

101.621-12 – including *Taq* pol., IFU-01
101.621-12u– without *Taq* pol., IFU-02

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

Lot No.: **40V**

Lot-specific information
Olerup SSP® HLA-C*01

Product number:	101.621-12 – including <i>Taq</i> polymerase 101.621-12u – without <i>Taq</i> polymerase
Lot number:	40V
Expiry date:	2016-October-01
Number of tests:	12
Number of wells per test:	23+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. 40V.

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*01 LOT (76S)**

The HLA-C*01 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.

¹As described in section Uniquely Identified Alleles.

The HLA-C*01 specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup SSP®* HLA-C*01 lot was made (**Lot No. 76S**).

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
4	Added	Added	Primer pair added for the C*01:82 allele.
6	Added	Added	Primer pair added for the C*01:83 allele.
8	-	-	Exchanged positive control primer pair.
9	Added	Added	Primer pair added for the C*01:83 allele.
10	-	Added	3'-primer added from well 22.
12	Added	Added	Primer pair added for the C*01:84 allele.
17	Added	-	5'-primer added for the C*01:82 allele.
19	-	Added	3'-primer added from well 22, exchanged positive control primer pair.
20	Added	Added	Primer pair added for the C*01:84 allele.
21	-	Added	3'-primer added for the C*01:80 allele.
22	Added, moved	Added, moved	Primer pairs added from well 24, primer pairs moved to wells 10 and 19.
24	-	-	Negative Control.

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Well **24** 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*01 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*01:02 to C*01:84 alleles.

PLATE LAYOUT

Each HLA-C*01 test consists of 24 PCR reactions in a 24 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	NC

The 24 well PCR plate is marked with 'HLA-C*01' in silver/gray ink.

Well No. 1 is marked with the Lot No. '40V'.

Wells 1 to 23 – HLA-C*01 high resolution primers.

Well 24 – 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 24 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 Class I alleles some non-HLA-C*01 alleles will be amplified by primer mixes 1, 2, 4, 6 to 8, 10, 12, 13, 14, 16, 20, 22 and 23. In addition, a few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 4, 7 to 10, 12, 13 and 15.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*01 alleles, i.e. **C*01:02 to C*01:84**, recognized by the HLA Nomenclature Committee in October 2013^{1,2} will be amplified by the primers in the HLA-C*01 SSP kit.

The HLA-C*01 kit enables separation of the confirmed HLA-C*01 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*01 alleles is listed below.

The HLA-C*01 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles

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The HLA-C*01 primer set cannot distinguish the following silent mutations: the C*01:02:01-01:02:23 or the C*01:79:01-01:79:02 alleles.

The following HLA-C*01 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
C*01:06, 01:38	5	C*01:27, 01:45	19
C*01:10, 01:52	9	C*01:28, 01:56N	20
C*01:17, 01:41	14	C*01:29, 01:33	21
C*01:18, 01:42	15	C*01:31, 01:44	23
C*01:19, C*01:43, 01:58	16	C*01:32, 01:40	22
C*01:25, 01:59	17		

¹HLA-C alleles listed on the IMGT/HLA web page 2014-October-11, release 3.14.0, 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>.

ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
C*01:02:01	Confirmed	C*01:10	Confirmed	C*01:40	Confirmed	C*01:70	Unconfirmed
C*01:02:02	Unconfirmed	C*01:11	Unconfirmed	C*01:41	Confirmed	C*01:71	Unconfirmed
C*01:02:03	Confirmed	C*01:12	Confirmed	C*01:42	Unconfirmed	C*01:72	Unconfirmed
C*01:02:04	Confirmed	C*01:13	Confirmed	C*01:43	Unconfirmed	C*01:73	Unconfirmed
C*01:02:05	Unconfirmed	C*01:14	Unconfirmed	C*01:44	Confirmed	C*01:74	Unconfirmed
C*01:02:06	Unconfirmed	C*01:15	Unconfirmed	C*01:45	Confirmed	C*01:75	Unconfirmed
C*01:02:07	Confirmed	C*01:16	Confirmed	C*01:46	Unconfirmed	C*01:76	Unconfirmed
C*01:02:08	Confirmed	C*01:17	Confirmed	C*01:47	Unconfirmed	C*01:77	Unconfirmed
C*01:02:09	Unconfirmed	C*01:18	Confirmed	C*01:48	Unconfirmed	C*01:78	Unconfirmed
C*01:02:10	Unconfirmed	C*01:19	Unconfirmed	C*01:49	Confirmed	C*01:79:01	Unconfirmed
C*01:02:11	Unconfirmed	C*01:20	Unconfirmed	C*01:50	Confirmed	C*01:79:02	Unconfirmed
C*01:02:12	Unconfirmed	C*01:21	Confirmed	C*01:51	Unconfirmed	C*01:80	Unconfirmed
C*01:02:13	Unconfirmed	C*01:22	Confirmed	C*01:52	Confirmed	C*01:81	Unconfirmed
C*01:02:14	Unconfirmed	C*01:23	Unconfirmed	C*01:53	Unconfirmed	C*01:82	Unconfirmed
C*01:02:15	Unconfirmed	C*01:24	Unconfirmed	C*01:54	Confirmed	C*01:83	Unconfirmed
C*01:02:16	Unconfirmed	C*01:25	Unconfirmed	C*01:55	Unconfirmed	C*01:84	Unconfirmed
C*01:02:17	Unconfirmed	C*01:26	Confirmed	C*01:56N	Unconfirmed		
C*01:02:18	Unconfirmed	C*01:27	Confirmed	C*01:57	Unconfirmed		
C*01:02:19	Unconfirmed	C*01:28	Unconfirmed	C*01:58	Confirmed		
C*01:02:20	Unconfirmed	C*01:29	Unconfirmed	C*01:59	Confirmed		
C*01:02:21	Unconfirmed	C*01:30	Confirmed	C*01:60	Unconfirmed		
C*01:02:22	Unconfirmed	C*01:31	Unconfirmed	C*01:61	Unconfirmed		
C*01:02:23	Unconfirmed	C*01:32	Confirmed	C*01:62	Unconfirmed		
C*01:03	Confirmed	C*01:33	Unconfirmed	C*01:63:01	Unconfirmed		
C*01:04	Unconfirmed	C*01:34	Unconfirmed	C*01:64	Unconfirmed		
C*01:05	Unconfirmed	C*01:35	Unconfirmed	C*01:65	Unconfirmed		
C*01:06	Confirmed	C*01:36	Unconfirmed	C*01:66	Unconfirmed		
C*01:07	Unconfirmed	C*01:37N	Unconfirmed	C*01:67	Confirmed		
C*01:08	Confirmed	C*01:38	Unconfirmed	C*01:68	Unconfirmed		
C*01:09	Unconfirmed	C*01:39	Unconfirmed	C*01:69N	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2013-October-11, release 3.14.0, www.ebi.ac.uk/imgt/hla.

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RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-C*01 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-C*01 SSP subtyping

Specificities and sizes of the PCR products of the 23+1 primer mixes used for HLA-C*01 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*01 alleles ³	Other amplified HLA Class I alleles ⁴
1^{5,7}	90 bp	800 bp	*01:02:01-01:02:23, 01:06-01:11, 01:13-01:20, 01:22-01:23, 01:25-01:33, 01:35, 01:38-01:48, 01:51-01:53, 01:56N-01:76, 01:80-01:84	*03:86, 03:94, 03:99, 07:177, B*40:243
2⁵	90 bp 270 bp	1070 bp	*01:03, 01:24, 01:78 *01:15	*03:58, 04:37, 05:85
3	150 bp 265 bp	800 bp	*01:04 *01:14	
4	210 bp 250 bp	800 bp	*01:05, 01:77 *01:16, 01:82	*07:37, 07:307, B*07:77, B*07:193
5⁵	105 bp 150 bp 200 bp	800 bp	*01:38 *01:20 *01:06	
6⁶	195 bp 230 bp	1070 bp	*01:07 *01:37N, 01:83	*06:43:01, 14:24:02 *14:35N
7^{5,6}	70 bp	1070 bp	*01:67	*03:03:10, 03:04:28, 04:01:11, 06:02:21, 07:02:36, A*01:01:33, A*02:01:29, A*03:01:42, A*11:01:40, A*26:01:09, A*32:01:09, A*33:01:07, A*68:01:06, B*07:02:21, B*13:02:03, B*27:05:06, B*40:01:10, 40:02:11, B*44:03:08, B*51:01:24, B*73:01-73:02
	150 bp 195 bp		*01:20 *01:08	
8	210 bp	800 bp	*01:04, 01:09, 01:22, 01:35	*06:23, 07:177, 15:37, B*40:243
9	160 bp 225 bp	800 bp	*01:52 *01:10, 01:83	B*40:243
10	210 bp 255 bp 290 bp	1070 bp	*01:22, 01:35 *01:30 *01:11	*07:177, 15:37, B*40:243
11	140 bp 345 bp	800 bp	*01:39 *01:12, 01:34, 01:79:01-01:79:02	
12⁵	80 bp 155 bp	1070 bp	*01:84 *01:13	*03:213 02:51, 03:87, 05:09:01-05:09:02, 05:17, 05:52, 07:130, 08:15:01-08:15:02, 08:51, 16:27, B*15:33, B*15:248

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13 ⁷	155 bp	800 bp	*01:02:01-01:20, 01:22-01:66, 01:68-01:72, 01:74-01:79:02, 01:81-01:84	*07:316, B*54:18
14 ^{5,6}	120 bp 245 bp	1070 bp	*01:41 *01:17, 01:21, 01:23, 01:69N	*07:316
15 ⁵	115 bp 230 bp	800 bp	*01:42, 01:73 *01:18	B*51:129
16	130 bp 255 bp 295 bp	1070 bp	*01:43 *01:19 *01:23, 01:58	*07:316, A*01:24
17 ⁵	75 bp 255 bp	800 bp	*01:24-01:25 *01:59, 01:82	
18 ⁶	195 bp 260 bp 345 bp	800 bp	*01:26 *01:34 *01:36, 01:49, 01:55	
19 ⁵	100 bp 265 bp	800 bp	*01:27 *01:30, 01:45	
20 ⁵	80 bp 110 bp 285 bp	800 bp	*01:84 *01:28 *01:56N	*03:213 *03:59, 03:123
21 ⁵	125 bp 160 bp 245 bp	800 bp	*01:33 *01:80 *01:29, 01:69N	
22 ⁵	110 bp 250 bp 340 bp	1070 bp	*01:40 *01:32 *01:49, 01:50	*06:110
23 ⁵	90 bp 120 bp 235 bp	1070 bp	*01:04, 01:54 *01:44 *01:31, 01:35	*06:23, 14:45, 16:18
24 ⁸	Negative Control			

¹ Alleles 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*01 SSP typings.

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

Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.

PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

² The 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.

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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 Class I alleles some non-HLA-C*01 alleles will be amplified by primer mixes 1, 2, 4, 6 to 8, 10, 12, 13, 14, 16, 20, 22 and 23. In addition, a few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 4, 7 to 10, 12, 13 and 15.

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

⁶Primer mixes 6, 7, 14 and 18 may have tendencies of unspecific amplifications.

⁷Primer mixes 1 and 13 may give rise to a lower yield of HLA-specific PCR product than the other HLA-C*01 primer mixes.

⁸Primer mix 24 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.

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PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	90	90	150	210	105	195	70	210	160	210	140	80
		270	265	250	150	230	150		225	255	345	155
					200		195			290		
Length of int. pos. control ¹	800	1070	800	800	800	1070	1070	800	800	1070	800	1070
5'-primer(s) ²	368	368	89	89	368	363	89	368	368	368	101	485
	5'-gTg 3'	5'-gTg 3'	5'-gAA 3'	5'-gAA 3'	5'-gTg 3'	5'-TgA 3'	5'-gAg 3'	5'-gTg 3'	5'-gTg 3'	5'-gTg 3'	5'-CAT 3'	5'-CAA 3'
			368	368		406	368		667		368	806
			5'-gTg 3'	5'-gTC 3'		5'-gCA 3'	5'-gTg 3'		5'-AgA 3'		5'-gTA 3'	5'-ggT 3'
				632		667						
				5'-gAg 3'		5'-AgA 3'						
3'-primer(s) ³	419	419	312	287	430	559	117	538	488	539	201	601
	5'-CgT 3'	5'-CgA 3'	5'-AgT 3'	5'-TCg 3'	5'-gCT 3'	5'-CgT 3'	5'-CCA 3'	5'-CCA 3'	5'-CCA 3'	5'-TCA 3'	5'-CTC 3'	5'-CTC 3'
		595	477	538	479	846	479	539	559	583	3 rd I	846
		5'-CCT 3'	5'-gCA 3'	5'-CCg 3'	5'-CCA 3'	5'-CAC 3'	5'-CCA 3'	5'-TCA 3'	5'-CTC 3'	5'-gTg 3'	5'-ATg 3'	5'-CAC 3'
				846	527		523		846	619		
				5'-CAC 3'	5'-CCA 3'		5'-ACA 3'		5'-CAC 3'	5'-TTT 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
Length of spec. PCR product	155	120	115	130	75	195	100	80	125	110	90
		245	230	255	255	260	265	110	160	250	120
				295		345		285	245	340	235
Length of int. pos. control ¹	800	1070	800	1070	800	800	800	800	800	1070	1070
5'-primer(s) ²	89	89	89	89	89	89	368	89	89	74	368
	5'-gAA 3'	5'-gAA 3'	5'-gAA 3'	5'-gAA 3'	5'-gAA 3'	5'-gAA 3'	5'-gTg 3'	5'-gAA 3'	5'-gAA 3'	5'-C 3'	5'-gTg 3'
					632	368		530	368	369	3 rd I
					5'-gAg 3'	5'-gTT 3'		5'-ggT 3'	5'-gTg 3'	5'-TAC 3'	5'-Cgg 3'
					806	369		806		379	
					5'-ggA 3'	5'-TAC 3'		5'-ggT 3'		5'-ACg 3'	
					818	453				463	
					5'-ggC 3'	5'-AAT 3'				5'-TgA 3'	
3'-primer(s) ³	201	170	164	176	302	244	427	331	172	142	419
	5'-CTC 3'	5'-Cgg 3'	5'-gCA 3'	5'-ACT 3'	5'-ggT 3'	5'-CTg 3'	5'-gTA 3'	5'-CTA 3'	5'-CAT 3'	5'-TgA 3'	5'-Cgg 3'
		289	165	301	846	3 rd I	583	601	209	3 rd I	560
		5'-AgC 3'	5'-Tgg 3'	5'-gCA 3'	5'-CAC 3'	5'-ATg 3'	5'-gTg 3'	5'-CTC 3'	5'-gCC 3'	5'-ATg 3'	5'-ACA 3'
		295	278	341			601	846	295		671
		5'-TCA 3'	5'-ggT 3'	5'-CgT 3'			5'-CTg 3'	5'-CAC 3'	5'-TCA 3'		5'-ggA 3'
									573		
									5'-AgA 3'		
Well No.	13	14	15	16	17	18	19	20	21	22	23

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.

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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.

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CELL LINE VALIDATION SHEET																				
HLA-C*01 SSP primer set ²																				
				Well ³																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201431101	201431102	201431103	201431104	201431105	201431106	201431107	201431108	201431109	201431110	201431111	201431112	201431113	201431114	201431115	201431116
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 CTV3953540	*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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.621-12 – including *Taq* pol., IFU-01
101.621-12u– without *Taq* pol., IFU-02

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Lot No.: **40V**

Lot-specific information

CELL LINE VALIDATION SHEET														
HLA-C*01 SSP primer set²														
					Well									
					17	18	19	20	21	22	23			
					Prod. No.:	20143117	20143118	20143119	20143120	20143121	20143124	20143123		
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	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	-	-	-	-	-	-	-	-	-	-

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.



101.621-12 – including *Taq* pol., IFU-01
101.621-12u– without *Taq* pol., IFU-02

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Lot No.: 40V

Lot-specific information

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 2 to 6, 8 to 12 and 14 to 23 were available. The specificity of the primers in primer solutions 2 to 5, 8 to 12, 14 to 20 and 22 to 23 were tested by adding additional 5'-primers respectively 3'-primers. In primer solution 6, it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solution 21 it was only possible to test the 5'-primer, the 3'-primers were not possible to test. In primer solutions 4, 9, 11, 17, 20 and 22 one or two of the 5'-primers were not possible to test. In primer solutions 2, 4, 5, 7, 9, 10, 14, 15, 16, 18 to 20 and 23 one or two of the 3'-primers were not possible to test. In primer solution 7 one additional 5'-primer was tested by separately adding one additional 3'-primer.

³The B*73:01 allele is weakly amplified by primer mix 7 in the 9280 (LK707) cell line.

101.621-12 – including *Taq* pol., IFU-01
101.621-12u– without *Taq* pol., IFU-02

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Lot No.: **40V**

Lot-specific information

101.621-12 – including *Taq* pol., IFU-01
101.621-12u– without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **40V**

Lot-specific information

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