

Lot No.: **1F1**

Lot-specific information
Olerup SSP[®] HLA-C*15

Product number:	101.626-12 – including <i>Taq</i> polymerase 101.626-12u – without <i>Taq</i> polymerase
Lot number:	1F1
Expiry date:	2019-10-01
Number of tests:	12
Number of wells per test:	39+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. 1F1.

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-C*15 LOT (1D5)**

The HLA-C*15 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

The format of the Worksheet has been changed.

Two wells have been added to HLA-C*15, wells **39 to 40**.

¹As described in section Uniquely Identified Alleles.

The HLA-C*15 primer set, specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup SSP[®] HLA-C*15* lot was made (**Lot No. 1D5**). The kit design is based on IMGT/HLA database 3.26.0.

Lot No.: 1F1

Lot-specific information

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

Well	5'-primer	3'-primer	rationale
20	-	Added	3'-primer added for the C*15:44:02 allele.
25	-	Added	3'-primer added for the C*15:122N allele.
27	Added	-	5'-primer added for the C*15:123 allele.
34	-	Added	3'-primer added for the C*15:108 allele.
37	-	Added	3'-primer added for the C*15:122N allele.
38	Added	Added	Negative Control moved to well 40, primer pair added for the C*15:124 allele.
39	New	New	New primer pairs added for the C*15:108 and C*15:132 alleles.
40	-	-	Negative Control added from well 38.

Lot No.: **1F1**

Lot-specific information

Well **40** 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.

Lot No.: **1F1**

Lot-specific information
PRODUCT DESCRIPTION

HLA-C*15 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*15:02 to C*15:133 alleles.

PLATE LAYOUT

Each HLA-C*15 test consists of 40 PCR reactions in a 48 well cut PCR plate. Wells 41 to 48 are 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	31	32
33	34	35	36	37	38	39	NC
empty	empty	empty	empty	empty	empty	empty	empty

The 48 well PCR plate is marked with 'HLA-C*15' in silver/gray ink. Well No. 1 is marked with the Lot No. '1F1'.

Wells 1 to 39 – HLA-C*15 high resolution primers.

Well 40 – 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 48 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-C alleles non-HLA-C*15 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*15 alleles, i.e. **C*15:02 to C*15:133**, recognized by the HLA Nomenclature Committee in October 2016^{1,2} will be amplified by the primers in the HLA-C*15 SSP kit³.

The HLA-C*15 kit enables separation of the confirmed HLA-C*15 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-C*15 alleles is listed below.

The HLA-C*15 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

Lot No.: 1F1

Lot-specific information

The following HLA-C*15 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
C*15:18, 15:118	9	C*15:35, 15:47	21
C*15:32Q, 15:41	24	C*15:44:01-14:44:02, 15:45	20
C*15:33, 15:84Q	28	C*15:46, 15:111	19
C*15:34, 15:39	17	C*15:81, 15:96Q	29

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

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>.

³The HLA-C*15 primer set cannot separate the C*15:04:01-15:04:02 and the C*16:70 alleles. These alleles can be distinguished by the HLA-C low resolution kit and/or HLA-C*16 high resolution kit.

Lot No.: **1F1** Lot-specific information
ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
C*15:02:01:01	Confirmed	C*15:09	Confirmed	C*15:58	Confirmed	C*15:107	Unconfirmed
C*15:02:01:02	Unconfirmed	C*15:10:01	Unconfirmed	C*15:59	Unconfirmed	C*15:108	Confirmed
C*15:02:01:03	Unconfirmed	C*15:10:02	Confirmed	C*15:60	Unconfirmed	C*15:109	Unconfirmed
C*15:02:02	Unconfirmed	C*15:10:03	Unconfirmed	C*15:61	Unconfirmed	C*15:110	Unconfirmed
C*15:02:03	Confirmed	C*15:11	Confirmed	C*15:62	Unconfirmed	C*15:111	Unconfirmed
C*15:02:04	Confirmed	C*15:12	Unconfirmed	C*15:63	Unconfirmed	C*15:112	Unconfirmed
C*15:02:05	Confirmed	C*15:13	Confirmed	C*15:64	Unconfirmed	C*15:113	Unconfirmed
C*15:02:06	Unconfirmed	C*15:15	Unconfirmed	C*15:65	Unconfirmed	C*15:114	Confirmed
C*15:02:07	Confirmed	C*15:16	Unconfirmed	C*15:66	Unconfirmed	C*15:115N	Unconfirmed
C*15:02:08	Confirmed	C*15:17	Confirmed	C*15:67	Unconfirmed	C*15:116	Unconfirmed
C*15:02:09	Unconfirmed	C*15:18	Confirmed	C*15:68	Unconfirmed	C*15:117	Unconfirmed
C*15:02:10	Unconfirmed	C*15:19	Confirmed	C*15:69	Confirmed	C*15:118	Confirmed
C*15:02:11	Confirmed	C*15:21	Unconfirmed	C*15:70	Unconfirmed	C*15:119	Unconfirmed
C*15:02:12	Unconfirmed	C*15:22	Confirmed	C*15:71	Unconfirmed	C*15:120	Unconfirmed
C*15:02:13	Unconfirmed	C*15:23	Confirmed	C*15:72	Unconfirmed	C*15:121	Unconfirmed
C*15:02:14	Confirmed	C*15:24	Confirmed	C*15:73	Unconfirmed	C*15:122N	Unconfirmed
C*15:02:15	Confirmed	C*15:25	Unconfirmed	C*15:74	Confirmed	C*15:123	Confirmed
C*15:02:16	Unconfirmed	C*15:26	Confirmed	C*15:75	Unconfirmed	C*15:124	Unconfirmed
C*15:02:17	Unconfirmed	C*15:27	Confirmed	C*15:76	Unconfirmed	C*15:125	Unconfirmed
C*15:02:18	Unconfirmed	C*15:28	Confirmed	C*15:77	Unconfirmed	C*15:126	Unconfirmed
C*15:02:19	Unconfirmed	C*15:29	Unconfirmed	C*15:78:01	Unconfirmed	C*15:127	Unconfirmed
C*15:02:20	Confirmed	C*15:30	Confirmed	C*15:78:02	Unconfirmed	C*15:128	Unconfirmed
C*15:02:21	Unconfirmed	C*15:31	Confirmed	C*15:79	Unconfirmed	C*15:129	Unconfirmed
C*15:02:22	Unconfirmed	C*15:32Q	Confirmed	C*15:80	Unconfirmed	C*15:130	Unconfirmed
C*15:02:23	Confirmed	C*15:33	Confirmed	C*15:81	Unconfirmed	C*15:131	Unconfirmed
C*15:02:24	Unconfirmed	C*15:34	Confirmed	C*15:82	Confirmed	C*15:132	Confirmed
C*15:02:25	Unconfirmed	C*15:35	Unconfirmed	C*15:83	Unconfirmed	C*15:133	Unconfirmed
C*15:02:26	Unconfirmed	C*15:36	Confirmed	C*15:84Q	Unconfirmed		
C*15:02:27	Confirmed	C*15:37	Unconfirmed	C*15:85	Confirmed		
C*15:02:28	Unconfirmed	C*15:38	Unconfirmed	C*15:86	Unconfirmed		
C*15:03	Unconfirmed	C*15:39	Confirmed	C*15:87	Unconfirmed		
C*15:04:01	Confirmed	C*15:40	Confirmed	C*15:88	Unconfirmed		
C*15:04:02	Confirmed	C*15:41	Unconfirmed	C*15:89	Unconfirmed		
C*15:05:01	Confirmed	C*15:42	Confirmed	C*15:90	Unconfirmed		
C*15:05:02	Confirmed	C*15:43	Unconfirmed	C*15:91	Unconfirmed		
C*15:05:03	Unconfirmed	C*15:44:01	Confirmed	C*15:92N	Unconfirmed		
C*15:05:04	Unconfirmed	C*15:44:02	Unconfirmed	C*15:93	Unconfirmed		
C*15:05:05	Unconfirmed	C*15:45	Unconfirmed	C*15:94	Unconfirmed		
C*15:05:06	Confirmed	C*15:46	Unconfirmed	C*15:95N	Unconfirmed		
C*15:05:07	Confirmed	C*15:47	Unconfirmed	C*15:96Q	Confirmed		
C*15:05:08	Unconfirmed	C*15:48	Unconfirmed	C*15:97	Unconfirmed		
C*15:05:09	Unconfirmed	C*15:49	Unconfirmed	C*15:98	Unconfirmed		
C*15:05:10	Unconfirmed	C*15:50	Unconfirmed	C*15:99	Unconfirmed		
C*15:05:11	Unconfirmed	C*15:51	Unconfirmed	C*15:100	Unconfirmed		
C*15:05:12	Unconfirmed	C*15:52	Confirmed	C*15:101	Confirmed		
C*15:06:01	Confirmed	C*15:53	Unconfirmed	C*15:102	Confirmed		
C*15:06:02	Confirmed	C*15:54	Unconfirmed	C*15:103	Confirmed		
C*15:06:03	Confirmed	C*15:55	Unconfirmed	C*15:104	Unconfirmed		
C*15:07	Confirmed	C*15:56	Confirmed	C*15:105Q	Unconfirmed		
C*15:08	Unconfirmed	C*15:57	Unconfirmed	C*15:106	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-C*15 homo- and heterozygotes is available upon request.



Lot No.: 1F1

Lot-specific information

SPECIFICITY TABLE

HLA-C*15 SSP subtyping

Specificities and sizes of the PCR products of the 39+1 primer mixes used for HLA-C*15 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*15 alleles ³	Other amplified HLA Class I alleles
1	330 bp	800 bp	*15:02:01:01-15:03, 15:05:01-15:13, 15:15-15:19, 15:21-15:24, 15:26-15:29, 15:31-15:39, 15:41-15:63, 15:67-15:75, 15:78:01-15:101, 15:103-15:104, 15:106-15:109, 15:111-15:128, 15:130-15:133	*01:02:22, 01:90, 01:101-01:102, 01:113, 01:116, 02:06:01-02:06:02, 02:23, 02:36, 02:68, 03:04:33, 03:04:39, 03:81, 03:175, 03:199, 03:245, 03:317, 04:108, 04:178, 05:132, 06:89, 07:47, 07:123, 07:173, 07:294, 08:113, 12:15, 12:113, 16:20
2	175 bp	1070 bp	*15:02:01:01-15:09, 15:12-15:13, 15:15, 15:18-15:19, 15:21-15:24, 15:26, 15:28-15:42, 15:44:01-15:62, 15:64-15:106, 15:108-15:112, 15:114-15:123, 15:125-15:133	*03:08, 03:29, 03:31, 03:246, 07:20, 07:96:01-07:96:02, 07:263, 16:70
3 ⁴	85 bp 210 bp	1070 bp	*15:28 *15:03, 15:16, 15:25 ^w	*03:15, 03:27 ^w , 03:38:01 ^w -03:38:02 ^w , 03:69 ^w , 03:130, 03:136 ^w , 03:163, 03:246 ^w , 03:297, 04:16, 06:03:01, 06:70:02, 06:132:01-06:132:02, 07:02:10 ^w , 07:96:01 ^w -07:96:02 ^w , 07:127 ^w , 07:246:01 ^w , 07:263 ^w , 07:314:02 ^w , 12:03:23 ^w
4	315 bp	1070 bp	*15:04:01-15:04:02, 15:09, 15:19, 15:27, 15:30, 15:61, 15:65, 15:77, 15:107, 15:126	*01:04, 01:21, 01:54, 01:97, 01:102, 02:02:01-02:02:03, 02:02:05-02:05:03, 02:08-02:18, 02:20-02:21, 02:24-02:40:02, 02:42-02:46, 02:48-02:67Q, 02:69-02:96, 02:98-02:110, 02:112-02:126, 03:02:01-03:02:14, 03:14-03:16, 03:33, 03:36, 03:40:01-03:40:04, 03:42-03:43:02, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108, 03:110, 03:119:01-03:119:02, 03:121N, 03:132, 03:139, 03:146, 03:169Q, 03:175, 03:190, 03:194, 03:197-03:201N, 03:216, 03:221-03:222, 03:224N-03:226, 03:240, 03:245, 03:248, 03:258, 03:264, 03:271, 03:279, 03:298-03:301, 03:315, 03:329-03:330, 03:332, 03:338, 04:54, 05:04:01-05:04:02, 05:103:01-05:103:02, 05:135, 06:02:01:01-06:02:01:03, 06:02:03-06:08, 06:10-06:33, 06:35-06:37, 06:39-06:102:02,

Lot No.: 1F1

Lot-specific information

				06:104-06:106:02, 06:108-06:143, 06:145-06:167, 06:169-06:178, 06:180-06:196, 07:01:01:01-07:02:62, 07:02:64-07:03, 07:05-07:10, 07:14-07:27:02, 07:30-07:33N, 07:35-07:40, 07:42-07:44, 07:46-07:62, 07:64-07:100, 07:102-07:138, 07:140-07:141:02, 07:143-07:176, 07:178-07:180, 07:182-07:183, 07:185-07:198N, 07:200-07:218, 07:220-07:230, 07:232-07:247, 07:249-07:271, 07:273-07:288, 07:291-07:294, 07:296-07:322, 07:325-07:327, 07:330:01-07:335, 07:337, 07:339-07:353, 07:356, 07:359-07:360, 07:362-07:363, 07:366-07:377, 07:379-07:393N, 07:396-07:402, 07:404-07:405, 07:407-07:419, 07:421-07:425, 07:427, 07:429-07:446, 07:448-07:458, 07:460-07:465, 07:468-07:479, 07:481-07:483N, 07:485-07:486, 07:488-07:500, 07:502-07:521, 07:524-07:533, 07:537-07:542, 07:544-07:551N, 07:553-07:561, 08:09, 08:11, 08:59, 08:113, 12:02:01-12:14:02, 12:16-12:30, 12:32-12:140, 12:142-12:143, 12:145-12:200, 14:02:01:01-14:25, 14:27-14:53, 14:56-14:78, 14:80-14:81, 16:01:01:01-16:02:13, 16:04:01, 16:04:03-16:04:04, 16:06-16:09, 16:11-16:44, 16:46-16:66, 16:68-16:99, 16:101
5^{4,5}	100 bp	1070 bp	*15:05:01-15:05:12, 15:22-15:23, 15:29, 15:36, 15:46, 15:54, 15:59, 15:69-15:70, 15:90, 15:104, 15:108, 15:110-15:111, 15:115N-15:117, 15:125	*04:108, B*07:246, B*35:03:11, B*35:205
	160 bp		*15:92N	
6	305 bp	1070 bp	*15:06:01-15:06:03, 15:40, 15:55, 15:102	
	345 bp		*15:26, 15:69	
	370 bp		*15:22, 15:37, 15:55, 15:58, 15:65, 15:72, 15:102, 15:125	
7	140 bp	800 bp	*15:07, 15:21, 15:25, 15:116	*01:02:34, 01:21, 02:12, 02:27:01-02:27:02, 02:87, 02:115, 02:126, 03:04:25, 04:11, 04:29, 04:36, 04:55, 04:172, 04:214, 07:02:09, 08:01:01-08:02:10, 08:02:12-08:09, 08:11-08:63, 08:65-08:94, 08:95 ^w , 08:96-08:143, 12:02:01-12:02:10, 12:02:12-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:23, 12:03:24 ^w , 12:03:25-12:03:33, 12:03:35-12:03:40, 12:06-12:08, 12:10:01-12:20, 12:22-12:26, 12:28-12:32, 12:34-12:40, 12:42Q-12:53, 12:55-12:59, 12:61-12:122, 12:124-12:145, 12:147-12:187,

Lot No.: **1F1**

Lot-specific information

				12:189-12:194, 12:196-12:200, 14:02:03, 14:03, 14:08, 14:10, 14:22, 14:35N, 14:38, 14:41, 14:53-14:54, 14:61, 14:70, 14:79, 16:01:01:01-16:01:01:02, 16:01:03-16:01:15, 16:01:17-16:01:22, 16:04:01, 16:04:03-16:04:04, 16:06-16:08, 16:10-16:11, 16:13-16:18, 16:20-16:24, 16:26-16:45, 16:49-16:56, 16:58-16:59, 16:61-16:62, 16:64-16:68, 16:71 ^w , 16:72-16:73, 16:75-16:76, 16:78-16:83, 16:86-16:87, 16:92-16:93, 16:95-16:98, B*35:08:02, B*35:08:05, B*67:02
8	160 bp	1070 bp	*15:08, 15:74	*01:90 ^w , 02:06:01-02:06:02, 02:47, 05:132, 06:168, 12:15, B*07:78^w, B*13:18^w, B*13:31^w, B*13:41^w, B*13:73^w, B*15:73^w, B*15:303^w, B*54:10^w, B*54:20^w, B*54:33^w, B*55:09^w, B*55:21^w, B*55:37^w, B*55:52^w, B*56:43^w, B*56:51^w
	185 bp		*15:19	
9	135 bp	1070 bp	*15:11, 15:23, 15:63, 15:118	*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:02:25, 02:02:27-02:02:28, 02:02:30-02:02:20, 02:22-02:25Q, 02:27:01-02:38N, 02:40:01-02:40:02, 02:42-02:44, 02:46-02:86, 02:88-02:100, 02:101 ^w , 02:102-02:126, 04:03:01-04:03:03, 04:06, 04:42:01-04:42:02, 04:80, 04:107, 04:147, 04:160, 04:171, 04:190, 04:220, 04:256, 05:26, 05:43, 06:05, 07:02:09, 08:37, 12:16, 12:147, 16:21, 16:34, 16:80
	305 bp		*15:18	*04:210, 04:237
10	170 bp	1070 bp	*15:10:01-15:10:03, 15:107	*01:64, 02:08, 02:87, 03:18:01-03:18:02, 03:64:01-03:64:02, 03:231, 03:301, 04:01:01:01-04:01:02, 04:01:04-04:01:76, 04:01:79-04:01:81, 04:04:01-04:05, 04:07-04:15:03, 04:17-04:20, 04:23-04:79, 04:81-04:106, 04:108-04:132, 04:134-04:139, 04:141-04:146, 04:148-04:159, 04:161-04:165, 04:167-04:170N, 04:172-04:189, 04:191N-04:219, 04:221-04:255N, 04:257, 05:01:01:01-05:01:21, 05:01:23-05:01:34, 05:03-05:57, 05:59-05:97, 05:99N-05:126, 05:128N-05:144, 06:28, 06:76:01-06:76:02, 07:64, 07:73, 07:92, 07:172:01-07:172:02, 08:01:01-08:13, 08:15:01-08:57, 08:59-08:63, 08:65-08:79, 08:81-08:102, 08:104, 08:106-08:133, 08:135-08:143, 12:02:01-12:15, 12:17-12:70, 12:72-12:139, 12:141-12:146, 12:148N-12:200, 14:02:01:01-14:02:09, 14:02:11-14:02:20, 14:04-14:09, 14:11-14:17, 14:19-14:21N, 14:23-14:34, 14:36-14:37, 14:39-14:40,

Lot No.: **1F1**

Lot-specific information

				14:42-14:52, 14:55-14:60, 14:62-14:69, 14:71-14:78, 14:80-14:81, 16:01:01:01-16:02:13, 16:04:01, 16:04:03-16:04:04, 16:06-16:33, 16:35-16:69, 16:71-16:79, 16:81-16:84, 16:86-16:99, 16:101, 17:01:01:02-17:01:07, 17:01:09-17:34, 18:04
11	315 bp	800 bp	*15:02:01:01-15:03, 15:07-15:08, 15:10:01-15:13, 15:15-15:18, 15:21, 15:26, 15:28, 15:31-15:35, 15:37-15:39, 15:41-15:45, 15:47-15:53, 15:56-15:58, 15:60, 15:62-15:63, 15:67-15:68, 15:71-15:75, 15:78:01-15:89, 15:91-15:101, 15:103, 15:106, 15:109, 15:112-15:114, 15:118-15:124, 15:127, 15:129-15:133	*02:06:01-02:06:02, 02:47, 03:19, 03:102, 03:307, 04:178, 05:132, 06:168, 07:289, 12:15
12⁴	100 bp 200 bp 240 bp	1070 bp	*15:28 *15:95N *15:07, 15:21 ^w , 15:25, 15:43, 15:116 ^w	*02:12 ^w , 02:27:01-02:27:02, 02:115, 02:126 ^w , 03:02:01-03:02:09, 03:02:11-03:03:14, 03:03:15 ^w , 03:03:16-03:03:20, 03:03:22-03:04:16, 03:04:18-03:04:25, 03:04:27-03:06:02, 03:08-03:09, 03:10 ^w , 03:11:01-03:11:02, 03:13:01-03:14, 03:16-03:17, 03:18:02-03:28, 03:29 ^w , 03:30-03:38:02, 03:40:01-03:44, 03:46-03:64:01, 03:65-03:66, 03:68-03:98, 03:100-03:114, 03:116:01-03:129, 03:131-03:133, 03:135-03:136, 03:138-03:139, 03:141-03:143, 03:145-03:155, 03:157-03:162, 03:164-03:165, 03:167-03:169Q, 03:171-03:181, 03:183-03:194, 03:196-03:230, 03:232-03:242, 03:244Q-03:263:02, 03:265N-03:267, 03:269-03:277N, 03:278 ^w , 03:279-03:294, 03:295 ^w , 03:296, 03:298-03:334, 03:336-03:343, 07:96:01-07:96:02, 07:314:02, 12:03:23, 16:34, B*40:164
13⁴	125 bp 185 bp	1070 bp	*15:24 *15:12	*01:116, 04:89, 04:135, 05:47 *04:52, 04:55, 05:55, 12:58, 14:10
14	130 bp 440 bp	800 bp	*15:13, 15:103 *15:11, 15:16-15:17, 15:43	*01:90, 02:06:01-02:06:02, 02:47, 03:19, 03:102, 03:307, 03:318N, 04:178, 05:132, 06:168, 07:289, 12:15, B*46:11, B*46:18, B*56:08, B*56:14
15⁴	85 bp	1070 bp	*15:02:01:01-15:06:03, 15:08-15:10:03, 15:12-15:13, 15:15, 15:18-15:19, 15:21-15:24, 15:26, 15:28-15:42,	*03:29, 04:112, 04:169, 05:36, 06:44, 07:07, 07:09, 07:559, 16:70, 18:05

Lot No.: 1F1

Lot-specific information

		15:44:01-15:47, 15:49-15:84Q, 15:86-15:94, 15:96Q-15:133	
16⁴	90 bp 165 bp 345 bp	1070 bp	*15:27 *15:15, 15:77 *15:26, 15:69
			B*35:222, B*42:22
17⁶	140 bp 215 bp 295 bp	1070 bp	*15:34 *15:36 *15:39, 15:130
			*14:81 *04:112, 04:169, 14:73 *01:30, 08:51, 08:114, 12:87, 14:76
18⁶	215 bp	1070 bp	*15:31
			*03:14, 03:162, 03:230, 03:234, 03:261, 03:309, 03:325, 07:10, 07:43:01-07:43:02, 07:184, 07:196, 07:367, 08:44, 08:61, 08:82, B*15:88, B*44:247, B*58:05
19	165 bp 355 bp	1070 bp	*15:42, 15:111 *15:46
20⁴	120 bp 200 bp 235 bp 295 bp	1070 bp	*15:44:01-15:44:02 *15:95N *15:45 *15:97
			*03:148 *04:146
21	165 bp 445 bp	800 bp	*15:47, 15:92N *15:35
			*02:35, 02:120, 04:238, 05:21
22	225 bp 295 bp	800 bp	*15:38 *15:97
			*04:146
23⁵	175 bp 545 bp	1070 bp	*15:48 *15:29, 15:87
			*01:85, 08:22, 08:56
24	175 bp 330 bp 380 bp	1070 bp	*15:32Q *15:105Q *15:41
			*06:74Q
25⁴	125 bp 225 bp	1070 bp	*15:122N *15:52
			B*39:95N B*15:363:02, B*18:91, B*35:247, B*58:45:02
26	200 bp	1070 bp	*15:56, 15:103, 15:127
			B*15:193, B*35:132, B*35:246, B*35:283, B*39:53, B*39:57, B*40:171, B*51:95
27⁶	330 bp 375 bp	1070 bp	*15:30, 15:105Q *15:123
			*07:174, 07:298, 08:112, 12:165
28⁴	85 bp 180 bp	1070 bp	*15:33, *15:84Q
29⁴	120 bp 255 bp	1070 bp	*15:96Q *15:81
			*04:59Q, 16:16Q, B*15:218Q
30⁴	90 bp	1070 bp	*15:82
31	150 bp	1070 bp	*15:07, 15:25, 15:85
			*01:02:34, 01:21, 02:27:01-02:27:02, 02:65, 02:87, 02:115, 03:04:25, 04:11, 04:29, 04:36, 04:55, 04:114, 04:172, 05:20, 07:02:09, 08:01:01-08:02:10, 08:02:12-08:09, 08:11-08:63, 08:65-08:94, 08:95 ^w , 08:96-08:143, 12:02:01-12:02:10, 12:02:12-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:23, 12:03:24 ^w , 12:03:25-12:03:33, 12:03:35-12:03:40, 12:06-12:08, 12:10:01-12:20, 12:22-12:32, 12:34-12:40, 12:42Q-12:59, 12:61-12:68, 12:70-12:71,

Lot No.: 1F1

Lot-specific information

				12:73-12:122, 12:124-12:134, 12:136-12:145, 12:147-12:153, 12:155Q-12:194, 12:196-12:200, 14:02:03, 14:03, 14:08, 14:10, 14:22, 14:35N, 14:38, 14:41, 14:53-14:54, 14:61, 14:70, 14:79, 16:01:01:01-16:01:01:02, 16:01:03-16:01:15, 16:01:17-16:01:22, 16:04:01, 16:04:03-16:04:04, 16:06-16:08, 16:10-16:11, 16:13-16:18, 16:20-16:24, 16:26-16:36, 16:38-16:45, 16:49-16:59, 16:61-16:62, 16:64-16:68, 16:71 ^w , 16:72-16:73, 16:75-16:76, 16:78-16:83, 16:86-16:87, 16:92-16:93, 16:95-16:98, B*35:08:02, B*35:08:05, B*67:02
32	160 bp	1070 bp	*15:74	*02:06:01-02:06:02, 02:47, 06:168, 12:15
33⁴	75 bp	1070 bp	*15:02:01:01-15:05:10, 15:06:01-15:06:03, 15:08-15:10:03, 15:12-15:13, 15:15, 15:18-15:19, 15:22-15:24, 15:26, 15:28-15:42, 15:44:01-15:47, 15:49-15:70, 15:72-15:94, 15:96Q-15:115N, 15:117-15:133	*01:118, 04:112, 04:169, 05:36, 06:44, 07:07, 07:09, 07:210, 07:247, 12:188, 16:70, 18:05
34⁴	110 bp 140 bp	1070 bp	*15:108 *15:114	
35⁴	120 bp	1070 bp	*15:115N	*04:205N, 06:128N
36	210 bp	1070 bp	*15:102	*01:02:01-01:02:31, 01:02:33-01:03, 01:06-01:07:01, 01:08, 01:10-01:11, 01:13-01:20, 01:23-01:33, 01:38-01:48, 01:51-01:54, 01:56N-01:76, 01:78, 01:80-01:90, 01:92-01:96, 01:98N-01:100, 01:103-01:113, 01:115-01:119, 01:121Q-01:126, 01:128-01:130, 03:58, 03:86, 03:94, 03:99, 04:37, 05:85, 05:107, 14:45
37⁴	125 bp 220 bp	1070 bp	*15:122N *15:101	B*39:95N B*40:270
38	360 bp	1070 bp	*15:124	
39⁴	110 bp 155 bp	1070 bp	*15:108 *15:132	
40⁷	-	-	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 C*15 high resolution 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.

Lot No.: 1F1**Lot-specific information**

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.

⁴HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁵Primer mixes 5 and 23 may give rise to a lower yield of HLA-specific PCR product than the other C*15 primer mixes.

⁶Primer mixes 17, 18 and 27 may have tendencies of unspecific amplifications.

⁷Primer mix 40 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', might be weakly amplified.

Lot No.: 1F1

Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	330	175	85	315	100	305	140	160	135	170	315	100
			210		160	345		185	305			200
						370						240
Length of int. pos. control ¹	800	1070	1070	1070	1070	1070	800	1070	1070	1070	800	1070
5'-primer(s) ²	399	134	118	419	358	355	201	125	97	1 st I	420	105
	5'-CTg ^{3'}	5'-CCA ^{3'}	5'-CCg ^{3'}	5'-gTC ^{3'}	5'-TCT ^{3'}	5'-CCC ^{3'}	5'-CCA ^{3'}	5'-CgA ^{3'}	5'-TCg ^{3'}	5'-CgA ^{3'}	5'-TTA ^{3'}	5'-gCT ^{3'}
	408				420	379		420	118		420	
	5'-ggA ^{3'}				5'-TTC ^{3'}	5'-ACg ^{3'}		5'-TTA ^{3'}	5'-CCA ^{3'}		5'-TTA ^{3'}	
	409					419			430			
	5'-ggC ^{3'}					5'-gTA ^{3'}			5'-ACC ^{3'}			
3'-primer(s) ³	3 rd I	270	164	3 rd I	477	3 rd I	302	270	201	134	3 rd I	164
	5'-CTC ^{3'}	5'-TAG ^{3'}	5'-gCA ^{3'}	5'-CTC ^{3'}	5'-gCg ^{3'}	5'-ggA ^{3'}	5'-ggC ^{3'}	5'-TAG ^{3'}	5'-CTT ^{3'}	5'-AgC ^{3'}	5'-CTC ^{3'}	5'-gCA ^{3'}
			289				302	539	3 rd I			265
			5'-AgC ^{3'}				5'-ggC ^{3'}	5'-TCC ^{3'}	5'-CTC ^{3'}			302
												5'-ggC ^{3'}
												302
												5'-ggC ^{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	125	130	85	90	140	215	165	120	165	225	175	175
	185	440		165	215		355	200	445	295	545	330
				345	295			235				380
								295				
Length of int. pos. control ¹	1070	800	1070	1070	1070	1070	1070	1070	800	800	1070	1070
5'-primer(s) ²	201	270	270	261	98	355	368	105	322	128	134	356
	5'-CCA ^{3'}	5'-AAg ^{3'}	5'-AAC ^{3'}	5'-AAC ^{3'}	5'-CTC ^{3'}	5'-TCA ^{3'}	5'-gTC ^{3'}	5'-gCT ^{3'}	5'-gCC ^{3'}	5'-AgT ^{3'}	5'-CCA ^{3'}	5'-CAA ^{3'}
	2 nd I	757		379	2 nd I		560	3 rd I	358	3 rd I	972	404
	5'-CCA ^{3'}	5'-CCC ^{3'}		5'-ACg ^{3'}	5'-CCA ^{3'}		5'-CgA ^{3'}	5'-Cgg ^{3'}	5'-TCT ^{3'}	5'-Cgg ^{3'}	5'-CTA ^{3'}	5'-CCg ^{3'}
				560					715			562
				5'-CCT ^{3'}					5'-CAg ^{3'}			5'-Cgg ^{3'}
3'-primer(s) ³	343	420	312	312	270	527	3 rd I	186	477	312	266	3 rd I
	5'-T ^{3'}	5'-gCT ^{3'}	5'-AgT ^{3'}	5'-AgT ^{3'}	5'-TAG ^{3'}	5'-CCg ^{3'}	5'-ggA ^{3'}	5'-TCC ^{3'}	5'-gCg ^{3'}	5'-AgT ^{3'}	5'-TCA ^{3'}	5'-CTC ^{3'}
	412	846		3 rd I	427			186	846	845	1034	
	5'-gTT ^{3'}	5'-CAC ^{3'}		5'-ggA ^{3'}	5'-gTT ^{3'}			5'-TCT ^{3'}	5'-CAC ^{3'}	5'-ACA ^{3'}	5'-AgT ^{3'}	
					583			265				
					5'-gTg ^{3'}			5'-CTA ^{3'}				
								299				
								5'-TCT ^{3'}				
								845				
								5'-ACA ^{3'}				
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Lot No.: **1F1**

Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	125	200	330	85	120	90	150	160	75	110	120	210
PCR product	225		375	180	255					140		
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	409	409	363	409	486	797	201	420	270	105	232	368
	5'-ggC 3'	5'-ggC 3'	5'-AgT 3'	5'-ggC 3'	5'-ACg 3'	5'-CCg 3'	5'-CCA 3'	5'-TTA 3'	5'-AAC 3'	5'-gCT 3'	5'-AgT 3'	5'-gTg 3'
			404		631							
			5'-CCg 3'		5'-Agg 3'							
			404									
			5'-CCA 3'									
3'-primer(s) ³	493	565	3 rd I	455	563	846	312	538	302	172	312	538
	5'-CTA 3'	5'-CAT 3'	5'-CTC 3'	5'-CCA 3'	5'-CgT 3'	5'-CAC 3'	5'-Agg 3'	5'-CCA 3'	5'-ggT 3'	5'-CAT 3'	5'-AgT 3'	5'-CCg 3'
	595	575		549	846					205		
	5'-CCg 3'	5'-ggg 3'		5'-..g 3'	5'-CAC 3'					5'-CCT 3'		
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38	39
Length of spec.	125	360	110
PCR product	220		155
Length of int. pos. control ¹	1070	1070	1070
5'-primer(s) ²	409	283	105
	5'-ggC 3'	5'-AgA 3'	5'-gCT 3'
3'-primer(s) ³	493	353	172
	5'-CTA 3'	5'-TgA 3'	5'-CAT 3'
	589		221
	5'-CTg 3'		5'-ACT 3'
Well No.	37	38	39

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.

Lot No.: 1F1

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-C*15 SSP primer set ²																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201559901	201329002	201329003	201329004	201550305	201329006	201329007	201329008	201329009	201329010	201329011	201550312	201329013	201329014	201329015	201329016
IHCW cell line ¹		C*																		
1	9001 SA	*07:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*07:01	*15:05	+	+	-	+	+	-	-	-	-	-	-	-	-	-	-	+	-
3	9011 E4181324	*12:02		-	-	-	+	-	-	-	+	-	-	+	-	-	-	-	-	-
4	9275 GU373	*03:04	*04:01	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
5	9009 KAS011	*06:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*03:04	*07:02	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
7	9020 QBL	*05:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
8	9025 DEU	*04:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
9	9026 YAR	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
10	9107 LKT3	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*16:01		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
12	9052 DBB	*06:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*01:02	*03:04	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
15	9075 DKB	*03:04		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
16	9037 SWEIG007	*02:02		-	-	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*03:03	*07:01	-	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
18	9257 32367	*01:02	*07:05	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*07:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*03:04		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
21	9064 AMALA	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
22	9056 KOSE	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
23	9124 IHL	*01:02	*15:02	+	+	-	-	-	-	-	-	-	-	+	-	-	-	-	+	-
24	9035 JBUSH	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
25	9049 IBW9	*08:02		-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-	-
26	9285 WT49	*07:18		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*07:04	*15:29	+	+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
28	9320 BEL5GB	*05:01	*16:01	-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
29	9050 MOU	*16:01		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
30	9021 RSH	*17:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
31	9019 DUCAF	*05:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
32	9297 HAG	*17:03		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
33	9098 MT14B	*03:04		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
34	9104 DHIF	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
35	9302 SSTO	*05:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
36	9024 KT17	*03:03	*04:01	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
37	9065 HHKB	*07:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
39	9315 CML	*02:02	*07:01	-	-	-	+	-	-	-	-	+	+	-	-	-	-	-	-	-
40	9134 WHONP199	*01:02	*06:02	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301	*08:02		-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-	-
42	9066 TAB089	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526	*01:02	*08:01	-	-	-	-	-	-	+	-	-	+	-	-	-	-	-	-	-
44	9057 TEM	*12:03		-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-
45	9239 SHJO	*06:02	*17:01	-	-	-	+	-	-	-	-	-	+	-	-	-	-	-	-	-
46	9013 SCHU	*07:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*07:04	*15:02	+	+	-	-	-	-	-	-	-	-	+	-	-	-	-	+	-
48	9303 TER-ND	*04:01	*16:01	-	-	-	+	-	-	+	-	-	+	-	-	-	-	-	-	-

Lot No.: **1F1**

Lot-specific information

CELL LINE VALIDATION SHEET															
HLA-C*15 SSP primer set ²															
			Well												
				17	18	19	20	21	22	23	24	25	26	27	28
			Prod. No.:												
			201329017												
			201559918												
			201329019												
			201778920												
			201550321												
			201550322												
			201778923												
			201550324												
			201778925												
			201550326												
			201778927												
			201550328												
			201550329												
			201329030												
			201559931												
			201559932												
	IHWC cell line ¹	C*													
1	9001 SA	*07:02	- - - - -												
2	9280 LK707	*07:01 *15:05	- - - - -												
3	9011 E4181324	*12:02	- - - - -												
4	9275 GU373	*03:04 *04:01	- - - - -												
5	9009 KAS011	*06:02	- - - - -												
6	9353 SM	*03:04 *07:02	- - - - -												
7	9020 QBL	*05:01	- - - - -												
8	9025 DEU	*04:01	- - - - -												
9	9026 YAR	*12:03	- - - - -												
10	9107 LKT3	*01:02	- - - - -												
11	9051 PITOUT	*16:01	- - - - -												
12	9052 DBB	*06:02	- - - - -												
13	9004 JESTHOM	*01:02	- - - - -												
14	9071 OLGA	*01:02 *03:04	- - - - -												
15	9075 DKB	*03:04	- - - - -												
16	9037 SWEIG007	*02:02	- - - - -												
17	9282 CTM3953540	*03:03 *07:01	- - - - -												
18	9257 32367	*01:02 *07:05	- - - - -												
19	9038 BM16	*07:01	- - - - -												
20	9059 SLE005	*03:04	- - - - -												
21	9064 AMALA	*03:03	- - - - -												
22	9056 KOSE	*12:03	- - - - -												
23	9124 IHL	*01:02 *15:02	- - - - -												
24	9035 JBUSH	*12:03	- - - - -												
25	9049 IBW9	*08:02	- - - - -												
26	9285 WT49	*07:18	- - - - -												
27	9191 CH1007	*07:04 *15:29	- - - - + -												
28	9320 BEL5GB	*05:01 *16:01	- - - - -												
29	9050 MOU	*16:01	- - - - -												
30	9021 RSH	*17:01	- - - - -												
31	9019 DUCAF	*05:01	- - - - -												
32	9297 HAG	*17:03	- - - - -												
33	9098 MT14B	*03:04	- - - - -												
34	9104 DHIF	*12:03	- - - - -												
35	9302 SSTO	*05:01	- - - - -												
36	9024 KT17	*03:03 *04:01	- - - - -												
37	9065 HHKB	*07:02	- - - - -												
38	9099 LZL	*03:03	- - - - -												
39	9315 CML	*02:02 *07:01	- - - - -												
40	9134 WHONP199	*01:02 *06:02	- - - - -												
41	9055 H0301	*08:02	- - - - -												
42	9066 TAB089	*01:02	- - - - -												
43	9076 T7526	*01:02 *08:01	- - - - -												
44	9057 TEM	*12:03	- - - - -												
45	9239 SHJO	*06:02 *17:01	- - - - -												
46	9013 SCHU	*07:02	- - - - -												
47	9045 TUBO	*07:04 *15:02	- - - - -												
48	9303 TER-ND	*04:01 *16:01	- - - - -												



Lot No.: **1F1**

Lot-specific information

CELL LINE VALIDATION SHEET						
HLA-C*15 SSP primer set ²						
			Well			
				33	34	35
			Prod. No.:			
			201559933			
			201778934			
			201559935			
			201559936			
			201778937			
			201778940			
			201778939			
	IHWC cell line ¹	C*				
1	9001 SA	*07:02	- - - - - - -			
2	9280 LK707	*07:01 *15:05	+ - - - - - -			
3	9011 E4181324	*12:02	- - - - - - -			
4	9275 GU373	*03:04 *04:01	- - - - - - -			
5	9009 KAS011	*06:02	- - - - - - -			
6	9353 SM	*03:04 *07:02	- - - - - - -			
7	9020 QBL	*05:01	- - - - - - -			
8	9025 DEU	*04:01	- - - - - - -			
9	9026 YAR	*12:03	- - - - - - -			
10	9107 LKT3	*01:02	- - - + - - -			
11	9051 PITOUT	*16:01	- - - - - - -			
12	9052 DBB	*06:02	- - - - - - -			
13	9004 JESTHOM	*01:02	- - - + - - -			
14	9071 OLGA	*01:02 *03:04	- - - + - - -			
15	9075 DKB	*03:04	- - - - - - -			
16	9037 SWEIG007	*02:02	- - - - - - -			
17	9282 CTM3953540	*03:03 *07:01	- - - - - - -			
18	9257 32367	*01:02 *07:05	- - - + - - -			
19	9038 BM16	*07:01	- - - - - - -			
20	9059 SLE005	*03:04	- - - - - - -			
21	9064 AMALA	*03:03	- - - - - - -			
22	9056 KOSE	*12:03	- - - - - - -			
23	9124 IHL	*01:02 *15:02	+ - - + - - -			
24	9035 JBUSH	*12:03	- - - - - - -			
25	9049 IBW9	*08:02	- - - - - - -			
26	9285 WT49	*07:18	- - - - - - -			
27	9191 CH1007	*07:04 *15:29	+ - - - - - -			
28	9320 BEL5GB	*05:01 *16:01	- - - - - - -			
29	9050 MOU	*16:01	- - - - - - -			
30	9021 RSH	*17:01	- - - - - - -			
31	9019 DUCAF	*05:01	- - - - - - -			
32	9297 HAG	*17:03	- - - - - - -			
33	9098 MT14B	*03:04	- - - - - - -			
34	9104 DHIF	*12:03	- - - - - - -			
35	9302 SSTO	*05:01	- - - - - - -			
36	9024 KT17	*03:03 *04:01	- - - - - - -			
37	9065 HHKB	*07:02	- - - - - - -			
38	9099 LZL	*03:03	- - - - - - -			
39	9315 CML	*02:02 *07:01	- - - - - - -			
40	9134 WHONP199	*01:02 *06:02	- - - + - - -			
41	9055 H0301	*08:02	- - - - - - -			
42	9066 TAB089	*01:02	- - - + - - -			
43	9076 T7526	*01:02 *08:01	- - - + - - -			
44	9057 TEM	*12:03	- - - - - - -			
45	9239 SHJO	*06:02 *17:01	- - - - - - -			
46	9013 SCHU	*07:02	- - - - - - -			
47	9045 TUBO	*07:04 *15:02	+ - - - - - -			
48	9303 TER-ND	*04:01 *16:01	- - - - - - -			

Lot No.: 1F1

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 3, 6, 8, 13, 14, 16 to 22, 24 to 30, 32, 34, 35 and 37 to 39 were available. The specificity of the primers in primer solutions 3, 6, 8, 13, 14, 16 to 19, 22, 29 and 32 were tested by separately adding one or two 5'-primers, respectively one or more 3'-primers.

In primer solutions 20, 25, 26, 28, 34, 37 and 39 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 21, 24, 27, 30, 35 and 38 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

In primer mixes 1, 5, 8, 9, 14, 22 and 29 one or two of the 5'-primers could not be tested, and in primer mixes 3, 7, 12, 17, 22, 23 and 29 one or two of the 3'-primers could not be tested. Additional primers in primer solutions 9 and 23 were tested by separately adding one 5'-primer and/or one 3'-primer.

Lot No.: **1F1**

Lot-specific information

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Fax: +43-1-710 15 00 10

E-mail: olerup-at@caredx.com

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

Tel: 1-877-OLERUP1

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