

101.624-12 – including *Taq* polymerase, IFU-01
101.624-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **46V**

Lot-specific information
Olerup SSP® HLA-C*12

Product number:	101.624-12 – including <i>Taq</i> polymerase 101.624-12u – without <i>Taq</i> polymerase
Lot number:	46V
Expiry date:	2016-August-01
Number of tests:	12
Number of wells per test:	37+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. 46V.

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*12 LOT (26S)**

The HLA-C*12 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

A well containing Negative Control primer pairs has been added.

The format of the Product Insert and Worksheet have been changed.

Six wells have been added to HLA-C*12, wells **33 to 38**.

¹As described in section Uniquely Identified Alleles.

The HLA-C*12 specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup SSP®* HLA-C*12 lot was made (**Lot No. 26S**).

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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.

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

Well	5'-primer	3'-primer	rationale
6	Added	-	5'-primer added for the C*12:102 allele.
12	Added	-	5'-primer added for the C*12:02:11 allele.
14	Added	-	5'-primer added for the C*12:60 allele.
20	-	Added	3'-primer added for the C*12:58 allele.
27	-	Added	3'-primer added for the C*12:101 allele.
29	-	Added	3'-primer added for the C*12:104N allele.
30	Added	-	5'-primer added C*12:102 allele.
33	New	New	New primer pair for the C*12:105N allele.
34	New	New	New primer pair for the C*12:109 allele.
35	New	New	New primer pair for the C*12:110 allele.
36	New	New	New primer pair for the C*12:111 allele.
37	New	New	New primer pair for the C*12:108 allele.
38			Negative Control.

Change in revision R01 compared to R00:

1. The expiry date has been corrected to 2016-August-01.

Change in revision R02 compared to R01:

1. Primer mix 21 does not amplify the B*58:02 allele. This has been corrected in the Specificity and Interpretation Tables.

Changes in revision R03 compared to R02:

1. Primer mix 26 does not amplify the C*07:10 allele. This primer mix may also give rise to a lower yield of HLA-specific PCR product than the other HLA-C*12 high resolution primer mixes in the C*03 alleles. This has been corrected in the Specificity and Interpretation Tables.

Changes in revision R04 compared to R03:

1. The C*07:10 allele is amplified by primer mix 26. This has been corrected in the Specificity and Interpretation Tables.

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Well **38** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup SSP®* HLA Class I, DRB, DQB1 and DPB1 amplicons as well as amplicons generated by a control primer pair.

PCR product sizes range from 75 to 430 base pairs.
The PCR product generated by the control primer pair is 430 base pairs.

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

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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PRODUCT DESCRIPTION

HLA-C*12 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*12:02 to C*12:115 alleles.

PLATE LAYOUT

Each HLA-C*12 test consists of 38 PCR reactions in a 48 well cut PCR plate. Wells 39 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	NC	empty	empty
empty	empty	empty	empty	empty	empty	empty	empty

The 48 well PCR plate is marked with ‘HLA-C*12’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘46V’.

Wells 1 to 37– HLA-C*12 high resolution primers.

Well 38 – 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 covered with a PCR-compatible foil.

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*12 alleles will be amplified by primer mixes 1 to 28, 30, 32 and 34.

In addition, a few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 9, 11, 12, 14, 15, 19, 29, 31, 32.

For further details see Specificity Table.

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UNIQUELY IDENTIFIED ALLELES

All the HLA-C*12 alleles, i.e. **C*12:02 to C*12:115**, recognized by the HLA Nomenclature Committee in January 2014^{1,2} will be amplified by the primers in the HLA-C*12 SSP kit³.

The HLA-C*12 kit enables separation of the confirmed HLA-C*12 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*12 alleles is listed below.

The HLA-C*12 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles

The HLA-C*12 subtyping kit cannot distinguish the following silent mutations: the C*12:02:01-12:02:05, 12:02:07, 12:02:09-12:02:11 alleles, the C*12:02:06 and 12:02:08, the C*12:03:01:01-12:03:01:02, 12:03:03, 12:03:05-12:03:07, 12:03:10-12:03:12, 12:03:14-12:03:15, 12:03:17-12:03:18, 12:03:21-12:03:23 and 12:03:25-12:03:29 alleles, the C*12:03:02, 12:03:08, 12:03:16, 12:03:20 alleles or the C*12:10:01-12:10:02 alleles.

The following HLA-C*12 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
C*12:06, 12:48, 12:81	6
C*12:29, 12:38	29
C*12:30, 12:36	27
C*12:32, 12:34	30
C*12:45, 12:50	28
C*12:86, 12:104N	29

¹HLA-C alleles listed on the IMGT/HLA web page 2014-January-17, release 3.15.0, 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*12 primer set cannot separate the C*12:09, C*05:16 and C*05:85 alleles, the C*12:16 and C*01:21 alleles, the C*12:18:02 and C*08:21 or the C*12:33 and the C*02:05:01-02:05:03 and 02:17 alleles. These alleles can be distinguished by the HLA-C low resolution kit and the HLA-C*01, HLA-C*02, HLA-C*05 or HLA-C*08 kit, respectively.

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ALLELE CONFIRMATION STATUS

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

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2014-January-17, release 3.15.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-C*12 homo- and heterozygotes is available upon request

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SPECIFICITY TABLE

HLA-C*12 SSP subtyping

Specificities and sizes of the PCR products of the 37+1 primer mixes used
for HLA-C*12 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*12 alleles ³	Other amplified HLA Class I alleles ⁴
1⁶	235 bp	800 bp	*12:02:01-12:03:12, 12:03:13 ^w , 12:03:14-12:04:02, 12:06-12:08, 12:10:01-12:15, 12:17-12:20, 12:22-12:32, 12:34-12:48, 12:50-12:54, 12:56-12:97, 12:99-12:115	*02:12, 02:49, 02:55, 03:15, 03:27, 03:38:01-03:38:02, 03:53, 03:69, 03:130, 03:136, 03:163, 04:03:01, 04:06, 04:16, 04:80, 04:103, 04:107, 04:147, 04:160, 05:42, 05:46, 06:03:01-06:03:02, 06:76:01-06:76:02, 07:26, 07:92, 07:96:01-07:96:02, 07:314, 07:317, 08:05, 08:21, 08:25, 15:03, 15:16, 15:25, 16:15:01-16:15:02, 16:25, 17:01:01:01-17:19, 17:21-17:23, B*07:13, B*07:15, B*07:160, B*67:02
2⁵	100 bp	1070 bp	*12:02:01-12:02:05, 12:02:07, 12:02:09-12:02:11, 12:03:19, 12:08, 12:10:01-12:10:02, 12:14:02, 12:16-12:18:01, 12:22, 12:27, 12:30, 12:36, 12:40-12:41, 12:44, 12:49, 12:56, 12:64, 12:67-12:69, 12:72-12:74, 12:80N, 12:83-12:86, 12:96, 12:103-12:106, 12:112, 12:114	*01:04, 01:21
3	220 bp	800 bp	*12:03:01:01-12:07, 12:11-12:13, 12:15, 12:23, 12:25-12:26, 12:28-12:29, 12:31-12:35, 12:37-12:39N, 12:42Q-12:43, 12:45-12:48, 12:50-12:55, 12:57-12:63, 12:65-12:66, 12:70-12:71, 12:75-12:79, 12:81-12:82, 12:87-12:95, 12:97-12:102, 12:107-12:111, 12:113, 12:115	*01:04, 01:09, 02:05:01-02:05:03, 02:17, 06:02:01:01-06:02:01:03, 06:02:03-06:02:15, 06:02:17-06:03:02, 06:07-06:13, 06:15-06:34, 06:36-06:39, 06:41-06:71, 06:73-06:78, 06:80, 06:82-06:100, 06:102-06:117, 06:119-06:122, 14:16, 16:04:01, 16:29, 16:33, 16:42, 16:55, 16:61
4	340 bp	1070 bp	*12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 12:54, 12:60	*01:14, 01:59, 02:02:01-02:02:03, 02:02:05-02:02:11, 02:02:13-02:11, 02:13-02:26:03, 02:28-02:40, 02:42-02:74, 03:07, 03:15, 03:45, 03:130, 03:140, 03:163, 04:01:01:01-04:01:28, 04:01:30-04:01:57, 04:03:01-04:10,

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				04:12-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:54, 04:56-04:165, 05:01:01:01-05:01:27, 05:03-05:99N, 06:02:01:01-06:02:01:03, 06:02:03-06:02:11, 06:02:13-06:10, 06:12-06:51, 06:53:01-06:121, 06:123, 07:07, 07:09, 07:49, 07:76, 07:210, 07:238, 07:247, 07:315, 07:328, 08:10, 14:04, 14:12, 14:49, 15:02:01-15:06:03, 15:08-15:13, 15:15-15:19, 15:22-15:24, 15:26-15:42, 15:44-15:70, 15:72-15:84Q, 16:02:01-16:02:11, 16:09, 16:12, 16:19, 16:25, 16:46-16:48, 16:57, 16:60, 16:63, 17:01:01:01-17:21, 17:23, 18:01-18:07N
5 ⁶	130 bp	1070 bp	*12:05, 12:09, 12:21, 12:33, 12:49, 12:98	*02:02:01-02:02:03, 02:02:05-02:02:07, 02:02:09-02:02:12, 02:02:14-02:02:20, 02:02:21 ^w , 02:02:22-02:11, 02:13-02:40, 02:42-02:48, 02:50-02:54, 02:56-02:62, 02:64-02:74, 03:04:25, 04:10-04:11, 04:36, 04:55, 04:153, 05:01:01:01-05:01:11, 05:01:13-05:01:23, 05:01:24 ^w , 05:01:25-05:01:27, 05:03-05:29:01, 05:30-05:41, 05:43-05:45, 05:47-05:99N, 06:05, 08:01:01-08:02:02, 08:02:04-08:04:03, 08:06-08:20, 08:22-08:24, 08:26N-08:63, 08:65-08:72:02, 08:74-08:94, 08:95 ^w , 08:96-08:102, 14:02:03, 14:03, 14:08, 14:10, 14:22, 14:35N, 14:38, 14:41, 14:53-14:54, 14:61, 15:02:01-15:02:09, 15:02:11-15:02:16, 15:02:18-15:02:19, 15:04-15:13, 15:15, 15:17-15:19, 15:21-15:24, 15:26-15:42, 15:44, 15:45 ^w , 15:46-15:66, 15:67 ^w , 15:68-15:82, 15:84Q, 16:01:01, 16:01:03-16:02:11, 16:04:01, 16:06-16:14, 16:16Q-16:24, 16:26-16:63
6 ⁵	75 bp 150 bp 415 bp	1070 bp	*12:48, 12:102 *12:06 *12:08, 12:81	*03:08, 03:29, 03:31, 04:112, 05:36, 06:44
7	140 bp	800 bp	*12:04:02-12:05, 12:09, 12:21, 12:33, 12:41, 12:54, 12:60	*02:02:01-02:02:03, 02:02:05-02:02:07, 02:02:09-02:02:11, 02:02:14-02:11, 02:13-02:26:03, 02:28-02:40, 02:42-02:62, 02:64-02:74, 04:01:01:01-04:01:09, 04:01:11-04:01:22, 04:01:24-04:01:28, 04:01:30-04:01:57, 04:03:01-04:10, 04:12-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:54, 04:56-04:129,

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				04:131-04:165, 05:01:01:01-05:01:11, 05:01:13-05:01:23, 05:01:24 ^w , 05:01:25-05:01:27, 05:03-05:29:01, 05:30-05:99N, 06:05, 06:76:02, 08:10, 15:02:01-15:02:09, 15:02:11-15:02:16, 15:02:18-15:06:03, 15:08-15:13, 15:15-15:19, 15:22-15:24, 15:26-15:42, 15:44-15:70, 15:72-15:84Q, 16:02:01-16:02:11, 16:09, 16:12, 16:19, 16:25, 16:46-16:48, 16:57, 16:60, 16:63, 17:01:04
8^{5,7}	95 bp 155 bp 195 bp 245 bp	1070 bp	*12:15 *12:40 *12:80N *12:07	*15:02:14 *16:14
9⁵	95 bp	1070 bp	*12:02:01-12:04:02, 12:06-12:08, 12:10:01-12:20, 12:22-12:27, 12:29-12:32, 12:34-12:48, 12:50-12:57, 12:59-12:62, 12:64-12:97, 12:99-12:107, 12:109-12:115	*01:17, 01:21, 02:12, 02:55, 03:27, 03:38:01-03:38:02, 03:130, 03:163, 04:33, 04:107, 05:46, 06:30, 07:07, 07:16, 07:51, 07:181, 08:05, 08:21, 08:25, 14:04, 15:03, 15:16, 16:15:01-16:15:02, 16:25, 17:01:01:01-17:10, 17:12-17:14, 17:16-17:23, B*07:13, B*67:02
10	155 bp	1070 bp	*12:03:01:01-12:03:01:02, 12:03:03-12:03:07, 12:03:09-12:03:15, 12:03:17-12:03:18, 12:03:21-12:03:29, 12:04:02-12:07, 12:11-12:13, 12:15, 12:20, 12:23-12:25, 12:28-12:29, 12:31-12:32, 12:34-12:35, 12:37-12:39N, 12:42Q-12:43, 12:45-12:48, 12:50-12:55, 12:57-12:58, 12:60-12:63, 12:65-12:66, 12:70-12:71, 12:75-12:79, 12:81-12:82, 12:87-12:95, 12:97-12:102, 12:107-12:111, 12:113, 12:115	*01:02:18, 06:76:02, 14:02:08, 16:15:02
11	220 bp	1070 bp	*12:09, 12:24	*01:02:01-01:03, 01:06-01:08, 01:10-01:20, 01:23-01:34, 01:37N-01:48, 01:51-01:54, 01:56N-01:78, 01:80-01:90, 03:58, 03:86, 03:94, 03:99, 04:37, 05:16, 05:85, 06:05-06:06, 08:12, 14:02:01-14:05, 14:07N, 14:10-14:14, 14:17-14:27, 14:29-14:52, 14:55-14:61, 16:53, B*14:03
12⁶	135 bp	1070 bp	*12:02:01-12:03:03, 12:03:05-12:03:23, 12:03:24 ^w , 12:03:25-12:03:29, 12:06-12:08, 12:10:01-12:20, 12:22-12:26, 12:28-12:32,	*01:21, 02:12 ^w , 02:27:01-02:27:02, 03:04:25, 04:11, 04:29, 04:36, 04:55, 06:11, 06:122 ^w , 07:01:13, 07:02:09, 07:04:01-07:04:09, 07:11-07:12, 07:45, 07:63, 07:68, 07:101, 07:139, 07:142, 07:181,

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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Lot No.: **46V**

Lot-specific information

Lot No.: 46V		Lot-specific information		
			12:34-12:40, 12:42Q-12:53, 12:55-12:59, 12:61-12:71, 12:72 ^w , 12:73-12:115	07:199:01-07:199:02, 07:272, 07:302, 07:323-07:324, 07:329N, 07:338, 08:01:01-08:09, 08:11-08:63, 08:65-08:94, 08:95 ^w , 08:96-08:102, 14:02:03, 14:03, 14:08, 14:10, 14:22, 14:35N, 14:38, 14:41, 14:53-14:54, 14:61, 15:07, 15:21 ^w , 15:25, 16:01:01, 16:01:03-16:01:15, 16:04:01, 16:06-16:08, 16:10-16:11, 16:13-16:18, 16:20-16:24, 16:26-16:36, 16:37 ^w , 16:38-16:45, 16:49-16:56, 16:58-16:59, 16:61-16:62, B*35:08:02, B*35:08:05, B*67:02
13⁵	105 bp 150 bp	1070 bp	*12:31 *12:10:01-12:10:02	*04:01:05 *04:01:05, 14:02:08
14⁵	100 bp	1070 bp	*12:16	*01:21, 02:42, 04:140, 05:98, 06:05 ^w , 07:02:09, 08:14, 08:80, 15:63, B*67:02
	150 bp		*12:11, 12:60	
15	140 bp	1070 bp	*12:12	*08:73, B*35:08:02, B*35:08:05
16	185 bp 225 bp	1070 bp	*12:13 *12:14:01-12:14:02	*01:60, 04:58, 04:160, 05:23, 05:62, 06:118, 08:07, 08:47, 14:17, 15:65, 17:01:01:01-17:23
17	565 bp	1070 bp	*12:03:04, 12:03:09	*01:02:18, 14:02:08
18	145 bp 165 bp 245 bp 270 bp	1070 bp	*12:17, 12:27 *12:35 *12:17, 12:27 *12:35	*04:12 *03:53
19⁵	100 bp	1070 bp	*12:14:02, 12:18:01, 12:25, 12:83	*03:104, 07:01:20, 07:01:27, 07:02:38, B*18:77, B*40:29
20⁵	105 bp 180 bp 220 bp	1070 bp	*12:46N *12:22, 12:58 *12:19	*04:52, 04:55, 05:55, 14:10, 15:12
21	250 bp	1070 bp	*12:14:01-12:14:02, 12:18:01-12:18:02, 12:20, 12:83	*01:22, 01:35, 05:11, 05:17, 05:27, 05:68, 05:79, 06:04, 06:118, 08:01:01-08:01:13, 08:03:01-08:04:03, 08:06, 08:08:01-08:11, 08:13-08:14, 08:16:01-08:16:02, 08:20-08:22, 08:24, 08:26N, 08:36N, 08:38-08:42, 08:44, 08:46, 08:50, 08:54, 08:56-08:61, 08:65-08:66, 08:72:01-08:72:02, 08:78-08:89N, 08:91, 08:93, 08:95-08:99, 08:101-08:102, 14:06, 14:15, 14:53, 15:02:01-15:07, 15:09-15:13, 15:15-15:19, 15:21-15:24, 15:26-15:50, 15:52-15:73, 15:76-15:83, 16:35, 16:40, 16:48, 17:01:01:01-17:16, 17:18-17:23
22⁵	100 bp 590 bp	1070 bp	*12:15, 12:23 *12:21	*15:02:14
23	140 bp	1070 bp	*12:26, 12:63	*16:36

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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24	185 bp 425 bp	1070 bp	*12:43 *12:28	*04:01:05, 06:76:02
25⁵	80 bp 155 bp	1070 bp	*12:39N *12:02:06, 12:02:08, 12:21	*04:01:05, 08:02:02
26	355 bp	800 bp	*12:44	*03:38:01-03:38:02, 03:69, 03:130, 03:136, 03:163, 04:80, 04:100, 06:14, 07:10, 07:43, 07:196, 15:03, 15:16, 15:25
27⁵	100 bp 155 bp 205 bp 295 bp	1070 bp	*12:30 *12:03:19 *12:36 *12:101	*07:214 *01:04
28⁷	275 bp 350 bp	1070 bp	*12:50 *12:45	*01:32, 02:56, 03:102, 06:20, 07:81, 07:168 *05:81, 06:87, 07:24, 07:218, 16:13, 16:61
29⁵	125 bp 185 bp 210 bp	1070 bp	*12:38, 12:104N *12:42Q *12:29, 12:86	*B*15:181N, B*57:50 *B*46:51Q
30⁵	85 bp 230 bp	1070 bp	*12:32, 12:102 *12:34	*06:41
31⁵	120 bp 145 bp 190 bp	1070 bp	*12:47 *12:84N *12:42Q, 12:80N	*A*26:67, A*68:95 *B*46:51Q
32⁵	50 bp 115 bp	1070 bp	*12:54 *12:37	*01:59, 02:65, 03:130, 03:140, 04:114, 05:20, 06:82, 07:49, 07:210, 07:238, 07:247, 14:04, 16:57, A*68:46 *07:204, A*02:211:01, A*24:261, A*68:76
33	135 bp	1070 bp	*12:105N	
34	235 bp	1070 bp	*12:109	*03:171, 03:211:01, 04:144, 05:93, 06:73, 08:20, 08:40
35	195 bp	1070 bp	*12:110	
36	175 bp	1070 bp	*12:111	
37	225 bp	1070 bp	*12:108	
38⁸			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-C*12 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.

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.

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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Lot-specific information

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-C alleles, non-HLA-C*12 alleles will be amplified by primer mixes 1 to 28, 30, 32 and 34. In addition, a few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 9, 11, 12, 14, 15, 19, 29, 31, 32.

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

⁶Primer mixes 1, 5 and 12 may give rise to a lower yield of HLA-specific PCR product than the other C*12 primer mixes.

⁷Primer mixes 8 and 28 have a tendency to giving rise to primer oligomer formation.

⁸Primer mix 38 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the control primer pair is 430 base pairs.

'w', might be weakly amplified.

101.624-12 – including *Taq* polymerase, IFU-01
101.624-12u – without *Taq* polymerase, IFU-02

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Lot No.: **46V**

Lot-specific information

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	235	100	220	340	130	75	140	95	95	155	220	135
						150		155				
						415		195				
								245				
Length of int. pos. control ¹	800	1070	800	1070	1070	1070	800	1070	1070	1070	1070	1070
5'-primer(s) ²	98	419	361	1 st I	201	28	201	98	289	361	361	201
	5'-CTA 3'	5'-gTC 3'	5'-AgT 3'	5'-CgA 3'	5'-CCA 3'	5'-TCA 3'	5'-CCA 3'	5'-CTA 3'	5'-Agg 3'	5'-AgT 3'	5'-AgT 3'	5'-CCA 3'
						431		420				213
						5'-CgT 3'		5'-TTA 3'				5'-CCC 3'
						499						
						5'-TCg 3'						
						504						
						5'-CAT 3'						
3'-primer(s) ³	289	477	538	302	289	270	302	214	341	474	538	302
	5'-AgC 3'	5'-gCA 3'	5'-CCA 3'	5'-ggT 3'	5'-AgT 3'	5'-TAG 3'	5'-ggT 3'	5'-CCA 3'	5'-Cgg 3'	5'-gCA 3'	5'-CCg 3'	5'-ggC 3'
	289				289	538		251				
	5'-AgC 3'				5'-AgT 3'	5'-CCA 3'		5'-CCT 3'				
	295							301				
	5'-TCC 3'							5'-gCC 3'				
								474				
								5'-gCA 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	105	100	140	185	565	145	100	105	250	100	140	185
	150	150		225		165		180		590		425
						245		220				
						270						
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	368	142	201	2 nd I	201	98	257	201	2 nd I	176	201	98
	5'-gTT 3'	5'-TCT 3'	5'-CCA 3'	5'-CCA 3'	5'-CCg 3'	5'-CTA 3'	5'-CCC 3'	5'-CCA 3'	5'-CCA 3'	5'-gCA 3'	5'-CCA 3'	5'-CTA 3'
	412	364				201	477	361		420	368	341
	5'-ATA 3'	5'-ggT 3'				5'-CCA 3'	5'-gCT 3'	5'-AgT 3'		5'-TTA 3'	5'-gTA 3'	5'-ggA 3'
		368								3 rd I		
		5'-gTC 3'								5'-Cgg 3'		
3'-primer(s) ³	474	201	299	473	474	295	311	332	539	474	288	241
	5'-gCA 3'	5'-CTT 3'	5'-TCT 3'	5'-CAA 3'	5'-gCA 3'	5'-TCC 3'	5'-ggT 3'	5'-TCC 3'	5'-TCA 3'	5'-gCA 3'	5'-gCg 3'	5'-CgT 3'
	477	474		512		308	538	343		658	476	474
	5'-gCA 3'	5'-gCA 3'		5'-CCA 3'		5'-TCg 3'	5'-CAg 3'	5'-T 3'		5'-gTg 3'	5'-CgA 3'	5'-gCA 3'
						326		426				
						5'-TgC 3'		5'-TCC 3'				
								538				
								5'-gCA 3'				
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec. PCR product	80	355	100	275	125	85	120	50	135	235	195	175
	155		155	350	185	230	145	115				
			205		210		190					
			295									
Length of int. pos. control ¹	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	252	289	127	385	419	347	98	302	419	652	694	710
	5'-TgA 3'	5'-Agg 3'	5'-gAC 3'	5'-ggT 3'	5'-gTC 3'	5'-gTg 3'	5'-CTA 3'	5'-gAA 3'	5'-gTC 3'	5'-CCA 3'	5'-gCA 3'	5'-gAA 3'
	361		228	463		490	419	379				
	5'-AgA 3'		5'-ATg 3'	5'-TgA 3'		5'-CgT 3'	5'-gTC 3'	5'-ACC 3'				
			361			499						
			5'-AgT 3'			5'-TCg 3'						
3'-primer(s) ³	289	353	289	3 rd I	502	538	175	312	514	846	846	846
	5'-AgC 3'	5'-TgA 3'	5'-AgC 3'	5'-CTC 3'	5'-CTA 3'	5'-CCA 3'	5'-CCA 3'	5'-Agg 3'	5'-CTA 3'	5'-CAC 3'	5'-CAC 3'	5'-CAC 3'
	474		477		505		201	453				
	5'-gCA 3'		5'-gCA 3'		5'-gCC 3'		5'-CTT 3'	5'-TCT 3'				
			613		564		251					
			5'-gCA 3'		5'-ACC 3'		5'-CCT 3'					
					587		564					
					5'-CCC 3'		5'-ACC 3'					
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37
Length of spec. PCR product	225
Length of int. pos. control ¹	1070
5'-primer(s) ²	98
	5'-CTA 3'
3'-primer(s) ³	284
	5'-gTT 3'
Well No.	37

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.

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-C*12 SSP primer set²																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201432001	201432002	201432003	201432004	201432005	201432006	201432007	201432008	201432009	201432010	201432011	201432012	201432013	201432014	201432015	201432016
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	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*07:04	*15:05	-	-	-	+	+	-	+	-	-	-	-	-	+	-	-	-	-
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	*17:01	*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	-	-	-	+	+	-	+	-	-	-	-	-	+	-	-	-	-



101.624-12 – including *Taq* polymerase, IFU-01
101.624-12u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **46V**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-C*12 SSP primer set²																				
				Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
				Prod. No.:	201432017	201432018	201432019	201432020	201432021	201432022	201432023	201432024	201432025	201432026	201432027	201432028	201432029	201432030	201432031	201432032
IHWC cell line¹		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	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:05	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
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	*17:01	*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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.624-12 – including *Taq* polymerase, IFU-01
101.624-12u – without *Taq* polymerase, IFU-02

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Lot No.: **46V**

Lot-specific information

CELL LINE VALIDATION SHEET					Well				
HLA-C*12 SSP primer set ²					33	34	35	36	37
				Prod. No.:	201432033	201432034	201432035	201432036	201432037
IHC 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	*07:01		-	-	-	-	-
27	9191	CH1007	*07:04	*15:05	-	-	-	-	-
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	*17:01	*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	-	-	-	-	-

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

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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Lot No.: 46V

Lot-specific information

DNAs and where applicable, additional cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 6, 8, 13 to 15, 17 to 20 and 22 to 37 were available. The specificities of the primers in primer solutions 6, 8, 13 to 15, 17, 19, 20, 22, 24 to 28 and 32 were tested by separately adding additional 5'-primers, respectively additional 3'-primers.

In primer solutions 18, 23, 29, 31, 33 and 37 it was only possible to test the 5'-primer, the 3'-primer was not possible to test.

In primer solutions 30 and 34 to 36 it was only possible to test the 3'-primer, the 5'-primers were not possible to test.

In primer solutions 6, 14, 19, 25, 27 and 28 one, two or three 5'-primers were not possible to test, and in primer solutions 1, 8, 16, 20, 22, 24 and 27 one, two or three 3'-primers were not possible to test.

101.624-12 – including *Taq* polymerase, IFU-01
101. 624-12u – without *Taq* polymerase, IFU-02

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Lot No.: **46V**

Lot-specific information

101.624-12 – including *Taq* polymerase, IFU-01
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Lot No.: **46V**

Lot-specific information

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