Lot No.: 1L9 **Lot-specific information**

Olerup SSP® HLA-C*04

Product number:	**101.612-12 – including *Taq* polymerase** **101.612-12u – without *Taq* polymerase**
Lot number:	**1L9**
Expiry date:	**2024-05-01**
Number of tests:	**12**
Number of wells per test:	**63+1**
Storage - pre-aliquoted primers:	**dark at -20ºC**
- PCR Master Mix:	**-20ºC**
- Adhesive PCR seals	**RT**
- Product Insert	**RT**

This Product Description is only valid for Lot No. 1L9.

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*04 LOT (4K9)

- The product documentation has been updated for new alleles of IMGT 3.39.0
- The kit resolution focuses on common and well documented (CWD) alleles[1].

[1]As described in section Uniquely Identified Alleles.

The HLA-C*04 specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup* SSP® HLA-C*04 lot was made **(Lot No. 4K9)**.

The HLA-C*04 primer set is unchanged compared to the previous *Olerup* SSP® HLA-C*04 lot **(Lot No. 4K9)**.

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

Lot No.: 1L9 **Lot-specific information**

Well **64** contains Negative Control primer pairs, that will amplify the majority 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 pairs is 200 base pairs.

Length of PCR product	**105**	**200**	**105**	**80**	**75**	**80**	**85**
5'-primer[1]	**164**	**340**	**440**	**45**	**45**	**43**	**36**
	5'-CAC3'	**5'-Agg3'**	**5'-TTA3'**	**5'-Tgg3'**	**5'-Tgg3'**	**5'-Tgg3'**	**5'-TAC3'**
							36
							5'-TAT3'
3'-primer[2]	**231**	**2nd I**	**507**	**59**	**58**	**57**	**47**
	5'-TgC3'	**5'-AAA3'**	**5'-TTg3'**	**5'-CTC3'**	**5'-ggC3'**	**5'-CTC3'**	**5'-ACA3'**
							48
							5'-gCA3'
							48
							5'-gCC3'
							52
							5'-TgT3'
A*	**+**	**+**	**+**				
B*	**+**	**+**	**+**				
C*	**+**	**+**	**+**				
DRB1				**+**	**+**		
DRB3				**+**	**+**		
DRB5				**+**			
DQB1					**+**		
DPB1						**+**	
DQA1							**+**

[1]The 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.
[2]The 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.: 1L9 **Lot-specific information**

PRODUCT DESCRIPTION

HLA-C*04 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the HLA-C*04:01 to HLA-C*04:408 alleles.

PLATE LAYOUT

Each test consists of 64 PCR reactions in a 64 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	NC

The 64 well cut PCR plate is marked with 'HLA-C*04' in silver/gray ink.
Well No. 1 is marked with the Lot No. '1L9'.
Wells 1 to 63 – HLA-C*04 high resolution primers.
Well 64 – 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.

INTERPRETATION

Due to the sharing of sequence motifs between HLA-C alleles non-HLA-C*04 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C*04 alleles, i.e. **C*04:01 to C*04:408**, recognized by the HLA Nomenclature Committee in January 2020[1,2] will be amplified by the primers in the HLA-C*04 kit.

The HLA-C*04 kit enables separation of the confirmed HLA-C*04 alleles as listed in the IMGT/HLA database 3.26.0. 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*04 alleles is listed below.

The HLA-C*04 kit also enables identification of many null and alternatively expressed alleles.

Lot No.: 1L9 **Lot-specific information**

The following HLA-C*04 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
C*04:05, 04:112	6	C*04:61, 04:96	34
C*04:20, 04:238	19	C*04:62, 04:76	35
C*04:23, 04:38, 04:39	21	C*04:65:01:01-04:65:01:02, 04:72	33
C*04:25, 04:41	23	C*04:67, 04:93N, 04:187	46
C*04:44, 04:47	20	C*04:79, 04:113	39
C*04:46, 04:50	27	C*04:81, 04:88N	43
C*04:54:01, 04:105N, 04:313:01:01-04:313:01:02	41	C*04:114, 04:146	47
C*04:56, 04:64:01-04:64:02	40	C*04:139, 04:226	22
C*04:59Q, 04:78	32	C*04:150, 04:155	52

[1]HLA-C alleles listed on the IMGT/HLA web page 2020-January-20, release 3.39.0, www.ebi.ac.uk/imgt/hla.
[2]Alleles 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.

Lot No.: 1L9 **Lot-specific information**

ALLELE CONFIRMATION STATUS

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
C*04:01:01:01	**Confirmed**	C*04:01:45	Unconfirmed	C*04:15:01	Unconfirmed	C*04:64:01	Unconfirmed
C*04:01:01:02	Unconfirmed	**C*04:01:46**	**Confirmed**	**C*04:15:02**	**Confirmed**	C*04:64:02	Unconfirmed
C*04:01:01:03	Unconfirmed	C*04:01:47	Unconfirmed	C*04:15:03	Unconfirmed	**C*04:65**	**Confirmed**
C*04:01:01:04	Unconfirmed	C*04:01:48	Unconfirmed	**C*04:16**	**Confirmed**	C*04:66	Unconfirmed
C*04:01:01:05	**Confirmed**	C*04:01:49	Unconfirmed	C*04:17	Unconfirmed	C*04:67	Unconfirmed
C*04:01:01:06	**Confirmed**	C*04:01:50	Unconfirmed	C*04:18	Unconfirmed	**C*04:68**	**Confirmed**
C*04:01:01:07	Unconfirmed	C*04:01:51	Unconfirmed	**C*04:19**	**Confirmed**	**C*04:69**	**Confirmed**
C*04:01:02	Unconfirmed	C*04:01:52	Unconfirmed	C*04:20	Unconfirmed	C*04:70	Unconfirmed
C*04:01:03	Unconfirmed	C*04:01:53	Unconfirmed	**C*04:23**	**Confirmed**	C*04:71	Unconfirmed
C*04:01:04	**Confirmed**	C*04:01:54	Unconfirmed	C*04:24	Unconfirmed	**C*04:72**	**Confirmed**
C*04:01:05	Unconfirmed	C*04:01:55	Unconfirmed	C*04:25	Unconfirmed	C*04:73	Unconfirmed
C*04:01:06	Unconfirmed	**C*04:01:56**	**Confirmed**	**C*04:26**	**Confirmed**	**C*04:74**	**Confirmed**
C*04:01:07	Unconfirmed	C*04:01:57	Unconfirmed	**C*04:27**	**Confirmed**	**C*04:75**	**Confirmed**
C*04:01:08	**Confirmed**	C*04:01:58	Unconfirmed	C*04:28	Unconfirmed	C*04:76	Unconfirmed
C*04:01:09	**Confirmed**	C*04:01:59	Unconfirmed	**C*04:29**	**Confirmed**	**C*04:77**	**Confirmed**
C*04:01:10	**Confirmed**	C*04:01:60	Unconfirmed	C*04:30	Unconfirmed	C*04:78	Unconfirmed
C*04:01:11	**Confirmed**	C*04:01:61	Unconfirmed	C*04:31	Unconfirmed	C*04:79	Unconfirmed
C*04:01:12	**Confirmed**	**C*04:01:62**	**Confirmed**	**C*04:32**	**Confirmed**	C*04:80	Unconfirmed
C*04:01:13	**Confirmed**	C*04:01:63	Unconfirmed	**C*04:33**	**Confirmed**	**C*04:81**	**Confirmed**
C*04:01:14	**Confirmed**	C*04:01:64	Unconfirmed	C*04:34	Unconfirmed	**C*04:82**	**Confirmed**
C*04:01:15	**Confirmed**	C*04:01:65	Unconfirmed	C*04:35	Unconfirmed	**C*04:83**	**Confirmed**
C*04:01:16	**Confirmed**	C*04:01:66	Unconfirmed	**C*04:36**	**Confirmed**	C*04:84	Unconfirmed
C*04:01:17	Unconfirmed	C*04:01:67	Unconfirmed	**C*04:37**	**Confirmed**	C*04:85	Unconfirmed
C*04:01:18	Unconfirmed	C*04:01:68	Unconfirmed	**C*04:38**	**Confirmed**	**C*04:86**	**Confirmed**
C*04:01:19	Unconfirmed	C*04:01:69	Unconfirmed	**C*04:39**	**Confirmed**	C*04:87	Unconfirmed
C*04:01:20	Unconfirmed	**C*04:01:70**	**Confirmed**	**C*04:40**	**Confirmed**	C*04:88N	Unconfirmed
C*04:01:21	**Confirmed**	C*04:01:71	Unconfirmed	C*04:41	Unconfirmed	C*04:89	Unconfirmed
C*04:01:22	Unconfirmed	C*04:01:72	Unconfirmed	**C*04:42:01**	**Confirmed**	C*04:90	Unconfirmed
C*04:01:23	Unconfirmed	C*04:01:73	Unconfirmed	**C*04:42:02**	**Confirmed**	**C*04:91**	**Confirmed**
C*04:01:24	Unconfirmed	C*04:01:74	Unconfirmed	**C*04:43**	**Confirmed**	C*04:92	Unconfirmed
C*04:01:25	Unconfirmed	C*04:01:75	Unconfirmed	C*04:44	Unconfirmed	**C*04:93N**	**Confirmed**
C*04:01:26	Unconfirmed	C*04:01:76	Unconfirmed	**C*04:45**	**Confirmed**	**C*04:94:01**	**Confirmed**
C*04:01:27	Unconfirmed	C*04:01:79	Unconfirmed	**C*04:46**	**Confirmed**	C*04:94:02	Unconfirmed
C*04:01:28	**Confirmed**	C*04:01:80	Unconfirmed	**C*04:47**	**Confirmed**	C*04:95N	Unconfirmed
C*04:01:29	Unconfirmed	C*04:01:81	Unconfirmed	**C*04:48**	**Confirmed**	**C*04:96**	**Confirmed**
C*04:01:30	**Confirmed**	**C*04:03:01**	**Confirmed**	**C*04:49**	**Confirmed**	C*04:97	Unconfirmed
C*04:01:31	Unconfirmed	C*04:03:02	Unconfirmed	C*04:50	Unconfirmed	C*04:98:01	Unconfirmed
C*04:01:32	Unconfirmed	C*04:03:03	Unconfirmed	C*04:51	Unconfirmed	C*04:98:02	Unconfirmed
C*04:01:33	**Confirmed**	**C*04:04:01**	**Confirmed**	**C*04:52**	**Confirmed**	C*04:99	Unconfirmed
C*04:01:34	Unconfirmed	C*04:04:02	Unconfirmed	C*04:53	Unconfirmed	C*04:100	Unconfirmed
C*04:01:35	Unconfirmed	C*04:05	Unconfirmed	**C*04:54**	**Confirmed**	C*04:101	Unconfirmed
C*04:01:36	Unconfirmed	**C*04:06**	**Confirmed**	C*04:55	Unconfirmed	C*04:102	Unconfirmed
C*04:01:37	Unconfirmed	**C*04:07**	**Confirmed**	**C*04:56**	**Confirmed**	**C*04:103**	**Confirmed**
C*04:01:38	Unconfirmed	**C*04:08**	**Confirmed**	C*04:57	Unconfirmed	C*04:104	Unconfirmed
C*04:01:39	Unconfirmed	**C*04:09N**	**Confirmed**	**C*04:58**	**Confirmed**	C*04:105N	Unconfirmed
C*04:01:40	Unconfirmed	**C*04:10**	**Confirmed**	**C*04:59Q**	**Confirmed**	C*04:106	Unconfirmed
C*04:01:41	Unconfirmed	**C*04:11**	**Confirmed**	C*04:60	Unconfirmed	C*04:107	Unconfirmed
C*04:01:42	Unconfirmed	C*04:12	Unconfirmed	**C*04:61**	**Confirmed**	**C*04:108**	**Confirmed**
C*04:01:43	Unconfirmed	**C*04:13**	**Confirmed**	**C*04:62**	**Confirmed**	C*04:109	Unconfirmed
C*04:01:44	**Confirmed**	**C*04:14**	**Confirmed**	**C*04:63**	**Confirmed**	C*04:110	Unconfirmed

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Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
C*04:111	Unconfirmed	C*04:151	Unconfirmed	C*04:190	Unconfirmed	C*04:229	Unconfirmed
C*04:112	**Confirmed**	C*04:152	Unconfirmed	C*04:191N	Unconfirmed	C*04:230	Unconfirmed
C*04:113	**Confirmed**	**C*04:153**	**Confirmed**	C*04:192	Unconfirmed	C*04:231	Unconfirmed
C*04:114	**Confirmed**	C*04:154	Unconfirmed	C*04:193	Unconfirmed	C*04:232	Unconfirmed
C*04:115N	Unconfirmed	**C*04:155**	**Confirmed**	C*04:194	Unconfirmed	C*04:233N	Unconfirmed
C*04:116	Unconfirmed	C*04:156	Unconfirmed	**C*04:195**	**Confirmed**	C*04:234N	Unconfirmed
C*04:117	**Confirmed**	C*04:157	Unconfirmed	C*04:196	Unconfirmed	C*04:235	Unconfirmed
C*04:118	Unconfirmed	C*04:158	Unconfirmed	C*04:197	Unconfirmed	C*04:236N	Unconfirmed
C*04:119	Unconfirmed	C*04:159	Unconfirmed	C*04:198	Unconfirmed	C*04:237	Unconfirmed
C*04:120	**Confirmed**	C*04:160	Unconfirmed	C*04:199	Unconfirmed	**C*04:238**	**Confirmed**
C*04:121	**Confirmed**	C*04:161	Unconfirmed	C*04:200	Unconfirmed	C*04:239	Unconfirmed
C*04:122	Unconfirmed	C*04:162	Unconfirmed	**C*04:201**	**Confirmed**	C*04:240	Unconfirmed
C*04:123N	Unconfirmed	**C*04:163**	**Confirmed**	**C*04:202**	**Confirmed**	C*04:241	Unconfirmed
C*04:124	Unconfirmed	C*04:164	Unconfirmed	C*04:203N	Unconfirmed	C*04:242	Unconfirmed
C*04:125	**Confirmed**	C*04:165	Unconfirmed	C*04:204	Unconfirmed	C*04:243	Unconfirmed
C*04:126	Unconfirmed	**C*04:166**	**Confirmed**	C*04:205N	Unconfirmed	C*04:244	Unconfirmed
C*04:127	Unconfirmed	C*04:167	Unconfirmed	**C*04:206**	**Confirmed**	C*04:245	Unconfirmed
C*04:128	Unconfirmed	C*04:168	Unconfirmed	**C*04:207**	**Confirmed**	C*04:246	Unconfirmed
C*04:129	Unconfirmed	C*04:169	Unconfirmed	C*04:208	Unconfirmed	C*04:247	Unconfirmed
C*04:130	Unconfirmed	C*04:170N	Unconfirmed	**C*04:209**	**Confirmed**	C*04:248	Unconfirmed
C*04:131	**Confirmed**	C*04:171	Unconfirmed	C*04:210	Unconfirmed	C*04:249	Unconfirmed
C*04:132	**Confirmed**	C*04:172	Unconfirmed	C*04:211	Unconfirmed	**C*04:250**	**Confirmed**
C*04:133	Unconfirmed	C*04:173N	Unconfirmed	C*04:212	Unconfirmed	C*04:251	Unconfirmed
C*04:134	Unconfirmed	C*04:174	Unconfirmed	C*04:213	Unconfirmed	C*04:252	Unconfirmed
C*04:135	Unconfirmed	C*04:175	Unconfirmed	C*04:214	Unconfirmed	C*04:253N	Unconfirmed
C*04:136	Unconfirmed	C*04:176	Unconfirmed	C*04:215N	Unconfirmed	**C*04:254**	**Confirmed**
C*04:137	**Confirmed**	C*04:177	Unconfirmed	C*04:216	Unconfirmed	C*04:255N	Unconfirmed
C*04:138	Unconfirmed	C*04:178	Unconfirmed	C*04:217N	Unconfirmed	C*04:256	Unconfirmed
C*04:139	**Confirmed**	C*04:179	Unconfirmed	**C*04:218**	**Confirmed**	C*04:257	Unconfirmed
C*04:140	**Confirmed**	**C*04:180:01**	**Confirmed**	**C*04:219**	**Confirmed**		
C*04:141	**Confirmed**	**C*04:180:02**	**Confirmed**	C*04:220	Unconfirmed		
C*04:142	Unconfirmed	C*04:181	Unconfirmed	C*04:221	Unconfirmed		
C*04:143	Unconfirmed	**C*04:182**	**Confirmed**	C*04:222	Unconfirmed		
C*04:144	**Confirmed**	C*04:183	Unconfirmed	**C*04:223:01**	**Confirmed**		
C*04:145	**Confirmed**	C*04:184	Unconfirmed	C*04:223:02	Unconfirmed		
C*04:146	Unconfirmed	C*04:185	Unconfirmed	C*04:224	Unconfirmed		
C*04:147	Unconfirmed	C*04:186	Unconfirmed	C*04:225N	Unconfirmed		
C*04:148	Unconfirmed	**C*04:187**	**Confirmed**	C*04:226	Unconfirmed		
C*04:149	Unconfirmed	C*04:188	Unconfirmed	C*04:227	Unconfirmed		
C*04:150	**Confirmed**	C*04:189	Unconfirmed	C*04:228	Unconfirmed		

[1]Allele status "confirmed" or "unconfirmed" as listed on the IMGT/HLA web page 2016-October-14, release 3.26.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-C*04 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-C*04 SSP subtyping

Specificities and sizes of the PCR products of the 63+1 primer mixes used for HLA-C*04 SSP subtyping

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-C*04 alleles[3]	Other amplified HLA Class I alleles
1	250 bp	**800 bp**	*04:01:01:01-04:01:01:29, 04:01:01:31-04:01:33, 04:01:34[w], 04:01:35-04:01:120, 04:03:01:01-04:03:07, 04:05, 04:07:01-04:12, 04:15:01-04:18, 04:19[w], 04:20, 04:23-04:33, 04:35:01-04:47, 04:48[w], 04:49-04:57, 04:59Q-04:67, 04:69-04:94:02, 04:95N[w], 04:96-04:110, 04:112-04:121, 04:123N-04:159, 04:161-04:177, 04:179-04:187, 04:189-04:211, 04:213-04:256, 04:257[w], 04:258-04:264, 04:266-04:281, 04:283-04:290, 04:292-04:293, 04:295-04:356, 04:358-04:367, 04:369N-04:380, 04:382Q-04:408	*01:02:01:01-01:07:01, 01:08-01:21, 01:23-01:34, 01:36:01-01:130, 01:132-01:159, 01:161-01:168, 01:169:02-01:190, 02:02:01-02:02:03, 02:02:06-02:02:34, 02:02:36-02:02:56, 02:04-02:15, 02:17, 02:19-02:40:02, 02:42-02:71, 02:73-02:134, 02:136, 02:138-02:179, 02:181-02:187, 05:01:01:01-05:01:51, 05:03-05:10, 05:12-05:16, 05:18:01-05:26, 05:28-05:50, 05:52-05:61, 05:63-05:67, 05:69, 05:71-05:78:02, 05:80-05:111, 05:113N-05:114, 05:116-05:133, 05:135-05:145, 05:147-05:150, 05:152-05:162, 05:164-05:183, 05:185-05:229, 06:02:01:01-06:02:01:43, 06:02:03-06:03:02, 06:05-06:39, 06:41-06:78, 06:80-06:117, 06:119-06:152N, 06:154-06:196, 06:198-06:292, 08:02:01:01-08:02:29, 08:05, 08:07, 08:12:01:01-08:12:01:02, 08:15:01-08:15:02, 08:17-08:19:02, 08:23, 08:25, 08:27-08:35, 08:37, 08:43, 08:45, 08:47-08:49, 08:51-08:53, 08:55N, 08:62:01-08:63, 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, 08:156, 08:158-08:161N, 08:166-08:167, 08:169-08:172, 08:179-08:181N, 08:183-08:185, 08:191, 08:195, 08:198, 08:200-08:202, 08:206-08:207, 12:02:01-12:13:01:02, 12:15-12:17, 12:21-12:82, 12:84N-12:136, 12:138-12:152, 12:154-12:168, 12:170-12:174, 12:176-12:180, 12:182-12:307, 14:02:01:01-14:02:31, 14:02:33-14:05, 14:07N-14:14, 14:16-14:52, 14:54-14:62, 14:64-14:76, 14:78-14:86, 14:88-14:89, 14:91-14:104, 14:106-14:116, 15:08:01-15:08:02, 15:74, 15:102, 15:143, 15:148, 16:04:01:01-16:04:01:03, 16:04:03-16:04:05, 16:29, 16:33, 16:42, 16:53, 16:55, 16:61, 16:66, 16:68, 16:78, 16:82, 16:88, 16:91, 16:109, 16:124, 16:149-16:150, 17:17, 18:01:01:01-18:14
2	220 bp	1070 bp	*04:01:01:01-04:01:01:29, 04:01:01:31-04:01:27,	*07:64, 07:402, 12:269

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			04:01:29-04:01:120, 04:04:01:01-04:05, 04:07:01-04:09N, 04:13:01:01-04:15:03, 04:17-04:20, 04:23-04:35:02, 04:37-04:41, 04:43-04:54:02, 04:56-04:70, 04:72-04:79, 04:81-04:102, 04:104-04:106, 04:108-04:139, 04:141-04:146, 04:148-04:152, 04:154-04:159, 04:161-04:168, 04:170N, 04:172-04:189, 04:191N, 04:193, 04:195, 04:197-04:209, 04:211-04:212, 04:216-04:219, 04:221-04:226, 04:228-04:248, 04:250-04:255N, 04:257-04:277, 04:279N[w], 04:280-04:285, 04:287-04:293, 04:295-04:298, 04:300N-04:303, 04:305N-04:310, 04:312-04:334, 04:336, 04:338Q-04:346, 04:348-04:350N, 04:352-04:356, 04:358-04:362N, 04:364N-04:380, 04:382Q, 04:384-04:392, 04:394-04:399, 04:401, 04:403-04:408	
3	150 bp	1070 bp	*04:01:01:01-04:01:01:29, 04:01:01:31-04:01:120, 04:04:01:01-04:05, 04:08-04:15:03, 04:17-04:20, 04:23-04:26, 04:28-04:41, 04:43-04:79, 04:81-04:86, 04:88N, 04:90-04:102, 04:104-04:106, 04:108-04:139, 04:141-04:146, 04:148-04:152, 04:154-04:156, 04:158, 04:161-04:170N, 04:172-04:189, 04:191N-04:195, 04:197-04:212, 04:214-04:215N, 04:217N-04:219, 04:221-04:235, 04:237-04:255N, 04:257-04:285, 04:287-04:293, 04:295-04:298, 04:300N-04:303, 04:305N-04:310, 04:312-04:334, 04:336, 04:338Q-04:350N, 04:352-04:356, 04:358-04:362N, 04:364N-04:380, 04:382Q, 04:384-04:392, 04:394-04:399, 04:401, 04:403-04:408	*03:231
4[6]	210 bp	1070 bp	*04:03:01:01-04:03:07, 04:06:01-04:06:03, 04:80,	*02:12, 02:49, 02:55:01-02:55:02, 02:115, 07:756

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			04:107, 04:147, 04:160, 04:171, 04:190, 04:256, 04:286, 04:294, 04:335, 04:337, 04:357, 04:363, 04:381, 04:383, 04:393, 04:400, 04:402	
5[6]	250 bp	1070 bp	*04:04:01:01-04:04:02, 04:06:01-04:06:03, 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, 04:357, 04:368, 04:381	*01:22, 01:35, 01:131, 01:160, 02:03, 02:16:02, 02:18, 02:137, 02:180, 05:11, 05:17, 05:27, 05:68, 05:79, 05:115, 05:134, 05:151, 05:184, 06:04:01-06:04:02, 06:118, 06:153, 06:197, 08:01:01:01-08:01:29, 08:03:01-08:04:03, 08:06, 08:08:01-08:11, 08:13-08:14, 08:16:01-08:16:02, 08:20-08:22:01:02, 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-08:178, 08:182, 08:186-08:190, 08:192-08:194, 08:196-08:197, 08:199, 08:203-08:205, 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, 15:02:01:01-15:07:01:02, 15:09:01:01-15:13:01:02, 15:15-15:19, 15:21-15:24, 15:26-15:50, 15:52:01-15:73, 15:76-15:83, 15:85-15:101, 15:103-15:142, 15:144-15:147, 15:149-15:208, 16:35, 16:40, 16:48, 16:110, 17:01:01:02-17:16:02, 17:18-17:51:01:02
6[4]	95 bp 215 bp	1070 bp	*04:05 *04:112, 04:169	 *14:73, 15:36
7[5]	145 bp	1070 bp	*04:07:01-04:07:02, 04:27, 04:32, 04:77, 04:89, 04:153, 04:265	*01:177, 02:02:38, 02:02:53, 03:34, 03:142, 03:261, 03:272, 03:384, 03:386, 05:78:01-05:78:02, 07:64, 07:402, 08:163, 08:183, 12:269, 14:25, 15:36, 16:150, 18:03, **B*13:13:02, B*40:01:49-40:01:50**
8	270 bp	1070 bp	*04:08, 04:34, 04:147, 04:212	*01:35, 01:107, 01:131, 02:58, 05:27, 05:39, 05:151, 05:184, 06:96, 06:197, 08:41, 08:115, 08:138, 08:182, 12:83, 12:106, 12:122, 14:20, 15:15, 15:77, 15:195, 16:149, 17:07, 18:08
9[4]	110 bp 180 bp 220 bp	**800 bp**	*04:35:01 *04:30 *04:09N	
10	190 bp 220 bp	1070 bp	*04:31, 04:91 *04:10, 04:11, 04:36, 04:55, 04:153, 04:169, 04:210, 04:214, 04:215N, 04:347	 *01:177, 03:231, 05:78:01-05:78:02, 08:163, 08:183, 15:36, 16:150
11[6]	180 bp	1070 bp	*04:01:01:01-04:01:01:29, 04:01:01:31-04:01:09, 04:01:11-04:01:22,	*02:49, 02:75, 02:115, 05:25, 05:42, 06:02:72, 06:05, 06:76:02, 07:01:74, 07:02:09, 07:583, 08:28, 08:137, 08:168,

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			04:01:24-04:01:120, 04:03:01:01-04:07:01, 04:08-04:10, 04:12-04:20, 04:23-04:26, 04:28-04:32, 04:34-04:51, 04:53-04:54:02, 04:56-04:106, 04:108-04:115N, 04:117-04:129, 04:131-04:166:01, 04:167-04:168, 04:170N-04:171, 04:173N-04:230, 04:232-04:282, 04:284-04:404, 04:406-04:408	12:28, 12:132, 12:135, 12:146, 12:287, 14:116, 15:25, 15:62, 15:169, 16:26, 16:46, 16:55, 16:64
12[4]	125 bp 165 bp	1070 bp	*04:11, 04:29, 04:36, 04:55, 04:172, 04:214[w] *04:11, 04:33, 04:169, 04:172	*01:186, 03:231, 03:248, 07:125, 07:356, 07:531, 12:194, 16:62, **B*07:267, B*56:62** *01:186, 02:104, 03:248, 05:141, 12:194, 15:100, 16:62, **B*07:267, B*56:62**
13[4]	120 bp 215 bp 270 bp	1070 bp	*04:255N *04:12, 04:132 *04:52, 04:55, 04:405	 *03:231
14[6]	155 bp 185 bp	1070 bp	*04:16, 04:163, 04:223:01-04:223:02 *04:18	*02:104, 03:248, 05:64:01-05:64:02, 08:19:01-08:19:02, 15:100, **A*24:52**
15[6]	170 bp	1070 bp	*04:14, 04:68	*05:112, 16:45, **A*24:96, A*24:146**
16[4,7]	85 bp 130 bp	1070 bp	*04:123N *04:15:01-04:15:03, 04:17, 04:37, 04:294, 04:367	*18:07N *02:02:38, 02:02:53, 03:05, 03:13:01:01-03:13:02, 03:17:02, 03:25, 03:27, 03:35:01-03:35:02:02, 03:135, 03:167, 03:198, 03:292, 03:296:01-03:296:02, 03:302, 03:335, 03:386, 03:407, 03:482, 03:494, 05:18:05, 05:215, 08:01:07, 08:02:07, 08:33:02, 12:02:19, 14:09, 14:45, **B*15:78:03, B*15:524, B*40:01:49-40:01:50**
17	245 bp 320 bp	1070 bp	*04:234N *04:17, 04:80, 04:100	 *01:50, 01:131, 14:54, 14:92
18[4]	125 bp 220 bp	1070 bp	*04:70 *04:19, 04:94:01-04:94:02	 *02:182, 06:101, 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**
19[4]	120 bp 150 bp 430 bp	**800 bp**	*04:35:01, 04:37 *04:20, 04:40, 04:242 *04:238	*03:302, 14:45 *03:135
20	165 bp 250 bp 545 bp	1070 bp	*04:44 *04:47, 04:170N, 04:209 *04:15:02, 04:17, 04:100, 04:178, 04:224, 04:230, 04:242, 04:360, 04:370, 04:387	 *03:231, 05:78:01-05:78:02, 08:163, 08:183, 12:269, 15:36, 16:150, **A*01:118, A*02:109, A*02:709, A*33:52**
21[4]	90 bp 145 bp 240 bp	**800 bp**	*04:23, 04:108, 04:218, 04:335 *04:38 *04:39, 04:121	
22[4]	120 bp 170 bp 360 bp	1070 bp	*04:24, 04:139-04:140, 04:166:01-04:166:02, 04:220 *04:26 *04:226	*01:186, 07:125, 07:356, 07:531 *02:104, 15:100

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23[4]	85 bp 215 bp 235 bp	1070 bp	*04:25 *04:41 *04:144	 *02:170, 03:171, 03:211:01, 05:93, 06:73, 08:20, 08:40, 12:109
24[5]	130 bp 170 bp	1070 bp	*04:24 *04:30, 04:42:01-04:42:02, 04:220	 *07:125, 07:356, 07:531
25	160 bp 200 bp	1070 bp	*04:163 *04:43, 04:94:01-04:94:02, 04:171	**A*24:52** *02:182, 06:101, 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**
26[6]	210 bp 245 bp	**800 bp**	*04:45, 04:86 *04:250	
27[4,9]	125 bp 255 bp 280 bp	**800 bp**	*04:50 *04:204 *04:46, 04:120	 *05:64:01-05:64:02, 08:19:01-08:19:02, 08:101, 08:143
28[4,8]	120 bp 160 bp 215 bp 255 bp	1070 bp	*04:75 *04:223:01-04:223:02 *04:48 *04:204	*06:249 *05:64:01-05:64:02, 08:19:01-08:19:02
29[4]	105 bp 195 bp 245 bp	1070 bp	*04:82, 04:159 *04:49, 04:132 *04:170N, 04:249	
30[4]	75 bp 125 bp	1070 bp	*04:53 *04:234N	*05:49, **B*07:90** *06:152N, **A*66:39N, B*15:528N**
31[5,6]	130 bp 170 bp 360 bp	1070 bp	*04:95N, 04:139 *04:51, 04:145 *04:226	 *02:104, 15:100
32[4]	105 bp 235 bp 275 bp	1070 bp	*04:78, 04:141 *04:59Q, 04:121 *04:77	 **B*40:100**
33[4]	90 bp 180 bp	1070 bp	*04:72, 04:218 *04:58, 04:65:01:01-04:65:01:02, 04:160, 04:203N, 04:368	 *07:08, 07:108:01-07:108:02, **B*40:100**
34[4]	75 bp 200 bp 270 bp	1070 bp	*04:96 *04:13:01:01-04:13:01:02, 04:58, 04:61, 04:68, 04:160, 04:253N, 04:291 *04:120, 04:201:01	 *07:08, 07:108:01-07:108:02, 08:101, 08:143, 16:117, **B*47:09** *05:64:01-05:64:02, 08:19:01-08:19:02, 08:101, 08:143
35[4]	85 bp 120 bp 145 bp 175 bp	1070 bp	*04:62 *04:255N *04:115N *04:76, 04:137	
36[4,5]	115 bp 150 bp	**800 bp**	*04:57, 04:63 *04:117	
37[4]	110 bp 135 bp	1070 bp	*04:63, 04:73 *04:74, 04:125	
38[4,5]	95 bp 140 bp	**800 bp**	*04:83, 04:123N *04:74, 04:117	*03:232, 18:07N
39[4]	110 bp 140 bp 330 bp	1070 bp	*04:113 *04:71, 04:95N *04:79	*14:71 *01:02:34, 01:21, 05:200

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40	140 bp 205 bp 265 bp	**800 bp**	*04:56 *04:86 *04:64:01-04:64:02, 04:201:01	
41[5]	135 bp 165 bp 280 bp	1070 bp	*04:105N *04:131 *04:54:01-04:54:02, 04:313:01:01-04:313:01:02, 04:360, 04:367, 04:381	 *01:54, 01:97, 01:102, 01:152, 14:02:01:01-14:24:01, 14:25, 14:27-14:53, 14:56-14:78, 14:80-14:91, 14:93N-14:116
42[4]	95 bp	1070 bp	*04:69, 04:82, 04:159	*02:79, 16:12
43[6]	170 bp 255 bp	1070 bp	*04:81, 04:137 *04:88N, 04:209	
44[4,6]	90 bp 115 bp 140 bp	1070 bp	*04:108, 04:202 *04:254, 04:393 *04:40, 04:60, 04:125, 04:242	*03:81, 03:175, 03:199, 03:245, 03:317, 03:388, 05:215, 14:24:01, **B*15:78:03, B*15:524, B*40:01:49-40:01:50**
45	130 bp 165 bp	1070 bp	*04:66, 04:233N *04:16, 04:26, 04:103, 04:145	 *02:104, 03:248, 05:141, 12:194, 15:100, 16:62
46[4,6]	125 bp 160 bp 190 bp 300 bp	1070 bp	*04:93N, 04:254, 04:393 *04:131, 04:205N *04:187 *04:67	 *06:128N *06:135, 07:719
47[4,6]	50 bp 295 bp	**800 bp**	*04:114, 04:383 *04:146, 04:161	*01:59, 01:118, 02:65, 03:130, 03:140:01:01-03:140:01:02, 03:243, 05:20, 06:82, 06:210, 07:49, 07:210, 07:238, 07:247, 07:403, 12:54, 12:188, 14:04, 14:64, 14:77, 15:85, 15:181, 16:57, **A*03:267, A*68:46, B*07:253** *03:205[w], 03:492, 03:497, 07:708, 12:254, 12:280, 15:97
48[6]	390 bp 415 bp	1070 bp	*04:195 *04:84	 *01:159, 03:206, 03:212, 06:288, 08:128, 16:155
49	190 bp	1070 bp	*04:91, 04:173N, 04:225N	
50	295 bp 335 bp	1070 bp	*04:161 *04:162	*03:205[w]
51	260 bp 390 bp	1070 bp	*04:165 *04:195	
52[4]	110 bp 185 bp 240 bp	1070 bp	*04:150 *04:203N *04:155	
53	335 bp	**800 bp**	*04:106	*03:236, 08:78, 15:200
54	140 bp 235 bp 270 bp	1070 bp	*04:115N, 04:219 *04:249 *04:27	
55	190 bp 245 bp	1070 bp	*04:191N, 04:215N, 04:225N, 04:300N *04:250	
56	425 bp 470 bp	1070 bp	*04:28 *04:144	 *02:170, 03:171, 03:211:01, 05:93, 06:73, 08:20, 08:40, 12:109

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57	150 bp 245 bp	1070 bp	*04:205N *04:182, 04:233N	*06:128N *06:78, 07:309
58	170 bp 275 bp	1070 bp	*04:217N *04:196	 **A*11:289**
59[4]	95 bp	**800 bp**	*04:202, 04:207	*14:24:01
60	130 bp	1070 bp	*04:01:01:01-04:01:01:29, 04:01:01:31-04:01:04, 04:01:06, 04:01:08, 04:01:10-04:01:23, 04:01:25-04:01:32, 04:01:34-04:01:61, 04:01:63-04:01:74, 04:01:76-04:01:83, 04:01:85-04:01:120, 04:03:01:01-04:04:01:02, 04:05-04:14, 04:16, 04:18-04:20, 04:23-04:36, 04:38-04:39, 04:41-04:54:01, 04:55-04:59Q, 04:61-04:79, 04:81-04:94:01, 04:95N-04:99, 04:101-04:109, 04:111-04:159, 04:161-04:177, 04:179, 04:181-04:221, 04:223:02, 04:225N-04:229, 04:231-04:239, 04:241, 04:243-04:259, 04:261-04:262, 04:264-04:275, 04:277-04:293, 04:295-04:341, 04:343-04:359, 04:361-04:366, 04:368-04:369N, 04:371N-04:373, 04:375-04:377N, 04:379-04:385N, 04:388-04:408	*12:233, 14:28:02, 18:01:01:01-18:14
61	160 bp 285 bp	1070 bp	*04:236N *04:206	 *07:246:02, **A*11:92**
62[4]	105 bp 205 bp	1070 bp	*04:141 *04:253N	
63	175 bp	1070 bp	*04:180:01-04:180:02	*01:32:01, 01:32:02[w], 02:56, 05:217, 06:20, 08:123, 08:139, 14:82, 14:92[w], 15:126, 16:98, 16:102, 16:110, **B*58:02:01:01[w]**
64[10]	-	-	**Negative Control**	

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-C*04 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 inherit feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount

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of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

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

[3]For 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.

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

[5]Primer mixes 7, 24, 31, 36, 38 and 41 have a tendency to giving rise to primer oligomer formation.

[6]Primer mixes 4, 5, 11, 14, 15, 26, 31, 43, 44, 46, 47 and 48 may have tendencies of unspecific amplification.

[7]Primer mix 16 may give rise to a lower yield of HLA-specific PCR product than the other C*04 primer mixes.

[8]Primer mix 28 may give rise to a long unspecific amplification product of approximately 500 bp. This should be disregarded when interpreting the C*04 typings.

[9]In primer mix 27 the positive control band may be weaker than for other HLA-C*04 primer mixes.

[10]Primer mix 64 contains a negative control, which will amplify the majority 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 200 base pairs.

Abbreviations

w: may be weakly amplified.

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PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	250	220	150	210	250	95	145	270	110	190	180	125
PCR product						215			180	220		165
									220			
Length of int.	800	1070	1070	1070	1070	1070	1070	1070	800	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	2nd I	108	108	118	2nd I	98	112	2nd I	391	112	201	218
	5' -CCA 3'	5' -gTT 3'	5' -gTT 3'	5' -CCA 3'	5' -CCA 3'	5' -CTC 3'	5' -CCT 3'	5' -CCA 3'	5' -ACC 3'	5' -CCT 3'	5' -CCA 3'	5' -ggA 3'
		108	108				459		1018	368	201	
		5' -gTC 3'	5' -gTC 3'				5' -gAT 3'		5' -gTg 3'	5' -gTT 3'	5' -CCA 3'	
		112	112									
		5' -CCT 3'	5' -CCT 3'									
		112	112									
		5' -CTT 3'	5' -CTT 3'									
3'-primer(s)[3]	539	289	218	289	539	154	218	559	459	262	341	302
	5' -TCC 3'	5' -AgC 3'	5' -gCT 3'	5' -AgC 3'	5' -TCA 3'	5' -CAg 3'	5' -gCg 3'	5' -CAg 3'	5' -AgA 3'	5' -Tgg 3'	5' -CgT 3'	5' -ggC 3'
		289	218	289		270	559		1052	289		341
		5' -AgC 3'	5' -gTT 3'	5' -AgC 3'		5' -TAg 3'	5' -CTC 3'		5' -Tgg 3'	5' -AgT 3'		5' -Cgg 3'
				291					1092	289		
				5' -TCg 3'					5' -TTA 3'	5' -AgT 3'		
										521		
										5' -ggA 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.	120	155	170	85	245	125	120	165	90	120	85	130
PCR product	215	185		130	320	220	150	250	145	170	215	170
	270						430	545	240	360	235	
Length of int.	1070	1070	1070	1070	1070	1070	800	1070	800	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	112	105	412	368	379	228	322	112	368	28	172	97
	5' -CCT 3'	5' -gCT 3'	5' -ATA 3'	5' -gTg 3'	5' -ACg 3'	5' -ATg 3'	5' -gCC 3'	5' -CCT 3'	5' -gTT 3'	5' -TCC 3'	5' -TCC 3'	5' -TCg 3'
		368		369	454	368	347			89	652	127
		5' -gTT 3'		5' -TAC 3'	5' -ACT 3'	5' -gTT 3'	5' -gTA 3'			5' -gAT 3'	5' -CCA 3'	5' -ggA 3'
				369			355			127	670	1018
				5' -TAT 3'			5' -CCT 3'			5' -ggA 3'	5' -CCg 3'	5' -gTg 3'
				415			368			133		
				5' -ACT 3'			5' -gTg 3'			5' -CCT 3'		
							391			142		
							5' -ACC 3'			5' -TCT 3'		
3'-primer(s)[3]	193	218	539	459	3rd I	312	459	238	412	218	218	218
	5' -CgC 3'	5' -gCT 3'	5' -TCT 3'	5' -AgA 3'	5' -ACg 3'	5' -AgT 3'	5' -AgA 3'	5' -CCA 3'	5' -gTC 3'	5' -gCT 3'	5' -gCT 3'	5' -gCT 3'
	278	485				538		319	420		846	1052
	5' -ggA 3'	5' -CCA 3'				5' -CCA 3'		5' -gCT 3'	5' -gCC 3'		5' -CAC 3'	5' -Tgg 3'
	295	485				550		319	472			
	5' -TCC 3'	5' -CCT 3'				5' -CAT 3'		5' -gCA 3'	5' -ggC 3'			
	343	514						327	568			
	5' -T 3'	5' -CTT 3'						5' -TTT 3'	5' -CTg 3'			
								368	569			
								5' -CAT 3'	5' -ACA 3'			
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Lot No.: 1L9 Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	160	210	125	120	105	75	130	105	90	75	85	115
PCR product	200	245	255	160	195	125	170	235	180	200	120	150
			280	215	245		360	275		270	145	
				255							175	
Length of int.	1070	800	800	1070	1070	1070	1070	1070	1070	1070	1070	800
pos. control[1]												
5'-primer(s)[2]	368	112	368	232	112	454	28	368	368	368	112	350
	5' -gTT 3'	5' -CCT 3'	5' -gTT 3'	5' -Agg 3'	5' -CCT 3'	5' -ACT 3'	5' -TCC 3'	5' -gTT 3'	5' -gTT 3'	5' -gTT 3'	5' -CCT 3'	5' -TCT 3'
				368	900	503	81					383
				5' -gTT 3'	5' -CCg 3'	5' -CCg 3'	5' -CAg 3'					5' -ggC 3'
							89					386
							5' -gAC 3'					5' -gCA 3'
							133					
							5' -CCT 3'					
							459					
							5' -gAT 3'					
3'-primer(s)[3]	485	277	454	312	256	539	218	430	407	403	154	459
	5' -CCA 3'	5' -gCT 3'	5' -CTg 3'	5' -AgT 3'	5' -CCA 3'	5' -TCC 3'	5' -gCT 3'	5' -gCA 3'	5' -ACg 3'	5' -gCA 3'	5' -CAT 3'	5' -AgA 3'
	518	284	581	485	278		549	430	420	527	193	
	5' -CCA 3'	5' -gTA 3'	5' -ATg 3'	5' -CCT 3'	5' -ggA 3'		5' -AgT 3'	5' -gCT 3'	5' -gCC 3'	5' -CCg 3'	5' -CgC 3'	
	538	314	601	544	308			563	505	532	217	
	5' -CCA 3'	5' -gCT 3'	5' -CTT 3'	5' -ggg 3'	5' -TCT 3'			5' -CgT 3'	5' -gCT 3'	5' -CTA 3'	5' -CTA 3'	
			613	581	327			569	512	589	242	
			5' -gCA 3'	5' -ATg 3'	5' -TTT 3'			5' -ACA 3'	5' -CCA 3'	5' -CTT 3'	5' -CCC 3'	
					963			603	513	601	247	
					5' -gCT 3'			5' -TTg 3'	5' -TCT 3'	5' -CTT 3'	5' -ATT 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.	110	95	110	140	135	95	170	90	130	125	50	390
PCR product	135	140	140	205	165		255	115	165	160	295	415
			330	265	280			140		190		
										300		
Length of int.	1070	800	1070	800	1070	1070	1070	1070	1070	1070	800	1070
pos. control[1]												
5'-primer(s)[2]	364	350	98	112	215	256	112	355	89	83	302	704
	5' -ggT 3'	5' -TCT 3'	5' -CTT 3'	5' -CCT 3'	5' -gCA 3'	5' -ACg 3'	5' -CCT 3'	5' -CCT 3'	5' -gAC 3'	5' -CTA 3'	5' -gAA 3'	5' -TgT 3'
	371	364	459	368	249	900		364	89	190	3rd I	731
	5' -TgA 3'	5' -ggT 3'	5' -gAT 3'	5' -gTT 3'	5' -TAg 3'	5' -CCg 3'		5' -ggg 3'	5' -gAT 3'	5' -ACT 3'	5' -Cgg 3'	5' -ggg 3'
	386	395	3rd I		419			371	98	215		
	5' -gCA 3'	5' -gCT 3'	5' -Cgg 3'		5' -gTC 3'			5' -TgA 3'	5' -CTA 3'	5' -gCA 3'		
	392	415						386	124	232		
	5' -CgC 3'	5' -ACT 3'						5' -gCT 3'	5' -gCT 3'	5' -AgT 3'		
								406	127	375		
								5' -gCC 3'	5' -ggT 3'	5' -TgA 3'		
								409		386		
								5' -ggC 3'		5' -gCT 3'		
3'-primer(s)[3]	459	459	201	212	341	302	239	459	218	341	312	956
	5' -AgA 3'	5' -AgA 3'	5' -CTT 3'	5' -gCC 3'	5' -CgT 3'	5' -ggT 3'	5' -gCT 3'	5' -AgA 3'	5' -gCT 3'	5' -CgT 3'	5' -Agg 3'	5' -CAg 3'
			527	277	3rd I	963	242			459	845	
			5' -CCA 3'	5' -gCT 3'	5' -ACg 3'	5' -gCT 3'	5' -CCC 3'			5' -AgA 3'	5' -ACA 3'	
			549	589			319				845	
			5' -AgT 3'	5' -CTT 3'			5' -gCA 3'				5' -ACT 3'	
			878	595			331					
			5' -ggA 3'	5' -CCg 3'			5' -CTA 3'					
				595								
				5' -CCT 3'								
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

Lot No.: 1L9 Lot-specific information

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec.	190	295	260	110	335	140	190	425	150	170	95	130
PCR product		335	390	185		235	245	470	245	275		
				240		270						
Length of int.	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	800	1070
pos. control[1]												
5'-primer(s)[2]	112	3rd I	731	368	787	112	112	652	127	109	400	368
	5' -CCT 3'	5' -Cgg 3'	5' -ggg 3'	5' -gTT 3'	5' -ATA 3'	5' -CCT 3'	5' -CCT 3'	5' -CCA 3'	5' -ggT 3'	5' -TgA 3'	5' -TCA 3'	5' -gTT 3'
			862					697	149	210	406	
			5' -ACA 3'					5' -TCC 3'	5' -ggA 3'	5' -.Ag 3'	5' -gCC 3'	
									232			
									5' -AgT 3'			
3'-primer(s)[3]	262	845	956	435	956	212	251	956	341	341	459	459
	5' -Tgg 3'	5' -ACT 3'	5' -CAg 3'	5' -TCA 3'	5' -CAg 3'	5' -gCA 3'	5' -CCT 3'	5' -CAg 3'	5' -CgT 3'	5' -CgT 3'	5' -AgA 3'	5' -AgA 3'
	265	883		513		217	265					
	5' -CTA 3'	5' -ggC 3'		5' -TCT 3'		5' -CTA 3'	5' -CTA 3'					
	268			565		308	273					
	5' -CTA 3'			5' -CAT 3'		5' -TCT 3'	5' -TTC 3'					
						343	314					
						5' -g 3'	5' -gCT 3'					
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Well No.	61	62	63
Length of spec.	160	105	175
PCR product	285	205	
Length of int.	1070	1070	1070
pos. control[1]			
5'-primer(s)[2]	96	368	2nd I
	5' -TTg 3'	5' -gTT 3'	5' -CCA 3'
	220		
	5' -.gC 3'		
3'-primer(s)[3]	341	430	463
	5' -CgT 3'	5' -gCT 3'	5' -gCT 3'
		532	
		5' -CTA 3'	
Well No.	61	62	63

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

[2]The 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.

[3]The 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.: 1L9 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-C*04 SSP subtyping kit[2]

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	201778201	201778202	201778203	201778204	201778205	201778206	201778207	201778208	201778209	201778210	201778211	201778212	201778213	201778214	201778215	201905416
	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	*07:18		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:29	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
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	*17:03		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
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.: 1L9 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-C*04 SSP subtyping kit[2]

					Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:	201778217	201778218	201905419	201905420	201778221	201778222	201778223	201778224	201778225	201778226	201778227	201778228	201778229	201778230	201778231	201905432
	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	*07:18		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	*17:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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.: 1L9 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-C*04 SSP subtyping kit[2]

					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				Prod. No.:	201778233	201778234	201905435	201905436	201778237	201778238	201778239	201778240	201778241	201778242	201778243	201778244	201778245	201905446	201778247	201778248
	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	*07:18		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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	*17:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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.: 1L9 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-C*04 SSP subtyping kit[2]

					Well														
					49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
				Prod. No.:	201778249	201778250	201778251	201778252	201905453	201905454	201778255	201778256	201778257	201778258	201778259	201778260	201778261	202020062	201778263
	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.: 1L9 Lot-specific information

[1]The 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.

[2]The 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 6, 8, 10, 12 to 15, 17, 19 to 24, 26 to 40, 42 to 59 and 61 to 63 were available.

The specificity of the primers in primer solutions 6, 8, 10, 12 to 15, 17, 19 to 22, 24, 27, 28, 31 to 34, 39, 42, 44, 45, 47, 53 and 63 were tested by separately adding one or more additional 5'-primers, or one or more additional 3'-primers respectively.

In primer solutions 26, 29, 35, 40, 43, 49, 50, 52, 54, 55 and 62 it was only possible to test the 5'-primers, the 3'-primers were not possible to be tested.

In primer solutions 23, 30, 36 to 38, 46, 48, 51, 56 to 59 and 61 it was only possible to test the 3'-primers, the 5'-primers were not possible to be tested.

In primer solutions 2, 3, 9, 11, 16 to 19, 22, 24, 28, 31, 41, 44 and 45 one or more of the 5'-primers were not possible to be tested, and in primer solutions 3, 4, 6, 9, 10, 13, 14, 18, 20, 21, 24, 25, 27, 28, 31 to 34, 39, 42 and 47 one to four of the 3'-primers were not possible to be tested.

In addition, one of more primers in primer solutions 7, 9, 16, 18, 25 and 41 were tested by separately adding one 5'-primer and/or one 3'-primer.

Lot No.: 1L9 **Lot-specific information**

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Fax: +43-1-710 15 00 10
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Web page: https://labproducts.caredx.com/

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