

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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

Lot No.: **2E7**

Lot-specific information
Olerup SSP® HLA-C*02

Product number:	101.622-12 – including <i>Taq</i> polymerase 101.622-12u – without <i>Taq</i> polymerase
Lot number:	2E7
Expiry date:	2019-03-01
Number of tests:	12
Number of wells per test:	41+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. 2E7.

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*02 LOT (96Y)**

The HLA-C*02 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

Five wells have been added to HLA-C*02, wells **38 to 42**.

¹As described in section Uniquely Identified Alleles.

The HLA-C*02 primer set, specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup SSP®* HLA-C*02 lot was made (**Lot No. 96Y**). The kit design is based on IMGT/HLA database 3.24.0.

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
28	-	Exchanged	3'-primer exchanged for improved HLA-specific amplification.
37	Added	Added	Negative Control moved to well 42, primer pair added for the C*02:91 allele.
38	New	New	New primer pair for the C*02:93 allele.
39	New	New	New primer pair added for the C*02:97 allele.
40	New	New	New primer pair added for the C*02:98 allele.
41	New	New	New primer pair added for the C*02:104 allele.
42	-	-	Negative Control added from well 37.

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Well **42** 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-C*02 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*02:02 to C*02:114 alleles.

PLATE LAYOUT

Each HLA-C*02 test consists of 42 PCR reactions in a 48 well cut PCR plate. Wells 43 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	40
41	NC	empty	empty	empty	empty	empty	empty

The 48 well PCR plate is marked with ‘HLA-C*02’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘2E7’.

Wells 1 to 41 – HLA-C*02 high resolution primers.

Well 42 – 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*02 alleles will be amplified by primer mixes 1 to 8, 10, 12 to 14, 16 to 18, 21, 22, 24 to 26, 29 to 31, 33 and 36. In addition, a few HLA-A and HLA-B alleles will be amplified by primer mixes 3 to 5, 8, 12, 15, 16, 19, 20, 22, 25, 26, 28, 31, 33 and 40.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*02 alleles, i.e. **C*02:02 to C*02:114**, recognized by the HLA Nomenclature Committee in April 2016^{1,2} will be amplified by the primers in the HLA-C*02 SSP kit³.

The HLA-C*02 kit enables separation of the confirmed HLA-C*02 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*02 alleles is listed below.

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The HLA-C*02 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 following HLA-C*02 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
C*02:05:02-02:05:03, 02:22	5	C*02:35, 02:69, 02:70	23
C*02:15, 02:21	15	C*02:37, 02:52N	28
C*02:25Q, 02:30	21		

The HLA-C*02 primer set cannot distinguish the following silent mutations: the C*02:02:01-02:02:03, 02:02:06-02:02:12, 02:02:15-02:02:25 and 02:02:27-02:02:30 alleles, the C*02:02:05 and 02:02:13-02:02:14 alleles, the C*02:05:02-02:05:03 alleles, the C*02:10:01:01-02:10:01:03 alleles, the C*02:14:01-02:14:02 alleles, the C*02:26:01-02:26:03 or the C*02:53:01-02:53:02 alleles.

¹HLA-C alleles listed on the IMGT/HLA web page 2016-April-15, release 3.24.0, 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*02 primer set cannot separate the C*02:10:01:01-02:10:01:03 and 02:89 alleles from the C*06:18 allele. These alleles can be distinguished by the HLA-C low resolution kit and/or the HLA-C*06 high resolution kit.

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ALLELE CONFIRMATION STATUS

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

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2016-April-15, release 3.24.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-C*02 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-C*02 SSP subtyping

Specificities and sizes of the PCR products of the 41+1 primer mixes used for
HLA-C*02 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*02 alleles ³	Other amplified HLA Class I alleles ⁴
1	250 bp	800 bp	*02:02:01-02:02:03, 02:02:05-02:02:30, 02:04- 02:15, 02:17, 02:19-02:31, 02:33-02:40:02, 02:42-02:71, 02:73-02:114	*01:04, 01:09, 01:21, 04:94:01- 04:94:02, 05:08, 05:52, 05:89, 05:106, 06:02:01:01-06:02:01:03, 06:02:03- 06:03:02, 06:07-06:39, 06:41-06:78, 06:80-06:117, 06:119-06:152N, 06:154-06:175N, 08:27, 08:29, 08:31, 12:02:01-12:08, 12:10:01-12:13, 12:15-12:17, 12:21-12:23, 12:25- 12:82, 12:84N, 12:86-12:136, 12:138- 12:152, 12:154-12:168, 12:170- 12:174, 14:16, 15:74, 16:04:01, 16:04:03, 16:29, 16:33, 16:42, 16:55, 16:61, 16:66, 16:78, 16:82, 16:91, 18:03
2⁵	95 bp	800 bp	*02:02:01-02:02:03, 02:02:06-02:02:12, 02:02:15- 02:02:30, 02:04, 02:05:02- 02:05:03, 02:06:02-02:09, 02:11, 02:13, 02:15, 02:19- 02:27:01, 02:28-02:31, 02:34-02:40:01, 02:42-02:50, 02:52N-02:55:01, 02:56- 02:57, 02:59-02:71, 02:74- 02:75, 02:77-02:88, 02:90- 02:93, 02:96-02:108, 02:111- 02:114	*03:287, 05:106, 12:03:17
3⁵	100 bp	800 bp	*02:03, 02:16:02, 02:18, 02:31	*03:03:22, 03:04:34, B*27:34, B*35:01:30^w, B*40:02:07, B*40:06:02, B*51:01:52^w, B*57:01:16^w, B*57:03:02^w
4⁵	135 bp 65 bp	1070 bp	*02:20 *02:56	B*35:01:30, B*51:01:52, B*57:01:16, B*57:03:02
5	150 bp 145 bp 240 bp	1070 bp	*02:04 *02:22 *02:05:01-02:05:03, 02:17, 02:81	*04:198, 08:119, 12:115, 14:41 *05:105, 08:31, B*07:02:07, B*27:05:15, B*48:04:02 *01:10, 06:08, 12:119, 14:25, 16:29, 16:50, 17:21, B*07:239, B*14:46, B*40:243
6	160 bp 210 bp	800 bp	*02:06:01-02:06:02, 02:47 *02:46, 02:64	*06:168, 12:15, 15:74 *12:162
7	130 bp	800 bp	*02:07, 02:97	*01:115, 16:10, 16:67
8⁵	70 bp 280 bp	1070 bp	*02:08 *02:33	*03:18:02, 03:64:01, 03:301, 12:03:23, 15:10:02-15:10:03, B*58:74

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9	200 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:02:09, 02:11-02:13, 02:15-02:28, 02:30-02:40:02, 02:42-02:57, 02:59-02:88, 02:90-02:114
10⁷	130 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:02:25, 02:02:27- 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- 02:106, 02:108-02:114
11⁵	85 bp 170 bp	800 bp	*02:18, 02:32 *02:09
12	150 bp	1070 bp	*02:11, 02:14:01-02:14:02, 02:107
	230 bp		*02:17
13⁶	225 bp 265 bp	1070 bp	*02:12, 02:27:01-02:27:02 *02:49, 02:75
14⁵	80 bp 115 bp	800 bp	*02:13 *02:43
15	130 bp 190 bp	1070 bp	*02:21 *02:15, 02:71
16^{6,7}	250 bp	1070 bp	*02:03, 02:16:01-02:16:02, 02:18
			*03:308, 04:03:01-04:03:02, 04:06, 04:80, 04:107, 04:147, 04:160, 04:171, 04:190, 05:26, 06:18, 07:272, 07:326, 15:11, 15:118, 16:34
			*04:42:01-04:42:02, 04:220, 05:43, 06:05 ^w , 07:02:09, 08:37, 12:16, 12:147, 15:23, 15:63, 16:21, 16:80, B*27:84 *14:25
			*03:308, 16:34 *04:03:01-04:03:02, 04:06, 04:80, 04:147, 04:160, 04:171, 04:190
			*05:106, 12:03:17
			B*07:221
			*01:22, 01:35, 04:04:01-04:04:02, 04:06, 04:13, 04:34, 04:58, 04:122, 04:160, 04:178, 04:212, 05:11, 05:17, 05:27, 05:68, 05:70, 05:79, 05:115, 06:04:01, 06:118, 06:153, 08:01:01- 08:01:19, 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, 08:104- 08:106, 08:109, 08:113, 08:117, 08:119, 08:121N-08:122, 08:124, 08:127N-08:130N, 12:14:01-12:14:02, 12:18:01-12:18:02, 12:20, 12:83, 12:169, 14:06, 14:15, 14:53, 15:02:01:01-15:07, 15:09-15:13, 15:15-15:19, 15:21-15:24, 15:26- 15:73, 15:76-15:83, 15:85-15:101, 15:103-15:122N, 16:35, 16:40, 16:48, 17:01:01:01-17:16, 17:18-17:31, B*58:02:01
17⁵	110 bp 160 bp	1070 bp	*02:31, 02:43 *02:23
18	235 bp	800 bp	*02:26:01-02:26:03, 02:107
			*03:07, 03:10, 03:15, 03:29, 03:45, 03:163, 03:268, 03:297, 04:16,

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				04:42:01-04:42:02, 04:103, 04:220, 05:01:01-05:01:25, 05:01:27-05:01:28, 05:01:30-05:01:31, 05:03-05:12, 05:14-05:19, 05:21-05:25, 05:27-05:29:02, 05:31-05:77, 05:79-05:129, 06:02:01-06:02:01:03, 06:02:03-06:02:08, 06:02:10-06:02:20, 06:02:22-06:10, 06:12-06:17, 06:19-06:32, 06:34:01-06:81, 06:83-06:103, 06:105-06:118, 06:121-06:124, 06:126-06:146, 06:148-06:175N, 07:07, 07:09, 07:76:01-07:76:02, 07:315, 07:328, 07:406, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 12:60, 12:72, 12:135, 12:146, 12:154, 15:02:01:01-15:02:20, 15:02:22-15:06:03, 15:08-15:10:03, 15:12-15:13, 15:15-15:19, 15:21-15:24, 15:26-15:35, 15:37-15:42, 15:44-15:84Q, 15:86-15:117, 15:119-15:122N, 16:02:01-16:02:07, 16:02:09-16:02:13, 16:09, 16:12, 16:19, 16:25, 16:37, 16:46-16:48, 16:60, 16:63, 16:69-16:70, 16:74, 16:77N, 16:84, 16:88-16:91, 17:01:01:01-17:01:08, 17:01:10-17:21, 17:23-17:31, 18:01-18:10
19⁵	80 bp	1070 bp	*02:03, 02:28	B*27:34, B*35:01:30^w, B*40:02:07, B*40:06:02, B*57:01:16^w, B*57:03:02^w
20	180 bp 215 bp	1070 bp	*02:24, 02:71 *02:72	B*07:113, B*08:64, B*40:192 B*07:52
21⁵	115 bp 210 bp	1070 bp	*02:30 *02:25Q, 02:64, 02:67Q	*15:19 *12:162
22⁵	65 bp 110 bp	1070 bp	*02:56 *02:34	B*35:01:30, B*51:01:52, B*57:01:16, B*57:03:02 *16:09
23⁵	85 bp 210 bp 390 bp	1070 bp	*02:70 *02:29, 02:69 *02:35	
24	325 bp	1070 bp	*02:06:01-02:06:02, 02:23, 02:36, 02:68	*01:90, 01:101-01:102, 01:113, 01:116, 03:81, 03:175, 03:199, 03:245, 04:108, 04:178, 06:89, 07:123, 07:173, 07:294, 08:113, 12:15, 12:113, 15:02:01:01-15:02:17, 15:02:19-15:02:21, 15:02:23-15:03, 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, 15:78-15:101, 15:103-15:104, 15:106-15:109, 15:111-15:122N, 16:20

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25	160 bp	1070 bp	*02:19, 02:23	*01:09, 03:21, 03:80, 03:142, 03:287, 06:107, B*07:55, B*07:100, B*15:45, B*15:63, B*15:248, B*15:287, B*07:55, B*07:100, B*08:70, B*15:07:01-15:07:03, B*15:45, B*15:68, B*15:126, B*15:207, B*15:324, B*15:331, B*46:12, B*48:19
	215 bp		*02:60	
26	140 bp	1070 bp	*02:39	*12:124, B*15:363, B*18:91
	255 bp		*02:40:01-02:40:02, 02:53:01-02:53:02	
27	140 bp	800 bp	*02:44-02:45, 02:53:01-02:53:02	
28⁵	90 bp	800 bp	*02:52N	B*27:34, B*40:02:07
	165 bp		*02:37, 02:46, 02:60, 02:67Q	
29	165 bp	1070 bp	*02:83	*08:24, 16:90
	210 bp		*02:12, 02:49, 02:55:01-02:55:02	*04:03:01, 04:06, 04:80, 04:107, 04:147, 04:160, 04:171, 04:190
30^{5,7}	80 bp	1070 bp	*02:38N	*01:35, 01:107, 04:08, 04:34, 04:147, 04:212, 05:27, 05:39, 06:96, 08:41, 08:115, 12:83, 12:106, 12:122, 14:20, 15:15, 15:77, 17:07, 18:08
	270 bp		*02:58	
31⁵	100 bp	1070 bp	*02:42, 02:107	*01:02:34, 01:21, 04:140, 04:166, 04:220, 05:98, 06:05, 07:02:09, 08:14, 08:80, 08:103, 12:16, 12:147, 15:63, 15:113, 16:80, B*67:02
	165 bp		*02:83	*08:24, 16:90
32	215 bp	1070 bp	*02:92N	
	245 bp		*02:81	
33	320 bp	1070 bp	*02:87, 02:94	*07:101, 07:148, 07:161, 15:107, A*11:166, A*30:56, A*31:85, A*80:01:01-01-80:03, B*18:96, B*44:157, B*55:74
34	160 bp	1070 bp	*02:105N	
35	210 bp	1070 bp	*02:106	
36	235 bp	1070 bp	*02:27:01-02:27:02, 02:65	*03:308, 16:34
37⁵	125 bp	1070 bp	*02:91	
38	145 bp	1070 bp	*02:93	
39⁵	120 bp	1070 bp	*02:07	
40	165 bp	1070 bp	*02:98	B*40:122
41	140 bp	1070 bp	*02:104	
42⁸	-	-	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*02 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.

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot-specific information

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-C alleles, non-HLA-C*02 alleles will be amplified by primer mixes 1 to 8, 10, 12 to 14, 16 to 18, 21, 22, 24 to 26, 29 to 31, 33 and 36. In addition, a few HLA-A and HLA-B alleles will be amplified by primer mixes 3 to 5, 8, 12, 15, 16, 19, 20, 22, 25, 26, 28, 31, 33 and 40.

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

⁶Primer mixes 13 and 16 may give a lower yield of HLA-specific PCR product than the other C*02 primer mixes.

⁷Primer mixes 10, 16 and 30 may have tendencies of unspecific amplifications.

⁸Primer mix 42 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.

⁹‘w’, might be weakly amplified.

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	250	95	100	65	145	160	130	70	200	130	85	150
PCR product			135	150	240	210		280			170	230
Length of int. pos. control ¹	800	800	800	1070	1070	800	800	1070	1070	1070	800	1070
5'-primer(s) ²	2 nd I	486	486	92	356	364	2 nd I	105	703	113	486	97
	5'-CCA 3'	5'-ACA 3'	5'-ACA 3'	5'-gTg 3'	5'-CCg 3'	5'-ggT 3'	5'-CCA 3'	5'-gCT 3'	5'-CTA 3'	5'-CCA 3'	5'-ACA 3'	5'-TCg 3'
				463	361	370				118		368
				5'-TgA 3'	5'-AgT 3'	5'-ACT 3'				5'-CCA 3'		5'-gTT 3'
					453	420						449
					5'-AAT 3'	5'-TTA 3'						5'-CCA 3'
3'-primer(s) ³	538	538	538	201	559	538	418	134	861	201	527	201
	5'-CCA 3'	5'-CCA 3'	5'-CAG 3'	5'-CTT 3'	5'-CTC 3'	5'-CCA 3'	5'-gTC 3'	5'-AgC 3'	5'-TCg 3'	5'-CTT 3'	5'-CCg 3'	5'-CTT 3'
			555	486				343		201	538	559
			5'-CCg 3'	5'-gCT 3'				5'-g 3'		5'-CTC 3'	5'-CCg 3'	5'-CTC 3'
			578								613	
			5'-TgT 3'								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.	225	80	130	250	110	235	80	180	115	65	85	325
PCR product	265	115	190		160			215	210	110	210	390
Length of int. pos. control ¹	1070	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	118	486	113	2 nd I	486	118	486	369	125	244	322	409
	5'-CCA 3'	5'-ACA 3'	5'-CCA 3'	5'-CCA 3'	5'-ACA 3'	5'-CCg 3'	5'-ACA 3'	5'-TAC 3'	5'-CgA 3'	5'-CgC 3'	5'-gCC 3'	5'-ggC 3'
			369			118			370	463	703	
			5'-TAC 3'			5'-CCg 3'			5'-ACT 3'	5'-TgA 3'	5'-CTA 3'	
									373			
									5'-gCg 3'			
									374			
									5'-CTA 3'			
3'-primer(s) ³	302	527	201	538	555	312	527	506	201	312	419	3 rd I
	5'-ggC 3'	5'-CCg 3'	5'-CTT 3'	5'-CAG 3'	5'-CCg 3'	5'-AgT 3'	5'-CCA 3'	5'-Tgg 3'	5'-CTT 3'	5'-AgT 3'	5'-Cgg 3'	5'-CTC 3'
	302	559	515		559			515	538	486	745	
	5'-ggC 3'	5'-CgT 3'	5'-CCA 3'		5'-CgT 3'			5'-CCA 3'	5'-CCA 3'	5'-gCT 3'	5'-AgC 3'	
	341		518		603			545			865	
	5'-CgT 3'		5'-CCA 3'		5'-TTg 3'			5'-AgA 3'			5'-CCT 3'	
											871	
											5'-CgA 3'	
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec. PCR product	160 215	140 255	140	90 165	165 210	80 270	100 165	215 245	320	160	210	235
Length of int. pos. control ¹	1070	1070	800	800	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	363	105	105	105	118	2 nd I	142	356	28	105	703	118
	5'-AgC 3'	5'-gCT 3'	5'-gCT 3'	5'-gCT 3'	5'-CCA 3'	5'-CCA 3'	5'-TCT 3'	5'-CCg 3'	5'-TCC 3'	5'-gCT 3'	5'-CTA 3'	5'-CCA 3'
	419	369	486	359	736		736	385				
	5'-gTA 3'	5'-TAC 3'	5'-ACA 3'	5'-CCg 3'	5'-gCA 3'		5'-gCA 3'	5'-ggC 3'				
				363								
				5'-AgC 3'								
				364								
				5'-ggT 3'								
				373								
				5'-gCg 3'								
3'-primer(s) ³	538	203	202	153	289	369	201	559	176	223	872	312
	5'-CCA 3'	5'-CTg 3'	5'-TCC 3'	5'-ACT 3'	5'-AgC 3'	5'-CCT 3'	5'-CTT 3'	5'-CTC 3'	5'-ACT 3'	5'-CCA 3'	5'-CCA 3'	5'-Agg 3'
		580	578	486	289	558	861					
		5'-TCC 3'	5'-TgA 3'	5'-gCT 3'	5'-AgC 3'	5'-Agg 3'	5'-TCg 3'					
		595	595		861							
		5'-CCg 3'	5'-CCT 3'		5'-TCg 3'							
		595	595									
		5'-CCT 3'	5'-CCg 3'									
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38	39	40	41
Length of spec. PCR product	125	145	120	165	140
Length of int. pos. control ¹	1070	1070	1070	1070	1070
5'-primer(s) ²	2 nd I	369	2 nd I	369	118
	5'-CCA 3'	5'-TAC 3'	5'-CCA 3'	5'-TAC 3'	5'-CCA 3'
3'-primer(s) ³	413	475	411	493	218
	5'-ggC 3'	5'-ggT 3'	5'-Tgg 3'	5'-CTC 3'	5'-gCT 3'
Well No.	37	38	39	40	41

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.

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-C*02 SSP primer set³																				
				Well ²																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201446601	201446602	201671003	201446604	201557905	201446606	201446607	201446608	201446609	201446610	201446611	201446612	201446613	201446614	201557915	201446616
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	DJCAF	*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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

Lot-specific information

CELL LINE VALIDATION SHEET																			
HLA-C*02 SSP primer set³																			
				Well ²															
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:															
				201446617	201446618	201446619	201557920	201446621	201446622	201446623	201446624	201446625	201557926	201557927	201671028	201446629	201557930	201446631	201557932
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	9007	DEM	*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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

Lot-specific information

CELL LINE VALIDATION SHEET													
HLA-C*02 SSP primer set ³													
				Well ²									
				33	34	35	36	37	38	39	40	41	
				Prod. No.:	201557933	201557934	201557935	201557936	201671037	201671038	201671039	201671040	201671041
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	9007	DEM	*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	HFKB	*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	-	-	-	-	-	-	-	-	-	-
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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	-	-	-	-	-	-	-	-	-	-

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

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 A*80:01 allele is amplified by primer mix 33 in the 9282 (CTM3953540) cell line.

³The 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 to 8, 11, 12, 14, 15, 17, 19 to 23, 26 to 28, 30 to 32 and 34 to 41 were available. The specificity of the primers in primer solutions 3 to 8, 11, 12, 14, 15, 17, 19, 22, 23, 26, 28, 30, 31, 36, 39 and 41 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers. In primer solutions 21 and 32 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 20, 27, 34, 35, 37, 38 and 40 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 3, 8, 11, 13, 15, 17, 23, 26, 28 and 30 one, two or three of the 3'-primers were not possible to test, and in primer solutions 4 to 6, 10, 12, 15, 22, 23, 28, 29 and 31 one, two or three 5'-primers were not possible to test.

Additional primers in primer solutions 10, 13, 25 and 29 were tested by separately adding either one 5'-primer, one or two 3'-primers.

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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Lot No.: **2E7**

Lot-specific information

101.622-12 – including *Taq* pol., IFU-01
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Lot No.: **2E7**

Lot-specific information

101.622-12 – including *Taq* pol., IFU-01
101.622-12u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **2E7**

Lot-specific information

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