

101.231-24/04– including *Taq* pol., IFU-01  
101.231-24u/04u– without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **17V**

Lot-specific information  
**Olerup SSP® DQA1**

Product number:	101.231-24/04 – including <i>Taq</i> pol. 101.231-24u/04u – without <i>Taq</i> pol.
Lot number:	17V
Expiry date:	2016-July-01
Number of tests:	24 tests – Product No. 101.231-24/24u 4 tests – Product No. 101.231-04/04u
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. 17V.**

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

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP®  
DQA1 LOT (82R)**

The Lot-specific information for DQA1 including and without *Taq* polymerase is now described in one common Product Insert.

A well containing Negative Control primer pairs has been added.

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

The DQA1 specificity and interpretation tables have been updated compared the previous *Olerup SSP®* DQA1 lot (**Lot No. 82R**).

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
16	Added	Added	Primer pair added from well 31.
29	-	Added	3'-primer added for the DQA1*01:12 allele.
31	Added	Added	Primer pair added from well 32.
32	-	-	Negative Control.

Change in revision R01 compared to R00:

1. Primer mix 5 may faintly amplify the DQA1\*01:01:01:01:02:04 and 01:04:01:01-01:04:02 alleles. A footnote has been added in the Specificity Table.

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Well **32** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup SSP®* HLA Class I, DRB, DQB1 and DPB1 amplicons as well as amplicons generated by a control primer pair.

PCR product sizes range from 75 to 430 base pairs.  
The PCR product generated by the control primer pair is 430 base pairs.

Length of PCR product	105	200	105	80	75	80
<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>
	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>
<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>
	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>
<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>

<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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## PRODUCT DESCRIPTION

### DQA1 SSP typing

#### CONTENT

The primer set contains 5'- and 3'-primers for identifying the DQA1\*01:01 to DQA1\*06:02 alleles.

#### PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 well cut PCR plate.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>	<b>24</b>
<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>	<b>31</b>	<b>NC</b>

The 32 well cut PCR plate is marked with 'DQA1', in silver/gray ink.

Well No. 1 is marked with the Lot No. '17V'.

Wells 1 to 31 – DQA1 high resolution primers.

Well 32 – Negative Control (NC).

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.

The PCR plates are heat-sealed with a PCR-compatible foil.

**Please note:** When removing each 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 DQA1 alleles will be amplified by the DQA1 typing kit. Thus, the interpretation of DQA1 typings is not influenced by the DQA2 gene.

For further details see Specificity Table.

#### UNIQUELY IDENTIFIED ALLELES

All the DQA1 alleles, i.e. **DQA1\*01:01 to 01:12, DQA1\*02:01, DQA1\*03:01 to 03:03, DQA1\*04:01 to DQA1\*04:04, DQA1\*05:01 to 05:11 and DQA1\*06:01 to DQA1\*06:02**, recognized by the HLA Nomenclature Committee in October 2013<sup>1,2</sup> will give rise to unique amplification patterns by the primers in the DQA1 typing kit.

The DQA1 typing kit cannot distinguish the DQA1\*01:01:01-01:01:02 alleles, the DQA1\*01:02:01:01-01:02:03 alleles, the DQA1\*01:03:01:01-01:03:01:02 alleles, the DQA1\*01:04:01:01-01:04:02 alleles, the DQA1\*03:03:01-03:03:02 alleles, the DQA1\*04:01:02:01-04:01:02:02, the DQA1\*05:01:01:01-05:01:02 alleles, the DQA1\*05:05:01:01-05:05:01:03 alleles and the DQA1\*06:01:01-06:01:02 alleles.

<sup>1</sup>DQA1 alleles listed on the IMGT/HLA web page 2013-October-11, release 3.14.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

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<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>.

**RESOLUTION IN HOMO- AND HETEROZYGOTES**

Results file with resolution in DQA1 homo- and heterozygotes is available upon request.

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## SPECIFICITY TABLE

### DQA1 SSP typing

Specificities and sizes of the PCR products of the 31+1 primer mixes used for DQA1 SSP typing

Primer Mix	Size of spec. PCR product <sup>1</sup>	Size of control band <sup>2</sup>	Amplified DQA1 alleles <sup>3</sup>
<b>1</b>	145 bp	<b>515 bp</b>	*01:01:01-01-01:01:02, 01:04:01:01-01:05, 01:07, 01:12
<b>2</b>	170 bp	<b>515 bp</b>	*01:01:01-01-01:02:04, 01:04:01:01-01:09, 01:11-01:12
<b>3</b>	145 bp	430 bp	*01:02:01:01-01:03:01:02, 01:06, 01:08-01:11
<b>4</b>	170 bp	430 bp	*01:03:01:01-01:03:01:02, 01:10
<b>5<sup>7</sup></b>	205 bp	430 bp	*01:05
<b>6<sup>4</sup></b>	100 bp	430 bp	*01:04:01:01-01:04:02, 01:06 <sup>?</sup> , 01:07
<b>7<sup>4,5</sup></b>	95 bp	430 bp	*01:06
<b>8<sup>4</sup></b>	65 bp	430 bp	*01:01:01-01-01:02:03, 01:03:01:01-01:03:01:02, 01:06 <sup>?</sup> , 01:08-01:12, 02:01, 03:01:01-03:03:02, 04:01:01-04:04, 05:01:01-01-05:11, 06:01:01-06:02
<b>9</b>	175 bp	430 bp	*02:01
<b>10</b>	185 bp	430 bp	*03:01:01-03:03:02
<b>11</b>	215 bp	430 bp	*03:02
<b>12</b>	225 bp	<b>515 bp</b>	*03:02-03:03:02
<b>13</b>	225 bp	<b>515 bp</b>	*01:01:01-01-01:12, 02:01, 03:01:01, 04:01:01, 04:02-04:04, 05:01:01-01-05:11, 06:01:01-06:02
<b>14<sup>4,5</sup></b>	125 bp	430 bp	*04:01:01-04:02, 04:04, 05:01:01-01-05:11
<b>15</b>	165 bp	430 bp	*05:01:01-01-05:09, 05:11
<b>16<sup>4</sup></b>	95 bp	<b>515 bp</b>	*05:02, 05:07
<b>17</b>	200 bp	430 bp	*05:01:01-01-05:01:02, 05:02 <sup>?</sup> , 05:04 <sup>?</sup> , 05:05:01-01-05:05:01:03, 05:08-05:11
<b>18</b>	200 bp	430 bp	*05:02 <sup>?</sup> , 05:03, 05:04 <sup>?</sup> , 05:06-05:07
<b>19</b>	205 bp	430 bp	*05:01:01-01-05:03, 05:05:01-01-05:09, 05:11
<b>20</b>	135 bp	430 bp	*05:04
<b>21<sup>4</sup></b>	100 bp	430 bp	*05:02 <sup>?</sup> , 05:04 <sup>?</sup> , 05:05:01-01-05:05:01:03, 05:08-05:09, 05:10 <sup>?</sup> , 05:11
	210 bp		*01:09
<b>22<sup>4,6</sup></b>	120 bp	<b>515 bp</b>	*06:01:01-06:02
	215 bp		*01:10
<b>23<sup>4</sup></b>	85 bp	430 bp	*04:01:01-04:04, 06:01:01-06:02
<b>24</b>	220 bp	430 bp	*01:01:01-01-01:12, 02:01 <sup>w</sup> , 03:01:01-03:03:02, 04:01:01-04:04, 05:01:01-01-05:01:02, 05:02 <sup>?</sup> , 05:03, 05:04 <sup>?</sup> , 05:06-05:07, 05:10 <sup>?</sup> , 06:01:01-06:02

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<b>25<sup>4</sup></b>	80 bp 175 bp	430 bp	*05:09 *01:07
<b>26</b>	160 bp	430 bp	*04:02, 05:10
<b>27<sup>4,6</sup></b>	90 bp 135 bp	430 bp	*04:03N *01:11
<b>28<sup>4</sup></b>	105 bp	430 bp	*04:04
<b>29</b>	155 bp 250 bp	430 bp	*01:08,06:02 *01:12
<b>30<sup>4</sup></b>	115 bp 215 bp	430 bp	*05:11 *05:06
<b>31</b>	135 bp	430 bp	*05:08
<b>32<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 DQA1 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, e.g. the primers in wells 11, 12, 17, 18, 21, 23 and 27.

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 430 or 515 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the longer, 515 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 DQB1 alleles 1<sup>st</sup> and/or 3<sup>rd</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> HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

<sup>5</sup> Primer mixes 7 and 14 may have a tendency to giving rise to primer oligomer formation.

<sup>6</sup> Primer mixes 22 and 27 may have tendencies of unspecific amplifications.

<sup>7</sup> Primer mix 5 may faintly amplify the \*01:01:01-01:02:04 and 01:04:01:01-01:04:02 alleles.

<sup>8</sup> Primer mix 32 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the 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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### PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	145	170	145	170	205	100	95	65	175	185	215	225
Length of int. pos. control <sup>1</sup>	515	515	430	430	430	430	430	430	430	430	430	515
5'-primer(s) <sup>2</sup>	33(169) 5'-Agg 3'	25(143) 5'-gTA 3'	33(169) 5'-AgC 3'	25(143) 5'-gTT 3'	-4(60) 5'-CCC 3'	198(664) 5'-gCA 3'	25(143) 5'-gTA 3'	-7(49) 5'-CCg 3'	7(90) 5'-CAC 3'	7(90) 5'-CAT 3'	-6(53) 5'-gAC 3'	99(366) 5'-CCC 3'
3'-primer(s) <sup>3</sup>	68(274) 5'-TgC 3'	68(274) 5'-TgC 3'	68(274) 5'-TgC 3'	68(274) 5'-TgC 3'	1 <sup>st</sup> I 5'-TTT 3'	218(722) 5'-CTT 3'	43(199) 5'-AgC 3'	2(74) 5'-TgT 3'	52(224) 5'-TgT 3'	54(232) 5'-TCT 3'	1 <sup>st</sup> I 5'-TTT 3'	160(548) 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. PCR product	225	125	165	95	200	200	205	135	100	120	85	220
Length of int. pos. control <sup>1</sup>	515	430	430	515	430	430	430	430	430	515	430	430
5'-primer(s) <sup>2</sup>	99(366) 5'-CCC 3'	25(143) 5'-gTA 3'	33(169) 5'-AgC 3'	59(245) 5'-CCg 3'	107(389) 5'-CAT 3'	107(389) 5'-CAT 3'	21(131) 5'-TCC 3'	21(131) 5'-TCT 3'	-13(31) 5'-ggA 3'	25(143) 5'-gTT 3'	32(165) 5'-gAC 3'	up <sup>4</sup> 5'-ACT 3'
				188(634) 5'-CTA 3'					103(377) 5'-ggA 3'			
3'-primer(s) <sup>3</sup>	160(548) 5'-CAg 3'	52(226) 5'-TTg 3'	75(293) 5'-gAC 3'	75(293) 5'-gAC 3'	159(547) 5'-AgC 3'	159(547) 5'-AgA 3'	75(293) 5'-gAC 3'	51(223) 5'-TCT 3'	1 <sup>st</sup> I 5'-TgC 3'	51(223) 5'-TCT 3'	46(208) 5'-ACA 3'	-13(31) 5'-ggC 3'
	160(548) 5'-CAg 3'			207(691) 5'-gCA 3'					160(548) 5'-CAg 3'	83(319) 5'-AgT 3'		
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Well No.	25	26	27	28	29	30	31
Length of spec. PCR product	80	160	90	105	155	115	135
Length of int. pos. control <sup>1</sup>	430	430	430	430	430	430	430
5'-primer(s) <sup>2</sup>	-13(31) 5'-ggA 3'	33(169) 5'-AgC 3'	52(226) 5'-gAT 3'	152(526) 5'-gTC 3'	99(366) 5'-CCC 3'	101(373) 5'-CAg 3'	107(389) 5'-CAT 3'
		33(169) 5'-Agg 3'	101(372) 5'-ACg 3'	186(626) 5'-TCT 3'		194(650) 5'-Agg 3'	
3'-primer(s) <sup>3</sup>	0(70) 5'-TTT 3'	76(298) 5'-AAC 3'	68(274) 5'-TgT 3'	174(591) 5'-TCg 3'	134(470) 5'-CAg 3'	159(547) 5'-AgA 3'	139(485) 5'-AgA 3'
		78(304) 5'-gCA 3'	138(482) 5'-TgA 3'	218(722) 5'-CTT 3'		138(484) 5'-gCg 3'	218(722) 5'-CTC 3'
						168(574) 5'-CTg 3'	
Well No.	25	26	27	28	29	30	31

<sup>1</sup>The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 430 or 515 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the longer, 515 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





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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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CELL LINE VALIDATION SHEET																				
DQA1 SSP typing kit <sup>2</sup>																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	200960901	201312902	200960903	200960904	201312905	200960906	200960907	200960908	200960909	200960910	200960911	200960912	200960913	200960914	200960915	201328416
IHCW cell line <sup>1</sup>		DQA1*																		
1	9001 SA	*01:01			+	+	-	-	-	-	-	+	-	-	-	-	+	-	-	-
2	9280 LK707	*01:03	*03:03		-	-	+	+	-	-	-	+	-	+	-	+	+	-	-	-
3	9011 E4181324	*01:03			-	-	+	+	-	-	-	+	-	-	-	-	+	-	-	-
4	9275 GU373	*05:01			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
5	9009 KAS011	*01:02			-	+	+	-	-	-	-	+	-	-	-	-	+	+	-	-
6	9353 SM	*01:03	*03:01		-	-	+	+	-	-	-	+	-	+	-	-	+	-	-	-
7	9020 QBL	*05:01			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
8	9025 DEU	*03			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
9	9026 YAR	*03:01			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
10	9107 LKT3	*03:03			-	-	-	-	-	-	-	+	-	+	-	+	-	-	-	-
11	9051 PITOUT	*02:01			-	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-
12	9052 DBB	*02:01			-	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-
13	9004 JESTHOM	*01:01			+	+	-	-	-	-	-	+	-	-	-	-	+	-	-	-
14	9071 OLGA	*04:01			-	-	-	-	-	-	-	+	-	-	-	-	+	+	-	-
15	9075 DKB	*03:02			-	-	-	-	-	-	-	+	-	+	+	+	-	-	-	-
16	9037 SWEIG007	*05:05			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
17	9282 CTM3953540	*01:03	*05:01		-	-	+	+	-	-	-	+	-	-	-	-	+	+	+	-
18	9257 32367	*01:02	*03:03		-	+	+	-	-	-	-	+	-	+	-	+	+	+	-	-
19	9038 BM16	*05:05			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
20	9059 SLE005	*01:02			-	+	+	-	-	-	-	+	-	-	-	-	+	-	-	-
21	9064 AMALA	*05:03			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
22	9056 KOSE	*01:02	*01:04		+	+	+	-	-	+	-	+	-	-	-	-	+	-	-	-
23	9124 IHL	*01:03	*01:04		+	+	+	+	-	+	-	+	-	-	-	-	+	-	-	-
24	9035 JBUSH	*05:05			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
25	9049 IBW9	*02:01			-	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-
26	9285 WT49	*05:01			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
27	9191 CH1007	*03:03	*01:05		+	+	-	-	+	-	-	+	-	+	-	+	+	-	-	-
28	9320 BEL5GB	*02:01	*03:03		-	-	-	-	-	-	-	+	+	-	-	+	+	-	-	-
29	9050 MOU	*02:01			-	-	-	-	-	-	-	+	+	-	-	-	+	-	-	-
30	9021 RSH	*04:01			-	-	-	-	-	-	-	+	-	-	-	-	+	+	-	-
31	9019 DUCAF	*05:01			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
32	9297 HAG	*05:05			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
33	9098 MT14B	*03:01			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
34	9104 DHIF	*05:05			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
35	9302 SSTO	*03:01			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
36	9024 KT17	*03:01			-	-	-	-	-	-	-	+	-	+	-	-	+	-	-	-
37	9065 HHKB	*01:03			-	-	+	+	-	-	-	+	-	-	-	-	+	-	-	-
38	9099 LZL	*05:03			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
39	9315 CML	*03:03	*05:01		-	-	-	-	-	-	-	+	-	+	-	+	+	+	+	-
40	9134 WHONP199	*02:01	*03:02		-	-	-	-	-	-	-	+	+	+	+	+	+	-	-	-
41	9055 H0301	*01:02			-	+	+	-	-	-	-	+	-	-	-	-	+	-	-	-
42	9066 TAB089	*01:03			-	-	+	+	-	-	-	+	-	-	-	-	+	-	-	-
43	9076 T7526	*03:02			-	-	-	-	-	-	-	+	-	+	+	+	-	-	-	-
44	9057 TEM	*01:04			+	+	-	-	-	+	-	-	-	-	-	-	+	-	-	-
45	9239 SHJO	*02:01	*03:03		-	-	+	+	-	-	-	+	-	+	-	+	+	-	-	-
46	9013 SCHU	*01:02			-	+	+	-	-	-	-	+	-	-	-	-	+	-	-	-
47	9045 TUBO	*05:05			-	-	-	-	-	-	-	+	-	-	-	-	+	+	+	-
48	9303 TER-ND	*01:01			+	+	-	-	-	-	-	+	-	-	-	-	+	-	-	-

101.231-24/04– including *Taq* pol., IFU-01  
101.231-24u/04u– without *Taq* pol., IFU-02

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Lot No.: **17V**

Lot-specific information

<b>CELL LINE VALIDATION SHEET</b>																			
<b>DQA1 SSP typing kit<sup>2</sup></b>																			
<b>Well</b>																			
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
			Prod. No.:	200960917	200960918	200960919	200960920	201328421	201312922	201328423	200960924	200960925	201189126	201312927	200960928	201328429	201189130	200960932	
	<b>IHWC cell line<sup>1</sup></b>	<b>DQA1*</b>																	
1	9001 SA	*01:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
2	9280 LK707	*01:03	*03:03	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
3	9011 E4181324	*01:03		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
4	9275 GU373	*05:01		+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
5	9009 KAS011	*01:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
6	9353 SM	*01:03	*03:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
7	9020 QBL	*05:01		+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
8	9025 DEU	*03		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
9	9026 YAR	*03:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
10	9107 LKT3	*03:03		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
11	9051 PITOUT	*02:01		-	-	-	-	-	-	-	W	-	-	-	-	-	-	-	-
12	9052 DBB	*02:01		-	-	-	-	-	-	-	W	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*01:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
14	9071 OLGA	*04:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
15	9075 DKB	*03:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*05:05		+	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*01:03	*05:01	+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
18	9257 32367	*01:02	*03:03	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
19	9038 BM16	*05:05		+	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*01:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
21	9064 AMALA	*05:03		-	+	+	-	-	-	-	+	-	-	-	-	-	-	-	-
22	9056 KOSE	*01:02	*01:04	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
23	9124 IHL	*01:03	*01:04	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
24	9035 JBUSH	*05:05		+	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*02:01		-	-	-	-	-	-	-	W	-	-	-	-	-	-	-	-
26	9285 WT49	*05:01		+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
27	9191 CH1007	*03:03	*01:05	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*02:01	*03:03	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
29	9050 MOU	*02:01		-	-	-	-	-	-	-	W	-	-	-	-	-	-	-	-
30	9021 RSH	*04:01		-	-	-	-	-	-	-	+	+	-	-	-	-	-	-	-
31	9019 DUCAF	*05:01		+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
32	9297 HAG	*05:05		+	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B	*03:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
34	9104 DHIF	*05:05		+	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*03:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
36	9024 KT17	*03:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
37	9065 HHKB	*01:03		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
38	9099 LZL	*05:03		-	+	+	-	-	-	-	+	-	-	-	-	-	-	-	-
39	9315 CML	*03:03	*05:01	+	-	+	-	-	-	-	+	-	-	-	-	-	-	-	-
40	9134 WHONP199	*02:01	*03:02	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
41	9055 H0301	*01:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
42	9066 TAB089	*01:03		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
43	9076 T7526	*03:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
44	9057 TEM	*01:04		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
45	9239 SHJO	*02:01	*03:03	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
46	9013 SCHU	*01:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
47	9045 TUBO	*05:05		+	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*01:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-

<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.

101.231-24/04– including *Taq* pol., IFU-01  
101.231-24u/04u– without *Taq* pol., IFU-02

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**Lot No.: 17V**

**Lot-specific information**

<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 7, 16, 20 and 26 to 29 were available. The specificities of the primers in primer solution 16 were tested by separately adding one 5'-primer, respectively one 3'-primer. In primer solutions 7, 26 and 29 the 5'-primers were tested by adding one additional 3'-primer, the 3'-primers were not possible to test. In primer solutions 20, 27 and 28 the 3'-primers were tested by adding one additional 5'-primer, the 5'-primers were not possible to test. In primer solutions 16, 21 and 30, one 5'-primer was not possible to test, and in primer solution 16 22 and 25 one 3'-primer was not possible to test.

Additional 3'-primers in primer solutions 21 and 30 were tested by separately adding one 5'-primer, and one additional 5'-primer in primer solution 25 was tested by separately adding one 3'-primer.

101.231-24/04– including *Taq* pol., IFU-01  
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Lot No.: **17V**

Lot-specific information

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