

Olerup SSP® HLA-B*52

Product number:	101.562-06u – without <i>Taq</i> polymerase
Lot number:	59K
Expiry date:	2013-April-01
Number of tests:	6
Number of wells per test:	16
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. 59K.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® HLA-B*52 LOT.

The HLA-B*52 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP*® HLA-B*52 lot was made (Lot No. 15G).

The amplification patterns for some rare HLA-B*52 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
2	-	Added	Primer from well 8.
5	-	Added	Primer added for the B*52:21 allele.
6	-	Added	Primer added for the B*52:15 allele.
8	Removed, new	Moved, new	Primer moved to well 2, new primer pair for the B*52:20 allele.
10	Added	Added	Primer pair added for the B*52:18 allele.
11	Added	Added	Primer pair added for the B*52:17 allele.
15	Added	Added	Primer pair added for the B*52:16 allele.
16	Added	Added	Primer pair added for the B*52:19 allele.

PRODUCT DESCRIPTION

HLA-B*52 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*52:01 to B*52:21 alleles.

PLATE LAYOUT

Each HLA-B*52 test consists of 16 PCR reactions in a 16 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16

The 16 well PCR plate is marked with 'HLA-B*52'.

Well No. 1 is marked with the Lot No. '59K'.

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 16 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

The interpretation of HLA-B*52 SSP subtypings will be influenced by most other HLA-B alleles. In addition, the C*01:30 allele will be amplified by primer mix 1.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*52, i.e. **B*52:01 to B*52:21**, recognized by the HLA Nomenclature Committee in July 2010¹ will be amplified by the primers in the HLA-B*52 SSP kit. The HLA-B*52 subtyping kit cannot distinguish the B* 52:01:01-52:01:05 alleles.

The B*52:04 and B*52:09 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 2.

¹HLA-B alleles listed on the IMGT/HLA web page 2010-July-16, release 3.1.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 26 alleles generate 21 amplification patterns that can be combined in 231 homozygous and heterozygous combinations. 181 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.

+++-----	-----	*52:04, *52:11 = *52:04, *52:21
+++-----	-----	*52:04, *52:10 = *52:04, *52:15
+++-----	-+-----	*52:04, *52:08 = *52:04, *52:18
+++-----	-----	*52:04, *52:06:02 = *52:04, *52:17
+++-----	-----	*52:04, *52:12 = *52:04, *52:16
+++-----	-----	*52:04, *52:13 = *52:04, *52:19

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

+++-----	----+-----	*52:01:01, *52:04 = *52:04, *52:04
+---+-----	----+-----	*52:02, *52:11 = *52:02, *52:21
+---+-----	----+-----	*52:02, *52:10 = *52:02, *52:15
+---+-----	----+-----	*52:02, *52:06:02 = *52:02, *52:17
+---+-----	----+-----	*52:02, *52:13 = *52:02, *52:19
+---+-----	----+-----	*52:03, *52:08 = *52:03, *52:18
+---+-----	----+-----	*52:03, *52:06:02 = *52:03, *52:17
+---+-----	----+-----	*52:03, *52:12 = *52:03, *52:16
+---+-----	----+-----	*52:01:01, *52:03 = *52:03, *52:15 = *52:03, *52:21 = *52:10, *52:21 = *52:11, *52:15 = *52:15, *52:21
+---+-----	----+-----	*52:05, *52:11 = *52:05, *52:21
+---+-----	----+-----	*52:11, *52:20 = *52:20, *52:21
+---+-----	----+-----	*52:06:01, *52:11 = *52:06:01, *52:21
+---+-----	----+-----	*52:11, *52:14 = *52:14, *52:21
+---+-----	----+-----	*52:08, *52:11 = *52:08, *52:21 = *52:11, *52:18 = *52:18, *52:21
+---+-----	----+-----	*52:06:02, *52:11 = *52:06:02, *52:21 = *52:11, *52:17 = *52:17, *52:21
+---+-----	----+-----	*52:07, *52:11 = *52:07, *52:21
+---+-----	----+-----	*52:11, *52:12 = *52:11, *52:16 = *52:12, *52:21 = *52:16, *52:21
+---+-----	----+-----	*52:11, *52:13 = *52:13, *52:21 = *52:19, *52:21
+---+-----	----+-----	*52:01:01, *52:11 = *52:01:01, *52:21 = *52:11, *52:21 = *52:21, *52:21
+---+-----	----+-----	*52:05, *52:10 = *52:05, *52:15
+---+-----	----+-----	*52:10, *52:20 = *52:15, *52:20
+---+-----	----+-----	*52:06:01, *52:10 = *52:06:01, *52:15
+---+-----	----+-----	*52:10, *52:14 = *52:14, *52:15
+---+-----	----+-----	*52:08, *52:10 = *52:08, *52:15 = *52:10, *52:18 = *52:15, *52:18
+---+-----	----+-----	*52:06:02, *52:10 = *52:06:02, *52:15 = *52:10, *52:17 = *52:15, *52:17
+---+-----	----+-----	*52:07, *52:10 = *52:07, *52:15
+---+-----	----+-----	*52:10, *52:12 = *52:10, *52:16 = *52:12, *52:15 = *52:15, *52:16
+---+-----	----+-----	*52:10, *52:13 = *52:13, *52:15 = *52:15, *52:19
+---+-----	----+-----	*52:01:01, *52:10 = *52:01:01, *52:15 = *52:10, *52:15 = *52:15, *52:15
+---+-----	----+-----	*52:05, *52:08 = *52:05, *52:18
+---+-----	----+-----	*52:05, *52:06:02 = *52:05, *52:17
+---+-----	----+-----	*52:05, *52:12 = *52:05, *52:16
+---+-----	----+-----	*52:05, *52:13 = *52:05, *52:19
+---+-----	----+-----	*52:01:01, *52:05 = *52:05, *52:05
+---+-----	----+-----	*52:08, *52:20 = *52:18, *52:20
+---+-----	----+-----	*52:06:02, *52:20 = *52:17, *52:20
+---+-----	----+-----	*52:12, *52:20 = *52:16, *52:20
+---+-----	----+-----	*52:13, *52:20 = *52:19, *52:20
+---+-----	----+-----	*52:01:01, *52:20 = *52:20, *52:20
+---+-----	----+-----	*52:08, *52:14 = *52:14, *52:18
+---+-----	----+-----	*52:06:01, *52:12 = *52:06:01, *52:16
+---+-----	----+-----	*52:06:01, *52:13 = *52:06:01, *52:19
+---+-----	----+-----	*52:01:01, *52:06:01 = *52:06:01, *52:14 = *52:06:01, *52:17 = *52:06:02, *52:14 = *52:14, *52:17
+---+-----	----+-----	*52:06:01, *52:06:01 = *52:06:01, *52:06:02
+---+-----	----+-----	*52:12, *52:14 = *52:14, *52:16
+---+-----	----+-----	*52:13, *52:14 = *52:14, *52:19
+---+-----	----+-----	*52:01:01, *52:14 = *52:14, *52:14
+---+-----	----+-----	*52:06:02, *52:08 = *52:08, *52:17 = *52:17, *52:18
+---+-----	----+-----	*52:07, *52:08 = *52:07, *52:18
+---+-----	----+-----	*52:08, *52:12 = *52:08, *52:16 = *52:12, *52:18

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

+--+-----	--+++-++	*52:08, *52:13 = *52:08, *52:19 = *52:13, *52:18 = *52:18, *52:19
+--+-----	--+++-++	*52:01:01, *52:08 = *52:01:01, *52:18 = *52:08, *52:08 = *52:08, *52:18
+--+-----	--+++-++	*52:06:02, *52:07 = *52:07, *52:17
+--+-----	--+++-++	*52:06:02, *52:12 = *52:06:02, *52:16 = *52:12, *52:17 = *52:16, *52:17
+--+-----	--+++-++	*52:06:02, *52:13 = *52:06:02, *52:19 = *52:13, *52:17 = *52:17, *52:19
+--+-----	--+++-++	*52:01:01, *52:06:02 = *52:01:01, *52:17 = *52:06:02, *52:17 = *52:17, *52:17
+--+-----	--+++-++	*52:07, *52:12 = *52:07, *52:16
+--+-----	--+++-++	*52:07, *52:13 = *52:07, *52:19
+--+-----	--+++-++	*52:12, *52:13 = *52:12, *52:19 = *52:13, *52:16 = *52:16, *52:19
+--+-----	--+++-++	*52:01:01, *52:12 = *52:01:01, *52:16 = *52:12, *52:12 = *52:12, *52:16
+--+-----	--+++-++	*52:01:01, *52:13 = *52:01:01, *52:19 = *52:13, *52:13 = *52:13, *52:19
+--+-----	--+++-++	*52:03, *52:03 = *52:03, *52:10 = *52:03, *52:11 = *52:10, *52:11

*52:01:01 = *52:01:01 to 52:01:05

*52:04 = *52:04 and 52:09

SPECIFICITY TABLE

HLA-B*52 SSP subtyping

Specificities and sizes of the PCR products of the 16 primer mixes used for HLA-B*52 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*52 alleles ³	Other amplified HLA Class I alleles ⁴
1⁵	95 bp	800 bp	*52:01:01-52:02, 52:04-52:09, 52:12-52:18, 52:20-52:21	*14:01-14:18, 15:37-15:38:02, 18:15, 18:19, 18:30, 35:21, 35:96, 40:28, 40:51, 49:09, 51:01:01-51:01:17, 51:03-51:04, 51:06-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:22, 51:24:01-51:24:03, 51:26-51:30, 51:32-51:33, 51:35, 51:37-51:39, 51:41N, 51:43, 51:45-51:46, 51:48-51:52, 51:55-51:58, 51:60-51:72, 51:74-51:80, 51:82-51:92, 51:94-51:96, 53:06, 56:05:01-56:06, 56:21, 58:08, 78:01-78:03, 78:05-78:07, C*01:30
2^{5,10}	135 bp, 235 bp	1070 bp	*52:04, 52:09	*08:52, 15:87, 53:05, 53:16
3^{5,7}	95 bp	1070 bp	*52:01:01-52:01:05, 52:03-52:15, 52:17, 52:19-52:21	*15:202, 18:12, 35:10, 35:13, 35:16, 35:28, 35:69, 35:80, 37:01:01-37:01:05, 37:01:07-37:05, 37:07, 37:09-37:23, 44:83, 49:03, 53:17, 78:05-78:06
4	140 bp	1070 bp	*52:02	*15:13, 15:16-15:17:02, 15:24, 15:67, 15:87, 15:95, 15:157, 15:162, 15:168, 15:177, 15:196, 57:01:01-57:11, 57:13-57:15, 57:17-57:32
5¹¹	145 bp, 190 bp	1070 bp	*52:03, 52:11, 52:21	*07:02:11, 07:05:03, 15:01:02, 15:09, 27:04:03, 35:01:10, 35:04:02, 40:01:06, 40:26, 40:95, 44:62, 51:02:01-51:02:03, 51:05, 51:23, 51:34, 51:36, 51:40, 51:54, 51:59, 51:61, 51:93, 55:01:04, 78:04
6^{5,12}	135 bp, 180 bp	1070 bp	*52:03, 52:10, 52:15	*35:01:10, 35:04:02, 40:01:06, 44:62 ^w , 51:05 ^w , 51:09:01-51:09:02, 51:19, 51:23 ^w , 51:31, 51:40, 51:54 ^w , 51:73, 51:93, 78:04
7	225 bp	800 bp	*52:05	

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

8	145 bp	1070 bp	*52:20	*18:09, 37:10, 44:83, 51:54, 51:78, 53:09, 53:11-53:13
9⁵	100 bp	800 bp	*52:06:01, 52:14	*15:137, 35:01:08, 35:01:15, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 40:86, 45:02, 50:09, 51:13:01-51:13:02, 51:92, 55:13, 56:22, 59:03, 73:01-73:02
10^{5,13}	95 bp, 245 bp	1070 bp	*52:08, 52:18	*07:78, 07:84, 13:02:01-13:02:09, 13:08Q-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 39:50, 40:06:01:01-40:06:03, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 45:10, 49:07, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 55:09, 55:22, 55:24, 73:01-73:02
11^{5,8,14}	85 bp, 225 bp	1070 bp	*52:06:01-52:06:02, 52:17	*07:38, 08:02-08:03, 08:52, 27:23, 37:21, 38:06-38:07, 40:13, 44:06, 51:01:01-51:01:16, 51:02:01-51:06, 51:08-51:21, 51:23-51:24:03, 51:26-51:46, 51:48-51:96, 53:01:01-53:08:02, 53:10-53:16, 53:18-53:23, 59:01-59:05
12⁵	85 bp	1070 bp	*52:01:01-52:05, 52:07-52:17, 52:19-52:21	*13:01:01-13:04, 13:06, 13:08Q, 13:10-13:18, 13:20-13:23, 13:25-13:35, 13:37-13:38, 15:24, 15:36, 15:43, 15:87, 15:157, 27:29, 37:01:01-37:04:02, 37:06-37:07, 37:09-37:10, 37:12-37:20, 37:22-37:23, 38:03, 40:19, 40:47, 40:96, 40:109-40:110, 40:117, 44:02:01:01-44:05:02, 44:07-44:08, 44:10-44:11, 44:14-44:45, 44:47-44:66, 44:68, 44:70-44:74, 44:76-44:89, 44:91-44:96, 44:98-44:110, 47:01:01:01-47:01:01:02, 47:03-47:07, 48:18, 49:01:01-49:10, 53:17
13⁶	165 bp	800 bp	*52:01:01-52:06:02, 52:08-52:21	*15:20, 35:01:01:01-35:30, 35:32-35:42:02, 35:44-35:56, 35:58-35:59, 35:61-35:72, 35:74-35:78, 35:80-35:86, 35:88-35:145N, 48:02:01-48:02:02, 51:01:01-51:24:03, 51:26-51:41N, 51:43-51:46, 51:48-51:96, 53:01:01-53:23, 56:05:01-56:05:02, 56:21, 58:01:01-58:02,

				58:04-58:10N, 58:12-58:19, 58:21-58:30, 78:01-78:07, 81:03, 83:01 [?]
14^{6,8}	165 bp	1070 bp	*52:07	*07:02:01-07:57, 07:59-07:115, 08:01:01-08:05, 08:07-08:62, 13:01:01-13:04, 13:06-13:23, 13:25-13:39, 14:01-14:18, 15:01:01:01-15:01:04, 15:01:06-15:19, 15:21, 15:23-15:40, 15:42-15:58, 15:60-15:99, 15:101, 15:103-15:129, 15:131-15:202, 18:01:01-18:15, 18:17N-18:50, 27:01-27:21, 27:23-27:69, 35:31, 35:35, 35:43:01-35:43:02, 35:46, 35:57, 35:60, 35:79, 35:87, 35:96, 35:98, 37:01:01-37:23, 38:01:01-38:23, 39:01:01:01-39:01:01:02L, 39:01:03-39:20, 39:22-39:45, 39:47-39:60, 40:01:01-40:16, 40:18-40:40, 40:42-40:147, 41:01-41:12, 42:01:01-42:02, 42:04-42:14, 44:02:01:01-44:65, 44:67-44:110, 45:01-45:12, 46:01:01-46:24, 47:01:01:01-47:07, 48:01:01-48:01:03, 48:02:02-48:23, 49:01:01-49:10, 50:01:01-50:02, 50:04-50:09, 51:42, 54:01-54:23, 55:01:01-55:05, 55:07-55:43, 56:01:01-56:04, 56:06-56:20, 56:22-56:29, 57:01:01-57:32, 58:01:03, 58:11, 58:20, 59:01-59:05, 67:01:01-67:02, 81:01-81:02, 81:04N-81:05, 82:01-82:03, 83:01 [?]
15^{5,7,9,15}	95 bp, 170 bp	800 bp	*52:12, 52:16	*07:27, 07:50, 07:84, 08:04, 08:17, 08:54, 13:04, 13:35, 15:03:01-15:04, 15:16, 15:47, 15:54, 15:61-15:62, 15:64, 15:67-15:69, 15:91, 15:95, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:155-15:156, 15:158, 15:173, 18:01:01-18:03, 18:05-18:06, 18:08-18:15, 18:17N-18:28, 18:30-18:50, 35:37, 37:01:01-37:20, 37:23, 38:03, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:29, 39:39, 39:49, 40:12, 40:44, 42:11, 44:20, 44:47, 44:100, 45:09, 48:01:01-48:02:01, 48:03:01-48:05, 48:07-48:23, 49:04-49:05, 51:37, 51:90, 51:92, 54:14-54:15, 55:23, 55:27

16¹⁶	160 bp, 215 bp	1070 bp	*52:13, 52:19	*08:09, 15:83, 42:04, 44:20, 51:08, 51:20, 51:36, 51:44N, 55:20, 56:13
------------------------	-------------------	---------	---------------	---

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*52 SSP typings.

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

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

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

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

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

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

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*52 SSP subtyping.

In addition, wells number 7, 9, 13 and 15 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

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

³The B*52:04 and B*52:09 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 2.

⁴Due to the sharing of sequence motifs between HLA-B alleles many non-HLA-B*52 alleles will be amplified by primer mixes 1 to 6 and 8 to 16. In addition, the C*01:30 allele will be amplified by primer mix 1.

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

⁶Primer mixes 13 and 14: For many HLA-B alleles fourth exon nucleotide sequences are not available. We assume that unknown sequences in the fourth exon are conserved within allelic groups.

⁷Primer mixes 3 and 15 may give a lower yield of specific PCR product than the other HLA-B*52 primer mixes.

⁸Primer mixes 11 and 14 may give rise to nonspecific amplifications.

⁹Primer mix 15 may give rise to a weak band of about 550 bp. This band should be disregarded when interpreting HLA-B*52 SSP subtypings.

¹⁰Primer mix 2: Specific PCR fragment of 135 bp in the B*52:04 allele. Specific PCR fragment of 235 bp in the B*52:09 and in the B*08:52, 15:87, 53:05 and 53:16 alleles.

¹¹Primer mix 5: Specific PCR fragment of 145 bp in the B*52:21 and in the B*15:01:02 and 51:61 alleles. Specific PCR fragment of 190 bp in the B*52:03 and 52:11 and in the B*07:02:11, 07:05:03, 15:01:02, 15:09, 27:04:03, 35:01:10, 35:04:02, 40:01:06, 40:26, 40:95, 44:62, 51:02:01-51:02:03, 51:05, 51:23, 51:34, 51:36, 51:40, 51:54, 51:59, 51:93, 55:01:04 and 78:04 alleles.

¹²Primer mix 6: Specific PCR fragment of 135 bp in the 52:03 and 52:10 and in the B*35:01:10, 35:04:02, 40:01:06, 51:05^w, 51:09:01-51:09:02, 51:19, 51:31, 51:40, 51:54^w, 51:73, 51:93 and 78:04 alleles. Specific PCR fragment of 180 bp in the B*52:15 and in the B*44:62^w and 51:23^w alleles.

¹³Primer mix 10: Specific PCR fragment of 95 bp in the B*52:18 allele. Specific PCR fragment of 245 bp in the B*52:08 and in the B*07:78, 07:84, 13:02:01-13:02:09, 13:08Q-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 39:50, 40:06:01-40:06:03, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 45:10, 49:07, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 55:09, 55:22, 55:24 and 73:01-73:02 alleles.

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

¹⁴Primer mix 11: Specific PCR fragment of 85 bp in the B*52:06:01-52:06:02 and in the B*07:38, 08:02-08:03, 08:52, 27:23, 37:21, 38:06-38:07, 40:13, 44:06, 51:01:01-51:01:16, 51:02:01-51:06, 51:08-51:21, 51:23-51:24:03, 51:26-51:46, 51:48-51:96, 53:01:01-53:08:02, 53:10-53:16, 53:18-53:23 and 59:01-59:05 alleles. Specific PCR fragment of 225 bp in the B*52:17 allele.

¹⁵Primer mix 15: Specific PCR fragment of 95 bp in the B*52:12 and in the B*07:84, 13:04, 13:35, 15:04, 15:16, 15:67, 15:95, 15:155, 35:37, 40:44, 44:20, 44:47, 44:100, 45:09, 49:04-49:05, 51:37, 51:90, 51:92, 54:14-54:15, 55:23 and 55:27 alleles. Specific PCR fragment of 170 bp in the B*52:16, 07:27, 07:50, 08:04, 08:17, 08:54, 15:03:01-15:03:03, 15:47, 15:54, 15:61-15:62, 15:64, 15:68-15:69, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:156, 15:158, 15:173, 18:01:01-18:03, 18:05-18:06, 18:08-18:15, 18:17N-18:28, 18:30-18:32, 18:34-18:50, 37:01:01-37:20, 37:23, 38:03, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:39, 39:49, 40:12, 42:11, 48:01:01-48:02:01, 48:03:01-48:05, 48:07-48:23 alleles.

¹⁶Primer mix 16: Specific PCR fragment of 160 bp in the B*52:13 allele. Specific PCR fragment of 215 bp in the B*52:19 and in the B*08:09, 15:83, 42:04, 44:20, 51:08, 51:20, 51:36, 51:44N, 55:20 and 56:13 alleles.

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

‘w’ , might be weakly amplified.

INTERPRETATION TABLE

HLA-B*52 SSP subtyping

Amplification patterns of the B*52:01 to B*52:21 alleles

	Well ⁵							
	1	2	3	4	5	6	7	8
Length of spec.	95	135	95	140	145	135	225	145
PCR product(s)		235			190	180		
Length of int.	800	1070	1070	1070	1070	1070	800	1070
pos. control ¹								
5'-primer ²	527	106	206	209	435	435	134	206
	5' -TgA ^{3'}	5' -CCA ^{3'}	5' -gAC ^{3'}	5' -ggC ^{3'}	5' -AAA ^{3'}	5' -AAA ^{3'}	5' -CCC ^{3'}	5' -gAC ^{3'}
3'-primer ³	583	200	259	309	538	527	317	309
	5' -gTg ^{3'}	5' -TCT ^{3'}	5' -CTC ^{3'}	5' -ATC ^{3'}	5' -CCA ^{3'}	5' -CCA ^{3'}	5' -ggA ^{3'}	5' -gTg ^{3'}
		302			583	527		
		5' -ggC ^{3'}			5' -gTA ^{3'}	5' -CCA ^{3'}		
						572		
						5' -gCg ^{3'}		
Well No.	1	2	3	4	5	6	7	8
HLA-B allele								
*52:01:01-52:01:05	1		3					
*52:02	1			4				
*52:03			3		5	6		
*52:04, 52:09 ⁴	1	2	3					
*52:05	1		3				7	
*52:06:01	1		3					
*52:06:02	1		3					
*52:07	1		3					
*52:08	1		3					
*52:10			3			6		
*52:11			3		5			
*52:12	1		3					
Well No.	1	2	3	4	5	6	7	8

INTERPRETATION TABLE

HLA-B*52 SSP subtyping

Amplification patterns of the B*52:01 to B*52:21 alleles

Well ⁵								
9	10	11	12	13	14	15	16	
100	95	85	85	165	165	95	160	Length of spec.
	245	225				170	215	PCR product(s)
800	1070	1070	1070	800	1070	800	1070	Length of int.
								pos. control ¹
213	206	133	272	652	652	142	86	5'-primer ²
5'-CCg ³	5'-gAC ³	5'-CCA ³	5'-CTC ³	5'-CCg ³	5'-CCA ³	5'-TCT ³	5'-CAA ³	
357	357	272				357	362	
5'-Tgg ³	5'-Tgg ³	5'-CTT ³				5'-Tgg ³	5'-gAC ³	
272	262	317	317	774	774	272	206	3'-primer ³
5'-TgA ³	5'-TgC ³	5'-ggA ³	5'-ggA ³	5'-ggT ³	5'-ggT ³	5'-Tgg ³	5'-CCg ³	
419	559					412	538	
5'-CgA ³	5'-CTC ³					5'-gTC ³	5'-gTC ³	
9	10	11	12	13	14	15	16	Well No.
								HLA-B allele
			12	13				*52:01:01-52:01:05
			12	13				*52:02
			12	13				*52:03
			12	13				*52:04, 52:09 ⁴
			12	13				*52:05
9		11		13				*52:06:01
		11		13				*52:06:02
			12		14			*52:07
	10		12	13				*52:08
			12	13				*52:10
			12	13				*52:11
			12	13		15		*52:12
9	10	11	12	13	14	15	16	Well No.

Length of spec.	95	135	95	140	145	135	225	145
PCR product(s)		235			190	180		
Well No.	1	2	3	4	5	6	7	8
*52:13	1		3					
*52:14	1		3					
*52:15	1		3			6		
*52:16	1							
*52:17	1		3					
*52:18	1							
*52:19			3					
*52:20	1		3					8
*52:21	1		3		5			
*07:02:01-07:02:10, 07:02:12-07:05:02, 07:05:04-07:26, 07:28-07:37, 07:39-07:49N, 07:51-07:57, 07:59-07:77, 07:79-07:83, 07:85-07:115, 08:01:01-08:01:12, 08:05, 08:07-08:08N, 08:10-08:16, 08:18-08:51, 08:53, 08:55-08:62, 13:07N, 13:36, 13:39, 15:01:01:01-15:01:01:02N, 15:01:03-15:01:04, 15:01:06-15:02:04, 15:05:01-15:08, 15:10:01-15:12, 15:14-15:15, 15:18:01-15:19, 15:21, 15:23, 15:25:01-15:35, 15:39-15:40, 15:42, 15:44-15:46, 15:48-15:53, 15:55-15:58, 15:60, 15:63, 15:65-15:66, 15:70-15:82, 15:84-15:86, 15:88-15:90, 15:92-15:94N, 15:96-15:97, 15:99, 15:101, 15:104-15:122, 15:124-15:126, 15:128-15:129, 15:133-15:136, 15:138-15:150, 15:152-15:154, 15:159-15:161, 15:163-15:167, 15:169-15:172, 15:174-15:176, 15:178-15:195, 15:197-15:201, 18:04, 18:07:01-18:07:02, 18:29, 27:01-27:04:02, 27:05:02-27:21, 27:24-27:28, 27:30-27:69, 35:31, 35:43:01-35:43:02, 35:57, 35:60, 35:79, 35:87, 38:01:01-38:02:02, 38:04-38:05, 38:08-38:23, 39:01:01:01-39:01:01:02L, 39:01:03-39:01:11, 39:03-39:05:02, 39:07, 39:09-39:12, 39:14-39:20, 39:22, 39:24-39:28, 39:30-39:32, 39:35-39:38Q, 39:40N-39:45, 39:47-39:48, 39:51-39:56, 39:58-39:60, 40:01:01-40:01:05, 40:01:07-40:05, 40:07-40:11:02, 40:14:01-40:16, 40:18, 40:20-40:25, 40:27, 40:29-40:40, 40:42-40:43, 40:45-40:46, 40:48-40:50, 40:52, 40:54-40:69, 40:71-40:74, 40:76-40:82, 40:84-40:85, 40:87-40:92, 40:94, 40:97-40:102, 40:104-40:108, 40:111-40:116, 40:118N-40:126, 40:128-40:130, 40:132-40:147, 41:01-41:12, 42:01:01-42:02, 42:05:01-42:10, 42:12-42:14, 44:09, 44:12-44:13, 44:46, 44:67, 44:69, 44:75, 44:90, 44:97, 45:01, 45:03-45:08, 45:11-45:12, 46:01:01-46:24, 47:02, 48:06, 50:01:01-50:02, 50:04-50:08, 54:01-54:13, 54:16-54:23, 55:01:01-55:01:03, 55:01:05-55:05, 55:07-55:08, 55:10-55:12, 55:14-55:19, 55:21, 55:25-55:26, 55:28-55:43, 56:01:01-56:04, 56:07-56:12, 56:14-56:20, 56:23-56:29, 57:12, 57:16, 58:11, 58:20, 67:01:01-67:02, 81:01-81:02, 81:04N-81:05, 82:01-82:03								
*07:02:11, 07:05:03, 15:01:02, 15:09, 27:04:03, 40:26, 55:01:04					5			
Well No.	1	2	3	4	5	6	7	8

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

100	95	85	85	165	165	95	160	Length of spec.
	245	225				170	215	PCR product(s)
9	10	11	12	13	14	15	16	Well No.
			12	13			16	*52:13
9			12	13				*52:14
			12	13				*52:15
			12	13		15		*52:16
		11	12	13				*52:17
	10			13				*52:18
			12	13			16	*52:19
			12	13				*52:20
			12	13				*52:21
					14			*07:02:01-07:02:10, 07:02:12-07:05:02, 07:05:04-07:26, 07:28-07:37, 07:39-07:49N, 07:51-07:57, 07:59-07:77, 07:79-07:83, 07:85-07:115, 08:01:01-08:01:12, 08:05, 08:07-08:08N, 08:10-08:16, 08:18-08:51, 08:53, 08:55-08:62, 13:07N, 13:36, 13:39, 15:01:01:01-15:01:01:02N, 15:01:03-15:01:04, 15:01:06-15:02:04, 15:05:01-15:08, 15:10:01- 15:12, 15:14-15:15, 15:18:01-15:19, 15:21, 15:23, 15:25:01-15:35, 15:39-15:40, 15:42, 15:44-15:46, 15:48-15:53, 15:55-15:58, 15:60, 15:63, 15:65-15:66, 15:70-15:82, 15:84-15:86, 15:88-15:90, 15:92- 15:94N, 15:96-15:97, 15:99, 15:101, 15:104-15:122, 15:124-15:126, 15:128-15:129, 15:133-15:136, 15:138-15:150, 15:152-15:154, 15:159- 15:161, 15:163-15:167, 15:169-15:172, 15:174-15:176, 15:178-15:195, 15:197-15:201, 18:04, 18:07:01-18:07:02, 18:29, 27:01-27:04:02, 27:05:02-27:21, 27:24-27:28, 27:30-27:69, 35:31, 35:43:01-35:43:02, 35:57, 35:60, 35:79, 35:87, 38:01:01-38:02:02, 38:04-38:05, 38:08- 38:23, 39:01:01:01-39:01:01:02L, 39:01:03-39:01:11, 39:03-39:05:02, 39:07, 39:09-39:12, 39:14-39:20, 39:22, 39:24-39:28, 39:30-39:32, 39:35-39:38Q, 39:40N-39:45, 39:47-39:48, 39:51-39:56, 39:58-39:60, 40:01:01-40:01:05, 40:01:07-40:05, 40:07-40:11:02, 40:14:01-40:16, 40:18, 40:20-40:25, 40:27, 40:29-40:40, 40:42-40:43, 40:45-40:46, 40:48-40:50, 40:52, 40:54-40:69, 40:71-40:74, 40:76-40:82, 40:84- 40:85, 40:87-40:92, 40:94, 40:97-40:102, 40:104-40:108, 40:111- 40:116, 40:118N-40:126, 40:128-40:130, 40:132-40:147, 41:01-41:12, 42:01:01-42:02, 42:05:01-42:10, 42:12-42:14, 44:09, 44:12-44:13, 44:46, 44:67, 44:69, 44:75, 44:90, 44:97, 45:01, 45:03-45:08, 45:11- 45:12, 46:01:01-46:24, 47:02, 48:06, 50:01:01-50:02, 50:04-50:08, 54:01-54:13, 54:16-54:23, 55:01:01-55:01:03, 55:01:05-55:05, 55:07- 55:08, 55:10-55:12, 55:14-55:19, 55:21, 55:25-55:26, 55:28-55:43, 56:01:01-56:04, 56:07-56:12, 56:14-56:20, 56:23-56:29, 57:12, 57:16, 58:11, 58:20, 67:01:01-67:02, 81:01-81:02, 81:04N-81:05, 82:01-82:03
					14			*07:02:11, 07:05:03, 15:01:02, 15:09, 27:04:03, 40:26, 55:01:04
9	10	11	12	13	14	15	16	Well No.

Length of spec.	95	135	95	140	145	135	225	145
PCR product(s)		235			190	180		
Well No.	1	2	3	4	5	6	7	8
*07:27, 07:50, 08:04, 08:17, 08:54, 15:03:01-15:04, 15:47, 15:54, 15:61-15:62, 15:64, 15:68-15:69, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:155-15:156, 15:158, 15:173, 18:01:01-18:03, 18:05-18:06, 18:08, 18:10-18:11, 18:13-18:14, 18:17N-18:18, 18:20-18:28, 18:31-18:50, 37:08, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:29, 39:39, 39:49, 40:12, 42:11, 45:09, 48:01:01-48:01:03, 48:03:01-48:05, 48:07-48:17, 48:19-48:23, 54:14-54:15, 55:23, 55:27								
*07:38, 08:02-08:03, 27:23, 38:06-38:07, 40:13, 44:06, 51:42, 59:01-59:02, 59:04-59:05								
*07:78, 13:09, 13:19, 40:06:01:01-40:06:03, 40:53, 40:70, 40:75, 40:83, 40:93, 40:103, 40:127, 40:131, 45:10, 55:09, 55:22, 55:24								
*07:84, 40:44								
*08:09, 15:83, 42:04, 55:20, 56:13								
*08:52		2						
*13:01:01-13:01:05, 13:03, 13:06, 13:10-13:13, 13:17, 13:20-13:23, 13:25-13:26, 13:28-13:29, 15:36, 15:43, 27:29, 40:19, 40:47, 40:117, 44:02:01:01-44:05:02, 44:07-44:08, 44:10-44:11, 44:14-44:19N, 44:21-44:45, 44:48-44:61N, 44:63-44:65, 44:68, 44:70-44:74, 44:76-44:82, 44:84-44:89, 44:91-44:96, 44:98-44:99, 44:101-44:110, 47:01:01:01-47:01:01:02, 47:03-47:07, 49:01:01-49:02, 49:06, 49:08, 49:10								
*13:02:01-13:02:09, 13:08Q, 13:14-13:16, 13:18, 13:27, 13:30-13:34, 13:37-13:38, 40:96, 40:109-40:110, 49:07								
*13:04, 37:01:06, 37:06, 38:03, 44:47, 44:100, 48:18, 49:04-49:05								
*13:35								
*14:01-14:18, 15:37-15:38:02, 40:28, 40:51, 56:06	1							
*15:13, 15:17:01:01-15:17:02, 15:162, 15:168, 15:177, 15:196, 57:01:01-57:11, 57:13-57:15, 57:17-57:32				4				
*15:16, 15:67, 15:95				4				
Well No.	1	2	3	4	5	6	7	8

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

100	95	85	85	165	165	95	160	Length of spec.
	245	225				170	215	PCR product(s)
9	10	11	12	13	14	15	16	Well No.
					14	15		*07:27, 07:50, 08:04, 08:17, 08:54, 15:03:01-15:04, 15:47, 15:54, 15:61-15:62, 15:64, 15:68-15:69, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:155-15:156, 15:158, 15:173, 18:01:01-18:03, 18:05-18:06, 18:08, 18:10-18:11, 18:13-18:14, 18:17N-18:18, 18:20-18:28, 18:31-18:50, 37:08, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:29, 39:39, 39:49, 40:12, 42:11, 45:09, 48:01:01-48:01:03, 48:03:01-48:05, 48:07-48:17, 48:19-48:23, 54:14-54:15, 55:23, 55:27
		11			14			*07:38, 08:02-08:03, 27:23, 38:06-38:07, 40:13, 44:06, 51:42, 59:01-59:02, 59:04-59:05
	10				14			*07:78, 13:09, 13:19, 40:06:01:01-40:06:03, 40:53, 40:70, 40:75, 40:83, 40:93, 40:103, 40:127, 40:131, 45:10, 55:09, 55:22, 55:24
	10				14	15		*07:84, 40:44
					14		16	*08:09, 15:83, 42:04, 55:20, 56:13
		11			14			*08:52
			12		14			*13:01:01-13:01:05, 13:03, 13:06, 13:10-13:13, 13:17, 13:20-13:23, 13:25-13:26, 13:28-13:29, 15:36, 15:43, 27:29, 40:19, 40:47, 40:117, 44:02:01:01-44:05:02, 44:07-44:08, 44:10-44:11, 44:14-44:19N, 44:21-44:45, 44:48-44:61N, 44:63-44:65, 44:68, 44:70-44:74, 44:76-44:82, 44:84-44:89, 44:91-44:96, 44:98-44:99, 44:101-44:110, 47:01:01:01-47:01:01:02, 47:03-47:07, 49:01:01-49:02, 49:06, 49:08, 49:10
	10		12		14			*13:02:01-13:02:09, 13:08Q, 13:14-13:16, 13:18, 13:27, 13:30-13:34, 13:37-13:38, 40:96, 40:109-40:110, 49:07
			12		14	15		*13:04, 37:01:06, 37:06, 38:03, 44:47, 44:100, 48:18, 49:04-49:05
	10		12		14	15		*13:35
					14			*14:01-14:18, 15:37-15:38:02, 40:28, 40:51, 56:06
					14			*15:13, 15:17:01:01-15:17:02, 15:162, 15:168, 15:177, 15:196, 57:01:01-57:11, 57:13-57:15, 57:17-57:32
					14	15		*15:16, 15:67, 15:95
9	10	11	12	13	14	15	16	Well No.

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

Length of spec.	95	135	95	140	145	135	225	145
PCR product(s)		235			190	180		
Well No.	1	2	3	4	5	6	7	8
*15:20, 35:01:01:01-35:01:07, 35:01:09, 35:01:11-35:01:14, 35:01:16-35:04:01, 35:04:03-35:09:02, 35:11:01-35:12:02, 35:14:01-35:15, 35:17-35:20:02, 35:22-35:27, 35:29-35:30, 35:32-35:34, 35:36, 35:38-35:42:02, 35:44-35:45, 35:47-35:56, 35:58-35:59, 35:61-35:68:02, 35:70-35:72, 35:74-35:78, 35:81-35:86, 35:88-35:95, 35:97, 35:99-35:145N, 58:01:01-58:01:02, 58:01:04-58:02, 58:04-58:07, 58:09-58:10N, 58:12-58:19, 58:21-58:30, 81:03								
*15:24, 15:157				4				
*15:87		2		4				
*15:137, 39:06:01-39:06:02, 39:33-39:34, 39:57, 45:02, 50:09, 55:13, 56:22								
*15:202			3					
*18:09								8
*18:12, 37:05, 37:11			3					
*18:15, 18:19, 18:30	1							
*35:01:08, 35:01:15								
*35:01:10, 35:04:02, 78:04					5	6		
*35:10, 35:13, 35:16, 35:28, 35:69, 35:80			3					
*35:21, 51:01:17, 51:07:01-51:07:02, 51:22, 56:05:01-56:05:02, 56:21, 58:08, 78:01-78:03, 78:07	1							
*35:35, 35:46, 35:98, 48:02:02, 58:01:03								
*35:37, 48:02:01								
*35:96	1							
*37:01:01-37:01:05, 37:01:07-37:04:02, 37:07, 37:09, 37:12-37:20, 37:23			3					
*37:10			3					8
*37:21			3					
*37:22, 49:03			3					
*39:50, 40:86								
*40:01:06					5	6		
*40:95					5			
*44:20								
*44:62					5	w		
*44:66								
*44:83			3					8
*49:09	1							
*51:01:01-51:01:16, 51:03-51:04, 51:06, 51:11N-51:12, 51:14, 51:17-51:18, 51:21, 51:24:01-51:24:03, 51:26-51:30, 51:32-51:33, 51:35, 51:38-51:39, 51:41N, 51:43, 51:45-51:46, 51:48-51:52, 51:55-51:58, 51:60, 51:62-51:72, 51:74-51:77, 51:79-51:80, 51:83-51:89, 51:91, 51:94-51:96, 53:06	1							
Well No.	1	2	3	4	5	6	7	8

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

100	95	85	85	165	165	95	160	Length of spec.
	245	225				170	215	PCR product(s)
9	10	11	12	13	14	15	16	Well No.
				13				*15:20, 35:01:01:01-35:01:07, 35:01:09, 35:01:11-35:01:14, 35:01:16-35:04:01, 35:04:03-35:09:02, 35:11:01-35:12:02, 35:14:01-35:15, 35:17-35:20:02, 35:22-35:27, 35:29-35:30, 35:32-35:34, 35:36, 35:38-35:42:02, 35:44-35:45, 35:47-35:56, 35:58-35:59, 35:61-35:68:02, 35:70-35:72, 35:74-35:78, 35:81-35:86, 35:88-35:95, 35:97, 35:99-35:145N, 58:01:01-58:01:02, 58:01:04-58:02, 58:04-58:07, 58:09-58:10N, 58:12-58:19, 58:21-58:30, 81:03
			12		14			*15:24, 15:157
			12		14			*15:87
9					14			*15:137, 39:06:01-39:06:02, 39:33-39:34, 39:57, 45:02, 50:09, 55:13, 56:22
					14			*15:202
					14	15		*18:09
					14	15		*18:12, 37:05, 37:11
					14	15		*18:15, 18:19, 18:30
9				13				*35:01:08, 35:01:15
				13				*35:01:10, 35:04:02, 78:04
				13				*35:10, 35:13, 35:16, 35:28, 35:69, 35:80
				13				*35:21, 51:01:17, 51:07:01-51:07:02, 51:22, 56:05:01-56:05:02, 56:21, 58:08, 78:01-78:03, 78:07
				13	14			*35:35, 35:46, 35:98, 48:02:02, 58:01:03
				13		15		*35:37, 48:02:01
				13	14			*35:96
			12		14	15		*37:01:01-37:01:05, 37:01:07-37:04:02, 37:07, 37:09, 37:12-37:20, 37:23
			12		14	15		*37:10
		11			14			*37:21
			12		14			*37:22, 49:03
9	10				14			*39:50, 40:86
					14			*40:01:06
	10				14			*40:95
			12		14	15	16	*44:20
			12		14			*44:62
			12					*44:66
			12		14			*44:83
			12		14			*49:09
		11		13				*51:01:01-51:01:16, 51:03-51:04, 51:06, 51:11N-51:12, 51:14, 51:17-51:18, 51:21, 51:24:01-51:24:03, 51:26-51:30, 51:32-51:33, 51:35, 51:38-51:39, 51:41N, 51:43, 51:45-51:46, 51:48-51:52, 51:55-51:58, 51:60, 51:62-51:72, 51:74-51:77, 51:79-51:80, 51:83-51:89, 51:91, 51:94-51:96, 53:06
9	10	11	12	13	14	15	16	Well No.

Length of spec.	95	135	95	140	145	135	225	145
PCR product(s)		235			190	180		
Well No.	1	2	3	4	5	6	7	8
*51:02:01-51:02:03, 51:59					5			
*51:02:04, 51:15, 51:53, 51:81, 53:01:01-53:04, 53:07-53:08:02, 53:10, 53:14-53:15, 53:18-53:23								
*51:05, 51:23					5	w		
*51:08, 51:20, 51:44N								
*51:09:01-51:09:02, 51:19, 51:73						6		
*51:10								
*51:13:01-51:13:02	1							
*51:16, 51:82	1							
*51:31						6		
*51:34					5			
*51:36					5			
*51:37, 51:90	1							
*51:40					5	6		
*51:54					5	w		8
*51:61	1				5			
*51:78	1							8
*51:92	1							
*51:93					5	6		
*53:05, 53:16		2						
*53:09								8
*53:11-53:13								8
*53:17			3					
*59:03								
*73:01-73:02								
*78:05-78:06	1		3					
*83:01								
C*01:30	1							
HLA-B allele								
Well No.	1	2	3	4	5	6	7	8

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*52 SSP subtyping.

In addition, wells number 7, 9, 13 and 15 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, 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 4th 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.: **59K**

Lot-specific information

www.olerup-ssp.com

100	95	85	85	165	165	95	160	Length of spec.
	245	225				170	215	PCR product(s)
9	10	11	12	13	14	15	16	Well No.
		11		13				*51:02:01-51:02:03, 51:59
		11		13				*51:02:04, 51:15, 51:53, 51:81, 53:01:01-53:04, 53:07-53:08:02, 53:10, 53:14-53:15, 53:18-53:23
		11		13				*51:05, 51:23
		11		13			16	*51:08, 51:20, 51:44N
		11		13				*51:09:01-51:09:02, 51:19, 51:73
	10	11		13				*51:10
9		11		13				*51:13:01-51:13:02
	10	11		13				*51:16, 51:82
	10	11		13				*51:31
	10	11		13				*51:34
		11		13			16	*51:36
		11		13		15		*51:37, 51:90
		11		13				*51:40
		11		13				*51:54
		11		13				*51:61
		11		13				*51:78
9		11		13		15		*51:92
	10	11		13				*51:93
		11		13				*53:05, 53:16
				13				*53:09
		11		13				*53:11-53:13
			12	13				*53:17
9		11			14			*59:03
9	10							*73:01-73:02
				13				*78:05-78:06
				?	?			*83:01
								C*01:30
								HLA-B allele
9	10	11	12	13	14	15	16	Well No.

⁴The B*52:04 and B*52:09 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 2.

⁵Primer mix 2: Specific PCR fragment of 135 bp in the B*52:04 allele. Specific PCR fragment of 235 bp in the B*52:09 and in the B*08:52, 15:87, 53:05 and 53:16 alleles.

Primer mix 5: Specific PCR fragment of 145 bp in the B*52:21 and in the B*15:01:02 and 51:61 alleles. Specific PCR fragment of 190 bp in the B*52:03 and 52:11 and in the B*07:02:11, 07:05:03, 15:01:02, 15:09, 27:04:03, 35:01:10, 35:04:02, 40:01:06, 40:26, 40:95, 44:62, 51:02:01-51:02:03, 51:05, 51:23, 51:34, 51:36, 51:40, 51:54, 51:59, 51:93, 55:01:04 and 78:04 alleles.

Primer mix 6: Specific PCR fragment of 135 bp in the 52:03 and 52:10 and in the B*35:01:10, 35:04:02, 40:01:06, 51:05^w, 51:09:01-51:09:02, 51:19, 51:31, 51:40, 51:54^w, 51:73, 51:93 and 78:04 alleles. Specific PCR fragment of 180 bp in the B*52:15 and in the B*44:62^w and 51:23^w alleles.

Primer mix 10: Specific PCR fragment of 95 bp in the B*52:18 allele. Specific PCR fragment of 245 bp in the B*52:08 and in the B*07:78, 07:84, 13:02:01-13:02:09, 13:08Q-13:09, 13:14-13:16, 13:18-13:19, 13:27,

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

13:30-13:35, 13:37-13:38, 39:50, 40:06:01:01-40:06:03, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 45:10, 49:07, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 55:09, 55:22, 55:24 and 73:01-73:02 alleles.

Primer mix 11: Specific PCR fragment of 85 bp in the B*52:06:01-52:06:02 and in the B*07:38, 08:02-08:03, 08:52, 27:23, 37:21, 38:06-38:07, 40:13, 44:06, 51:01:01-51:01:16, 51:02:01-51:06, 51:08-51:21, 51:23-51:24:03, 51:26-51:46, 51:48-51:96, 53:01:01-53:08:02, 53:10-53:16, 53:18-53:23 and 59:01-59:05 alleles. Specific PCR fragment of 225 bp in the B*52:17 allele.

Primer mix 15: Specific PCR fragment of 95 bp in the B*52:12 and in the B*07:84, 13:04, 13:35, 15:04, 15:16, 15:67, 15:95, 15:155, 35:37, 40:44, 44:20, 44:47, 44:100, 45:09, 49:04-49:05, 51:37, 51:90, 51:92, 54:14-54:15, 55:23 and 55:27 alleles. Specific PCR fragment of 170 bp in the B*52:16, 07:27, 07:50, 08:04, 08:17, 08:54, 15:03:01-15:03:03, 15:47, 15:54, 15:61-15:62, 15:64, 15:68-15:69, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:156, 15:158, 15:173, 18:01:01-18:03, 18:05-18:06, 18:08-18:15, 18:17N-18:28, 18:30-18:32, 18:34-18:50, 37:01:01-37:20, 37:23, 38:03, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:39, 39:49, 40:12, 42:11, 48:01:01-48:02:01, 48:03:01-48:05, 48:07-48:23 alleles.

Primer mix 16: Specific PCR fragment of 160 bp in the B*52:13 allele. Specific PCR fragment of 215 bp in the B*52:19 and in the B*08:09, 15:83, 42:04, 44:20, 51:08, 51:20, 51:36, 51:44N, 55:20 and 56:13 alleles.

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

‘w’, might be weakly amplified.

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-B*52 SSP

Product number: 101.562-06u – without *Taq* polymerase
Lot number: 59K
Expiry date: 2013-April-01
Number of tests: 6
Number of wells per test: 16

Well specifications:

Well No.	Production No.	Well No.	Production No.
1	2010-780-01	9	2010-780-09
2	2010-780-02	10	2010-780-10
3	2010-780-03	11	2010-780-11
4	2010-780-04	12	2010-780-12
5	2010-780-05	13	2010-780-13
6	2010-780-06	14	2010-780-14
7	2010-780-07	15	2010-780-15
8	2010-780-08	16	2010-780-16

The specificity of each primer solution of has been tested against 48 well characterized IHWC cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 2, 6 to 8 and 16 were available. The specificities of the primers in primer solutions 2, 6, 8 and 16 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer mix 7 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solutions 9, 11 and 16 one or two 5'-primers were not possible to test, and in primer solutions 2 and 10 one 3'-primer was not possible to test. Additional primers in primer solutions 5, 9, 10 and 15 were tested by separately adding one additional 5'-primer or 3'-primer.

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

Date of approval: 2010-October-29

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: Olerup SSP® HLA-B*52
Product number: 101.562-06u
Lot number: 59K

Intended use: HLA-B*52 high resolution histocompatibility testing

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

We, Olerup SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

The Technical Documentation File is maintained at Olerup SSP AB, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.

The Authorized Representative located within the Community is: Olerup SSP AB.

Notified Body: Lloyd's Register Quality Assurance Limited, Hiramford, Middlemarch Office Village, Siskin Drive, Coventry CV3 4FJ, United Kingdom. (Notified Body number: 0088.)

Saltsjöbaden, Sweden
2010-October-29

Olle Olerup
Managing Director

Lot No.: **59K**

Lot-specific information

www.olerup-ssp.com

ADDRESSES:

Manufacturer:

Olerup SSP AB, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.

Tel: +46-8-717 88 27

Fax: +46-8-717 88 18

E-mail: info-ssp@olerup.com

Web page: <http://www.olerup-ssp.com>

Distributed by:

Olerup GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.

Tel: +43-1-710 15 00

Fax: +43-1-710 15 00 10

E-mail: support-at@olerup.com

Web page: <http://www.olerup.com>

Olerup Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: info.us@olerup.com

Web page: <http://www.olerup.com>

For information on *Olerup* SSP distributors worldwide, contact **Olerup GmbH**.