

Lot No.: **92M**

Lot-specific information

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Olerup SSP[®] HLA-C high resolution for frequent alleles

Product number: 101.707-12 – including *Taq* polymerase
Lot number: 92M
Expiry date: 2014-May-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. 92M.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*[®] HLA-C HIGH RESOLUTION LOT

The specificity and interpretation tables are based on the same release of the HLA database, release 2.22.0, 2008-July-11, www.ebi.ac.uk/imgt/hla, as the previous *Olerup SSP*[®] HLA-C*high resolution lot (**75K**). All the HLA-C alleles recognized in July 2008 will be amplified by the primers in this kit

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

Well	5'-primer	3'-primer	rationale
33	Added	Added	Primer pair from well 65, for improved specificity of amplification.
65	Moved	Moved	Primer pair moved to well 33.

Change in revision R01 compared to R00:

1. Primer mix 91 does not amplify the C*07:48 allele. This has been corrected in the specificity and amplification tables. Thus, this lot of the HLA-C*high resolution kit cannot distinguish the C*07:02:01:01-07:02:02 and C*07:48 alleles.

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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 and DPB1 amplicons as well as the amplicons generated by control primer pairs.

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'-Tg g ^{3'}	5'-Tg g ^{3'}	5'-Tg g ^{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.

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 to C*18:03 alleles and will generate unique amplification patterns and have good resolution for all frequently encountered HLA-C genotypes currently recognized.

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	96

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

Well 96 – Negative Control.

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

Well No. 1 is marked with the Lot No. ‘92M’.

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 6, 8, 10, 13, 16, 18, 19, 31, 34, 40, 43, 44, 48, 52, 59, 61, 70, 79, 80 and 81 due to the sharing of sequence motifs between HLA Class I loci.

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UNIQUELY IDENTIFIED ALLELES

All the HLA-C alleles, i.e. **C*01:02 to C*18:03**, recognized by the HLA Nomenclature Committee in July 2008¹ will be amplified by the primers in the HLA-C high resolution for frequent alleles SSP kit and will give rise to unique amplification patterns, with the exceptions that following alleles have the same amplification patterns:

C*01:06 and C*01:11
C*01:15 and C*01:20
C*01:16, C*01:17, C*01:18 and C*01:19
C*02:03 and C*02:18
C*02:04, C*02:14 and C*02:21
C*02:05 and C*02:17
C*03:09 and C*03:23
C*03:21 and C*03:22Q
C*03:30 and C*03:50
C*03:37 and C*03:46
C*04:07 and C*04:27
C*04:08, C*04:09N and C*04:30
C*04:15:02 and C*04:17
C*04:18 and C*04:19
C*04:23 and C*04:31
C*04:24, C*04:25 and C*04:26
C*05:06 and C*05:15
C*05:14, C*05:16 and C*05:19
C*06:08 and C*06:13
C*06:15 and C*06:16N
C*07:02:01:01-07:02:02 and C*07:48
C*07:03 and C*07:17
C*07:15 and C*07:38
C*07:22 and C*07:35
C*07:25 and C*07:32N
C*07:30 and C*07:40
C*07:33N and C*07:51
C*07:37 and C*07:54
C*07:47 and C*07:48
C*15:09 and C*15:19
C*15:11 and C*15:17

¹HLA-C alleles listed on the IMGT/HLA web page 2008-July-11, release 2.22.0, www.ebi.ac.uk/imgt/hla.

SPECIFICITY TABLE

HLA-C high resolution for frequent alleles SSP typing

Specificities and sizes of the PCR products of the 95 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
1⁵	90 bp	800 bp	*01:02:01-01:02:05, 01:06-01:11, 01:13-01:20, 01:22	
2⁵	95, 215 bp	1070 bp	*01:05, 04:05, 07:37, 07:54, 14:08, 16:06	
3⁶	200, 290, 360, 565 bp	1070 bp	*01:06, 01:11, 07:06, 07:18-07:19, 15:13	
4⁵	100, 200 bp	1070 bp	*01:07, 06:10, 16:09	
5⁶	150, 210, 300 bp	1070 bp	*01:08, 05:17, 07:03, 07:17, 07:23, 07:31, 12:13, 12:19	
6^{5,7}	105, 150, 210, 260 bp	800 bp	*01:04, 01:09, 01:15, 01:20, 03:24, 03:33, 07:05	B*15:129, B*27:25, B*27:36
7	200 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:09, 02:11-02:22	
8⁵	105, 135 bp	800 bp	*02:03, 02:18, 02:20, 06:07	B*27:34, B*40:06:02, B*57:03:02^w
9	140 bp	1070 bp	*02:04, 02:14, 02:21, 06:05, 12:10:01, 12:16, 16:11	
10^{5,6,8}	105, 130, 270 bp	800 bp	*02:07, 07:46, 08:06, 16:10	B*56:08, B*56:14
11⁵	75, 155, 505 bp	800 bp	*02:08, 03:11:01-03:11:02, 03:37, 03:46, 04:16, 06:03, 07:06, 15:10:02	
12^{5,8}	70, 280 bp	800 bp	*02:02:01-02:02:03, 02:02:05-02:03, 02:04 ^w , 02:05-02:13, 02:14 ^w , 02:15-02:22, 03:02:01-03:02:03, 03:04:01:01-03:10, 03:14-03:17, 03:19, 03:23-03:29, 03:32-03:38:02, 03:40-03:42, 03:44-03:48, 04:03, 04:06, 04:16, 06:03, 07:53, 15:02:01-15:09, 15:10:02-15:11, 15:13, 15:15-15:21	
13	220 bp	1070 bp	*03:02:01-03:02:03, 03:14-03:15, 03:33, 03:36, 03:40, 03:42-03:43:01, 04:12	B*15:96

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14	280 bp	800 bp	*03:03:01-03:03:05, 03:11:01-03:13, 03:20N-03:22Q, 03:30-03:31, 03:43:01, 03:49-03:50, 15:12
15	275 bp	1070 bp	*03:03:01-03:04:07, 03:06-03:12, 03:14, 03:18-03:24, 03:26, 03:28-03:32, 03:34, 03:37-03:40, 03:42-03:50
16	245, 275 bp	1070 bp	*03:05, 03:13, 03:17, 03:25, 03:27, 03:35, 12:07, 12:17
17^{5,8}	110, 185, 555 bp	1070 bp	*03:03:01-03:03:05, 03:08, 03:11:01-03:13, 03:18, 03:20N-03:22Q, 03:29-03:31, 03:39, 03:43:01, 03:49-03:50, 07:01:01-07:01:09, 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, 12:03:04
18⁵	90, 185, 225, 255 bp	1070 bp	*03:09, 03:21-03:23, 03:28, 03:42, 03:49, 07:21, 07:36
19⁵	105, 265, 295, 530 bp	1070 bp	*03:13, 03:15, 03:32, 03:35-03:36, 03:45, 06:14, 07:10, 07:43
20⁷	250 bp	800 bp	*01:14, 02:02:01 ^w , 02:02:02-02:02:03, 02:02:05-02:03, 02:04 ^w , 02:05-02:13, 02:14 ^w , 02:15-02:22, 03:07, 03:10, 03:15, 03:29, 03:45, 04:03, 04:06, 04:16, 05:13, 06:03, 15:02:01-15:06:01, 15:08-15:09, 15:10:02-15:13, 15:15-15:21
21	190, 220, 250, 285 bp	800 bp	*03:30, 03:50, 04:18-04:19, 05:10, 15:12
22⁵	80, 140 bp	1070 bp	*03:02:01-03:02:03, 03:15-03:17, 03:33, 03:36, 03:40, 03:42-03:43:01, 14:02:01, 14:02:03-14:09
23	150, 240 bp	800 bp	*01:14, 03:07, 03:10, 03:15, 03:29, 03:45, 05:13, 06:02:01:01-06:02:01:02, 06:02:03-06:04, 06:06-06:10, 06:12-06:17, 07:07, 07:09, 12:04:01, 17:01:01:01-17:04, 18:01-18:03
24	250 bp	1070 bp	*01:02:01-01:21, 02:02:01-02:02:03, 02:02:05-02:02:06, 02:04-02:15, 02:17, 02:19-02:22, 04:01:01:01-04:01:05, 04:03, 04:05, 04:07-04:12, 04:15:01-04:20, 04:23-04:33, 05:01:01:01-05:01:04, 05:03-05:10,

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			05:12-05:16, 05:18-05:19, 06:02:01:01-06:02:01:02, 06:02:03- 06:03, 06:05-06:17, 08:02:01, 08:05, 08:07, 08:12, 08:15, 12:02:01-12:13, 12:15-12:17, 12:21, 14:02:01-14:05, 14:07N-14:09, 15:08, 16:04:01, 18:01-18:03	
25	170 bp	1070 bp	*03:16, 03:41, 04:01:01:01- 04:01:04, 04:03-04:04:01, 04:05- 04:20, 04:23-04:34, 14:02:01, 14:02:03-14:09, 18:01-18:03	
26	145, 170 bp	800 bp	*02:09, 04:07, 04:27	
27⁸	135, 170, 225 bp	1070 bp	*04:08-04:09N, 04:30, 04:34, 15:15	
28	200 bp	800 bp	*04:13, 07:08	
29⁵	130, 190, 290 bp	800 bp	*02:15, 03:05, 03:25, 03:27, 04:15:01, 07:14, 14:09	
30	155 bp	1070 bp	*05:01:01:01-05:01:04, 05:03-05:08, 05:10-05:11, 05:13-05:16, 05:19, 07:41, 08:02:01, 08:04-08:05, 08:07, 08:12-08:13	
31	150, 285 bp	800 bp	*01:13, 05:09, 05:17, 07:45, 08:15, 12:12	B*15:33, B*35:08:02
32⁵	120, 180, 210 bp	1070 bp	*03:48, 05:03, 07:52, 16:07	
33	225 bp	1070 bp	*04:28, 05:04, 08:09, 08:11	
34	220, 275 bp	1070 bp	*04:10, 04:11 ^w , 05:05, 05:07N, 08:08	A*29:10
35	265 bp	1070 bp	*05:01:01:01-05:01:04, 05:03-05:04, 05:06-05:08, 05:10-05:16, 05:18- 05:19, 07:04:01-07:04:02, 07:11- 07:12, 07:41, 08:01:01-08:14, 08:16	
36^{5,7}	90, 120, 160, 210 bp	1070 bp	*03:06, 03:25-03:26, 03:28, 03:49, 05:06, 05:15, 08:05	
37⁵	80, 130, 195, 235, 280 bp	800 bp	*05:14, 05:16, 05:19, 07:04:01- 07:04:02, 07:11, 07:50, 08:07, 08:12	
38	250 bp	800 bp	*03:15, 03:32, 03:45, 04:03, 04:06, 04:16, 07:20	
39	240 bp	1070 bp	*03:39, 06:02:01:01-06:02:01:02, 06:02:03, 06:04-06:16N, 12:16	
40⁶	250 bp	1070 bp	*01:22, 02:03, 02:13, 02:16:01,	B*58:02

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			02:18, 04:04:01-04:04:02, 04:06, 04:13, 04:34, 05:11, 05:17, 06:04, 08:01:01-08:01:02, 08:03:01-08:04, 08:06, 08:08-08:11, 08:13-08:14, 08:16, 12:14:01, 12:18, 12:20, 14:06, 15:02:01-15:07, 15:09-15:13, 15:15-15:21, 16:04:01, 17:01:01:01-17:04	
41	165 bp	1070 bp	*05:01:01:01-05:01:04, 05:03-05:19, 06:05, 08:10, 12:21	
42	250 bp	1070 bp	*01:02:01-01:03, 01:05-01:08, 01:10-01:20, 02:13, 04:01:01:01-04:01:05, 04:03, 04:05, 04:07-04:12, 04:15:01-04:20, 04:23-04:33, 05:01:01:01-05:01:04, 05:03-05:07N, 05:09-05:10, 05:12-05:16, 05:18-05:19, 06:05-06:06, 08:02:01, 08:05, 08:07, 08:12, 08:15, 12:09, 14:02:01-14:05, 14:07N-14:09, 15:08, 16:04:01, 18:01-18:02	
43⁵	100, 155, 240 bp	1070 bp	*01:10, 01:21, 02:05, 02:17, 03:11:01-03:11:02, 03:39, 06:05, 06:08, 06:13, 07:56:01, 08:14, 12:16	B*67:02
44^{5,6,9}	90, 135, 160 bp	1070 bp	*02:22, 03:20N, 04:14, 05:08, 06:09, 16:08, 17:04, 18:03	B*15:137
45⁶	140, 255 bp	1070 bp	*03:47, 06:11, 07:04:01-07:04:02, 07:11-07:12, 07:45, 12:11	
46	290 bp	800 bp	*05:17, 07:01:01-07:01:04, 07:01:06-07:01:09, 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, 07:35-07:36, 07:40, 07:43-07:44, 07:52-07:53, 07:55N	
47⁵	110 bp	800 bp	*07:01:01-07:01:09, 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	
48	185 bp	1070 bp	*07:02:01:01-07:02:02, 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	B*40:60
49⁵	85, 130, 170, 250 bp	1070 bp	*04:24-04:26, 07:42, 07:44	
50	240, 425 bp	1070 bp	*06:17, 07:07, 07:09, 07:29, 07:49, 18:01-18:03	

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51	240, 275 bp	1070 bp	*01:16-01:19, 01:21, 07:24	
52⁵	130 bp	1070 bp	*05:01:01:01-05:01:04, 05:03-05:08, 05:10-05:16, 05:18-05:19, 07:12, 07:41, 08:01:01-08:06, 08:08-08:14, 08:16	A*29:10
53⁵	80, 115, 265 bp	1070 bp	*05:12, 07:11, 08:13, 08:16	
54	395 bp	1070 bp	*06:17, 07:02:01:01-07:05, 07:08, 07:10-07:15, 07:17, 07:23, 07:25, 07:27:01-07:27:02, 07:29, 07:31-07:33N, 07:37-07:39, 07:41-07:43, 07:45-07:51, 07:54, 07:56:01, 18:01-18:03	
55	165, 220, 340, 465 bp	800 bp	*01:12, 01:21, 04:11, 04:33, 07:07, 07:16, 07:26, 07:33N, 07:51	
56⁵	100, 125, 250 bp	800 bp	*07:22, 07:25, 07:32N, 07:35	
57⁶	155 bp	1070 bp	*05:12, 05:18, 08:01:01-08:01:02, 08:03:01, 08:06, 08:08-08:11, 08:14, 08:16	
58⁵	110 bp	1070 bp	*08:03:01, 08:06, 08:14	
59⁵	110, 150, 230, 275 bp	1070 bp	*02:11, 03:34, 04:32, 07:15, 07:38, 08:09, 14:07N, 18:03	B*40:60
60⁵	105 bp	1070 bp	*05:01:01:01-05:01:04, 05:03-05:07N, 05:10, 05:12-05:16, 05:18-05:19, 07:41, 08:02:01, 08:05, 08:07, 08:12	
61⁶	235 bp	800 bp	*02:12, 03:15, 03:27, 03:38:01-03:38:02, 04:03, 04:06, 04:16, 06:03, 07:26, 08:05, 12:02:01-12:04:02, 12:06-12:08, 12:10:01-12:15, 12:17-12:20, 15:03, 15:16, 17:01:01:01-17:04	B*07:13, 07:15, B*67:02
62⁵	100 bp	800 bp	*01:04, 01:21, 12:02:01-12:02:03, 12:08, 12:10:01, 12:16-12:18	
63	220 bp	800 bp	*01:04, 01:09, 02:05, 02:17, 06:02:01:01-06:02:01:02, 06:02:03-06:03, 06:07-06:13, 06:15-06:17, 12:03:01:01-12:07, 12:11-12:13, 12:15, 16:04:01	
64^{5,8}	130 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:11, 02:13-02:22, 04:10-04:11, 05:01:01:01-05:01:04, 05:03-05:19, 06:05, 08:01:01-08:04, 08:06-08:16, 12:05, 12:09, 12:21, 14:02:03,	

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			14:03, 14:08, 15:02:01-15:02:04, 15:04-15:13, 15:15, 15:17-15:21, 16:01:01, 16:01:03-16:02:01, 16:04:01, 16:06-16:11	
65	150, 190, 415 bp	1070 bp	*03:08, 03:29, 03:31, 12:06, 12:08	
66	155 bp	1070 bp	*12:03:01:01-12:03:01:02, 12:03:03- 12:03:06, 12:04:02-12:07, 12:11- 12:13, 12:15, 12:20	
67	145 bp	800 bp	*14:02:01-14:02:02, 14:02:04, 14:04-14:07N, 14:09	
68	145 bp	800 bp	*04:01:01:01-04:01:05, 04:04:01- 04:05, 04:07-04:15:02, 04:17-04:20, 04:23-04:25, 04:26 ^W , 04:27-04:34, 14:02:03, 14:03, 14:08	
69	245 bp	800 bp	*04:01:01:01-04:01:05, 04:04:01- 04:05, 04:07-04:10, 04:12-04:15:02, 04:17-04:20, 04:23-04:25, 04:26 ^W , 04:27-04:28, 04:30-04:34, 14:04	
70	210 bp	800 bp	*04:01:01:01-04:01:05, 04:03, 04:05, 04:07-04:12, 04:16, 04:18- 04:20, 04:23-04:33, 14:02:01-14:04, 14:07N-14:08, 18:01-18:02	A*24:87, B*15:84
71⁵	130 bp	1070 bp	*03:02:01-03:04:07, 03:06-03:13, 03:15-03:24, 03:26, 03:28-03:50, 04:15:01-04:15:02, 04:17, 14:05, 14:09	
72^{5,8}	110 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:07, 02:09-02:22, 04:03, 04:06, 04:16, 14:03, 15:02:01-15:09, 15:11-15:13, 15:15-15:21	
73	210, 330 bp	1070 bp	*02:06, 06:12, 12:15, 15:02:01- 15:03, 15:05:01-15:13, 15:15-15:21	
74⁵	90, 175 bp	1070 bp	*01:03, 03:08, 03:29, 03:31, 07:20, 15:02:01-15:09, 15:12-15:13, 15:15, 15:18-15:19, 15:21	
75	145, 195 bp	1070 bp	*02:12, 03:15, 03:27, 03:38:01- 03:38:02, 04:03, 04:06, 04:16, 07:20, 07:57, 15:03, 15:16	
76	320 bp	800 bp	*01:04, 01:21, 02:02:01-02:02:03, 02:02:05-02:05, 02:08-02:18, 02:20- 02:21, 03:02:01-03:02:03, 03:14- 03:16, 03:33, 03:36, 03:40, 03:42- 03:43:01, 05:04, 06:02:01:01-	

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			06:02:01:02, 06:02:03-06:08, 06:10-06:17, 07:01:01-07:03, 07:05-07:10, 07:14-07:27:02, 07:30-07:33N, 07:35-07:40, 07:42-07:44, 07:46-07:57, 08:09, 08:11, 12:02:01-12:14:01, 12:16-12:21, 14:02:01-14:09, 15:04, 15:09, 15:18-15:20, 16:01:01-16:02:01, 16:04:01, 16:06-16:09, 16:11	
77^{5,8}	100 bp	800 bp	*15:05:01-15:05:04	
78	210, 240, 315, 360 bp	1070 bp	*01:02:01-01:02:05, 01:05-01:20, 01:22, 02:19, 03:03:01-03:11:02, 03:13, 03:17-03:18, 03:20N-03:25, 03:27-03:32, 03:34-03:35, 03:37-03:39, 03:41, 03:44-03:50, 06:12, 06:15-06:16N, 07:29, 15:06:01, 15:18	
79⁵	140 bp	1070 bp	*01:21, 02:12, 04:11, 04:29, 08:01:01-08:09, 08:11-08:16, 12:02:01-12:03:03, 12:03:05-12:03:06, 12:06-12:08, 12:10:01-12:20, 14:02:03, 14:03, 14:08, 15:07, 15:21, 16:01:01, 16:01:03, 16:04:01, 16:06-16:08, 16:10-16:11	B*35:08:02, B*67:02
80^{5,7}	70, 160, 210 bp	800 bp	*02:06, 03:12, 03:19, 03:34, 03:44, 12:15, 15:08	B*13:18^w, B*15:73^w, B*54:10^w, B*55:09^w, 55:21^w
81	435 bp	1070 bp	*02:06, 03:12, 03:19, 12:15, 15:11, 15:16-15:17	B*46:11, B*56:08, 56:14
82⁸	165 bp	1070 bp	*02:08, 03:18, 04:01:01:01-04:01:02, 04:01:04-04:01:05, 04:04:01-04:05, 04:07-04:15:02, 04:17-04:20, 04:23-04:34, 05:01:01:01-05:01:04, 05:03-05:19, 08:01:01-08:13, 08:15-08:16, 12:02:01-12:15, 12:17-12:21, 14:02:01-14:02:04, 14:04-14:09, 15:10:01-15:10:02, 16:01:01-16:02:01, 16:04:01, 16:06-16:11, 17:01:01:01-17:04	
83	240, 315, 360 bp	800 bp	*02:06, 03:12, 03:19, 06:15-06:16N, 12:15, 15:02:01-15:03, 15:07-15:08, 15:10:01-15:13, 15:15-15:18, 15:21	

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84	205 bp	800 bp	*16:01:01-16:02:01, 16:04:01, 16:08-16:11
85	340 bp	1070 bp	*01:14, 02:02:01-02:02:03, 02:02:05-02:11, 02:13-02:22, 03:07, 03:15, 03:45, 04:01:01:01-04:01:05, 04:03-04:10, 04:12-04:20, 04:23-04:28, 04:30-04:34, 05:01:01:01-05:01:04, 05:03-05:19, 06:02:01:01-06:02:01:02, 06:02:03-06:10, 06:12-06:17, 07:07, 07:09, 07:49, 08:10, 12:04:01-12:05, 12:09, 12:21, 14:04, 15:02:01-15:06:01, 15:08-15:13, 15:15-15:20, 16:02:01, 16:09, 17:01:01:01-17:04, 18:01-18:03
86	150, 415 bp	1070 bp	*07:30, 07:39-07:40
87⁸	160 bp	1070 bp	*07:53, 16:01:01-16:02:01, 16:06-16:09, 16:11
88⁵	85, 195 bp	1070 bp	*04:23, 04:31
89	345 bp	800 bp	*01:02:01-01:20, 01:22, 03:02:01-03:50, 06:02:01:01-06:02:01:02, 06:02:03-06:04, 06:06-06:16N, 12:03:04, 12:04:01, 14:02:01-14:02:02, 14:02:04, 14:04-14:07N, 14:09, 16:01:02, 17:02, 17:04 [?]
90	350 bp	800 bp	*17:01:01:01, 17:03, 17:04 [?]
91⁵	70, 170, 240, 270 bp	800 bp	*05:17, 07:13, 07:28, 07:47, 07:55N, 17:02, 17:04 [?]
92⁹	155, 300 bp	1070 bp	*04:20, 17:03, 17:04 [?]
93^{5,8,9}	90, 210 bp	1070 bp	*14:06, 17:01:01:01, 17:04 [?]
94	560 bp	1070 bp	*07:01:01-07:33N, 07:35-07:57, 18:01, 18:03 [?]
95	220 bp	1070 bp	*04:01:01:01-04:01:05, 04:03-04:20, 04:23-04:34, 18:02, 18:03 [?]
96¹⁰	-	-	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 specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.

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.

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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 two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well numbers 1, 6, 8, 10 to 12, 14, 20, 21, 23, 26, 28, 29, 31, 37, 38, 46, 47, 55, 56, 61 to 63, 67 to 70, 76, 77, 80, 83, 84 and 89 to 91 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the orientation and identification of the HLA-C high resolution for frequent alleles SSP typing.

In the presence of a specific amplification the intensity of the control band often decreases.

³The Cw*0101, Cw*0201, Cw*020204, Cw*021603, Cw*0301, Cw*0402, Cw*0421, Cw*0422, Cw*0502, Cw*0601, Cw*060202, Cw*0734, Cw*1101, Cw*1201, Cw*1301, Cw*1401, Cw*1501, Cw*1514, Cw*1603, Cw*16042 and Cw*1605 alleles have deleted or renamed.

The following HLA-C alleles have the same amplification patterns:

C*01:06 and C*01:11	C*04:08, C*04:09N and C*04:30	C*07:15 and C*07:38
C*01:15 and C*01:20	C*04:15:02 and C*04:17	C*07:22 and C*07:35
C*01:16, C*01:17, C*01:18 and C*01:19	C*04:18 and C*04:19	C*07:25 and C*07:32N
C*02:03 and C*02:18	C*04:23 and C*04:31	C*07:30 and C*07:40
C*02:04, C*02:14 and C*02:21	C*04:24, C*04:25 and C*04:26	C*07:33N and C*07:51
C*02:05 and C*02:17	C*05:06 and C*05:15	C*07:37 and C*07:54
C*03:09 and C*03:23	C*05:14, C*05:16 and C*05:19	C*07:47 and C*07:48
C*03:21 and C*03:22Q	C*06:08 and C*06:13	C*15:09 and C*15:19
C*03:30 and C*03:50	C*06:15 and C*06:16N	C*15:11 and C*15:17
C*03:37 and C*03:46	C*07:02:01:01-07:02:02 and C*07:48	
C*04:07 and C*04:27	C*07:03 and C*07:17	

⁴A few HLA-A and HLA-B alleles will be amplified by primer mixes 6, 8, 10, 13, 16, 18, 19, 31, 34, 40, 43, 44, 48, 52, 59, 61, 70, 79, 80 and 81 due to the sharing of sequence motifs between HLA Class I loci.

⁵Short specific PCR fragments are less intense and not as sharp as longer specific bands.

⁶Primer mixes 3, 5, 10, 40, 44, 45, 57 and 61 have a tendency of giving rise to non-specific amplifications.

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

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

⁹Primer mixes 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 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.

'w', might be weakly amplified.

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

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4 5 5 5 5 5 5						5 5 5 6 6 6 6						6 6 6 6 6 7 7 7						7 7 7 7 7 7 8						8 8 8 8 8 8 8						8 9 9 9 9 9 9						Well No.						
9 0 1 2 3 4 5 6						7 8 9 0 1 2 3 4						5 6 7 8 9 0 1 2						3 4 5 6 7 8 9 0						1 2 3 4 5 6 7 8						9 0 1 2 3 4 5 6												
						+												+																		*12:02:01-12:02:03						
						+												+																								*12:03:01:01-12:03:01:02, 12:03:03, 12:03:05-12:03:06
						+												+																								*12:03:02
						+												+																								*12:03:04
						+												+																								*12:04:01
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						+												+																								*12:10:01
						+												+																								*12:11
						+												+																								*12:12
						+												+																								*12:13
						+												+																								*12:14:01
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						+												+																								*12:20
						+												+																								*12:21
						+												+																								Negative Control
						+												+																		*14:02:01, 14:02:04						
						+												+																		*14:02:02						
						+												+																		*14:02:03						
						+												+																		*14:03						
						+												+																		*14:04						
						+												+																		*14:05						
						+												+																		*14:06						
						+												+																		*14:07N						
						+												+																		*14:08						
						+												+																		*14:09						
						+												+																								*15:02:01-15:02:04
						+												+																								*15:03
						+												+																								*15:04
						+												+																								*15:05:01-15:05:04
						+												+																								*15:06:01
						+												+																								*15:07
						+												+																								*15:08
						+												+																								*15:09, 15:19
						+												+																								*15:10:01
						+												+																								*15:10:02
						+												+																								*15:11, 15:17
						+												+																								*15:12
						+												+																								*15:13
						+												+																								*15:15
						+												+																								*15:16
						+												+																								*15:18
						+												+																								*15:20
						+												+																								*15:21
						+												+																								*16:01:01, 16:01:03
						+												+																								*16:01:02



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Well No.	1	2	3	4	5	6	7	8	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4						
C allele ²	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	4	4	4	4	4	4	4	4		
*16:02:01																																																						
*16:04:01																																																						
*16:06			+																																																			
*16:07																																																						
*16:08																																																						
*16:09																																																						
*16:10																																																						
*16:11																																																						
*17:01:01:01																																																						
*17:02																																																						
*17:03																																																						
*17:04																																																						
*18:01																																																						
*18:02																																																						
*18:03																																																						
A*24:87, B*15:84																																																						
A*29:10																																																						
B*07:13, B*07:15																																																						
B*13:18, B*15:73, B*54:10, B*55:09, B*55:21																																																						
B*15:33																																																						
B*15:96																																																						
B*15:129, B*27:25, B*27:36																																																						
B*15:137																																																						
B*27:34, B*40:06:02																																																						
B*35:08:02																																																						
B*40:60																																																						
B*46:11																																																						
B*56:08, B*56:14																																																						
B*57:03:02																																																						
B*58:02																																																						
B*67:02																																																						
Well No.	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	4	4	4	4	4	4	4	4	4	4



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Primers

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
5'-primer(s)¹	368	98	368	142	361	105	703	232	92	206	105	105
	5'-g Tg 3'	5'-C TC 3'	5'-g Tg 3'	5'-TC C 3'	5'-Ag T 3'	5'-gCT 3'	5'-CT A 3'	5'-Ag A 3'	5'-g Tg 3'	5'-A gA 3'	5'-gCT 3'	5'-gCT 3'
		356	757	244	504	363		486	97	2nd I	992	512
		5'-C CC 3'	5'-CC C 3'	5'-Cg C 3'	5'-CAC 3'	5'-AAT 3'		5'-ACA 3'	5'-TC g 3'	5'-C CA 3'	5'-T AA 3'	5'-g TT 3'
		368	956	406	512	368			113			
		5'-g TC 3'	5'-g gT 3'	5'-gC A 3'	5'-g Tg 3'	5'-g Tg 3'			5'-C CA 3'			
									368			
									5'-g TT 3'			
3'-primer(s)²	419	154	527	302	473	167	861	302	201	270	134	343
	5'-Cg T 3'	5'-CA g 3'	5'-CC A 3'	5'-gg T 3'	5'-CA A 3'	5'-AC C 3'	5'-T Cg 3'	5'-gg T 3'	5'-C TT 3'	5'-T AC 3'	5'-Ag C 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'-Ag C 3'		5'-CA g 3'	5'-g CA 3'	5'-gTC 3'	5'-T gA 3'	5'-TC T 3'
		538	956		538	479		578		559	218	
		5'-CCg 3'	5'-CA g 3'		5'-gCA 3'	5'-CC A 3'		5'-Tg T 3'		5'-CgC 3'	5'-gC T 3'	
		539	1043		618	512					231	
		5'-TC T 3'	5'-CA A 3'		5'-C T 3'	5'-CC A 3'					5'-... C 3'	
						538					1016	
						5'-CCA 3'					5'-CA C 3'	
						595						
						5'-CC T 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
5'-primer(s)¹	112	105	355	98	201	122	341	89	133	361	115	2 nd I
	5'-CC T 3'	5'-gCT 3'	5'-TC A 3'	5'-C TA 3'	5'-CCg 3'	5'-C CA 3'	5'-g gA 3'	5'-g AA 3'	5'-CC T 3'	5'-Ag T 3'	5'-gg A 3'	5'-C CA 3'
	419			355		199	363	105	201	419	201	
	5'-g TC 3'			5'-CC C 3'		5'-gT T 3'	5'-Agg 3'	5'-gCT 3'	5'-CCA 3'	5'-g TC 3'	5'-CCg 3'	
						374	527	115	355			
						5'-C TA 3'	5'-T gT 3'	5'-gg A 3'	5'-TC A 3'			
						379			368			
						5'-AC C 3'			5'-g TT 3'			
						406						
						5'-gC A 3'						
						539						
						5'-g Tg 3'						
3'-primer(s)²	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'-T Ag 3'	5'-Cg T 3'	5'-T gA 3'	5'-A gT 3'	5'-T 3'	5'-A gA 3'	5'-A gT 3'	5'-TC C 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'-g CA 3'				5'-CA T 3'			
									601			
									5'-CTT 3'			
Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Well No.	25	26	27	28	29	30	31	32	33	34	35	36
5'-primer(s)¹	459	112	560	368	369	485	201	105	419	112	379	176
	5'-gAT 3'	5'-CC T 3'	5'-C CT 3'	5'-g TT 3'	5'-TAC 3'	5'-C AA 3'	5'-CCA 3'	5'-gCT 3'	5'-g TC 3'	5'-CC T 3'	5'-AC C 3'	5'-g CA 3'
		486	1018				355	369	697	355		413
		5'-ACA 3'	5'-gTg 3'				5'-CC T 3'	5'-TAC 3'	5'-TC C 3'	5'-"C C 3'		5'-T gT 3'
							485	3rd I		363		420
							5'-C AA 3'	5'-TgT 3'		5'-AgC 3'		5'-TTC 3'
										379		467
										5'-AC g 3'		5'-C TT 3'
												539
												5'-g Cg 3'
3'-primer(s)²	589	218	3rd I	527	459	601	299	242	601	289	601	221
	5'-CTC 3'	5'-gC g 3'	5'-AC g 3'	5'-CC g 3'	5'-A gA 3'	5'-CTT 3'	5'-TC T 3'	5'-CC A 3'	5'-CTT 3'	5'-AgT 3'	5'-CTT 3'	5'-AC C 3'
		613	3rd I		518		601	539	846	601		256
		5'-gCA 3'	5'-gg A 3'		5'-CC A 3'		5'-CTC 3'	5'-TC T 3'	5'-CAC 3'	5'-CTT 3'		5'-CCA 3'
			1052		616			668				289
			5'-Tg g 3'		5'-Tg T 3'			5'-Tg A 3'				5'-AgC 3'
			1092									589
			5'-T TA 3'									5'-CTT 3'
Well No.	25	26	27	28	29	30	31	32	33	34	35	36



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Well No.	37	38	39	40	41	42	43	44	45	46	47	48
5'-primer(s)¹	361	134	28	2nd I	176	2nd I	142	19	86	368	270	368
	5' -Ag T 3'	5' -C CA 3'	5' -TC A 3'	5' -C CA 3'	5' -g CA 3'	5' -C CA 3'	5' -TC T 3'	5' -CC T 3'	5' -C AA 3'	5' -g TA 3'	5' -AAC 3'	5' -g TC 3'
	406						361	126	213			
	5' -gC C 3'						5' -Ag T 3'	5' -ggA 3'	5' -CCC 3'			
	446							412	368			
	5' -C gT 3'							5' -AT A 3'	5' -g TC 3'			
	512											
	5' -g TT 3'											
	1049											
	5' -C 3'											
3'-primer(s)²	601	341	97	527	302	527	201	70	302	618	341	512
	5' -CTT 3'	5' -Cg T 3'	5' -gTC 3'	5' -CC g 3'	5' -gg T 3'	5' -CC g 3'	5' -C TT 3'	5' -gg C 3'	5' -gg C 3'	5' -C T 3'	5' -Cg T 3'	5' -CC A 3'
	1087			539		538	343	220	474			
	5' -Ag T 3'			5' -TC A 3'		5' -CCg 3'	5' -T 3'	5' -Cg A 3'	5' -g CA 3'			
							475	239				
							5' -ggT 3'	5' -gC g 3'				
							559	538				
							5' -CTC 3'	5' -CCA 3'				
								539				
								5' -TC T 3'				
Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Well No.	49	50	51	52	53	54	55	56	57	58	59	60
5'-primer(s)¹	89	47	89	512	1st I	47	47	410	486	527	368	539
	5' -g AT 3'	5' -A gg 3'	5' -g AA 3'	5' -g Tg 3'	5' -Cg A 3'	5' -A gg 3'	5' -A gg 3'	5' -g Tg 3'	5' -ACg 3'	5' -T AC 3'	5' -g TC 3'	5' -g Cg 3'
	127	419	385		453		218	524			449	
	5' -gg A 3'	5' -g TA 3'	5' -gg T 3'		5' -AAT 3'		5' -g gA 3'	5' -C CA 3'			5' -C CA 3'	
	172				1049		368	539			459	
	5' -TC C 3'				5' -g 3'		5' -g TA 3'	5' -g Tg 3'			5' -gAT 3'	
	410							560			527	
	5' -g TT 3'							5' -C AC 3'			5' -T AC 3'	
	486											
	5' -TAC 3'											
3'-primer(s)²	218	302	278	601	175	270	90	618	601	595	559	601
	5' -gC T 3'	5' -gg T 3'	5' -g gT 3'	5' -CTT 3'	5' -CC g 3'	5' -T AC 3'	5' -A g 3'	5' -C T 3'	5' -CTT 3'	5' -CCT 3'	5' -CTC 3'	5' -CTT 3'
	618	618	287		527		97				585	
	5' -C T 3'	5' -C T 3'	5' -TCg 3'		5' -CC A 3'		5' -gTA 3'				5' -AgT 3'	
			289		1087		341				598	
			5' -AgC 3'		5' -AgC 3'		5' -Cg g 3'				5' -CTC 3'	
			301				3rd I				603	
			5' -gC A 3'				5' -AT g 3'				5' -T Tg 3'	
			618									
			5' -C T 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
5'-primer(s)¹	98	419	361	201	28	361	98	98	98	368	368	134
	5' -C TA 3'	5' -g TC 3'	5' -Ag T 3'	5' -CCA 3'	5' -TC A 3'	5' -Ag T 3'	5' -C TC 3'	5' -C TC 3'	5' -C TC 3'	5' -g TT 3'	5' -g TA 3'	5' -C CA 3'
					431							
					5' -C gT 3'							
3'-primer(s)²	289	477	538	289	270	474	201	201	302	538	459	201
	5' -AgC 3'	5' -g CA 3'	5' -CCA 3'	5' -AgT 3'	5' -T Ag 3'	5' -g CA 3'	5' -C TC 3'	5' -C TT 3'	5' -gg T 3'	5' -CCg 3'	5' -A gA 3'	5' -C TT 3'
	295				538							
	5' -TCC 3'				5' -CCA 3'							
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

Lot No.: **92M**

Lot-specific information

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Well No.	73	74	75	76	77	78	79	80	81	82	83	84
5'-primer(s)¹	409	134	134	419	420	376	201	420	270	1st I	376	361
	5' -gg C 3'	5' -C CA 3'	5' -C CA 3'	5' -g TC 3'	5' -TTC 3'	5' -gC T 3'	5' -CCA 3'	5' -TTA 3'	5' -AAg 3'	5' -Cg A 3'	5' -gC T 3'	5' -Ag T 3'
	529	368	512	430		419		421			420	
	5' -Ag A 3'	5' -g Tg 3'	5' -g TT 3'	5' -AC C 3'		5' -g TA 3'		5' -AC C 3'			5' -TTA 3'	
						430		560			501	
						5' -AC C 3'		5' -C gA 3'			5' -...C 3'	
						501						
						5' -...C 3'						
						529						
						5' -Ag A 3'						
3'-primer(s)²	3rd I	270	289	3rd I	477	3rd I	302	539	420	134	3rd I	527
	5' -CT C 3'	5' -T Ag 3'	5' -AgC 3'	5' -CT C 3'	5' -g Cg 3'	5' -CT C 3'	5' -gg C 3'	5' -TC C 3'	5' -g CT 3'	5' -Ag C 3'	5' -CT C 3'	5' -CC g 3'
		419	616					589				
		5' -Cg A 3'	5' -CgT 3'					5' -CTT 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
5'-primer(s)¹	1st I	47	419	368	28	20	28	70	20	956	895
	5' -Cg A 3'	5' -A gg 3'	5' -g TC 3'	5' -g TT 3'	5' -TC A 3'	5' -C CA 3'	5' -TC A 3'	5' -gg A 3'	5' -C CA 3'	5' -g gT 3'	5' -gg A 3'
		419					390	347	368		
		5' -g TC 3'					5' -gAA 3'	5' -g TA 3'	5' -g TT 3'		
							411				
							5' -TA g 3'				
							419				
							5' -g TT 3'				
							490				
							5' -Cg A 3'				
3'-primer(s)²	302	289	539	412	201	201	59	201	70	1034	956
	5' -gg T 3'	5' -AgT 3'	5' -TC T 3'	5' -gTC 3'	5' -C TC 3'	5' -C TC 3'	5' -Cg A 3'	5' -C TC 3'	5' -gg C 3'	5' -Ag C 3'	5' -CA g 3'
		527		521			618	459	539		
		5' -CC C 3'		5' -g gA 3'			5' -C T 3'	5' -A gA 3'	5' -TC A 3'		
Well No.	85	86	87	88	89	90	91	92	93	94	95

¹The nucleotide position, in the 1st, 2nd, 3rd, 4th, 5th, 6th or 7th exon or the 1st, 2nd or 3rd intron, matching the specificity-determining 3'-end of the 5'-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.

²The nucleotide position, in the 2nd, 3rd, 4th, 5th, 6th or 7th exon or the 3rd intron, matching the specificity-determining 3'-end of the 3'-primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

Lot No.: **92M**

Lot-specific information

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CELL LINE VALIDATION SHEET																					
HLA-C high resolution SSP primer set																					
					Well																
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
					Prod. No.:	2011-934-01	2011-934-02	2011-934-03	2011-934-04	2011-934-05	2008-497-06	2008-497-07	2008-497-08	2008-497-09	2008-497-10	2009-668-11	2008-497-12	2008-497-13	2009-668-14	2008-497-15	2009-668-16
IHWCell line			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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Lot No.: **92M**

Lot-specific information

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CELL LINE VALIDATION SHEET																				
HLA-C high resolution SSP primer set																				
				Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
				Prod. No.:	2008-497-17	2008-497-18	2009-668-19	2008-497-20	2008-497-21	2008-497-22	2008-497-23	2008-497-24	2008-497-25	2009-668-26	2008-497-27	2008-497-28	2008-497-29	2008-497-30	2008-497-31	2008-497-32
IHCW cell line		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	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-



Lot No.: **92M**

Lot-specific information

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CELL LINE VALIDATION SHEET																					
HLA-C high resolution SSP primer set																					
				Prod. No.:	Well																
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
					2011-934-33	2008-497-34	2008-497-35	2009-668-36	2008-497-37	2008-497-38	2008-497-39	2008-497-40	2008-497-41	2009-668-42	2008-497-43	2009-668-44	2008-497-45	2008-497-46	2008-497-47	2008-497-48	
	IHWC cell line		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	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-



Lot No.: **92M**

Lot-specific information

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CELL LINE VALIDATION SHEET																					
HLA-C high resolution SSP primer set																					
				Prod. No.:	Well																
					49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	
					2008-497-49	2008-497-50	2008-497-51	2008-497-52	2008-497-53	2008-497-54	2008-497-55	2008-497-56	2009-668-57	2008-497-58	2008-497-59	2008-497-60	2008-497-61	2008-497-62	2008-497-63	2008-497-64	
	IHWC cell line		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+



Lot No.: **92M**

Lot-specific information

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CELL LINE VALIDATION SHEET																				
HLA-C high resolution SSP primer set																				
				Prod. No.:	Well															
					65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
	IHCcell line	C*			2011-934-65	2008-497-66	2008-497-67	2008-497-68	2008-497-69	2008-497-70	2009-668-71	2009-668-72	2008-497-73	2008-497-74	2008-497-75	2008-497-76	2008-497-77	2008-497-78	2008-497-79	2008-497-80
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		-	-	-	+	+	+	-	-	-	-	-	+	-	-	+	-



Lot No.: **92M**

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CELL LINE VALIDATION SHEET																			
HLA-C high resolution SSP primer set																			
				Well															
				81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
				2008-497-81	2008-497-82	2008-497-83	2008-497-84	2008-497-85	2008-497-86	2008-497-87	2008-497-88	2008-497-89	2008-497-90	2008-497-91	2008-497-92	2009-668-93	2008-497-94	2008-497-95	
	IHWC cell line		C*	Prod. No.:															
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 OLG A		*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	-	+	-	+	+	-	+	-	-	-	-	-	-	-	+



Lot No.: **92M**

Lot-specific information

www.olerup-ssp.com

CERTIFICATE OF ANALYSIS

Olerup SSP[®] HLA-C high resolution for frequent alleles SSP

Product number: 101.707-12 – including Taq polymerase
Lot number: 92M
Expiry date: 2014-May-01
Number of tests: 12
Number of wells per test: 95 + 1

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2011-934-01	33	2011-934-33	65	2011-934-65
2	2011-934-02	34	2008-497-34	66	2008-497-66
3	2011-934-03	35	2008-497-35	67	2008-497-67
4	2011-934-04	36	2009-668-36	68	2008-497-68
5	2011-934-05	37	2008-497-37	69	2008-497-69
6	2008-497-06	38	2008-497-38	70	2008-497-70
7	2008-497-07	39	2008-497-39	71	2009-668-71
8	2008-497-08	40	2008-497-40	72	2009-668-72
9	2008-497-09	41	2008-497-41	73	2008-497-73
10	2008-497-10	42	2009-668-42	74	2008-497-74
11	2009-668-11	43	2008-497-43	75	2008-497-75
12	2008-497-12	44	2009-668-44	78	2008-497-76
13	2008-497-13	45	2008-497-45	77	2008-497-77
14	2009-668-14	46	2008-497-46	78	2008-497-78
15	2008-497-15	47	2008-497-47	79	2008-497-79
16	2009-668-16	48	2008-497-48	80	2008-497-80
17	2008-497-17	49	2008-497-49	81	2008-497-81
18	2008-497-18	50	2008-497-50	82	2008-497-82
19	2009-668-19	51	2008-497-51	83	2008-497-83
20	2008-497-20	52	2008-497-52	84	2008-497-84
21	2008-497-21	53	2008-497-53	85	2008-497-85
22	2008-497-22	54	2008-497-54	86	2008-497-86
23	2008-497-23	55	2008-497-55	87	2008-497-87
24	2008-497-24	56	2008-497-56	88	2008-497-88
25	2008-497-25	57	2009-668-57	89	2008-497-89
26	2009-668-26	58	2008-497-58	90	2008-497-90
27	2008-497-27	59	2008-497-59	91	2008-497-91
28	2008-497-28	60	2008-497-60	92	2008-497-92
29	2008-497-29	61	2008-497-61	93	2009-668-93
30	2008-497-30	62	2008-497-62	94	2008-497-94
31	2008-497-31	63	2008-497-63	95	2008-497-95
32	2008-497-32	64	2008-497-64		

Lot No.: **92M**

Lot-specific information

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The specificity of each primer solution of the HLA-C high resolution for frequent alleles primer set has been tested against 48 well characterized IHWC 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, 88 and 91. The specificity of most of the primers in these solutions was tested by separately adding one or more additional 5'-primer, respectively one or more additional 3'-primer. In primer solutions 2 to 5, 8, 9, 18, 20, 21, 23, 31, 33, 34, 36, 37, 44, 45, 49, 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, 58, 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, 92 and 93 were tested by separately adding one or more additional 3'-primer, respectively one or more additional 5'-primer.

The negative control primer pairs, **Production No. 2010-760-01**, can detect contamination with PCR products diluted 10^{-7} .

Results: No false positive or false negative amplifications were obtained.

Date of approval: 2011-December-15

Approved by:

Production Quality Control

Lot No.: **92M**

Lot-specific information

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Declaration of Conformity

Product name: *Olerup* SSP® HLA-C high resolution for frequent alleles
Product number: 101.707-12
Lot number: 92M

Intended use: HLA-C high resolution for frequent alleles histo-
compatibility testing

Manufacturer: *Olerup* SSP AB
Franzengatan 5
SE-112 51 Stockholm, Sweden
Phone: +46-8-717 88 27
Fax: +46-8-717 88 18

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex III, as transposed into the national laws of the Member States of the European Union.

The Technical Documentation File is maintained at *Olerup* SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Stockholm, Sweden
2012-January-09

Ann-Cathrin Jareman
Head of QA and Regulatory Affairs

Lot No.: **92M**

Lot-specific information

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Web page: <http://www.olerup.com>

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Fax: 610-344-7989

E-mail: info.us@olerup.com

Web page: <http://www.olerup.com>

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