101.401-48/12 – including *Taq* pol., IFU-01
101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4 **Lot-specific information**

Olerup SSP® HLA-A low resolution

Product number:	**101.401-48/12 – including *Taq* polymerase** **101.401-48u/12u – without *Taq* polymerase**
Lot number:	**3E4**
Expiry date:	**2019-03-01**
Number of tests:	**48 tests – Product No. 101.401-48/48u** **12 tests – Product No. 101.401-12/12u**
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. 3E4.

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-A LOW RESOLUTION LOT (78Y)

The **HLA-A low resolution** specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup* SSP® HLA-A low resolution lot was made **(Lot No. 78Y)**. The kit design is based on IMGT/HLA database 3.25.0.

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, modified or added compared to the previous lot.

Well	5'-primer	3'-primer	rationale
8	Added	-	5'-primer added for the A*66:23 allele.
13	Added	-	5'-primers added for the A*25:01:09 allele and for improved allelic resolution of the A*68:11N allele.
14	Added	-	5'-primer added for the A*11:130 allele.
17	Added	-	5'-primer added for the A*03:152 allele.
24	Added	-	5'-primer added for the A*26:92 allele, 5'-primer added for increased yield.
29	Added, Modified	Added, Modified	Modified 3'- and 5'-primers added for increased yield of the A*24:09N allele.
30	Added	Added	Primer pair added for the A*03:21N allele.

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Lot No.: 3E4 **Lot-specific information**

Change in revision R01 compared to R00:
1. Primer mix 21 may generate a false positive band of about 560 base pairs. This band should be disregarded when interpreting HLA-A low resolution typings. A footnote has been added in the Specificity Table.

Change in revision R02 compared to R01:
1. The reactivities of primer mix 17 have been corrected in the Specificity and Interpretation Tables.

Lot No.: 3E4 **Lot-specific information**

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.

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Lot No.: 3E4 **Lot-specific information**

PRODUCT DESCRIPTION

HLA-A low resolution

CONTENT

The primer set contains 5'- and 3'-primers for grouping the HLA-A*01:01 to A*80:03 alleles into the corresponding serological groups A1 to A80.

PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 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	NC

The 32 well PCR plate is marked with 'HLA-A low' in silver/gray ink.
Well No. 1 is marked with the Lot No. '3E4'.
Wells 1 to 31 – HLA-A 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 covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

Only HLA-A alleles will be amplified by the 32 wells of the HLA-A low resolution primer set, except that a few HLA-B and HLA-C alleles will be amplified by primer mixes 4 to 6, 9, 11, 15, 22 and 23.
For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-A alleles, i.e. **A*01:01 to A*80:03**, recognized by the HLA Nomenclature Committee in July 2016[1,2] will be amplified by the primers in the HLA-A low resolution primer set[3]. The HLA-A alleles will be grouped into their corresponding serological specificities.

The following HLA-A low alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
A*24:14:01:01-24:15, 24:51-24:53, 24:57, 24:64, 24:114, 24:222N, 24:291, 24:296, 24:304, 24:316, 24:324, C*04:01:03	5

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Lot No.: 3E4 **Lot-specific information**

[1]HLA-A alleles listed on the IMGT/HLA web page 2016-July-14, release 3.25.0, 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 A*23:14:01-23:14:02 and the A*24:71 and 24:315 alleles will give rise to identical amplification patterns. These alleles can be separated by the respective high resolution SSP primer sets.
The A*23:57 and 23:66 and the A*24:94, 24:138, 24:188 and 24:228 alleles will give rise to identical amplifications patterns. These alleles can be separated by the respective high resolution SSP primer sets.
The A*31:08 and A*33:53 alleles will give rise to identical amplifications. These alleles can be separated by the respective high resolution SSP primer sets.

Lot No.: 3E4 **Lot-specific information**

SPECIFICITY TABLE

HLA-A low resolution primer set

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

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	HLA-A serology[3]	Amplified HLA-A alleles[4,5]
1[6]	120 bp, 140 bp	**800 bp**	A1, A36	*01:01:01:01-01:01:31, 01:01:33-01:01:59, 01:01:61-01:04N, 01:06-01:33, 01:35-01:68, 01:70-01:142, 01:144-01:170, 01:172-01:187, 01:189-01:208Q, 26:120, 36:01-36:05
2[12]	175 bp, 215 bp, 255 bp, 365 bp, 415 bp	**800 bp**	A2, A19, A28, A203, A210	*02:01:01:01-02:01:15, 02:01:17-02:01:19, 02:01:21-02:01:81, 02:01:83-02:22:02, 02:24:01-02:35:01, 02:35:03-02:47, 02:49-02:77, 02:78[w], 02:79:01-02:97:02, 02:99, 02:101:01-02:128, 02:130-02:570, 02:572-02:634
3[7]	235 bp	1070 bp	A3, A32/A3, A36	*03:01:01:01-03:01:29, 03:01:31-03:01:34, 03:01:36-03:01:47, 03:01:51-03:04:03, 03:06-03:09, 03:11N-03:17:02, 03:19-03:39, 03:41, 03:43-03:74, 03:76-03:94, 03:96-03:97, 03:99-03:104, 03:106-03:121, 03:123:01-03:134, 03:136-03:166, 03:168N-03:176, 03:178N-03:186, 03:188-03:193, 03:195-03:203, 03:205-03:207, 03:209-03:214, 03:216-03:224, 03:226-03:249, 11:130, 30:89, 32:04, 36:02
4	190 bp	**800 bp**	A1, A3, A11, A30, A36, A68	*01:01:01:01-01:01:22, 01:01:24-01:01:47, 01:01:49-01:01:64, 01:01:67-01:04N, 01:06-01:07, 01:09:01-01:11N, 01:13, 01:16N-01:18N, 01:20-01:29, 01:31N-01:33, 01:35-01:78, 01:80-01:98, 01:100-01:144, 01:146, 01:148, 01:150-01:158, 01:160N-01:166, 01:168-01:177, 01:180-01:199, 01:201-01:204, 01:206-01:207, 02:78, 02:169, 03:12, 03:18, 03:88, 03:135, 11:01:01:01-11:27, 11:29-11:52Q, 11:54-11:245, 26:19, 26:72, 29:67, 30:08, 32:64, 36:04, 66:23, 68:13:01, 68:66, 68:134, 74:19, **C*12:131**
5[12]	160 bp, 335 bp, 505 bp	1070 bp	A3, A9, A23, A24, A2403, A29, A31, A32	*03:15, 03:19, 03:30, 03:152, 11:139, 23:01:01-23:68, 23:70-23:74, 24:02:01:01-24:11N, 24:13:01-24:15, 24:17-24:64, 24:66-24:210, 24:212-24:341, 24:343-24:348, 29:07, 29:49, 31:08, 31:29, 32:05, 32:79, 33:19, 33:53, **C*04:01:03**
6[8,14]	135 bp, 200 bp	**800 bp**	A9, A23, A24, A29, A80	*11:166, 23:01:01-23:56, 23:58-23:65, 23:67-23:68, 23:70-23:74, 24:24, 24:71, 24:315, 29:07, 29:49, 31:29, 31:85, 32:72, 80:01:01:01-80:03, **B*18:27**
7[12]	175 bp, 205 bp	1070 bp	A2, A9, A23, A24, A2403, A26, A33	*02:17:01[w]-02:17:03[w], 11:139, 23:14:01-23:14:02, 24:02:01:01-24:11N, 24:13:01-24:13:02, 24:17-24:50, 24:54-24:56, 24:58-24:63, 24:66-24:91, 24:93, 24:95-24:113, 24:115-24:137, 24:139-24:187, 24:189-24:210, 24:212-24:221,

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				24:223-24:227, 24:229-24:290, 24:292-24:295, 24:297-24:303N, 24:305-24:315, 24:317-24:323N, 24:325-24:341, 24:343-24:348, 26:16, 33:19, 68:45, 68:117
8[12]	160 bp, 200 bp	**800 bp**	A2/A28, A3, A10, A11, A25, A26, A32, A34, A43, A66, A68, A69	*01:51, 02:55, 02:135, 02:527, 02:582, 03:24, 03:50, 11:10, 11:183, 11:191, 25:01:01-25:35, 26:01:01:01-26:43:02, 26:45-26:124, 29:28, 32:15, 33:51, 34:01:01-34:15, 43:01, 66:01:01-66:26Q, 68:01:01:01-68:148Q, 69:01-69:03
9[6,9]	80 bp	**800 bp**	A3, A25, A32	*25:01:01-25:35, 32:01:01-32:02, 32:04, 32:06-32:37, 32:39-32:59, 32:61-32:70, 32:72-32:77, 32:81-32:86, **B*07:81, B*08:52, B*18:67, B*38:41, B*51:185, B*53:05, B*53:16, B*53:33**
10[6,12,14]	80 bp, 240 bp	**800 bp**	A10, A26, A43	*01:43, 01:51, 11:17, 11:40, 11:223, 26:01:01:01-26:02:02, 26:04, 26:07:01-26:20, 26:22-26:29, 26:31-26:43:02, 26:45-26:77, 26:79-26:91, 26:93-26:110, 26:112-26:124, 33:13, 33:48, 43:01, 68:84
11[6,12]	80 bp, 175 bp, 500 bp	1070 bp	A1, A9, A11, A26, A31, A34, A66	*01:13, 01:28, 01:136, 01:176, 01:192, 03:63, 03:88, 11:01:01:01-11:27, 11:29-11:52Q, 11:54-11:245, 24:19, 24:44, 26:03:01, 26:06, 26:21, 26:78, 26:92, 26:111, 34:01:01-34:08, 34:10N-34:15, 66:01:01-66:01:03, 66:04-66:11, 66:13-66:14, 66:17-66:20, 66:22-66:24, 69:02, 80:02, **C*07:404**
12[6]	125 bp, 185 bp	**800 bp**	A3, A10, A25, A26, A31, A34, A43, A66	*02:309, 02:454, 03:01:19, 11:11, 25:05-25:06, 26:09, 26:54, 26:91, 31:03-31:04, 34:01:01-34:15, 43:01, 66:02-66:03, 66:16, 66:21, 66:25, 68:130, 74:01:03
13	180 bp, 225 bp, 405 bp	1070 bp	A1, A2, A3, A10, A25, A26, A34, A43, A66	*01:01:56^{w}, 01:13, 01:145^{w}, 01:176, 01:194, 02:34-02:35:03, 02:56:01-02:56:02, 02:62, 02:103, 02:135, 02:580, 03:01:01:01-03:01:22, 03:01:24-03:07, 03:09-03:11N, 03:13-03:31, 03:33-03:35, 03:37-03:40, 03:42-03:56, 03:58, 03:60-03:71, 03:73-03:87, 03:90-03:106, 03:109-03:110, 03:112-03:141, 03:143-03:151, 03:153-03:171, 03:174-03:175, 03:177, 03:179-03:193, 03:195-03:197N, 03:200Q-03:202, 03:204, 03:206-03:210, 03:212-03:218, 03:220-03:249, 11:116, 11:140, 11:199:01-11:199:02, 11:222, 25:01:01-25:05, 25:07-25:35, 26:01:01:01-26:01:20, 26:01:22-26:03:01, 26:05-26:08, 26:10-26:28, 26:29^{w}, 26:30-26:33, 26:35-26:43:02, 26:45-26:48, 26:49^{w}, 26:50-26:72, 26:74-26:77, 26:79-26:90, 26:92-26:124, 30:55, 31:24, 33:61, 34:08, 43:01, 66:01:01, 66:01:03, 66:04-66:09, 66:10^{w}, 66:11-66:15, 66:17-66:20, 66:22-66:24, 68:11N, 68:71, 74:13
14[6,12,14]	80 bp, 115 bp, 200 bp, 240 bp, 460 bp	1070 bp	A26, A29, A31, A34, A36, A68	*02:237, 02:309, 02:454, 03:01:38, 03:95, 03:123:02, 03:171, 03:231, 11:130, 26:19, 26:22, 29:01:01:01-29:90, 31:03-31:04, 32:42, 34:04, 36:02, 66:09, 68:19
15[6,12,13,15]	90 bp, 135 bp, 205 bp	1070 bp	A1, A30	*01:13, 01:28, 01:176, 01:194, 03:43, 03:82, 03:186, 11:113, 11:162, 30:01:01-30:04:02, 30:06-30:20, 30:22-30:99, 30:102, 31:35, **B*07:260**

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16	240 bp, 370 bp, 400 bp	1070 bp	A24, A31, A32	*02:237, 03:95, 29:14, 31:01:02:01-31:111, 32:05, 32:79, 33:53, 74:13
17	130 bp, 155 bp, 180 bp, 235 bp, 260 bp	1070 bp	A3, A25, A29, A32, A74	*01:95, 03:32, 03:43, 03:82, 03:152, 03:186, 03:219, 23:64, 24:104, 24:243, 25:03, 25:30, 29:13, 29:39, 30:89, 31:21, 31:35, 32:01:01-32:86, 74:07
18	200 bp, 390 bp	1070 bp	A32, A33, A68, A74	*02:243:01-02:243:02, 29:48, 31:109, 32:15, 33:01:01-33:01:08, 33:03:01-33:37, 33:39-33:52, 33:54-33:114, 68:29, 74:04, 74:21
19	340 bp, 375 bp	**800 bp**	A2, A19, A68, A74	*01:121, 02:65, 02:407, 02:449, 03:246, 32:62, 68:25, 74:01:01-74:27
20[14]	210 bp, 240 bp	**800 bp**	A2, A25, A28, A68	*02:34-02:35:03, 02:46, 02:48, 02:56:01-02:56:02, 02:62, 02:70, 02:78, 02:103, 02:129, 02:571, 02:580, 11:199:02, 23:01:13, 24:340, 25:05, 26:54, 26:122, 34:02:04, 68:01:01:01-68:148Q
21[14,16]	200 bp, 240 bp, 375 bp, 545 bp	**800 bp**	A2, A23, A24, A26, A28, A66, A68, A69	*02:17:01-02:17:03, 02:55, 02:108, 02:110, 02:243:01-02:243:02, 02:268, 02:300, 02:303, 02:617, 23:02, 23:57, 23:66, 24:06, 24:13:01, 24:22, 24:82, 24:94, 24:138, 24:167, 24:188, 24:207, 24:228, 24:339, 25:30, 25:34-25:35, 26:22, 26:121-26:123, 33:22, 66:06, 66:09, 66:25, 68:04:02, 68:08:02, 68:29, 68:105, 69:01-69:03
22[6,11]	85 bp, 240 bp, 400 bp	**800 bp**	A2, A23, A34, A36	*02:34-02:35:03, 02:46, 02:48, 02:56:01-02:56:02, 02:62, 02:70, 02:78, 02:103, 02:129, 02:571, 02:580, 03:187, 11:155, 11:199:02, 11:226, 11:231[?], 23:01:13, 24:340, 31:62, 34:02:04, 36:01-36:05, 68:01:32, 68:11N, **C*07:481[?], 07:504[?]**
23[6,14]	75 bp, 160 bp, 240 bp, 495 bp	**800 bp**	A2/A28, A24/A3, A26, A36, A68, A80	*02:55, 02:237, 03:41, 03:63, 03:75, 03:88, 03:95, 03:177, 11:130, 24:18, 24:204, 24:213, 26:03:01, 26:05-26:06, 26:21, 26:30, 26:78, 26:111, 33:24, 36:02, 68:05, 68:15, 68:20, 68:109, 68:136, 80:01:01:01-80:01:01:02, 80:03, **C*06:187**
24	360 bp, 445 bp	1070 bp	A3, A10, A26, A31, A66, A74	*02:135, 02:309, 02:454, 03:01:19, 25:13, 26:07:01-26:07:02, 26:30, 26:65, 26:92, 31:04, 34:09, 66:02-66:03, 66:12, 66:16, 66:21, 66:25-66:26Q, 74:01:03
25	190 bp, 400 bp	1070 bp	A1, A29, A30, A31, A32, A33, A74	*29:01:01:01-29:29, 29:31-29:90, 30:01:01-30:01:07, 30:01:09-30:04:02, 30:06-30:11:02, 30:13-30:17, 30:19-30:20, 30:22-30:30, 30:32-30:40, 30:42-30:54, 30:56-30:59N, 30:61-30:99, 30:102, 31:01:02:01-31:08, 31:10-31:27, 31:29-31:111, 32:01:01-32:03, 32:05-32:23, 32:25-32:48N, 32:50-32:86, 33:01:01-33:01:08, 33:03:01-33:37, 33:39-33:114, 74:01:01-74:27
26	195 bp, 225 bp	**800 bp**	A1, A36, A43	*01:01:01:01-01:02, 01:04N, 01:07-01:11N, 01:13, 01:16N-01:18N, 01:21-01:33, 01:35-01:52:02N, 01:54-01:62, 01:64, 01:67:01-01:72, 01:74-01:97, 01:99-01:126, 01:128-01:129, 01:131-01:135, 01:137-01:191, 01:193-01:199, 01:201-01:208Q, 03:18, 03:135, 11:11, 11:94, 11:112, 11:211, 11:226, 36:04, 43:01, 68:130

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101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4 **Lot-specific information**

27[13]	205 bp	1070 bp	A1, A3, A11, A30, A31, A32, A34	*01:12, 01:19, 01:21, 01:126, 01:200, 02:156, 02:338, 03:01:01:01-03:01:05, 03:01:07-03:01:13, 03:01:15-03:01:46, 03:01:48, 03:01:50-03:01:51, 03:01:53-03:17:02, 03:19-03:49, 03:51-03:53, 03:55-03:63, 03:65, 03:67-03:74, 03:76-03:94, 03:96-03:126, 03:128-03:134, 03:136-03:139, 03:141-03:152, 03:154:01-03:164, 03:166-03:176, 03:178N-03:186, 03:188-03:193, 03:195-03:199, 03:201-03:203, 03:205-03:214, 03:216-03:224, 03:226-03:230, 03:232-03:233, 03:235-03:248, 11:03, 11:20, 11:25:01-11:25:02, 11:31, 11:35, 11:60, 11:158, 11:175, 11:183, 11:209, 24:92, 30:04:01-30:04:02, 30:06, 30:09, 30:17, 30:29, 30:46, 30:77, 30:89-30:90, 30:99, 31:03-31:04, 32:04, 33:49, 34:02:01-34:04, 34:07-34:10N, 34:13, 34:15, 68:103:01-68:103:02, 74:23
28[6,13]	100 bp, 520 bp	1070 bp	A1, A2, A3, A9, A11, A23, A24, A28, A29, A30, A66, A68, A69	*01:13, 01:17, 01:176, 01:194, 02:34-02:35:03, 02:56:01-02:56:02, 02:62, 02:78, 02:103, 02:580, 03:01:01:01-03:07, 03:09-03:28, 03:30-03:31, 03:33, 03:35, 03:37-03:40, 03:42-03:61, 03:64-03:87, 03:90-03:106, 03:109-03:151, 03:153-03:171, 03:173-03:175, 03:177-03:193, 03:195-03:197N, 03:199-03:249, 11:12, 11:155, 11:226, 23:13, 24:07:01-24:07:02, 24:24, 24:108, 24:112, 24:131, 24:288, 24:290, 24:294Q, 24:339, 24:347, 29:01:01:01-29:18, 29:21-29:29, 29:31-29:33, 29:35-29:47, 29:49-29:65, 29:67-29:73, 29:75-29:90, 30:01:01-30:01:11, 30:08, 30:11:01-30:11:02, 30:14L-30:20, 30:23-30:26, 30:30, 30:35-30:43, 30:48-30:49, 30:52-30:56, 30:58-30:60, 30:62-30:63, 30:65, 30:71-30:75, 30:78N-30:79, 30:81-30:83, 30:86-30:89, 30:91-30:98, 30:102, 31:89, 32:17, 34:09, 66:02, 66:12, 66:16, 66:21, 66:25-66:26Q, 68:01:01:01-68:01:17, 68:01:19-68:02:12, 68:06-68:14, 68:16-68:19, 68:21:01-68:30, 68:32-68:39, 68:41-68:71, 68:73-68:84, 68:86-68:89, 68:91-68:92, 68:94N-68:96, 68:98-68:108, 68:110-68:148Q, 69:01, 69:03, 74:13
29[6,15]	105 bp, 260 bp	**800 bp**	A3, A11, A26, A30, A68, A74	*01:134, 02:591, 03:09, 03:89:02, 03:108, 03:172, 03:198, 11:06, 11:18, 24:09N, 26:03:01, 26:06, 26:21, 26:30, 26:78, 26:92, 26:111, 29:19, 29:48, 30:13, 30:16, 30:44, 30:46, 33:24, 68:05, 68:15, 68:20, 74:06, 74:21
30[10,14]	180 bp, 465 bp	1070 bp	A10, A25, A26, A43, A66	*01:01:56, 01:04N, 02:135, 03:21N, 11:21N, 23:07N, 24:11N, 25:01:01-25:01:08, 25:02-25:05, 25:07-25:17, 25:19:01-25:35, 26:01:01:01-26:01:20, 26:01:22-26:03:01, 26:05-26:08, 26:10-26:33, 26:35-26:43:02, 26:45-26:72, 26:74-26:77, 26:79-26:90, 26:92-26:102, 26:104-26:124, 43:01, 66:01:01, 66:01:03, 66:04-66:15, 66:17-66:20, 66:22-66:24
31[6]	110 bp, 195 bp, 465 bp	1070 bp	A34	*01:04N, 03:21N, 03:248, 11:21N, 11:191, 23:07N, 24:11N, 34:01:01-34:02:04, 34:04-34:05, 34:07-34:15
32[17]	-	-	-	**Negative control**

101.401-48/12 – including *Taq* pol., IFU-01
101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4 **Lot-specific information**

[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-A 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]The serological reactivity of all HLA-A alleles is not known. In this table we use the expert-assigned serological grouping in Tissue Antigens (2009) 73:95-170 and the serological grouping of the sequence-defined allele.

[4]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.

[5]Only HLA-A alleles will be amplified by the 32 wells of the HLA-A low resolution primer set, except that a few HLA-B and HLA-C alleles will be amplified by primer mixes 4 to 6, 9, 11, 15, 22 and 23.

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

[7]Primer mix 3 may faintly amplify the A*30:04:01-30:04:02, 30:06, 30:17, 30:29, 30:46, 30:77, 30:89 and 30:90 alleles.

[8]Primer mix 6 may give rise to a lower yield of A*23 alleles than the other A low primer mixes.

[9]Primer mix 9 may weakly amplify the A*34 alleles.

[10]Primer mix 30 may generate a false positive band of about 500 base pairs. This band should be disregarded when interpreting HLA-A low resolution typings.

[11]Primer mix 22 might faintly amplify most A*11 alleles.

[12]The primer pairs in wells 2, 5, 7, 8, 10, 11, 14 and 15 will in many samples give rise to two or three HLA-specific PCR fragments.

[13]Primer mixes 15, 27 and 28 may give rise to a lower yield of HLA-specific PCR product than the other HLA-A low primer mixes.

[14]Primer mixes 6, 10, 14, 20, 21, 23 and 30 have a tendency to giving rise to primer oligomer formation.

[15]Primer mixes 15 and 29 may have tendencies of unspecific amplifications.

[16]Primer mix 21 may generate a false positive band of about 560 base pairs. This band should be disregarded when interpreting HLA-A low resolution typings.

[17]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.

101.401-48/12 – including *Taq* pol., IFU-01
101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4

Lot-specific information

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	120	175	235	190	160	135	175	160	80	80	80	125
PCR product	140	215			335	200	205	200		240	175	185
		255			505						500	
		365										
		415										
Length of int.	800	800	1070	800	1070	800	1070	800	800	800	1070	800
pos. control[1]												
5'-primer(s)[2]	98	48	363	98	144	176	98	98	261	98	301	103
	5' -CTT 3'	5' -gCT 3'	5' -ATA 3'	5' -CTA 3'	5' -gCC 3'	5' -gCA 3'	5' -CTC 3'	5' -CTA 3'	5' -AAC 3'	5' -CTA 3'	5' -Cgg 3'	5' -CCT 3'
	103	78		413	317	368	368	102	266	261	302	415
	5' -CCT 3'	5' -TCT 3'		5' -CCg 3'	5' -gCT 3'	5' -gTT 3'	5' -gTT 3'	5' -ACA 3'	5' -ACg 3'	5' -AAC 3'	5' -ggA 3'	5' -ggT 3'
	123	106						413			385	423
	5' -AgT 3'	5' -CCA 3'						5' -CCg 3'			5' -ggC 3'	5' -gCT 3'
								423				
								5' -gCT 3'				
3'-primer(s)[3]	203	240	555	256	265	270	259	259	302	299	341	257
	5' -TCT 3'	5' -ggA 3'	5' -gCA 3'	5' -CTg 3'	5' -CCC 3'	5' -ACA 3'	5' -gTT 3'	5' -gTT 3'	5' -ggC 3'	5' -TCg 3'	5' -CgT 3'	5' -gCA 3'
		292	555	559	368	521	502	259	303		521	506
		5' -gTg 3'	5' -CCA 3'	5' -CCg 3'	5' -CAA 3'	5' -ggg 3'	5' -CTT 3'	5' -gTT 3'	5' -AgA 3'		5' -ggg 3'	5' -TgT 3'
						534	539	538				559
						5' -CgT 3'	5' -TCT 3'	5' -CCA 3'				5' -CTC 3'
												559
												5' -CgT 3'
												559
												5' -CgC 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.	180	80	90	240	130	200	340	210	200	85	75	360
PCR product	225	115	135	370	155	390	375	240	240	240	160	445
	405	200	205	400	180				375	400	240	
		240			235				545		495	
		460			260				560			
Length of int.	1070	1070	1070	1070	1070	1070	800	800	800	800	800	1070
pos. control[1]												
5'-primer(s)[2]	47	98	203	41	98	41	302	78	28	47	176	257
	5' -g.T 3'	5' -CAC 3'	5' -gAA 3'	5' -CTT 3'	5' -CTT 3'	5' -CTT 3'	5' -ggA 3'	5' -TCT 3'	5' -TCg 3'	5' -g.T 3'	5' -gCA 3'	5' -Cgg 3'
	98	219	362	355	180	98	302	106	261	78	261	341
	5' -CTT 3'	5' -gCA 3'	5' -ggT 3'	5' -CCg 3'	5' -TTT 3'	5' -CAC 3'	5' -ggA 3'	5' -CCA 3'	5' -AAC 3'	5' -TCT 3'	5' -AAC 3'	5' -ggC 3'
	414	238	363		203		341	2nd I	368	527	341	
	5' -CAg 3'	5' -AgA 3'	5' -ATA 3'		5' -gAA 3'		5' -ggA 3'	5' -CCT 3'	5' -gTT 3'	5' -TgC 3'	5' -ggA 3'	
	423	355	363		418						355	
	5' -gCT 3'	5' -CCg 3'	5' -ATA 3'		5' -AgC 3'						5' -CCC 3'	
		489	363								362	
		5' -gCA 3'	5' -ATA 3'								5' -gAg 3'	
			369								362	
			5' -TAC 3'								5' -gAg 3'	
3'-primer(s)[3]	282	180	299	238	290	256	397	265	97	265	292	418
	5' -gAC 3'	5' -TCA 3'	5' -CCA 3'	5' -CCT 3'	5' -CAA 3'	5' -CCC 3'	5' -gAg 3'	5' -CCC 3'	5' -ggT 3'	5' -CCC 3'	5' -gTg 3'	5' -gTC 3'
	282	257	411	238	317	256		282	355	282	292	
	5' -gAC 3'	5' -gCA 3'	5' -TCA 3'	5' -CCT 3'	5' -ggA 3'	5' -CTC 3'		5' -gAC 3'	5' -gAC 3'	5' -gAC 3'	5' -gTT 3'	
	559	418	526	243	555	259		282	524	282	299	
	5' -CCC 3'	5' -gTC 3'	5' -CCA 3'	5' -TCA 3'	5' -CCA 3'	5' -gTT 3'		5' -gAC 3'	5' -CAT 3'	5' -gAC 3'	5' -TCT 3'	
	559	555		265				502	538	570	555	
	5' -CCg 3'	5' -CCA 3'		5' -CCC 3'				5' -CTT 3'	5' -CCA 3'	5' -CAC 3'	5' -CCA 3'	
				282				506				
				5' -gAC 3'				5' -TgT 3'				
				555								
				5' -CCA 3'								
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.401-48/12 – including *Taq* pol., IFU-01
101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4 **Lot-specific information**

Well No.	25	26	27	28	29	30	31
Length of spec.	190	195	205	100	105	180	110
PCR product	400	225		520	260	465	195
							465
Length of int.	1070	800	1070	1070	800	1070	1070
pos. control[1]							
5'-primer(s)[2]	41	103	363	282	74	418	270
	5' -CTT 3'	5' -CCT 3'	5' -ATA 3'	5' -CAg 3'	5' -C 3'	5' -AgA 3'	5' -AAA 3'
	123	363		282	78	423	363
	5' -AgT 3'	5' -ATA 3'		5' -CAg 3'	5' -TCC 3'	5' -gCT 3'	5' -ATA 3'
					678	3rd I	3rd I
					5' -AgA 3'	5' -A 3'	5' -A 3'
3'-primer(s)[3]	270	257	527	341	292	559	341
	5' -ACT 3'	5' -gCA 3'	5' -CCA 3'	5' -Cgg 3'	5' -gTg 3'	5' -CCg 3'	5' -CgT 3'
	270	545	527	521	742	559	517
	5' -ACA 3'	5' -AgA 3'	5' -CCT 3'	5' -ggA 3'	5' -CTA 3'	5' -CCg 3'	5' -CgT 3'
			527			621	621
			5' -CCT 3'			5' -ggg 3'	5' -ggg 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.

101.401-48/12 – including *Taq* pol., IFU-01
101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-A low resolution primer set[2]

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod No.:	201671801	201664302	201671803	201664304	201664305	201664306	201664307	201664308	201671809	201664310	201664311	201664312	201671813	201664314	201664315	201664316
	IHWC cell line[1]		A*	A*																
1	9001	SA	*24:02		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
5	9009	KAS011	*01:01		+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	+	-	-	-	-	-	+	-	-	+	-	+	-	-	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
9	9026	YAR	*26:01		-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
12	9052	DBB	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
15	9075	DKB	*24:02		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	+	-	-	+	-	-	-	-	-	-	+	-	-	-
18	9257	32367	*33:03	*74:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	+	-	-	-	-	W	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	+	-	-	-	-	-	+	-	-	+	+	-	-	-	-
24	9035	JBUSH	*32:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:05		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	+	-	+	-	-	-	-	-	-	+	-	-
28	9320	BEL5GB	*02:01	*29:02	-	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	-	-	-	-	+	-	-	-	-	-	-	+	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
32	9297	HAG	*02:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
35	9302	SSTO	*32:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
38	9099	LZL	*02:17		-	+	-	-	-	-	W	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	+	-	+	+	-	-	-	-	-	-	-	-	+	-	-	-
40	9134	WHONP199	*02:07	*30:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-
41	9055	H0301	*03:01		-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
42	9066	TAB089	*02:07		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	+	-	-	+	-	+	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
47	9045	TUBO	*02:16	*03:01	-	+	+	-	-	-	-	-	-	-	-	-	+	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-

101.401-48/12 – including *Taq* pol., IFU-01
101.401-48u/12u – without *Taq* pol., IFU-02

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Lot No.: 3E4 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-A low resolution primer set[2]

					Well													
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
				Prod No.:	201664317	201664318	201664319	201664320	201664321	201671822	201671823	201669124	201671825	201671826	201671827	201671828	201671829	201671830	201671831
	IHWC cell line[1]		A*	A*															
1	9001	SA	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
5	9009	KAS011	*01:01		-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	-	-	-	-	-	+	-	-	-	-	-	+	+	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
9	9026	YAR	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
10	9107	LKT3	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
12	9052	DBB	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
15	9075	DKB	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	-	-	-	-	+	-	-	-	+	+	-	-	-
18	9257	32367	*33:03	*74:01	-	+	+	-	-	-	-	-	+	-	-	-	-	-	-
19	9038	BM16	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
24	9035	JBUSH	*32:01		+	-	-	-	-	-	-	-	+	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	+	-	-	-	-	-	-	+	-	-	-	-	-	-
26	9285	WT49	*02:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
28	9320	BEL5GB	*02:01	*29:02	-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	+	-	-	-	-	+	-	-	+	-	-	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
32	9297	HAG	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
35	9302	SSTO	*32:01		+	-	-	-	-	-	-	-	+	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
38	9099	LZL	*02:17		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-
40	9134	WHONP199	*02:07	*30:01	-	-	-	-	-	-	-	-	+	-	-	+	-	-	-
41	9055	H0301	*03:01		-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
42	9066	TAB089	*02:07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
47	9045	TUBO	*02:16	*03:01	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.401-48/12 – including *Taq* pol., IFU-01
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Lot No.: 3E4 **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'- and 3'-primers in primer solutions 4, 5, 7, 8, 12, 14 to 17, 20 to 23, 26, 30 and 31 were tested by separately adding one or more 3'-primers, respectively one or more 5'-primers. Additional 5'-primers in primer solution 1, 13, 19 and 24 were tested by separately adding one or two 3'-primers. Additional 3'-primers in primer solutions 18 and 27 were tested by separately adding one 5'-primer.

In primer solutions 2, 11 to 13, 15, 22 and 29 one or two 5'-primers were not possible to test, and in primer solutions 3, 6, 8, 9, 12, 13, 16, 18 and 29 one 3'-primer was not possible to test.

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