

101.421-06 – including *Taq* polymerase, IFU-01  
101.421-06u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7E3**

Lot-specific Information  
**Olerup SSP® HLA-A\*23**

Product number:	101.421-06 – including <i>Taq</i> polymerase 101.421-06u – without <i>Taq</i> polymerase
Lot number:	7E3
Expiry date:	2019-07-01
Number of tests:	6
Number of wells per test:	35+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. 7E3.**

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\*23 LOT (21Y)**

The HLA-A\*23 kit is updated for new alleles to enable separation of:

- Confirmed<sup>1</sup> alleles as listed in the IMGT/HLA database
- Polymorphisms in exons outside of the region encoding the peptide binding domain
- Null and Alternatively expressed alleles

<sup>1</sup>As described in section Uniquely Identified Alleles.

The HLA-A\*23 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup SSP®* HLA-A\*23 lot was made (**Lot No. 21Y**). 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.

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

Well	5'-primer	3'-primer	rationale
4	Moved	Moved	Primer pairs moved to well 34 for improved HLA-specific amplification.
14	-	Added	3'-primer added for the A*23:68 allele.
19	-	-	Exchange of positive control primer pair for decreased tendency of primer oligomer formation.
34	Removed, Added	Removed, Added	Primer pairs removed. Primer pairs added from well 4 for improved HLA-specific amplification.

Change in revision R01 compared to R00:

1. Primer mix 14 may have tendencies of unspecific amplifications. A footnote has been added in the Specificity Table.

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Well **36** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup SSP*<sup>®</sup> 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
<b>5'-primer<sup>1</sup></b>	<b>164</b>	<b>340</b>	<b>440</b>	<b>45</b>	<b>45</b>	<b>43</b>	<b>36</b>
	5'-CAC <sup>3'</sup>	5'-Agg <sup>3'</sup>	5'-TTA <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-TAC <sup>3'</sup>
							36
							5'-TAT <sup>3'</sup>
<b>3'-primer<sup>2</sup></b>	<b>231</b>	<b>2<sup>nd</sup> I</b>	<b>507</b>	<b>59</b>	<b>58</b>	<b>57</b>	<b>47</b>
	5'-TgC <sup>3'</sup>	5'-AAA <sup>3'</sup>	5'-TTg <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ACA <sup>3'</sup>
							48
							5'-gCA <sup>3'</sup>
							48
							5'-gCC <sup>3'</sup>
							52
							5'-TgT <sup>3'</sup>
<b>A*</b>	<b>+</b>	<b>+</b>	<b>+</b>				
<b>B*</b>	<b>+</b>	<b>+</b>	<b>+</b>				
<b>C*</b>	<b>+</b>	<b>+</b>	<b>+</b>				
<b>DRB1</b>				<b>+</b>	<b>+</b>		
<b>DRB3</b>				<b>+</b>	<b>+</b>		
<b>DRB5</b>				<b>+</b>			
<b>DQB1</b>					<b>+</b>		
<b>DPB1</b>						<b>+</b>	
<b>DQA1</b>							<b>+</b>

<sup>1</sup>The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2<sup>nd</sup> or 3<sup>rd</sup> 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](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>2</sup>The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2<sup>nd</sup> or 3<sup>rd</sup> exon or the 2<sup>nd</sup> 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](http://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-specific Information  
**PRODUCT DESCRIPTION**

**HLA-A\*23 SSP subtyping**

**CONTENT**

The primer set contains 5'- and 3'-primers for identifying the A\*23:01 to A\*23:74 alleles.

**PLATE LAYOUT**

Each test consists of 36 PCR reactions in a 48 well cut PCR plate. Wells 37 to 48 are empty.

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

The 48 well cut PCR plate is marked with ‘HLA-A\*23’ in silver/gray ink.

Well No. 1 is marked with the Lot Number ‘7E3’.

Wells 1 to 35 – HLA-A\*23 high resolution primers.

Well 36 – Negative Control (NC).

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

**Please note:** When removing each 48 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**

Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A\*23 alleles will be amplified by primer mixes 1 to 10, 12 to 20, 22 to 30, 32 and 35. In addition, a few HLA-B and HLA-C alleles will be amplified by primer mixes 1, 3, 10, 14, 15 and 18.

For further details see Specificity Table.

**UNIQUELY IDENTIFIED ALLELES**

All the HLA-A\*23 alleles, i.e. **A\*23:01 to A\*23:74 alleles**, recognized by the HLA Nomenclature Committee in July 2015<sup>1,2</sup> will be amplified by the primers in the HLA-A\*23 subtyping kit.

The HLA-A\*23 kit enables separation of the confirmed HLA-A\*23 alleles as listed in the IMGT/HLA database. 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-A\*23 alleles is listed below.

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The HLA-A\*23 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

The HLA-A\*23 subtyping kit cannot distinguish the silent mutations in the A\*23:01:01-23:01:15 and 23:01:17-23:01:19 alleles, the A\*23:03:01-23:03:02 alleles and the A\*23:37:01-23:37:02 alleles.

The following HLA-A\*23 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
A*23:08N, 23:22	7	A*23:13, 23:33	17
A*23:09, 23:26	8	A*23:16, 23:29	20
A*23:10, 23:23	10	A*23:41, 23:42	25

<sup>1</sup>HLA-A alleles listed on the IMGT/HLA web page 2016-July-14, release 3.25.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

<sup>2</sup>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>.

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**ALLELE CONFIRMATION STATUS**

Allele	Status <sup>1</sup>	Allele	Status <sup>1</sup>	Allele	Status <sup>1</sup>	Allele	Status <sup>1</sup>
A*23:01:01	Confirmed	A*23:12	Confirmed	A*23:40	Unconfirmed	A*23:71	Unconfirmed
A*23:01:02	Confirmed	A*23:13	Unconfirmed	A*23:41	Unconfirmed	A*23:72	Unconfirmed
A*23:01:03	Confirmed	A*23:14:01	Unconfirmed	A*23:42	Unconfirmed	A*23:73	Unconfirmed
A*23:01:04	Confirmed	A*23:14:02	Unconfirmed	A*23:43	Confirmed	A*23:74	Unconfirmed
A*23:01:05	Unconfirmed	A*23:15	Confirmed	A*23:44	Unconfirmed		
A*23:01:06	Confirmed	A*23:16	Unconfirmed	A*23:45	Unconfirmed		
A*23:01:07	Unconfirmed	A*23:17	Confirmed	A*23:46	Unconfirmed		
A*23:01:08	Unconfirmed	A*23:18	Confirmed	A*23:47	Confirmed		
A*23:01:09	Confirmed	A*23:19N	Confirmed	A*23:48	Confirmed		
A*23:01:10	Confirmed	A*23:20	Unconfirmed	A*23:49	Confirmed		
A*23:01:11	Unconfirmed	A*23:21	Confirmed	A*23:50	Unconfirmed		
A*23:01:12	Unconfirmed	A*23:22	Unconfirmed	A*23:51	Unconfirmed		
A*23:01:13	Unconfirmed	A*23:23	Unconfirmed	A*23:52	Unconfirmed		
A*23:01:14	Unconfirmed	A*23:24	Confirmed	A*23:53	Confirmed		
A*23:01:15	Unconfirmed	A*23:25	Unconfirmed	A*23:54	Unconfirmed		
A*23:01:16	Unconfirmed	A*23:26	Unconfirmed	A*23:55	Unconfirmed		
A*23:01:17	Unconfirmed	A*23:27	Confirmed	A*23:56	Confirmed		
A*23:01:18	Unconfirmed	A*23:28	Confirmed	A*23:57	Unconfirmed		
A*23:01:19	Unconfirmed	A*23:29	Unconfirmed	A*23:58	Unconfirmed		
A*23:02	Unconfirmed	A*23:30	Confirmed	A*23:59	Confirmed		
A*23:03:01	Unconfirmed	A*23:31	Confirmed	A*23:60	Unconfirmed		
A*23:03:02	Unconfirmed	A*23:32	Unconfirmed	A*23:61	Unconfirmed		
A*23:04	Confirmed	A*23:33	Unconfirmed	A*23:62	Unconfirmed		
A*23:05	Confirmed	A*23:34	Unconfirmed	A*23:63	Unconfirmed		
A*23:06	Confirmed	A*23:35	Unconfirmed	A*23:64	Unconfirmed		
A*23:07N	Unconfirmed	A*23:36	Unconfirmed	A*23:65	Confirmed		
A*23:08N	Confirmed	A*23:37:01	Unconfirmed	A*23:66	Unconfirmed		
A*23:09	Unconfirmed	A*23:37:02	Unconfirmed	A*23:67	Unconfirmed		
A*23:10	Unconfirmed	A*23:38N	Unconfirmed	A*23:68	Confirmed		
A*23:11N	Unconfirmed	A*23:39	Unconfirmed	A*23:70	Unconfirmed		

<sup>1</sup>Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2017-October-27, release 3.30.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

**RESOLUTION IN HOMO- AND HETEROZYGOTES**

Results file with resolution in HLA-A\*23 homo- and heterozygotes is available upon request.

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Lot-specific Information  
**SPECIFICITY TABLE**

**HLA-A\*23 SSP subtyping**

Specificities and sizes of the PCR products of the 35+1 primer mixes used for  
HLA-A\*23 SSP subtyping

Primer Mix	Size of spec. PCR product <sup>1</sup>	Size of control band <sup>2</sup>	Amplified HLA-A*23 alleles <sup>3</sup>	Other amplified HLA Class I alleles <sup>4</sup>
<b>1</b>	210 bp	<b>800 bp</b>	*23:01:01-23:01:19, 23:03:01-23:65, 23:67- 23:68, 23:70-23:74	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 24:13:01-24:13:02, 24:18, 24:24, 24:94, 24:188, 24:207, 24:228, 24:315, 29:07, 29:49, 31:29, <b>B*18:27</b>
<b>2</b>	160 bp	1070 bp	*23:01:01-23:02, 23:05- 23:42, 23:44-23:68, 23:71-23:74	*02:19, 02:36-02:37, 02:54, 02:255, 02:417, 11:209, 24:02:01:01-24:02:41, 24:02:43-24:02:69, 24:02:71-24:02:97, 24:04-24:09N, 24:11N, 24:13:01-24:15, 24:17, 24:19-24:20, 24:24-24:32, 24:34- 24:64, 24:66-24:74:02, 24:76-24:93, 24:95-24:109, 24:111-24:124, 24:126- 24:137, 24:139-24:157, 24:159-24:166, 24:168-24:203, 24:205-24:206, 24:209, 24:212-24:218, 24:220-24:282, 24:284- 24:288, 24:290-24:298, 24:301-24:314, 24:316-24:338, 24:341, 24:343-24:348, 33:19, 68:26, 68:65, 68:115, 68:131
<b>3<sup>5</sup></b>	125 bp	<b>800 bp</b>	*23:03:01-23:03:02, 23:70	*11:139, 24:21:01, 24:21:03, 24:208, 29:07, 29:49, 31:29, <b>B*18:27</b>
	270 bp		*23:25	
<b>4<sup>5</sup></b>	200 bp	1070 bp	*23:28	*24:77
<b>5</b>	230 bp	<b>800 bp</b>	*23:06	*31:36
<b>6<sup>6</sup></b>	470 bp	1070 bp	*23:07N	*01:04N, 03:21N, 11:21N, 24:11N
<b>7<sup>5</sup></b>	95 bp	<b>800 bp</b>	*23:08N	*02:82N
	145 bp		*23:39	*30:22
	205 bp		*23:22	
<b>8<sup>7</sup></b>	140 bp	1070 bp	*23:26, 23:39	*30:22
	170 bp		*23:48	
	215 bp		*23:09	*01:02, 01:20, 01:188, 01:190, 24:129
<b>9</b>	235 bp	1070 bp	*23:05	*24:25, 24:308
<b>10</b>	135 bp	<b>800 bp</b>	*23:23	<b>B*18:27</b>
	240 bp		*23:10, 23:43	*11:139 <sup>w</sup> , 24:10:01 <sup>w</sup> -24:10:02 <sup>w</sup> , 24:46, 24:210 <sup>w</sup> , 24:300 <sup>w</sup> , 24:340 <sup>w</sup>
<b>11</b>	200 bp	<b>800 bp</b>	*23:11N	
	270 bp		*23:32	
<b>12</b>	135 bp	1070 bp	*23:69	
	190 bp		*23:12	*24:30, 24:42, 24:309, 25:11, 32:08
<b>13<sup>5</sup></b>	90 bp	<b>800 bp</b>	*23:30	
	210 bp		*23:02, 23:24, 23:66	*24:06, 24:87, 24:138, 24:167, 24:285, 24:289, 24:339

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<b>14</b> <sup>5,7</sup>	85 bp 190 bp 245 bp	1070 bp	*23:53, 23:70 *23:68 *23:04	*11:139, 24:17, 24:41, 24:208, 29:07, 29:49  *02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 11:139, 24:03:01-01-24:03:03, 24:10:01-24:10:02, 24:18, 24:22, 24:33, 24:94, 24:125, 24:138, 24:167, 24:204, 24:207, 24:210, 24:289, 24:299-24:300, 24:315, 24:339-24:340, 29:07, 29:49, 31:29, <b>B*18:27</b>
<b>15</b>	210 bp 290 bp	1070 bp	*23:01:16, 23:14:01 *23:47	*24:13:02, 24:315, <b>B*18:27</b> *24:234, 24:339
<b>16</b>	175 bp  205 bp	<b>800 bp</b>	*23:14:01-23:14:02	*02:17:01 <sup>w</sup> -02:17:03 <sup>w</sup> , 11:139, 24:02:01-01-24:04, 24:06-24:11N, 24:13:01-24:13:02, 24:17-24:23, 24:25-24:50, 24:54-24:56, 24:58-24:63, 24:66-24:91, 24:93, 24:95-24:113, 24:115-24:129, 24:131-24:137, 24:139-24:167, 24:169-24:187, 24:189-24:193, 24:195-24:198, 24:200-24:210, 24:212-24:221, 24:223-24:227, 24:229-24:290, 24:292, 24:294Q-24:295, 24:297-24:303N, 24:305-24:315, 24:317-24:318, 24:320-24:323N, 24:325-24:341, 24:343, 24:345-24:348, 33:19 *11:139, 24:02:01-01-24:02:15, 24:02:17-24:05, 24:07:01-24:11N, 24:17, 24:19-24:21:03, 24:23-24:50, 24:55-24:56, 24:58-24:63, 24:66-24:86N, 24:88-24:90:02N, 24:93, 24:95-24:106, 24:108-24:113, 24:115-24:132N, 24:134-24:137, 24:139-24:166, 24:168-24:187, 24:189-24:206, 24:208-24:210, 24:212-24:221, 24:223-24:226:02, 24:229-24:284, 24:286-24:288, 24:290, 24:292-24:295, 24:297-24:298, 24:300-24:303N, 24:305-24:314, 24:317-24:323N, 24:325-24:326, 24:328-24:338, 24:340-24:341, 24:343-24:348, 26:16, 33:19, 68:45, 68:117
<b>17</b> <sup>5</sup>	125 bp 225 bp	1070 bp	*23:33 *23:13	*30:102 *03:72, 11:88, , 24:07:01-24:07:02, 24:19, 24:24, 24:131, 24:288, 24:290, 24:294Q, 24:339, 24:347, 29:37, 29:56, 30:01:01-30:01:11, 30:11:01-30:11:02, 30:14L-30:20, 30:23-30:26, 30:30-30:31, 30:35-30:43, 30:48-30:49, 30:52-30:54, 30:56, 30:58-30:60, 30:62-30:63, 30:65, 30:72-30:75, 30:78N, 30:81-30:83, 30:86-30:89, 30:91-30:98, 30:102, 68:45, 68:117
<b>18</b> <sup>5</sup>	120 bp	1070 bp	*23:01:01-23:01:19, 23:02 <sup>w</sup> , 23:04-23:23, 23:25-23:33, 23:35-23:56,	*02:01:22, 02:06:04, 02:40:01-02:40:02, 02:51, 02:130, 02:171:01, 24:13:02, 24:24, 24:315, 31:67-31:68, 32:28,



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			23:58-23:65, 23:67-23:68, 23:71-23:74	32:66, 33:32:01, 68:08:01, 68:51 <sup>w</sup> , <b>B*51:136, C*07:204:01, C*07:482</b>
<b>19<sup>5</sup></b>	120 bp 195 bp	1070 bp	*23:15 *23:46	*24:66, 24:308, 30:75
<b>20<sup>6</sup></b>	130 bp 195 bp 230 bp 270 bp	<b>800 bp</b>	*23:29 *23:46 *23:16 *23:32	*24:128 *24:66, 24:308, 30:75 *24:297
<b>21<sup>5</sup></b>	90 bp	<b>800 bp</b>	*23:01:01-23:01:19, 23:02 <sup>?</sup> -23:04 <sup>?</sup> , 23:06- 23:07N, 23:08N <sup>?</sup> , 23:09, 23:10 <sup>?</sup> -23:16 <sup>?</sup> , 23:18- 23:19N, 23:20 <sup>?</sup> -23:25 <sup>?</sup> , 23:26, 23:27 <sup>?</sup> -23:37:02 <sup>?</sup> , 23:38N, 23:39 <sup>?</sup> -23:68 <sup>?</sup> , 23:70 <sup>?</sup> -23:74 <sup>?</sup>	
<b>22<sup>5,6</sup></b>	90 bp 290 bp	1070 bp	*23:31, 23:45, 23:53, 23:70 *23:19N	*11:139, 24:17, 24:41, 24:62, 24:106, 24:208, 24:330, 29:07, 29:49, 31:29
<b>23<sup>5,7</sup></b>	80 bp	1070 bp	*23:45	*02:41, 02:80, 02:117, 02:289:01, 02:304, 02:454, 24:62, 26:10, 31:67- 31:68, 32:28, 32:66, 33:32:01
<b>24<sup>5</sup></b>	170 bp 105 bp 180 bp 240 bp	<b>800 bp</b>	*23:20, 23:58 *23:49 *23:21 *23:40	*30:06 *24:302
<b>25<sup>5</sup></b>	95 bp 205 bp	<b>800 bp</b>	*23:41 *23:42	*02:221, 29:15, 31:78
<b>26<sup>5</sup></b>	80 bp	1070 bp	*23:36	*24:32, 32:05, 32:79
<b>27<sup>5,6</sup></b>	85 bp 200 bp 285 bp	1070 bp	*23:53, 23:70 *23:34, 23:57 *23:35	*11:139, 24:17, 24:41, 24:208, 29:07, 29:49 *02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 24:13:01, 24:94, 24:188, 24:207, 24:228
<b>28</b>	385 bp	<b>800 bp</b>	*23:02 <sup>?</sup> -23:04 <sup>?</sup> , 23:05, 23:08N <sup>?</sup> , 23:10 <sup>?</sup> -23:16 <sup>?</sup> , 23:17, 23:18 <sup>?</sup> , 23:20 <sup>?</sup> - 23:25 <sup>?</sup> , 23:27 <sup>?</sup> -23:37:02 <sup>?</sup> , 23:39 <sup>?</sup> -23:68 <sup>?</sup>	*24:02:01:01-24:02:09, 24:02:11- 24:02:96, 24:03:01:01-24:04, 24:05 <sup>?</sup> - 24:06 <sup>?</sup> , 24:07:01-24:10:01, 24:10:02 <sup>?</sup> , 24:11N, 24:13:01 <sup>?</sup> -24:15 <sup>?</sup> , 24:17 <sup>?</sup> -24:19 <sup>?</sup> , 24:20, 24:21:01 <sup>?</sup> -24:21:02 <sup>?</sup> , 24:21:03- 24:22, 24:23 <sup>?</sup> -24:28 <sup>?</sup> , 24:29, 24:30 <sup>?</sup> - 24:32 <sup>?</sup> , 24:34 <sup>?</sup> -24:35 <sup>?</sup> , 24:36N, 24:37 <sup>?</sup> - 24:43 <sup>?</sup> , 24:44, 24:45N <sup>?</sup> -24:60N <sup>?</sup> , 24:61, 24:62 <sup>?</sup> -24:64 <sup>?</sup> , 24:66 <sup>?</sup> -24:78 <sup>?</sup> , 24:79, 24:80 <sup>?</sup> -24:85 <sup>?</sup> , 24:86N, 24:87 <sup>?</sup> -24:94 <sup>?</sup> , 24:95, 24:96 <sup>?</sup> -24:127 <sup>?</sup> , 24:128-24:129, 24:130 <sup>?</sup> -24:131 <sup>?</sup> , 24:132N, 24:133 <sup>?</sup> - 24:141 <sup>?</sup> , 24:142:01, 24:143, 24:144 <sup>?</sup> - 24:151 <sup>?</sup> , 24:152, 24:153 <sup>?</sup> -24:162 <sup>?</sup> , 24:163N, 24:164 <sup>?</sup> -24:172:01 <sup>?</sup> , 24:172:02, 24:173 <sup>?</sup> -24:193 <sup>?</sup> , 24:194, 24:195 <sup>?</sup> - 24:210 <sup>?</sup> , 24:212 <sup>?</sup> -24:214 <sup>?</sup> , 24:215, 24:216 <sup>?</sup> -24:225:01 <sup>?</sup> , 24:225:02, 24:226:01 <sup>?</sup> , 24:226:02, 24:227 <sup>?</sup> -24:230 <sup>?</sup> ,

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Lot-specific Information

				24:231, 24:232N <sup>2</sup> , 24:233-24:235, 24:236 <sup>2</sup> -24:237 <sup>2</sup> , 24:238, 24:239 <sup>2</sup> -24:247 <sup>2</sup> , 24:248-24:251, 24:252N <sup>2</sup> -24:253 <sup>2</sup> , 24:254-24:256, 24:257 <sup>2</sup> -24:258 <sup>2</sup> , 24:259-24:273, 24:274 <sup>2</sup> -24:277 <sup>2</sup> , 24:278N, 24:279 <sup>2</sup> -24:285 <sup>2</sup> , 24:286, 24:287 <sup>2</sup> -24:292 <sup>2</sup> , 24:293-24:294Q, 24:295 <sup>2</sup> -24:308 <sup>2</sup> , 24:309, 24:310:01 <sup>2</sup> -24:312N <sup>2</sup> , 24:313, 24:314 <sup>2</sup> -24:320 <sup>2</sup> , 24:321, 24:322 <sup>2</sup> -24:341 <sup>2</sup> , 24:343 <sup>2</sup> -24:348 <sup>2</sup> , 33:19 <sup>2</sup>
<b>29</b>	170 bp 200 bp 240 bp 290 bp	1070 bp	*23:48 *23:37:01-23:37:02 *23:40 *23:47	*24:273 *24:302 *24:234, 24:339
<b>30<sup>5</sup></b>	110 bp 245 bp	1070 bp	*23:56 *23:38N	*24:61
<b>31</b>	185 bp	1070 bp	*23:44	
<b>32<sup>5</sup></b>	85 bp	1070 bp	*23:59	*01:203, 11:166, 30:56, 31:85, 32:72, 80:01:01:01-80:03
<b>33</b>	165 bp	1070 bp	*23:65	*24:298
<b>34<sup>5</sup></b>	90 bp 170 bp	1070 bp	*23:18 *23:58	*24:267
<b>35<sup>5</sup></b>	105 bp 260 bp	<b>800 bp</b>	*23:49 *23:27	*30:06 *24:255
<b>36<sup>8</sup></b>	-	-	<b>Negative Control</b>	

<sup>1</sup>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\*23 SSP typings.

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

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

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

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

<sup>2</sup>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.

<sup>3</sup>For several HLA Class I alleles 1<sup>st</sup> and/or 4<sup>th</sup> 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.

<sup>4</sup>Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A\*23 alleles will be amplified by primer mixes 1 to 10, 12 to 20, 22 to 30, 32 and 35. In addition, a few HLA-B and HLA-C alleles will be amplified by primer mixes 1, 3, 10, 14, 15 and 18.

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<sup>5</sup>HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

<sup>6</sup>Primer mixes 6, 20, 22 and 27 may give rise to a lower yield of HLA-specific PCR product than the other A\*23 primer mixes.

<sup>7</sup>Primer mix 8, 14 and 23 may have tendencies of unspecific amplifications.

<sup>8</sup>Primer mix 36 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

‘w’, may be weakly amplified.

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

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Lot-specific Information  
**PRIMER SPECIFICATION**

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	210	160	125	200	230	470	95	140	235	135	200	135
PCR product			270				145	170		240	270	190
							205	215				
Length of int. pos. control <sup>1</sup>	800	1070	800	1070	800	1070	800	1070	1070	800	800	1070
5'-primer(s) <sup>2</sup>	368	453	368	98	144	3 <sup>rd</sup> I	98	98	28	368	90	144
	5'-gTT 3'	5'-AAA 3'	5'-gTT 3'	5'-CTC 3'	5'-gCC 3'	5'-ATA 3'	5'-CTC 3'	5'-CTC 3'	5'-TCg 3'	5'-gTT 3'	5'-AgT 3'	5'-gCC 3'
							564				160	920
							5'-TgA 3'				5'-ACg 3'	5'-CCA 3'
3'-primer(s) <sup>3</sup>	539	570	453	256	331	621	200	193	92	463	317	292
	5'-TCA 3'	5'-CCg 3'	5'-TCg 3'	5'-CTg 3'	5'-CTC 3'	5'-ggg 3'	5'-TCC 3'	5'-CgA 3'	5'-AAC 3'	5'-gCT 3'	5'-ggA 3'	5'-gTg 3'
			595				262	200		559		1013
			5'-CCg 3'				5'-TgC 3'	5'-TCC 3'		5'-CCg 3'		5'-CTT 3'
							616	227		571		
							5'-CgT 3'	5'-CTg 3'		5'-CCT 3'		
								271				
								5'-CAT 3'				
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec.	90	85	210	175	125	120	120	130	90	90	80	105
PCR product	210	190	290	205	225		195	195		290	170	180
		245						230				240
								270				
Length of int. pos. control <sup>1</sup>	800	1070	1070	800	1070	1070	1070	800	800	1070	1070	800
5'-primer(s) <sup>2</sup>	368	368	368	98	98	453	418	90	920	368	414	98
	5'-gTT 3'	5'-gTT 3'	5'-gTT 3'	5'-CTC 3'	5'-CTC 3'	5'-AAA 3'	5'-AgC 3'	5'-AgT 3'	5'-CCA 3'	5'-gTT 3'	5'-CAg 3'	5'-CTC 3'
				368			493	228			678	
				5'-gTT 3'			5'-CTg 3'	5'-ATg 3'			5'-AgA 3'	
								379				
								5'-ACA 3'				
								418				
								5'-AgC 3'				
3'-primer(s) <sup>3</sup>	419	413	538	259	181	524	570	317	968	418	453	163
	5'-CgC 3'	5'-gCC 3'	5'-CAg 3'	5'-gTT 3'	5'-gTA 3'	5'-CAC 3'	5'-CCg 3'	5'-ggA 3'	5'-CAg 3'	5'-gTC 3'	5'-TCT 3'	5'-CgC 3'
	530	518	616	502	282	538		570		619	806	238
	5'-CCA 3'	5'-CCT 3'	5'-CgC 3'	5'-CTT 3'	5'-gAC 3'	5'-CAg 3'		5'-CCg 3'		5'-gTT 3'	5'-CTA 3'	5'-CCT 3'
	539	570		539	282						809	299
	5'-TCC 3'	5'-CAC 3'		5'-TCT 3'	5'-gAC 3'						5'-CAA 3'	5'-TCg 3'
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

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Lot-specific Information

Well No.	25	26	27	28	29	30	31	32	33	34	35
Length of spec.	95	80	85	385	170	110	185	85	165	90	105
PCR product	205		200		200	245				170	260
			285		240						
					290						
Length of int. pos. control <sup>1</sup>	<b>800</b>	1070	1070	<b>800</b>	1070	1070	1070	1070	1070	1070	<b>800</b>
5'-primer(s) <sup>2</sup>	376	265	368	678	98	98	395	176	453	678	98
	5'-gCT 3'	5'-CAg 3'	5'-gTT 3'	5'-AgA 3'	5'-CTC 3'	5'-CTC 3'	5'-gCA 3'	5'-gCA 3'	5'-AAA 3'	5'-AgA 3'	5'-CTC 3'
	484				368						
	5'-ACg 3'				5'-gTT 3'						
3'-primer(s) <sup>3</sup>	538	302	413	920	227	167	538	218	577	728	163
	5'-CAA 3'	5'-ggC 3'	5'-gCC 3'	5'-Tgg 3'	5'-CTg 3'	5'-ACC 3'	5'-CAA 3'	5'-gCg 3'	5'-gCC 3'	5'-CCT 3'	5'-CgC 3'
			524		255	303				809	316
			5'-CAT 3'		5'-TCC 3'	5'-AgT 3'				5'-CAA 3'	5'-gAA 3'
			534		255						
			5'-CgT 3'		5'-TCT 3'						
			614		299						
			5'-Tgg 3'		5'-TCg 3'						
					616						
					5'-CgC 3'						
Well No.	25	26	27	28	29	30	31	32	33	34	35

<sup>1</sup>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.

<sup>2</sup>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](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>3</sup>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](http://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-specific Information

<b>CELL LINE VALIDATION SHEET</b>																				
<b>HLA-A*23 SSP subtyping kit<sup>2</sup></b>																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201550401	201550402	201550403	201675604	201550405	201550406	201550407	201550408	201550409	201550410	201550411	201550412	201550413	201675614	201550415	201550416
	IHWC cell line <sup>1</sup>	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	-	-	-	-	-	-	-	-	-	W	-	-	-	+	-	-	+
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.421-06 – including *Taq* polymerase, IFU-01  
101.421-06u – without *Taq* polymerase, IFU-02

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Lot-specific Information

CELL LINE VALIDATION SHEET																				
HLA-A*23 SSP subtyping kit <sup>2</sup>																				
				Prod. No.:	Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
		IHWC cell line <sup>1</sup>	A*	A*	201550417	201550418	201675619	201550420	201550421	201550422	201550423	201550424	201550425	201550426	201550427	201550428	201550429	201550430	201550431	201550432
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.421-06 – including *Taq* polymerase, IFU-01  
101.421-06u – without *Taq* polymerase, IFU-02

Visit [www.olerup.com](http://www.olerup.com) for  
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Lot No.: **7E3**

Lot-specific Information

CELL LINE VALIDATION SHEET						
HLA-A*23 SSP subtyping kit <sup>2</sup>						
						Well
						33 34 35
						Prod. No.:
						201550433
						201675634
						201550435
	IHWC cell line <sup>1</sup>	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 IBV9	*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	-	-	-



**101.421-06 – including Taq polymerase, IFU-01**  
**101.421-06u – without Taq polymerase, IFU-02**

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**Lot No.: 7E3**

**Lot-specific Information**

<sup>1</sup>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.

<sup>2</sup>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 3 to 5, 9, 11, 13, 15, 19, 20, 23 to 26, 29 to 31 and 33 to 35 were available.

The specificities of the primers in primer solutions 3, 13, 15, 19, 20, 23 and 26 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers.

In primer solutions 4, 5, 9, 24, 29, 30 and 33 to 35 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 11, 25 and 31 it was only possible to test the 3'-primers, the 5'-primers was not possible to test.

In primer solutions 3, 7, 8, 10, 12, 13 to 15, 17, 22, 23 and 27 one or two 3'-primers were not possible to test, and in primer solutions 19, 20 and 23 one or three 5'-primer were not possible to test. Additional primers in primer solutions 7, 8, 10, 12, 14, 16, 18 and 27 were tested by separately adding one additional 5'-primer and/or one additional 3'-primer.

**101.421-06 – including *Taq* polymerase, IFU-01**  
**101.421-06u – without *Taq* polymerase, IFU-02**

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**“Instructions for Use” (IFU)**

**Lot No.: 7E3**

**Lot-specific Information**

101.421-06 – including *Taq* polymerase, IFU-01  
101.421-06u – without *Taq* polymerase, IFU-02

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Lot No.: **7E3**

Lot-specific Information

101.421-06 – including *Taq* polymerase, IFU-01  
101.421-06u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7E3**

Lot-specific Information

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**E-mail:** [olerup-at@caredx.com](mailto:olerup-at@caredx.com)

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