

Lot No.: 1G4

Lot-specific information

Olerup SSP® HLA-C*06

Product number:	101.614-12 – including <i>Taq</i> polymerase 101.614-12u – without <i>Taq</i> polymerase
Lot number:	1G4
Expiry date:	2021-01-01
Number of tests:	12
Number of wells per test:	58+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. 1G4.

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*06 Lot (2E9)

The HLA-C*06 kit is updated for new alleles to enable separation of:

- Null and Alternatively expressed alleles
- The product documentation has been updated for new alleles of IMGT 3.31

Two wells have been added to HLA-C*06, wells **58** and **59**

The format of the Worksheet has been changed.

The HLA-C*06 primer set, specificity and interpretation tables have been updated for the HLA-C alleles described since the previous Olerup SSP® HLA-C*06 lot was made (Lot No. 2E9).

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

Well	5'-primer	3'-primer	rationale
24	-	Moved	3'-primer moved to well 57 for improved HLA-specific amplification.
28	-	Moved	3'-primer moved to well 57 for improved HLA-specific amplification.
48	Exchanged	-	5'-primer exchanged for improved HLA-specific amplification.
57	Added	Added	Negative Control moved to well 59, primer pair added from wells 24 and 28.
58	New	New	New primer pair for the C*06:200Q allele.
59	-	-	Negative Control added from well 57.

Changes in R01 compared to R00:

1. Primer mixes 22 and 42 do not amplify the C*06:86 allele. Thus, this lot cannot discriminate between the C*06:86 and the C*06:02:01:01-06:02:01:09, 06:02:03-06:02:50, 06:48, 06:51-06:52, 06:56, 06:62-06:64, 06:68, 06:75, 06:78, 06:80, 06:82, 06:84-06:85, 06:88-06:89, 06:91-06:92, 06:94-06:95, 06:97-06:99, 06:102:01-06:102:02, 06:105, 06:108-06:110, 06:112-06:115, 06:117, 06:119, 06:121, 06:125, 06:130-06:131, 06:135, 06:137, 06:141, 06:145, 06:149-06:150, 06:154-06:157, 06:159-06:167, 06:169-06:170, 06:172-06:174, 06:176-06:178, 06:180-06:182, 06:184-06:187, 06:189-06:196, 06:199, 06:201-06:202, 06:205 alleles. This has been corrected in the specificity and interpretation tables.

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Well **59** 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*06 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the HLA-C*06:02 to HLA-C*06:205 alleles.

PLATE LAYOUT

Each test consists of 59 PCR reactions in a 64 well PCR plate. Wells 60 to 64 are empty.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	47	45	46	47	48
49	50	51	52	53	54	55	56
57	58	NC	empty	empty	empty	empty	empty

The 64 well cut PCR plate is marked with 'HLA-C*06' in silver/gray ink.

Well No. 1 is marked with the Lot No. '1G4'.

Wells 1 to 58 – HLA-C*06 high resolution primers.

Well 59 – Negative Control (NC).

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays and should be disregarded.

The PCR plates are covered with a PCR-compatible foil.

INTERPRETATION

Due to the sharing of sequence motifs between HLA-C alleles, non-HLA-C*06 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*06 alleles, i.e. **C*06:02 to C*06:205**, recognized by the HLA Nomenclature Committee in January 2018¹ will be amplified by the primers in the HLA-C*06 SSP kit^{2,3,4}.

The HLA-C*06 kit enables separation of the confirmed HLA-C*06 alleles as listed in the IMGT/HLA database 3.24.0. An HLA allele is listed as confirmed by IMGT/HLA if it has been sequenced by more than a single laboratory or from multiple sources. Current allele confirmation status for HLA-C*06 alleles is listed below.

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The HLA-C*06 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

The following HLA-C*06 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
C*06:07, 06:33	7	C*06:45, 06:111	31
C*06:15, 06:116N	15	C*06:49N, 06:148	37
C*06:16N, 06:21	16	C*06:54, 06:133	40
C*06:20, 06:74Q	34	C*06:57, 06:58	36
C*06:25, 06:36	21	C*06:66, 06:71	32
C*06:27, 06:29	20	C*06:70:01-06:70:02, 06:73	38

¹HLA-C alleles listed on the IMGT/HLA web page 2018-January-19, release 3.31.0, www.ebi.ac.uk/imgt/hla.

²Alleles that have been deleted from or renamed in the official WHO HLA Nomenclature up to and including the last IMGT/HLA database release can be retrieved from web page <http://hla.alleles.org/alleles/deleted.html>.

³The HLA-C*06 primer set cannot separate the C*06:127:01-06:127:02 and C*04:220 alleles. These alleles can be distinguished by the HLA-C low resolution kit and/or HLA-C*04 high resolution kit.

⁴This lot of the C*06 kit cannot discriminate between the C*06:86 and the C*06:02:01:01-06:02:01:09, 06:02:03-06:02:50, 06:48, 06:51-06:52, 06:56, 06:62-06:64, 06:68, 06:75, 06:78, 06:80, 06:82, 06:84-06:85, 06:88-06:89, 06:91-06:92, 06:94-06:95, 06:97-06:99, 06:102:01-06:102:02, 06:105, 06:108-06:110, 06:112-06:115, 06:117, 06:119, 06:121, 06:125, 06:130-06:131, 06:135, 06:137, 06:141, 06:145, 06:149-06:150, 06:154-06:157, 06:159-06:167, 06:169-06:170, 06:172-06:174, 06:176-06:178, 06:180-06:182, 06:184-06:187, 06:189-06:196, 06:199, 06:201-06:202 and 06:205 alleles.

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ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
C*06:02:01:01	Confirmed	C*06:05	Unconfirmed	C*06:52	Unconfirmed	C*06:99	Unconfirmed
C*06:02:01:02	Confirmed	C*06:06	Confirmed	C*06:53:01	Unconfirmed	C*06:100	Confirmed
C*06:02:01:03	Confirmed	C*06:07	Confirmed	C*06:53:02	Unconfirmed	C*06:101	Confirmed
C*06:02:03	Confirmed	C*06:08	Unconfirmed	C*06:54	Confirmed	C*06:102	Unconfirmed
C*06:02:04	Confirmed	C*06:09	Confirmed	C*06:55	Unconfirmed	C*06:103	Confirmed
C*06:02:05	Confirmed	C*06:10	Unconfirmed	C*06:56	Unconfirmed	C*06:104	Confirmed
C*06:02:06	Confirmed	C*06:11	Confirmed	C*06:57	Confirmed	C*06:105	Unconfirmed
C*06:02:07	Confirmed	C*06:12	Confirmed	C*06:58	Confirmed	C*06:106:01	Unconfirmed
C*06:02:08	Confirmed	C*06:13	Unconfirmed	C*06:59	Confirmed	C*06:106:02	Confirmed
C*06:02:09	Confirmed	C*06:14	Confirmed	C*06:60	Confirmed	C*06:107	Confirmed
C*06:02:10	Unconfirmed	C*06:15	Confirmed	C*06:61	Unconfirmed	C*06:108	Unconfirmed
C*06:02:11	Unconfirmed	C*06:16N	Unconfirmed	C*06:62	Unconfirmed	C*06:109	Unconfirmed
C*06:02:12	Confirmed	C*06:17	Unconfirmed	C*06:63	Unconfirmed	C*06:110	Unconfirmed
C*06:02:13	Unconfirmed	C*06:18	Confirmed	C*06:64	Unconfirmed	C*06:111	Unconfirmed
C*06:02:14	Unconfirmed	C*06:19	Unconfirmed	C*06:65	Confirmed	C*06:112	Unconfirmed
C*06:02:15	Confirmed	C*06:20	Unconfirmed	C*06:66	Confirmed	C*06:113	Unconfirmed
C*06:02:16	Confirmed	C*06:21	Unconfirmed	C*06:67	Unconfirmed	C*06:114	Unconfirmed
C*06:02:17	Unconfirmed	C*06:22	Unconfirmed	C*06:68	Unconfirmed	C*06:115	Unconfirmed
C*06:02:18	Unconfirmed	C*06:23	Confirmed	C*06:69	Confirmed	C*06:116N	Unconfirmed
C*06:02:19	Unconfirmed	C*06:24	Confirmed	C*06:70:01	Confirmed	C*06:117	Unconfirmed
C*06:02:20	Unconfirmed	C*06:25	Unconfirmed	C*06:70:02	Unconfirmed	C*06:118	Unconfirmed
C*06:02:21	Unconfirmed	C*06:26	Confirmed	C*06:71	Confirmed	C*06:119	Unconfirmed
C*06:02:22	Confirmed	C*06:27	Confirmed	C*06:72	Unconfirmed	C*06:120	Confirmed
C*06:02:23	Unconfirmed	C*06:28	Confirmed	C*06:73	Unconfirmed	C*06:121	Unconfirmed
C*06:02:24	Unconfirmed	C*06:29	Unconfirmed	C*06:74Q	Unconfirmed	C*06:122	Confirmed
C*06:02:25	Unconfirmed	C*06:30	Confirmed	C*06:75	Unconfirmed	C*06:123	Unconfirmed
C*06:02:26	Unconfirmed	C*06:31	Unconfirmed	C*06:76:01	Confirmed	C*06:124	Confirmed
C*06:02:27	Unconfirmed	C*06:32	Confirmed	C*06:76:02	Unconfirmed	C*06:125	Unconfirmed
C*06:02:28	Unconfirmed	C*06:33	Confirmed	C*06:77	Unconfirmed	C*06:126	Confirmed
C*06:02:29	Unconfirmed	C*06:34:01	Confirmed	C*06:78	Unconfirmed	C*06:127:01	Confirmed
C*06:02:30	Unconfirmed	C*06:34:02	Unconfirmed	C*06:79N	Unconfirmed	C*06:127:02	Unconfirmed
C*06:02:31	Confirmed	C*06:35	Confirmed	C*06:80	Unconfirmed	C*06:128N	Unconfirmed
C*06:02:32	Confirmed	C*06:36	Unconfirmed	C*06:81	Confirmed	C*06:129	Confirmed
C*06:02:33	Confirmed	C*06:37	Confirmed	C*06:82	Unconfirmed	C*06:130	Unconfirmed
C*06:02:34	Confirmed	C*06:38	Confirmed	C*06:83	Unconfirmed	C*06:131	Unconfirmed
C*06:02:35	Unconfirmed	C*06:39	Unconfirmed	C*06:84	Unconfirmed	C*06:132:01	Confirmed
C*06:02:36	Unconfirmed	C*06:40	Unconfirmed	C*06:85	Unconfirmed	C*06:132:02	Unconfirmed
C*06:02:37	Confirmed	C*06:41	Unconfirmed	C*06:86	Confirmed	C*06:133	Confirmed
C*06:02:38	Unconfirmed	C*06:42:01	Unconfirmed	C*06:87	Confirmed	C*06:134N	Unconfirmed
C*06:02:39	Unconfirmed	C*06:42:02	Unconfirmed	C*06:88	Unconfirmed	C*06:135	Unconfirmed
C*06:02:40	Unconfirmed	C*06:43:01	Confirmed	C*06:89	Unconfirmed	C*06:136	Confirmed
C*06:02:41	Unconfirmed	C*06:43:02	Unconfirmed	C*06:90	Unconfirmed	C*06:137	Unconfirmed
C*06:02:42	Unconfirmed	C*06:44	Unconfirmed	C*06:91	Unconfirmed	C*06:138	Confirmed
C*06:02:43	Unconfirmed	C*06:45	Unconfirmed	C*06:92	Unconfirmed	C*06:139	Confirmed
C*06:02:44	Unconfirmed	C*06:46N	Unconfirmed	C*06:93	Confirmed	C*06:140	Confirmed
C*06:02:45	Unconfirmed	C*06:47	Confirmed	C*06:94	Unconfirmed	C*06:141	Unconfirmed
C*06:03:01	Unconfirmed	C*06:48	Unconfirmed	C*06:95	Unconfirmed	C*06:142	Confirmed
C*06:03:02	Confirmed	C*06:49N	Confirmed	C*06:96	Confirmed	C*06:143	Unconfirmed
C*06:04:01	Confirmed	C*06:50	Confirmed	C*06:97	Unconfirmed	C*06:144	Unconfirmed
C*06:04:02	Confirmed	C*06:51	Unconfirmed	C*06:98	Unconfirmed	C*06:145	Unconfirmed

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
C*06:146	Unconfirmed	C*06:156	Unconfirmed	C*06:166	Unconfirmed
C*06:147	Unconfirmed	C*06:157	Unconfirmed	C*06:167	Unconfirmed
C*06:148	Confirmed	C*06:158	Confirmed	C*06:168	Unconfirmed
C*06:149	Unconfirmed	C*06:159	Unconfirmed	C*06:169	Unconfirmed
C*06:150	Unconfirmed	C*06:160	Unconfirmed	C*06:170	Unconfirmed
C*06:151	Confirmed	C*06:161	Unconfirmed	C*06:171N	Unconfirmed
C*06:152N	Unconfirmed	C*06:162	Unconfirmed	C*06:172	Unconfirmed
C*06:153	Unconfirmed	C*06:163	Unconfirmed	C*06:173	Unconfirmed
C*06:154	Unconfirmed	C*06:164	Unconfirmed	C*06:174	Unconfirmed
C*06:155	Unconfirmed	C*06:165	Unconfirmed	C*06:175N	Unconfirmed

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

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-C*06 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-C*06 SSP subtyping

Specificities and sizes of the PCR products of the 58+1 primer mixes used for
HLA-C*06 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*06 alleles ³	Other amplified HLA Class I alleles
1	240 bp	800 bp	*06:02:01:01-06:02:01:09, 06:02:03-06:02:50, 06:04:01-06:16N, 06:18-06:75, 06:78-06:131, 06:133-06:187, 06:189-06:205	*03:39, 03:67, 03:344, 04:42:01-04:42:02, 04:220, 05:43, 08:37, 12:16, 12:147, 12:195:01-12:195:02, 16:21, 16:80, 17:20 [?]
2	220 bp	800 bp	*06:02:01:01-06:02:01:09, 06:02:03-06:03:02, 06:07-06:13, 06:15-06:34:02, 06:36-06:39, 06:41-06:71, 06:73-06:78, 06:80, 06:82-06:100, 06:102:01-06:117, 06:119-06:122, 06:124-06:126, 06:128N-06:135, 06:137-06:142, 06:145-06:152N, 06:154-06:196, 06:198-06:202, 06:205	*01:04, 01:09, 02:05:01-02:05:03, 02:17, 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, 12:57:01-12:63, 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, 12:129, 12:131, 12:133, 12:135, 12:138-12:141, 12:143-12:144, 12:147, 12:149-12:150, 12:152, 12:154, 12:156-12:160, 12:163, 12:165, 12:167, 12:170-12:174, 12:176, 12:178, 12:180, 12:182, 12:184-12:187, 12:189-12:192, 12:194-12:195:02, 12:197, 12:199, 12:201-12:203, 12:205-12:206, 12:209-12:211, 12:213, 12:215-12:216, 14:16, 16:04:01:01-16:04:01:02, 16:04:03-16:04:05, 16:29, 16:33, 16:42, 16:55, 16:61, 16:66, 16:78, 16:82, 16:91, 16:109
3	135 bp	1070 bp	*06:03:01, 06:18, 06:132:01-06:132:02	*02:02:13, 02:02:29, 03:02:01-03:02:09, 03:02:11-03:03:20, 03:03:22-03:04:14, 03:04:16-03:04:24, 03:04:27-03:11:02, 03:13:01-03:17:02, 03:18:02-03:38:02, 03:40:01-03:64:01, 03:65-03:66, 03:67 ^w , 03:68-03:98, 03:99:02-03:117, 03:119:01-03:136, 03:138-03:143, 03:146-03:155, 03:157-03:165, 03:167-03:169Q, 03:171, 03:173-03:181, 03:183-03:194, 03:196-03:230, 03:232-03:247, 03:249-03:263:02, 03:265N-03:277N, 03:278 ^w , 03:279-03:294, 03:295 ^w , 03:296-03:323N, 03:325-03:341, 03:343, 03:345-03:367, 07:96:01-07:96:02, 07:272, 07:314:02, 07:326, 07:578, 15:02:10, 15:02:17, 15:43
4	250 bp	1070 bp	*06:04:01-06:04:02, 06:153, 06:197	*01:22, 01:35, 01:131, 05:11, 05:17, 05:27, 05:68, 05:79, 05:115, 05:134, 05:151, 08:01:01-01-08:01:21, 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,

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				08:93, 08:95-08:97, 08:99, 08:101-08:102, 08:104-08:106, 08:109, 08:113, 08:117, 08:119, 08:121N-08:122, 08:124, 08:127N-08:131, 08:133, 08:135-08:139, 08:141Q, 08:143-08:145, 08:147-08:148, 08:153-08:154, 12:14:01-12:14:02, 12:18:01-12:18:02, 12:20, 12:83, 12:169, 12:175, 12:181, 14:06, 14:15, 14:53, 14:77, 14:87, 15:02:01:01-15:07, 15:09-15:13:01:02, 15:15-15:19, 15:21-15:24, 15:26-15:50, 15:52-15:73, 15:76-15:83, 15:85-15:101, 15:103-15:142, 15:144-15:146, 16:35, 16:40, 16:48, 16:110, 17:01:01:02-17:16, 17:18-17:38
5	160 bp	800 bp	*06:05, 06:67, 06:103	*02:94, 04:129, 05:01:01:01-05:01:27, 05:01:28 ^w , 05:01:29-05:01:36, 05:03-05:28, 05:30-05:47, 05:49-05:91N, 05:93-05:128N, 05:130-05:154N, 08:10, 12:21, 12:33, 15:107, 17:05
	220 bp		*06:18, 06:23, 06:179	*01:04, 01:09, 02:21, 12:178
6	250 bp	1070 bp	*06:05-06:06, 06:204	*01:02:01:01-01:03, 01:05-01:07:01, 01:08, 01:10-01:20, 01:23-01:34, 01:36-01:130, 01:132-01:145N, 03:99:02, 04:110?, 05:01:01:01-05:01:36, 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, 05:71-05:78:02, 05:80-05:88, 05:90-05:105, 05:107-05:111, 05:113N-05:114, 05:116-05:133, 05:135-05:145, 05:147-05:150, 05:152-05:154N, 08:02:01:01-08:02:15, 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, 08:107-08:108, 08:110-08:112, 08:114-08:116, 08:118, 08:120, 08:123, 08:125-08:126, 08:132, 08:134, 08:140, 08:146, 08:149-08:152, 12:09, 12:24, 12:85, 14:02:01:01-14:05, 14:07N-14:14, 14:17-14:52, 14:54-14:62, 14:64-14:76, 14:78-14:86, 14:88, 15:08, 15:102, 15:143, 16:53, 16:68, 16:88, 17:17, 18:01-18:02, 18:04-18:10
	290 bp		*06:50	*12:53
7⁴	110 bp	1070 bp	*06:07	
	185 bp		*06:19	
	235 bp		*06:33, 06:104	
8	240 bp	1070 bp	*06:08	*01:10, 02:05:01-02:05:03, 02:17, 12:119, 14:25, 16:29, 16:50, 17:21, B*07:239, B*14:46, B*40:243
9	165 bp	1070 bp	*06:09, 06:144	*02:22, 02:118, 04:94:01-04:94:02, 05:08, 05:52, 05:89, 05:106:01-05:106:02, 08:27, 08:29, 08:31, 12:31, 12:144, 18:03, B*15:137, B*37:66, B*50:47
	210 bp		*06:23, 06:179	*01:04, 01:09, 12:178
	435 bp		*06:17	*07:07, 07:09, 07:76:01-07:76:02, 07:315, 07:328, 07:406, 07:559, 07:598, 18:01-18:10
10	190 bp	800 bp	*06:10, 06:22	*07:107, 07:224, 16:31, B*15:193, B*35:283

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11	130 bp	1070 bp	*06:11, 06:122 ^w , 06:124 ^w , 06:147	*07:01:13, 07:04:01:01-07:04:11, 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, 07:378, 07:394-07:395, 07:420, 07:426, 07:428, 07:447, 07:459, 07:466- 07:467, 07:480, 07:487, 07:501, 07:523, 07:534- 07:535, 07:552, 07:562-07:563, 07:569, 07:585- 07:586, 07:600N, 12:02:11, 12:03:09, 16:01:16 *07:107, 07:224, 16:31, B*15:193, B*35:283
12	185 bp 205 bp	1070 bp	*06:22 *06:12	
13	155 bp 210 bp	1070 bp	*06:13 *06:59	
14⁷	225 bp 305 bp	1070 bp	*06:55 *06:14, 06:143	*03:32, 03:45, 03:136, 03:297, 04:80, 04:100, 04:110 ^w , 04:178, 07:10 ^w , 07:43:01, 07:196, 07:568, 15:25, 15:62, B*15:357, B*35:178, B*35:282, B*35:316
15	135 bp 360 bp	800 bp	*06:116N *06:15	
16	235 bp 340 bp	1070 bp	*06:16N *06:21	*02:125, 15:91
17⁵	220 bp	800 bp	*06:24, 06:59	*16:93
18	225 bp	1070 bp	*06:26, 06:104	
19^{4,6}	85 bp	800 bp	*06:28	*02:14:01-02:14:02, 03:67, 04:42:01-04:42:02, 05:43, 07:20, 07:73, 07:172:01-07:172:02, 07:390, 08:37, 12:195:01-12:195:02, 15:23, 15:138, 16:21, 17:20, 18:04, B*08:56:01-08:56:02, B*08:180, B*15:142, B*35:218, B*35:256, B*51:68, B*57:49
20^{4,6}	160 bp 245 bp 115 bp 220 bp	1070 bp	*06:32 *06:122, 06:124 *06:29 *06:05 ^w , 06:44 ^w , 06:124, 06:134N, 06:138 ^w , 06:198 ^w	*07:559 *07:134 *02:14:01 ^w -02:14:02 ^w , 02:107 ^w , 03:39, 03:67, 03:344, 05:43 ^w , 07:39-07:40, 07:177, 07:210 ^w , 07:238 ^w , 07:328 ^w , 07:335, 07:563, 08:37, 15:23 ^w , 15:63 ^w , 15:138 ^w , 16:21, 16:80, B*08:15
21⁶	275 bp 190 bp	1070 bp	*06:27 *06:36, 06:87	*16:47 *02:113, 12:45, 12:56, 12:166, 16:61, A*68:76:01- 68:76:02
22⁶	215 bp 380 bp 165 bp	1070 bp	*06:72 *06:25 *06:30, 06:171N, 06:198, 06:204	*04:81 *02:02:13, 02:02:29, 07:181, 07:328, 12:02:11, 12:03:09, 16:01:16
23	210 bp	1070 bp	*06:31, 06:79N	*12:176, 16:04:01:01-16:04:01:02, 16:04:03- 16:04:05, 16:29, 16:33, 16:42, 16:55, 16:61, 16:66, 16:78, 16:82, 16:91, 16:109, B*58:02:02
24	160 bp	1070 bp	*06:09, 06:34:01- 06:34:02, 06:103, 06:107, 06:144, 06:168, 06:179	*01:09, 02:19, 02:22, 02:47, 02:111, 03:21, 03:80:01-03:80:02, 03:142, 03:287, 04:94:01- 04:94:02, 05:08, 05:52, 05:89, 05:106:01- 05:106:02, 07:447, 08:27, 08:29, 08:31, 12:31, 12:144, 18:03, B*13:31, B*13:41, B*15:58, B*15:73, B*15:137, B*15:303, B*37:66, B*39:36, B*46:61, B*50:47, B*54:33, B*55:21, B*56:43

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Lot-specific information

	210 bp		*06:35	B*37:66
25⁴	85 bp 190 bp	1070 bp	*06:38 *06:118	*01:60, 07:31:01-07:31:02, 07:177, 07:364, 07:514, 12:176, 14:17, 17:21
26⁴	120 bp 225 bp	1070 bp	*06:39, 06:128N *06:146	*02:100, 04:205N, 15:115N
27	190 bp 225 bp	1070 bp	*06:42:01-06:42:02 *06:40	*14:29 *14:63, B*39:79
28⁴	90 bp 215 bp	1070 bp	*06:41 *06:47, 06:123	*12:32 * 02:57, 07:447, 12:11
29⁴	125 bp 170 bp	1070 bp	*06:152N *06:43:01-06:43:02, 06:107, 06:179	*01:09, 02:19, 02:119, 03:21, 03:80:01-03:80:02, 03:142, 03:287, A*26:79, A*68:114, B*15:207, B*15:349:01-15:349:02
30⁴	210 bp 100 bp 160 bp	1070 bp	*06:47 *06:44 *06:126, 06:171N	*12:11 *07:01:13
31⁴	110 bp 155 bp 260 bp	1070 bp	*06:128N *06:45 *06:111	*04:205N, 15:115N *02:85 *03:354, 05:108
32⁴	85 bp 195 bp	1070 bp	*06:71 *06:19, 06:66	
33⁴	105 bp 240 bp	1070 bp	*06:60 *06:69, 06:93, 06:122, 06:124	*07:427, B*08:138 * 07:559, 07:571
34	175 bp 275 bp	1070 bp	*06:74Q *06:20	*15:32Q *01:32:01-01:32:02, 02:56, 03:102, 03:263:01- 03:263:02, 04:180:01, 07:81, 07:168, 07:450, 08:123, 08:139, 12:50, 14:82, 15:126, 16:98, 16:102, 16:110
35	210 bp 235 bp 380 bp	1070 bp	*06:134N *06:65, 06:93 *06:46N	*07:571
36⁴	120 bp 195 bp 220 bp	1070 bp	*06:57 *06:87 *06:58, 06:81	*12:45, 12:166, 16:61, A*68:76:01-68:76:02 *02:37, B*15:417
37⁴	115 bp 210 bp	1070 bp	*06:148, 06:151 *06:49N, 06:101	*04:94:01-04:94:02, 12:10:01-12:10:02, 18:03, B*15:27:01-15:27:03, B*15:109, B*15:327, B*15:344, B*15:398
38	130 bp 470 bp	1070 bp	*06:70:01-06:70:02, 06:120, 06:132:01 *06:73	*02:02:13, 02:02:29, 07:562 *03:171, 03:211:01, 04:144, 05:93, 08:20, 08:40, 12:109
39⁶	270 bp	1070 bp	*06:96, 06:197	*01:31, 01:35, 01:107, 01:131, 02:58, 04:08, 04:34, 04:85, 04:147, 04:212, 05:27, 05:39, 05:151, 08:41, 08:115, 08:138, 12:83, 12:106, 12:122, 12:158, 14:20, 14:38, 15:15, 15:77, 17:07, 18:08, B*58:02:01
40	140 bp 275 bp	1070 bp	*06:133 *06:54	*16:52

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Lot-specific information

41	150 bp	1070 bp	*06:03:01-06:03:02, 06:76:01, 06:120, 06:132:01	*02:02:13, 02:02:29, 12:02:11, 12:03:09, 12:03:26, 16:01:16, 18:09, B*51:39
42⁶	165 bp	1070 bp	*06:53:01-06:53:02, 06:126	
43	190 bp	1070 bp	*06:28, 06:76:01- 06:76:02, 06:132:01- 06:132:02	*02:12, 02:49, 02:55:01-02:55:02, 02:115, 03:15, 03:27, 03:38:01-03:38:02, 03:69, 03:130, 03:136, 03:163, 03:246, 03:274, 03:297, 04:01:01:01- 04:01:28, 04:01:30-04:01:83, 04:03:01, 04:03:03- 04:09N, 04:12 ^w , 04:13-04:20, 04:23-04:35, 04:37- 04:54, 04:56-04:139, 04:141-04:152, 04:154- 04:165, 04:167-04:168, 04:170N-04:191N, 04:193, 04:195-04:209, 04:211-04:213, 04:216- 04:219, 04:221-04:226, 04:228-04:248, 04:250- 04:255N, 04:257-04:276, 04:279N ^w , 05:42, 05:46, 07:20, 07:64, 07:73, 07:92, 07:96:01-07:96:02, 07:172:01-07:172:02, 07:390, 07:578, 07:583, 08:05, 08:21, 08:25, 08:137, 12:02:01-12:04:02, 12:06-12:08, 12:10:01-12:15, 12:17-12:20, 12:22- 12:32, 12:34-12:48, 12:50-12:70, 12:72-12:97, 12:99:01-12:146, 12:148N-12:187, 12:189-12:216, 14:04, 14:49, 14:64, 14:73, 14:77, 15:03, 15:16, 15:25, 16:15:01-16:15:02, 16:25, 16:64, 17:01:01:02-17:01:07, 17:01:09-17:26, 17:27N ^w , 17:28-17:38, 18:04
44⁴	120 bp	1070 bp	*06:77	*03:278, 16:86, A*11:47, A*11:221, A*26:89, B*18:01:20, B*18:72:02, B*37:01:04, B*40:94, B*54:02
	215 bp		*06:100	
45	375 bp	1070 bp	*06:101, 06:127:01- 06:127:02, 06:136, 06:144	*01:05, 01:21, 01:36, 01:55, 01:79:01-01:79:02, 01:120, 02:02:01-02:02:03, 02:02:05-02:02:08, 02:02:10-02:02:30, 02:02:32-02:04, 02:06:01- 02:16:02, 02:18-02:36:02, 02:38N-02:40:02, 02:42-02:56, 02:58-02:61, 02:63-02:73, 02:75- 02:80, 02:82-02:122, 02:124-02:130, 03:05, 03:13:01-03:13:02, 03:25, 03:27, 03:35:01- 03:35:02, 03:135, 03:167, 03:178, 03:198, 03:267, 03:292, 03:296, 03:335, 04:01:01:01-04:01:23, 04:01:25-04:01:83, 04:03:01-04:20, 04:23-04:36, 04:38-04:39, 04:41-04:79, 04:81-04:99, 04:101- 04:109, 04:111-04:116, 04:118-04:177, 04:179- 04:223:02, 04:225N-04:229, 04:231, 04:233N- 04:241, 04:243-04:262, 04:264-04:276, 04:278- 04:279N, 05:01:01:01-05:01:20, 05:01:22- 05:01:36, 05:03-05:06, 05:08-05:09:03, 05:11- 05:15, 05:17-05:30, 05:32-05:84, 05:86-05:95, 05:97-05:103:02, 05:105-05:106:02, 05:108- 05:147, 05:149-05:151, 05:153N-05:154N, 07:01:01:01-07:01:10, 07:01:12-07:01:27, 07:01:29-07:03, 07:05-07:09, 07:13-07:30, 07:32N-07:33N, 07:35-07:42, 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, 07:185-07:194, 07:197-07:271, 07:273-07:294, 07:296-07:301, 07:303-07:322, 07:325-07:327, 07:330:01-07:331, 07:333-07:335, 07:337,

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Lot-specific information

				07:339-07:345, 07:347N-07:353, 07:356, 07:359-07:360, 07:362-07:363, 07:368:01-07:377, 07:379-07:393N, 07:396-07:402, 07:404-07:405, 07:407-07:419, 07:421-07:425, 07:427, 07:429-07:443, 07:445-07:446, 07:448-07:458, 07:460-07:462, 07:464-07:465, 07:468-07:479, 07:481-07:484N, 07:486, 07:488-07:500, 07:502-07:510, 07:512-07:513Q, 07:515-07:522, 07:524-07:533, 07:536-07:551N, 07:553-07:561, 07:564-07:567, 07:570-07:584, 07:588, 07:590-07:599, 08:01:01-08:01:10, 08:01:12-08:11, 08:13-08:33:03, 08:35-08:43, 08:45-08:60, 08:62-08:63, 08:65-08:81, 08:83-08:125, 08:127N-08:154, 12:02:01-12:02:11, 12:02:13-12:02:15, 12:08, 12:10:01-12:10:02, 12:14:01-12:14:02, 12:16-12:18:02, 12:21-12:22, 12:27, 12:30, 12:36, 12:40-12:41, 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, 12:117-12:118, 12:123-12:124, 12:126-12:128, 12:130, 12:132, 12:136-12:137, 12:142, 12:145-12:146, 12:148N, 12:151, 12:155Q, 12:161-12:162, 12:164, 12:166, 12:168-12:169, 12:177, 12:179, 12:181, 12:188, 12:193, 12:196, 12:198, 12:204, 12:207-12:208, 12:212, 12:214, 14:09, 14:28:02, 15:22, 15:65, 15:72, 16:06-16:07:02, 17:16, 18:01-18:10
46⁴	95 bp	1070 bp	*06:30, 06:204	*01:17, 01:21, 01:128, 02:12, 02:55:01-02:55:02, 03:27, 03:38:01-03:38:02, 03:130, 03:163, 03:246, 04:33, 04:107, 04:172, 04:231, 05:46, 07:07, 07:16, 07:51, 07:181, 07:367, 07:598, 08:05, 08:21, 08:25, 12:02:01-12:04:02, 12:06-12:08, 12:10:01-12:20, 12:22-12:27, 12:29-12:32, 12:34-12:48, 12:50-12:57:02, 12:59-12:62, 12:64-12:97, 12:99:01-12:107, 12:109-12:131, 12:133-12:134, 12:136-12:145, 12:147-12:187, 12:189-12:216, 14:04, 14:73, 14:77, 15:03, 15:16, 16:15:01-16:15:02, 16:25, 17:01:01:02-17:10, 17:12-17:14, 17:16-17:25, 17:27N-17:38, B*07:13, B*67:02
47⁶	220 bp	1070 bp	*06:83, 06:146	
48⁶	370 bp	1070 bp	*06:106:01-06:106:02	*02:61, 03:07:01-03:07:02, 03:15, 03:45, 03:130, 03:140, 03:163, 03:243, 03:268, 03:297, 04:80, 04:100, 05:05:01-05:05:02, 05:135, 05:147-05:148, 15:26, 15:69, 17:29
49	195 bp 280 bp	1070 bp	*06:175N *06:129	*05:16, 05:85, 05:107, 07:364, 08:12, B*14:32
50	160 bp 195 bp	1070 bp	*06:158 *06:175N	
51	235 bp	1070 bp	*06:05, 06:44, 06:124 ^w , 06:138, 06:198	*02:14:01-02:14:02, 02:107, 03:39 ^w , 03:67 ^w , 03:344 ^w , 05:43, 07:39 ^w -07:40 ^w , 07:177 ^w , 07:210, 07:238, 07:328, 07:335 ^w , 07:563 ^w , 08:37 ^w , 15:23, 15:63, 15:138, 16:21 ^w , 16:80 ^w , B*08:15^w
52⁴	115 bp 210 bp	1070 bp	*06:151 *06:47, 06:136, 06:142	*02:17, 02:77, 07:138, 12:11, 12:118, 12:156, 14:16, B*15:32:01-15:32:02, B*15:299
53	130 bp	1070 bp	*06:140, 06:152N	

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Lot-specific information

54⁴	85 bp	1070 bp	*06:139	
55⁴	80 bp	1070 bp	*06:02:01:01- 06:02:01:09, 06:02:03-06:10, 06:12-06:29, 06:31- 06:52, 06:54-06:60, 06:62-06:64, 06:66- 06:68, 06:70:01- 06:92, 06:94-06:121, 06:123, 06:125- 06:146, 06:148- 06:182, 06:184- 06:197, 06:199- 06:203, 06:205	*02:49, 02:75, 03:15, 03:45, 03:297, 04:01:01:01- 04:01:51, 04:01:53-04:01:83, 04:03:01, 04:03:03- 04:10, 04:13-04:20, 04:23-04:26, 04:28, 04:30- 04:32, 04:34-04:35, 04:37-04:51, 04:53-04:54, 04:56-04:106, 04:108-04:115N, 04:117-04:168, 04:170N-04:171, 04:173N-04:213, 04:215N- 04:226, 04:228-04:230, 04:232-04:276, 04:279N, 05:25, 05:42, 07:09, 07:49, 07:76:01-07:76:02, 07:210, 07:238, 07:247, 07:315, 07:403, 07:406, 12:146, 14:49, 14:64, 15:62, 16:46, 17:11, 18:01- 18:10
56⁴	100 bp	800 bp	*06:37	*07:505, B*58:23
57⁴	110 bp	1070 bp	*06:90	*01:108, 16:28
58	245 bp	1070 bp	*06:200Q	
59⁸	-	-	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*06 SSP typings.

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

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

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

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings. Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

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.

⁴HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁵Primer mix 17 has a tendency to giving rise to primer oligomer formation.

⁶Primer mixes 19, 20, 21, 22, 39, 42, 47 and 48 may have tendencies of unspecific amplification.

⁷Primer mix 14 may give rise to a lower yield of HLA-specific PCR product than the other HLA-C*06 resolution primer mixes in the C*03 alleles.

⁸Primer mix 59 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

‘w’, may be weakly amplified.

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

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Lot-specific information

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	240	220	135	250	160	250	110	240	165	190	130	205
					220	290	185		210		185	
							235		435			
Length of int. pos. control ¹	800	800	1070	1070	800	1070	1070	1070	1070	800	1070	1070
5'-primer(s) ²	28	361	105	2 nd I	113	2 nd I	107	361	47	142	213	529
	5'-TCA 3'	5'-AgT 3'	5'-gCT 3'	5'-CCA 3'	5'-CCA 3'	5'-CCA 3'	5'-CgA 3'	5'-AgT 3'	5'-Agg 3'	5'-TCC 3'	5'-CCC 3'	5'-AgA 3'
		361	113		176		109		368	419	419	
		5'-AgT 3'	5'-CCA 3'		5'-gCA 3'		5'-TgA 3'		5'-gTg 3'	5'-gTC 3'	5'-gTC 3'	
		361			368		157		412			
		5'-AAT 3'			5'-gTg 3'		5'-TgA 3'		5'-ATA 3'			
					420		232					
					5'-TAT 3'		5'-AgA 3'					
3'-primer(s) ³	97	538	201	539	302	538	302	559	312	302	302	3 rd I
	5'-gTC 3'	5'-CCA 3'	5'-CTC 3'	5'-TCA 3'	5'-ggT 3'	5'-CCg 3'	5'-ggT 3'	5'-CTC 3'	5'-AgT 3'	5'-ggT 3'	5'-ggC 3'	5'-CTC 3'
					538	578			538	565	565	
					5'-CCA 3'	5'-TgT 3'			5'-CCA 3'	5'-CAT 3'	5'-CAT 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	155	225	135	235	220	225	85	115	190	165	210	160
	210	305	360	340			160	220	215			210
							245	275	380			
Length of int. pos. control ¹	1070	1070	800	1070	800	1070	800	1070	1070	1070	1070	1070
5'-primer(s) ²	361	341	376	397	361	109	97	97	28	213	361	368
	5'-AgT 3'	5'-ggA 3'	5'-gCT 3'	5'-gCT 3'	5'-AgT 3'	5'-TgA 3'	5'-TCg 3'	5'-TCg 3'	5'-TCA 3'	5'-CCC 3'	5'-AgT 3'	5'-gTC 3'
		894	601	501		122		361	362			419
		5'-TgC 3'	5'-Agg 3'	5'-..C 3'		5'-CCT 3'		5'-AgT 3'	5'-ggT 3'			5'-gTT 3'
									385			419
									5'-ggT 3'			5'-gTA 3'
									388			420
									5'-CCA 3'			5'-TAT 3'
3'-primer(s) ³	475	353	3 rd I	3 rd I	532	302	142	172	239	327	527	538
	5'-ggT 3'	5'-TgA 3'	5'-CTC 3'	5'-CTC 3'	5'-CTg 3'	5'-ggT 3'	5'-TgC 3'	5'-CAT 3'	5'-gCT 3'	5'-TTT 3'	5'-CCg 3'	5'-CCA 3'
	532	353			547		214	265	538	339	540	
	5'-CTg 3'	5'-TgA 3'			5'-gTg 3'		5'-CCA 3'	5'-CTA 3'	5'-CCA 3'	5'-TCg 3'	5'-CTT 3'	
		956					302	289		341		
		5'-CAg 3'					5'-ggC 3'	5'-AgT 3'		5'-Cgg 3'		
								595				
							5'-CCA 3'					
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

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Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	85	120	190	90	125	100	110	85	105	175	210	120
PCR product	190	225	225	215	170	160	155	195	240	275	235	195
					210		260				380	220
Length of int.	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
pos. control ¹												
5'-primer(s) ²	361 5' -AgT 3'	211 5' -AgT 3'	361 5' -AgT 3'	355 5' -CCT 3'	368 5' -gTC 3'	213 5' -CCC 3'	187 5' -gCT 3'	157 5' -TgA 3'	97 5' -TCg 3'	463 5' -TgA 3'	97 5' -TCg 3'	359 5' -CCg 3'
		232 5' -AgT 3'		368 5' -gTC 3'	406 5' -gCC 3'		232 5' -AgT 3'	257 5' -CCC 3'		562 5' -Cgg 3'	742 5' -ACT 3'	366 5' -ATA 3'
		3 rd I 5' -Cgg 3'		490 5' -CgT 3'	406 5' -gCA 3'		862 5' -ACA 3'	361 5' -AgT 3'				385 5' -ggT 3'
					419 5' -gTA 3'							458 5' -ggg 3'
					454 5' -ACT 3'							
3'-primer(s) ³	404 5' -CAA 3'	302 5' -ggT 3'	511 5' -CCg 3'	538 5' -CCA 3'	538 5' -CCA 3'	270 5' -TAg 3'	302 5' -ggT 3'	302 5' -ggT 3'	160 5' -gTg 3'	3 rd I 5' -CTC 3'	265 5' -CTA 3'	538 5' -CCA 3'
	512 5' -CCA 3'	776 5' -CTC 3'	511 5' -CCT 3'			327 5' -TTT 3'	956 5' -CAg 3'	523 5' -ACA 3'	295 5' -TCC 3'		288 5' -gCA 3'	
			544 5' -ggT 3'			337 5' -CTT 3'			299 5' -TCT 3'		295 5' -TCC 3'	
									302 5' -ggC 3'		956 5' -CAg 3'	
Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec.	115	130	270	140	150	165	190	120	375	95	220	370
PCR product	210	470		275				215				
Length of int.	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
pos. control ¹												
5'-primer(s) ²	368 5' -gTT 3'	112 5' -CCT 3'	2 nd I 5' -CCA 3'	361 5' -AgT 3'	97 5' -TCT 3'	213 5' -CCC 3'	142 5' -TCg 3'	97 5' -TCC 3'	361 5' -AgA 3'	289 5' -Agg 3'	56 5' -CCA 3'	302 5' -gAA 3'
	375 5' -TgA 3'	134 5' -CCA 3'			112 5' -CCT 3'			671 5' -CAA 3'			3 rd I 5' -Cgg 3'	
	464 5' -gCC 3'	652 5' -CCA 3'										
	466 5' -gCC 3'											
3'-primer(s) ³	538 5' -CCA 3'	213 5' -Cgg 3'	560 5' -ACA 3'	461 5' -gCT 3'	213 5' -Cgg 3'	337 5' -CTT 3'	289 5' -AgC 3'	175 5' -CCg 3'	3 rd I 5' -CTC 3'	341 5' -Cgg 3'	97 5' -gTC 3'	379 5' -CAC 3'
		956 5' -CAg 3'		594 5' -CCC 3'		339 5' -TCg 3'	289 5' -AgC 3'	846 5' -CAC 3'			776 5' -CTC 3'	
						341 5' -ggT 3'						
						343 5' -T 3'						
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

Lot No.: **1G4**

Lot-specific information

Well No.	49	50	51	52	53	54	55	56	57	58
Length of spec. PCR product	195	160	235	115	130	85	80	100	110	245
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	1070	800	1070	1070
5'-primer(s) ²	361	361	97	368	449	376	302	419	361	361
	5' -AgT 3'	5' -AgT 3'	5' -TCg 3'	5' -gTC 3'	5' -CCC 3'	5' -gCA 3'	5' -gAA 3'	5' -gTC 3'	5' -AgT 3'	5' -AgT 3'
				368	454					
				5' -gTT 3'	5' -ACT 3'					
				466						
				5' -gCC 3'						
3'-primer(s) ³	513	481	289	538	538	419	341	479	430	563
	5' -TCT 3'	5' -gTA 3'	5' -AgT 3'	5' -CCA 3'	5' -CCA 3'	5' -Cgg 3'	5' -CgT 3'	5' -CCA 3'	5' -gCg 3'	5' -CgA 3'
	601	513								
	5' -CTT 3'	5' -TCT 3'								
Well No.	49	50	51	52	53	54	55	56	57	58

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

²The nucleotide position matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

³The nucleotide position matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

Lot No.: 1G4

Lot-specific information

CELL LINE VALIDATION SHEET																					
HLA-C*06 SSP subtyping kit ²																					
					Well																
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	201551601	201671302	201551603	201551604	201889505	201551606	201551607	201551608	201551609	201551610	201551611	201551612	201551613	201671314	201551615	201551616	
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lot No.: 1G4

Lot-specific information

[illegible]

Lot No.: **1G4**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-C*06 SSP subtyping kit ²																				
					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				Prod. No.:	201551633	201551634	201551635	201551636	201671337	201551638	201551639	201551640	201551641	201551642	201551643	201551644	201551645	201551646	201551647	201889548
	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	-	-	-	-	-	-	-	-	-	-	-	+	-	+	-	-

Lot No.: **1G4**

Lot-specific information

CELL LINE VALIDATION SHEET														
HLA-C*06 SSP subtyping kit ²														
					Well									
					49	50	51	52	53	54	55	56	57	58
				Prod. No.:	201671349	201671350	201671351	201671352	201671353	201671354	201671355	201671356	201889557	201889558
	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	-	-	-	-	-	-	+	-	-	-

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Lot-specific information

¹The provided cell line HLA specificities are retrieved from the <http://www.ihwg.org/hla> web site. The specificity of an individual cell line may thus be subject to change.

²The specificity of each primer solution in the kit has been tested against 48 well characterized cell line DNAs and where applicable, additional cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 7, 8, 10, 12 to 22, 24 to 36, 38 to 42, 44, 47 to 54 and 56 to 58 were available.

The specificity of the primers in primer solutions 8, 10, 14, 16, 19 to 22, 24 to 30, 32, 34, 35, 38, 39, 41, 42, 44, 47 to 49, 51 and 52 were tested by separately adding one, two or three 5'-primers, respectively one, two or three 3'-primers.

In primer solutions 13, 17, 33, 40, 50 and 56 to 58 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 7, 12, 15, 18, 31, 36, 53 and 54 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

In primer solution 2, 3, 5, 10, 14, 16, 21, 24, 26, 28, 29, 32, 34, 35, 37, 38, 41, 44, 47 and 52 one or more 5'-primers were not possible to test, and in primer solutions 6, 10, 11, 19 to 23, 25 to 27, 30, 32, 35, 42, 47 and 49 one or more 3'-primers were not possible to test.

Additional primers in primers solutions 5, 9 and 11 were tested by separately adding one 5'-primer and/or one 3'-primer.

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