101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

Olerup SSP® HLA-C low resolution

Product number:	**101.601-24/12 – including *Taq* pol.** **101.601-24u/12u – without *Taq* pol.**
Lot number:	**28Y**
Expiry date:	**2017-October-01**
Number of tests:	**24 tests – Product No. 101.601-24/24u** **12 tests – Product No. 101.601-12/12u**
Number of wells per test:	**31 + 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. 28Y.

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 LOW RESOLUTION LOT (79V)

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

The HLA-C low resolution specificity and interpretation tables have been updated for the HLA-C alleles described since the previous *Olerup* SSP® HLA-C low resolution lot was made **(Lot No. 79V)**. The kit design is based on IMGT/HLA database 3.19.0.

As of lot series V, the Specificity Table is included in the lot-specific Product Insert, and the Interpretation Table is included in the Worksheet.

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

Well	5'-primer	3'-primer	rationale
1	Added	-	5'-primer added for the C*01:02:28 allele.
18	-	Added	3'-primer added for the C*16:68 allele.
25	Added	Added	Primer pair added for the C*12:132 allele.
26	Added	-	5'-primer added for the C*12:03:34 allele.
31	Modified	-	5'-primer modified for increased yield.
32	-	-	Updated negative control.

Well **32** 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'-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 codonnumbering 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.: 28Y **Lot-specific information**

PRODUCT DESCRIPTION

HLA-C-low resolution SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for grouping the HLA-C*01:02 to C*18:09 alleles into the groups C*01:xx to C*18:xx.

PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 well cut 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**	**NC**

The 32 well cut PCR plate is marked with 'HLA-C low' in silver/gray ink.
Well No. 1 is marked with the Lot No. '28Y'.
Wells 1 to 31 – HLA-C low resolution primers.
Well 32 – Negative Control.
A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.
The PCR plates are covered with a PCR-compatible foil.
Please note: When removing each 32 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

Only HLA-C alleles will be amplified by the HLA-C low resolution screening typing kit, except that that a few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 13, 15, 16, 20, 26, 27, 29 and 30.
For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-C alleles, i.e. **C*01:02 to C*18:09**, recognized by the HLA Nomenclature Committee in January 2015[1,2] will be amplified by the primers in the HLA-C low resolution SSP kit[3]. The HLA-C alleles will be grouped into the C*01xx to C*18xx groups.

[1]HLA-C alleles listed on the IMGT/HLA web page 2015-January-19, release 3.19.0, 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.
[3]The C*01:05, 01:07:02, 01:22, 01:36 and 01:79:01-01:79:02 and the B*39:76 and B*54:18 alleles give rise to identical amplification patterns with the HLA-C low resolution primer set. These alleles are separated by the HLA-B low primer set.

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

The C*14:06, 14:09, 14:28:01-14:28:02 and 14:63 and the A*30:62 and B*35:252 alleles give rise to identical amplification patterns with the HLA-C low resolution primer set. These alleles are separated by the HLA-A low primer set and respective by the HLA-B low primer set.

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

SPECIFICITY TABLE

HLA-C low resolution SSP typing

Specificities and sizes of the PCR products of the 31+1 primer mixes used for HLA-C low resolution SSP typing

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA class I alleles[3,4]
1[13]	90 bp, 150 bp	**800 bp**	*01:02:01-01:107, 04:71, 07:316, 07:338, 14:58, 15:104, **B*39:76, B*54:18**
2[5,15]	130 bp, 200 bp, 270 bp, 300 bp	**800 bp**	*01:10, 01:43, 02:02:01-02:02:03, 02:02:05-02:40:02, 02:42-02:57, 02:59-02:95, 04:32, 04:77, 05:105, 06:08, 07:101, 07:148, 07:161, 08:31, 12:119, 14:25, 15:42, 16:29, 16:50, 17:01:01:01-17:06, 17:08-17:16, 17:18-17:22, 17:24-17:28, 18:03
3[15,16]	280 bp	**800 bp**	*02:02:01-02:02:03, 02:02:05-02:02:29, 02:03, 02:04[W], 02:05:01-02:13, 02:14[W], 02:15-02:25Q, 02:26:02-02:40:02, 02:42-02:86, 02:88-02:95, 03:02:01-03:02:09, 03:02:11-03:02:13, 03:04:01:01-03:04:25, 03:04:27-03:10, 03:14-03:17, 03:19, 03:23-03:29, 03:32-03:38:02, 03:40:01-03:42, 03:44-03:48, 03:51, 03:54, 03:57, 03:60, 03:63-03:64:01, 03:65, 03:70-03:74, 03:77-03:78, 03:80, 03:82, 03:84, 03:87:01-03:87:02, 03:89-03:95, 03:98, 03:100-03:101, 03:104-03:111, 03:113-03:115, 03:117-03:118, 03:121N, 03:123, 03:125, 03:128-03:131, 03:134-03:136, 03:138-03:140, 03:143, 03:145-03:149, 03:153-03:155, 03:157, 03:159, 03:162-03:164, 03:169Q, 03:172-03:174, 03:178-03:181, 03:183-03:184, 03:186:01-03:186:02, 03:190-03:191, 03:193-03:194, 03:197-03:201N, 03:208N-03:213, 03:215-03:216, 03:218-03:219, 03:221-03:222, 03:224N-03:226, 03:232-03:236, 03:238-03:240, 03:244Q-03:250, 03:252, 03:255-03:261, 03:263, 03:265N-03:266, 03:269-03:270, 03:277N, 04:03:01-04:03:02, 04:06, 04:16, 04:80, 04:107, 04:147, 04:160, 04:171, 05:58:01, 06:03:01, 06:132:01-06:132:02, 07:96:01-07:96:02, 12:03:23, 15:02:01:01-15:05:08, 15:05:10-15:09, 15:10:02-15:11, 15:13, 15:15-15:19, 15:21-15:22, 15:24-15:35, 15:37-15:60, 15:62, 15:64-15:106, 16:34, 16:70
4[6]	170 bp, 275 bp	1070 bp	*03:02:01-03:02:12, 03:03:01-03:04:06, 03:04:08-03:11:02, 03:13:01-03:15, 03:17-03:40:04, 03:42-03:57, 03:59-03:79, 03:81-03:85, 03:87:01-03:93, 03:95-03:98, 03:100-03:109, 03:111-03:112, 03:114-03:150, 03:152-03:164, 03:166-03:250, 03:252-03:259, 03:261-03:266, 03:268-03:277N, 07:242
5	280 bp	**800 bp**	*03:03:01-03:03:20, 03:03:22-03:03:28, 03:11:01-03:11:02, 03:13:01-03:13:02, 03:18:02, 03:20N-03:22Q, 03:30-03:31, 03:43:01-03:43:02, 03:49-03:50, 03:52-03:53, 03:55-03:56, 03:58-03:59, 03:61-03:62, 03:66, 03:67[W], 03:68-03:69, 03:75-03:76, 03:79, 03:81, 03:83, 03:85-03:86, 03:88, 03:96-03:97, 03:102-03:103, 03:112, 03:116:01-03:116:02, 03:119-03:120, 03:122, 03:124, 03:126-03:127, 03:132-03:133, 03:141-03:142, 03:150-03:152, 03:158, 03:160-03:161, 03:165, 03:167-03:168, 03:171, 03:175-03:177, 03:185, 03:187-03:189N, 03:192, 03:196, 03:202-03:207, 03:214, 03:217, 03:220, 03:223, 03:227-03:230, 03:237, 03:241-03:243, 03:251, 03:253-03:254, 03:262, 03:267-03:268, 03:271-03:276, 15:12

Lot No.: 28Y **Lot-specific information**

6[16]	135 bp, 330 bp	**800 bp**	*02:02:01-02:02:03, 02:02:05-02:02:12, 02:02:14-02:02:25, 02:02:27-02:02:28, 02:02:30-02:20, 02:22-02:25Q, 02:27:01-02:38N, 02:40:01-02:40:02, 02:42-02:44, 02:46-02:86, 02:88-02:95, 03:231, 04:01:01:01-04:01:27, 04:01:29-04:01:60, 04:01:62, 04:01:64, 04:01:66, 04:03:01-04:15:03, 04:17-04:20, 04:23-04:41, 04:43-04:102, 04:104-04:139, 04:141-04:194, 05:26, 05:78, 07:02:09, 07:125, 07:356, 15:11, 15:36, 16:34
7[7]	165 bp, 390 bp, 445 bp	1070 bp	*02:94, 04:129, 05:01:01:01-05:01:31, 05:03-05:114, 06:05, 06:67, 08:10, 12:21, 12:33, 16:40, 16:53, 17:05
8	130 bp, 355 bp	**800 bp**	*01:90, 02:06, 02:47, 04:178, 06:02:01:01-06:02:01:03, 06:02:03-06:02:38, 06:02:40-06:16N, 06:18-06:31, 06:33-06:76:01, 06:77-06:93, 06:96-06:98, 06:100-06:132:01, 06:133-06:149, 12:02:11, 12:03:09, 12:03:26, 12:15, 15:02:01:01-15:03, 15:07-15:08, 15:10:01-15:13, 15:15-15:18, 15:21, 15:26, 15:28, 15:31-15:35, 15:37-15:39, 15:41-15:45, 15:47-15:53, 15:56-15:58, 15:60, 15:62-15:64, 15:67-15:68, 15:71-15:75, 15:78-15:89, 15:91-15:101, 15:103, 15:106, 16:01:16
9[8]	245 bp, 425 bp	**800 bp**	*07:01:01:01-07:33N, 07:35-07:294, 07:296-07:409
10[9,13,16]	110 bp, 165 bp, 390 bp	**800 bp**	*01:43, 02:87, 07:101, 07:148, 07:161, 08:01:01-08:63, 08:65-08:115, 12:127
11[14,16]	340 bp	1070 bp	*01:14, 01:59, 02:02:01-02:02:03, 02:02:05-02:11, 02:13-02:26:03, 02:28-02:40:02, 02:42-02:86, 02:88-02:95, 03:07, 03:15, 03:45, 03:130, 03:140, 03:163, 03:243, 03:268, 04:01:01:01-04:01:66, 04:03:01-04:10, 04:12-04:20, 04:23-04:28, 04:30-04:35, 04:37-04:54, 04:56-04:171, 04:173N-04:194, 05:01:01:01-05:01:31, 05:03-05:114, 06:02:01:01-06:02:01:03, 06:02:03-06:02:11, 06:02:13-06:10, 06:12-06:51, 06:53:01-06:121, 06:123, 06:125-06:146, 06:148-06:149, 07:07, 07:09, 07:49, 07:76:01-07:76:02, 07:210, 07:238, 07:247, 07:315, 07:328, 07:403, 07:406, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 12:54, 12:60, 12:146, 14:04, 14:12, 14:49, 14:64, 15:02:01:01-15:05:10, 15:06:01-15:06:03, 15:08-15:13, 15:15-15:19, 15:22-15:24, 15:26-15:42, 15:44-15:70, 15:72-15:106, 16:02:01-16:02:13, 16:09, 16:12, 16:19, 16:25, 16:46-16:48, 16:57, 16:60, 16:63, 16:69-16:70, 16:74, 16:77N, 17:01:01:01-17:21, 17:23-17:28, 18:01-18:09
12[10,13]	100 bp, 155 bp, 220 bp	**800 bp**	*01:02:18, 01:04, 01:21, 06:02:38, 06:76:02, 12:02:01-12:03:01:02, 12:03:03-12:03:07, 12:03:09-12:03:15, 12:03:17-12:03:19, 12:03:21-12:03:29, 12:03:31-12:03:33, 12:04:02-12:08, 12:10:01-12:13, 12:14:02-12:18:01, 12:19-12:25, 12:27-12:32, 12:34-12:58, 12:60-12:143, 12:145-12:148N, 14:02:08, 16:01:17, 16:02:13, 16:15:02
13[13,14]	120 bp, 250 bp	**800 bp**	*01:21, 02:12, 02:49, 02:55, 04:01:01:01-04:01:66, 04:03:01-04:09N, 04:12-04:20, 04:23-04:35, 04:37-04:54, 04:56-04:152, 04:154-04:168, 04:170N-04:191N, 04:193, 05:42, 05:46, 05:112, 06:76:02, 07:02:09, 07:125, 07:356, 08:05, 08:21, 08:25, 12:02:01-12:02:10, 12:02:12-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:12, 12:03:13[W], 12:03:14-12:03:23, 12:03:24[W], 12:03:25-12:03:33, 12:04:02, 12:06-12:08, 12:10:01-12:20, 12:22-12:32, 12:34-12:48, 12:50-12:97, 12:99-12:122, 12:124-12:148N, 15:03, 15:16, 15:25, 15:75, 16:01:01-16:02:13, 16:06-16:28, 16:30N-16:32, 16:34, 16:36-16:39:02, 16:41, 16:43-16:47, 16:49-16:52, 16:54, 16:56-16:60, 16:62-16:65, 16:67, 16:69-16:77N, 16:79, 17:01:04, **B*67:02**

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14[17]	160 bp, 210 bp	**800 bp**	*01:04, 01:09, 02:05:01-02:05:03, 02:17, 04:42:01-04:42:02, 06:02:01:01-06:02:01:03, 06:02:03-06:02:15, 06:02:17-06:02:42, 06:03:01-06:03:02, 06:07-06:13, 06:15-06:34, 06:36-06:39, 06:41-06:71, 06:73-06:78, 06:80, 06:82-06:100, 06:102-06:122, 06:124-06:126, 06:128N-06:135, 06:137-06:142, 06:145-06:149, 07:31:01-07:31:02, 07:125, 07:177, 07:356, 12:03:01:01-12:07, 12:11-12:13, 12:15, 12:19, 12:23, 12:25-12:26, 12:28-12:29, 12:31-12:35, 12:37-12:39N, 12:42Q-12:43, 12:45-12:48, 12:50-12:55, 12:57-12:63, 12:65-12:66, 12:70-12:71, 12:75-12:79, 12:81-12:82, 12:87-12:95, 12:97-12:102, 12:107-12:111, 12:113, 12:115-12:116, 12:119-12:122, 12:125, 12:129, 12:131, 12:133, 12:135, 12:138-12:141, 12:143-12:144, 12:147, 14:15-14:16, 16:04:01, 16:04:03, 16:29, 16:33, 16:35, 16:42, 16:48, 16:55, 16:61, 16:66, 16:78
15[15]	130 bp, 255 bp	**800 bp**	*02:02:01[w], 02:02:02:01-02:02:03, 02:02:05-02:13, 02:15-02:26:03, 02:28-02:40:02, 02:42-02:64, 02:66-02:86, 02:88-02:95, 03:07, 03:10, 03:15, 03:29, 03:45, 03:163, 03:268, 04:03:01-04:03:02, 04:06, 04:16, 04:37, 04:80, 04:103, 04:107, 04:147, 04:160, 04:171, 04:190, 05:01:01:01-05:01:31, 05:03-05:19, 05:21-05:42, 05:44:01-05:77, 05:79-05:112, 05:114, 06:03:01-06:03:02, 06:76:01-06:76:02, 06:132:01-06:132:02, 08:10, 12:04:01-12:05, 12:09, 12:21, 12:33, 12:41, 12:60, 12:72, 12:135, 12:146, 14:45, 15:02:01:01-15:06:03, 15:08-15:13, 15:15-15:19, 15:21-15:22, 15:24, 15:26-15:35, 15:37-15:42, 15:44-15:62, 15:64-15:84Q, 15:86-15:106, 16:02:01-16:02:13, 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, 17:01:01:01-17:19, 17:21, 17:23-17:28, 18:09, **B*15:277, B*35:222**
16[15]	160 bp, 260 bp, 445 bp	1070 bp	*01:67, 03:155, 03:231, 04:11, 04:29, 04:36, 04:55, 04:114, 04:172, 07:64, 07:402, 08:95, 12:55, 14:02:01-14:11, 14:13-14:48, 14:50-14:69, 16:40, 16:53, **A*30:62, B*35:252**
17[11,13]	110 bp, 325 bp	**800 bp**	*01:90, 01:101-01:102, 02:06, 02:23, 02:36, 02:68, 03:81, 03:175, 03:199, 03:245, 04:108, 04:112, 04:169, 04:178, 05:36, 06:89, 07:123, 07:173, 07:294, 08:113, 12:08, 12:15, 12:81, 12:113, 15:02:01:01-15:13, 15:15-15:19, 15:21-15:24, 15:26-15:106, 16:20, 16:64, 16:70
18[15,16]	180 bp, 210 bp, 240 bp	1070 bp	*02:13, 02:18, 02:33, 02:49, 02:75, 04:01:01:01-04:01:22, 04:01:24-04:01:66, 04:03:01-04:10, 04:12-04:20, 04:23-04:32, 04:34-04:106, 04:108-04:115N, 04:117-04:129, 04:131-04:168, 04:170N-04:171, 04:173N-04:194, 05:17, 05:25, 05:42, 05:55, 05:68, 05:76, 05:79, 06:05, 06:31, 06:76:02, 06:118, 07:02:09, 07:31:01-07:31:02, 07:154, 07:177, 08:01:01-08:01:17, 08:03:01-08:03:03, 08:06, 08:08:01-08:11, 08:14, 08:16:01-08:16:02, 08:20-08:22, 08:24, 08:26N, 08:28, 08:36N, 08:38, 08:40-08:42, 08:44, 08:46-08:47, 08:50, 08:56-08:61, 08:65, 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, 12:14:01-12:14:02, 12:28, 12:58, 12:132, 12:135, 12:146, 14:10, 14:15, 14:17, 15:12, 15:25, 15:31, 15:62, 15:65, 15:75, 16:01:01-16:02:13, 16:04:01, 16:04:03, 16:06-16:39:02, 16:41-16:42, 16:44-16:52, 16:54-16:79
19[18]	225 bp, 250 bp	**800 bp**	*01:60, 04:58, 04:160, 05:23, 05:62, 06:118, 08:07, 08:47, 08:104, 12:14:01-12:14:02, 14:17, 15:25, 15:65, 17:01:01:01-17:28
20	210 bp, 425 bp	**800 bp**	*01:02:01-01:03, 01:06-01:07:01, 01:08, 01:10-01:20, 01:23-01:34, 01:37N-01:48, 01:51-01:54, 01:56N-01:78, 01:80-01:107, 03:58, 03:86, 03:94, 03:99, 04:37, 05:16, 05:85, 05:107, 06:05-06:06, 06:17, 06:31, 07:07, 07:09, 07:49, 07:76:01-07:76:02, 07:210, 07:238, 07:247, 07:315, 07:328, 07:403, 07:406, 08:12, 12:09, 12:24, 14:02:01-14:05, 14:07N, 14:10-14:14, 14:17-14:27, 14:29-14:52,

Lot No.: 28Y **Lot-specific information**

			14:55-14:62, 14:64-14:69, 15:102, 16:04:01, 16:04:03, 16:29, 16:33, 16:42, 16:53, 16:55, 16:61, 16:66, 16:68, 16:78, 18:01-18:09, **B*07:239, B*14:03**
21	325 bp, 380 bp	1070 bp	*01:03, 01:24, 01:34, 01:49-01:50, 01:55, 01:78, 02:22, 02:62, 03:03:01-03:04:46, 03:06:01-03:11:02, 03:14, 03:18:01-03:24, 03:26, 03:28-03:32, 03:34, 03:37:01-03:59, 03:61-03:70, 03:72-03:83, 03:85, 03:87:01-03:88, 03:90-03:93, 03:96, 03:98, 03:100-03:107, 03:109, 03:111-03:120, 03:122-03:131, 03:133-03:134, 03:136-03:138, 03:140-03:145, 03:147-03:153, 03:155-03:166, 03:168, 03:170-03:176, 03:179-03:189N, 03:191-03:193, 03:195-03:196, 03:202-03:215, 03:217-03:220, 03:223, 03:227-03:237, 03:239-03:244Q, 03:246-03:247, 03:250-03:257, 03:259-03:261, 03:262[?], 03:263, 03:265N-03:270, 03:272-03:277N, 04:01:01:01-04:01:15, 04:01:17-04:01:66, 04:03:01-04:20, 04:24-04:53, 04:55-04:71, 04:73-04:107, 04:109-04:194, 05:01:01:01-05:01:31, 05:03, 05:05-05:21, 05:23-05:102, 05:104-05:106, 05:108-05:114, 06:09, 06:14, 06:35, 06:72, 06:143-06:144, 07:10, 07:28, 07:41, 07:43, 07:184, 07:196, 07:367, 08:01:01-08:08:02, 08:10, 08:12-08:47, 08:49-08:63, 08:65-08:82, 08:84-08:107, 08:109-08:112, 08:114-08:115, 12:31, 12:44, 12:144, 14:54, 15:02:01:01-15:13, 15:15-15:19, 15:21, 15:23-15:36, 15:38-15:54, 15:56-15:57, 15:59-15:64, 15:66-15:71, 15:73-15:101, 15:103-15:106, 16:45, 17:01:01:01-17:28, 18:01-18:09
22[15,18]	135 bp	1070 bp	*02:02:29, 03:02:01-03:02:09, 03:02:11-03:03:20, 03:03:22-03:04:24, 03:04:27-03:11:02, 03:13:01-03:17, 03:18:02-03:38:02, 03:40:01-03:64:01, 03:65-03:66, 03:67[w], 03:68-03:98, 03:100-03:136, 03:138-03:143, 03:146-03:155, 03:157-03:165, 03:167-03:169Q, 03:171, 03:173-03:181, 03:183-03:194, 03:196-03:230, 03:232-03:247, 03:249-03:263, 03:265N-03:277N, 04:32, 04:77, 06:03:01, 06:132:01-06:132:02, 07:96:01-07:96:02, 14:25, 15:02:10, 15:02:17, 15:43, 18:03
23	155 bp, 235 bp	1070 bp	*04:42:01-04:42:02, 06:02:01:01-06:02:01:03, 06:02:03-06:02:43, 06:04-06:75, 06:78-06:131, 06:133-06:149, 07:01:01:01-07:01:40, 07:01:41[w], 07:01:42-07:02:07, 07:02:09-07:02:28, 07:02:30-07:02:40, 07:02:41[w], 07:02:42-07:25, 07:27:01-07:32N, 07:35-07:38:02, 07:41-07:63, 07:65-07:91, 07:93-07:95, 07:97-07:138, 07:140-07:151, 07:153-07:155, 07:157-07:176, 07:178-07:209, 07:211-07:237, 07:239-07:245, 07:247-07:266, 07:268-07:294, 07:297-07:313, 07:315-07:316, 07:318-07:321, 07:323-07:334, 07:336-07:350N, 07:352-07:401, 07:403-07:404, 07:406-07:409, 12:16, 12:147, 17:20, 18:01-18:08
24[13]	95 bp, 475 bp, 590 bp	**800 bp**	*02:02:01-02:02:03, 02:02:06-02:02:12, 02:02:15-02:02:30, 02:04, 02:05:02-02:05:03, 02:07-02:09, 02:11, 02:13, 02:15, 02:19-02:27:01, 02:28-02:31, 02:34-02:40:01, 02:42-02:50, 02:52N-02:57, 02:59-02:71, 02:74-02:75, 02:77-02:88, 02:90-02:93, 05:16, 05:106, 06:05, 06:67, 08:02:02, 08:12, 12:03:17, 12:21, 12:33
25[12]	260 bp, 320 bp, 360 bp	1070 bp	*02:49, 02:75, 03:231, 03:248, 04:01:01:01-04:01:66, 04:03:01-04:20, 04:23-04:194, 05:78, 06:02:37, 06:120, 06:127:02, 07:01:07, 07:04:03, 07:14, 07:27:02, 07:31:02, 07:199:02, 12:132, 12:146, 15:100, 16:34, 16:62
26	155 bp, 225 bp	1070 bp	*01:02:01-01:03, 01:06-01:07:01, 01:08, 01:10-01:20, 01:23-01:34, 01:37N-01:48, 01:51-01:54, 01:56N-01:78, 01:80-01:107, 02:12, 02:49, 02:55, 03:15, 03:27, 03:38:01-03:38:02, 03:58, 03:69, 03:86, 03:94, 03:99, 03:130, 03:136, 03:163, 03:246, 03:274, 04:03:01, 04:06, 04:16, 04:37, 04:80, 04:103, 04:107, 04:129, 04:147, 04:160, 04:171, 04:190, 05:16, 05:42, 05:46, 05:85, 05:107,

Lot No.: 28Y **Lot-specific information**

			06:03:01-06:03:02, 06:05-06:06, 06:67, 06:76:01-06:76:02, 06:132:01-06:132:02, 07:26, 07:92, 07:96:01-07:96:02, 07:101, 07:148, 07:161, 07:314, 07:317, 07:351, 08:05, 08:12, 08:21, 08:25, 12:02:01-12:03:12, 12:03:13[W], 12:03:14-12:04:02, 12:06-12:15, 12:17-12:20, 12:22-12:32, 12:34-12:48, 12:50-12:54, 12:56-12:97, 12:99-12:146, 12:148N, 14:02:01-14:05, 14:07N, 14:10-14:14, 14:17-14:27, 14:29-14:52, 14:55-14:62, 14:64-14:69, 15:03, 15:16, 15:25, 15:102, 16:15:01-16:15:02, 16:25, 16:53, 16:64, 16:68, 17:01:01:01-17:19, 17:21-17:26, 17:27N[W], 17:28, 18:09, **B*07:13, B*07:15, B*07:160, B*07:239, B*14:03, B*67:02**
27	140 bp	1070 bp	*01:02:34, 01:21, 02:12[W], 02:27:01-02:27:02, 02:87, 03:04:25, 04:11, 04:29, 04:36, 04:55, 04:172, 07:02:09, 08:01:01-08:02:10, 08:02:12-08:09, 08:11-08:63, 08:65-08:94, 08:95[W], 08:96-08:115, 12:02:01-12:02:10, 12:02:12-12:03:03, 12:03:05-12:03:08, 12:03:10-12:03:23, 12:03:24[W], 12:03:25-12:03:33, 12:06-12:08, 12:10:01-12:20, 12:22-12:26, 12:28-12:32, 12:34-12:40, 12:42Q-12:53, 12:55-12:59, 12:61-12:71, 12:72[W], 12:73-12:122, 12:124-12:134, 12:135[W], 12:136-12:145, 12:147-12:148N, 14:02:03, 14:03, 14:08, 14:10, 14:22, 14:35N, 14:38, 14:41, 14:53-14:54, 14:61, 15:07, 15:21[W], 15:25, 16:01:01, 16:01:03-16:01:15, 16:01:17-16:01:19, 16:04:01, 16:04:03, 16:06-16:08, 16:10-16:11, 16:13-16:18, 16:20-16:24, 16:26-16:36, 16:37[W], 16:38-16:45, 16:49-16:56, 16:58-16:59, 16:61-16:62, 16:64-16:68, 16:71[W], 16:72-16:73, 16:75-16:76, 16:78-16:79, **B*35:08:02, B*35:08:05, B*67:02**
28[15]	215 bp, 555 bp	1070 bp	*01:97, 03:58, 03:86, 03:94, 03:99, 03:209, 04:09N, 05:85, 05:107, 14:02:01-14:04, 14:07N, 14:10-14:14, 14:17-14:27, 14:29-14:34, 14:35N[W], 14:36-14:44, 14:46-14:52, 14:55-14:62, 14:64-14:69, 15:37, 15:102, 16:18
29[14]	175 bp, 270 bp	**800 bp**	*01:35, 01:107, 02:58, 03:08, 03:29, 03:31, 03:246, 04:08, 04:34, 04:147, 05:27, 05:39, 06:96, 07:20, 07:96:01-07:96:02, 07:263, 08:41, 08:115, 12:83, 12:106, 12:122, 14:20, 15:02:01:01-15:09, 15:12-15:13, 15:15, 15:18-15:19, 15:21-15:24, 15:26, 15:28-15:42, 15:44-15:62, 15:64-15:106, 16:70, 17:07, 18:08, **B*58:02**
30[15]	160 bp, 370 bp, 540 bp	1070 bp	*01:21, 02:12, 02:49, 02:55, 04:01:55, 04:14-04:15:01, 04:15:03, 04:68, 05:112, 06:02:37, 06:127:02, 07:01:07, 07:04:03, 07:14, 07:27:02, 07:31:02, 07:53, 07:199:02, 07:216, 12:02:01-12:02:02, 12:02:04-12:02:07, 12:02:09-12:02:11, 12:02:13, 12:03:29, 12:03:32, 12:08, 12:14:01-12:14:02, 12:16-12:18:02, 12:22, 12:27, 12:30, 12:36, 12:40-12:41, 12:56, 12:64, 12:67-12:69, 12:72-12:74, 12:80N, 12:83-12:86, 12:103-12:106, 12:112, 12:114, 12:117, 12:123-12:124, 12:126-12:128, 12:130, 12:132, 12:134, 12:136-12:137, 12:142, 12:145-12:146, 12:148N, 15:75, 16:01:01-16:02:13, 16:06-16:28, 16:30N-16:32, 16:34, 16:36-16:39:02, 16:41, 16:43-16:47, 16:49-16:52, 16:54, 16:56-16:60, 16:62-16:65, 16:69-16:77N, 16:79, 17:01:10, **A*24:96, A*24:106, A*24:174, B*46:25**
31[16]	520 bp	1070 bp	*01:14, 02:02:01-02:02:03, 02:02:05-02:02:30, 02:04-02:15, 02:17, 02:19-02:26:03, 02:28-02:40:02, 02:42-02:64, 02:66-02:71, 02:73-02:86, 02:88-02:95, 04:01:01:01-04:01:66, 04:03:01-04:03:02, 04:05, 04:07-04:10, 04:12, 04:15:01-04:20, 04:23-04:28, 04:30-04:33, 04:35, 04:37-04:54, 04:56-04:57, 04:59Q-04:67, 04:69-04:110, 04:112-04:113, 04:115N-04:121, 04:123N-04:159, 04:161-04:171, 04:173N-04:177, 04:179-04:187, 04:189-04:194, 05:01:01:01-05:01:31, 05:03-05:10, 05:12-05:16, 05:18:01-05:19, 05:21-05:26, 05:28-05:31, 05:33-05:50, 05:52-05:61, 05:63-05:67, 05:69, 05:71-05:78, 05:80-05:111, 05:113N-05:114, 06:02:01:01-06:02:01:03, 06:02:03-06:03:02, 06:05-06:10, 06:12-06:39, 06:41-06:51, 06:53:01-06:78, 06:80-06:81, 06:83-06:117, 06:119-06:146, 06:148-06:149, 12:04:01-12:05, 12:09, 12:21,

			12:33, 12:41, 12:60, 12:72, 12:135, 12:146, 14:12, 14:49, 15:08, 15:74, 15:102, 17:17, 18:01-18:09
32[19]	-	-	**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 low 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 inherit 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.

[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]Only HLA-C alleles will be amplified by the HLA-C low resolution screening typing kit, except that that a few HLA-A and HLA-B alleles will be amplified by primer mixes 1, 13, 15, 16, 20, 26, 27, 29 and 30.

[5]Primer mix 2 will for most C*02 alleles give rise to two specific PCR fragments.

[6]Primer mix 4 will for most C*03 alleles give rise to two specific PCR fragments.

[7]Primer mix 7 will for most C*05 alleles give rise to two specific PCR fragments.

[8]Primer mix 9 will for most C*07 alleles give rise to two specific PCR fragments.

[9]Primer mix 10 will for most C*08 alleles give rise to multiple specific PCR fragments.

[10]Primer mix 12 will for most C*12 alleles give rise to two specific PCR fragments.

[11]Primer mix 17 will for most C*15 alleles give rise to two specific PCR fragments.

[12]Primer mix 25 will for most C*04 alleles give rise to two specific PCR fragments.

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

[14]Primer mixes 11, 13 and 29 may have tendencies of unspecific amplifications.

[15]Primer mixes 2, 3, 15, 16, 18, 22, 28 and 30 have a tendency to giving rise to primer oligomer formation.

[16]Primer mixes 3, 6, 10, 11, 18 and 31 may give rise to a lower yield of HLA-specific PCR product than the other HLA-C low primer mixes.

[17]Primer mix 14 might faintly amplify most C*01 and the C*14 alleles.

[18]Primer mixes 19 and 22 might generate a false band of about 500 base pairs. This band should be disregarded when interpreting HLA-C low resolution typings.

[19]Primer mix 32 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

'w', might be weakly amplified.

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

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	90	130	280	170	280	135	165	130	245	110	340	100
PCR product	150	200		275		330	390	355	425	165		155
		270					445			390		220
		300										
Length of int.	800	800	800	1070	800	800	1070	800	800	800	1070	800
pos. control[1]												
5'-primer(s)[2]	89	47	105	355	105	47	1st I	28	47	1st I	1st I	361
	5' -gAA 3'	5' -Agg 3'	5' -gCT 3'	5' -TCA 3'	5' -gCT 3'	5' -Agg 3'	5' -CgA 3'	5' -TCA 3'	5' -Agg 3'	5' -CgA 3'	5' -TgA 3'	5' -AgT 3'
	89	89		459		112	176	2nd I	648	176		419
	5' -gAA 3'	5' -gAA 3'		5' -gAT 3'		5' -CCT 3'	5' -gCA 3'	5' -TCA 3'	5' -CAC 3'	5' -gCA 3'		5' -gTC 3'
	98	2nd I				118	527			527		
	5' -CTT 3'	5' -TCA 3'				5' -CCA 3'	5' -TgA 3'			5' -TAC 3'		
		703										
		5' -CTA 3'										
3'-primer(s)[3]	142	176	343	589	343	201	302	213	302	302	302	474
	5' -TgA 3'	5' -ACT 3'	5' -CCC 3'	5' -CTT 3'	5' -CCT 3'	5' -CTT 3'	5' -ggT 3'	5' -Cgg 3'	5' -ggC 3'	5' -ggC 3'	5' -ggT 3'	5' -gCA 3'
	201	559	343			218	3rd I	420	853	595	304	477
	5' -CTT 3'	5' -CTC 3'	5' -g 3'			5' -gCT 3'	5' -CC 3'	5' -gCT 3'	5' -CAT 3'	5' -CCC 3'	5' -CAA 3'	5' -gCA 3'
	201	861										538
	5' -CTC 3'	5' -TCg 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.	120	160	130	160	110	180	225	210	325	135	155	95
PCR product	250	210	255	260	325	210	250	425	380		235	475
				445		240						590
Length of int.	800	800	800	1070	800	1070	800	800	1070	1070	1070	800
pos. control[1]												
5'-primer(s)[2]	201	97	98	98	201	201	2nd I	47	355	105	97	176
	5' -CCA 3'	5' -TCg 3'	5' -CTA 3'	5' -CTC 3'	5' -CCA 3'	5' -CCA 3'	5' -TCA 3'	5' -Agg 3'	5' -TCA 3'	5' -gCT 3'	5' -TCg 3'	5' -gCA 3'
	218	361	368	98	409	2nd I		361	412	459	97	486
	5' -ggA 3'	5' -AgT 3'	5' -gTg 3'	5' -CTT 3'	5' -ggC 3'	5' -TCA 3'		5' -AgT 3'	5' -ATA 3'	5' -gAT 3'	5' -TTg 3'	5' -ACA 3'
	2nd I			194		361						
	5' -TCA 3'			5' -CgT 3'		5' -AgT 3'						
				527								
				5' -TgA 3'								
3'-primer(s)[3]	289	218	312	311	270	341	512	302	3rd I	201	213	361
	5' -AgC 3'	5' -gCT 3'	5' -AgT 3'	5' -ggT 3'	5' -TAg 3'	5' -CgT 3'	5' -CCA 3'	5' -ggT 3'	5' -gCA 3'	5' -CTC 3'	5' -Cgg 3'	5' -CCA 3'
	289	527	459	317	3rd I	343	538	527		559	289	474
	5' -AgC 3'	5' -CCg 3'	5' -AgA 3'	5' -CgT 3'	5' -gCA 3'	5' -CCT 3'	5' -gTC 3'	5' -CCg 3'		5' -CTC 3'	5' -AgC 3'	5' -gCA 3'
	291	538		3rd I		343		538			289	538
	5' -TCg 3'	5' -CCA 3'		5' -CC 3'		5' -g 3'		5' -CCg 3'			5' -AgC 3'	5' -CCA 3'
	539	538				527						
	5' -TCT 3'	5' -gCA 3'				5' -CCg 3'						
						527						
						5' -CCg 3'						
						527						
						5' -CCg 3'						
						527						
						5' -CCg 3'						
						530						
						5' -CCA 3'						
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

Well No.	25	26	27	28	29	30	31
Length of spec.	260	155	140	215	175	160	520
PCR product	320	225		555	270	370	
	360					540	
Length of int.	1070	1070	1070	1070	800	1070	1070
pos. control[1]							
5'-primer(s)[2]	28	98	201	98	134	289	312
	5' -TCA 3'	5' -CTA 3'	5' -CCA 3'	5' -CTA 3'	5' -CCA 3'	5' -Agg 3'	5' -AAA 3'
	341	176		368	2nd I	418	
	5' -ggA 3'	5' -gCA 3'		5' -gTT 3'	5' -TCA 3'	5' -Agg 3'	
		361		1018		419	
		5' -AgT 3'		5' -gTg 3'		5' -gTC 3'	
						419	
						5' -gTT 3'	
3'-primer(s)[3]	112	289	302	361	270	369	539
	5' -CCA 3'	5' -AgC 3'	5' -ggC 3'	5' -CCA 3'	5' -TAg 3'	5' -CCg 3'	5' -TCC 3'
	118	289		538	559	539	
	5' -gCT 3'	5' -AgC 3'		5' -CCg 3'	5' -CAg 3'	5' -TCT 3'	
	218	538		1092			
	5' -gCT 3'	5' -CCg 3'		5' -TTA 3'			
	369						
	5' -CCg 3'						
Well No.	25	26	27	28	29	30	31

[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.

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-C low resolution SSP primer set[2]

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	201550801	201322202	201322203	201322204	201322205	201322206	201322207	201322208	201322209	201322210	201322211	201322212	201550813	201330514	201550915	201435816
	IHWC cell line[1]		C*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
2	9280	LK707	*07:01	*15:05	-	-	+	-	-	-	-	-	+	-	+	-	-	-	+	-
3	9011	E4181324	*12:02		-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
4	9275	GU373	*03:04	*04:01	-	-	+	+	-	+	-	-	-	-	+	-	+	-	-	-
5	9009	KAS011	*06:02		-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-
6	9353	SM	*03:04	*07:02	-	-	+	+	-	-	-	-	+	-	-	-	-	-	-	-
7	9020	QBL	*05:01		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
8	9025	DEU	*04:01		-	-	-	-	-	+	-	-	-	-	+	-	+	-	-	-
9	9026	YAR	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
10	9107	LKT3	*01:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*16:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
12	9052	DBB	*06:02		-	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-
13	9004	JESTHOM	*01:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*01:02	*03:04	+	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*03:04		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*02:02		-	+	+	-	-	+	-	-	-	-	+	-	-	-	+	-
17	9282	CTM3953540	*03:03	*07:01	-	-	-	+	+	-	-	-	+	-	-	-	-	-	-	-
18	9257	32367	*01:02	*07:05	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
19	9038	BM16	*07:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
20	9059	SLE005	*03:04		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*03:03		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
23	9124	IHL	*01:02	*15:02	+	-	+	-	-	-	-	+	-	-	+	-	-	-	+	-
24	9035	JBUSH	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
25	9049	IBW9	*08:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
26	9285	WT49	*07:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:05	-	-	+	-	-	-	-	-	+	-	+	-	-	-	+	-
28	9320	BEL5GB	*05:01	*16:01	-	-	-	-	-	-	+	-	-	-	+	-	+	-	+	-
29	9050	MOU	*16:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
30	9021	RSH	*17:01		-	+	-	-	-	-	-	-	-	-	+	-	-	-	+	-
31	9019	DUCAF	*05:01		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
32	9297	HAG	*17:01	*17:03	-	+	-	-	-	-	-	-	-	-	+	-	-	-	+	-
33	9098	MT14B	*03:04		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
35	9302	SSTO	*05:01		-	-	-	-	-	-	+	-	-	-	+	-	-	-	+	-
36	9024	KT17	*03:03	*04:01	-	-	-	+	+	+	-	-	-	-	+	-	+	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
38	9099	LZL	*03:03		-	-	-	+	+	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*02:02	*07:01	-	+	+	-	-	+	-	-	+	-	+	-	-	-	+	-
40	9134	WHONP199	*01:02	*06:02	+	-	-	-	-	-	-	+	-	-	+	-	-	+	-	-
41	9055	H0301	*08:02		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
42	9066	TAB089	*01:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*01:02	*08:01	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
44	9057	TEM	*12:03		-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
45	9239	SHJO	*06:02	*17:01	-	+	-	-	-	-	-	+	-	-	+	-	-	+	+	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
47	9045	TUBO	*07:04	*15:02	-	-	+	-	-	-	-	+	+	-	+	-	-	-	+	-
48	9303	TER-ND	*04:01	*16:01	-	-	-	-	-	+	-	-	-	-	+	-	+	-	-	-

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-C low resolution SSP primer set[2]

					Well														
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
				Prod. No.:	201322217	201550818	201433919	201322220	201322221	201322222	201435823	201435824	201550925	201550926	201435827	201435828	201435829	201435830	201550931
	IHWC cell line[1]		C*																
1	9001	SA	*07:02		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
2	9280	LK707	*07:01	*15:05	+	-	-	-	+	-	+	-	-	-	-	-	+	-	-
3	9011	E4181324	*12:02		-	-	-	-	-	-	-	-	-	+	+	-	-	+	-
4	9275	GU373	*03:04	*04:01	-	+	-	-	+	+	-	-	+	-	-	-	-	-	+
5	9009	KAS011	*06:02		-	-	-	-	-	-	+	-	-	-	-	-	-	-	+
6	9353	SM	*03:04	*07:02	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-
7	9020	QBL	*05:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	+
8	9025	DEU	*04:01		-	+	-	-	+	-	-	-	+	-	-	-	-	-	+
9	9026	YAR	*12:03		-	-	-	-	-	-	-	-	-	+	+	-	-	-	-
10	9107	LKT3	*01:02		-	-	-	+	-	-	-	-	-	+	-	-	-	-	-
11	9051	PITOUT	*16:01		-	+	-	-	-	-	-	-	-	-	+	-	-	+	-
12	9052	DBB	*06:02		-	-	-	-	-	-	+	-	-	-	-	-	-	-	+
13	9004	JESTHOM	*01:02		-	-	-	+	-	-	-	-	-	+	-	-	-	-	-
14	9071	OLGA	*01:02	*03:04	-	-	-	+	+	+	-	-	-	+	-	-	-	-	-
15	9075	DKB	*03:04		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*02:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	+
17	9282	CTM3953540	*03:03	*07:01	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-
18	9257	32367	*01:02	*07:05	-	-	-	+	-	-	+	-	-	+	-	-	-	-	-
19	9038	BM16	*07:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
20	9059	SLE005	*03:04		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*03:03		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*12:03		-	-	-	-	-	-	-	-	-	+	+	-	-	-	-
23	9124	IHL	*01:02	*15:02	+	-	-	+	+	-	-	-	-	+	-	-	+	-	-
24	9035	JBUSH	*12:03		-	-	-	-	-	-	-	-	-	+	+	-	-	-	-
25	9049	IBW9	*08:02		-	-	-	-	+	-	-	-	-	-	+	-	-	-	-
26	9285	WT49	*07:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:04	*15:05	+	-	-	-	+	-	+	-	-	-	-	-	+	-	-
28	9320	BEL5GB	*05:01	*16:01	-	+	-	-	+	-	-	-	-	-	+	-	-	+	+
29	9050	MOU	*16:01		-	+	-	-	-	-	-	-	-	-	+	-	-	+	-
30	9021	RSH	*17:01		-	-	+	-	+	-	-	-	-	+	-	-	-	-	-
31	9019	DUCAF	*05:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	+
32	9297	HAG	*17:01	*17:03	-	-	+	-	+	-	-	-	-	+	-	-	-	-	-
33	9098	MT14B	*03:04		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*12:03		-	-	-	-	-	-	-	-	-	+	+	-	-	-	-
35	9302	SSTO	*05:01		-	-	-	-	+	-	-	-	-	-	-	-	-	-	+
36	9024	KT17	*03:03	*04:01	-	+	-	-	+	+	-	-	+	-	-	-	-	-	+
37	9065	HHKB	*07:02		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
38	9099	LZL	*03:03		-	-	-	-	+	+	-	-	-	-	-	-	-	-	-
39	9315	CML	*02:02	*07:01	-	-	-	-	-	-	+	+	-	-	-	-	-	-	+
40	9134	WHONP199	*01:02	*06:02	-	-	-	+	-	-	+	-	-	+	-	-	-	-	+
41	9055	H0301	*08:02		-	-	-	-	+	-	-	-	-	-	+	-	-	-	-
42	9066	TAB089	*01:02		-	-	-	+	-	-	-	-	-	+	-	-	-	-	-
43	9076	T7526	*01:02	*08:01	-	+	-	+	+	-	-	-	-	+	+	-	-	-	-
44	9057	TEM	*12:03		-	-	-	-	-	-	-	-	-	+	+	-	-	-	-
45	9239	SHJO	*06:02	*17:01	-	-	+	-	+	-	+	-	-	+	-	-	-	-	+
46	9013	SCHU	*07:02		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
47	9045	TUBO	*07:04	*15:02	+	-	-	-	+	-	+	-	-	-	-	-	+	-	-
48	9303	TER-ND	*04:01	*16:01	-	+	-	-	+	-	-	-	+	-	+	-	-	+	+

101.601-24/12 – including *Taq* pol., IFU-01
101.601-24u/12u – without *Taq* pol., IFU-02

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Lot No.: 28Y **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.

Additional 5'-primers and 3'-primers in primer solutions 1, 2, 7, 14 to 16, 22, 24 to 26 and 28 to 29 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer. Additional 3'-primers in primer solution 18 and 19 were tested by separately adding one additional 5'-primer. Additional 5'-primers in primer solutions 6, 13 and 30 were tested by separately adding one additional 3'-primer.

In primer solutions 1, 16 and 23 one 5'-primers were not possible to test, and in primer solutions 3, 11 to 14, 16 and 18 one or two 3'-primers were not possible to test.

Lot No.: 28Y **Lot-specific information**

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