

101.123-24/06 – including *Taq* polymerase  
 101.123-24u/06u – without *Taq* polymerase

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 “Instructions for Use” (IFU)

**Lot No.: 1V4**

Lot-specific information  
**Olerup SSP® DRB5**

<b>Product number:</b>	101.123-24/06 – including <i>Taq</i> pol. 101.123-24u/06u – without <i>Taq</i> pol.
<b>Lot number:</b>	1V4
<b>Expiry date:</b>	2029-02-01
<b>Number of tests:</b>	24 tests – Product No. 101.123-24/24u 6 tests – Product No. 101.123-06/06u
<b>Number of wells per test:</b>	21+1
<b>Storage - pre-aliquoted primers:</b>	dark, between -15°C and -25°C
- PCR Master Mix:	between -15°C and -25°C
- Adhesive PCR seals	RT

**This Product Description is only valid for Lot No. 1V4.**

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

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP® DRB5 LOT (0V1)**

- The product documentation has been updated for new alleles of IMGT 3.58.0
- The kit resolution focuses on common and well documented (CWD) alleles<sup>1</sup>.

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

The DRB5 primer set, specificity and interpretation tables have been updated for the HLA-DRB alleles described since the previous *Olerup SSP®* DRB5 lot was made (Lot No. 0V1).

The DRB5 primer set is unchanged compared to the previous *Olerup SSP®* DRB5 (Lot No. 0V1).



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Well **22** contains Negative Control primer pairs, that will amplify a majority 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 200 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>C*</b>	+	+	+				
<b>DRB1</b>				+	+		
<b>DRB3</b>				+	+		
<b>DRB5</b>				+			
<b>DQB1</b>					+		
<b>DPB1</b>						+	
<b>DQA1</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

### DRB5 SSP subtyping

#### CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB5\*01:01:01 to DRB5\*01:142 and the DRB5\*02:02 to DRB5\*02:39 alleles.

#### PLATE LAYOUT

Each test consists of 22 PCR reactions in a 24 well cut PCR plate. Wells 23 and 24 are empty.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	NC	empty	empty

The 24 well cut PCR plate is marked with ‘DRB5’ in silver/gray ink. Well No. 1 is marked with the Lot No. ‘1V4’.

Wells 1 to 21 – DRB5 primers.

Well 22 – 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 24 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 DRB5 alleles, non-DRB5 alleles will be amplified by some primer mixes. For further details see Specificity Table.

#### UNIQUELY IDENTIFIED ALLELES

All the DRB5 alleles, i.e. **DRB5\*01:01:01 to DRB5\*01:142 and DRB5\*02:02 to DRB5\*02:39**, recognized by the HLA Nomenclature Committee in October 2024<sup>1,2,3</sup> will be amplified by the primers in the DRB5 subtyping kit.

The DRB5 kit enables separation of the confirmed DRB5 alleles as listed in the IMGT/HLA database 3.28.0. An HLA allele is listed as confirmed by IMGT/HLA if it has been sequenced by more than a single laboratory or from multiple sources. Current allele confirmation status for DRB5 alleles is listed below.

The DRB5 kit also enables identification of many null and alternatively expressed alleles.



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<sup>1</sup>DRB5 alleles listed on the IMGT/HLA web page 2024-October-09, release 3.58.0, [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>.

<sup>3</sup>The primers in this kit do not amplify the DRB5\*01:131N allele.

## ALLELE CONFIRMATION STATUS

Allele	Status <sup>1</sup>	Allele	Status <sup>1</sup>	Allele	Status <sup>1</sup>
DRB5*01:01:01	Confirmed	DRB5*01:19	Unconfirmed	DRB5*02:09	Unconfirmed
DRB5*01:01:02	Unconfirmed	<b>DRB5*01:20</b>	<b>Confirmed</b>	<b>DRB5*02:10</b>	<b>Confirmed</b>
DRB5*01:01:03	Unconfirmed	<b>DRB5*01:21</b>	<b>Confirmed</b>	DRB5*02:11	Unconfirmed
<b>DRB5*01:02</b>	<b>Confirmed</b>	DRB5*01:22	Unconfirmed	<b>DRB5*02:12</b>	<b>Confirmed</b>
<b>DRB5*01:03</b>	<b>Confirmed</b>	DRB5*01:23	Unconfirmed	<b>DRB5*02:13</b>	<b>Confirmed</b>
DRB5*01:04	Unconfirmed	DRB5*01:24	Unconfirmed	DRB5*02:14	Unconfirmed
DRB5*01:05	Unconfirmed	DRB5*01:25	Unconfirmed	DRB5*02:15	Unconfirmed
DRB5*01:06	Unconfirmed	DRB5*01:26	Unconfirmed	DRB5*02:16	Unconfirmed
DRB5*01:07	Unconfirmed	DRB5*01:27N	Unconfirmed		
<b>DRB5*01:08N</b>	<b>Confirmed</b>	DRB5*01:28	Unconfirmed		
DRB5*01:09	Unconfirmed	DRB5*01:29	Unconfirmed		
<b>DRB5*01:10N</b>	<b>Confirmed</b>	DRB5*01:30	Unconfirmed		
DRB5*01:11	Unconfirmed	DRB5*01:31	Unconfirmed		
DRB5*01:12	Unconfirmed	<b>DRB5*02:02</b>	<b>Confirmed</b>		
<b>DRB5*01:13</b>	<b>Confirmed</b>	<b>DRB5*02:03</b>	<b>Confirmed</b>		
DRB5*01:14	Unconfirmed	DRB5*02:04	Unconfirmed		
DRB5*01:15	Unconfirmed	DRB5*02:05	Unconfirmed		
DRB5*01:16	Unconfirmed	DRB5*02:06	Unconfirmed		
<b>DRB5*01:17</b>	<b>Confirmed</b>	<b>DRB5*02:07</b>	<b>Confirmed</b>		
<b>DRB5*01:18</b>	<b>Confirmed</b>	DRB5*02:08	Unconfirmed		

<sup>1</sup>Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2017-April-13, release 3.28.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

## RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in DRB5 homo- and heterozygotes is available upon request.



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Lot-specific information  
**SPECIFICITY TABLE**

**DRB5 SSP subtyping**

Specificities and sizes of the PCR products of the 21+1 primer mixes used for DRB5 SSP subtyping

Primer Mix	Size of spec. PCR product <sup>1</sup>	Size of control band <sup>2</sup>	Amplified DRB5 alleles <sup>3</sup>	Other amplified DRB alleles
<b>1</b>	255 bp	<b>515 bp</b>	*01:01:01:01:01:05, 01:07-01:20, 01:22:01-01:30, 01:32-01:38, 01:40-01:42, 01:45-01:54, 01:56-01:78, 01:80-01:96, 01:99, 01:101N-01:130, 01:132-01:135, 01:137-01:142, 02:03, 02:31	<b>DRB1*09:07</b>
<b>2<sup>5</sup></b>	210 bp	<b>515 bp</b>	*01:01:01:01:01:05, 01:07-01:10N, 01:12-01:20, 01:22:01-01:38, 01:40-01:70, 01:72-01:78, 01:80-01:96, 01:99, 01:101N-01:130, 01:132-01:135, 01:137-01:142, 02:04, 02:08, 02:12, 02:25N-02:26N	<b>DRB1*09:07</b>
<b>3</b>	225 bp	430 bp	*01:01:01:01:01:02:04, 01:04-01:05, 01:07-01:10N, 01:12-01:20, 01:22:01-01:38, 01:40-01:42, 01:44-01:54, 01:56-01:68N, 01:70, 01:72-01:78, 01:80-01:81N, 01:83N-01:96, 01:99, 01:101N-01:128, 01:130, 01:132-01:135, 01:137-01:142, 02:05, 02:08, 02:12, 02:25N-02:26N, 02:31, 02:34	<b>DRB1*09:07</b>
<b>4<sup>4</sup></b>	100 bp	<b>515 bp</b>	*01:01:01:01:01:01:09, 01:01:11-01:01:13, 01:04, 01:06-01:07, 01:09, 01:11, 01:15-01:19, 01:21-01:24, 01:26, 01:29-01:31, 01:33-01:34, 01:36-01:38, 01:40, 01:42-01:45, 01:47-01:50, 01:53N-01:55, 01:57-01:58N, 01:62-01:63:01, 01:65-01:66, 01:71N, 01:75, 01:79Q-01:86, 01:88-01:89, 01:91-01:101N, 01:104-01:109, 01:111-01:112, 01:114-01:119, 01:121N-01:122, 01:124, 01:126, 01:128-01:129, 01:132-01:142 *02:06	<b>DRB1*16:60</b>
<b>5<sup>5</sup></b>	150 bp 150 bp	<b>515 bp</b>	*01:01:01:01:01:01:07, 01:01:04-01:01:07, 01:01:09-01:01:13, 01:05, 01:07, 01:09, 01:13, 01:16-01:19, 01:22:01-01:24, 01:26, 01:29-01:31, 01:33-01:34, 01:36-01:38, 01:40-01:42, 01:44-01:45, 01:47-01:51, 01:53N-01:54, 01:57-01:58N, 01:62-01:63:02, 01:65, 01:73, 01:78-01:85, 01:87-01:89, 01:91-01:99, 01:101N, 01:104-01:109, 01:111-01:112, 01:114-01:119, 01:121N-01:124, 01:126, 01:128-01:129, 01:132-01:135, 01:137-01:142	<b>DRB1*16:60</b>



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<b>6</b>	145 bp	430 bp	*01:02:01-01:03, 01:05, 01:08:01N-01:08:02N, 01:10N, 01:20, 01:25, 01:27N-01:28, 01:32, 01:35, 01:39, 01:46, 01:56, 01:59-01:60, 01:64, 01:67N-01:70, 01:72, 01:74, 01:76, 01:90, 01:102-01:103, 01:110, 01:113, 01:120N, 01:125N, 01:127N, 01:130, 02:08, 02:12, 02:25N-02:26N	<b>DRB1*09:53</b>
<b>7</b>	145 bp	430 bp	*01:02:01-01:03, 01:08:01N-01:08:02N, 01:10N, 01:17, 01:20, 01:25, 01:27N-01:28, 01:32, 01:35, 01:39, 01:46, 01:56, 01:59-01:61, 01:64, 01:67N-01:70, 01:72, 01:74, 01:76, 01:90, 01:102-01:103, 01:110, 01:113, 01:120N, 01:125N, 01:127N, 01:130, 02:05, 02:08, 02:12, 02:25N-02:26N	<b>DRB1*09:53</b>
<b>8</b>	215 bp	430 bp	*01:03, 01:06, 01:09, 01:11, 01:21, 01:43, 01:55, 01:69, 01:100, 01:136, 02:02:01-02:04, 02:06-02:07, 02:09-02:11, 02:13-02:24, 02:27-02:39	
<b>9<sup>4</sup></b>	85 bp 175 bp 225 bp	430 bp	*01:16 *01:13, 01:41 *01:04	
<b>10<sup>4</sup></b>	110 bp 130 bp 160 bp	430 bp	*01:48N *01:07 *01:12, 01:15	
<b>11<sup>4</sup></b>	110 bp 200 bp	430 bp	*01:14 *01:06, 01:11, 01:21, 01:100, 01:136, 02:02:01-02:03, 02:06-02:07, 02:09-02:11, 02:13-02:23, 02:27-02:39	
<b>12<sup>6</sup></b>	185 bp	<b>515 bp</b>	*02:02:01-02:02:05, 02:04-02:12, 02:14-02:16, 02:18-02:30, 02:33-02:39	
<b>13</b>	150 bp	430 bp	*01:01:02 <sup>?</sup> , 01:07 <sup>?</sup> , 01:09 <sup>?</sup> , 01:18, 01:56, 02:04 <sup>?</sup>	<b>DRB1*15:02:03<sup>?</sup>, DRB1*15:86, DRB1*16:01:02<sup>?</sup>, DRB1*16:02:02<sup>?</sup>, DRB4*01:05<sup>?</sup>, DRB4*01:07:01<sup>?</sup></b>
	195 bp		*01:08:01N-01:08:02N, 01:127N, 02:26N	
<b>14</b>	145 bp	430 bp	*02:07	
<b>15<sup>5</sup></b>	235 bp	430 bp	*01:10N, 01:12, 01:15, 02:31, 02:34	<b>DRB1*09:07</b>
<b>16<sup>4</sup></b>	125 bp 225 bp	430 bp	*01:21, 01:43, 01:47, 01:136, 02:10 *01:20, 01:47, 02:08	<b>DRB1*08:59, DRB1*11:210</b>
<b>17</b>	130 bp 180 bp	430 bp	*01:46, 01:69, 02:12 *01:27N, 02:19N	
<b>18</b>	185 bp	430 bp	*02:13, 02:19N	<b>DRB1*03:112, DRB1*09:06, DRB4*01:117</b>
<b>19</b>	195 bp	430 bp	*01:49N	
<b>20</b>	185 bp	430 bp	*01:48N	



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<b>21</b>	230 bp	430 bp	*01:01:01:01-01:01:01:07, 01:01:03-01:01:07, 01:01:09-01:03, 01:05, 01:07-01:10N, 01:13-01:14, 01:16-01:20, 01:22:01-01:42, 01:44-01:54, 01:56-01:70, 01:72-01:73, 01:75-01:99, 01:101N-01:130, 01:132-01:135, 01:137-01:142, 02:08, 02:12, 02:25N-02:26N
<b>22<sup>7</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 DRB5 SSP subtypings. 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 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 DRB alleles 1<sup>st</sup> and/or 3<sup>rd</sup> exon(s) and above, 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 and that unknown sequences of codons 87 to 92 are identical with the DRB1\*01:01 consensus sequence.

<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 2, 5 and 15 may have tendency of unspecific amplification.

<sup>6</sup>In primer mix 12 the positive control band may be weaker than for the other DRB5 primer mixes.

<sup>7</sup>Primer mix 22 contains a negative control, which will amplify a majority of the HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 200 base pairs.

Abbreviations

'?', 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(s)	255	210	225	100	150	145	145	215	85	110	110	185
				150					175	130	200	
									225	160		
Length of int. pos. control <sup>1</sup>	515	515	430	515	515	430	430	430	430	430	430	515
5'-primer(s) <sup>2</sup>	13(125) 5'-gTA <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	38(199) 5'-ACT <sup>3'</sup>	37(196) 5'-Agg <sup>3'</sup>	38(199) 5'-ACg <sup>3'</sup>	37(196) 5'-AgA <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	38(199) 5'-ACT <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	37(196) 5'-AgA <sup>3'</sup>
				98(379) 5'-CTg <sup>3'</sup>		38(199) 5'-ACg <sup>3'</sup>	41(209) 5'-Cgg <sup>3'</sup>		120(446) 5'-gAC <sup>3'</sup>			
3'-primer(s) <sup>3</sup>	85(341) 5'-CAA <sup>3'</sup>	67(286) 5'-gAA <sup>3'</sup>	71(299) 5'-gCC <sup>3'</sup>	57(258) 5'-gCg <sup>3'</sup>	72(303) 5'-gCg <sup>3'</sup>	72(303) 5'-gCg <sup>3'</sup>	70(295) 5'-CTg <sup>3'</sup>	70(295) 5'-gTT <sup>3'</sup>	58(260) 5'-CCT <sup>3'</sup>	60(267) 5'-CAC <sup>3'</sup>	37(196) 5'-gTA <sup>3'</sup>	85(341) 5'-CAg <sup>3'</sup>
		67(286) 5'-gAA <sup>3'</sup>	74(307) 5'-CAg <sup>3'</sup>	135(490) 5'-gCC <sup>3'</sup>			72(303) 5'-gCg <sup>3'</sup>	71(299) 5'-gCg <sup>3'</sup>	74(307) 5'-CAg <sup>3'</sup>	67(286) 5'-gAT <sup>3'</sup>	67(286) 5'-gAT <sup>3'</sup>	
		70(296) 5'-TCC <sup>3'</sup>	78(319) 5'-CAC <sup>3'</sup>					71(299) 5'-gCg <sup>3'</sup>	135(490) 5'-gCT <sup>3'</sup>	78(319) 5'-CAC <sup>3'</sup>		
		72(303) 5'-gCg <sup>3'</sup>										
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
Length of spec. PCR product(s)	150	145	235	125	130	185	195	185	230
	195			225	180				
Length of int. pos. control <sup>1</sup>	430	430	430	430	430	430	430	430	430
5'-primer(s) <sup>2</sup>	57(258) 5'-gAC <sup>3'</sup>	24(157) 5'-ggT <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	6(103) 5'-CAT <sup>3'</sup>	37(196) 5'-AgA <sup>3'</sup>	37(196) 5'-AgA <sup>3'</sup>	104(397) 5'-CTg <sup>3'</sup>	13(125) 5'-gTA <sup>3'</sup>	9(112) 5'-TgC <sup>3'</sup>
	108(409) 5'-AgA <sup>3'</sup>								
3'-primer(s) <sup>3</sup>	93(365) 5'-gCg <sup>3'</sup>	58(261) 5'-TCA <sup>3'</sup>	78(319) 5'-CAC <sup>3'</sup>	30(176) 5'-TgT <sup>3'</sup>	67(286) 5'-gAT <sup>3'</sup>	78(321) 5'-CAT <sup>3'</sup>	156(553) 5'-CTA <sup>3'</sup>	60(267) 5'-CAC <sup>3'</sup>	72(303) 5'-gCg <sup>3'</sup>
	160(565) 5'-CAT <sup>3'</sup>		79(323) 5'-TgC <sup>3'</sup>	38(199) 5'-CAA <sup>3'</sup>	78(321) 5'-CAT <sup>3'</sup>	85(341) 5'-CAA <sup>3'</sup>			
				67(286) 5'-gAA <sup>3'</sup>	83(336) 5'-CCC <sup>3'</sup>				
Well No.	13	14	15	16	17	18	19	20	21

<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 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 or the 3 terminal nucleotides of the primer is given.



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101.123-24/06 – including Taq polymerase  
 101.123-24u/06u – without Taq polymerase

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Lot No.: **1V4**

Lot-specific information

CELL LINE VALIDATION SHEET																			
DRB5 SSP subtyping kit																			
			Prod. No.:	Well <sup>2</sup>															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				202130601	202130602	202459503	202130604	202459505	202459506	202130607	202130608	202130609	202130610	202130611	202130612	202130613	202130614	202130615	202130616
	IHWC cell line <sup>1</sup>	DRB5																	
1	9001 SA			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*01:02		+	+	+	-	-	+	+	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*01:02		+	+	+	-	-	+	+	-	-	-	-	-	-	-	-	-
4	9275 GU373			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*02:02		-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
6	9353 SM			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*01:01		+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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101.123-24/06 – including *Taq* polymerase  
 101.123-24u/06u – without *Taq* polymerase

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Lot No.: **1V4**

Lot-specific information

CELL LINE VALIDATION SHEET								
DRB5 SSP subtyping kit								
			Well <sup>2</sup>					
			17	18	19	20	21	
			Prod. No.:	202459517	202130618	202130619	202130620	202459521
	IHWC cell line <sup>1</sup>	DRB5						
1	9001 SA		-	-	-	-	-	-
2	9280 LK707	*01:02	-	-	-	-	-	+
3	9011 E4181324	*01:02	-	-	-	-	-	+
4	9275 GU373		-	-	-	-	-	-
5	9009 KAS011	*02:02	-	-	-	-	-	-
6	9353 SM		-	-	-	-	-	-
7	9020 QBL		-	-	-	-	-	-
8	9025 DEU		-	-	-	-	-	-
9	9026 YAR		-	-	-	-	-	-
10	9107 LKT3		-	-	-	-	-	-
11	9051 PITOUT		-	-	-	-	-	-
12	9052 DBB		-	-	-	-	-	-
13	9004 JESTHOM		-	-	-	-	-	-
14	9071 OLGA		-	-	-	-	-	-
15	9075 DKB		-	-	-	-	-	-
16	9037 SWEIG007		-	-	-	-	-	-
17	9282 CTM3953540		-	-	-	-	-	-
18	9257 32367		-	-	-	-	-	-
19	9038 BM16		-	-	-	-	-	-
20	9059 SLE005		-	-	-	-	-	-
21	9064 AMALA		-	-	-	-	-	-
22	9056 KOSE		-	-	-	-	-	-
23	9124 IHL		-	-	-	-	-	-
24	9035 JBUSH		-	-	-	-	-	-
25	9049 IBW9		-	-	-	-	-	-
26	9285 WT49		-	-	-	-	-	-
27	9191 CH1007		-	-	-	-	-	-
28	9320 BEL5GB		-	-	-	-	-	-
29	9050 MOU		-	-	-	-	-	-
30	9021 RSH		-	-	-	-	-	-
31	9019 DUCAF		-	-	-	-	-	-
32	9297 HAG		-	-	-	-	-	-
33	9098 MT14B		-	-	-	-	-	-
34	9104 DHIF		-	-	-	-	-	-
35	9302 SSTO		-	-	-	-	-	-
36	9024 KT17		-	-	-	-	-	-
37	9065 HHKB		-	-	-	-	-	-
38	9099 LZL		-	-	-	-	-	-
39	9315 CML		-	-	-	-	-	-
40	9134 WHONP199		-	-	-	-	-	-
41	9055 H0301		-	-	-	-	-	-
42	9066 TAB089		-	-	-	-	-	-
43	9076 T7526		-	-	-	-	-	-
44	9057 TEM		-	-	-	-	-	-
45	9239 SHJO		-	-	-	-	-	-
46	9013 SCHU	*01:01	-	-	-	-	-	+
47	9045 TUBO		-	-	-	-	-	-
48	9303 TER-ND		-	-	-	-	-	-



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101.123-24/06 – including *Taq* polymerase  
101.123-24u/06u – without *Taq* polymerase

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Lot No.: **1V4**

#### 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 9, 10 and 14 to 20 were available. The specificities of the primers in primer solutions 9, 10, 15, 17 and 18 were tested by separately adding one, two or three additional 5'-primers, respectively one or two additional 3'-primers. In primer solutions 14 and 16 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solutions 19 and 20 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 4, 7 and 9 one 5'-primer was not possible to test, and in primer solutions 2, 8, 10, 13 and 15 to 18 one or two 3'-primers were not possible to test. Additional primers in primer solutions 1 to 4, 7, 8, 11 and 13 were tested by separately adding additional 5'-primers and/or 3'-primers.



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For *In Vitro* Diagnostic Use  
MA123 v02 SSP PI Template  
Date: February 2025, Rev. No: 00

101.123-24/06 – including *Taq* polymerase  
 101.123-24u/06u – without *Taq* polymerase

Visit [www.caredx.com](http://www.caredx.com) for  
 “Instructions for Use” (IFU)

Lot No.: **1V4**

Lot-specific information

**ADDRESSES:**

**Manufacturer:**

**CareDx AB**, Franzégatan 5, SE-112 51 Stockholm, Sweden.

Tel: +46-8-508 939 00

**Fax:** +46-8-717 88 18

**E-mail:** [orders-se@caredx.com](mailto:orders-se@caredx.com)

**Web page:** [www.caredx.com](http://www.caredx.com)

**CareDx Lab Solutions Inc.**, 901 S. Bolmar St., Suite R, West Chester, PA 19382

**Tel:** 1-877-653-78171

**Fax:** 610-344-7989

**E-mail:** [orders-us@caredx.com](mailto:orders-us@caredx.com)

**Web page:** [www.caredx.com](http://www.caredx.com)

For information on CareDx distributors worldwide, contact **CareDx AB**.



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For *In Vitro* Diagnostic Use

MA123 v02 SSP PI Template

Date: February 2025, Rev. No: 00