

Lot No.: 6H0

Lot-specific information

Olerup SSP[®] HLA-C*02

Product number:	101.622-12 – including <i>Taq</i> polymerase 101.622-12u – without <i>Taq</i> polymerase
Lot number:	6H0
Expiry date:	2021-11-01
Number of tests:	12
Number of wells per test:	43+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. 6H0.

Complete product documentation consists of generic Instructions for Use (IFU), lot specific Product Insert, Worksheet and Certificate.

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP[®]
 HLA-C*02 LOT (3G8)**

The HLA-C*02 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 3.34.0

One well has been added to HLA-C*02, well **44**.

The HLA-C*02 primer set, specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup SSP[®]* HLA-C*02 lot was made (**Lot No. 3G8**).

Lot No.: **6H0**

Lot-specific information

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

Well	5'-primer	3'-primer	rationale
1	-	Added	3'-primer added for the C*02:02:35 allele.
16	Modified	Modified	5'-primer modified for improved HLA-specific amplification and increased yield.
30	Exchanged	Modified	5'-primer exchanged, 3'-primer modified and positive control primers exchanged for improved HLA-specific amplification and for decreased tendency of primer oligomer formation.
37	-	Added	3'- primer added for the C*02:135N allele.
39	Exchanged	-	5'-primer exchanged for decreased tendency of oligomer formation.
43	New	New	Negative Control moved to well 44. New primer pair added for improved resolution of the C*02:150N allele.
44	-	-	Negative Control added from well 43.

Lot No.: **6H0**

Lot-specific information

Well **44** 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.

Lot No.: **6H0**

Lot-specific information

PRODUCT DESCRIPTION

HLA-C*02 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the C*02:02 to C*02:156 alleles.

PLATE LAYOUT

Each HLA-C*02 test consists of 44 PCR reactions in a 48 well cut PCR plate. Wells 45 to 48 are empty.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	NC	empty	empty	empty	empty

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

Well No. 1 is marked with the Lot No. '6H0'.

Wells 1 to 43 – HLA-C*02 high resolution primers.

Well 44 – Negative Control (NC).

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded. The PCR plates are heat-sealed with a PCR-compatible foil.

Please note: When removing each 48 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

Due to the sharing of sequence motifs between HLA-C alleles, non-HLA-C*02 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*02 alleles, i.e. **C*02:02 to C*02:156**, recognized by the HLA Nomenclature Committee in October 2018^{1,2} will be amplified by the primers in the HLA-C*02 SSP kit³.

The HLA-C*02 kit enables separation of the confirmed HLA-C*02 alleles as listed in the IMGT/HLA database 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*02 alleles is listed below.

Lot No.: **6H0**

Lot-specific information

The HLA-C*02 kit also enables identification of null and alternatively expressed alleles.

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

Alleles	Primer mix	Alleles	Primer mix
C*02:05:02-02:05:03, 02:22	5	C*02:35, 02:69, 02:70, 02:120	23
C*02:15, 02:21	15	C*02:37, 02:52N	28
C*02:25Q, 02:30	21		

¹HLA-C alleles listed on the IMGT/HLA web page 2018-October-18, release 3.34.0, www.ebi.ac.uk/imgt/hla.

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

³The HLA-C*02 primer set cannot separate the C*02:10:01:01-02:10:01:05, 02:89, 02:133 and 02:143 alleles from the C*06:18 allele. These alleles can be distinguished by the HLA-C low resolution kit and/or the HLA-C*06 high resolution kit.

Lot No.: **6H0**

Lot-specific information

ALLELE CONFIRMATION STATUS

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

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

RESOLUTION IN HOMO- AND HETEROZYGOTES

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

Lot No.: 6H0

Lot-specific information
SPECIFICITY TABLE

HLA-C*02 SSP subtyping

Specificities and sizes of the PCR products of the 43+1 primer mixes used for HLA-C*02 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-C*02 alleles ³	Other amplified HLA Class I alleles
1	250 bp	800 bp	*02:02:01-02:02:03, 02:02:05-02:02:46, 02:04- 02:15, 02:17, 02:19-02:31, 02:33-02:40:02, 02:42-02:71, 02:73-02:134, 02:136, 02:138-02:156	*01:04, 01:09, 01:21, 04:94:01- 04:94:02, 05:08, 05:52, 05:89, 05:106:01-05:106:02, 06:02:01:01- 06:02:01:15, 06:02:03-06:03:02, 06:07-06:39, 06:41-06:78, 06:80- 06:117, 06:119-06:127:01:01, 06:127:02-06:152N, 06:154-06:196, 06:198-06:203, 06:205-06:243, 08:27, 08:29, 08:31, 08:160, 12:02:01-12:08, 12:10:01-12:13:01:02, 12:15-12:17, 12:21-12:23, 12:25-12:82, 12:84N, 12:86-12:136, 12:138-12:152, 12:154- 12:168, 12:170-12:174, 12:176- 12:180, 12:182-12:232N, 12:234- 12:257, 14:16, 15:74, 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, 16:124, 18:03
2 ⁴	95 bp	800 bp	*02:02:01-02:02:03, 02:02:06-02:02:12, 02:02:15- 02:02:34, 02:02:36, 02:02:38-02:02:46, 02:04, 02:05:02-02:05:03, 02:06:02- 02:09, 02:11, 02:13, 02:15, 02:19-02:27:01, 02:28-02:31, 02:34-02:36:01, 02:37- 02:40:01, 02:42-02:43:01, 02:44-02:50, 02:52N- 02:55:01, 02:56-02:57, 02:59-02:71, 02:74-02:75, 02:77-02:88, 02:90-02:93, 02:96-02:108, 02:111- 02:123, 02:126-02:132, 02:134, 02:136, 02:138- 02:142, 02:144-02:156	*03:287:01, 05:106:01, 12:03:17
3 ⁴	105 bp	800 bp	*02:03, 02:16:02, 02:18, 02:31	*03:03:22, 03:04:34, 07:02:75, B*27:34, B*35:01:30^w, B*40:02:07, B*40:06:02, B*51:01:52^w, B*57:01:16^w, B*57:03:02^w
4 ⁴	135 bp		*02:20	
	65 bp	1070 bp	*02:56	B*35:01:30, B*51:01:52, B*57:01:16, B*57:03:02
	150 bp		*02:04	*04:198, 08:119, 12:115, 14:41

Lot No.: **6H0**

Lot-specific information

Lot No.	Product	Size	Allele	Variant
5	145 bp	1070 bp	*02:22	*05:105, 08:31, B*07:02:07, B*27:05:15, B*48:04:02
	245 bp		*02:05:01-02:05:03, 02:17, 02:81	*01:10, 06:08, 12:119, 14:25, 16:29, 16:50, 17:21, B*07:239, B*14:46, B*40:243
6	160 bp	800 bp	*02:06:01-02:06:02, 02:47	*06:168, 06:224, 12:15, 12:208, 15:74
	215 bp		*02:46, 02:64	*12:162
7	130 bp	800 bp	*02:07, 02:97	*01:115, 14:79, 16:10, 16:67
8 ⁴	70 bp	1070 bp	*02:08	*03:18:02-03:18:03, 03:64:01, 03:301, 12:02:17, 12:03:23, 15:10:02-15:10:03, B*56:01:09, B*58:74
	280 bp		*02:33	
9	200 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:09, 02:11, 02:13, 02:15-02:16:02, 02:18-02:28, 02:30-02:40:02, 02:42-02:57, 02:59-02:88, 02:90-02:132, 02:134-02:136, 02:138-02:142, 02:144-02:156	
10 ⁶	130 bp	1070 bp	*02:02:01-02:02:03, 02:02:05-02:02:25, 02:02:27-02:25Q, 02:27:01-02:38N, 02:40:01-02:40:02, 02:42-02:44, 02:46-02:86, 02:88-02:100, 02:101 ^w , 02:102-02:106, 02:108-02:133, 02:135N-02:151, 02:153-02:156	*03:308, 04:03:01-04:03:05, 04:06:01-04:06:02, 04:80, 04:107, 04:147, 04:160, 04:171, 04:190, 04:256, 04:286, 04:294, 04:299, 05:26, 06:18, 07:272, 07:326, 15:11, 15:118, 16:34, 16:121
11 ⁴	90 bp 170 bp	800 bp	*02:18, 02:32 *02:09	*05:18:04, 07:02:75
12	150 bp	1070 bp	*02:11, 02:14:01-02:14:02, 02:107	*04:42:01-04:42:02, 04:220, 05:43, 06:05 ^w , 07:02:09, 08:37, 12:16, 12:147, 12:195:02, 12:217, 15:23:01-15:23:02, 15:63, 15:138, 15:158, 16:21, 16:80, B*27:84
	230 bp		*02:17	*14:25
13 ⁵	225 bp	1070 bp	*02:12, 02:27:01-02:27:02, 02:115, 02:126, 02:131	*03:308, 16:34
	265 bp		*02:49, 02:75, 02:115	*04:03:01-04:03:05, 04:06:01-04:06:02, 04:80, 04:147, 04:160, 04:171, 04:190, 04:256, 04:286, 04:294, 04:299
14 ⁴	80 bp 115 bp	800 bp	*02:13 *02:43:01	*05:18:04, 05:106:01, 07:02:75, 12:03:17
15	130 bp 190 bp	1070 bp	*02:21 *02:15, 02:71	B*07:221
16 ^{5,6}	250 bp	1070 bp	*02:03, 02:16:02, 02:18, 02:137	*01:22, 01:35, 01:131, 01:160, 04:04:01:01-04:04:02, 04:06:01-04:06:02, 04:13:01:01-04:13:01:02, 04:34, 04:58, 04:122, 04:160, 04:178, 04:212, 04:265, 04:291, 04:294, 05:11, 05:17, 05:27, 05:68, 05:70, 05:79, 05:115, 05:134, 05:151, 05:184,

Lot No.: **6H0**

Lot-specific information

				06:04:01, 06:118, 06:153, 06:197, 08:01:01:01-08:01:24, 08:03:01-08:04:03, 08:06, 08:08:01-08:11, 08:13-08:14, 08:16:01-08:16:02, 08:20-08:22, 08:24, 08:26N, 08:36N, 08:38-08:42, 08:44, 08:46, 08:50, 08:54, 08:56-08:61, 08:65-08:66, 08:72:01-08:72:02, 08:78-08:89N, 08:91, 08:93, 08:95-08:99, 08:101-08:102, 08:104-08:106, 08:109, 08:113, 08:117, 08:119, 08:121N-08:122, 08:124, 08:127N-08:131, 08:133, 08:135-08:139, 08:141Q, 08:143-08:145, 08:147-08:148, 08:153-08:155, 08:157, 08:162-08:165, 08:168, 08:173N, 12:14:01-12:14:02, 12:18:01-12:18:02, 12:20, 12:83, 12:169, 12:175, 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, 15:26-15:73, 15:76-15:83, 15:85-15:101, 15:103-15:142, 15:144-15:147, 15:149-15:158, 15:160N-15:167, 16:35, 16:40, 16:48, 16:110, 17:01:01:02-17:16:02, 17:18-17:41, B*58:02:01
17⁴	110 bp	1070 bp	*02:31, 02:43:01	*05:18:04, 05:106:01, 07:02:75, 12:03:17
	160 bp		*02:23	
18⁵	235 bp	800 bp	*02:26:01-02:26:03, 02:107, 02:134, 02:152	*03:07:01-03:07:02, 03:10, 03:15, 03:29, 03:45, 03:163, 03:268, 03:297, 04:16, 04:42:01-04:42:02, 04:103, 04:220, 05:01:01:01-05:01:25, 05:01:27-05:01:28, 05:01:30-05:01:42, 05:03-05:12, 05:14-05:19, 05:21-05:25, 05:27-05:29:02, 05:31-05:77, 05:79-05:159, 05:161-05:190, 06:02:01:01-06:02:01:15, 06:02:03-06:02:08, 06:02:10-06:02:20, 06:02:22-06:10, 06:12-06:17, 06:19-06:32, 06:34:01-06:81, 06:83-06:103, 06:105-06:118, 06:121-06:124, 06:126-06:146, 06:148-06:187, 06:189-06:209, 06:211N-06:216, 06:218-06:243, 07:07, 07:09, 07:76:01-07:76:02, 07:315, 07:328, 07:406, 07:559, 07:598, 07:656, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 12:60, 12:72, 12:135, 12:146, 12:154, 15:02:01:01-15:02:20, 15:02:22-15:06:03, 15:08-15:10:03, 15:12-15:13:01:02, 15:15-15:19, 15:21-15:24, 15:26-15:35, 15:37-15:42, 15:44:01-15:84Q, 15:86-15:117, 15:119-15:143, 15:145N-15:158,

Lot No.: **6H0**

Lot-specific information

				15:160N-15:167, 16:02:01-16:02:07, 16:02:09-16:02:16, 16:09, 16:12, 16:19, 16:25, 16:37, 16:46-16:48, 16:60, 16:63, 16:69-16:70, 16:74, 16:77N, 16:84, 16:88-16:91, 16:99, 16:101-16:104, 16:107-16:108, 16:115, 16:120, 16:123N, 16:132N-16:133, 16:136, 16:140, 17:01:01:02-17:01:08, 17:01:10-17:21, 17:23-17:41, 18:01-18:11
19⁴	80 bp	1070 bp	*02:03, 02:28	B*27:34, B*35:01:30^w, B*40:02:07, B*40:06:02, B*57:01:16^w, B*57:03:02^w
20	180 bp	1070 bp	*02:24, 02:71	B*07:113, B*08:64, B*15:385, B*40:192
	215 bp		*02:72	B*07:52
21⁴	115 bp	1070 bp	*02:30	*15:19
	210 bp		*02:25Q, 02:64, 02:67Q	*12:162
22⁴	65 bp	1070 bp	*02:56	B*35:01:30, B*51:01:52, B*57:01:16, B*57:03:02
	110 bp		*02:34	*16:09
23⁴	85 bp	1070 bp	*02:70	
	210 bp		*02:29, 02:69	
	390 bp		*02:35, 02:120, 06:223	
24	325 bp	1070 bp	*02:06:01-02:06:02, 02:23, 02:36:01-02:36:02, 02:68	*01:90, 01:101-01:102, 01:113, 01:116, 03:81, 03:175, 03:199, 03:245, 03:317, 03:388, 04:108, 04:178, 05:132, 06:89, 06:224, 07:123, 07:173, 07:294, 07:626, 08:113, 12:15, 12:113, 12:208, 14:92, 15:02:01:01-15:02:17, 15:02:19-15:02:21, 15:02:23-15:03, 15:05:01:01-15:13:01:02, 15:15-15:19, 15:21-15:24, 15:26-15:29, 15:31-15:39, 15:41-15:63, 15:67-15:75, 15:78:01-15:101, 15:103-15:104, 15:106-15:109, 15:111-15:128, 15:130-15:158, 15:160N-15:167, 16:20, 16:109
25	160 bp	1070 bp	*02:19, 02:23	*01:09, 03:21, 03:80:01-03:80:02, 03:142, 03:287:01-03:287:02, 03:413, 06:107, 06:179, 12:222, 12:235, B*07:55, B*07:100, B*15:45, B*15:63, B*15:248, B*15:287
	215 bp		*02:60	B*07:55, B*07:100, B*08:70, B*15:07:01:01-15:07:03, B*15:45, B*15:68, B*15:126, B*15:207, B*15:324, B*15:331, B*15:405, B*15:431, B*15:450, B*46:12, B*48:19
26	140 bp	1070 bp	*02:39	
	260 bp		*02:40:01-02:40:02, 02:53:01-02:53:02	*12:124, B*15:363:01-15:363:02, B*18:91, B*39:122, B*40:367
27	140 bp	800 bp	*02:44-02:45, 02:53:01-02:53:02	
28^{4,7}	90 bp	800 bp	*02:52N	

Lot No.: **6H0**

Lot-specific information

Lot No.: 6H0		Lot-specific information	
	170 bp		*02:37, 02:46, 02:60, 02:67Q B*27:34, B*40:02:07
29⁶	165 bp 210 bp	1070 bp	*02:83 *02:12, 02:49, 02:55:01- 02:55:02, 02:115 *08:24, 16:90 *04:03:01, 04:03:03-04:03:05, 04:06:01-04:06:02, 04:80, 04:107, 04:147, 04:160, 04:171, 04:190, 04:256, 04:286, 04:294
30⁶	350 bp 535 bp	800 bp	*02:38N *02:58 *03:07:01-03:07:02, 03:10, 03:15, 03:29, 03:45, 03:163, 03:268, 03:297, 04:08, 04:34, 04:147, 04:212, 05:27, 05:39, 05:151, 06:96, 06:197, 15:15, 15:77, 17:07, 18:08
31⁴	100 bp	1070 bp	*02:42, 02:107, 02:152 *01:02:34, 01:21, 04:140, 04:166, 04:220, 05:98, 06:05, 07:02:09, 08:14, 08:80, 08:103, 12:16, 12:147, 12:227, 15:63, 15:113, 16:80, B*15:436, B*67:02
32	165 bp 215 bp 245 bp	1070 bp	*02:83 *02:92N *02:81 *08:24, 16:90
33	320 bp	1070 bp	*02:87, 02:94 *07:101, 07:148, 07:161, 07:583, 15:107, A*01:203, A*11:166, A*30:56, A*31:85, A*80:01:01:01-80:04, B*18:96, B*44:157, B*55:74
34	160 bp	1070 bp	*02:105N
35	210 bp	1070 bp	*02:106
36	245 bp	1070 bp	*02:27:01-02:27:02, 02:65, 02:115, 02:121N, 02:131 *03:308, 16:34
37⁴	125 bp 245 bp	1070 bp	*02:91 *02:135N
38	145 bp	1070 bp	*02:93
39	390 bp	800 bp	*02:07
40	165 bp	1070 bp	*02:98 B*15:422, B*15:445, B*40:122
41	140 bp 250 bp	1070 bp	*02:104 *02:121N
42	195 bp	800 bp	*02:02:05, 02:02:13, 02:02:37, 02:05:01, 02:06:01, 02:10:01:01-02:10:05, 02:12, 02:14:01-02:14:02, 02:17, 02:27:02, 02:33, 02:36:02, 02:40:02, 02:43:02, 02:55:02, 02:58, 02:73, 02:76, 02:89, 02:94-02:95, 02:109-02:110, 02:125, 02:133, 02:137, 02:143 *01:02:06, 01:04, 01:21, 01:97, 01:131, 04:01:01:01-04:01:06, 04:01:09-04:01:103, 04:03:01-04:20, 04:23-04:109, 04:110 [?] , 04:111-04:159, 04:161-04:162, 04:164:01-04:222, 04:224-04:240, 04:242-04:334, 05:12, 05:18:01, 05:103:02, 05:106:02, 06:02:01:01-06:02:01:15, 06:02:03- 06:02:26, 06:02:28-06:15, 06:17- 06:40, 06:42:01-06:61, 06:63-06:91, 06:93-06:111, 06:113-06:127:01:01, 06:127:02-06:203, 06:205, 06:207- 06:243, 08:01:01:01-08:01:24, 08:03:01-08:03:04, 08:06, 08:08:01- 08:11, 08:14, 08:16:01-08:16:02, 08:20-08:22, 08:24, 08:26N-08:27, 08:33:02-08:33:03, 08:35-08:36N, 08:38-08:42, 08:44, 08:46, 08:50,

Lot No.: **6H0**

Lot-specific information

				08:54, 08:56, 08:58-08:61, 08:65-08:66, 08:72:01-08:72:02, 08:78-08:89N, 08:91, 08:95-08:99, 08:101-08:102, 08:105-08:106, 08:109, 08:117-08:119, 08:121N-08:122, 08:124, 08:127N-08:131, 08:133, 08:135-08:138, 08:141Q, 08:143-08:145, 08:147-08:148, 08:153-08:155, 08:157, 08:160, 08:162-08:165, 08:173N, 12:02:01-12:03:15, 12:03:18-12:03:26, 12:03:28-12:03:29, 12:03:31-12:13:01:02, 12:14:02-12:31, 12:33-12:143, 12:145-12:180, 12:182-12:184, 12:186-12:257, 14:02:01:01-14:02:04, 14:02:06-14:16, 14:18-14:91, 14:93N-14:100, 15:02:01:01-15:02:04, 15:02:06-15:02:12, 15:02:14-15:05:05, 15:05:07-15:06:02, 15:07-15:13:01:02, 15:15-15:19, 15:21-15:64, 15:66-15:101, 15:103-15:158, 15:160N-15:167, 16:01:01:01-16:01:20, 16:01:22-16:02:02, 16:02:04-16:02:16, 16:04:01:01-16:04:01:02, 16:04:03-16:04:05, 16:06-16:26, 16:28-16:104, 16:106-16:141, 17:01:01:02-17:01:10, 17:01:12-17:05, 17:07-17:33, 17:35-17:41, 18:01-18:11
43	160 bp	1070 bp	*02:150N	*06:46N
44⁸	-	-	Negative Control	

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-C*02 high resolution SSP typings.

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

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

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

Lot No.: 6H0

Lot-specific information

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 mixes 13, 16 and 18 may give a lower yield of HLA-specific PCR product than the other C*02 primer mixes.

⁶Primer mixes 10, 16, 29 and 30 may have tendencies of unspecific amplifications.

⁷Primer mix 28 have a tendency to giving rise to primer oligomer formation.

⁸Primer mix 44 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.

Abbreviations

'w', might be weakly amplified.

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

Lot No.: 6H0

Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	250	95	100	65	145	160	130	70	200	130	90	150
			135	150	245	215		280			170	230
Length of int. pos. control ¹	800	800	800	1070	1070	800	800	1070	1070	1070	800	1070
5'-primer(s) ²	2 nd I	486	486	92	356	364	2 nd I	105	703	113	486	97
	5'-CCA 3'	5'-ACA 3'	5'-ACA 3'	5'-gTg 3'	5'-CCg 3'	5'-ggT 3'	5'-CCA 3'	5'-gCT 3'	5'-CTA 3'	5'-CCA 3'	5'-ACA 3'	5'-TCg 3'
				463	361	370				118		368
				5'-TgA 3'	5'-AgT 3'	5'-ACT 3'				5'-CCA 3'		5'-gTT 3'
					453	420						449
					5'-AAT 3'	5'-TTA 3'						5'-CCA 3'
3'-primer(s) ³	538	538	538	201	559	538	418	134	861	201	527	201
	5'-CCA 3'	5'-CCA 3'	5'-CAg 3'	5'-CTT 3'	5'-CTC 3'	5'-CCA 3'	5'-gTC 3'	5'-AgC 3'	5'-TCg 3'	5'-CTT 3'	5'-CCg 3'	5'-CTT 3'
	543		555	486				343		201	538	559
	5'-gCC 3'		5'-CCg 3'	5'-gCT 3'				5'-g 3'		5'-CTC 3'	5'-CCg 3'	5'-CTC 3'
			578								613	
			5'-TgT 3'								5'-gCA 3'	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec. PCR product	225	80	130	250	110	235	80	180	115	65	85	325
	265	115	190		160			215	210	110	210	390
Length of int. pos. control ¹	1070	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	118	486	113	2 nd I	486	118	486	369	125	244	322	409
	5'-CCA 3'	5'-ACA 3'	5'-CCA 3'	5'-CCA 3'	5'-ACA 3'	5'-CCg 3'	5'-ACA 3'	5'-TAC 3'	5'-CgA 3'	5'-CgC 3'	5'-gCC 3'	5'-ggC 3'
			369			118			370	463	703	
			5'-TAC 3'			5'-CCg 3'			5'-ACT 3'	5'-TgA 3'	5'-CTA 3'	
									373			
									5'-gCg 3'			
									374			
									5'-CTA 3'			
3'-primer(s) ³	302	527	201	538	555	312	527	506	201	312	419	3 rd I
	5'-ggC 3'	5'-CCg 3'	5'-CTT 3'	5'-CAg 3'	5'-CCg 3'	5'-AgT 3'	5'-CCA 3'	5'-Tgg 3'	5'-CTT 3'	5'-AgT 3'	5'-Cgg 3'	5'-CTC 3'
	302	559	515		559			515	538	486	745	
	5'-ggC 3'	5'-CgT 3'	5'-CCA 3'		5'-CgT 3'			5'-CCA 3'	5'-CCA 3'	5'-gCT 3'	5'-AgC 3'	
	341		518		603			545			865	
	5'-CgT 3'		5'-CCA 3'		5'-TTg 3'			5'-AgA 3'			5'-CCT 3'	
											871	
											5'-CgA 3'	
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Lot No.: 6H0

Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	160	140	140	90	165	350	100	215	320	160	210	245
PCR product	215	260		170	210	535	165	245				
Length of int.	1070	1070	800	800	1070	800	1070	1070	1070	1070	1070	1070
pos. control ¹												
5'-primer(s) ²	363	105	105	105	118	312	142	356	28	105	703	118
	5'-AgC 3'	5'-gCT 3'	5'-gCT 3'	5'-gCT 3'	5'-CCA 3'	5'-AAA 3'	5'-TCT 3'	5'-CCg 3'	5'-TCC 3'	5'-gCT 3'	5'-CTA 3'	5'-CCA 3'
	419	369	486	359	736		736	385				
	5'-gTA 3'	5'-TAC 3'	5'-ACA 3'	5'-CCg 3'	5'-gCA 3'		5'-gCA 3'	5'-ggC 3'				
				363								
				5'-AgC 3'								
				364								
				5'-ggT 3'								
				373								
				5'-gCg 3'								
3'-primer(s) ³	538	203	202	153	289	369	201	559	176	223	872	312
	5'-CCA 3'	5'-CTg 3'	5'-TCC 3'	5'-ACT 3'	5'-AgC 3'	5'-CCT 3'	5'-CTT 3'	5'-CTC 3'	5'-ACT 3'	5'-CCA 3'	5'-CCA 3'	5'-Agg 3'
		580	578	486	289	558	861					327
		5'-TCC 3'	5'-TgA 3'	5'-gCT 3'	5'-AgC 3'	5'-Agg 3'	5'-TCg 3'					5'-TTT 3'
		595	595		861							
		5'-CCg 3'	5'-CCT 3'		5'-TCg 3'							
		595	595									
		5'-CCT 3'	5'-CCg 3'									
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38	39	40	41	42	43
Length of spec.	125	145	390	165	140	195	160
PCR product	245				250		
Length of int.	1070	1070	800	1070	1070	800	1070
pos. control ¹							
5'-primer(s) ²	2 nd	369	312	369	118	2 nd	742
	5'-CCA 3'	5'-TAC 3'	5'-AAA 3'	5'-TAC 3'	5'-CCA 3'	5'-CCA 3'	5'-ACT 3'
3'-primer(s) ³	413	475	411	493	218	485	861
	5'-ggC 3'	5'-ggT 3'	5'-Tgg 3'	5'-CTC 3'	5'-gCT 3'	5'-CCg 3'	5'-TCg 3'
	536				327		
	5'-.AC 3'				5'-TTT 3'		
Well No.	37	38	39	40	41	42	43

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.: 6H0

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-C*02 SSP primer set³																				
				Well²																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201904101	201446602	201671003	201446604	201557905	201446606	201446607	201446608	201446609	201446610	201446611	201446612	201446613	201446614	201557915	201904116
IHWC cell line¹		C*																		
1	9001 SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*07:01	*15:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
3	9011 E4181324	*12:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*03:04	*04:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*06:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*03:04	*07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	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.: **6H0**

Lot-specific information

CELL LINE VALIDATION SHEET																			
HLA-C*02 SSP primer set³																			
				Well²															
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:															
				201446617	201446618	201446619	201557920	201446621	201446622	201446623	201446624	201446625	201557926	201557927	201671028	201446629	201904130	201446631	201557932
IHWC cell line¹		C*																	
1	9001	SA	*07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*07:01 *15:05	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*12:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*03:04 *04:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*06:02	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*03:04 *07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*05:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9007	DEM	*04:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*12:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*01:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*16:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*06:02	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*01:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*01:02 *03:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*03:04	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*02:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:03 *07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*01:02 *07:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*03:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*03:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*12:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*01:02 *15:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*12:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*08:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04 *15:05	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*05:01 *16:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*16:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*17:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*05:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*17:01 *17:03	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*03:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*12:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*05:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*03:03 *04:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*03:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*02:02 *07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*01:02 *06:02	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*08:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*01:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*01:02 *08:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*12:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*06:02 *17:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*07:04 *15:02	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*04:01 *16:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lot No.: **6H0**

Lot-specific information

CELL LINE VALIDATION SHEET															
HLA-C*02 SSP primer set ³															
				Well ²											
				33	34	35	36	37	38	39	40	41	42	43	
				Prod. No.:	201557933	201557934	201557935	201891836	201904137	201671038	201904139	201671040	201891841	201891842	201904143
IHCW cell line ¹			C*												
1	9001	SA	*07:02	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*07:01	*15:05	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*12:02		-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*03:04	*04:01	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*06:02		-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*03:04	*07:02	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*05:01		-	-	-	-	-	-	-	-	-	-	-
8	9007	DEM	*04:01		-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*12:03		-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*01:02		-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*16:01		-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*06:02		-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*01:02		-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*01:02	*03:04	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*03:04		-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*02:02		-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:03	*07:01	+	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*01:02	*07:05	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*07:01		-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*03:04		-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*03:03		-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*12:03		-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*01:02	*15:02	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*12:03		-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*08:02		-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*07:01		-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:05	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*05:01	*16:01	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*16:01		-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*17:01		-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*05:01		-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*17:01	*17:03	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*03:04		-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*12:03		-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*05:01		-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*03:03	*04:01	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*03:03		-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*02:02	*07:01	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*01:02	*06:02	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*08:02		-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*01:02		-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*01:02	*08:01	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*12:03		-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*06:02	*17:01	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*07:04	*15:02	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*04:01	*16:01	-	-	-	-	-	-	-	-	-	-	-

Lot No.: **6H0**

Lot-specific information

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

²The A*80:01 allele is amplified by primer mix 33 in the 9282 (CTM3953540) cell line.

³The specificity of each primer solution in the kit has been tested against 48 well characterized cell line DNAs and where applicable, additional cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 3 to 8, 11, 12, 14, 15, 17, 19 to 23, 26 to 28, 30 to 32, 34 to 41 and 43 were available. The specificity of the primers in primer solutions 3 to 8, 11, 12, 14, 15, 17, 19, 22, 23, 26, 28, 30, 31, 36, 39 and 41 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers. In primer solutions 21, 32 and 43 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 20, 27, 34, 35, 37, 38 and 40 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 1, 3, 8, 11, 13, 15, 17, 23, 26, 28, 30, 36 and 41 one, two or three of the 3'-primers were not possible to test, and in primer solutions 4 to 6, 10, 12, 15, 22, 23, 28, 29 and 31 one, two or three 5'-primers were not possible to test.

Additional primers in primer solutions 10, 13, 16, 25, 29 and 42 were tested by separately adding either one 5'-primer, one or two 3'-primers.

Lot No.: 6H0

Lot-specific information

ADDRESSES:

Manufacturer:

Olerup SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Tel: +46-8-508 939 00

Fax: +46-8-717 88 18

E-mail: olerup-se@caredx.com

Web page: <https://labproducts.caredx.com/>

Distributed by:

Olerup GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.

Tel: +43-1-710 15 00

Fax: +43-1-710 15 00 10

E-mail: olerup-at@caredx.com

Web page: <https://labproducts.caredx.com/>

Olerup Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: olerup-us@caredx.com

Web page: <https://labproducts.caredx.com/>

For information on CareDx distributors worldwide, contact **Olerup GmbH**.