix 17, the C*03:102 allele by primer mix 10 and weakly by primer mix 14, the C*06:20, C*07:81 and C*07:168 by primer mix 1, the C*15:09, C*15:19, C*15:20 and 15:27 by primer mixes 6 and 22 and the C*07:123, C*07:173 and C*16:20 alleles will be amplified by primer mix 22.

⁶Specific PCR fragments shorter than 125 base pairs have a lower intensity than longer PCR bands.

⁷Primer mix 7 and 18 may give rise to less specific PCR products than the other HLA-B*56 primer mixes.

⁸Primer mixes 10, 12, 13 and 17 may give rise to unspecific amplification products.

⁹Primer mix 6: Specific PCR fragment of 105 bp in the B*56:05:01 and the B*39:63 alleles. Specific PCR fragment of 150 bp in the B*56:32 and the B*07:09^w, 07:11^w, 15:03:01-15:03:03, 15:16:01-15:16:03, 15:18:01-15:18:04, 15:23, 15:29, 15:39:01-15:40, 15:47^w, 15:49^w, 15:61-15:62, 15:64, 15:65^w, 15:67, 15:69, 15:72, 15:74, 15:80, 15:93, 15:95, 15:98, 15:103, 15:108, 15:115, 15:119, 15:127, 15:131-15:132, 15:134, 15:138, 15:153, 15:158, 15:161, 15:173, 15:176, 15:194-15:195, 15:197-15:198, 15:210, 15:220, 15:221^w, 15:223, 15:226N, 18:15, 18:21^w, 18:30^w, 18:57, 35:11:01-

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35:11:02, 35:21, 35:58, 35:99^w, 46:03^w, 46:08, 48:25, 49:04, 51:37, 51:45, 53:06, 53:08:01-53:08:02, 55:14, 57:13^w, 57:22, 58:06, 58:19, C*15:09, 15:19-15:20 and 15:27 alleles.

¹⁰Primer mix 7: Specific PCR fragment of 120 bp in the B*51:05, 51:08-51:09:02, 51:19-51:20, 51:31, 51:40, 51:44N, 51:54, 51:73, 51:93, 51:97, 51:108, 51:115, 51:122, 52:03, 52:10, 52:19 and 78:04 alleles. Specific PCR fragment of 210 bp in the B*56:25 and in the B*07:78^w, 07:84^w, 13:16, 13:48, 15:16, 15:42, 15:67, 15:95, 40:148, 40:161^w, 49:01:01, 49:02-49:10, 49:12-49:17, 49:19-49:20, 50:01:01-50:01:02, 50:01:03^w, 50:02, 50:04-50:11, 50:13, 51:01:04, 51:01:13, 51:02:04 51:13:01, 51:24:01-51:24:02, 51:38, 51:92, 52:01:05, 52:14, 52:25, 54:20^w, 55:01:01-55:01:03, 55:01:05-55:01:06, 55:03, 55:05, 55:09^w, 55:11, 55:15, 55:17, 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52^w and 55:53 alleles. Specific PCR fragment of 120 and 210 bp in the B*56:05:01-56:06 and 56:21 and in the B*40:95, 48:18, 50:14, 51:01:01-51:01:03, 51:01:05-51:01:12, 51:01:14-51:02:03, 51:02:05-51:03, 51:07:01-51:07:02, 51:11N-51:12, 51:13:02-51:14, 51:16-51:18, 51:21-51:23, 51:24:03-51:24:04, 51:26-51:30, 51:32-51:37, 51:39, 51:41N, 51:43, 51:48-51:53, 51:55, 51:57-51:58, 51:60-51:61, 51:63, 51:65-51:72, 51:74-51:80, 51:82-51:91, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:121, 52:01:01:01-52:01:04, 52:01:06-52:02, 52:04-52:09, 52:11-52:13, 52:15-52:18, 52:20-52:24, 52:26, 55:01:04, 58:08:01-58:08:02, 78:01:01-78:03 and 78:05-78:07 alleles.

¹¹Primer mix 9: Specific PCR fragment of 145 bp in the B*56:07 and the B*08:02, 15:115, 27:01, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 44:40, 44:44 and 44:130 alleles. Specific PCR fragment of 205 bp in the B*56:31 and the B*15:38:01-15:38:02, 15:185, 18:01:01-18:01:13, 18:02-18:09, 18:12-18:15, 18:17N-18:19, 18:22-18:25, 18:27-18:34, 18:36-18:40, 18:42-18:55, 18:57, 18:59-18:60, 18:62-18:66, 35:21, 35:24:01-35:24:02, 39:43, 51:37, 51:45, 53:02, 53:06, 57:14 and 58:09 alleles.

¹²Primer mix 13: Specific PCR fragment of 70 bp in the B*56:30 allele. Specific PCR fragment of 180 bp in the B*56:11 and 56:22 and the B*15:58, 15:133, 15:229, 35:03:01-35:03:05, 35:03:07-35:03:10, 35:06, 35:13, 35:36, 35:38, 35:55-35:56, 35:59, 35:70, 35:74-35:75, 35:84-35:85, 35:98, 35:106, 35:109, 35:127-35:128, 35:136, 35:150-35:153, 35:155-35:156, 35:160, 35:163, 35:169, 38:30, 39:32-39:33, 51:13:01-51:13:02, 51:92, 52:14, 53:04 and 58:34 alleles.

¹³Primer mix 15: Specific PCR fragment of 160 bp in the B*56:13 and the B*44:15, 44:18, 45:01, 45:04-45:08, 45:10-45:13 and 82:01-82:03 alleles. Specific PCR fragment of 380 bp in the B* 56:28N allele.

¹⁴Primer mix 19: Specific PCR fragment of 75 bp in the B* 56:29 allele. Specific PCR fragment of 185 bp in the B*56:19N and in the B*14:07N and 39:40N alleles.

¹⁵Primer mix 21: Specific PCR fragment of 110 bp in the B*56:17 and 56:23 and in the B*07:37 and 27:77 alleles. Specific PCR fragment of 170 bp in the B*56:26 allele.

¹⁶Primer mix 23: Specific PCR fragment of 85 bp in the B56:20:01-56:20:02 and in the B*07:78 and 40:48 alleles. Specific PCR fragment of 350 bp in the B*56:24 allele.

'w', might be weakly amplified.

INTERPRETATION TABLE

HLA-B*56 SSP subtyping

Amplification patterns of the B*56:01 to B*56:32 alleles

	Well ⁹											
	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Length of int.	800	1070	1070	800	1070	800	800	1070	800	800	800	800
pos. control ¹												
5'-primer ²	379	41	420	355	48	141	357	41	206	355	357	420
	5' -ACC 3'	5' -CTg 3'	5' -TTA 3'	5' -CCC 3'	5' -gCC 3'	5' -ATT 3'	5' -Tgg 3'	5' -CTg 3'	5' -AgA 3'	5' -TCA 3'	5' -Tgg 3'	5' -TTA 3'
						419			419			
						5' -gTC 3'			5' -gTC 3'			
3'-primer(s) ³	463	272	559	420	165	204	435	269	309	463	420	559
	5' -gCT 3'	5' -TgT 3'	5' -CAg 3'	5' -gCT 3'	5' -Tgg 3'	5' -TCT 3'	5' -TCT 3'	5' -ACT 3'	5' -gTg 3'	5' -gCT 3'	5' -gCT 3'	5' -CgT 3'
	463	277	564			527	527		583			
	5' -gCT 3'	5' -ggC 3'	5' -ACT 3'			5' -CCT 3'	5' -CCT 3'		5' -gTg 3'			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
HLA-B allele												
*56:01:01-56:01:04	1	2	3								11	
*56:02	1	2	3	4								
*56:03		2			5							
*56:04		2	3	4								
*56:05:01		2				6	7					
*56:05:02, *56:06 ⁴		2					7					
*56:07	1	2	3						9		11	
*56:08	1	2	3					8			11	
*56:09, 35:76, 35:78 ⁵	1	2								10		
*56:10	1	2		4								12
*56:11	1	2								10		
*56:12		2								10		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

INTERPRETATION TABLE											
HLA-B*56 SSP subtyping											
Amplification patterns of the B*56:01 to B*56:32 alleles											
Well ⁹											
13	14	15	16	17	18	19	20	21	22	23	24
70	80	160	160	180	295	75	215	110	180	85	380
180		380				185		170		350	
1070	1070	1070	1070	1070	800	800	1070	1070	1070	1070	1070
Length of spec. PCR product(s)											
Length of int. pos. control ¹											
420	379	41	418	419	15	206	1 st I	206	419	420	317
5'-primer ²											
5' -TTC 3'	5' -ACg 3'	5' -CTg 3'	5' -Agg 3'	5' -gTA 3'	5' -gCA 3'	5' -AgA 3'	5' -CAg 3'	5' -AgA 3'	5' -gTC 3'	5' -TTA 3'	5' -gCT 3'
420		420				419				701	
5' -TTC 3'		5' -TTA 3'				5' -gTT 3'				5' -CCT 3'	
530											
5' -ggT 3'											
559	420	252	538	559	142	239	175	277	559	463	412
3'-primer(s) ³											
5' -CAg 3'	5' -gCT 3'	5' -TCT 3'	5' -gTC 3'	5' -CAg 3'	5' -TgA 3'	5' -gCT 3'	5' -CCg 3'	5' -ggC 3'	5' -CgT 3'	5' -gCg 3'	5' -gTT 3'
		538				564		335		916	
		5' -gTC 3'				5' -ACT 3'		5' -CgT 3'		5' -gAT 3'	
13	14	15	16	17	18	19	20	21	22	23	24
Well No.											
HLA-B allele											
*56:01:01-56:01:04											
*56:02											
*56:03											
14											
*56:04											
*56:05:01											
				17							
				17							
*56:05:02, *56:06 ⁴											
*56:07											
*56:08											
*56:09, 35:76, 35:78 ⁵											
*56:10											
13											
*56:11											
*56:12											
13	14	15	16	17	18	19	20	21	22	23	24
Well No.											

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Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*56:13, 56:28N ⁶	1	2	3								11	
*56:14	1		3					8			11	
*56:15	1	2										
*56:16	1	2	3								11	
*56:17, 56:26 ⁷	1	2	3								11	
*56:18		2										
*56:19N, 56:29 ⁸	1	2	3								11	
*56:20:01-56:20:02		2	3								11	
*56:21		2					7					
*56:22	1	2										
*56:23	1	2									11	12
*56:24	1	2	3								11	
*56:25	1	2	3				7				11	
*56:27		2	3								11	
*56:30	1	2	3								11	
*56:31		2							9			
*56:32		2				6						
*07:02:19, 15:01:04, 40:94												
*07:09, 07:11, 15:47, 15:49, 15:65, 15:221, 18:21, 35:99, 57:13						w						
*07:20, 07:24, 07:60, 07:100, 07:131, 08:21, 08:25, 15:09-15:10:02, 15:30, 15:37, 15:45, 15:48, 15:63, 15:90, 15:99, 15:150, 27:76, 35:09:01-35:09:02, 35:18, 35:22, 35:44, 40:05, 40:26, 40:63, 40:92, 41:17, C*03:81												
*07:37												
*07:65, 55:04, 55:20, 55:49, 81:01		2										
*07:78							w				11	
*07:84, 40:161							w					
*08:02, 15:38:01-15:38:02, 15:185, 18:36, 18:50, 27:01, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35									9			
*08:03, 08:52, 40:13, 40:19, 40:109, 40:117, 48:18, 51:10, 51:81, 58:27, 59:02, A*24:146												
*08:37, 15:50, 15:186, 15:199, 18:11, 39:07, 42:09, 46:21:01-46:21:02, C*07:123, C*07:173, C*16:20												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
		15										*56:13, 56:28N ⁶
												*56:14
				17								*56:15
					18							*56:16
								21				*56:17, 56:26 ⁷
									22			*56:18
						19						*56:19N, 56:29 ⁸
										23		*56:20:01-56:20:02
				17							24	*56:21
13								21				*56:22
										23		*56:23
												*56:24
												*56:25
	14											*56:27
13												*56:30
								22				*56:31
								22				*56:32
							20					*07:02:19, 15:01:04, 40:94
												*07:09, 07:11, 15:47, 15:49, 15:65, 15:221, 18:21, 35:99, 57:13
				17								*07:20, 07:24, 07:60, 07:100, 07:131, 08:21, 08:25, 15:09-15:10:02, 15:30, 15:37, 15:45, 15:48, 15:63, 15:90, 15:99, 15:150, 27:76, 35:09:01-35:09:02, 35:18, 35:22, 35:44, 40:05, 40:26, 40:63, 40:92, 41:17, C*03:81
								21				*07:37
												*07:65, 55:04, 55:20, 55:49, 81:01
									23			*07:78
												*07:84, 40:161
												*08:02, 15:38:01-15:38:02, 15:185, 18:36, 18:50, 27:01, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35
											24	*08:03, 08:52, 40:13, 40:19, 40:109, 40:117, 48:18, 51:10, 51:81, 58:27, 59:02, A*24:146
									22			*08:37, 15:50, 15:186, 15:199, 18:11, 39:07, 42:09, 46:21:01-46:21:02, C*07:123, C*07:173, C*16:20
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*08:49, 14:10, 15:02:01-15:02:05, 15:13:01-15:13:02, 15:21, 15:25:01-15:25:03, 15:36, 15:44, 15:77, 15:88-15:89, 15:106, 15:112, 15:121, 15:139, 15:144, 15:154, 15:165, 15:170, 15:204, 15:213-15:214, 27:19, 27:30, 35:16-35:17, 35:61, 35:113, 35:125, 35:164-35:165N, 37:01:01-37:01:03, 37:01:05-37:01:07, 37:03N-37:06, 37:08, 37:10-37:11, 37:13-37:31, 38:20, 39:42, 44:03:01-44:05:03, 44:07, 44:13-44:14, 44:17, 44:25-44:26, 44:28:01-44:30, 44:32, 44:35-44:39, 44:42-44:43:02, 44:45-44:46, 44:50-44:51, 44:56N-44:58N, 44:60-44:61N, 44:64:01-44:64:02, 44:69-44:70, 44:75-44:76, 44:78-44:79, 44:81, 44:85, 44:88, 44:92, 44:94, 44:96, 44:98, 44:103, 44:105, 44:108N-44:111, 44:114-44:115, 44:117, 44:120, 44:122, 44:124-44:125, 44:128-44:129, 44:133-44:134, 51:42, 53:07, 57:01:01-57:01:04, 57:01:06-57:01:11, 57:04, 57:06, 57:08, 57:10, 57:15-57:16, 57:18-57:20, 57:23-57:25, 57:27, 57:29-57:30, 57:32-57:38, 57:40-57:41, 57:43-57:45, 57:48-57:52, 58:10N										10		
*13:01:01-13:01:06, 13:07N, 13:12-13:13, 13:17, 13:20, 13:22:01-13:23, 13:25-13:26, 13:28-13:29, 13:36, 13:39, 13:43, 13:50, 15:20, 15:85, 35:01:01:01-35:01:29, 35:03:06, 35:07-35:08:04, 35:10, 35:14:01-35:15, 35:19-35:20:02, 35:23, 35:25-35:30, 35:33, 35:40N-35:42:02, 35:45-35:50, 35:52, 35:54, 35:57, 35:62-35:63, 35:65Q, 35:69, 35:71, 35:77, 35:80, 35:82, 35:90-35:92, 35:94, 35:96, 35:100-35:101:02, 35:103-35:105, 35:107-35:108:02, 35:110-35:112, 35:115-35:116, 35:120-35:124, 35:126, 35:130N-35:134N, 35:137-35:148, 35:157-35:159, 35:161, 35:166, 35:168, 35:170-35:171, 35:173N, 35:175-35:178, 48:02:01-48:02:02, 53:01:01-53:01:05, 53:03, 53:05, 53:09-53:13, 53:15-53:18, 53:20-53:26, 58:01:01-58:01:02, 58:01:04-58:01:07, 58:01:09, 58:04, 58:11-58:15, 58:17N, 58:21-58:24, 58:29-58:33	1									10		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*08:49, 14:10, 15:02:01-15:02:05, 15:13:01-15:13:02, 15:21, 15:25:01-15:25:03, 15:36, 15:44, 15:77, 15:88-15:89, 15:106, 15:112, 15:121, 15:139, 15:144, 15:154, 15:165, 15:170, 15:204, 15:213-15:214, 27:19, 27:30, 35:16-35:17, 35:61, 35:113, 35:125, 35:164-35:165N, 37:01:01-37:01:03, 37:01:05-37:01:07, 37:03N-37:06, 37:08, 37:10-37:11, 37:13-37:31, 38:20, 39:42, 44:03:01-44:05:03, 44:07, 44:13-44:14, 44:17, 44:25-44:26, 44:28:01-44:30, 44:32, 44:35-44:39, 44:42-44:43:02, 44:45-44:46, 44:50-44:51, 44:56N-44:58N, 44:60-44:61N, 44:64:01-44:64:02, 44:69-44:70, 44:75-44:76, 44:78-44:79, 44:81, 44:85, 44:88, 44:92, 44:94, 44:96, 44:98, 44:103, 44:105, 44:108N-44:111, 44:114-44:115, 44:117, 44:120, 44:122, 44:124-44:125, 44:128-44:129, 44:133-44:134, 51:42, 53:07, 57:01:01-57:01:04, 57:01:06-57:01:11, 57:04, 57:06, 57:08, 57:10, 57:15-57:16, 57:18-57:20, 57:23-57:25, 57:27, 57:29-57:30, 57:32-57:38, 57:40-57:41, 57:43-57:45, 57:48-57:52, 58:10N
												*13:01:01-13:01:06, 13:07N, 13:12-13:13, 13:17, 13:20, 13:22:01-13:23, 13:25-13:26, 13:28-13:29, 13:36, 13:39, 13:43, 13:50, 15:20, 15:85, 35:01:01:01-35:01:29, 35:03:06, 35:07-35:08:04, 35:10, 35:14:01-35:15, 35:19-35:20:02, 35:23, 35:25-35:30, 35:33, 35:40N-35:42:02, 35:45-35:50, 35:52, 35:54, 35:57, 35:62-35:63, 35:65Q, 35:69, 35:71, 35:77, 35:80, 35:82, 35:90-35:92, 35:94, 35:96, 35:100-35:101:02, 35:103-35:105, 35:107-35:108:02, 35:110-35:112, 35:115-35:116, 35:120-35:124, 35:126, 35:130N-35:134N, 35:137-35:148, 35:157-35:159, 35:161, 35:166, 35:168, 35:170-35:171, 35:173N, 35:175-35:178, 48:02:01-48:02:02, 53:01:01-53:01:05, 53:03, 53:05, 53:09-53:13, 53:15-53:18, 53:20-53:26, 58:01:01-58:01:02, 58:01:04-58:01:07, 58:01:09, 58:04, 58:11-58:15, 58:17N, 58:21-58:24, 58:29-58:33
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*13:02:01-13:02:12, 13:08Q-13:09, 13:14-13:15, 13:18-13:19, 13:27, 13:30-13:34, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:49N, 45:03	1										11	
*13:03, 46:11, 49:01:02, 49:11, 51:15, 59:04	1		3								11	
*13:04, 13:46-13:47, 14:22, 15:34, 15:137, 15:222, 27:14, 35:05:01-35:05:02, 35:37, 35:66, 35:68:01-35:68:02, 35:72, 35:89, 35:97, 35:119, 45:02, 45:09, 53:14, 58:02, 58:07, 58:16, 58:18, 58:25-58:26, 59:03, C*06:20, C*07:81, C*07:168	1											
*13:06	1									10		12
*13:11	1			4								
*13:16, 49:07	1						7				11	
*13:48, 49:01:01, 49:01:03-49:03, 49:06, 49:08-49:10, 49:12-49:17, 49:19N-49:20, 50:01:01, 50:02, 50:05-50:08, 50:10-50:11, 50:13	1		3				7				11	
*14:07N, 39:40N												
*15:03:01-15:03:03, 15:18:01-15:18:02, 15:18:04, 15:23, 15:29, 15:39:01-15:40, 15:61, 15:64, 15:72, 15:74, 15:98, 15:103, 15:108, 15:119, 15:127, 15:131-15:132, 15:134, 15:138, 15:153, 15:158, 15:161, 15:173, 15:176, 15:195, 15:197-15:198, 15:210, 15:220, 15:226N, 39:63, 46:08						6						
*15:16:01-15:16:03, 15:67, 15:95, 49:04	1					6	7					
*15:18:03				4		6						
*15:42	1						7				11	12
*15:58, 15:133, 15:229, 38:30, 39:32-39:33												
*15:62, 15:194, 35:11:01-35:11:02, 48:25, 53:08:01-53:08:02, 58:19	1					6				10		
*15:69, 15:93, C*15:09, C*15:19-15:20, C*15:27						6						
*15:73, 40:71, 51:62			3	4								
*15:80, 15:223, 57:22						6				10		
*15:86	1			4								12
*15:115, 18:57, 51:45						6			9			
*15:224				4								12
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*13:02:01-13:02:12, 13:08Q-13:09, 13:14-13:15, 13:18-13:19, 13:27, 13:30-13:34, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:49N, 45:03
												*13:03, 46:11, 49:01:02, 49:11, 51:15, 59:04
												*13:04, 13:46-13:47, 14:22, 15:34, 15:137, 15:222, 27:14, 35:05:01-35:05:02, 35:37, 35:66, 35:68:01-35:68:02, 35:72, 35:89, 35:97, 35:119, 45:02, 45:09, 53:14, 58:02, 58:07, 58:16, 58:18, 58:25-58:26, 59:03, C*06:20, C*07:81, C*07:168
												*13:06
												*13:11
												*13:16, 49:07
												*13:48, 49:01:01, 49:01:03-49:03, 49:06, 49:08-49:10, 49:12-49:17, 49:19N-49:20, 50:01:01, 50:02, 50:05-50:08, 50:10-50:11, 50:13
						19						*14:07N, 39:40N
												*15:03:01-15:03:03, 15:18:01-15:18:02, 15:18:04, 15:23, 15:29, 15:39:01-15:40, 15:61, 15:64, 15:72, 15:74, 15:98, 15:103, 15:108, 15:119, 15:127, 15:131-15:132, 15:134, 15:138, 15:153, 15:158, 15:161, 15:173, 15:176, 15:195, 15:197-15:198, 15:210, 15:220, 15:226N, 39:63, 46:08
												*15:16:01-15:16:03, 15:67, 15:95, 49:04
14												*15:18:03
												*15:42
13												*15:58, 15:133, 15:229, 38:30, 39:32-39:33
												*15:62, 15:194, 35:11:01-35:11:02, 48:25, 53:08:01-53:08:02, 58:19
									22			*15:69, 15:93, C*15:09, C*15:19-15:20, C*15:27
14												*15:73, 40:71, 51:62
												*15:80, 15:223, 57:22
												*15:86
												*15:115, 18:57, 51:45
14												*15:224
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*18:01:01-18:01:13, 18:02-18:09, 18:12-18:14, 18:17N-18:19, 18:23N-18:25, 18:27-18:29, 18:31-18:34, 18:37-18:40, 18:42-18:49, 18:51, 18:53-18:55, 18:59-18:60, 18:62-18:66, 39:43									9			
*18:15						6			9			
*18:22	1								9	10		
*18:30						w			9			
*18:52	1								9			
*27:77		2										
*35:02:01-35:02:04, 35:04:01-35:04:03, 35:34, 35:81, 35:83, 35:95, 35:129N, 35:154, 35:162, 35:172, 40:28	1									10		
*35:03:01-35:03:05, 35:03:07-35:03:10, 35:06, 35:13, 35:36, 35:38, 35:55-35:56, 35:70, 35:74, 35:84-35:85, 35:98, 35:106, 35:109, 35:128, 35:136, 35:150, 35:152-35:153, 35:155-35:156, 35:160, 35:163, 35:169, 53:04, 58:34	1									10		
*35:12:01-35:12:03, 35:39, 35:149, 44:62, 44:77, 44:82, 44:107, 44:123, 57:12, 57:28N										10		
*35:21, 53:06	1					6			9	10		
*35:24:01-35:24:02, 53:02, 58:09	1								9	10		
*35:35, 35:93, 58:05	1									10		
*35:58, 58:06	1					6						
*35:59										10		
*35:60, 46:18, 55:18, 55:34, 55:47, 59:01:01-59:01:01:02, 59:05	1										11	12
*35:75, 35:127, 35:151	1											
*37:01:04										10		
*39:17				4								w
*40:48				4								
*40:95, 40:148, 51:01:15, 51:14, 51:63, 51:85, 51:97, 52:26, 78:07							7					
*40:149												
*40:166, 81:03-81:04N		?										
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
									22			*18:01:01-18:01:13, 18:02-18:09, 18:12-18:14, 18:17N-18:19, 18:23N-18:25, 18:27-18:29, 18:31-18:34, 18:37-18:40, 18:42-18:49, 18:51, 18:53-18:55, 18:59-18:60, 18:62-18:66, 39:43
									22			*18:15
									22			*18:22
									22			*18:30
									22			*18:52
								21				*27:77
				17								*35:02:01-35:02:04, 35:04:01-35:04:03, 35:34, 35:81, 35:83, 35:95, 35:129N, 35:154, 35:162, 35:172, 40:28
13												*35:03:01-35:03:05, 35:03:07-35:03:10, 35:06, 35:13, 35:36, 35:38, 35:55-35:56, 35:70, 35:74, 35:84-35:85, 35:98, 35:106, 35:109, 35:128, 35:136, 35:150, 35:152-35:153, 35:155-35:156, 35:160, 35:163, 35:169, 53:04, 58:34
				17								*35:12:01-35:12:03, 35:39, 35:149, 44:62, 44:77, 44:82, 44:107, 44:123, 57:12, 57:28N
												*35:21, 53:06
												*35:24:01-35:24:02, 53:02, 58:09
									22			*35:35, 35:93, 58:05
												*35:58, 58:06
13												*35:59
												*35:60, 46:18, 55:18, 55:34, 55:47, 59:01:01:01-59:01:01:02, 59:05
13												*35:75, 35:127, 35:151
							20					*37:01:04
	14											*39:17
	14									23		*40:48
												*40:95, 40:148, 51:01:15, 51:14, 51:63, 51:85, 51:97, 52:26, 78:07
					18							*40:149
												*40:166, 81:03-81:04N
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*44:02:01:01-44:02:21, 44:06, 44:08-44:09, 44:11-44:12, 44:16, 44:19N, 44:21-44:24, 44:27:01-44:27:02, 44:33-44:34, 44:49, 44:52N, 44:55, 44:59, 44:63, 44:66-44:68, 44:71-44:74, 44:80, 44:83-44:84, 44:86-44:87, 44:89, 44:91, 44:93, 44:95, 44:97, 44:101-44:102, 44:104, 44:112-44:113, 44:116, 44:118-44:119, 44:121, 44:126-44:127, 44:131-44:132										10		
*44:10	1		3							10		
*44:15, 44:18, 45:01, 45:04-45:07, 45:11-45:13	1		3								11	
*44:20, 44:41:01-44:41:02, 44:53, 44:99-44:100, 44:106												
*44:40, 44:130, 57:14									9	10		
*44:44									9	10		
*44:48	1									10		
*44:90, 83:01		2								10		
*45:08	1										11	w
*45:10	1										11	
*46:03						w						
*49:05, 50:09	1						7					
*49:18	1						7					
*50:01:02, 52:25			3				7				11	
*50:01:03	1		3				w				11	
*50:04			3				7				11	
*50:12	1		3									
*50:14	1						7					
*51:01:01-51:01:07, 51:01:09-51:01:14, 51:01:16-51:01:17, 51:01:19-51:03, 51:05, 51:07:01-51:09:02, 51:11N-51:12, 51:18-51:20, 51:22-51:24:04, 51:26-51:30, 51:32-51:33, 51:35, 51:38-51:41N, 51:43-51:44N, 51:48-51:49, 51:51-51:53, 51:55, 51:57-51:58, 51:60-51:61, 51:65-51:77, 51:79-51:80, 51:83-51:84, 51:86-51:89, 51:91, 51:94-51:96, 51:98N-51:100, 51:102-51:105, 51:107-51:122, 52:01:01:01-52:07, 52:09-52:11, 52:13, 52:15-52:19, 52:21-52:24, 58:08:01-58:08:02							7					
*51:01:08, 51:50, 51:54, 51:78, 51:90, 52:12, 52:20, 78:01:01-78:06							7					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
			16									*44:02:01:01-44:02:21, 44:06, 44:08-44:09, 44:11-44:12, 44:16, 44:19N, 44:21-44:24, 44:27:01-44:27:02, 44:33-44:34, 44:49, 44:52N, 44:55, 44:59, 44:63, 44:66-44:68, 44:71-44:74, 44:80, 44:83-44:84, 44:86-44:87, 44:89, 44:91, 44:93, 44:95, 44:97, 44:101-44:102, 44:104, 44:112-44:113, 44:116, 44:118-44:119, 44:121, 44:126-44:127, 44:131-44:132
												*44:10
		15										*44:15, 44:18, 45:01, 45:04-45:07, 45:11-45:13
			16									*44:20, 44:41:01-44:41:02, 44:53, 44:99-44:100, 44:106
												*44:40, 44:130, 57:14
			16									*44:44
			16									*44:48
			16									*44:90, 83:01
		15										*45:08
		15										*45:10
									22			*46:03
												*49:05, 50:09
				17							24	*49:18
												*50:01:02, 52:25
												*50:01:03
	14											*50:04
												*50:12
				17								*50:14
				17							24	*51:01:01-51:01:07, 51:01:09-51:01:14, 51:01:16-51:01:17, 51:01:19-51:03, 51:05, 51:07:01-51:09:02, 51:11N-51:12, 51:18-51:20, 51:22-51:24:04, 51:26-51:30, 51:32-51:33, 51:35, 51:38-51:41N, 51:43-51:44N, 51:48-51:49, 51:51-51:53, 51:55, 51:57-51:58, 51:60-51:61, 51:65-51:77, 51:79-51:80, 51:83-51:84, 51:86-51:89, 51:91, 51:94-51:96, 51:98N-51:100, 51:102-51:105, 51:107-51:122, 52:01:01:01-52:07, 52:09-52:11, 52:13, 52:15-52:19, 52:21-52:24, 58:08:01-58:08:02
				17								*51:01:08, 51:50, 51:54, 51:78, 51:90, 52:12, 52:20, 78:01:01-78:06
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*51:01:18							7					
*51:04, 51:46, 57:02:01-57:03:02, 57:07, 57:09, 57:17, 57:39, 57:42, 57:46										10		
*51:06:01-51:06:02, 51:59, 51:64												
*51:13:01-51:13:02, 51:92, 52:14							7					
*51:16-51:17, 51:21, 51:31, 51:34, 51:36, 51:82, 51:93, 51:101, 52:08							7					
*51:37						6	7		9			
*51:56:01-51:56:02, 53:19, 57:05, 58:28	1									10		
*51:106			3				7					
*54:01:01, 54:02, 54:05N, 54:08N, 54:10, 54:12-54:13, 54:17-54:19, 54:22-54:23	1	2									11	12
*54:01:02, 55:35	1	2			5						11	12
*54:03	1	2	3								11	
*54:04, 54:15	1	2										
*54:06, 54:11		2										
*54:07, 54:24	1										11	12
*54:09		2										
*54:14	1	2										
*54:16	1	2									11	
*54:20	1	2					w				11	12
*54:21	1	2									11	12
*55:01:01-55:01:03, 55:01:05, 55:03, 55:05, 55:11, 55:15, 55:25, 55:29, 55:31, 55:33, 55:36, 55:40, 55:45	1	2					7				11	12
*55:01:04, 55:44, 55:53	1	2					7					12
*55:01:06		2					7				11	12
*55:01:07, 55:39, 55:42	1	2										12
*55:02:01-55:02:03, 55:02:05-55:02:06, 55:07, 55:12, 55:16, 55:19, 55:21, 55:26, 55:30, 55:37, 55:43, 55:48, 55:50	1	2									11	12
*55:02:04		2									11	12
*55:08, 55:51		2										
*55:09	1	2					w				11	
*55:10	1	2									11	12
*55:13, 55:27, 55:32	1	2										
*55:14		2				6				10		
*55:17		2					7					
*55:22, 55:46	1	2									11	
*55:23	1	2										
*55:24	1	2					7				11	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
				17			20				24	*51:01:18
				17							24	*51:04, 51:46, 57:02:01-57:03:02, 57:07, 57:09, 57:17, 57:39, 57:42, 57:46
				17							24	*51:06:01-51:06:02, 51:59, 51:64
13												*51:13:01-51:13:02, 51:92, 52:14
											24	*51:16-51:17, 51:21, 51:31, 51:34, 51:36, 51:82, 51:93, 51:101, 52:08
												*51:37
				17							24	*51:56:01-51:56:02, 53:19, 57:05, 58:28
												*51:106
							20					*54:01:01, 54:02, 54:05N, 54:08N, 54:10, 54:12-54:13, 54:17-54:19, 54:22-54:23
												*54:01:02, 55:35
							20					*54:03
							20					*54:04, 54:15
							20					*54:06, 54:11
							20					*54:07, 54:24
							20	22				*54:09
							20	22				*54:14
							20					*54:16
							20					*54:20
					18		20					*54:21
												*55:01:01-55:01:03, 55:01:05, 55:03, 55:05, 55:11, 55:15, 55:25, 55:29, 55:31, 55:33, 55:36, 55:40, 55:45
												*55:01:04, 55:44, 55:53
												*55:01:06
												*55:01:07, 55:39, 55:42
												*55:02:01-55:02:03, 55:02:05-55:02:06, 55:07, 55:12, 55:16, 55:19, 55:21, 55:26, 55:30, 55:37, 55:43, 55:48, 55:50
												*55:02:04
				17								*55:08, 55:51
												*55:09
					18							*55:10
												*55:13, 55:27, 55:32
								22				*55:14
												*55:17
												*55:22, 55:46
								22				*55:23
												*55:24
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	125	400	180	105	285	105	120	395	145	150	105	180
PCR product(s)						150	210		205			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*55:28	1	2					7					
*55:38		2					7				11	12
*55:41	1	2									11	w
*55:52	1	2					w				11	12
*57:26										10		
*58:01:08	1									10		
*82:01-82:03	1	2	3	4								
C*02:06, C*02:47, C*12:15, C*15:37				4								
C*03:12, C*03:19, C*15:26												
C*03:102										10		
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 1 070 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*56 subtyping.

In addition, wells number 4, 6, 7, 9 to 12, 18 and 19 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 1st, 2nd, 3rd or 4th exon or in the 1st 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 or 5th exon, 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.: **60M**

Lot-specific Information

www.olerup-ssp.com

70	80	160	160	180	295	75	215	110	180	85	380	Length of spec.
180		380				185		170		350		PCR product(s)
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*55:28
	14											*55:38
												*55:41
												*55:52
									22			*57:26
							20					*58:01:08
		15			18							*82:01-82:03
												<i>C*02:06, C*02:47, C*12:15, C*15:37</i>
	w											<i>C*03:12, C*03:19, C*15:26</i>
	w											<i>C*03:102</i>
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

⁴The HLA-B*56 primer set cannot separate the B*56:05:02 and B*56:06 alleles. These two alleles can be distinguished by the HLA-B low resolution kit.

⁵The HLA-B*56 primer set cannot separate the B*56:09, B*35:76 and B*35:78 alleles. These alleles can be distinguished by the HLA-B low resolution and/or B*35 kits.

⁶The B*56:13 and 56:28N alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 15.

⁷The B*56:17 and 56:26 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 21.

⁸The B*56:19N and 56:29 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 19.

⁹Primer mix 6: Specific PCR fragment of 105 bp in the B*56:05:01 and the B*39:63 alleles. Specific PCR fragment of 150 bp in the B*56:32 and the B*07:09^w, 07:11^w, 15:03:01-15:03:03, 15:16:01-15:16:03, 15:18:01-15:18:04, 15:23, 15:29, 15:39:01-15:40, 15:47^w, 15:49^w, 15:61-15:62, 15:64, 15:65^w, 15:67, 15:69, 15:72, 15:74, 15:80, 15:93, 15:95, 15:98, 15:103, 15:108, 15:115, 15:119, 15:127, 15:131-15:132, 15:134, 15:138, 15:153, 15:158, 15:161, 15:173, 15:176, 15:194-15:195, 15:197-15:198, 15:210, 15:220, 15:221^w, 15:223, 15:226N, 18:15, 18:21^w, 18:30^w, 18:57, 35:11:01-35:11:02, 35:21, 35:58, 35:99^w, 46:03^w, 46:08, 48:25, 49:04, 51:37, 51:45, 53:06, 53:08:01-53:08:02, 55:14, 57:13^w, 57:22, 58:06, 58:19, C*15:09, 15:19-15:20 and 15:27 alleles.

Primer mix 7: Specific PCR fragment of 120 bp in the B*51:05, 51:08-51:09:02, 51:19-51:20, 51:31, 51:40, 51:44N, 51:54, 51:73, 51:93, 51:97, 51:108, 51:115, 51:122, 52:03, 52:10, 52:19 and 78:04 alleles. Specific PCR fragment of 210 bp in the B*56:25 and in the B*07:78^w, 07:84^w, 13:16, 13:48, 15:16, 15:42, 15:67, 15:95, 40:148, 40:161^w, 49:01:01, 49:02-49:10, 49:12-49:17, 49:19-49:20, 50:01:01-50:01:02, 50:01:03^w, 50:02, 50:04-50:11, 50:13, 51:01:04, 51:01:13, 51:02:04 51:13:01, 51:24:01-51:24:02, 51:38, 51:92, 52:01:05, 52:14, 52:25, 54:20^w, 55:01:01-55:01:03, 55:01:05-55:01:06, 55:03, 55:05, 55:09^w, 55:11, 55:15, 55:17, 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52^w and 55:53 alleles. Specific PCR fragment of 120 and 210 bp in the B*56:05:01-56:06 and 56:21 and in the B*40:95, 48.18, 50.14, 51:01:01-51:01:03, 51:01:05-51:01:12, 51:01:14-51:02:03, 51:02:05-51:03, 51:07:01-51:07:02, 51:11N-51:12, 51:13:02-51:14, 51:16-51:18, 51:21-51:23, 51:24:03-51:24:04, 51:26-51:30, 51:32-51:37, 51:39, 51:41N, 51:43, 51:48-51:53, 51:55, 51:57-51:58, 51:60-51:61, 51:63, 51:65-51:72, 51:74-51:80, 51:82-51:91, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:121, 52:01:01:01-52:01:04, 52:01:06-52:02, 52:04-52:09, 52:11-52:13, 52:15-52:18, 52:20-52:24, 52:26, 55:01:04, 58:08:01-58:08:02, 78:01:01-78:04 and 78:05-78:07 alleles.

Primer mix 9: Specific PCR fragment of 145 bp in the B*56:07 and the B*08:02, 15:115, 27:01, 38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 44:40, 44:44 and 44:130 alleles. Specific PCR fragment of 205 bp in the B*56:31 and the B*15:38:01-15:38:02, 15:185, 18:01:01-18:01:13, 18:02-18:09, 18:12-18:15, 18:17N-18:19, 18:22-18:25, 18:27-18:34, 18:36-18:40, 18:42-18:55,

Lot No.: 60M

Lot-specific Information

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18:57, 18:59-18:60, 18:62-18:66, 35:21, 35:24:01-35:24:02, 39:43, 51:37, 51:45, 53:02, 53:06, 57:14 and 58:09 alleles.

Primer mix 13: Specific PCR fragment of 70 bp in the B*56:30 allele. Specific PCR fragment of 180 bp in the B*56:11 and 56:22 and the B*15:58, 15:133, 15:229, 35:03:01-35:03:05, 35:03:07-35:03:10, 35:06, 35:13, 35:36, 35:38, 35:55-35:56, 35:59, 35:70, 35:74-35:75, 35:84-35:85, 35:98, 35:106, 35:109, 35:127-35:128, 35:136, 35:150-35:153, 35:155-35:156, 35:160, 35:163, 35:169, 38:30, 39:32-39:33, 51:13:01-51:13:02, 51:92, 52:14, 53:04 and 58:34 alleles.

Primer mix 15: Specific PCR fragment of 160 bp in the B*56:13 and the B*44:15, 44:18, 45:01, 45:04-45:08, 45:10-45:13 and 82:01-82:03 alleles. Specific PCR fragment of 380 bp in the B* 56:28N allele.

Primer mix 19: Specific PCR fragment of 75 bp in the B* 56:29 allele. Specific PCR fragment of 185 bp in the B*56:19N and in the B*14:07N and 39:40N alleles.

Primer mix 21: Specific PCR fragment of 110 bp in the B*56:17 and 56:23 and in the B*07:37 and 27:77 alleles. Specific PCR fragment of 170 bp in the B*56:26 allele.

Primer mix 23: Specific PCR fragment of 85 bp in the B56:20:01-56:20:02 and in the B*07:78 and 40:48 alleles. Specific PCR fragment of 350 bp in the B*56:24 allele.

‘w’, may be weakly amplified.

Lot No.: 60M

Lot-specific Information

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[illegible]

Lot No.: **60M**

Lot-specific Information

CELL LINE VALIDATION SHEET													
HLA-B*56 SSP subtyping kit													
					Prod. No.:	Well							
						17	18	19	20	21	22	23	24
						201189317	201189318	201075019	201075020	201075021	201075022	201075023	201075024
	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	9025	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	-	-	-	-	-	-	-	-	-

Lot No.: **60M**

Lot-specific Information

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CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-B*56 SSP

Product number: 101.571-06 – including *Taq* polymerase
Lot number: 60M
Expiry date: 2014-March-01
Number of tests: 6
Number of wells per test: 24

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-750-01	9	2011-893-09	17	2011-893-17
2	2010-750-02	10	2010-750-10	18	2011-893-18
3	2010-750-03	11	2010-750-11	19	2010-750-19
4	2010-750-04	12	2010-750-12	20	2010-750-20
5	2010-750-05	13	2011-893-13	21	2010-750-21
6	2011-893-06	14	2010-750-14	22	2010-750-22
7	2010-750-07	15	2010-750-15	23	2010-750-23
8	2010-750-08	16	2010-750-16	24	2010-750-24

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 8, 19, 21 and 23 were available. The specificities of the primers in primer solutions 8 and 23 were tested by separately adding one additional 5'-primer, respectively one or two additional 3'-primers. In primer solutions 19 and 21, it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 1, 2, 3 and 15 one or two 3'-primers were not possible to test, and in primer solutions 13 and 23, one 5'-primer was not possible to test. One additional 5'-primer and one additional 3'-primer in primer solution 6 and 5'-primer in primer solution 15 were tested by separately adding one 5'-primer or 3'-primer.

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

Date of approval: 2011-November-28

Approved by:

Production Quality Control

Lot No.: **60M**

Lot-specific Information

www.olerup-ssp.com

Declaration of Conformity

Product name: Olerup SSP® HLA-B*56
Product number: 101.571-06
Lot number: 60M

Intended use: HLA-B*56 high resolution histocompatibility testing

Manufacturer: Olerup SSP AB
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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.

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-November-28

Ann-Cathrin Jareman
Head of QA and Regulatory Affairs

Lot No.: **60M**

Lot-specific Information

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