

101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **95V**

Lot-specific information

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**Olerup SSP® HLA-C high resolution
 for frequent alleles**

Product number: 101.707-12 – including *Taq* polymerase
 101.707-12u – without *Taq* polymerase
Lot number: 95V
Expiry date: 2017-February-01
Number of tests: 12
Number of wells per test: 95 + 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. 95V.

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 HIGH RESOLUTION LOT (24S)**

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

The HLA-C high resolution specificity and interpretation tables have been updated with the HLA-C alleles described since the previous *Olerup SSP®* HLA-C high resolution for frequent alleles lot was made (**Lot No. 24S**).

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
53	Modified	-	5'-primer modified for increased yield of HLA-specific PCR product.
86	-	Added	3'-primer modified for increased yield of HLA-specific PCR product.
96	-	-	Updated negative Control.

Changes in revision R01 compared to R00:

- The resolution capability of the kit is defined more stringently in Content and Uniquely Identified Alleles sections.

Changes in revision R02 compared to R01:

- Primer mix 19 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 high resolution primer mixes in the C*03 alleles. This has been corrected in the Specificity and Interpretation Tables.

Changes in revision R03 compared to R02:

- The C*07:10 allele is amplified by primer mix 19. This has been corrected in the Specificity and Interpretation Tables.

Changes in revision R04 compared to R03:

- The C*14:17 and C*16:68 alleles are amplified by primer mix 84. This has been corrected in the Specificity and Interpretation Tables.



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Well **96** 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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PRODUCT DESCRIPTION

HLA-C high resolution for frequent alleles SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*01:02:01 to C*18:07N alleles and will generate unique amplification patterns and have good resolution for all frequently encountered HLA-C genotypes currently recognized. All HLA-C alleles defined as Common in the CWD2.0.0 catalogue give rise to unique amplification patterns¹.

¹S. J. Mack, P. Cano, J. A. Hollenbach et al. Common and well-documented HLA alleles: 2012 update to the CWD catalogue. *Tissue Antigens*, 2013, 81, 194–203

PLATE LAYOUT

Each HLA-C high resolution for frequent alleles test consists of 96 PCR reactions in a 96 well 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	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	NC

The 96 well PCR plate is marked with ‘HLA-C “HIGH”’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘95V’.

Wells 1 to 95 - HLA-C high resolution primers.

Well 96 – Negative Control.

The PCR plates are heat-sealed with a PCR-compatible foil.

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.

INTERPRETATION

A few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 2, 5, 6, 8, 10, 12, 13, 16 to 19, 21 to 23, 25, 28, 29, 31 to 34, 37, 38, 40, 43, 44, 46, 48, 52, 56, 59, 61, 70, 71, 77, 79 to 81, 87 and 91 due to the sharing of sequence motifs between HLA Class I loci.

For further details see Specificity Table.

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UNIQUELY IDENTIFIED ALLELES

All the HLA-C alleles, i.e. **C*01:02 to C*18:07N**, recognized by the HLA Nomenclature Committee in April 2014^{1,2} will be amplified by the primers in the HLA-C high resolution for frequent alleles subtyping kit³. All HLA-C alleles defined as Common in the CWD2.0.0 catalogue give rise to unique amplification patterns⁴.

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

Alleles	Primer mix	Alleles	Primer mix
C*01:06, 01:11	3	C*05:10, 05:55	21
C*01:15, 01:20, 01:60	6	C*06:08, 06:13	43
C*02:11, 02:77	59	C*06:15-06:16N	78, 83
C*02:51, 02:57	31	C*07:22, 07:35	56
C*03:06, 03:117	36	C*07:25, 07:32N, 07:137:01, 07:138, 07:352	56
C*03:21-03:22Q, 03:116:01	18	C*07:30, 07:40	86
C*03:30, 03:50	21	C*07:33N, 07:51, 07:367	55
C*03:37:01-03:37:02, 03:46	11	C*07:37, 07:54	2
C*04:08-04:09N, 04:30	27	C*07:47-07:48	91
C*04:23, 04:31	88	C*12:06, 12:81	65
C*04:24-04:25	49		

The HLA-C typing kit cannot distinguish the following silent mutations: the C*01:02:01-01:02:17, 01:02:19-01:02:24 and 01:02:26 alleles, the C*01:12:01-01:12:02 alleles, the C*02:02:02:01-02:02:03, 02:02:05-02:02:07, 02:02:09-02:02:11, 02:02:14-02:02:20 and 02:02:22-02:02:26 alleles, the C*02:05:01-02:05:03 alleles, the C*02:27:01-02:27:02 alleles, the C*03:02:01-03:02:07, 03:02:09 and 03:02:11-03:02:12 alleles, the C*03:03:01-03:03:20 and 03:03:23-03:03:25 alleles, the C*03:04:01:01-03:04:14, 03:04:16-03:04:18, 03:04:20-03:04:24, 03:04:28-03:04:29, 03:04:31-03:04:33 and 03:04:35-03:04:46 alleles, the C*03:04:27 and 03:04:30 alleles, the C*03:11:01-03:11:02 alleles, the C*03:37:01-03:37:02 alleles, the C*03:38:01-03:38:02 alleles, the C*03:40:01 and 03:40:03 alleles, the C*04:01:01:01-04:01:02, 04:01:04, 04:01:06, 04:01:08, 04:01:10-04:01:17, 04:01:19-04:01:21, 04:01:24-04:01:25, 04:01:27-04:01:28, 04:01:30-04:01:33, 04:01:35-04:01:42 and 04:01:44-04:01:59 alleles, the C*04:01:05, 04:01:07, 04:01:09, 04:01:18, 04:01:22 and 04:01:26 alleles, the C*04:15:01 and 04:15:03 alleles, the C*05:01:01:01-05:01:11, 05:01:13-05:01:15, 05:01:19-05:01:21, 05:01:23 and 05:01:25-05:01:26 alleles, the C*05:01:16, 05:01:18 and 05:18:02-05:18:03 alleles, the C*05:04:01-05:04:02 alleles, the C*05:64:01-05:64:02 alleles, the C*06:02:01:01-06:02:01:03, 06:02:03-06:02:07, 06:02:09-06:02:11, 06:02:13-06:02:15, 06:02:17-06:02:22 and 06:02:24-06:02:37 alleles, the C*07:01:01:01-07:01:04, 07:01:06-07:01:12, 07:01:14-07:01:24, 07:01:26-07:01:35 and 07:01:37-07:01:43 alleles, the C*07:01:05 and 07:01:36 alleles, the C*07:02:01:01-07:02:08, 07:02:10-07:02:31, 07:02:33-07:02:41 and 07:02:43-07:02:59 alleles, the 07:17:01-07:17:02 alleles, the C*07:04:01-07:04:09 and 07:199:01-07:199:02 alleles, the C*07:27:01-07:27:02 alleles, the C*07:31:01-07:31:02 alleles, the C*07:38:01-07:38:02 alleles, the C*07:76:01-07:76:02 alleles, the C*07:96:01-07:96:02 alleles, the C*07:108:01-07:108:02 alleles, the C*07:141:01-07:141:02 alleles, the C*07:172:01-07:172:02 alleles, the C*08:01:01-08:01:06, 08:01:08-08:01:13 and 08:01:15 alleles, the C*08:02:01:01-08:02:02, 08:02:04-08:02:06 and 08:02:08-08:02:10 alleles, the C*08:03:01-08:03:03 alleles, the C*08:04:01-08:04:03 alleles, the C*12:02:01-12:02:05, 12:02:07 and 12:02:09-12:02:10 alleles, the C*12:02:06 and 12:02:08 alleles, the



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C*12:03:01:01-12:03:01:02, 12:03:03, 12:03:05-12:03:07, 12:03:11-12:03:12, 12:03:14-12:03:15, 12:03:17-12:03:18, 12:03:21-12:03:22 and 12:03:25-12:03:29 alleles, the C*12:03:02, 12:03:08, 12:03:16 and 12:03:30 alleles, the C*12:10:01-12:10:02 alleles, the C*14:02:01, 14:02:04-14:02:07, 14:02:09 and 14:02:12-14:02:16 alleles, the C*15:02:01-15:02:08, 15:02:11-15:02:16 and 15:02:19 alleles, the C*15:02:10 and 15:02:17 alleles, the C*15:05:01-15:05:08 and 15:05:10 alleles, the C*15:06:01-15:06:03 alleles, the C*15:10:02-15:10:03 alleles, the C*16:01:01, 16:01:03-16:01:04, 16:01:07-16:01:15 and 16:01:18 alleles, the C*16:02:01-16:02:10 and 16:02:12 alleles and the C*17:01:01:01-17:01:03, 17:01:05-17:01:07 and 17:01:09-17:01:10 alleles.

¹HLA-C alleles listed on the IMGT/HLA web page 2014-April-14, release 3.16.0, 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 C*06:76:01 and C*12:04:01 alleles will give rise to identical amplification patterns. These alleles can e.g. be distinguished by the HLA-C low resolution kit, the HLA-C*06 high resolution kit and/or HLA-C*12 high resolution kit.

The C*06:76:02 and the C*12:04:02, 12:54 and 12:60 alleles will give rise to identical amplification patterns. These alleles can e.g. be distinguished by the HLA-C low resolution kit and/or HLA-C*12 high resolution kit.

⁴S. J. Mack, P. Cano, J. A. Hollenbach et al. Common and well-documented HLA alleles: 2012 update to the CWD catalogue. Tissue Antigens, 2013, 81, 194–203

RESOLUTION IN HOMO- AND HETEROZYGOTES

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

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SPECIFICITY TABLE

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HLA-C high resolution for frequent alleles SSP typing

Specificities and sizes of the PCR products of the 95+1 primer mixes used for HLA-C high resolution for frequent alleles SSP typing

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C alleles ³	Other amplified HLA Class I alleles ⁴
1^{5,8}	90 bp	800 bp	*01:02:01-01:02:24, 01:02:26, 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, 01:80-01:85, 01:87-01:89N, 01:92-01:93, 03:86, 03:94, 03:99, 07:177	B*40:243
2⁵	95 bp 215 bp	1070 bp	*04:05, 07:54 *01:05, 01:77, 07:37, 07:216, 07:307, 14:08, 16:06	B*07:77, B*07:193
3⁶	200 bp 225 bp 290 bp 365 bp	1070 bp	*01:06 *07:06, 07:18-07:19 *01:11 *15:13	
4⁵	100 bp 200 bp	1070 bp	*02:34, 16:09 *01:07, 06:10, 06:43:01, 14:24:02	
5⁶	150 bp 210 bp 300 bp	1070 bp	*03:04:19, 03:113, 04:01:43, 05:01:17, 05:09:02, 05:17, 06:02:23, 07:03, 07:17:01-07:17:02, 07:23, 07:140-07:141:02, 07:304, 07:307, 08:15:02, 08:72:02, 12:03:10, 12:13, 16:02:11 *01:08, 12:19 *06:02:23, 07:31:01-07:31:02, 07:177, 12:03:10, 16:02:11	B*07:33:03, B*08:01:25, B*35:01:38, B*57:01:18
6^{5,7}	105 bp 150 bp 190 bp 210 bp 260 bp	800 bp	*03:24 *01:20 *01:60, 07:05, 07:177, 07:364 *01:04, 01:09, 06:23 *01:15, 03:33	B*27:36, B*48:21, B*48:26 B*15:129, B*27:25, B*27:115
7	200 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:09, 02:11-02:13, 02:15-02:28, 02:30-02:40, 02:42-02:57, 02:59-02:81	
8⁵	105 bp 135 bp 595 bp	800 bp	*02:03, 02:16:02, 02:18, 03:03:22, 03:04:34, 06:07 *02:20 *07:179	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

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9	140 bp	1070 bp	*02:04, 02:14, 02:21, 04:42, 05:43, 06:05, 07:02:09, 08:37, 12:10:01-12:10:02, 12:16, 12:115, 14:41, 15:23, 15:63, 16:11, 16:21	
10^{5,6,8,9}	105 bp 130 bp 270 bp	800 bp	*07:46, 07:356 *02:07, 16:10, 16:67 *08:06, 16:33	B*56:08, B*56:14
11⁵	75 bp 160 bp 505 bp	800 bp	*02:08, 02:42, 03:11:01-03:11:02, 03:18:02, 03:37:01-03:37:02 03:64:01, 06:03:01, 12:03:23, 15:10:02-15:10:03 *03:46, 04:16 *07:06, 07:343	
12^{5,8}	70 bp 280 bp	800 bp	*07:53, 07:216 *02:02:01-02:02:03, 02:02:05-02:03, 02:04 ^w , 02:05:01-02:13, 02:14 ^w , 02:15-02:25Q, 02:26:02-02:32, 02:34-02:40, 02:42-02:81, 03:02:01-03:02:09, 03:02:11-03:02:12, 03:04:01:01-03:04:25, 03:04:27-03:10, 03:14-03:17, 03:19, 03:23-03:29, 03:32-03:38:02, 03:40:01-03:42, 03:44-03:48, 03:51, 03:54, 03:57, 03:60, 03:63-03:64:01, 03:65, 03:70-03:74, 03:77-03:78, 03:80, 03:82, 03:84, 03:87, 03:89-03:95, 03:98, 03:100-03:101, 03:104-03:111, 03:113-03:115, 03:117-03:118, 03:121N, 03:123, 03:125, 03:128-03:131, 03:134-03:136, 03:138-03:140, 03:143, 03:145-03:149, 03:153-03:155, 03:157, 03:159, 03:162-03:164, 03:169Q, 03:172-03:174, 03:178-03:181, 03:183-03:184, 03:186:01-03:186:02, 03:190-03:191, 03:193-03:194, 03:197-03:201N, 03:208N-03:213, 03:215-03:216, 03:218-03:219, 03:221-03:222, 03:224N-03:226, 03:232-03:236, 03:238-03:240, 03:244Q-03:246, 04:03:01-04:03:02, 04:06, 04:16, 04:80, 04:107, 04:147, 04:160, 05:58:01, 06:03:01, 07:96:01-07:96:02, 12:03:23, 15:02:01-15:05:08, 15:05:10-15:09, 15:10:02-15:11, 15:13, 15:15-15:19, 15:21-15:22, 15:24-15:35, 15:37-15:60, 15:62, 15:64-15:87, 16:34, 16:70	B*40:164, B*51:01:28
13	220 bp	1070 bp	*03:02:01-03:02:12, 03:14-03:15, 03:33, 03:36, 03:40:01-03:40:03, 03:42-03:43:02, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108, 03:110, 03:119, 03:121N, 03:132, 03:139, 03:146, 03:169Q, 03:175, 03:190, 03:194, 03:197-03:201N, 03:216, 03:221-03:222, 03:224N-03:226, 03:238, 03:240, 03:245, 04:12, 07:133, 07:242, 07:330	B*15:96
14	280 bp	800 bp	*03:03:01-03:03:20, 03:03:22-03:03:26, 03:11:01-03:11:02, 03:13:01-03:13:02, 03:18:02, 03:20N-03:22Q, 03:30-03:31, 03:43:01-03:43:02, 03:49-03:50, 03:52-03:53, 03:55-03:56, 03:58-03:59, 03:61-03:62, 03:66, 03:67 ^w , 03:68-03:69, 03:75-03:76, 03:79, 03:81, 03:83, 03:85-03:86, 03:88, 03:96-03:97, 03:102-03:103, 03:112, 03:116:01-03:116:02, 03:119-03:120, 03:122, 03:124,	

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			03:126-03:127, 03:132-03:133, 03:141-03:142, 03:150-03:152, 03:158, 03:160-03:161, 03:165, 03:167-03:168, 03:171, 03:175- 03:177, 03:185, 03:187-03:189N, 03:192, 03:196, 03:202-03:207, 03:214, 03:217, 03:220, 03:223, 03:227-03:230, 03:237, 03:241-03:243, 15:12	
15	275 bp	1070 bp	*03:03:01-03:04:46, 03:06-03:11:02, 03:14, 03:18:01-03:24, 03:26, 03:28-03:32, 03:34, 03:37:01-03:40:03, 03:42-03:57, 03:59, 03:61- 03:70, 03:72-03:83, 03:85, 03:87-03:88, 03:90- 03:93, 03:96, 03:98, 03:100-03:107, 03:109, 03:111-03:112, 03:114-03:120, 03:122-03:131, 03:133-03:134, 03:136-03:138, 03:140-03:145, 03:147-03:150, 03:152-03:153, 03:155-03:164, 03:166, 03:168, 03:170-03:176, 03:179- 03:189N, 03:191-03:193, 03:195-03:196, 03:202-03:215, 03:217-03:220, 03:223, 03:227-03:237, 03:239-03:244Q, 03:246	
16	245 bp 275 bp	1070 bp	*03:53, 12:07, 12:17 *01:65, 03:05, 03:13:01-03:13:02, 03:17, 03:25, 03:27, 03:35, 03:71, 03:167, 03:178, 03:198, 05:86, 07:133, 07:242, 07:330	B*15:96
17^{5,8}	110 bp 185 bp	1070 bp	*03:08, 03:29, 03:31, 03:246, 06:44, 07:01:01-07:01:24, 07:01:26-07:01:43, 07:06-07:07, 07:09, 07:16, 07:18-07:20, 07:22, 07:24, 07:26, 07:28, 07:30, 07:35-07:36, 07:40, 07:44, 07:52-07:53, 07:55N, 07:57- 07:60, 07:65, 07:70-07:71, 07:73, 07:77-07:78, 07:81-07:83, 07:86, 07:89, 07:91-07:96:02, 07:98N, 07:103-07:104N, 07:106, 07:108:01- 07:113, 07:115-07:116, 07:118-07:120, 07:122, 07:124, 07:128-07:129, 07:131- 07:132, 07:134, 07:140-07:141:02, 07:148, 07:150Q-07:151, 07:153, 07:162, 07:164N- 07:166, 07:170, 07:173, 07:176, 07:179- 07:180, 07:182, 07:188-07:191N, 07:196- 07:197, 07:200-07:201, 07:203-07:207, 07:210, 07:212, 07:214-07:215, 07:219, 07:222-07:224, 07:227N-07:228, 07:230- 07:231, 07:235Q-07:237, 07:246-07:250, 07:253-07:257, 07:263, 07:266-07:269, 07:276-07:282, 07:292-07:293, 07:296-07:301, 07:303-07:304, 07:310-07:311, 07:313, 07:317, 07:330-07:332, 07:337, 07:343, 07:353, 07:362, 07:366, 07:369-07:371, 15:02:10, 15:02:17, 18:05 *01:51, 03:03:01-03:03:25, 03:11:01-03:11:02, 03:13:01-03:13:02, 03:18:01-03:18:02, 03:20N-03:22Q, 03:30-03:31, 03:39, 03:43:01- 03:43:02, 03:49-03:50, 03:52-03:53, 03:55- 03:56, 03:58-03:59, 03:61-03:62, 03:66-03:69, 03:75-03:76, 03:79, 03:81, 03:83, 03:85-03:86, 03:88, 03:96-03:97, 03:102-03:103, 03:112, 03:116:01-03:116:02, 03:119-03:120, 03:122,	B*07:93, B*08:39, B*35:101:02, B*35:195, B*35:211, B*38:27, B*51:76

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 101.707-12u – without *Taq* polymerase, IFU-02

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	565 bp		03:124, 03:126-03:127, 03:132-03:133, 03:141-03:142, 03:144, 03:150-03:152, 03:158, 03:160-03:161, 03:165, 03:167-03:168, 03:171, 03:175-03:177, 03:182, 03:185, 03:187-03:189N, 03:192, 03:195-03:196, 03:202-03:207, 03:214, 03:217, 03:220, 03:223, 03:227-03:231, 03:237, 03:241-03:243, 06:53:01, 07:56:01, 07:60, 07:79, 07:109 *01:02:18, 06:02:38, 12:03:04, 12:03:09, 14:02:08	B*27:05:27
18⁵	90 bp 185 bp 225 bp 255 bp	1070 bp	*03:21, 03:142 *07:21 *03:23, 03:28, 03:49 *03:09, 03:22Q, 03:42, 03:71, 03:89, 03:116:01, 03:119, 03:139, 03:169Q, 03:199, 03:240, 05:86, 07:36, 07:133, 07:242, 07:330, 07:355	B*15:96 B*56:37
19^{5,12}	105 bp 265 bp 305 bp 540 bp	1070 bp	*03:36, 03:77, 03:187 *03:13:01-03:13:02, 03:35, 03:178, 03:198, 05:86, 07:133, 07:242, 07:330 *03:32, 03:45, 03:136, 04:80, 04:100, 06:14, 07:10, 07:43, 07:196, 15:25, 15:62 *03:15, 03:32, 03:45, 03:60, 03:136, 07:133, 07:242, 07:330	B*15:96 B*35:178
20⁷	250 bp	800 bp	*01:14, 02:02:01 ^w , 02:02:02:01-02:02:03, 02:02:05-02:03, 02:04 ^w , 02:05:01-02:13, 02:14 ^w , 02:15-02:25Q, 02:26:02-02:26:03, 02:28-02:40, 02:42-02:64, 02:66-02:81, 03:07, 03:10, 03:15, 03:29, 03:45, 03:163, 04:03:01-04:03:02, 04:06, 04:16, 04:80, 04:107, 04:147, 04:160, 05:13, 05:58:01, 06:03:01, 15:02:01-15:05:08, 15:05:10-15:06:03, 15:08-15:09, 15:10:02-15:13, 15:15-15:19, 15:21-15:22, 15:24, 15:26-15:35, 15:37-15:42, 15:44-15:60, 15:62, 15:64-15:84Q, 15:86-15:87, 16:70	
21⁶	190 bp 220 bp 250 bp 280 bp	800 bp	*03:30, 03:65, 04:18, 04:52, 04:55, 05:55, 12:58, 14:10, 15:12 *04:19 *03:50 *04:120, 05:10, 05:64:01-05:64:02, 08:19, 08:44, 08:61, 08:82, 08:101	B*44:148
22⁵	80 bp 140 bp	1070 bp	*03:02:01-03:02:12, 03:15-03:16, 03:33, 03:36, 03:40:01, 03:40:03, 03:42-03:43:01, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108, 03:110, 03:121N, 03:132, 03:139, 03:146, 03:169Q, 03:175, 03:194, 03:197-03:201N, 03:216, 03:221-03:222, 03:224N-03:226, 03:238, 03:240, 03:245, 04:54, 06:02:08, 07:02:32, 07:242, 12:03:20, 14:02:01, 14:02:03-14:16, 14:18-14:24:01, 14:25, 14:27-14:53, 14:56-14:65, 15:77, 16:01:06 *03:17, 03:71, 04:37, 06:02:08, 12:03:20, 14:02:01, 14:02:03-14:07N, 14:10-14:16, 14:18-14:27, 14:29-14:53, 14:55-14:65, 16:01:06	B*15:78:03



101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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23	150 bp	800 bp	*01:14, 02:02:13, 03:07, 03:10, 03:15, 03:29, 03:45, 03:163, 04:01:23, 05:01:12, 05:29:02, 06:02:01:01-06:02:01:03, 06:02:03-06:04, 06:06-06:10, 06:12-06:76:01, 06:77-06:81, 06:83-06:131, 07:07, 07:09, 07:76:01-07:76:02, 07:315, 07:328, 12:04:01, 14:12, 14:49, 15:02:10, 15:02:17, 17:01:01:01-17:01:03, 17:01:05-17:21, 17:23-17:24, 18:01-18:07N	B*15:277, B*35:222
	240 bp			
24	250 bp	1070 bp	*01:02:01-01:02:24, 01:02:26-01:21, 01:23-01:34, 01:36-01:90, 01:92-01:93, 02:02:01-02:02:03, 02:02:05-02:02:26, 02:04-02:15, 02:17, 02:19-02:40, 02:42-02:71, 02:73-02:81, 04:01:01:01-04:01:59, 04:03:01-04:03:02, 04:05, 04:07-04:12, 04:15:01-04:20, 04:23-04:33, 04:35-04:57, 04:59Q-04:67, 04:69-04:110, 04:112-04:121, 04:123N-04:159, 04:161-04:170N, 05:01:01:01-05:01:27, 05:03-05:10, 05:12-05:16, 05:18:01-05:26, 05:28-05:50, 05:52-05:61, 05:63-05:67, 05:69, 05:71-05:78, 05:80-05:102, 06:02:01:01-06:02:01:03, 06:02:03-06:03:02, 06:05-06:39, 06:41-06:78, 06:80-06:117, 06:119-06:131, 08:02:01:01-08:02:11, 08:05, 08:07, 08:12, 08:15:01-08:15:02, 08:17-08:19, 08:23, 08:25, 08:27-08:35, 08:37, 08:43, 08:45, 08:47-08:49, 08:51-08:53, 08:55N, 08:62-08:63, 08:67-08:71, 08:73-08:77, 08:90, 08:92, 08:94, 08:100, 08:103, 12:02:01-12:13, 12:15-12:17, 12:21-12:82, 12:84N-12:125, 14:02:01-14:05, 14:07N-14:14, 14:16-14:52, 14:54-14:62, 14:64-14:65, 15:08, 15:74, 16:04:01, 16:29, 16:33, 16:42, 16:53, 16:55, 16:61, 16:66, 16:68, 17:17, 18:01-18:07N	
25	170 bp	1070 bp	*03:16, 03:41, 03:113, 03:151, 04:01:01:01-04:01:04, 04:01:06, 04:01:08, 04:01:10-04:01:17, 04:01:19-04:01:21, 04:01:23-04:01:25, 04:01:27-04:01:59, 04:03:01-04:04:01, 04:05-04:20, 04:23-04:49, 04:51-04:63, 04:65-04:76, 04:78-04:94:01, 04:95N-04:98:02, 04:100-04:119, 04:121-04:155, 04:157-04:159, 04:161-04:170N, 06:02:08, 07:02:32, 12:03:20, 14:02:01, 14:02:03-14:02:10, 14:02:12-14:16, 14:18-14:31, 14:33-14:43, 14:45-14:65, 15:77, 16:01:06, 18:01-18:07N	B*15:01:17, B*15:78:03
26	145 bp	800 bp	*04:07, 04:27, 04:89, 04:153, 05:78, 07:64, 15:36	
	170 bp		*02:09	
27⁸	135 bp	1070 bp	*01:35, 04:08, 04:34, 04:147, 14:20	
	170 bp		*04:30, 15:15, 15:77	
	220 bp		*04:09N	

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 101.707-12u – without *Taq* polymerase, IFU-02

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28	200 bp	800 bp	*04:13, 04:58, 04:160, 07:08, 07:108:01-07:108:02, 08:101	B*47:09
29	130 bp 190 bp 290 bp	800 bp	*03:05, 03:13:02, 03:25, 03:27, 03:135, 03:167, 04:15:01, 04:15:03, 14:09 *02:15 *07:14	B*15:78:03
30	155 bp	1070 bp	*05:01:01:01-05:01:15, 05:01:17, 05:01:19-05:01:27, 05:03-05:08, 05:10-05:11, 05:13-05:16, 05:19-05:51Q, 05:53-05:86, 05:88-05:96, 05:98-05:102, 07:41, 08:02:01:01-08:02:11, 08:04:01-08:05, 08:07, 08:12-08:13, 08:17-08:19, 08:23, 08:25, 08:28-08:32, 08:34, 08:37, 08:43, 08:45, 08:47-08:49, 08:52N-08:53, 08:55N, 08:57, 08:62-08:63, 08:67-08:71, 08:73-08:77, 08:90, 08:92-08:94, 08:100, 08:103-08:104	
31	150 bp 285 bp	800 bp	*01:13, 02:51, 03:87, 05:09:01-05:09:02, 05:17, 05:52, 07:130, 08:15:01-08:15:02, 08:51, 08:73, 12:12, 16:27 *02:57, 04:40, 06:123, 07:45	B*15:33, B*15:248, B*35:08:02, B*35:08:05, B*38:23, B*39:73
32⁵	120 bp 180 bp 210 bp	1070 bp	*05:03, 07:52 *03:48 *16:07:01	B*46:25
33	190 bp 225 bp	1070 bp	*04:28 *05:04:01-05:04:02, 06:129, 07:68, 07:260, 07:302, 08:09, 08:11, 08:59	B*18:83
34	220 bp 275 bp	1070 bp	*03:231 ^w , 04:10, 04:11 ^w , 04:36 ^w , 04:55 ^w , 04:153, 04:169, 05:78, 15:36 *05:05, 05:07N 08:08:01-08:08:02, 08:62, 08:82	A*02:425, A*29:10, A*68:69, B*14:32, B*18:83, B*44:148
35	265 bp	1070 bp	*04:120, 05:01:01:01-05:01:27, 05:03-05:04:02, 05:06-05:08, 05:10-05:16, 05:18:01-05:51Q, 05:53-05:60, 05:62-05:81, 05:83-05:84, 05:86-05:102, 06:129, 07:04:01-07:04:09, 07:11-07:12, 07:41, 07:63, 07:68, 07:101, 07:139, 07:142, 07:181, 07:199:01-07:199:02, 07:260, 07:272, 07:302, 07:323-07:324, 07:328-07:329N, 07:336, 07:338, 07:354-07:355, 07:357-07:358, 07:361, 07:365, 08:01:01-08:01:13, 08:01:15-08:08:01, 08:09-08:14, 08:16:01-08:50, 08:52N-08:61, 08:63, 08:65-08:69, 08:71, 08:73-08:81, 08:83-08:106	
36^{5,7}	90 bp 120 bp 160 bp 210 bp	1070 bp	*01:65, 03:28, 03:49, 03:117, 05:06, 05:86 *05:15 *03:25, 04:129, 05:42, 05:46, 06:67, 07:101, 07:148, 07:161, 08:05, 08:21, 17:05 *03:06, 03:26	
37⁵	80 bp 130 bp	800 bp	*07:50 *05:23, 05:62, 07:04:01-07:04:09, 07:11, 07:63, 07:68, 07:101, 07:139, 07:142, 07:181, 07:199:01-07:199:02, 07:260, 07:272, 07:302,	

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	195 bp 235 bp 280 bp		07:323-07:324, 07:328-07:329N, 07:336, 07:338, 07:354-07:355, 07:357-07:358, 07:361, 07:364-07:365, 08:07, 08:47, 08:104 *05:14 *05:19 *05:16, 05:85, 06:129, 07:364, 08:12	B*14:32
38	250 bp	800 bp	*02:49, 02:75, 03:15, 03:32, 03:45, 03:60, 03:136, 04:03:01-04:03:02, 04:06, 04:16, 04:80, 04:147, 04:160, 06:70, 07:20, 07:96:01- 07:96:02, 07:127, 07:263, 15:25, 15:62	A*01:110, A*11:135
39	240 bp	1070 bp	*03:39, 03:67, 04:42, 05:43, 06:02:01:01- 06:02:01:03, 06:02:03-06:02:38, 06:04-06:16N, 06:18-06:75, 06:78-06:131, 08:37, 12:16, 16:21, 17:20?	
40⁶	250 bp	1070 bp	*01:22, 01:35, 02:03, 02:13, 02:16:01-02:16:02, 02:18, 04:04:01-04:04:02, 04:06, 04:13, 04:34, 04:58, 04:122, 04:160, 05:11, 05:17, 05:27, 05:68, 05:79, 06:04, 06:31, 06:118, 08:01:01- 08:01:15, 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, 08:95-08:97, 08:99, 08:101-08:102, 08:104-08:106, 12:14:01-12:14:02, 12:18:01- 12:18:02, 12:20, 12:83, 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, 15:85-15:87, 16:04:01, 16:29, 16:33, 16:35, 16:40, 16:42, 16:48, 16:55, 16:61, 16:66, 17:01:01:01-17:16, 17:18-17:24	B*58:02
41	165 bp	1070 bp	*04:129, 05:01:01:01-05:01:27, 05:03-05:28, 05:30-05:47, 05:49-05:91N, 05:93-05:102, 06:05, 06:67, 08:10, 12:21, 12:33, 17:05	
42	250 bp	1070 bp	*01:02:01-01:02:24, 01:02:26-01:03, 01:05- 01:08, 01:10-01:20, 01:23-01:34, 01:36-01:90, 01:92-01:93, 02:13, 02:32, 04:01:01:01- 04:01:33, 04:01:35-04:01:59, 04:03:01- 04:03:02, 04:05, 04:07-04:12, 04:15:01-04:20, 04:23-04:33, 04:35-04:47, 04:49-04:57, 04:59Q-04:67, 04:69-04:93N, 04:95N-04:110, 04:112-04:121, 04:123N-04:159, 04:161- 04:170N, 05:01:01:01-05:01:27, 05:03-05:07N, 05:09:01-05:10, 05:12-05:16, 05:18:01-05:26, 05:28-05:50, 05:53-05:61, 05:63-05:67, 05:69, 05:71-05:78, 05:80-05:88, 05:90-05:102, 06:05-06:06, 06:31, 08:02:01:01-08:02:11, 08:05, 08:07, 08:12, 08:15:01-08:15:02, 08:17- 08:19, 08:23, 08:25, 08:28, 08:30, 08:32- 08:35, 08:37, 08:43, 08:45, 08:47-08:49, 08:51-08:53, 08:55N, 08:62-08:63, 08:67- 08:71, 08:73-08:77, 08:90, 08:92, 08:94, 08:100, 08:103, 12:09, 12:24, 12:85, 14:02:01- 14:05, 14:07N-14:14, 14:17-14:52,	

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43⁵	100 bp 155 bp 240 bp	1070 bp	*01:21, 02:42, 04:140, 04:166, 05:98, 06:05, 07:02:09, 08:14, 08:80, 08:103, 12:16, 15:63 *06:13 *01:10, 01:51, 02:05:01-02:05:03, 02:17, 03:11:01-03:11:02, 03:39, 06:08, 06:53:01, 07:56:01, 07:60, 07:79, 07:109, 12:119, 14:25, 16:29, 16:50, 17:21	B*67:02 B*07:93, B*08:39, B*38:27, B*40:243
44^{5,6,9}	90 bp 135 bp 160 bp	1070 bp	*03:20N *16:08 *02:22, 04:14, 04:68, 04:94:01-04:94:02, 05:08, 05:52, 05:89, 06:09, 08:27, 08:29, 08:31, 12:31, 16:45, 17:04, 18:03	A*24:96, A*24:146, B*15:137
45⁶	140 bp 255 bp 550 bp	1070 bp	*06:11, 06:122 ^w , 06:124 ^w , 07:01:13, 07:04:01-07:04:09, 07:11-07:12, 07:45, 07:63, 07:68, 07:101, 07:139, 07:142, 07:181, 07:199:01-07:199:02, 07:272, 07:302, 07:323-07:324, 07:329N, 07:338, 07:354-07:355, 07:358, 07:364-07:365, 12:02:11, 12:03:09, 12:11, 12:118, 16:01:16 *03:47 *06:02:38, 12:03:09	
46	290 bp	800 bp	*03:04:19, 03:113, 05:01:17, 05:09:02, 05:17, 06:02:23, 07:01:01:01-07:01:04, 07:01:06-07:01:35, 07:01:37-07:01:43, 07:05-07:07, 07:09, 07:14, 07:16, 07:18, 07:20-07:22, 07:24, 07:26-07:28, 07:30-07:31:02, 07:35-07:36, 07:40, 07:43-07:44, 07:52-07:53, 07:55N, 07:58-07:60, 07:65, 07:69-07:71, 07:73, 07:77-07:78, 07:81-07:83, 07:85-07:86, 07:89, 07:91-07:96:02, 07:98N, 07:103-07:104N, 07:106, 07:109, 07:111, 07:113, 07:115-07:116, 07:118-07:120, 07:122, 07:124, 07:128-07:129, 07:131-07:132, 07:134, 07:140-07:141:02, 07:148, 07:150Q-07:151, 07:153, 07:156, 07:162-07:166, 07:170, 07:173, 07:176, 07:179-07:180, 07:182, 07:184, 07:188-07:191N, 07:196-07:197, 07:200-07:201, 07:203-07:207, 07:210, 07:212, 07:214-07:215, 07:219, 07:222-07:225, 07:227N-07:228, 07:231, 07:235Q-07:237, 07:246-07:249, 07:253-07:257, 07:263, 07:266-07:269, 07:276-07:282, 07:292-07:293, 07:296-07:301, 07:303-07:304, 07:310-07:311, 07:313, 07:315, 07:330-07:332, 07:337, 07:343, 07:362, 07:366, 07:369-07:371, 08:15:02, 08:72:02, 12:03:10, 15:65, 16:02:11	B*35:01:38, B*35:08:04
47⁵	110 bp	800 bp	*04:112, 06:44, 07:01:01:01-07:01:24, 07:01:26-07:01:43, 07:06, 07:09, 07:18-07:22, 07:24, 07:26, 07:28, 07:30, 07:35-07:36, 07:40, 07:44, 07:52-07:53, 07:55N, 07:57-07:59, 07:65, 07:69-07:71, 07:73, 07:77-07:78,	

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48	185 bp	1070 bp	*07:02:01:01-07:02:59, 07:10, 07:13, 07:15, 07:19, 07:23, 07:25, 07:29, 07:32N-07:33N, 07:37-07:39, 07:42, 07:46-07:51, 07:54, 07:56:01-07:56:02, 07:61N-07:62, 07:64, 07:66-07:68, 07:72, 07:74-07:76:02, 07:79-07:80, 07:84, 07:87-07:88, 07:90, 07:97, 07:99-07:100, 07:102, 07:105, 07:107, 07:114, 07:117, 07:121Q, 07:123, 07:125-07:127, 07:130, 07:133, 07:135-07:138, 07:143-07:147, 07:149, 07:152N, 07:154-07:155, 07:157-07:161, 07:167-07:169, 07:172:01-07:172:02, 07:174-07:175, 07:178, 07:183, 07:185-07:187, 07:192-07:195, 07:198N, 07:202, 07:208-07:209, 07:211, 07:213, 07:216-07:218, 07:220-07:221, 07:226, 07:229, 07:232-07:234, 07:238-07:241, 07:243-07:245, 07:251-07:252, 07:259-07:262, 07:264N-07:265, 07:270-07:271, 07:273-07:275, 07:283-07:291, 07:302, 07:305-07:306, 07:308-07:309, 07:312, 07:314, 07:316-07:322, 07:325-07:327, 07:333-07:335, 07:339-07:342, 07:344-07:352, 07:356, 07:359-07:360, 07:363, 07:367-07:368, 07:372-07:374	B*40:60, B*40:245
49⁵	85 bp 130 bp 170 bp 250 bp	1070 bp	*04:25 *04:24 *04:26, 07:44 *07:42	
50	240 bp 425 bp	1070 bp	*03:04:19, 03:113, 07:29, 07:177, 07:184, 07:248 *06:17, 07:07, 07:09, 07:49, 07:76:01-07:76:02, 07:210, 07:238, 07:247, 07:315, 07:328, 18:01-18:07N	
51	240 bp 275 bp	1070 bp	*01:16-01:19, 01:21, 01:23, 07:316, 07:338 *07:24, 07:218	

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52	130 bp	1070 bp	*04:120, 05:01:01:01-05:01:26, 05:03-05:08, 05:10-05:16, 05:18:01-05:22:02, 05:24-05:48N, 05:50-05:51Q, 05:53-05:61, 05:63-05:94, 05:96-05:102, 06:129, 07:12, 07:41, 08:01:01-08:06, 08:08:01-08:14, 08:16:01-08:46, 08:48-08:50, 08:52N-08:63, 08:65-08:71, 08:73-08:75, 08:77-08:83, 08:85-08:103, 08:105-08:106	A*29:10, B*14:32, B*18:83, B*44:148
53^{5,8}	80 bp 115 bp 265 bp	1070 bp	*07:11 *05:12 *05:29:01-05:29:02, 08:13, 08:16:01, 08:25, 08:94	
54	395 bp	1070 bp	*06:17, 07:02:01:01-07:02:41, 07:02:42 ^w , 07:02:43-07:05, 07:08, 07:10-07:15, 07:17:01-07:17:02, 07:23, 07:25, 07:27:01-07:27:02, 07:29, 07:31:01-07:33N, 07:37-07:39, 07:41-07:43, 07:45-07:51, 07:54, 07:56:01-07:56:02, 07:61N ^w , 07:62-07:64, 07:66-07:68, 07:72, 07:74-07:76:02, 07:79-07:80, 07:84, 07:87-07:88, 07:90, 07:97, 07:99-07:102, 07:105, 07:107, 07:114, 07:117, 07:121Q, 07:123, 07:125-07:127, 07:130, 07:133, 07:135-07:139, 07:142-07:147, 07:149, 07:152N, 07:154-07:155, 07:157-07:161, 07:167-07:169, 07:171-07:172:02, 07:174-07:175, 07:177-07:178, 07:181, 07:183-07:187, 07:192-07:195, 07:198N-07:199:02, 07:202, 07:208-07:209, 07:211, 07:213, 07:216-07:218, 07:220-07:221, 07:226, 07:229, 07:232-07:234, 07:238-07:245, 07:251-07:252, 07:258-07:262, 07:264N-07:265, 07:270-07:275, 07:283-07:290, 07:291 ^w , 07:294, 07:302, 07:305-07:309, 07:312, 07:314-07:316, 07:318-07:329N, 07:333-07:334, 07:335 ^w , 07:336, 07:338-07:342, 07:344-07:352, 07:354-07:361, 07:363-07:365, 07:367-07:368, 07:372-07:374, 18:01-18:04, 18:06-18:07N	
55	165 bp 220 bp 340 bp 465 bp	800 bp	*04:11, 04:33, 04:169, 16:62 *07:26, 07:33N, 07:92, 07:96:01-07:96:02, 07:314, 07:317, 07:351 *01:12:01-01:12:02, 01:21, 01:34, 01:49-01:50, 01:79:01-01:79:02 *01:21, 07:07, 07:16, 07:51, 07:177, 07:181, 07:328, 07:367	
56⁵	100 bp 125 bp 250 bp	800 bp	*07:32N *06:02:23, 07:22, 07:25, 07:137:01, 07:138, 12:03:10 *07:35, 07:352	A*03:01:46, A*24:02:62, A*33:03:09, A*68:01:12
57⁶	155 bp	1070 bp	*04:120, 05:12, 05:18:01, 06:129, 08:01:01-08:01:15, 08:03:01-08:03:03, 08:06, 08:08:01-08:11, 08:14, 08:16:01-08:16:02, 08:20-08:22,	

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58⁵	110 bp	1070 bp	*05:79, 08:03:01-08:03:03, 08:06, 08:14, 08:38, 08:40, 08:61, 08:101	
59⁵	110 bp 150 bp 185 bp 230 bp 275 bp	1070 bp	*08:09 *02:11, 03:34, 03:142, 04:32, 04:77, 14:07N 14:25, 18:03 *04:77 *02:77, 07:15 *07:38:01-07:38:02	B*27:84 B*07:77, B*07:193, B*40:60, B*40:245 B*07:77, B*07:193, B*40:60, B*40:245
60⁵	105 bp	1070 bp	*04:120, 05:01:01-01-05:01:27, 05:03-05:07N, 05:10, 05:12-05:16, 05:18:01-05:26, 05:28-05:51Q, 05:53-05:61, 05:63-05:67, 05:69, 05:71-05:78, 05:80-05:88, 05:90-05:102, 07:41, 08:02:01-01-08:02:11, 08:05, 08:07, 08:12, 08:17-08:19, 08:23, 08:25, 08:28, 08:30, 08:32-08:35, 08:37, 08:43, 08:45, 08:47-08:48, 08:52N-08:53, 08:55N, 08:62-08:63, 08:67-08:71, 08:73-08:77, 08:90, 08:92, 08:94, 08:100, 08:103	
61⁶	235 bp	800 bp	*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, 03:246, 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, 07:351, 08:05, 08:21, 08:25, 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, 12:99-12:125, 15:03, 15:16, 15:25, 16:15:01-16:15:02, 16:25, 16:64, 17:01:01-01-17:19, 17:21-17:24	B*07:13, B*07:15, B*07:160, B*67:02
62^{5,6}	100 bp	800 bp	*01:04, 01:21, 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, 12:117, 12:123-12:124	
63	220 bp	800 bp	*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, 06:124-06:126, 06:128N-06:131, 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,	

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64^{8,10}	130 bp	1070 bp	*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, 02:64-02:81, 03:04:25, 04:10-04:11, 04:36, 04:55, 04:153, 04:169, 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, 05:47-05:102, 06:05, 08:01:01-08:02:02, 08:02:04-08:02:10, 08:03:01-08:04:03, 08:06-08:20, 08:22-08:24, 08:26N-08:63, 08:65-08:72:02, 08:74-08:94, 08:95 ^w , 08:96-08:106, 12:05, 12:09, 12:21, 12:33, 12:49, 12:98, 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-15:87, 16:01:01, 16:01:03-16:01:15, 16:01:17-16:02:12, 16:04:01, 16:06-16:14, 16:16Q-16:24, 16:26-16:63, 16:65-16:68, 16:70
65	150 bp 415 bp	1070 bp	*12:06 *03:08, 03:29, 03:31, 03:246, 04:112, 04:169, 05:36, 06:44, 12:08, 12:81, 16:64, 16:70
66	155 bp	1070 bp	*01:02:18, 06:02:38, 06:76:02, 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, 12:115-12:116, 12:119-12:122, 12:125, 14:02:08, 16:01:17, 16:15:02
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68	145 bp	800 bp	*04:01:01:01-04:01:22, 04:01:24-04:01:59, 04:04:01-04:05, 04:07-04:15:03, 04:17-04:20, 04:23-04:25, 04:26 ^w , 04:27-04:41, 04:43-04:55, 04:57-04:70, 04:72-04:79, 04:81-04:89, 04:90 ^w , 04:91-04:102, 04:104-04:106, 04:108-04:144, 04:145 ^w , 04:146, 04:148-04:159, 04:161-04:170N, 05:78, 12:55, 14:02:03,

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69	245 bp	800 bp	*04:01:01:01-04:01:28, 04:01:30-04:01:59, 04:04:01-04:05, 04:07-04:10, 04:12-04:15:03, 04:17-04:20, 04:23-04:25, 04:26 ^w , 04:27-04:28, 04:30-04:35, 04:37-04:41, 04:43-04:54, 04:56-04:70, 04:72-04:79, 04:81-04:89, 04:90 ^w , 04:91-04:102, 04:104-04:106, 04:108-04:144, 04:145 ^w , 04:146, 04:148-04:159, 04:161-04:170N, 05:78, 14:04, 14:12, 14:49, 14:64, 15:36	
70	210 bp	800 bp	*01:36, 01:55, 04:01:01:01-04:01:33, 04:01:35-04:01:59, 04:03:01-04:03:02, 04:05, 04:07-04:12, 04:16, 04:18-04:20, 04:23-04:33, 04:35-04:36, 04:38-04:47, 04:49-04:57, 04:59Q, 04:61-04:67, 04:69-04:73, 04:75-04:79, 04:81-04:93N, 04:95N-04:99, 04:101-04:109, 04:112-04:121, 04:123N-04:159, 04:161-04:170N, 05:64:01-05:64:02, 08:19, 14:02:01-14:04, 14:07N-14:08, 14:10-14:14, 14:17-14:34, 14:36-14:44, 14:46-14:52, 14:55-14:62, 14:64-14:65, 18:01-18:02, 18:04-18:07N	A*24:87, B*15:84
71	130 bp	1070 bp	*03:02:01-03:02:07, 03:02:09-03:04:26, 03:04:28-03:04:29, 03:04:31-03:04:46, 03:06-03:11:02, 03:13:01-03:13:02, 03:15-03:24, 03:26, 03:28-03:40:01, 03:40:03-03:43:01, 03:44-03:57, 03:59-03:85, 03:88, 03:91:01-03:93, 03:95-03:98, 03:100-03:101, 03:104-03:118, 03:120-03:121N, 03:123-03:127, 03:129-03:134, 03:136-03:142, 03:144-03:152, 03:154-03:166, 03:168-03:177, 03:179-03:189N, 03:191-03:201N, 03:203-03:208N, 03:210-03:219, 03:221-03:239, 03:241-03:246, 04:15:01-04:15:03, 04:17, 04:80, 04:100, 06:02:08, 08:01:07, 08:02:07, 08:33:02, 12:03:20, 14:05, 14:09, 14:54, 15:77, 16:01:06	B*15:78:03
72^{5,8}	110 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:07, 02:09-02:29, 02:31-02:38N, 02:40, 02:43-02:44, 02:46-02:81, 03:04:25, 04:03:01-04:03:02, 04:06, 04:16, 04:80, 04:107, 04:147, 04:160, 05:58:01-05:58:02, 08:105, 14:03, 14:10, 14:35N, 14:38, 14:41, 14:53-14:54, 14:61, 15:02:01-15:02:09, 15:02:11-15:02:16, 15:02:18-15:09, 15:11-15:13, 15:15-15:19, 15:21-15:37, 15:39-15:42, 15:44-15:62, 15:64-15:87, 16:34, 16:70	
73	210 bp 330 bp	1070 bp	*06:12 *01:90, 02:06, 02:23, 02:36, 02:68, 03:81, 03:175, 03:199, 03:245, 04:108, 06:89, 07:123, 07:173, 07:294, 12:15, 12:113, 15:02:01-15:02:17, 15:02:19-15:03, 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, 15:78-15:87, 16:20	

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74⁵	90 bp 175 bp	1070 bp	*01:03, 01:24, 01:78, 03:58, 04:37, 05:85, 07:364 *03:08, 03:29, 03:31, 03:246, 07:20, 07:96:01-07:96:02, 07:263, 15:02:01-15:09, 15:12-15:13, 15:15, 15:18-15:19, 15:21-15:24, 15:26, 15:28-15:37, 15:39-15:42, 15:44-15:62, 15:64-15:87, 16:70	
75	145 bp 195 bp	1070 bp	*07:57 *02:12, 02:49, 02:55, 03:15, 03:27, 03:38:01-03:38:02, 03:69, 03:130, 03:136, 03:163, 03:246 ^w , 04:03:01, 04:06, 04:16, 04:80, 04:107, 04:147, 04:160, 06:70, 07:20, 07:96:01-07:96:02, 07:127, 07:263, 15:03, 15:16, 15:25	
76	320 bp	800 bp	*01:04, 01:21, 01:54, 02:02:01-02:02:03, 02:02:05-02:05:03, 02:08-02:18, 02:20-02:21, 02:24-02:40, 02:42-02:46, 02:48-02:67Q, 02:69-02:81, 03:02:01-03:02:12, 03:14-03:16, 03:33, 03:36, 03:40:01-03:40:03, 03:42-03:43:02, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108, 03:110, 03:119, 03:121N, 03:132, 03:139, 03:146, 03:169Q, 03:175, 03:190, 03:194, 03:197-03:201N, 03:216, 03:221-03:222, 03:224N-03:226, 03:240, 03:245, 04:54, 05:04:01-05:04:02, 06:02:01:01-06:02:01:03, 06:02:03-06:08, 06:10-06:33, 06:35-06:37, 06:39-06:102, 06:104-06:106:02, 06:108-06:131, 07:01:01:01-07:03, 07:05-07:10, 07:14-07:27:02, 07:30-07:33N, 07:35-07:40, 07:42-07:44, 07:46-07:62, 07:64-07:100, 07:102-07:138, 07:140-07:141:02, 07:143-07:176, 07:178-07:180, 07:182-07:183, 07:185-07:198N, 07:200-07:218, 07:220-07:230, 07:232-07:247, 07:249-07:271, 07:273-07:288, 07:291-07:294, 07:296-07:322, 07:325-07:327, 07:330-07:335, 07:337, 07:339-07:353, 07:356, 07:359-07:360, 07:362-07:363, 07:366-07:374, 08:09, 08:11, 08:59, 12:02:01-12:14:02, 12:16-12:30, 12:32-12:125, 14:02:01-14:25, 14:27-14:53, 14:56-14:65, 15:04, 15:09, 15:18-15:19, 15:27, 15:30, 15:61, 15:65, 15:77, 16:01:01-16:02:12, 16:04:01, 16:06-16:09, 16:11-16:44, 16:46-16:66, 16:68-16:70	
77^{5,8}	100 bp	800 bp	*04:108, 15:05:01-15:05:11, 15:22-15:23, 15:29, 15:36, 15:46, 15:54, 15:59, 15:69-15:70	B*35:03:11, B*35:205
78	205 bp 235 bp 310 bp	1070 bp	*06:12 *06:16N *01:02:01-01:02:24, 01:02:26, 01:05-01:20, 01:22-01:23, 01:25-01:33, 01:35-01:53, 01:56N-01:77, 01:79:01-01:89N, 01:92-01:93, 02:19, 02:23, 03:03:01-03:11:02, 03:13:01-03:13:02, 03:17-03:18:02, 03:20N-03:25, 03:27-03:32, 03:34-03:35, 03:37:01-03:39, 03:41, 03:44-03:57, 03:59, 03:61-03:70, 03:72-03:83, 03:85-03:88, 03:90-03:94,	

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			03:96-03:101, 03:103-03:107, 03:109, 03:111-03:118, 03:120, 03:122-03:131, 03:133-03:138, 03:140-03:145, 03:147-03:168, 03:170-03:174, 03:176-03:189N, 03:191-03:193, 03:195-03:196, 03:202-03:215, 03:217-03:220, 03:223, 03:227-03:237, 03:239, 03:241-03:244Q, 03:246, 04:89, 04:135, 05:47, 06:107, 07:29, 07:177, 07:184, 07:248, 14:54-14:55, 15:06:01-15:06:03, 15:18 15:40, 15:55 *06:15	
79	360 bp 140 bp	1070 bp	*01:21, 02:12, 02:27:01-02:27:02, 03:04:25, 04:11, 04:29, 04:36, 04:55, 07:02:09, 08:01:01-08:02:10, 08:03:01-08:09, 08:11-08:63, 08:65-08:94, 08:95 ^w , 08:96-08:106, 12:02:01-12:02:10, 12:03:01:01-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:23, 12:03:24 ^w , 12:03:25-12:03:30, 12:06-12:08, 12:10:01-12:20, 12:22-12:26, 12:28-12:32, 12:34-12:40, 12:42Q-12:53, 12:55-12:59, 12:61-12:122, 12:124-12:125, 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, 15:25, 16:01:01, 16:01:03-16:01:15, 16:01:17-16:01:18, 16:04:01, 16:06-16:08, 16:10-16:11, 16:13-16:18, 16:20-16:24, 16:26-16:45, 16:49-16:56, 16:58-16:59, 16:61-16:62, 16:64-16:68	B*35:08:02, B*35:08:05, B*67:02
80^{5,7}	70 bp 160 bp	800 bp	*03:34, 03:142 *01:90 ^w , 02:06, 02:47, 12:15, 15:08, 15:74	B*07:78^w, B*13:18^w, B*13:31^w, B*13:41^w, B*13:73^w, B*15:73^w, B*15:303^w, B*54:10^w, B*54:20^w, B*55:09^w, B*55:21^w, B*55:37^w, B*55:52^w, B*56:43^w
	210 bp		*03:19, 03:44, 03:102	B*56:37^w
81	435 bp	1070 bp	*01:90, 02:06, 02:47, 03:19, 03:102, 07:289, 12:15, 15:11, 15:16-15:17, 15:43	B*46:11, B*46:18, B*56:08, B*56:14

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82⁸	165 bp 1070 bp		*01:64, 02:08, 03:18:01-03:18:02, 03:64:01-03:64:02, 03:231, 04:01:01:01-04:01:02, 04:01:04-04:01:59, 04:04:01-04:05, 04:07-04:15:03, 04:17-04:20, 04:23-04:79, 04:81-04:106, 04:108-04:132, 04:134-04:139, 04:141-04:146, 04:148-04:159, 04:161-04:165, 04:167-04:170N, 05:01:01:01-05:01:21, 05:01:23-05:01:27, 05:03-05:57, 05:59-05:97, 05:99N-05:102, 06:28, 06:76:01-06:76:02, 07:64, 07:73, 07:92, 07:172:01-07:172:02, 08:01:01-08:13, 08:15:01-08:57, 08:59-08:63, 08:65-08:79, 08:81-08:102, 08:104, 08:106, 12:02:01-12:15, 12:17-12:70, 12:72-12:125, 14:02:01-14:02:09, 14:02:11-14:02:16, 14:04-14:09, 14:11-14:17, 14:19-14:21N, 14:23-14:34, 14:36-14:37, 14:39-14:40, 14:42-14:52, 14:55-14:60, 14:62-14:65, 15:10:01-15:10:03, 16:01:01-16:02:12, 16:04:01, 16:06-16:33, 16:35-16:69, 17:01:01:01-17:01:07, 17:01:09-17:24, 18:04
83	240 bp 315 bp 360 bp	800 bp	*06:16N *02:06, 02:47, 03:19, 03:102, 07:289, 12:15, 15:02:01-15:02:08, 15:02:10-15:03, 15:07-15:08, 15:10:01-15:13, 15:15-15:18, 15:21, 15:26, 15:28, 15:31-15:35, 15:37-15:39, 15:41-15:45, 15:47-15:53, 15:56-15:58, 15:60, 15:62-15:63, 15:67-15:68, 15:71-15:75, 15:78-15:87 *06:15
84	205 bp	800 bp	*06:31, 16:01:01-16:01:04, 16:01:06-16:02:12, 16:04:01, 16:08-16:21, 16:23-16:34, 16:36-16:39:02, 16:41-16:42, 16:44-16:47, 16:49-16:52, 16:54-16:67, 16:69-16:70
85	340 bp	1070 bp	*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, 02:42-02:81, 03:07, 03:15, 03:45, 03:130, 03:140, 03:163, 03:243, 04:01:01:01-04:01:28, 04:01:30-04:01:59, 04:03:01-04:10, 04:12-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:54, 04:56-04:170N, 05:01:01:01-05:01:27, 05:03-05:102, 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, 06:125-06:131, 07:07, 07:09, 07:49, 07:76:01-07:76:02, 07:210, 07:238, 07:247, 07:315, 07:328, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 12:54, 12:60, 14:04, 14:12, 14:17, 14:49, 14:64, 15:02:01-15:05:10, 15:06:01-15:06:03, 15:08-15:13, 15:15-15:19, 15:22-15:24, 15:26-15:42, 15:44-15:70, 15:72-15:87, 16:02:01-16:02:12, 16:09, 16:12, 16:19, 16:25, 16:46-16:48, 16:57, 16:60, 16:63, 16:68-16:70, 17:01:01:01-17:21, 17:23-17:24, 18:01-18:07N
86^{6,8}	150 bp 415 bp	1070 bp	*07:30 *07:39-07:40, 07:177, 07:210 ^w , 07:238 ^w , 07:328 ^w , 07:335

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87⁸	160 bp	1070 bp	*07:53, 07:216, 16:01:01-16:02:12, 16:06-16:09, 16:11-16:28, 16:30N-16:32, 16:34, 16:36-16:39:02, 16:41, 16:43-16:44, 16:46-16:47, 16:49-16:52, 16:54, 16:56-16:60, 16:62-16:65, 16:69-16:70	A*24:174, B*46:25
88⁵	85 bp 195 bp	1070 bp	*04:23, 04:108 *04:31	
89	345 bp	800 bp	*01:02:01-01:02:24, 01:02:26-01:20, 01:22-01:72, 01:74-01:79:02, 01:81-01:90, 01:92-01:93, 03:02:01-03:04:14, 03:04:16-03:04:24, 03:04:26-03:11:02, 03:13:01-03:117, 03:119-03:144, 03:146-03:171, 03:173-03:230, 03:232-03:246, 05:01:12, 05:29:02, 06:02:01:01-06:02:01:03, 06:02:03-06:04, 06:06-06:16N, 06:18-06:76:01, 06:77-06:131, 08:02:11, 12:02:11, 12:03:04, 12:03:09, 12:04:01, 14:02:01-14:02:02, 14:02:04-14:02:16, 14:04-14:07N, 14:09, 14:11-14:21N, 14:23-14:26, 14:28-14:34, 14:36-14:37, 14:39-14:40, 14:42-14:52, 14:55-14:60, 14:62-14:65, 15:43, 16:01:02, 16:01:16, 17:02, 17:04 [?] , 17:06 [?] -17:24 [?]	
90	350 bp	800 bp	*17:01:01:01-17:01:03, 17:01:05-17:01:10, 17:03, 17:04 [?] , 17:05, 17:06 [?] -17:24 [?]	
91⁵	70 bp 170 bp 240 bp 270 bp	800 bp	*17:02, 17:04 [?] , 17:06 [?] -17:24 [?] *07:48 *04:01:43, 05:01:17, 05:09:02, 05:17, 07:13, 07:28, 07:55N, 07:289, 08:15:02, 08:72:02 *07:47	B*37:04:02
92⁹	155 bp 300 bp	1070 bp	*03:135, 04:20 *17:03, 17:04 [?] , 17:06 [?] -17:24 [?]	
93^{5,8,9}	90 bp 210 bp	1070 bp	*17:01:01:01-17:01:10, 17:04 [?] , 17:05, 17:06 [?] -17:24 [?] *14:06, 14:15, 14:53	
94	560 bp	1070 bp	*07:01:01:01-07:33N, 07:35-07:294, 07:296-07:347N, 07:349-07:374, 18:01, 18:03 [?] -18:07N [?]	
95	220 bp	1070 bp	*04:01:01:01-04:01:59, 04:03:01-04:20, 04:23-04:170N, 18:02, 18:03 [?] -18:07N [?]	
96¹¹	-	-	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 high resolution for frequent alleles 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.

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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.

⁴A few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 2, 5, 6, 8, 10, 12, 13, 16 to 19, 21 to 23, 25, 28, 29, 31 to 34, 37, 38, 40, 43, 44, 46, 48, 52, 56, 59, 61, 70, 71, 77, 79 to 81, 87 and 91 due to the sharing of sequence motifs between HLA Class I loci.

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

⁶Primer mixes 3, 5, 10, 21, 40, 44, 45, 57, 61, 62 and 86 may have tendencies of unspecific amplifications, most pronounced in primer mix 10.

⁷Primer mixes 6, 20, 36 and 80 have a tendency to giving rise to primer oligomer formation.

⁸Primer mixes 1, 10, 12, 17, 27, 53, 64, 72, 77, 82, 86, 87 and 93 may give rise to a lower yield of HLA-specific PCR product than the other HLA-C high resolution primer mixes.

⁹Primer mixes 10, 44, 92 and 93 may give rise to a long unspecific amplification product. This band should be disregarded when interpreting the typing results.

¹⁰Primer mix 64 may give rise to unspecific amplification in C*12 alleles.

¹¹Primer mix 96 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.

¹²Primer mix 19 may give rise to a lower yield of HLA-specific PCR product than the other HLA-C high resolution primer mixes for the C*03 alleles.

‘w’, might be weakly amplified.

‘?’, nucleotide sequence information not available for the primer matching sequence.

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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	95	200	100	50	105	200	105	140	105	75	70
		215	225	200	150	150		135		130	160	280
			290		210	190		595		270	505	
			365		300	210						
						260						
Length of int. pos. control ¹	800	1070	1070	1070	1070	800	1070	800	1070	800	800	800
5'-primer(s) ²	368	98	368	142	361	105	703	232	92	206	105	105
	5'-gTg ^{3'}	5'-CTC ^{3'}	5'-gTg ^{3'}	5'-TCC ^{3'}	5'-AgT ^{3'}	5'-gCT ^{3'}	5'-CTA ^{3'}	5'-AgA ^{3'}	5'-gTg ^{3'}	5'-AgA ^{3'}	5'-gCT ^{3'}	5'-gCT ^{3'}
		356	757	244	504	363		486	97	2 nd I	992	512
		5'-CCC ^{3'}	5'-CCC ^{3'}	5'-CgC ^{3'}	5'-CAC ^{3'}	5'-AAT ^{3'}		5'-ACA ^{3'}	5'-TCg ^{3'}	5'-CCA ^{3'}	5'-TAA ^{3'}	5'-gTT ^{3'}
		368	5 th I	406	512	368			113			
		5'-gTC ^{3'}	5'-gTC ^{3'}	5'-gCA ^{3'}	5'-gTg ^{3'}	5'-gTg ^{3'}			5'-CCA ^{3'}			
									368			
									5'-gTT ^{3'}			
3'-primer(s) ³	419	154	527	302	473	167	861	302	201	270	134	343
	5'-CgT ^{3'}	5'-CAg ^{3'}	5'-CCA ^{3'}	5'-ggT ^{3'}	5'-CAA ^{3'}	5'-ACC ^{3'}	5'-TCg ^{3'}	5'-ggT ^{3'}	5'-CTT ^{3'}	5'-TAC ^{3'}	5'-AgC ^{3'}	5'-C ^{3'}
		427	619	559	523	323		538	477	418	142	539
		5'-gTg ^{3'}	5'-TTT ^{3'}	5'-CgT ^{3'}	5'-ACA ^{3'}	5'-AgC ^{3'}		5'-CAg ^{3'}	5'-gCA ^{3'}	5'-gTC ^{3'}	5'-TgA ^{3'}	5'-TCT ^{3'}
		538	956		538	479		578		559	218	
		5'-CCg ^{3'}	5'-CAg ^{3'}		5'-gCA ^{3'}	5'-CCA ^{3'}		5'-TgT ^{3'}		5'-CgC ^{3'}	5'-gCT ^{3'}	
		539	1043		618	512					231	
		5'-TCT ^{3'}	5'-CAA ^{3'}		5'-CT ^{3'}	5'-CCA ^{3'}					5'-..C ^{3'}	
						538					1016	
						5'-CCA ^{3'}					5'-CAC ^{3'}	
						595						
						5'-CCT ^{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	220	280	275	245	110	90	105	250	190	80	150	250
				275	185	185	265		220	140	240	
					565	225	305		250			
						255	540		280			
Length of int. pos. control ¹	1070	800	1070	1070	1070	1070	1070	800	800	1070	800	1070
5'-primer(s) ²	112	105	355	98	201	122	341	89	133	361	115	2 nd I
	5'-CCT ^{3'}	5'-gCT ^{3'}	5'-TCA ^{3'}	5'-CTA ^{3'}	5'-CCg ^{3'}	5'-CCA ^{3'}	5'-ggA ^{3'}	5'-gAA ^{3'}	5'-CCT ^{3'}	5'-AgT ^{3'}	5'-ggA ^{3'}	5'-CCA ^{3'}
	419			355		199	363	105	201	419	201	
	5'-gTC ^{3'}			5'-CCC ^{3'}		5'-gTT ^{3'}	5'-Agg ^{3'}	5'-gCT ^{3'}	5'-CCA ^{3'}	5'-gTC ^{3'}	5'-CCg ^{3'}	
						374	527	115	355			
						5'-CTA ^{3'}	5'-TgT ^{3'}	5'-ggA ^{3'}	5'-TCA ^{3'}			
						379			368			
						5'-ACC ^{3'}			5'-gTT ^{3'}			
						406						
						5'-gCA ^{3'}						
						539						
						5'-gTg ^{3'}						
3'-primer(s) ³	295	343	589	295	270	341	353	312	343	459	312	539
	5'-TCC ^{3'}	5'-T ^{3'}	5'-CTT ^{3'}	5'-TCC ^{3'}	5'-TAG ^{3'}	5'-CgT ^{3'}	5'-TgA ^{3'}	5'-AgT ^{3'}	5'-T ^{3'}	5'-AgA ^{3'}	5'-AgT ^{3'}	5'-TCC ^{3'}
	589		589	301	343	589	589		514			
	5'-CTT ^{3'}		5'-CTT ^{3'}	5'-gCC ^{3'}	5'-T ^{3'}	5'-CTT ^{3'}	5'-CTT ^{3'}		5'-CTT ^{3'}			
			589	474					550			
			5'-CTT ^{3'}	5'-gCA ^{3'}					5'-CAT ^{3'}			
									601			
									5'-CTT ^{3'}			
Well No.	13	14	15	16	17	18	19	20	21	22	23	24



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Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec. PCR product	170	145	135	200	130	155	150	120	190	220	265	90
		170	170		190		285	180	225	275		120
			225		290			210				160
												210
Length of int. pos. control ¹	1070	800	1070	800	800	1070	800	1070	1070	1070	1070	1070
5'-primer(s) ²	459	112	560	368	369	485	201	105	419	112	379	176
	5'-gAT 3'	5'-CCT 3'	5'-CCT 3'	5'-gTT 3'	5'-TAC 3'	5'-CAA 3'	5'-CCA 3'	5'-gCT 3'	5'-gTC 3'	5'-CCT 3'	5'-ACC 3'	5'-gCA 3'
		486	1018				355	369	697	355		413
		5'-ACA 3'	5'-gTg 3'				5'-CCT 3'	5'-TAC 3'	5'-TCC 3'	5'-CC 3'		5'-TgT 3'
							485	3 rd I		363		420
							5'-CAA 3'	5'-Cgg 3'		5'-AgC 3'		5'-TTC 3'
										379		467
										5'-ACg 3'		5'-CTT 3'
												539
												5'-gCg 3'
3'-primer(s) ³	589	218	3 rd I	527	459	601	299	242	601	289	601	221
	5'-CTC 3'	5'-gCg 3'	5'-ggA 3'	5'-CCg 3'	5'-AgA 3'	5'-CTT 3'	5'-TCT 3'	5'-CCA 3'	5'-CTT 3'	5'-AgT 3'	5'-CTT 3'	5'-ACC 3'
		613	3 rd I		518		601	539	846	601		256
		5'-gCA 3'	5'-ACg 3'		5'-CCA 3'		5'-CTC 3'	5'-TCT 3'	5'-CAC 3'	5'-CTT 3'		5'-CCA 3'
			1052		616			668				289
			5'-Tgg 3'		5'-TgT 3'			5'-TgA 3'				5'-AgC 3'
			1092									289
			5'-TTA 3'									5'-AgC 3'
												589
												5'-CTT 3'

Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec. PCR product	80	250	240	250	165	250	100	90	140	290	110	185
	130						155	135	255			
	195						240	160	550			
	235											
	280											
Length of int. pos. control ¹	800	800	1070	1070	1070	1070	1070	1070	1070	800	800	1070
5'-primer(s) ²	361	134	28	2 nd I	176	2 nd I	142	19	86	368	270	368
	5'-AgT 3'	5'-CCA 3'	5'-TCA 3'	5'-CCA 3'	5'-gCA 3'	5'-CCA 3'	5'-TCT 3'	5'-CCT 3'	5'-CAA 3'	5'-gTA 3'	5'-AAC 3'	5'-gTC 3'
	406						361	126	213			368
	5'-gCC 3'						5'-AgT 3'	5'-ggA 3'	5'-CCC 3'			5'-gTC 3'
	446							412	368			
	5'-CgT 3'							5'-ATA 3'	5'-gTC 3'			
	512											
	5'-gTT 3'											
	1049											
	5'-C 3'											
3'-primer(s) ³	601	341	97	527	302	527	201	70	302	618	341	512
	5'-CTT 3'	5'-CgT 3'	5'-gTC 3'	5'-CCg 3'	5'-ggT 3'	5'-CCg 3'	5'-CTT 3'	5'-ggC 3'	5'-ggC 3'	5'-CT 3'	5'-CgT 3'	5'-CCA 3'
	1087			539		538	343	220	474			
	5'-AgT 3'			5'-TCA 3'		5'-CCg 3'	5'-T 3'	5'-CgA 3'	5'-gCA 3'			
							475	239				
							5'-ggT 3'	5'-gCg 3'				
							559	538				
							5'-CTC 3'	5'-CCA 3'				
								539				
								5'-TCT 3'				



101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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Lot No.: **95V**

Lot-specific information

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Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec. PCR product	85	240	240	130	80	395	165	100	155	110	110	105
	130	425	275		115		220	125			150	
	170				265		340	250			185	
	250						465				230	
											275	
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	800	800	1070	1070	1070	1070
5'-primer(s) ²	89	47	89	512	1 st I	47	47	410	486	527	368	539
	5'-gAT 3'	5'-Agg 3'	5'-gAA 3'	5'-gTg 3'	5'-CgA 3'	5'-Agg 3'	5'-Agg 3'	5'-gTg 3'	5'-ACg 3'	5'-TAC 3'	5'-gTC 3'	5'-gCg 3'
	127	419	385		176		218	524			449	
	5'-ggA 3'	5'-gTA 3'	5'-ggT 3'		5'-gCA 3'		5'-ggA 3'	5'-CCA 3'			5'-CCA 3'	
	172				453		368	538			459	
	5'-TCC 3'				5'-AAT 3'		5'-gTA 3'	5'-AgT 3'			5'-gAT 3'	
	410				1049		560	527			527	
	5'-gTT 3'				5'-g 3'		5'-CAC 3'				5'-TAC 3'	
	486											
	5'-TAC 3'											
3'-primer(s) ³	218	302	278	601	175	270	90	618	601	595	559	601
	5'-gCT 3'	5'-ggT 3'	5'-ggT 3'	5'-CTT 3'	5'-CCg 3'	5'-TAC 3'	5'-Ag 3'	5'-CT 3'	5'-CTT 3'	5'-CCT 3'	5'-CTC 3'	5'-CTT 3'
	618	618	287		527		97				585	
	5'-CT 3'	5'-CT 3'	5'-TCg 3'		5'-CCA 3'		5'-gTA 3'				5'-AgT 3'	
			289		1087		341				598	
			5'-AgC 3'		5'-AgC 3'		5'-Cgg 3'				5'-CTC 3'	
			301				3 rd I				603	
			5'-gCA 3'				5'-ATg 3'				5'-TTg 3'	
			618									
			5'-CT 3'									
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of spec. PCR product	235	100	220	130	150	155	145	145	245	210	130	110
					415							
Length of int. pos. control ¹	800	800	800	1070	1070	1070	800	800	800	800	1070	1070
5'-primer(s) ²	98	419	361	201	28	361	98	98	98	368	368	134
	5'-CTA 3'	5'-gTC 3'	5'-AgT 3'	5'-CCA 3'	5'-TCA 3'	5'-AgT 3'	5'-CTC 3'	5'-CTC 3'	5'-CTC 3'	5'-gTT 3'	5'-gTA 3'	5'-CCA 3'
					431							
					5'-CgT 3'							
3'-primer(s) ³	289	477	538	289	270	474	201	201	302	538	459	201
	5'-AgC 3'	5'-gCA 3'	5'-CCA 3'	5'-AgT 3'	5'-TAg 3'	5'-gCA 3'	5'-CTC 3'	5'-CTT 3'	5'-ggT 3'	5'-CCg 3'	5'-AgA 3'	5'-CTT 3'
	289			289	538							
	5'-AgC 3'			5'-AgT 3'	5'-CCA 3'							
	295											
	5'-TCC 3'											
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

101.707-12 – including *Taq* polymerase, IFU-01
101.707-12u – without *Taq* polymerase, IFU-02

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Lot-specific information

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Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec. PCR product	210	90	145	320	100	205	140	70	435	165	240	205
						235		160			315	
						310		210			360	
						360						
Length of int. pos. control ¹	1070	1070	1070	800	800	1070	1070	800	1070	1070	800	800
5'-primer(s) ²	409	134	134	419	420	376	201	420	270	1 st	376	361
	5'-ggC 3'	5'-CCA 3'	5'-CCA 3'	5'-gTC 3'	5'-TTC 3'	5'-gCT 3'	5'-CCA 3'	5'-TTA 3'	5'-AAg 3'	5'-CgA 3'	5'-gCT 3'	5'-AgT 3'
	529	368	512	430		419		421			420	
	5'-AgA 3'	5'-gTg 3'	5'-gTT 3'	5'-ACC 3'		5'-gTA 3'		5'-ACC 3'			5'-TTA 3'	
						430		560			501	
						5'-ACC 3'		5'-CgA 3'			5'-..C 3'	
						501						
						5'-..C 3'						
						529						
						5'-AgA 3'						
3'-primer(s) ³	3 rd	270	289	3 rd	477	3 rd	302	539	420	134	3 rd	527
	5'-CTC 3'	5'-TAG 3'	5'-AgC 3'	5'-CTC 3'	5'-gCg 3'	5'-CTC 3'	5'-ggC 3'	5'-TCC 3'	5'-gCT 3'	5'-AgC 3'	5'-CTC 3'	5'-CCg 3'
		419	616				302	589				527
		5'-CgA 3'	5'-CgT 3'				5'-ggC 3'	5'-CTT 3'				5'-CCg 3'
Well No.	73	74	75	76	77	78	79	80	81	82	83	84

Well No.	85	86	87	88	89	90	91	92	93	94	95
Length of spec. PCR product	340	150	160	85	345	350	70	155	90	560	220
		415		195			170	300	210		
							240				
							270				
Length of int. pos. control ¹	1070	1070	1070	1070	800	800	800	1070	1070	1070	1070
5'-primer(s) ²	1 st	47	419	368	28	20	28	70	20	956	895
	5'-CgA 3'	5'-Agg 3'	5'-gTC 3'	5'-gTT 3'	5'-TCA 3'	5'-CCA 3'	5'-TCA 3'	5'-ggA 3'	5'-CCA 3'	5'-ggT 3'	5'-ggA 3'
		419					390	347	368		
		5'-gTC 3'					5'-gAA 3'	5'-gTA 3'	5'-gTT 3'		
							411				
							5'-TAg 3'				
							419				
							5'-gTT 3'				
							490				
							5'-CgA 3'				
3'-primer(s) ³	302	289	539	412	201	201	59	201	70	1034	956
	5'-ggT 3'	5'-AgT 3'	5'-TCT 3'	5'-gTC 3'	5'-CTC 3'	5'-CTC 3'	5'-CgA 3'	5'-CTC 3'	5'-ggC 3'	5'-AgC 3'	5'-CAg 3'
		527		521			618	459	539		
		5'-CCC 3'		5'-ggA 3'			5'-CT 3'	5'-AgA 3'	5'-TCA 3'		
Well No.	85	86	87	88	89	90	91	92	93	94	95

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.

101.707-12 – including *Taq* polymerase, IFU-01
101.707-12u – without *Taq* polymerase, IFU-02

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Lot No.: **95V**

Lot-specific information

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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.

101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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Lot No.: **95V**

Lot-specific information

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CELL LINE VALIDATION SHEET															
HLA-C high resolution SSP primer set ²															
			Well												
				1	2	3	4	5	6	7	8	9	10	11	12
			Prod. No.:												
			201437301												
			201437302												
			201437303												
			201437304												
			201437305												
			201437306												
			201437307												
			201437308												
			201437309												
			201437310												
			201437311												
			201437312												
			201437313												
			201437314												
			201437315												
			201437316												
IHWCell 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	- - - - - - - - - -												



101.707-12 – including *Taq* polymerase, IFU-01
101.707-12u – without *Taq* polymerase, IFU-02

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Lot No.: **95V**

Lot-specific information

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CELL LINE VALIDATION SHEET																				
HLA-C high resolution SSP primer set²																				
			Prod. No.:	Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	IHWC cell line ¹	C*		201437317	201437318	201437319	201437320	201437321	201437322	201437323	201437324	201437325	2009-668-26	201437327	201437328	201437329	201437330	201437331	201437332	
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	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-

101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **95V**

Lot-specific information

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CELL LINE VALIDATION SHEET																			
HLA-C high resolution SSP primer set²																			
			Prod. No.:	Well															
				33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	IHWC cell line ¹	C*		201437333	201437334	201437335	201437336	201437337	201437338	201437339	201437340	201437341	201437342	201437343	201437344	201437345	201437346	201437347	201437348
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	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-



101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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CELL LINE VALIDATION SHEET																				
HLA-C high resolution SSP primer set²																				
				Well																
				49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
				Prod. No.:	201437349	201437350	201437351	201437352	201437353	201437354	201437355	201437356	201437357	201437358	201437359	201437360	201437361	201437362	201437363	201437364
	IHWC cell line ¹	C*																		
1	9001 SA	*07:02		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	
2	9280 LK707	*07:01	*15:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	
3	9011 E4181324	*12:02		-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	
4	9275 GU373	*03:04	*04:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	9009 KAS011	*06:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	
6	9353 SM	*03:04	*07:02	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	
7	9020 QBL	*05:01		-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	+	
8	9025 DEU	*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	9026 YAR	*12:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	
10	9107 LKT3	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	9051 PITOUT	*16:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	
12	9052 DBB	*06:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	
13	9004 JESTHOM	*01:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	9071 OLGA	*01:02	*03:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	9075 DKB	*03:04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	9037 SWEIG007	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	
17	9282 CTM3953540	*03:03	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	9257 32367	*01:02	*07:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	9038 BM16	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	9059 SLE005	*03:04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	9064 AMALA	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	9056 KOSE	*12:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	
23	9124 IHL	*01:02	*15:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	
24	9035 JBUSH	*12:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	
25	9049 IBW9	*08:02		-	-	-	+	-	-	-	-	-	-	-	+	-	-	-	+	
26	9285 WT49	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	



101.707-12 – including Taq polymerase, IFU-01
 101.707-12u – without Taq polymerase, IFU-02

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CELL LINE VALIDATION SHEET																				
HLA-C high resolution SSP primer set ²																				
				Well																
				65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
				Prod. No.:	201437365	201437366	201437367	201437368	201437369	201437370	201437371	201437372	201437373	201437374	201437375	201437376	201437377	201437378	201437379	201437380
IHWCell 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	-	-	-	+	+	+	-	-	-	-	-	+	-	-	+	-	



101.707-12 – including *Taq* polymerase, IFU-01
 101.707-12u – without *Taq* polymerase, IFU-02

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CELL LINE VALIDATION SHEET																					
HLA-C high resolution SSP primer set ²																					
				Well																	
				81	82	83	84	85	86	87	88	89	90	91	92	93	94	95			
				Prod. No.:	201437381	201437382	201437383	201437384	201437385	201437386	201437387	201437388	201437389	201437390	201437391	201437392	201437393	201437394	201437395		
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.



101.707-12 – including *Taq* polymerase, IFU-01
101.707-12u – without *Taq* polymerase, IFU-02

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Lot No.: 95V**Lot-specific information****www.olerup-ssp.com**

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 pairs in solutions 2, 4, 5, 8 to 10, 18, 19, 21, 32 to 34, 43, 44, 49, 51, 53, 55, 56, 58, 59, 65, 80, 81, 86 and 88. The specificities of the primers in primer solutions 2, 5, 8 to 10, 18, 19, 21, 32 to 34, 43, 44, 51, 53, 55, 56, 59, 65, 80, 81, 86 and 88 were tested by separately adding one 5'-primer, respectively one 3'-primer. In primer solution 58 was only possible to test the 5'-primer, the 3'-primer were not possible to test. In primer solutions 4 and 49 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 2, 3, 5, 8, 9, 18, 20, 21, 23, 31, 33, 34, 36, 37, 44, 45, 51, 56, 59, 65, 73, 76, 78, 80, 83, 91 and 92 one or more of the 5'-primers were not possible to test. In primer solutions 2, 3, 5, 6, 8, 10, 13, 15, 16, 21, 26, 27, 29, 32, 36, 43, 44, 51, 55, 59, 61, 75, 79, 86 and 88 one or more of the 3'-primers were not possible to test. Additional 5'-primers or 3'-primers in primer solutions 3, 6, 11, 12, 13, 16, 17, 20, 26, 27, 31, 36, 37, 45, 46, 50, 71, 74, 75, 91, 92 and 93 were tested by separately adding one or more additional 3'-primer, respectively one or more additional 5'-primer.

101.707-12 – including *Taq* polymerase, IFU-01
101.707-12u – without *Taq* polymerase, IFU-02

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Lot No.: **95V**

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