

101.515-12 – including *Taq* pol., IFU-01
101.515-12u – without *Taq* pol., IFU-02

Visit www.olerup.com for
“Instructions for Use” (IFU)

Lot No.: **9E7**

Lot-specific information
Olerup SSP[®] HLA-B*13

Product number:	101.515-12 – including <i>Taq</i> pol. 101.515-12u – without <i>Taq</i> pol.
Lot number:	9E7
Expiry date:	2019-08-01
Number of tests:	12
Number of wells per test:	30+1
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. 9E7.

Complete product documentation consists of generic Instructions for Use (IFU), lot specific Product Insert, Worksheet and Certificate.

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP[®]
HLA-B*13 Lot (54Y)**

The HLA-B*13 kit is updated for new alleles to enable separation of:

- Confirmed¹ alleles as listed in the IMGT/HLA database
- Polymorphisms in exons outside of the region encoding the peptide binding domain
- Null and Alternatively expressed alleles

¹As described in section Uniquely Identified Alleles.

The HLA-B*13 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP[®]* HLA-B*13 lot was made (**Lot No. 54Y**). The kit design is based on IMGT/HLA database 3.26.0.

As of lot series V, the Specificity Table is included in the lot-specific Product Insert, and the Interpretation Table is included in the Worksheet.

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

Well	5'-primer	3'-primer	rationale
19	Added	-	5'-primer added for the B*13:96 allele.
22	Added	-	5'-primer added for the B*13:86 allele.
23	-	Modified	3'-primer modified for improved HLA-specific amplification.
27	Added	-	5'-primer added for the B*13:96 allele.

Changes in revision R01 compared to R00:

- Primer mix 6 does not amplify the B*13:56:01N-13.56:02N alleles. Thus, this lot of the B*13 kit cannot distinguish the B*13:56:01N-13.56:02N and the B*13:02:01-13:02:18, 13:54, 13:65-13:66, 13:68, 13:74-13:75, 13:81-13:82, 13:84-13:85, 13:88-13:89, 13:91 and 13:93-13:94 alleles. This has been corrected in the Specificity and Interpretation Tables.

Changes in revision R02 compared to R01:

- Primer mix 6 does amplify the B*13.56:02N allele. This has been corrected in the Specificity and Interpretation Tables.

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Well **31** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup* SSP® HLA Class I, DRB, DQB1, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

HLA-specific PCR product sizes range from 75 to 200 base pairs.
The PCR product generated by the positive control primer pair is 430 base pairs.

Length of PCR product	105	200	105	80	75	80	85
5'-primer¹	164	340	440	45	45	43	36
	5'-CAC ^{3'}	5'-Agg ^{3'}	5'-TTA ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-TAC ^{3'}
							36
							5'-TAT ^{3'}
3'-primer²	231	2nd I	507	59	58	57	47
	5'-TgC ^{3'}	5'-AAA ^{3'}	5'-TTg ^{3'}	5'-CTC ^{3'}	5'-ggC ^{3'}	5'-CTC ^{3'}	5'-ACA ^{3'}
							48
							5'-gCA ^{3'}
							48
							5'-gCC ^{3'}
							52
							5'-TgT ^{3'}
A*	+	+	+				
B*	+	+	+				
C*	+	+	+				
DRB1				+	+		
DRB3				+	+		
DRB5				+			
DQB1					+		
DPB1						+	
DQA1							+

¹The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide and codon numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

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

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Lot-specific information
PRODUCT DESCRIPTION

HLA-B*13 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*13:01 to B*13:96 alleles.

PLATE LAYOUT

Each test consists of 31 PCR reactions in a 32 well PCR plate.
Well 32 is empty.

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	NC	empty

The 32 well cut PCR plate is marked with ‘HLA-B*13’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘9E7’.

Wells 1 to 30 – HLA-B*13 high resolution primers.

Well 31 – Negative Control (NC).

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

Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*13 alleles will be amplified by primer mixes 1 to 16, 19 to 24, 26, 27 and 29. In addition, a few HLA-C alleles will be amplified by primer mixes 3, 5 to 8, 10, 12, 15 and 19.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*13 alleles, i.e. **B*13:01 to B*13:96**, recognized by the HLA Nomenclature Committee in October 2016^{1,2} will be amplified by the primers in the HLA-B*13 subtyping kit³.

The HLA-B*13 kit enables separation of the confirmed HLA-B*13 alleles as listed in the IMGT/HLA database. An HLA allele is listed as confirmed by IMGT/HLA if it has been sequenced by more than a single laboratory or from multiple sources. Current allele confirmation status for HLA-B*13 alleles is listed below.

The HLA-B*13 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

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The HLA-B*13 kit cannot distinguish the silent mutations in the B*13:01:01-13:01:10 and 13:01:12 alleles, the 13:02:01-13:02:18 alleles, the B*13:13:01-13:13:02 alleles, the B*13:26:01-13:26:02 alleles or the B*13:56:01N-13:56:02N alleles.

The following HLA-B*13 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
B*13:12:01, 13:52	13
B*13:15, 13:33	16
B*13:27, 13:49N	17
B*13:34, 13:38	19

¹HLA-B alleles listed on the IMGT/HLA web page 2016-October-14, release 3.26.0, www.ebi.ac.uk/imgt/hl.

²Alleles that have been deleted from or renamed in the official WHO HLA Nomenclature up to and including the last IMGT/HLA database release can be retrieved from web page <http://hla.alleles.org/alleles/deleted.html>.

³This lot of the B*13 kit cannot distinguish the B*13:56:01N and the B*13:02:01-13:02:18, 13:54, 13:65-13:66, 13:68, 13:74-13:75, 13:81-13:82, 13:84-13:85, 13:88-13:89, 13:91 and 13:93-13:94 alleles.

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ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
B*13:01:01	Confirmed	B*13:13:01	Confirmed	B*13:51	Unconfirmed	B*13:90	Unconfirmed
B*13:01:02	Unconfirmed	B*13:13:02	Unconfirmed	B*13:52	Unconfirmed	B*13:91	Unconfirmed
B*13:01:03	Unconfirmed	B*13:14	Unconfirmed	B*13:53	Unconfirmed	B*13:92	Unconfirmed
B*13:01:04	Unconfirmed	B*13:15	Unconfirmed	B*13:54	Unconfirmed	B*13:93	Unconfirmed
B*13:01:05	Unconfirmed	B*13:16	Unconfirmed	B*13:55	Confirmed	B*13:94	Unconfirmed
B*13:01:06	Unconfirmed	B*13:17	Unconfirmed	B*13:56:01N	Unconfirmed	B*13:95	Unconfirmed
B*13:01:07	Unconfirmed	B*13:18	Unconfirmed	B*13:56:02N	Unconfirmed	B*13:96	Unconfirmed
B*13:01:08	Unconfirmed	B*13:19	Unconfirmed	B*13:57	Confirmed		
B*13:01:09	Unconfirmed	B*13:20	Unconfirmed	B*13:58	Unconfirmed		
B*13:01:10	Unconfirmed	B*13:21	Unconfirmed	B*13:59	Unconfirmed		
B*13:01:11	Unconfirmed	B*13:22:01	Confirmed	B*13:60	Unconfirmed		
B*13:01:12	Confirmed	B*13:22:02	Unconfirmed	B*13:61	Unconfirmed		
B*13:02:01	Confirmed	B*13:23	Unconfirmed	B*13:62	Unconfirmed		
B*13:02:02	Confirmed	B*13:25	Unconfirmed	B*13:63N	Unconfirmed		
B*13:02:03	Unconfirmed	B*13:26:01	Unconfirmed	B*13:64	Confirmed		
B*13:02:04	Confirmed	B*13:26:02	Unconfirmed	B*13:65	Unconfirmed		
B*13:02:05	Unconfirmed	B*13:27	Unconfirmed	B*13:66	Unconfirmed		
B*13:02:06	Unconfirmed	B*13:28	Unconfirmed	B*13:67	Unconfirmed		
B*13:02:07	Unconfirmed	B*13:29	Unconfirmed	B*13:68	Unconfirmed		
B*13:02:08	Unconfirmed	B*13:30	Unconfirmed	B*13:69	Unconfirmed		
B*13:02:09	Unconfirmed	B*13:31	Unconfirmed	B*13:70	Confirmed		
B*13:02:10	Unconfirmed	B*13:32	Confirmed	B*13:71	Unconfirmed		
B*13:02:11	Confirmed	B*13:33	Unconfirmed	B*13:72	Unconfirmed		
B*13:02:12	Unconfirmed	B*13:34	Unconfirmed	B*13:73	Unconfirmed		
B*13:02:13	Unconfirmed	B*13:35	Unconfirmed	B*13:74	Unconfirmed		
B*13:02:14	Confirmed	B*13:36	Unconfirmed	B*13:75	Unconfirmed		
B*13:02:15	Confirmed	B*13:37	Unconfirmed	B*13:76N	Unconfirmed		
B*13:02:16	Unconfirmed	B*13:38	Unconfirmed	B*13:77	Unconfirmed		
B*13:02:17	Confirmed	B*13:39	Unconfirmed	B*13:78	Unconfirmed		
B*13:02:18	Unconfirmed	B*13:40	Unconfirmed	B*13:79	Unconfirmed		
B*13:03	Confirmed	B*13:41	Unconfirmed	B*13:80	Unconfirmed		
B*13:04	Confirmed	B*13:42	Unconfirmed	B*13:81	Unconfirmed		
B*13:06	Confirmed	B*13:43	Unconfirmed	B*13:82	Unconfirmed		
B*13:07N	Unconfirmed	B*13:44	Unconfirmed	B*13:83	Unconfirmed		
B*13:08	Confirmed	B*13:45	Confirmed	B*13:84	Unconfirmed		
B*13:09	Unconfirmed	B*13:46	Unconfirmed	B*13:85	Unconfirmed		
B*13:10	Confirmed	B*13:47	Confirmed	B*13:86	Unconfirmed		
B*13:11	Confirmed	B*13:48	Confirmed	B*13:87	Unconfirmed		
B*13:12:01	Confirmed	B*13:49N	Unconfirmed	B*13:88	Unconfirmed		
B*13:12:02	Unconfirmed	B*13:50	Confirmed	B*13:89	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2016-October-14, release 3.26.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*13 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-B*13 SSP subtyping

Specificities and sizes of the PCR products of the 30+1 primer mixes used for
HLA-B*13 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*13 alleles ³	Other amplified HLA Class I alleles ⁴
1⁷	140 bp	800 bp	*13:01:01-13:04, 13:06-13:08, 13:10-13:12:01, 13:13:01-13:23, 13:25-13:38, 13:40-13:57, 13:59-13:66, 13:68-13:96	*44:60
2^{5,6}	95 bp	800 bp	*13:01:01-13:02:18, 13:07N-13:21, 13:23, 13:25-13:44, 13:47, 13:49N-13:52, 13:54-13:61, 13:63N-13:85, 13:87-13:96	*27:98, 40:91, 51:93
3	245 bp	800 bp	*13:01:01-13:01:12, 13:07N, 13:12:01-13:13:02, 13:17, 13:20-13:23, 13:25-13:26:02, 13:28-13:29, 13:36, 13:39, 13:43, 13:50-13:52, 13:57, 13:60-13:61, 13:63N, 13:73, 13:76N-13:80, 13:83, 13:87, 13:90, 13:92, 13:95	*07:12, 07:14, 07:18:01-07:18:02, 07:137, 07:162-07:163, 07:199, 07:225, 07:227, 07:248, 27:19, 27:30, 27:150, 35:15:01-35:15:02, 35:33, 35:88, 35:230, 40:04, 40:30, 40:34, 40:59, 40:64, 40:68, 40:120, 40:129, 40:137, 40:160:01-40:160:02, 44:16, 44:21, 44:64:01-44:64:02, 44:124, 44:150, 48:17, 57:13, 57:25, 58:37, C*02:62, C*03:34, C*03:142, C*03:261, C*03:272, C*15:42, C*15:111
4	245 bp	1070 bp	*13:02:01-13:02:18, 13:08-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:47, 13:49N, 13:54-13:56:02N, 13:58-13:59, 13:65-13:70, 13:72, 13:74-13:75, 13:81-13:82, 13:84-13:85, 13:88-13:89, 13:91, 13:93-13:94, 13:96	*07:78, 07:84, 27:14, 27:81, 27:130, 39:50, 40:06:01-01-40:06:15, 40:44, 40:53, 40:70:01-40:70:02, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 40:230, 40:244, 40:256N, 40:268-40:270, 40:275, 40:294-40:295, 40:298, 40:306-40:307, 40:311, 40:313, 40:317-40:318, 40:330, 40:340-40:342, 45:10, 49:07, 50:31, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 52:08, 54:26, 55:09, 55:22, 55:24, 59:09, 73:01-73:02, 78:08
5^{5,7}	125 bp	800 bp	*13:03, 13:22:01-13:22:02, 13:45, 13:48	*07:78, 15:42, 15:73, 15:86, 15:224, 15:303, 35:60, 40:71, 44:10, 46:11, 46:18, 51:62, 51:106, 51:157, 52:25:01-52:25:02, 54:01:01-54:03, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:17-54:37, 55:01:01-55:03, 55:05, 55:07, 55:09-55:12, 55:15-55:16, 55:18-55:19, 55:21-55:22, 55:24-55:26, 55:29-55:31, 55:33-55:40, 55:42-55:45, 55:47-55:48, 55:52-55:57, 55:59-55:67,

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	155 bp		*13:16, 13:20, 13:31, 13:41, 13:48	55:69-55:78, 55:80, 56:01:01:01-56:01:04, 56:01:06-56:02:01, 56:04, 56:07-56:08, 56:10, 56:13-56:14, 56:16-56:17, 56:19N-56:20:02, 56:23-56:30, 56:33-56:49, 56:51, 58:73, 59:01:01:01-59:01:01:02, 59:04-59:09, 82:01-82:03, C*01:90, C*15:91, C*15:128 *07:78, 15:42, 15:73, 15:303, 51:62, 51:106, 52:25:01-52:25:02, 54:20, 54:33, 55:01:01-55:01:16, 55:03, 55:05, 55:09, 55:11, 55:15, 55:21, 55:24-55:25, 55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52-55:55N, 55:59-55:60, 55:64, 55:66, 55:73-55:76, 55:78, 56:25, 56:37, 56:43, C*01:90, C*15:91, C*15:128
	180 bp		*13:03, 13:48	*15:73, 15:303, 40:71, 44:10, 46:11, 51:62, 51:106, 52:25:01-52:25:02, 54:03, 54:33, 56:01:01:01-56:01:04, 56:01:06-56:02:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:20:01-56:20:02, 56:24-56:30, 56:33-56:49, 56:51, 58:73, 59:04, 82:01-82:03
6^{5,9}	105 bp	1070 bp	*13:04, 13:46, 13:56:02N, 13:72	*15:04:01:01-15:04:04, 15:16:01:01-15:16:03, 15:67, 15:95, 15:137, 15:155, 15:222, 15:254, 15:293, 15:310, 15:362, 35:37, 35:235, 35:265, 35:276, 39:06:01-39:06:05, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 39:83, 39:90, 39:102, 39:109, 40:86, 40:159, 40:330, 41:30, 45:02, 45:09, 46:32, 49:04:01-49:05, 50:09, 50:33, 51:13:01-51:13:02, 51:37, 51:63:01-51:63:02, 51:92:01-51:92:02, 51:97, 51:172, 52:14, 52:39, 54:14, 55:13, 55:23, 55:32, 55:58, 55:68, 56:22, 56:50, 59:03, 73:01-73:02, C*07:463, C*12:183
7⁸	190 bp	1070 bp	*13:06, 13:53	*07:34, 08:01:01:01-08:01:22, 08:01:24-08:05, 08:08N-08:10, 08:12:01-08:13, 08:15-08:20, 08:22-08:24, 08:26:01-08:27, 08:29-08:36, 08:38-08:39, 08:41-08:48, 08:50-08:73, 08:75-08:78, 08:80-08:86N, 08:88, 08:90-08:106, 08:108 ^w , 08:109-08:110, 08:112-08:124, 08:126-08:155, 08:157-08:164, 08:166, 14:13, 14:53, 15:42, 15:83, 15:86, 15:188, 15:224, 15:252, 18:26, 18:61, 18:97, 35:60, 35:87, 35:157 ^w , 35:276, 37:12, 38:01:01, 38:01:03-38:02:05, 38:02:07-38:07, 38:09-38:21, 38:23-38:28, 38:31-38:51, 38:53-38:62, 38:64, 39:01:01:01-39:01:01:04, 39:01:03-39:01:18, 39:01:20-39:06:05, 39:08-39:14, 39:16, 39:18-39:20, 39:22-39:24:02, 39:26-39:28, 39:30-39:31, 39:34-39:37, 39:39:01-39:39:02, 39:41-39:42, 39:44-39:46, 39:48, 39:51-39:54, 39:56-39:73, 39:75-39:90, 39:92-39:95N, 39:97N, 39:98 ^w , 39:99-39:101, 39:103-39:108, 39:109 ^w , 39:110-39:121, 40:39, 40:51, 40:163, 40:184, 40:199, 41:01:01-41:03:02, 41:05-41:09,

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				41:11-41:16, 41:20, 41:22-41:48, 41:49 ^w , 42:01:01-42:02:01:02, 42:04-42:08, 42:10-42:15, 42:17-42:19, 42:21-42:24, 44:166, 46:18, 48:37, 51:21, 51:36, 51:101, 51:143, 51:153, 51:157, 52:37, 54:01:01-54:02, 54:04-54:05N, 54:07-54:08N, 54:10-54:13, 54:17-54:25, 54:27-54:32, 54:34-54:37, 55:01:01-55:05, 55:07, 55:10-55:13, 55:15-55:21, 55:25-55:26, 55:28-55:40, 55:42-55:45, 55:47-55:50, 55:52-55:57, 55:59-55:67, 55:69-55:78, 55:80, 56:10, 56:12, 56:23, 58:20, 59:01:01:01-59:03, 59:05-59:08, 67:01:01-67:07, 78:07, C*01:90, C*01:116, C*15:24, C*15:128
8⁸	225 bp	1070 bp	*13:18, 13:31, 13:41	*07:78, 07:84, 15:04:01:01-15:04:04, 15:137, 15:303, 35:265, 39:33, 40:161, 46:32, 49:41, 50:47, 51:05, 51:29, 51:54, 51:61:01-51:61:02, 51:82, 51:197, 52:21, 52:24, 54:10, 54:20, 54:33, 55:09, 55:21, 55:37, 55:52, 56:43, C*12:183
9	130 bp 230 bp	1070 bp	*13:42 *13:08	*51:38
10⁵	105 bp	800 bp	*13:01:11, 13:21, 13:71	*07:05:01:01-07:05:07, 07:06:01, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 07:137-07:138, 07:140, 07:176, 07:182N, 07:201N, 07:206-07:207, 07:209-07:210, 07:213, 07:222, 07:249, 07:258, 07:264, 07:269-07:270, 07:278, 07:283, 08:01:02, 08:01:13, 08:20, 08:53:02, 08:79, 15:150, 15:188, 27:07:01-27:07:05, 27:11, 27:20, 27:24, 27:27, 27:33, 27:43, 27:125, 27:130, 35:09:02-35:09:03, 35:18, 35:31, 35:88, 35:230, 38:63, 40:01:01-40:01:13, 40:01:15-40:01:20, 40:01:22-40:01:25, 40:01:27, 40:01:29, 40:01:31, 40:01:33-40:01:45, 40:01:47-40:02:09, 40:02:11-40:02:12, 40:02:14-40:02:17, 40:02:19, 40:02:21-40:02:25, 40:04-40:06:04, 40:06:06-40:06:09, 40:06:11-40:08, 40:10:01:01-40:13, 40:14:03-40:16, 40:19, 40:21-40:23, 40:25, 40:27:01-40:27:02, 40:29-40:30, 40:34-40:35:01, 40:36-40:40, 40:43, 40:45-40:51, 40:53-40:58, 40:61-40:70:02, 40:72:02-40:76, 40:79-40:86, 40:87:02-40:88, 40:90-40:94, 40:96-40:97, 40:99-40:114:01, 40:115-40:119, 40:122-40:123, 40:125-40:130:02, 40:132-40:135, 40:137-40:157, 40:160:01-40:171, 40:173-40:179, 40:182-40:183, 40:185-40:186:02, 40:188-40:236, 40:239-40:266, 40:268-40:279, 40:281-40:283, 40:285-40:304, 40:306, 40:308-40:311, 40:313-40:329, 40:331-40:340, 40:342-40:344, 41:08, 44:31, 48:01:01-48:01:06, 48:03:01-48:07, 48:09-48:11, 48:13,

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 101.515-12u – without *Taq* pol., IFU-02

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	210 bp		*13:09, 13:39, 13:67	48:15-48:16, 48:18-48:22, 48:24, 48:28-48:41, 51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 51:81, 52:54, 54:11, 55:04, 55:08, 55:49, 56:20:02, 58:27, 67:03, 81:01-81:08, C*01:90, C*01:116, C*02:68, C*03:317, C*15:24, C*15:128 *07:177, 08:102, 08:122, 14:48, 15:53, 15:183, 15:212, 15:336, 15:345, 18:80, 18:102, 18:107, 27:08, 27:12, 27:18, 27:26, 27:33, 27:40, 27:42, 27:44, 27:89, 27:153, 35:63, 35:84, 35:90, 35:150:01-35:150:02, 35:184, 35:201, 35:217, 35:317, 40:01:01-40:01:10, 40:01:12-40:09, 40:11:01-40:11:02, 40:14:01-40:16, 40:18, 40:20, 40:22N-40:40, 40:42-40:46, 40:48-40:57, 40:59-40:75, 40:77-40:95, 40:97-40:108, 40:111-40:116, 40:118N-40:136, 40:138-40:148, 40:150-40:156, 40:158-40:187, 40:189-40:200, 40:202-40:214, 40:216N-40:247, 40:249-40:281, 40:283-40:291N, 40:293-40:324, 40:326-40:339, 40:341-40:344, 41:01:01-41:04, 41:06-41:11, 41:13-41:21, 41:23-41:25, 41:27-41:35, 41:37-41:45N, 41:47-41:49, 44:09, 44:46, 44:75, 44:90, 44:129, 44:131, 44:254, 45:01:01-45:15, 45:17-45:19, 46:10, 47:02, 47:03 ^w , 50:01:01-50:02, 50:04-50:20, 50:31-50:49, 56:36, 73:01-73:02
11	280 bp	800 bp	*13:04, 13:10, 13:26:01-13:26:02, 13:72	*07:09, 07:11, 07:17, 07:162, 07:235, 07:237, 07:255, 08:28, 08:35, 08:37, 08:89, 08:107, 15:01:01:01-15:01:04, 15:01:06-15:08:02, 15:11:01-15:16:03, 15:18:01:01-15:21, 15:23-15:29, 15:31-15:36, 15:38:01-15:40:02, 15:43-15:44, 15:46-15:47:02, 15:49-15:57, 15:60-15:62, 15:64:01-15:72, 15:74-15:76, 15:78:01-15:82, 15:84-15:85, 15:87-15:89, 15:91-15:98, 15:101-15:129, 15:131-15:132, 15:134-15:136, 15:138-15:149N, 15:151-15:161, 15:163-15:167, 15:169-15:176, 15:178-15:187, 15:189-15:195, 15:197:01-15:207, 15:209N-15:215, 15:217-15:223, 15:225-15:228, 15:231-15:232, 15:234-15:242:02, 15:244-15:247, 15:249-15:251, 15:254-15:268, 15:270-15:272N, 15:274-15:286, 15:288-15:302N, 15:304N-15:311, 15:314-15:322, 15:325-15:328, 15:330-15:333, 15:335-15:337, 15:340-15:341, 15:343-15:355, 15:357-15:360, 15:362-15:395, 15:397-15:399, 15:401-15:402, 15:404-15:405, 18:01:01:01-18:15, 18:17N-18:25, 18:27-18:40, 18:42-18:60, 18:62-18:121, 18:123, 18:125-18:130, 27:41, 27:107, 35:01:01:01-35:01:45, 35:05:01-35:05:03, 35:07-35:08:09, 35:10-35:11:03, 35:14:01-35:17:02, 35:19-35:21, 35:23-35:30, 35:32:01-35:32:02, 35:35, 35:37, 35:40N-35:43:01, 35:45-35:54, 35:57-35:58,

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101.515-12u – without *Taq* pol., IFU-02

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				35:61:01-35:64:02, 35:66-35:69, 35:71-35:72, 35:76-35:80, 35:82, 35:86, 35:89-35:94, 35:97, 35:99-35:105, 35:107-35:108:02, 35:110-35:126, 35:130N-35:135, 35:137-35:148, 35:158-35:159, 35:161, 35:165N-35:166, 35:168, 35:170-35:171, 35:173N-35:178, 35:180, 35:185-35:192, 35:194, 35:196-35:197, 35:200, 35:202-35:203, 35:206-35:210, 35:212, 35:215-35:219, 35:222, 35:224-35:229, 35:232, 35:238-35:241, 35:244-35:245, 35:247-35:250, 35:252-35:255, 35:259-35:260, 35:262-35:265, 35:268-35:269, 35:271-35:272, 35:275, 35:277, 35:280, 35:283-35:284, 35:286-35:289, 35:293-35:295, 35:297, 35:299-35:308, 35:310, 35:313-35:315, 35:317-35:319, 35:322, 35:324-35:325, 35:327-35:328, 37:35, 37:56, 38:52, 39:07, 39:43, 39:91, 40:03, 40:20, 40:38, 40:52, 40:59-40:60, 40:105, 40:158-40:159, 40:222, 40:267, 40:284, 41:24, 41:30, 42:09, 44:17, 44:43:01-44:43:02, 44:144, 44:230, 44:256, 45:09, 46:01:01-46:10, 46:12-46:17, 46:19-46:60, 46:62-46:69, 48:02:01-48:02:03, 48:14, 48:23, 48:25, 49:04:01-49:05, 50:33, 51:37, 51:45, 51:63:01-51:63:02, 51:97, 52:39, 53:01:01-53:03, 53:05-53:06, 53:08:01-53:18, 53:20-53:30, 53:32, 53:34-53:35, 53:37-53:41, 53:43-53:45, 54:06, 54:09, 54:14, 55:14, 55:23, 55:32, 55:68, 56:03, 56:09, 56:18, 56:31-56:32, 56:50, 57:01:01-57:01:22, 57:06, 57:08, 57:10-57:11, 57:13-57:16, 57:18-57:27, 57:29-57:31, 57:33-57:38, 57:40-57:41, 57:43-57:45, 57:47-57:56, 57:58-57:62, 57:64-57:65, 57:67:01-57:69, 57:71-57:75, 57:77-57:79N, 57:81, 57:83, 57:85, 58:01:01:01-58:02:02, 58:04-58:07, 58:09-58:19, 58:21-58:26, 58:29, 58:31N-58:33, 58:35-58:64, 58:66-58:72N, 58:74-58:83
12^{5,8}	90 bp	1070 bp	*13:11	*07:182N, 15:18:03, 15:73, 15:224, 39:17, 40:48, 40:71, 51:62, 56:02:01-56:02:02, 56:04, 56:10, 56:51, C*02:06:01, C*02:47
13^{5,6,8}	100 bp	800 bp	*13:19, 13:52, 13:57	*27:04:01-27:04:03, 27:06, 27:20, 27:24-27:25, 27:66N, 27:68-27:69, 27:100, 27:103, 27:105, 49:34
	180 bp		*13:12:01-13:12:02	
14	130 bp	1070 bp	*13:13:01-13:13:02, 13:21, 13:35, 13:59, 13:71	*08:83, 40:91, 41:37, 51:93, 51:122
15⁵	105 bp	800 bp	*13:22:01	*07:78, 15:73, 15:303, 40:48, 54:22, 56:01:03, 56:20:02, C*15:91, C*15:128
	245 bp		*13:14, 13:83	*07:149, 18:09 ^w , 27:01 ^w , 27:142 ^w , 37:10 ^w , 38:02:01-38:02:06, 38:03-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35,

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 101.515-12u – without *Taq* pol., IFU-02

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16^{5,8}	90 bp 205 bp	800 bp	*13:17, 13:33, 13:57 *13:15	38:43-38:50, 38:62, 38:64, 40:96 ^w , 40:157 ^w , 40:201 ^w , 44:103 ^w , 44:130, 44:212 ^w , 44:224 *15:399, 35:46, 35:207 *14:37, 49:09, 51:62, 51:106, 52:25:01- 52:25:02, 56:34
17	160 bp 220 bp	1070 bp	*13:49N *13:27, 13:43	
18	155 bp 205 bp 275 bp	1070 bp	*13:28 *13:32 *13:44	
19	195 bp 240 bp 315 bp 340 bp	1070 bp	*13:34 *13:76N *13:96 *13:38	C*17:08 *39:77
20⁵	90 bp	1070 bp	*13:36	*15:399, 35:46
21⁵	120 bp 180 bp	1070 bp	*13:29 *13:30, 13:40	*44:219
22	135 bp 175 bp 300 bp	800 bp	*13:25 *13:40 *13:86	*07:225, 35:02:01-35:02:07, 35:02:08 ^w , 35:81, 35:83, 35:95, 35:129N, 35:146, 35:154, 35:157, 35:162, 35:172, 35:182- 35:184, 35:211, 35:220, 35:258, 35:270, 35:273, 35:285, 35:309, 35:311, 35:323, 45:12, 50:36, 53:19, 53:36, 58:65 *51:38
23	130 bp 200 bp 275 bp	1070 bp	*13:42 *13:37 *13:44	
24⁷	170 bp	1070 bp	*13:16, 13:20, 13:31, 13:48, 13:62	*07:02:01-07:24, 07:26-07:47, 07:49N-07:50, 07:52-07:154, 07:156-07:163, 07:165- 07:201N, 07:203-07:208, 07:210-07:219, 07:221-07:222, 07:224-07:225, 07:227- 07:234, 07:236-07:260, 07:262-07:270, 07:272N-07:281, 07:283, 08:20, 08:53:01- 08:53:02, 08:79, 08:156, 14:01:01-14:40, 14:42, 14:44-14:55, 15:01:01:01-15:01:04, 15:01:06-15:04:04, 15:06-15:17:04, 15:18:01:01-15:19, 15:21, 15:23-15:30, 15:32:01-15:40:02, 15:42-15:47:02, 15:49- 15:50, 15:53-15:54, 15:56-15:58, 15:60- 15:74, 15:76-15:82, 15:85, 15:87, 15:89- 15:90, 15:92-15:99, 15:101-15:104, 15:106, 15:108-15:110, 15:112-15:113, 15:115- 15:122, 15:125-15:129, 15:131-15:135, 15:137-15:144, 15:146-15:150, 15:152- 15:154, 15:156-15:161, 15:163-15:175, 15:177-15:178, 15:180-15:184, 15:187, 15:189-15:199, 15:201-15:217, 15:219- 15:221, 15:223, 15:225-15:234, 15:236, 15:238-15:249, 15:251-15:274, 15:276- 15:282, 15:284-15:311, 15:313-15:331, 15:333-15:347, 15:349-15:382, 15:384- 15:392, 15:394-15:395, 15:397-15:405, 18:15, 18:19, 18:21, 18:30, 18:57, 18:101, 27:04:01-27:04:05, 27:06, 27:10, 27:15,

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				27:18, 27:20-27:21, 27:24-27:25, 27:40, 27:54, 27:63, 27:66N, 27:68-27:69, 27:79, 27:86, 27:91-27:92, 27:100, 27:103, 27:105-27:109, 27:112-27:115, 27:120, 27:138, 27:149, 27:153, 35:11:01-35:11:03, 35:14:01-35:14:02, 35:21, 35:43:01-35:44, 35:58, 35:67, 35:79, 35:86, 35:96, 35:99, 35:102, 35:117-35:118, 35:135, 35:167, 35:185, 35:188, 35:213, 35:232, 35:265, 35:277, 37:07, 37:13, 38:10, 38:32, 39:18, 39:35-39:36, 39:107, 40:05, 40:15-40:16, 40:23, 40:26, 40:28, 40:32, 40:51, 40:95, 40:98, 40:148, 40:158, 40:161, 40:174, 40:183, 40:198, 40:309, 42:19, 44:76, 44:79:01-44:79:02, 44:146, 44:150, 46:01:01-46:05, 46:07N-46:08, 46:10, 46:12, 46:14-46:17, 46:20, 46:22-46:24, 46:26-46:32, 46:34-46:42, 46:44-46:70, 47:10, 48:05, 48:08, 48:15, 48:25, 49:01:01-49:10, 49:12-49:14, 49:16-49:44, 49:46, 50:01:01-50:02, 50:04-50:20, 50:31-50:48, 51:01:01:01-51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:24:05, 51:26-51:30, 51:32-51:39, 51:41N, 51:43, 51:45-51:46, 51:48-51:52, 51:55-51:72, 51:74-51:80, 51:82-51:92:02, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:119, 51:121, 51:123-51:138, 51:140, 51:142-51:147, 51:149N-51:152, 51:154-51:156, 51:158:01-51:180, 51:182-51:193, 51:195-51:213, 52:01:01:01-52:02:02, 52:04-52:09, 52:11-52:18, 52:20-52:27, 52:30-52:63, 53:06, 53:08:01-53:08:02, 53:28, 54:06, 54:20, 54:33, 55:01:01-55:01:16, 55:03, 55:05, 55:09, 55:11, 55:14-55:15, 55:17, 55:21, 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52-55:53, 55:55N-55:56, 55:58-55:60, 55:64, 55:66, 55:68, 55:73-55:76, 55:78, 56:03, 56:05:01-56:06, 56:21, 56:25, 56:32, 56:37, 57:09, 57:13, 57:22, 57:57, 57:63, 58:06, 58:08:01-58:08:02, 58:19, 58:46, 58:78, 78:01:01-78:03, 78:05-78:07, 78:09
25	160 bp 430 bp	800 bp	*13:70 *13:64	
26⁵	120 bp 175 bp	1070 bp	*13:50 *13:47	*27:82
27⁵	80 bp 165 bp 185 bp	1070 bp	*13:96 *13:61 *13:69	*39:77
28⁵	120 bp	1070 bp	*13:63N	
29	255 bp	1070 bp	*13:23, 13:55	*18:09, 27:01, 27:142, 37:10, 40:47, 40:96, 40:157, 40:201, 44:15, 44:55, 44:103, 44:188, 44:212, 49:02
30	185 bp	1070 bp	*13:07N	

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Lot-specific information

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Negative Control

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

When the primers in a primer mix can give rise to HLA-specific PCR products of more than one length this is indicated if the size difference is more than 20 base pairs. Size differences of 20 base pairs or less are not given. For high resolution SSP kits, the alleles listed are specified according to amplicon length.

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 internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

³For several HLA Class I alleles 1st and/or 4th exon(s) and beyond, as well as intron nucleotide sequences, are not available. In these instances it is not known whether some of the primers of the SSP sets are completely matched with the target sequences or not. Assumption is made that unknown sequences in these regions are conserved within allelic groups.

⁴Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*13 alleles will be amplified by primer mixes 1 to 16, 19 to 24, 26, 27 and 29. In addition, a few HLA-C alleles will be amplified by primer mixes 3, 5 to 8, 10, 12, 15 and 19.

⁵HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁶Primer mixes 2 and 13 may give rise to a weak band of about 500 bp. This band should be disregarded when interpreting HLA-B*13 SSP subtypings.

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

⁸Primer mixes 7, 8, 12, 13 and 16 may have tendencies of unspecific amplifications.

⁹Primer mix 6 has a tendency to giving rise to primer oligomer formation.

¹⁰Primer mix 31 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

'w', may be weakly amplified.

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Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	140	95	245	245	125	105	190	225	130	105	280	90
					155				230	210		
					180							
Length of int. pos. control ¹	800	800	800	1070	800	1070	1070	1070	1070	800	800	1070
5'-primer(s) ²	209	506	355	357	420	357	412	357	357	142	419	369
	5'-ggC 3'	5'-gCT 3'	5'-TCA 3'	5'-Tgg 3'	5'-TTA 3'	5'-Tgg 3'	5'-ATA 3'	5'-Tgg 3'	5'-Tgg 3'	5'-TCA 3'	5'-gTC 3'	5'-TAC 3'
										412		
										5'-ATA 3'		
3'-primer(s) ³	309	559	559	559	506	419	559	539	445	311	3 rd I	420
	5'-gTg 3'	5'-CTC 3'	5'-CTC 3'	5'-CTC 3'	5'-TgC 3'	5'-Cgg 3'	5'-CgT 3'	5'-TCC 3'	5'-ggA 3'	5'-ggT 3'	5'-TAT 3'	5'-gCT 3'
					527	419			548	477		
					5'-CCT 3'	5'-CgA 3'			5'-ggC 3'	5'-gCg 3'		
					538	426						
					5'-CCA 3'	5'-TCT 3'						
					559	426						
					5'-CAg 3'	5'-TCC 3'						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec. PCR product	100	130	105	90	160	155	195	90	120	135	130	170
	180		245	205	220	205	240		180	175	200	
						275	315			300	275	
							340					
Length of int. pos. control ¹	800	1070	800	800	1070	1070	1070	1070	1070	800	1070	1070
5'-primer(s) ²	268	419	103	144	368	209	358	209	160	209	357	527
	5'-Agg 3'	5'-gTA 3'	5'-CCT 3'	5'-gCA 3'	5'-gTT 3'	5'-ggC 3'	5'-TCT 3'	5'-ggC 3'	5'-ACT 3'	5'-ggC 3'	5'-Tgg 3'	5'-TgA 3'
	420		420	420	385	357	406		229	397		
	5'-TTA 3'		5'-TTA 3'	5'-TTA 3'	5'-ggT 3'	5'-Tgg 3'	5'-gCA 3'		5'-TAA 3'	5'-gCT 3'		
	636				441		712		520	520		
	5'-CAC 3'				5'-TAA 3'		5'-TCT 3'		5'-AgA 3'	5'-AgA 3'		
							733					
							5'-ATA 3'					
3'-primer(s) ³	317	506	309	193	559	323	559	259	309	302	445	3 rd I
	5'-ggA 3'	5'-TgA 3'	5'-gTg 3'	5'-CgT 3'	5'-CTC 3'	5'-AgC 3'	5'-CTC 3'	5'-gTT 3'	5'-gTg 3'	5'-ggC 3'	5'-ggA 3'	5'-TAT 3'
	476		486	476		523	916		3 rd I	3 rd I	515	
	5'-CCA 3'		5'-gCC 3'	5'-CCA 3'		5'-ACC 3'	5'-gAC 3'		5'-TAT 3'	5'-TAT 3'	5'-CCC 3'	
	559			583		593					593	
	5'-CCC 3'			5'-gTg 3'		5'-CgC 3'					5'-CgC 3'	
	700											
	5'-AgA 3'											
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.515-12 – including *Taq* pol., IFU-01
101.515-12u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **9E7**

Lot-specific information

Well No.	25	26	27	28	29	30
Length of spec.	160	120	80	120	255	185
PCR product	430	175	165			
			185			
Length of int. pos. control ¹	800	1070	1070	1070	1070	1070
5'-primer(s) ²	209	427	628	506	97	106
	5'-ggC 3'	5'-ACT 3'	5'-CAC 3'	5'-gCT 3'	5'-TCC 3'	5'-CCA 3'
		482	649			
		5'-ggT 3'	5'-ACT 3'			
			733			
			5'-ATA 3'			
3'-primer(s) ³	329	559	774	583	309	251
	5'-ggC 3'	5'-CTC 3'	5'-ggT 3'	5'-gTA 3'	5'-gTg 3'	5'-CCC 3'
	353					
	5'-AAA 3'					
Well No.	25	26	27	28	29	30

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

²The nucleotide position 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 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.

101.515-12 – including *Taq* pol., IFU-01
 101.515-12u – without *Taq* pol., IFU-02

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Lot No.: **9E7**

Lot-specific information

CELL LINE VALIDATION SHEET																			
HLA-B*13 SSP subtyping kit ²																			
			Well																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
			Prod. No.:	201553801	201553802	201553803	201553804	201553805	201553806	201553807	201553808	201553809	201553810	201553811	201553812	201553813	201553814	201553815	201553816
	IHWC cell line ¹	B*																	
1	9001 SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*52:01	*73:01	-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-
3	9011 E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
5	9009 KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*39:01	*51:01	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
7	9020 QBL	*18:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
8	9025 DEU	*35:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
9	9026 YAR	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*54:01		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*57:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
13	9004 JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
15	9075 DKB	*40:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
16	9037 SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
17	9282 CTM3953540	*08:01	*55:01	-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
18	9257 32367	*14:01	*56:01	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*18:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
20	9059 SLE005	*40:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
21	9064 AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
22	9056 KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*40:02	*56:02	-	-	-	-	+	-	-	-	-	+	-	+	-	-	-	-
24	9035 JBUSH	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*58:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
27	9191 CH1007	*07:05	*51:01	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
28	9320 BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*42:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
32	9297 HAG	*41:02		-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-
33	9098 MT14B	*40:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
34	9104 DHIF	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
37	9065 HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*15:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
39	9315 CML	*08:01	*27:05	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*13:02	*46:01	+	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-
41	9055 H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
43	9076 T7526	*46:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
44	9057 TEM	*38:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*42:01	*50:01	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-
46	9013 SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-

101.515-12 – including *Taq* pol., IFU-01
 101.515-12u – without *Taq* pol., IFU-02

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Lot No.: **9E7**

Lot-specific information

CELL LINE VALIDATION SHEET				Well													
HLA-B*13 SSP subtyping kit ²																	
				17	18	19	20	21	22	23	24	25	26	27	28	29	30
				201553817	201553818	201777919	201553820	201553821	201777922	201777923	201553824	201553825	201553826	201777927	201553828	201553829	201553830
	IHWC cell line ¹		B*	Prod. No.:													
1	9001 SA		*07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707		*52:01	*73:01	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324		*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373		*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011		*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM		*39:01	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL		*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU		*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR		*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3		*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT		*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB		*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM		*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA		*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB		*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007		*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540		*08:01	*55:01	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367		*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16		*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005		*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA		*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE		*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL		*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH		*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9		*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49		*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007		*07:05	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB		*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU		*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH		*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF		*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG		*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B		*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF		*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO		*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17		*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB		*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL		*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML		*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199		*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301		*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089		*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526		*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM		*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO		*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU		*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO		*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND		*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-

101.515-12 – including *Taq* pol., IFU-01
101.515-12u – without *Taq* pol., IFU-02

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Lot No.: 9E7

Lot-specific information

¹The provided cell line HLA specificities are retrieved from the <http://www.ihwg.org/hla> web site. The specificity of an individual cell line may thus be subject to change.

²The specificity of each primer solution in the kit has been tested against 48 well characterized cell line DNAs and where applicable, additional cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 9, 13, 14, 16 to 23, 25 to 28 and 30 were available. The specificities of the primers in primer mixes 13, 14, 16 and 20 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers. In primer solutions 9, 18, 23, 25, 28 and 30 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 17, 19, 21, 26 and 27 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 13 and 22, one 5'-primer was not possible to test and in primer solutions 6, 13, 16 and 22 one, two or three 3'-primers were not possible to test.

Additional primers in primer solutions 5 and 15 were tested by separately adding one 5'-primer and/or one 3'-primer.

101.515-12 – including *Taq* pol., IFU-01
101.515-12u – without *Taq* pol., IFU-02

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Lot No.: **9E7**

Lot-specific information

ADDRESSES:

Manufacturer:

Olerup SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Tel: +46-8-717 88 27

Fax: +46-8-717 88 18

E-mail: olerup-se@caredx.com

Web page: <http://www.olerup.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: olerup-at@caredx.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: olerup-us@caredx.com

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

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