

Olerup SSP® HLA-B*18

Product number:	101.519-12 – including <i>Taq</i> polymerase
Lot number:	32M
Expiry date:	2013-December-01
Number of tests:	12
Number of wells per test:	32
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. 32M.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® HLA-B*18 Lot

The HLA-B*18 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP*® HLA-B*18 lot was made (Lot No. 33K).

The amplification patterns for some rare HLA-B*18 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
23	-	Added	Primer added for the B*18:51 allele.
26	Added	-	Primer from well 29.
29	Moved, added	Moved, added	Primer pair moved to well 26, new primer pair for the B*18:50 allele.
30	Added	Added	Primer pair added for the B*18:52 allele.
32	-	Exchanged	Exchanged 3'-primer, to decrease primer oligomer formation.

PRODUCT DESCRIPTION

HLA-B*18 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*18:01 to B*18:52 alleles.

PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32

The 32 well cut PCR plate is marked with 'HLA-B*18' in silver/gray ink.

Well No. 1 is marked with the Lot No. '32M'.

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 32 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*18 SSP subtypings will be influenced by most B*07, most B*08, six B*13, the B*14, several B*15, most B*27, several B*35, the B*37, most B*38, most B*39, several B*40, most B*41, the B*42, most B*44, most B*45, four B*46, the B*47, five B*48, most B*49, the B*50, most B*51, most B*52, three B*53, most B*54, most B*55, seven B*56, six B*57, three B*58, most B*59, the B*67, the B*73:01, most B*78 and the B*83:01 alleles when present on the other haplotype. In addition, the A*24:02:37 and A*26:01:16 alleles will be amplified by primer mixes 11 and 26, the A*66:04 allele will be weakly amplified by primer mix 13, the C*01:30 allele will be amplified by primer mixes 13 and 15, the C*02:06 C*02:23, C*02:36 and C*15:42 alleles will be amplified by primer mix 8, the C*01:09, C*02:02:14, C*07:22 and C*07:138 alleles will be amplified by primer mix 16, the C*15:24 allele will be amplified by primer mix 24 and the C*15:39 allele will be amplified by primer mixes 15, 21 and 22.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*18 alleles, i.e. **B*18:01 to B*18:52**, recognized by the HLA Nomenclature Committee in October 2010¹ will give rise to unique amplification patterns by the primers in the HLA-B*18 subtyping kit.

The HLA-B*18 kit cannot distinguish the B*18:01:01-18:01:09 or the B*18:07:01-18:07:02 alleles.

The B*18:18 and 18:47 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 17.

The B*18:34 and 18:52 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 30.

The B*18:37 and 18:46 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 27.

The B*18:38 and 18:45 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 28.

The B*18:40 and 18:51 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 23.

The B*18:42 and 18:43 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 26.

¹HLA-B alleles listed on the IMGT/HLA web page 2010-October-20, release 3.2.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 75 alleles generate 45 amplification patterns that can be combined in 1035 homozygous and heterozygous combinations. 477 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.

+++-----	--+-----	-----+---	-----	*18:02, *18:09 = *18:02, *18:36
+++-----	-----	-+-----	-----	*18:02, *18:29 = *18:02, *18:32
++-+-----	+-----	-----+---	-----	*18:03, *18:08 = *18:03, *18:27
++-+-----	--+-----	-----+---	-----	*18:03, *18:11 = *18:03, *18:36
++-+-----	-----	-+-----	-----	*18:03, *18:06 = *18:03, *18:39
++-+-----	-----	-----+---	-----	*18:03, *18:22 = *18:03, *18:33
++-+-----	+-----+---	-----+---	-+-----	*18:04, *18:08 = *18:04, *18:27
++-+-----	+-----	-----+---	-----	*18:08, *18:24 = *18:24, *18:27
++-+-----	-----+---	-----+---	-+-----	*18:04, *18:09 = *18:04, *18:11 = *18:04, *18:36
++-+-----	-----+---	-----+---	-----	*18:09, *18:24 = *18:11, *18:24 = *18:24, *18:36
++-+-----	-----+---	-+-----	-+-----	*18:04, *18:29 = *18:04, *18:32
++-+-----	-----+---	-+-----	-+-----	*18:04, *18:06 = *18:04, *18:39
++-+-----	-----+---	-----+---	-+-----	*18:04, *18:22 = *18:04, *18:33
++-+-----	-----+---	-----+---	-+-----	*18:01:01, *18:04 = *18:04, *18:04 = *18:04,
				*18:14 = *18:04, *18:24 = *18:04, *18:25 =
				*18:04, *18:42 = *18:24, *18:25
++-+-----	-----	-+-----	-----	*18:24, *18:29 = *18:24, *18:32
++-+-----	-----	-----+---	-----	*18:06, *18:24 = *18:24, *18:39
++-+-----	-----	-----+---	-----	*18:22, *18:24 = *18:24, *18:33
++-+-----	-----	-----+---	-----	*18:01:01, *18:24 = *18:24, *18:24
++-+-----	+-----	-----+---	-----	*18:05, *18:08 = *18:05, *18:27
++-+-----	--+-----	-----+---	-----	*18:05, *18:09 = *18:05, *18:11 = *18:05, *18:36
++-+-----	-----	-+-----	-----	*18:05, *18:29 = *18:05, *18:32
++-+-----	-----	-----+---	-----	*18:05, *18:06 = *18:05, *18:39
++-+-----	-----	-----+---	-----	*18:05, *18:22 = *18:05, *18:33
++-+-----	-----	-----+---	-----	*18:01:01, *18:05 = *18:05, *18:05

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++-----+ +-----+ -----+ -----	*18:08, *18:41 = *18:27, *18:41
++-----+ +-----+ -----+ -----	*18:07:01, *18:08 = *18:07:01, *18:27
++-----+ --++-----+ -----+ -----	*18:09, *18:41 = *18:11, *18:41 = *18:36, *18:41
++-----+ --++-----+ -----+ -----	*18:07:01, *18:09 = *18:07:01, *18:11 = *18:07:01, *18:36
++-----+ --++-----+ --++-----+ -----	*18:29, *18:41 = *18:32, *18:41
++-----+ --++-----+ --++-----+ -----	*18:06, *18:41 = *18:39, *18:41
++-----+ --++-----+ -----+ -----	*18:22, *18:41 = *18:33, *18:41
++-----+ --++-----+ -----+ -----	*18:01:01, *18:41 = *18:07:01, *18:12 = *18:07:01, *18:41 = *18:12, *18:41 = *18:41, *18:41
++-----+ -----+ --++-----+ -----	*18:07:01, *18:29 = *18:07:01, *18:32
++-----+ -----+ --++-----+ -----	*18:06, *18:07:01 = *18:07:01, *18:39
++-----+ -----+ -----++-----+ -----	*18:07:01, *18:22 = *18:07:01, *18:33
++-----+ -----+ -----+ -----+ -----	*18:01:01, *18:07:01 = *18:07:01, *18:07:01
++-----+ +-----+ -----+ -----+ -----	*18:08, *18:50 = *18:27, *18:50
++-----+ --++-----+ --++-----+ -----	*18:01:01, *18:21 = *18:09, *18:21 = *18:21, *18:29 = *18:21, *18:32 = *18:21, *18:36 = *18:21, *18:40
++-----+ --++-----+ --++-----+ +-----+ -----	*18:29, *18:35 = *18:32, *18:35
++-----+ --++-----+ --++-----+ -----+ -----	*18:10, *18:29 = *18:10, *18:32
++-----+ --++-----+ -----+ +-----+ -----	*18:01:01, *18:35 = *18:09, *18:35 = *18:10, *18:48 = *18:35, *18:36 = *18:35, *18:48
++-----+ --++-----+ -----+ -----+ -----	*18:09, *18:50 = *18:10, *18:50 = *18:11, *18:50 = *18:36, *18:50
++-----+ --++-----+ -----+ -----+ -----	*18:01:01, *18:10 = *18:09, *18:10 = *18:10, *18:36
++-----+ -----+ --++-----+ -----+ -----	*18:29, *18:50 = *18:32, *18:50
++-----+ -----+ --++-----+ -----+ -----	*18:06, *18:50 = *18:39, *18:50
++-----+ -----+ -----++-----+ -----+ -----	*18:22, *18:50 = *18:33, *18:50
++-----+ -----+ -----+ -----+ -----+ -----	*18:01:01, *18:50 = *18:50, *18:50
++-----+ ++-----+ -----+ -----+ -----	*18:08, *18:23N = *18:23N, *18:27
++-----+ ++-----+ -----+ -----+ -----	*18:08, *18:09 = *18:08, *18:11 = *18:08, *18:36 = *18:09, *18:27 = *18:27, *18:36
++-----+ ++-----+ -----+ -----+ -----	*18:08, *18:12 = *18:12, *18:27
++-----+ ++-----+ ++-----+ -----+ -----	*18:08, *18:19 = *18:19, *18:27
++-----+ ++-----+ ++-----+ -----+ -----	*18:08, *18:30 = *18:27, *18:30
++-----+ ++-----+ -----+ -----+ -----	*18:08, *18:13 = *18:13, *18:27
++-----+ ++-----+ -----+ -----+ -----	*18:08, *18:25 = *18:25, *18:27
++-----+ ++-----+ ++-----+ -----+ -----	*18:08, *18:31 = *18:27, *18:31
++-----+ ++-----+ ++-----+ -----+ -----	*18:08, *18:15 = *18:15, *18:27
++-----+ ++-----+ ++-----+ -----+ -----	*18:08, *18:17N = *18:17N, *18:27
++-----+ ++-----+ ++-----+ -----+ -----	*18:08, *18:18 = *18:18, *18:27
++-----+ ++-----+ --++-----+ -----+ -----	*18:08, *18:29 = *18:08, *18:32 = *18:27, *18:29 = *18:27, *18:32
++-----+ ++-----+ --++-----+ -----+ -----	*18:06, *18:08 = *18:06, *18:27 = *18:08, *18:39
++-----+ ++-----+ -----++-----+ -----+ -----	*18:08, *18:20 = *18:20, *18:27
++-----+ ++-----+ -----+ -----+ -----+ -----	*18:08, *18:22 = *18:08, *18:33 = *18:27, *18:33
++-----+ ++-----+ -----+ ++-----+ -----+ -----	*18:08, *18:40 = *18:27, *18:40
++-----+ ++-----+ -----+ ++-----+ -----+ -----	*18:08, *18:26 = *18:26, *18:27
++-----+ ++-----+ -----+ -----+ +-----+ -----	*18:08, *18:48 = *18:27, *18:48
++-----+ ++-----+ -----+ -----+ --++-----+ -----	*18:08, *18:42 = *18:27, *18:42
++-----+ ++-----+ -----+ -----+ --++-----+ -----	*18:08, *18:37 = *18:27, *18:37
++-----+ ++-----+ -----+ -----+ --++-----+ -----	*18:08, *18:38 = *18:27, *18:38
++-----+ ++-----+ -----+ -----+ -----+ +-----+ -----	*18:08, *18:34 = *18:27, *18:34
++-----+ ++-----+ -----+ -----+ -----+ +-----+ -----	*18:08, *18:49 = *18:27, *18:49
++-----+ ++-----+ -----+ -----+ -----+ +-----+ -----	*18:08, *18:28 = *18:27, *18:28
++-----+ ++-----+ -----+ -----+ -----+ +-----+ -----	*18:01:01, *18:08 = *18:01:01, *18:27 = *18:08,

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++-----	-++-----	-----+	-----	*18:08 = *18:08, *18:27
++-----	-++-----	-----+	-----	*18:09, *18:23N = *18:11, *18:23N = *18:23N,
++-----	-++-----	-----+	-----	*18:36
++-----	-++-----	-----+	-----	*18:23N, *18:29 = *18:23N, *18:32
++-----	-++-----	-----+	-----	*18:06, *18:23N = *18:23N, *18:39
++-----	-++-----	-----+	-----	*18:22, *18:23N = *18:23N, *18:33
++-----	-++-----	-----+	-----	*18:01:01, *18:23N = *18:23N, *18:23N
++-----	-++-----	-----+	-----	*18:09, *18:12 = *18:11, *18:12 = *18:12, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:19 = *18:11, *18:19 = *18:19, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:30 = *18:11, *18:30 = *18:30, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:13 = *18:11, *18:13 = *18:13, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:25 = *18:11, *18:25 = *18:25, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:14 = *18:14, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:31 = *18:11, *18:31 = *18:31, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:15 = *18:11, *18:15 = *18:15, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:44 = *18:36, *18:44
++-----	-++-----	-----+	-----	*18:09, *18:17N = *18:11, *18:17N = *18:17N,
++-----	-++-----	-----+	-----	*18:36
++-----	-++-----	-----+	-----	*18:09, *18:18 = *18:11, *18:18 = *18:18, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:32 = *18:11, *18:29 = *18:11, *18:32
++-----	-++-----	-----+	-----	= *18:29, *18:36 = *18:32, *18:36
++-----	-++-----	-----+	-----	*18:06, *18:09 = *18:06, *18:11 = *18:06, *18:36
++-----	-++-----	-----+	-----	= *18:09, *18:39 = *18:36, *18:39
++-----	-++-----	-----+	-----	*18:09, *18:20 = *18:20, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:22 = *18:09, *18:33 = *18:11, *18:33
++-----	-++-----	-----+	-----	= *18:22, *18:36 = *18:33, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:40 = *18:11, *18:40 = *18:36, *18:40
++-----	-++-----	-----+	-----	*18:09, *18:26 = *18:11, *18:26 = *18:26, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:48 = *18:11, *18:48 = *18:36, *18:48
++-----	-++-----	-----+	-----	*18:09, *18:42 = *18:11, *18:42 = *18:36, *18:42
++-----	-++-----	-----+	-----	*18:09, *18:37 = *18:11, *18:37 = *18:36, *18:37
++-----	-++-----	-----+	-----	*18:09, *18:38 = *18:11, *18:38 = *18:36, *18:38
++-----	-++-----	-----+	-----	*18:09, *18:34 = *18:11, *18:34 = *18:34, *18:36
++-----	-++-----	-----+	-----	*18:09, *18:49 = *18:11, *18:49 = *18:36, *18:49
++-----	-++-----	-----+	-----	*18:09, *18:28 = *18:11, *18:28 = *18:28, *18:36
++-----	-++-----	-----+	-----	*18:01:01, *18:09 = *18:01:01, *18:11 =
++-----	-++-----	-----+	-----	*18:01:01, *18:36 = *18:09, *18:11 = *18:09,
++-----	-++-----	-----+	-----	*18:36 = *18:11, *18:36 = *18:36, *18:36
++-----	-++-----	-----+	-----	*18:12, *18:29 = *18:12, *18:32
++-----	-++-----	-----+	-----	*18:06, *18:12 = *18:12, *18:39
++-----	-++-----	-----+	-----	*18:12, *18:22 = *18:12, *18:33
++-----	-++-----	-----+	-----	*18:01:01, *18:12 = *18:12, *18:12
++-----	-++-----	-----+	-----	*18:18, *18:19 = *18:19, *18:31
++-----	-++-----	-----+	-----	*18:15, *18:19 = *18:17N, *18:30 = *18:19,
++-----	-++-----	-----+	-----	*18:29 = *18:19, *18:30 = *18:19, *18:32
++-----	-++-----	-----+	-----	*18:06, *18:19 = *18:19, *18:39
++-----	-++-----	-----+	-----	*18:19, *18:22 = *18:19, *18:33
++-----	-++-----	-----+	-----	*18:01:01, *18:19 = *18:13, *18:19 = *18:17N,
++-----	-++-----	-----+	-----	*18:19 = *18:19, *18:19 = *18:19, *18:44
++-----	-++-----	-----+	-----	*18:18, *18:30 = *18:30, *18:31
++-----	-++-----	-----+	-----	*18:06, *18:30 = *18:30, *18:39
++-----	-++-----	-----+	-----	*18:22, *18:30 = *18:30, *18:33
++-----	-++-----	-----+	-----	*18:01:01, *18:30 = *18:13, *18:15 = *18:13,
++-----	-++-----	-----+	-----	*18:30 = *18:15, *18:30 = *18:29, *18:30 =
++-----	-++-----	-----+	-----	*18:30, *18:30 = *18:30, *18:32 = *18:30, *18:44
++-----	-++-----	-----+	-----	*18:13, *18:29 = *18:13, *18:32
++-----	-++-----	-----+	-----	*18:06, *18:13 = *18:13, *18:39
++-----	-++-----	-----+	-----	*18:13, *18:22 = *18:13, *18:33

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++-----	-----+	-----+	-----	*18:01:01, *18:13 = *18:13, *18:13
++-----	-----+	-+-----	-+-----	*18:25, *18:29 = *18:25, *18:32
++-----	-----+	-+-----	-----	*18:14, *18:29 = *18:14, *18:32
++-----	-----+	-+-----	-+-----	*18:06, *18:25 = *18:25, *18:39
++-----	-----+	-----+	-+-----	*18:22, *18:25 = *18:25, *18:33
++-----	-----+	-----+	-+-----	*18:01:01, *18:25 = *18:14, *18:25 = *18:14, *18:42 = *18:25, *18:25 = *18:25, *18:42
++-----	-----+	++-----	-----	*18:15, *18:18 = *18:15, *18:31 = *18:29, *18:31 = *18:31, *18:32
++-----	-----+	+-+-----	-----	*18:06, *18:31 = *18:31, *18:39
++-----	-----+	+-+-----	-----	*18:22, *18:31 = *18:31, *18:33
++-----	-----+	+-+-----	-----	*18:01:01, *18:31 = *18:18, *18:31 = *18:18, *18:44 = *18:31, *18:31 = *18:31, *18:44
++-----	-----+	+-+-----	-----	*18:06, *18:15 = *18:15, *18:39
++-----	-----+	+-+-----	-----	*18:15, *18:22 = *18:15, *18:33
++-----	-----+	+-+-----	-----	*18:01:01, *18:15 = *18:15, *18:15 = *18:15, *18:29 = *18:15, *18:32 = *18:15, *18:44 = *18:29, *18:44 = *18:32, *18:44
++-----	-----+	+-+-----	-----	*18:17N, *18:29 = *18:17N, *18:32
++-----	-----+	+-+-----	-----	*18:06, *18:17N = *18:17N, *18:39
++-----	-----+	-----+	-----	*18:17N, *18:22 = *18:17N, *18:33
++-----	-----+	-----+	-----	*18:01:01, *18:17N = *18:17N, *18:17N
++-----	-----	+-+-----	-----	*18:18, *18:29 = *18:18, *18:32
++-----	-----	+-+-----	-----	*18:06, *18:18 = *18:18, *18:39
++-----	-----	+-+-----	-----	*18:18, *18:22 = *18:18, *18:33
++-----	-----	+-+-----	-----	*18:01:01, *18:18 = *18:18, *18:18
++-----	-----	+-+-----	-----	*18:06, *18:29 = *18:06, *18:32 = *18:29, *18:39 = *18:32, *18:39
++-----	-----	+-+-----	-----	*18:20, *18:29 = *18:20, *18:32
++-----	-----	+-+-----	-----	*18:22, *18:29 = *18:22, *18:32 = *18:29, *18:33 = *18:32, *18:33
++-----	-----	+-+-----	-----	*18:29, *18:40 = *18:32, *18:40
++-----	-----	+-+-----	-----	*18:26, *18:29 = *18:26, *18:32
++-----	-----	+-+-----	-----	*18:29, *18:48 = *18:32, *18:48
++-----	-----	+-+-----	-----	*18:29, *18:42 = *18:32, *18:42
++-----	-----	+-+-----	-----	*18:29, *18:37 = *18:32, *18:37
++-----	-----	+-+-----	-----	*18:29, *18:38 = *18:32, *18:38
++-----	-----	+-+-----	-----	*18:29, *18:34 = *18:32, *18:34
++-----	-----	+-+-----	-----	*18:29, *18:49 = *18:32, *18:49
++-----	-----	+-+-----	-----	*18:28, *18:29 = *18:28, *18:32
++-----	-----	+-+-----	-----	*18:01:01, *18:29 = *18:01:01, *18:32 = *18:29, *18:32 = *18:32, *18:32
++-----	-----	++-----	-----	*18:06, *18:20 = *18:20, *18:39
++-----	-----	++-----	-----	*18:06, *18:22 = *18:06, *18:33 = *18:33, *18:39
++-----	-----	++-----	-----	*18:06, *18:40 = *18:39, *18:40
++-----	-----	++-----	-----	*18:06, *18:26 = *18:26, *18:39
++-----	-----	++-----	-----	*18:06, *18:48 = *18:39, *18:48
++-----	-----	++-----	-----	*18:06, *18:42 = *18:39, *18:42
++-----	-----	++-----	-----	*18:06, *18:37 = *18:37, *18:39
++-----	-----	++-----	-----	*18:06, *18:38 = *18:38, *18:39
++-----	-----	++-----	-----	*18:06, *18:34 = *18:34, *18:39
++-----	-----	++-----	-----	*18:06, *18:49 = *18:39, *18:49
++-----	-----	++-----	-----	*18:06, *18:28 = *18:28, *18:39
++-----	-----	++-----	-----	*18:01:01, *18:06 = *18:01:01, *18:39 = *18:06, *18:06 = *18:06, *18:39
++-----	-----	++-----	-----	*18:20, *18:22 = *18:20, *18:33
++-----	-----	++-----	-----	*18:22, *18:40 = *18:33, *18:40
++-----	-----	++-----	-----	*18:22, *18:26 = *18:26, *18:33

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++-----	-----	----++--	+-----	*18:22, *18:48 = *18:33, *18:48
++-----	-----	----++--	-+-----	*18:22, *18:42 = *18:33, *18:42
++-----	-----	----++--	--+-----	*18:22, *18:37 = *18:33, *18:37
++-----	-----	----++--	---+-----	*18:22, *18:38 = *18:33, *18:38
++-----	-----	----++--	-----+--	*18:22, *18:34 = *18:33, *18:34
++-----	-----	----++--	-----+-	*18:22, *18:49 = *18:33, *18:49
++-----	-----	----++--	-----+--	*18:22, *18:28 = *18:28, *18:33
++-----	-----	----++--	-----	*18:01:01, *18:22 = *18:01:01, *18:33 = *18:22, *18:33 = *18:33, *18:33
++-----	-----	----++--	-----	*18:01:01, *18:40 = *18:40, *18:40
++-----	-----	----++--	-----	*18:01:01, *18:26 = *18:26, *18:26
++-----	-----	----++--	+-----	*18:01:01, *18:48 = *18:48, *18:48
++-----	-----	----++--	-+-----	*18:01:01, *18:42 = *18:42, *18:42
++-----	-----	----++--	--+-----	*18:01:01, *18:37 = *18:37, *18:37
++-----	-----	----++--	---+-----	*18:01:01, *18:38 = *18:38, *18:38
++-----	-----	----++--	-----+--	*18:01:01, *18:34 = *18:34, *18:34
++-----	-----	----++--	-----+-	*18:01:01, *18:49 = *18:49, *18:49
++-----	-----	----++--	-----+--	*18:01:01, *18:28 = *18:28, *18:28
+-----+	-+-----	-+-----	-----	*18:10, *18:21 = *18:11, *18:21 = *18:21, *18:21
+-----+	-+-----	-----	+-----	*18:10, *18:35 = *18:11, *18:35 = *18:35, *18:35
+-----+	-+-----	-----	-----	*18:10, *18:10 = *18:10, *18:11

*18:01:01 = *18:01:01-18:01:09

*18:07:01 = *18:07:01-18:07:02

*18:18 = *18:18 and 18:47

*18:34 = *18:34 and 18:52

*18:37 = *18:37 and 18:46

*18:38 = *18:38 and 18:45

*18:40 = *18:40 and 18:51

*18:42 = *18:42 and 18:43

SPECIFICITY TABLE

HLA-B*18 SSP subtyping

Specificities and sizes of the PCR products of the 32 primer mixes used for HLA-B*18 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*18 alleles ³	Other amplified HLA Class I alleles ⁴
1	170 bp	800 bp	*18:01:01-18:02, 18:04-18:08, 18:10-18:15, 18:17N-18:28, 18:30-18:52	
2	260 bp	800 bp	*18:01:01-18:01:09, 18:03-18:09, 18:12-18:13, 18:15, 18:17N-18:20, 18:23N-18:26, 18:28-18:34, 18:36-18:38, 18:40-18:43, 18:45-18:52	*14:06:01-14:06:02, 14:08, 15:37-15:38:02, 15:185, 39:32, 39:43, 39:48, 40:51, 40:113, 51:06:01, 51:45, 51:62
3	260 bp	800 bp	*18:02	*27:28, 27:62
4⁵	100 bp	800 bp	*18:03	
5	140 bp	1070 bp	*18:04, 18:24	
6⁵	130 bp	1070 bp	*18:05	
7^{5,9}	90 bp, 150 bp	1070 bp	*18:07:01-18:07:02, 18:41	
8	190 bp	1070 bp	*18:10, 18:21, 18:35, 18:50	*07:02:01-07:04, 07:07-07:13, 07:15-07:16, 07:18:01-07:18:02, 07:21-07:23, 07:25-07:27, 07:29-07:30, 07:33, 07:35-07:39, 07:41-07:42, 07:44-07:52, 07:54-07:59, 07:61-07:68:02, 07:70-07:77, 07:79, 07:81-07:89, 07:91-07:95, 07:98-07:99, 07:101-07:104, 07:106-07:111N, 07:113-07:114, 07:116-07:117, 13:26, 13:35, 15:40, 15:47, 15:49, 15:52, 15:114, 15:117, 15:124, 15:138, 27:34, 27:41, 35:15, 35:33, 35:66, 35:86, 37:07, 40:03, 40:18, 40:20, 40:24, 40:31-40:33, 40:44, 40:52, 40:59, 40:98, 40:120, 46:06, 48:08,

				48:23, 57:13, 57:25, C*02:06, C*02:23, C*02:36, C*15:42
9	255 bp	1070 bp	*18:08, 18:27	
10⁵	85 bp	800 bp	*18:23N	*44:108N
11^{5,10}	125 bp, 610 bp, 635 bp	1070 bp	*18:09-18:11, 18:21, 18:35-18:36	*35:02:02, 35:20:02, 44:03:12, A*24:02:37, A*26:01:16
12^{5,11}	90 bp, 140 bp	1070 bp	*18:12, 18:41	
13⁵	85 bp	1070 bp	*18:13, 18:19, 18:30	*14:03, 15:38:01-15:38:02, 51:29, 51:61, 51:82, 52:21, A*66:04^w, C*01:30
14¹²	170 bp, 260 bp	1070 bp	*18:04, 18:14, 18:25	*14:05, 14:13, 35:02:02, 35:20:02, 44:03:12, 51:64
15^{5,13}	100 bp, 265 bp	1070 bp	*18:15, 18:19, 18:30-18:31, 18:44	*14:01:01-14:19, 15:37- 15:38:02, 35:21, 35:96, 40:28, 40:51, 49:09, 51:01:01-51:01:20, 51:03- 51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:22, 51:24:01- 51:24:04, 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, 51:98N-51:106, 52:01:01:01- 52:02, 52:04-52:09, 52:12- 52:18, 52:20-52:22, 53:06, 56:05:01-56:06, 56:21, 58:08, 78:01-78:03, 78:05-78:07, C*01:30, C*15:39
16^{5,14}	95 bp, 360 bp	1070 bp	*18:17N, 18:19	*13:31, 15:27:03, 15:38:02, 35:14:01, 35:62, 39:36, 46:01:03, 52:21, 55:21, C*01:09, C*02:02:14, C*07:22, C*07:138
17^{5,15}	110 bp, 255 bp	1070 bp	*18:18, 18:31, 18:47	
18^{5,16}	85 bp, 555 bp, 580 bp	1070 bp	*18:15, 18:21 ^w , 18:29, 18:30 ^w , 18:32	*15:71, 15:175, 15:204, 35:50, 37:22, 41:12, 46:14, 49:03, 54:02, 55:16
19^{5,17}	105 bp, 405 bp	1070 bp	*18:06, 18:39	

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20⁶	290 bp	1070 bp	*18:20	*07:14, 07:17, 07:28, 07:96:01-07:96:02, 07:115, 08:14, 08:28, 08:49, 13:10, 14:01:01-14:12, 14:14-14:19, 15:02:01-15:02:05, 15:06, 15:13, 15:17:01:01-15:17:02, 15:21, 15:25:01-15:25:03, 15:31, 15:36, 15:44, 15:55, 15:77, 15:88-15:89, 15:106, 15:112, 15:121, 15:128, 15:137, 15:139, 15:144, 15:156, 15:162, 15:168, 15:170, 15:177, 15:196, 15:204, 15:208, 27:01-27:06, 27:08-27:10, 27:12-27:19, 27:21, 27:23, 27:25-27:26, 27:28-27:32, 27:35-27:40, 27:42, 27:44-27:73, 37:01:01- 37:06, 37:08, 37:10-37:11, 37:13-37:25, 38:22, 39:17, 40:09, 40:42, 40:60, 40:89, 40:124:01-40:124:02, 44:02:01:01-44:09, 44:11- 44:13, 44:15-44:16, 44:18- 44:30, 44:32-44:42, 44:44, 44:46-44:50, 44:52N-44:61N, 44:63-44:76, 44:78-44:81, 44:83-44:106, 44:108N- 44:115, 45:01-45:08, 45:10- 45:13, 47:01:01:01-47:07, 48:17, 49:01:01-49:03, 49:05- 49:15, 50:01:01-50:02, 50:04- 50:12, 51:42, 51:85, 53:07, 54:15, 55:41, 57:04-57:05, 57:32, 83:01
21	215 bp	1070 bp	*18:01:01-18:09, 18:12-18:15, 18:17N-18:19, 18:22-18:34, 18:36- 18:52	*13:15, 14:13, 15:37- 15:38:02, 15:185, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 39:32, 39:43, 39:48, 40:28, 40:51, 40:113, 51:01:01-51:01:20, 51:03- 51:04, 51:06:01-51:09:02, 51:11N-51:14, 51:16, 51:19- 51:22, 51:24:01-51:24:04, 51:26-51:33, 51:35, 51:37- 51:39, 51:41N, 51:43-51:46, 51:48-51:53, 51:55-51:58, 51:60-51:80, 51:82-51:84,

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				51:86-51:92, 51:94-51:106, 52:01:01:01-52:02, 52:04- 52:10, 52:12-52:22, 53:02, 53:06, 56:05:01-56:06, 56:21, 57:14, 58:08-58:09, 78:01- 78:03, 78:05-78:07, C*15:39
22¹⁸	150 bp, 270 bp	800 bp	*18:22, 18:33	*14:10, 35:21, 35:24:01- 35:24:02, 35:81, 35:96, 35:109, 37:04:01 ^w -37:04:02 ^w , 40:28, 51:04, 51:46, 51:56:01, 53:02, 53:06, 57:14, 58:09, C*15:39
23¹⁹	145 bp, 515 bp	1070 bp	*18:21, 18:40, 18:51	
24	190 bp	1070 bp	*18:26	*07:34, 08:01:01-08:05, 08:08N-08:10, 08:12:01- 08:13, 08:15-08:20, 08:22- 08:24, 08:26-08:27, 08:29- 08:36, 08:38-08:39, 08:41- 08:48, 08:50-08:66, 13:06, 14:13, 15:42, 15:83, 15:86, 15:188, 35:60, 35:87, 37:12, 38:01:01, 38:01:03-38:07, 38:09-38:21, 38:23-38:26, 39:01:01:01-39:01:01:02L, 39:01:03-39:06:02, 39:08- 39:14, 39:16, 39:18-39:20, 39:22-39:24:01, 39:26-39:28, 39:30-39:31, 39:34-39:37, 39:39, 39:41-39:42, 39:44- 39:46, 39:48, 39:51-39:54, 39:56-39:62, 40:39, 40:51, 41:01-41:03:02, 41:05-41:09, 41:11-41:16, 42:01:01-42:02, 42:04-42:08, 42:10-42:14, 46:18, 51:21, 51:36, 51:101, 54:01:01-54:02, 54:04- 54:05N, 54:07-54:08N, 54:10- 54:13, 54:17-54:23, 55:01:01- 55:05, 55:07, 55:10-55:13, 55:15-55:21, 55:25-55:26, 55:28-55:40, 55:42-55:45, 55:47-55:48, 56:10, 56:12, 56:23, 58:20, 59:01:01:01- 59:03, 59:05, 67:01:01-67:03, 78:07, C*15:24

25^{5,20}	75 bp, 185 bp	1070 bp	*18:35, 18:48	*07:68:01-07:68:02, 15:138, 35:66, 40:77, 40:87:01, 40:121, 40:158, 48:12, 48:14
26^{5,21}	90 bp, 180 bp	1070 bp	*18:04, 18:25, 18:42-18:43	*35:02:02, 35:20:02, 44:03:12, A*24:02:37, A*26:01:16
27^{5,22}	85 bp, 140 bp	800 bp	*18:37, 18:46	*07:109
28^{5,23}	100 bp, 175 bp	800 bp	*18:38, 18:45	
29^{5,8}	65 bp	1070 bp	*18:50	*13:15, 40:113, 51:16, 51:31, 51:82, 52:08, 73:01
30^{6,7,24}	145 bp, 420 bp	800 bp	*18:34, 18:52	
31⁵	135 bp	1070 bp	*18:49	*35:27, 35:56, 37:05, 78:06
32	175 bp	1070 bp	*18:28	

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*18 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*18 subtyping.

In addition, wells number 2 to 4, 10, 22, 27 and 28 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*18:18 and 18:47 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 17.

The B*18:34 and 18:52 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 30.

The B*18:37 and 18:46 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 27.

The B*18:38 and 18:45 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 28.

The B*18:40 and 18:51 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 23.

The B*18:42 and 18:43 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 26.

⁴Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*18 alleles will be amplified by primer mixes 2, 3, 8, 10, 11, 13 to 16, 18, 20 to 22, 24 to 27, 29 and 31. In addition, the A*24:02:37 and A*26:01:16 alleles will be amplified by primer mixes 11 and 26, the A*66:04 allele will be weakly amplified by primer mix 13, the C*01:30 allele will be amplified by primer mixes 13 and 15, the C*02:06 C*02:23, C*02:36 and C*15:42 alleles will be amplified by primer mix 8, the C*01:09, C*02:02:14, C*07:22 and C*07:138 alleles will be amplified by primer mix 16, the C*15:24 allele will be amplified by primer mix 24 and the C*15:39 allele will be amplified by primer mixes 15, 21 and 22.

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

⁶Primer mixes 20 and 30 may give rise to non-specific amplifications.

⁷Primer mix 30 may have a tendency of giving rise to primer oligomer formation.

⁸Primer mix 29 may give a lower yield of HLA-specific PCR product than other B*18 primer mixes.

⁹Primer mix 7: Specific PCR fragment of 90 bp in the B*18:41 allele. Specific PCR fragment of 150 bp in the B*18:07:01-18:07:02 alleles.

¹⁰Primer mix 11: Specific PCR fragment of 125 bp in the B*18:09 allele. Specific PCR fragment of 610 bp in the B*18:36 allele. Specific PCR fragment of 635 bp in the B*18:10-18:11, 18:21 and 18:35 and the A*26:01:16 alleles. Specific PCR fragment of 610 and 635 bp in the B*35:02:02 and 35:20:02 alleles. Specific PCR fragment of 125 and 635 bp in the the A*24:02:37 allele. Specific PCR fragment of 125, 610 and 635 bp in the B*44:03:12 allele

¹¹Primer mix 12: Specific PCR fragment of 90 bp in the B* 18:41 allele. Specific PCR fragment of 140 bp in the B*18:12 allele.

¹²Primer mix 14: Specific PCR fragment of 170 bp in the B*18:04 and 18:25 and the B*35:02:02, 35:20:02 and 44:03:12 alleles. Specific PCR fragment of 260 bp in the B*18:14 and in the B*14:05, 14:13 and 51:64 alleles.

¹³Primer mix 15: Specific PCR fragment of 100 bp in the B*18:15, 18:19, 18:30 and 18:31 and in the B*14:05-14:06:02, 14:08, 14:10, 14:13, 15:37-15:38:02, 35:21, 35:96, 40:28, 40:51, 49:09, 51:01:01-51:01:20, 51:03-51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:22, 51:24:01-51:24:04, 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, 51:98N-51:106, 52:01:01:01-52:02, 52:04-52:09, 52:12-52:18, 52:20-52:22, 53:06, 56:05:01-56:06, 56:21, 58:08, 78:01-78:03 and 78:05-78:07 and the C*15:39 alleles. Specific PCR fragment of 265 bp in the B*18:44 allele. Specific PCR fragments of 100 and 265 bp in the B*14:01:01-14:04, 14:07N, 14:09, 14:11-14:12 and 14:14-14:19 and the C*01:30 alleles. Both specific fragments may not always be visible.

¹⁴Primer mix 16: Specific PCR fragment of 95 bp in the B*18:19 and the B*13:31, 15:27:03, 15:38:02, 35:14:01, 35:62, 39:36, 46:01:03, 52:21 and 55:21 and the C*01:09, C*02:02:14, C*07:22 and 07:138 alleles. Specific PCR fragment of 360 bp in the B*18:17N allele.

¹⁵Primer mix 17: Specific PCR fragment of 110 bp in the B*18:31 and 18:47 alleles. Specific PCR fragment of 255 bp in the B*18:18 allele.

¹⁶Primer mix 18: Specific PCR fragment of 85 bp in the B*18:29 and the B*15:71, 15:175, 15:204, 35:50, 37:22, 41:12, 46:14, 49:03, 54:02 and 55:16 alleles. Specific PCR fragment of 555 bp in the B*18:32 allele. Specific PCR fragment of 580 bp in the B*18:15, 18:21^w and 18:30^w alleles.

¹⁷Primer mix 19: Specific PCR fragment of 105 bp in the B*18:06 allele. Specific PCR fragment of 405 bp in the B*18:39 allele.

¹⁸Primer mix 22: Specific PCR fragment of 150 bp in the B*18:33 allele. Specific PCR fragment of 270 bp in the B*18:22 and the B*14:10, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 37:04:01^w-37:04:02^w, 40:28, 51:04, 51:46, 51:56:01, 53:02, 53:06, 57:14 and 58:09 and the C*15:39 alleles.

¹⁹Primer mix 23: Specific PCR fragment of 145 bp in the B*18:51 allele. Specific PCR fragment of 515 bp in the B*18:21 and 18:40 alleles.

²⁰Primer mix 25: Specific PCR fragment of 75 bp in the B*18:48 allele. Specific PCR fragment of 185 bp in the B*18:35 and the B*07:68:01-07:68:02, 15:138, 35:66, 40:77, 40:87:01, 40:121, 40:158, 48:12 and 48:14 alleles.

²¹Primer mix 26: Specific PCR fragment of 90 bp in the B*18:42 allele. Specific PCR fragment of 180 bp in the B*18:04, 18:25 and 18:43 and the B*35:02:02, 35:20:02 and 44:03:12 and the A*24:02:37 and A*26:01:16 alleles.

²²Primer mix 27: Specific PCR fragment of 85 bp in the B*18:37 and the B*07:109 alleles. Specific PCR fragment of 140 bp in the B*18:46 allele.

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²³Primer mix 28: Specific PCR fragment of 100 bp in the B*18:45 allele. Specific PCR fragment of 175 bp in the B*18:38 allele.

²⁴Primer mix 30: Specific PCR fragment of 145 bp in the B*18:34 allele. Specific PCR fragment of 420 bp in the B*18:52 allele.

‘w’, might be weakly amplified.

INTERPRETATION TABLE

HLA-B*18 SSP subtyping

Amplification patterns of the B*18:01 to B*18:52 alleles

	Well ¹¹															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Length of spec.	170	260	260	100	140	130	90	190	255	85	125	90	85	170	100	95
PCR product(s)							150				610	140		260	265	360
Length of int.	800	800	800	800	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070
pos. control ¹																
5'-primer(s) ²	161	363	363	234	130	363	161	412	368	610	234	161	539	106	361	41
	5'-Cgg 3'	5'-Agg 3'	5'-AAT 3'	5'-CAA 3'	5'-AgT 3'	5'-Agg 3'	5'-Cgg 3'	5'-ATg 3'	5'-gTg 3'	5'-TgT 3'	5'-CAA 3'	5'-Cgg 3'	5'-gCg 3'	5'-CCA 3'	5'-AgT 3'	5'-CTA 3'
					141		363		368			363	539	363	523	486
					5'-ATT 3'		5'-Agg 3'		5'-gTT 3'			5'-Agg 3'	5'-gTg 3'	5'-AgC 3'	5'-CCg 3'	5'-ACC 3'
															527	
															5'-TgA 3'	
3'-primer(s) ³	292	583	583	292	234	453	272	559	583	3 rd I	317	259	583	234	583	234
	5'-gTA 3'	5'-gTg 3'	5'-gTg 3'	5'-gTC 3'	5'-TCT 3'	5'-TCC 3'	5'-TgA 3'	5'-CTC 3'	5'-gTg 3'	5'-TAT 3'	5'-ggA 3'	5'-CTC 3'	5'-gTg 3'	5'-TCT 3'	5'-gTg 3'	5'-TCT 3'
	292						414				559	414		583		538
							5'-TgC 3'				5'-Cag 3'	5'-TgC 3'		5'-gTg 3'		5'-CCA 3'
											583					
											5'-gTA 3'					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HLA-B allele ⁴																
*18:01:01-18:01:09	1	2														
*18:02	1		3													
*18:03		2		4												
*18:04	1	2			5									14		
*18:05	1	2				6										
*18:06	1	2														
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

INTERPRETATION TABLE																															
HLA-B*18 SSP subtyping																															
Amplification patterns of the B*18:01 to B*18:52 alleles																															
Well ¹¹																															
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32																
110	85	105	290	215	150	145	190	75	90	85	100	65	145	135	175	Length of spec.															
255	555	405			270	515		185	180	140	175		420			PCR product(s)															
1070	1070	1070	1070	1070	800	1070	1070	1070	1070	800	800	1070	800	1070	1070	Length of int.															
																pos. control ¹															
103	97	234	409	409	161	234	412	161	97	161	161	560	234	206	523	5'-primer(s) ²															
5' -CCT 3'	5' -TCC 3'	5' -CAA 3'	5' -ggT 3'	5' -ggC 3'	5' -Cgg 3'	5' -CAA 3'	5' -ATA 3'	5' -Cgg 3'	5' -TCT 3'	5' -Cgg 3'	5' -Cgg 3'	5' -CgA 3'	5' -CAA 3'	5' -gAC 3'	5' -CCA 3'																
368	234				355			463	186	419	369		478																		
5' -gTC 3'	5' -CAA 3'				5' -TCA 3'			5' -TgA 3'	5' -AgA 3'	5' -gTC 3'	5' -TAC 3'		5' -CgA 3'																		
523																															
5' -CCg 3'																															
181	142	299	3 rd I	583	272	340	559	193	234	204	218	583	368	302	3 rd I	3'-primer(s) ³															
5' -gTA 3'	5' -TgC 3'	5' -TCA 3'	5' -TAT 3'	5' -gTg 3'	5' -TgC 3'	5' -ggT 3'	5' -CgT 3'	5' -CgT 3'	5' -TCT 3'	5' -TCT 3'	5' -gCT 3'	5' -gTg 3'	5' -CAT 3'	5' -ggT 3'	5' -TAT 3'																
583	505	353			583	463		605		518	502		583																		
5' -gTg 3'	5' -gCT 3'	5' -ggC 3'			5' -gTg 3'	5' -gCg 3'		5' -gCT 3'		5' -CCT 3'	5' -CTT 3'		5' -gTg 3'																		
527																															
5' -CCT 3'																															
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.															
																HLA-B allele ⁴															
				21												*18:01:01-18:01:09															
				21												*18:02															
				21												*18:03															
				21					26							*18:04															
				21												*18:05															
		19		21												*18:06															
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.															

Lot No.: **32M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	170	260	260	100	140	130	90	190	255	85	125	90	85	170	100	95
PCR product(s)							150				610	140		260	265	360
											635					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*18:07:01-18:07:02	1	2					7									
*18:08	1	2							9							
*18:09		2									11					
*18:10	1							8			11					
*18:11	1										11					
*18:12	1	2										12				
*18:13	1	2											13			
*18:14	1													14		
*18:15	1	2													15	
*18:17N	1	2														16
*18:18, 18:47 ⁵	1	2														
*18:19	1	2											13		15	16
*18:20	1	2														
*18:21	1							8			11					
*18:22	1															
*18:23N	1	2								10						
*18:24	1	2			5											
*18:25	1	2												14		
*18:26	1	2														
*18:27	1								9							
*18:28	1	2														
*18:29		2														
*18:30	1	2											13		15	
*18:31	1	2													15	
*18:32	1	2														
*18:33	1	2														
*18:34, 18:52 ⁶	1	2														
*18:35	1							8			11					
*18:36	1	2									11					
*18:37, 18:46 ⁷	1	2														
*18:38, 18:45 ⁸	1	2														
*18:39	1															
*18:40, 18:51 ⁹	1	2														
*18:41	1	2					7					12				
*18:42, 18:43 ¹⁰	1	2														
*18:44	1														15	
*18:48	1	2														
*18:49	1	2														
*18:50	1	2						8								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **32M**

Lot-specific information

www.olerup-ssp.com

110	85	105	290	215	150	145	190	75	90	85	100	65	145	135	175	Length of spec.
255	555	405			270	515		185	180	140	175		420			PCR product(s)
	580															
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
				21												*18:07:01-18:07:02
				21												*18:08
				21												*18:09
																*18:10
																*18:11
				21												*18:12
				21												*18:13
				21												*18:14
	18			21												*18:15
				21												*18:17N
17				21												*18:18, 18:47 ⁵
				21												*18:19
			20													*18:20
	w					23										*18:21
				21	22											*18:22
				21												*18:23N
				21												*18:24
				21					26							*18:25
				21		24										*18:26
				21												*18:27
				21										32		*18:28
	18			21												*18:29
	w			21												*18:30
17				21												*18:31
	18			21												*18:32
				21	22											*18:33
				21									30			*18:34, 18:52 ⁶
							25									*18:35
				21												*18:36
				21					27							*18:37, 18:46 ⁷
				21						28						*18:38, 18:45 ⁸
	19			21												*18:39
				21	23											*18:40, 18:51 ⁹
				21												*18:41
				21					26							*18:42, 18:43 ¹⁰
				21												*18:44
				21				25								*18:48
				21										31		*18:49
				21								29				*18:50
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

Lot No.: **32M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	170	260	260	100	140	130	90	190	255	85	125	90	85	170	100	95
PCR product(s)							150				610	140		260	265	360
											635					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*07:02:01-07:04, 07:07-07:13, 07:15-07:16, 07:18:01-07:18:02, 07:21-07:23, 07:25-07:27, 07:29-07:30, 07:33, 07:35-07:39, 07:41-07:42, 07:44-07:52, 07:54-07:59, 07:61-07:67N, 07:70-07:77, 07:79, 07:81-07:89, 07:91-07:95, 07:98-07:99, 07:101-07:104, 07:106-07:108, 07:110-07:111N, 07:113-07:114, 07:116-07:117, 13:26, 13:35, 15:40, 15:47, 15:49, 15:52, 15:114, 15:117, 15:124, 27:34, 27:41, 35:15, 35:33, 35:86, 37:07, 40:03, 40:18, 40:20, 40:24, 40:31-40:33, 40:44, 40:52, 40:59, 40:98, 40:120, 46:06, 48:08, 48:23, 57:13, 57:25, C*02:06, C*02:23, C*02:36, C*15:42								8								
*07:14, 07:17, 07:28, 07:96:01-07:96:02, 07:115, 08:14, 08:28, 08:49, 13:10, 15:02:01-15:02:05, 15:06, 15:13, 15:17:01:01-15:17:02, 15:21, 15:25:01-15:25:03, 15:31, 15:36, 15:44, 15:55, 15:77, 15:88-15:89, 15:106, 15:112, 15:121, 15:128, 15:137, 15:139, 15:144, 15:156, 15:162, 15:168, 15:170, 15:177, 15:196, 15:208, 27:01-27:06, 27:08-27:10, 27:12-27:19, 27:21, 27:23, 27:25-27:26, 27:29-27:32, 27:35-27:40, 27:42, 27:44-27:61, 27:63-27:73, 37:01:01-37:03N, 37:06, 37:08, 37:10-37:11, 37:13-37:21, 37:23-37:25, 38:22, 39:17, 40:09, 40:42, 40:60, 40:89, 40:124:01-40:124:02, 44:02:01:01-44:03:11, 44:04-44:09, 44:11-44:13, 44:15-44:16, 44:18-44:30, 44:32-44:42, 44:44, 44:46-44:50, 44:52N-44:61N, 44:63-44:76, 44:78-44:81, 44:83-44:106, 44:109-44:115, 45:01-45:08, 45:10-45:13, 47:01:01:01-47:07, 48:17, 49:01:01-49:02, 49:05-49:08, 49:10-49:15, 50:01:01-50:02, 50:04-50:12, 51:42, 53:07, 54:15, 55:41, 57:04-57:05, 57:32, 83:01																
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

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Lot-specific information

www.olerup-ssp.com

110	85	105	290	215	150	145	190	75	90	85	100	65	145	135	175	Length of spec.
255	555	405			270	515		185	180	140	175		420			PCR product(s)
	580															
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
																*07:02:01-07:04, 07:07-07:13, 07:15-07:16, 07:18:01-07:18:02, 07:21-07:23, 07:25-07:27, 07:29-07:30, 07:33, 07:35-07:39, 07:41-07:42, 07:44-07:52, 07:54-07:59, 07:61-07:67N, 07:70-07:77, 07:79, 07:81-07:89, 07:91-07:95, 07:98-07:99, 07:101-07:104, 07:106-07:108, 07:110-07:111N, 07:113-07:114, 07:116-07:117, 13:26, 13:35, 15:40, 15:47, 15:49, 15:52, 15:114, 15:117, 15:124, 27:34, 27:41, 35:15, 35:33, 35:86, 37:07, 40:03, 40:18, 40:20, 40:24, 40:31-40:33, 40:44, 40:52, 40:59, 40:98, 40:120, 46:06, 48:08, 48:23, 57:13, 57:25, C*02:06, C*02:23, C*02:36, C*15:42
			20													*07:14, 07:17, 07:28, 07:96:01-07:96:02, 07:115, 08:14, 08:28, 08:49, 13:10, 15:02:01-15:02:05, 15:06, 15:13, 15:17:01:01-15:17:02, 15:21, 15:25:01-15:25:03, 15:31, 15:36, 15:44, 15:55, 15:77, 15:88-15:89, 15:106, 15:112, 15:121, 15:128, 15:137, 15:139, 15:144, 15:156, 15:162, 15:168, 15:170, 15:177, 15:196, 15:208, 27:01-27:06, 27:08-27:10, 27:12-27:19, 27:21, 27:23, 27:25-27:26, 27:29-27:32, 27:35-27:40, 27:42, 27:44-27:61, 27:63-27:73, 37:01:01-37:03N, 37:06, 37:08, 37:10-37:11, 37:13-37:21, 37:23-37:25, 38:22, 39:17, 40:09, 40:42, 40:60, 40:89, 40:124:01-40:124:02, 44:02:01:01-44:03:11, 44:04-44:09, 44:11-44:13, 44:15-44:16, 44:18-44:30, 44:32-44:42, 44:44, 44:46-44:50, 44:52N-44:61N, 44:63-44:76, 44:78-44:81, 44:83-44:106, 44:109-44:115, 45:01-45:08, 45:10-45:13, 47:01:01:01-47:07, 48:17, 49:01:01-49:02, 49:05-49:08, 49:10-49:15, 50:01:01-50:02, 50:04-50:12, 51:42, 53:07, 54:15, 55:41, 57:04-57:05, 57:32, 83:01
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

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Lot-specific information

www.olerup-ssp.com

Length of spec.	170	260	260	100	140	130	90	190	255	85	125	90	85	170	100	95
PCR product(s)							150				610	140		260	265	360
											635					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*07:34, 08:01:01-08:05, 08:08N-08:10, 08:12:01-08:13, 08:15-08:20, 08:22-08:24, 08:26-08:27, 08:29-08:36, 08:38-08:39, 08:41-08:48, 08:50-08:66, 13:06, 15:42, 15:83, 15:86, 15:188, 35:60, 35:87, 37:12, 38:01:01, 38:01:03-38:07, 38:09-38:21, 38:23-38:26, 39:01:01:01-39:01:01:02L, 39:01:03-39:06:02, 39:08-39:14, 39:16, 39:18-39:20, 39:22-39:24:01, 39:26-39:28, 39:30-39:31, 39:34-39:35, 39:37, 39:39, 39:41-39:42, 39:44-39:46, 39:51-39:54, 39:56-39:62, 40:39, 41:01-41:03:02, 41:05-41:09, 41:11, 41:13-41:16, 42:01:01-42:02, 42:04-42:08, 42:10-42:14, 46:18, 51:36, 54:01:01, 54:04-54:05N, 54:07-54:08N, 54:10-54:13, 54:17-54:23, 55:01:01-55:05, 55:07, 55:10-55:13, 55:15, 55:17-55:20, 55:25-55:26, 55:28-55:40, 55:42-55:45, 55:47-55:48, 56:10, 56:12, 56:23, 58:20, 59:01:01:01-59:03, 59:05, 67:01:01-67:03, C*15:24																
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*07:109								8								
*13:15, 51:31																
*13:31, 15:27:03, 35:14:01, 35:62, 46:01:03, C*01:09, C*02:02:14, C*07:22, C*07:138																16
*14:01:01-14:02:06, 14:04, 14:07N, 14:09, 14:11-14:12, 14:14-14:19, 49:09, 51:85															15	
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*14:05														14	15	
*14:06:01-14:06:02, 14:08		2													15	
*14:10															15	
*14:13														14	15	
*15:37, 51:06:01, 51:45, 51:62		2													15	
*15:38:01		2											13		15	
*15:38:02		2											13		15	16
*15:71, 15:175, 35:50, 46:14																
*15:185, 39:32, 39:43		2														
*15:204, 37:22, 49:03																
*27:28, 27:62			3													
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

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Lot-specific information

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255 110				215 150				185 75				65				Length of spec.			
555 85				270 145				180 90				420 145				PCR product(s)			
405 105				515 190				140 85				175 100							
290																			
21				27				18				14							
20				24				28				32							
17				25				29				33				Well No.			
																*07:34, 08:01:01-08:05, 08:08N-08:10, 08:12:01-08:13, 08:15-08:20, 08:22-08:24, 08:26-08:27, 08:29-08:36, 08:38-08:39, 08:41-08:48, 08:50-08:66, 13:06, 15:42, 15:83, 15:86, 15:188, 35:60, 35:87, 37:12, 38:01:01, 38:01:03-38:07, 38:09-38:21, 38:23-38:26, 39:01:01:01-39:01:01:02L, 39:01:03-39:06:02, 39:08-39:14, 39:16, 39:18-39:20, 39:22-39:24:01, 39:26-39:28, 39:30-39:31, 39:34-39:35, 39:37, 39:39, 39:41-39:42, 39:44-39:46, 39:51-39:54, 39:56-39:62, 40:39, 41:01-41:03:02, 41:05-41:09, 41:11, 41:13-41:16, 42:01:01-42:02, 42:04-42:08, 42:10-42:14, 46:18, 51:36, 54:01:01, 54:04-54:05N, 54:07-54:08N, 54:10-54:13, 54:17-54:23, 55:01:01-55:05, 55:07, 55:10-55:13, 55:15, 55:17-55:20, 55:25-55:26, 55:28-55:40, 55:42-55:45, 55:47-55:48, 56:10, 56:12, 56:23, 58:20, 59:01:01:01-59:03, 59:05, 67:01:01-67:03, C*15:24			
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																*07:109			
																*13:15, 51:31			
																*13:31, 15:27:03, 35:14:01, 35:62, 46:01:03, C*01:09, C*02:02:14, C*07:22, C*07:138			
																*14:01:01-14:02:06, 14:04, 14:07N, 14:09, 14:11-14:12, 14:14-14:19, 49:09, 51:85			
																*14:03			
																*14:05			
																*14:06:01-14:06:02, 14:08			
																*14:10			
																*14:13			
																*15:37, 51:06:01, 51:45, 51:62			
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																*15:71, 15:175, 35:50, 46:14			
																*15:185, 39:32, 39:43			
																*15:204, 37:22, 49:03			
																*27:28, 27:62			
																Well No.			

Lot No.: **32M**

Lot-specific information

www.olerup-ssp.com

Length of spec.	170	260	260	100	140	130	90	190	255	85	125	90	85	170	100	95
PCR product(s)							150				610	140		260	265	360
											635					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*35:02:02, 35:20:02											11			14		
*35:21, 35:96, 40:28, 51:04, 51:46, 51:56:01, 53:06, C*15:39															15	
*35:24:01-35:24:02, 35:81, 35:109, 53:02, 57:14, 58:09																
*35:27, 35:56																
*37:04:01-37:04:02																
*37:05																
*39:36, 55:21																16
*39:48		2														
*40:51		2													15	
*40:77, 40:87:01, 40:121, 40:158, 48:12, 48:14																
*40:113		2														
*41:12, 54:02, 55:16																
*44:03:12											11			14		
*44:108N										10						
*51:01:01-51:01:20, 51:03, 51:07:01- 51:07:02, 51:11N-51:14, 51:22, 51:24:01- 51:24:04, 51:26-51:28, 51:30, 51:32- 51:33, 51:35, 51:37-51:39, 51:41N, 51:43, 51:48-51:52, 51:55, 51:57-51:58, 51:60, 51:63, 51:65-51:72, 51:74-51:80, 51:83- 51:84, 51:86-51:92, 51:94-51:96, 51:98N- 51:100, 51:102-51:106, 52:01:01:01- 52:02, 52:04-52:07, 52:09, 52:12-52:18, 52:20, 52:22, 56:05:01-56:06, 56:21, 58:08, 78:01-78:03, 78:05															15	
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*51:64														14	15	
*51:82													13		15	
*52:21													13		15	16
*73:01																
*78:06															15	
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A*66:04													w			
C*01:30													13		15	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Lot No.: **32M**

Lot-specific information

www.olerup-ssp.com

110	85	105	290	215	150	145	190	75	90	85	100	65	145	135	175	Length of spec.
255	555	405		270	515			185	180	140	175		420			PCR product(s)
	580															
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
									26							*35:02:02, 35:20:02
				21	22											*35:21, 35:96, 40:28, 51:04, 51:46, 51:56:01, 53:06, C*15:39
				21	22											*35:24:01-35:24:02, 35:81, 35:109, 53:02, 57:14, 58:09
														31		*35:27, 35:56
			20		w											*37:04:01-37:04:02
			20											31		*37:05
							24									*39:36, 55:21
				21			24									*39:48
				21			24									*40:51
								25								*40:77, 40:87:01, 40:121, 40:158, 48:12, 48:14
				21								29				*40:113
18							24									*41:12, 54:02, 55:16
			20						26							*44:03:12
			20													*44:108N
				21												*51:01:01-51:01:20, 51:03, 51:07:01- 51:07:02, 51:11N-51:14, 51:22, 51:24:01- 51:24:04, 51:26-51:28, 51:30, 51:32- 51:33, 51:35, 51:37-51:39, 51:41N, 51:43, 51:48-51:52, 51:55, 51:57-51:58, 51:60, 51:63, 51:65-51:72, 51:74-51:80, 51:83- 51:84, 51:86-51:92, 51:94-51:96, 51:98N- 51:100, 51:102-51:106, 52:01:01:01- 52:02, 52:04-52:07, 52:09, 52:12-52:18, 52:20, 52:22, 56:05:01-56:06, 56:21, 58:08, 78:01-78:03, 78:05
				21												*51:08-51:09:02, 51:19-51:20, 51:44N, 51:53, 51:73, 51:97, 52:10, 52:19
				21								29				*51:16, 52:08
																*51:17-51:18
				21			24									*51:21, 51:101, 78:07
				21												*51:29, 51:61
				21												*51:64
				21								29				*51:82
				21												*52:21
												29				*73:01
				21										31		*78:06
									26							A*24:02:37, A*26:01:16
																A*66:04
																C*01:30
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

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*18 subtyping.

In addition, wells number 2 to 4, 10, 22, 27 and 28 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 or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

³The nucleotide position, in 2nd or 3rd exon or 3rd intron matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

⁴The sequence of the B*1816 allele has been found to be identical to B*18:14.

⁵The B*18:18 and 18:47 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 17.

⁶The B*18:34 and 18:52 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 30.

⁷The B*18:37 and 18:46 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 27.

⁸The B*18:38 and 18:45 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 28.

⁹The B*18:40 and 18:51 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 23.

¹⁰The B*18:42 and 18:43 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 26.

¹¹Primer mix 7: Specific PCR fragment of 90 bp in the B*18:41 allele. Specific PCR fragment of 150 bp in the B*18:07:01-18:07:02 alleles.

Primer mix 11: Specific PCR fragment of 125 bp in the B*18:09 allele. Specific PCR fragment of 610 bp in the B*18:36 allele. Specific PCR fragment of 635 bp in the B*18:10-18:11, 18:21 and 18:35 and the A*26:01:16 alleles. Specific PCR fragment of 610 and 635 bp in the B*35:02:02 and 35:20:02 alleles. Specific PCR fragment of 125 and 635 bp in the the A*24:02:37 allele. Specific PCR fragment of 125, 610 and 635 bp in the B*44:03:12 allele

Primer mix 12: Specific PCR fragment of 90 bp in the B* 18:41 allele. Specific PCR fragment of 140 bp in the B*18:12 allele.

Primer mix 14: Specific PCR fragment of 170 bp in the B*18:04 and 18:25 and the B*35:02:02, 35:20:02 and 44:03:12 alleles. Specific PCR fragment of 260 bp in the B*18:14 and in the B*14:05, 14:13 and 51:64 alleles.

Primer mix 15: Specific PCR fragment of 100 bp in the B*18:15, 18:19, 18:30 and 18:31 and in the B*14:05-14:06:02, 14:08, 14:10, 14:13, 15:37-15:38:02, 35:21, 35:96, 40:28, 40:51, 49:09, 51:01:01-51:01:20, 51:03-51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:22, 51:24:01-51:24:04, 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, 51:98N-51:106, 52:01:01-52:02, 52:04-52:09, 52:12-52:18, 52:20-52:22, 53:06, 56:05:01-56:06, 56:21, 58:08, 78:01-78:03 and 78:05-78:07 and the C*15:39 alleles. Specific PCR fragment of 265 bp in the B*18:44 allele. Specific PCR fragments of 100 and 265 bp in the B*14:01:01-14:04, 14:07N, 14:09, 14:11-14:12 and 14:14-14:19 and the C*01:30 alleles. Both specific fragments may not always be visible.

Primer mix 16: Specific PCR fragment of 95 bp in the B*18:19 and the B*13:31, 15:27:03, 15:38:02, 35:14:01, 35:62, 39:36, 46:01:03, 52:21 and 55:21 and the C*01:09, C*02:02:14, C*07:22 and 07:138 alleles. Specific PCR fragment of 360 bp in the B*18:17N allele.

Primer mix 17: Specific PCR fragment of 110 bp in the B*18:31 and 18:47 alleles. Specific PCR fragment of 255 bp in the B*18:18 allele.

Primer mix 18: Specific PCR fragment of 85 bp in the B*18:29 and the B*15:71, 15:175, 15:204, 35:50, 37:22, 41:12, 46:14, 49:03, 54:02 and 55:16 alleles. Specific PCR fragment of 555 bp in the B*18:32 allele. Specific PCR fragment of 580 bp in the B*18:15, 18:21^w and 18:30^w alleles.

Primer mix 19: Specific PCR fragment of 105 bp in the B*18:06 allele. Specific PCR fragment of 405 bp in the B*18:39 allele.

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Primer mix 22: Specific PCR fragment of 150 bp in the B*18:33 allele. Specific PCR fragment of 270 bp in the B*18:22 and the B*14:10, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 37:04:01^w-37:04:02^w, 40:28, 51:04, 51:46, 51:56:01, 53:02, 53:06, 57:14 and 58:09 and the C*15:39 alleles.

Primer mix 23: Specific PCR fragment of 145 bp in the B*18:51 allele. Specific PCR fragment of 515 bp in the B*18:21 and 18:40 alleles.

Primer mix 25: Specific PCR fragment of 75 bp in the B*18:48 allele. Specific PCR fragment of 185 bp in the B*18:35 and the B*07:68:01-07:68:02, 15:138, 35:66, 40:77, 40:87:01, 40:121, 40:158, 48:12 and 48:14 alleles.

Primer mix 26: Specific PCR fragment of 90 bp in the B*18:42 allele. Specific PCR fragment of 180 bp in the B*18:04, 18:25 and 18:43 and the B*35:02:02, 35:20:02 and 44:03:12 and the A*24:02:37 and A*26:01:16 alleles.

Primer mix 27: Specific PCR fragment of 85 bp in the B*18:37 and the B*07:109 alleles. Specific PCR fragment of 140 bp in the B*18:46 allele.

Primer mix 28: Specific PCR fragment of 100 bp in the B*18:45 allele. Specific PCR fragment of 175 bp in the B*18:38 allele.

Primer mix 30: Specific PCR fragment of 145 bp in the B*18:34 allele. Specific PCR fragment of 420 bp in the B*18:52 allele.

‘w’, might be weakly amplified.

[illegible]

CELL LINE VALIDATION SHEET																																
HLA-B*18 SSP subtyping kit																																
					Well																											
						17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32											
					Prod. No.:	201076917	201076918	201076919	201076920	201076921	201187322	201187323	201076924	201076925	201187326	201076927	201076928	201187329	201187330	201076931	201187332											
	IHCW cell line		B*																													
1	9001	SA	*07:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
2	9280	LK707	*52:01	*73:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-											
3	9011	E4181324	*52:01			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-											
4	9275	GU373	*15:10	*53:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
5	9009	KAS011	*37:01			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-											
6	9353	SM	*39:01	*51:01		-	-	-	-	+	-	-	+	-	-	-	-	-	-	-	-											
7	9020	QBL	*18:01			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-											
8	9025	DEU	*35:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
9	9026	YAR	*38:01			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-											
10	9107	LKT3	*54:01			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-											
11	9051	PITOUT	*44:03			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-											
12	9052	DBB	*57:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
13	9004	JESTHOM	*27:05			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-											
14	9071	OLGA	*15:01	*15:20		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
15	9075	DKB	*40:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
16	9037	SWEG007	*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		-	-	-	+	-	-	-	-	-</																		

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-B*18 SSP

Product number: 101.519-12 – including *Taq* polymerase
Lot number: 32M
Expiry date: 2013-December-01
Number of tests: 12
Number of wells per test: 32

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-769-01	13	2010-769-13	25	2010-769-25
2	2010-769-02	14	2010-769-14	26	2011-873-26
3	2010-769-03	15	2010-769-15	27	2010-769-27
4	2010-769-04	16	2010-769-16	28	2010-769-28
5	2010-769-05	17	2010-769-17	29	2011-873-29
6	2010-769-06	18	2010-769-18	30	2011-873-30
7	2010-769-07	19	2010-769-19	31	2010-769-31
8	2010-769-08	20	2010-769-20	32	2011-873-32
9	2010-769-09	21	2010-769-21		
10	2011-873-10	22	2011-873-22		
11	2010-769-11	23	2011-873-23		
12	2010-769-12	24	2010-769-24		

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 5 to 7, 9 to 14, 16 to 19, 22, 23, 25 to 28 and 30 to 32 were available. The specificities of the primers in primer solutions 5, 7, 9, 11 to 14, 16 to 19, 22, 23, 25 to 28, 30 and 31 were tested by separately adding one or two additional 5'-primers, respectively one, two or three additional 3'-primers. In primer solution 6 only the 5'-primer was possible to test, the 3'-primer was not possible to test. In primer solutions 10 and 32 only the 3'-primer was possible to test, the 5'-primer was not possible to test. In primer solutions 5, 9, 15 to 17, 26 and 30 one 5'-primer was not possible to test, and in primer solutions 1, 7, 12, 17 to 19, 23, 27 and 28 one 3'-primer was not possible to test.

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

Date of approval: 2011-July-08

Approved by:

Quality Control, Supervisor

Lot No.: **32M**

Lot-specific information

www.olerup-ssp.com

Declaration of Conformity

Product name: *Olerup* SSP® HLA-B*18
Product number: 101.519-12
Lot number: 32M

Intended use: HLA-B*18 high resolution histocompatibility testing

Manufacturer: *Olerup* SSP AB
Franzengatan 5
SE-112 51 Stockholm, Sweden
Phone: +46-8-717 88 27
Fax: +46-8-717 88 18

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

The Technical Documentation File is maintained at *Olerup* SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

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

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

Stockholm, Sweden
2011-July-08

Olle Olerup
Managing Director

Lot No.: **32M**

Lot-specific information

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