DRB5 Product Insert Page 1 of 12

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

OLERUP SSP

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

Olerup SSP® DRB5

Product number: 101.123-24/06 – including *Tag* pol.

101.123-24u/06u - without *Taq* pol.

Lot number: 8N2

Expiry date: 2026-09-01

Number of tests: 24 tests – Product No. 101.123-24/24u 6 tests – Product No. 101.123-06/06u

Number of wells per test: 21+1

Storage - pre-aliquoted primers: 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. 8N2.

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 (1N4)

- The product documentation has been updated for new alleles of IMGT 3.49.0
- The kit resolution focuses on common and well documented (CWD) alleles<sup>1</sup>.

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. 1N4).

The DRB5 primer set is unchanged compared to the previous *Olerup* SSP® DRB5 (Lot No. 1N4).

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

OLERUP SSP

Visit <u>www.caredx.com</u> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

Well **22** contains <u>Negative Control primer pairs</u>, that will amplify a majority 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 200 base pairs.

Length of PCR	105	200	105	80	75	80	85
product							
5'-primer <sup>1</sup>	164	340	440	45	45	43	36
	5'-CAC3'	<sup>5'</sup> -Agg <sup>3'</sup>	<sup>5</sup> '-TTA3'	<sup>5</sup> '-Tgg <sup>3</sup> '	<sup>5</sup> '-Tgg <sup>3</sup> '	<sup>5</sup> '-Tgg <sup>3</sup> '	5'-TAC3'
							36
							<sup>5'</sup> -TAT <sup>3'</sup>
3'-primer <sup>2</sup>	231	2 <sup>nd</sup> I	507	59	58	57	47
	<sup>5</sup> '-TgC <sup>3</sup> '	<sup>5'</sup> -AAA <sup>3'</sup>	<sup>5</sup> '-TTg <sup>3</sup> '	<sup>5'</sup> -CTC <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ACA3'
							48
							<sup>5'</sup> -gCA <sup>3'</sup>
							48
							<sup>5'</sup> -gCC <sup>3'</sup>
							52
							<sup>5'</sup> -TgT <sup>3'</sup>
<b>A</b> *	+	+	+				
B*	+	+	+				
C*	+	+	+				
DRB1				+	+		
DRB3				+	+		
DRB5				+			
DQB1					+		
DPB1						+	
DQA1							+

¹The 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 <a href="https://www.ebi.ac.uk/imgt/hla">www.ebi.ac.uk/imgt/hla</a> 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 <a href="www.ebi.ac.uk/imgt/hla">www.ebi.ac.uk/imgt/hla</a> web site. The sequence of the 3 terminal nucleotides of the primer is given.

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

## PRODUCT DESCRIPTION

# **DRB5 SSP subtyping**

## **CONTENT**

OLERUP SSP

The primer set contains 5'- and 3'-primers for identifying the DRB5\*01:01:01 to DRB5\*01:126 and the DRB5\*02:02 to DRB5\*02:33 alleles.

## PLATE LAYOUT

Each test consists of 22 PCR reactions in a 24 well cut PCR plate. Wells 23 to 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. '8N2'.

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\*01:126 and DRB5\*02:02 to DRB5\*02:33**, recognized by the HLA Nomenclature Committee in July 2022<sup>1,2</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.

**OLERUP SSP** 

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

<sup>1</sup>DRB5 alleles listed on the IMGT/HLA web page 2022-July-12, release 3.49.0, 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.

## **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	DRB5*01:20	Confirmed	DRB5*02:10	Confirmed
DRB5*01:01:03	Unconfirmed	DRB5*01:21	Confirmed	DRB5*02:11	Unconfirmed
DRB5*01:02	Confirmed	DRB5*01:22	Unconfirmed	DRB5*02:12	Confirmed
DRB5*01:03	Confirmed	DRB5*01:23	Unconfirmed	DRB5*02:13	Confirmed
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		
DRB5*01:08N	Confirmed	DRB5*01:28	Unconfirmed	_	
DRB5*01:09	Unconfirmed	DRB5*01:29	Unconfirmed		
DRB5*01:10N	Confirmed	DRB5*01:30	Unconfirmed		
DRB5*01:11	Unconfirmed	DRB5*01:31	Unconfirmed		
DRB5*01:12	Unconfirmed	DRB5*02:02	Confirmed		
DRB5*01:13	Confirmed	DRB5*02:03	Confirmed		
DRB5*01:14	Unconfirmed	DRB5*02:04	Unconfirmed		
DRB5*01:15	Unconfirmed	DRB5*02:05	Unconfirmed		
DRB5*01:16	Unconfirmed	DRB5*02:06	Unconfirmed		
DRB5*01:17	Confirmed	DRB5*02:07	Confirmed		
DRB5*01:18	Confirmed	DRB5*02:08	Unconfirmed		

<sup>&</sup>lt;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.

## RESOLUTION IN HOMO- AND HETEROZYGOTES

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

DRB5 Product Insert Page 5 of 12

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

**■LERUP SSP**\*

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 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
1	255 bp	515 bp	*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-01:126, 02:03, 02:31	DRB1*09:07
2	210 bp	515 bp	*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-01:126, 02:04, 02:08, 02:12, 02:25N-02:26N	DRB1*09:07
3	225 bp	430 bp	*01:01:01:01-01:02:02, 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- 01:126, 02:05, 02:08, 02:12, 02:25N-02:26N, 02:31	DRB1*09:07
44	100 bp	515 bp	*01:01:01:01-01:01:09, 01:01:11-01:01:12, 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	DRB1*16:60
5	150 bp	515 bp	*01:01:01:01-01:01:01:06, 01:01:04-01:01:07, 01:01:09- 01:01:12, 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,	DRB1*16:60



DRB5

Product Insert Page 6 of 12

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

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

_ot No.: ℧	NZ		Lot-specific information	
			01:111-01:112, 01:114-01:119,	
	4.45.1	400.1	01:121N-01:124, 01:126	
6	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, 02:08,	
7	115 bo	120 hm	02:12, 02:25N-02:26N	
7	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,	
			02:05, 02:08, 02:12, 02:25N-	
			02:26N	
8	215 bp	430 bp	*01:03, 01:06, 01:09, 01:11, 01:21,	
	210 bp	400 bp	01:43, 01:55, 01:69, 01:100,	
			02:02:01-02:04, 02:06-02:07,	
			02:09-02:11, 02:13-02:24, 02:27-	
			02:33	
			<u></u>	
94	85 bp	430 bp	*01:16	
	175 bp	·	*01:13, 01:41	
	225 bp		*01:04	
10 <sup>4</sup>	110 bp	430 bp	*01:48N	
	130 bp		*01:07	
	160 bp		*01:12, 01:15	
11 <sup>4</sup>	110 bp	430 bp	*01:14	
	200 bp		*01:06, 01:11, 01:21, 01:100,	
			02:02:01-02:03, 02:06-02:07,	
			02:09-02:11, 02:13-02:23, 02:27-	
40	4051	F4F :	02:33	
12	185 bp	515 bp	*02:02:01-02:02:04, 02:04-02:12,	
40	450 h.:	400 !	02:14-02:16, 02:18-02:30, 02:33	DDD4+45-00-00°
13	150 bp	430 bp	*01:01:02 <sup>?</sup> , 01:07 <sup>?</sup> , 01:09 <sup>?</sup> , 01:18,	DRB1*15:02:03 <sup>?</sup> ,
			01:56, 02:04 <sup>?</sup>	DRB1*15:86,
				DRB1*16:01:02 <sup>?</sup> ,
				DRB1*16:02:02 <sup>?</sup> ,
				DRB4*01:05 <sup>?</sup> ,
	195 bp		*01:08:01N-01:08:02N, 02:26N	DRB4*01:07:01 <sup>?</sup>
14	145 bp	430 bp	*02:07	
15	235 bp	430 bp	*01:10N, 01:12, 01:15, 02:31	DRB1*09:07
16 <sup>4</sup>	125 bp	430 bp	*01:21, 01:43, 01:47, 02:10	
. •	225 bp	430 ph	*01:20, 01:47, 02:08	DRB1*08:59,
			, •, •	DRB1*11:210
17	130 bp	430 bp	*01:46, 01:69, 02:12	
	180 bp	.00 bp	*01:27N, 02:19N	
	100 ph		UI.ZIN, UZ. IBN	



Product Insert Page 7 of 12

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

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

	_			
18	185 bp	430 bp	*02:13, 02:19N	DRB1*03:112, DRB1*09:06, DRB4*01:117
19	195 bp	430 bp	*01:49N	
20	185 bp	430 bp	*01:48N	
21	230 bp	430 bp	*01:01:01:01-01:01:06, 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- 01:126, 02:08, 02:12, 02:25N- 02:26N	
<b>22</b> <sup>5</sup>	-	-	Negative Control	

<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 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.

<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 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.



OLERUP SSP

Visit <u>www.caredx.com</u> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

# PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	255	210	225	100	150	145	145	215	85	110	110	185
PCR product(s)				150					175	130	200	
									225	160		
Length of int.	515	515	430	515	515	430	430	430	430	430	430	515
pos. control1												
5'-primer(s)2	13(125)	13(125)	13(125)	38(199)	37(196)	38(199)	37(196)	13(125)	13(125)	38(199)	13(125)	37(196)
	<sup>5'</sup> -gTA <sup>3'</sup>	<sup>5'</sup> -gTA <sup>3'</sup>	<sup>5'</sup> -gTA <sup>3'</sup>	5' -ACT 3'	<sup>5'</sup> -Agg <sup>3'</sup>	<sup>5'</sup> -ACg <sup>3'</sup>	<sup>5'</sup> -AgA <sup>3'</sup>	<sup>5'</sup> -gTA <sup>3'</sup>	<sup>5'</sup> -gTA <sup>3'</sup>	<sup>5'</sup> -ACT <sup>3'</sup>	<sup>5'</sup> -gTA <sup>3'</sup>	<sup>5'</sup> -AgA <sup>3</sup>
				98(379)		38(199)	41(209)		120(446)			
				<sup>5'</sup> -CTg <sup>3'</sup>		<sup>5'</sup> -ACg <sup>3'</sup>	<sup>5'</sup> -Cgg <sup>3'</sup>		<sup>5'</sup> -gAC <sup>3'</sup>			
3'-primer(s) <sup>3</sup>	85(341)	67(286)	71(299)	57(258)	72(303)	72(303)	70(295)	70(295)	58(260)	60(267)	37(196)	85(341)
	5' -CAA 3'	<sup>5'</sup> -gAA <sup>3'</sup>	5' -gCC 3'	5' -gCg 3'	5' -gCg 3'	5' -gCg 3'	5' -CTg 3'	5' -gTT 3'	5' -CCT 3'	5' -CAC 3'	<sup>5'</sup> -gTA <sup>3'</sup>	5' -CAg 3
			74(307)					71(299)		67(286)		_
		<sup>5'</sup> -gAA <sup>3'</sup>	<sup>5'</sup> -CAg <sup>3'</sup>	5' -gCC 3'			5' -gCg 3'	5' -gCg 3'	5' -CAg 3'	<sup>5'</sup> -gAT <sup>3'</sup>	<sup>5'</sup> -gAT <sup>3'</sup>	
		70(296)	78(319)					71(299)	135(490)	78(319)		
		5' -TCC 3'	5' -CAC 3'					5' -gCg 3'	5' -gCT 3'	5' -CAC 3'		
		72(303)						_				
		<sup>5'</sup> -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.	150	145	235	125	130	185	195	185	230
PCR product(s)	195			225	180				
Length of int.	430	430	430	430	430	430	430	430	430
pos. control1									
5'-primer(s) <sup>2</sup>	57(258)	24(157)	13(125)	6(103)	37(196)	37(196)	104(397)	13(125)	9(112)
	5' -gAC 3'	5' -ggT 3'	<sup>5'</sup> -gTA <sup>3'</sup>	5' -CAT 3'	<sup>5'</sup> -AgA <sup>3'</sup>	<sup>5'</sup> -AgA <sup>3'</sup>	<sup>5'</sup> -CTg <sup>3'</sup>	<sup>5'</sup> -gTA <sup>3'</sup>	5' -TgC
	108(409)								
	<sup>5'</sup> -AgA <sup>3'</sup>								
3'-primer(s) <sup>3</sup>	93(365)	58(261)	78(319)	30(176)	67(286)	78(321)	156(553)	60(267)	72(303)
	<sup>5'</sup> -gCg <sup>3'</sup>	5' -TCA 3'	5' -CAC 3'	<sup>5'</sup> -TgT <sup>3'</sup>	<sup>5'</sup> -gAT <sup>3'</sup>	5' -CAT 3'	5' -CTA 3'	5' -CAC 3'	<sup>5'</sup> -gCg
	160(565)		79(323)	38(199)	78(321)	85(341)			
	5' -CAT 3'		5' -TgC 3'	5' -CAA 3'	5' -CAT 3'	5' -CAA 3'			
				67(286)	83(336)				
				<sup>5'</sup> -gAA <sup>3'</sup>	5' -CCC 3'				
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 <a href="https://www.ebi.ac.uk/imgt/hla">www.ebi.ac.uk/imgt/hla</a> 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 <a href="www.ebi.ac.uk/imgt/hla">www.ebi.ac.uk/imgt/hla</a> web site. The sequence or the 3 terminal nucleotides of the primer is given.

**■LERUP SSP**\*

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Page 9 of 12

Lot No.: 8N2 Lot-specific information

		CE	ELL LIN	E١	/A	LIC	)A	ΓIC	N	Sŀ	ΙEΙ	ΕT							
			DRB	5 S	SP	รเ	ıbt	ypi	ng	kit									
											W	ell²							
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				_	~	8	4	10	ω.	7	m	6		_	~	8	4	10	0
			.: <u>o</u>	202130601	202130602	202130603	202130604	202130605	202130606	202130607	202130608	202130609	202130610	202130611	202130612	202130613	202130614	202130615	202130616
			2	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
			Prod. No.:	05	05	05	05	05	5	05	05	05	05	5	5	0,	0,	05	05
		1	_	2	N	7	7	7	7	N	7	2	N	7	N	7	7	7	7
		C cell line <sup>1</sup>	DRB5																_
1	9001		*04.00	-	-	-	-	Ŀ	-	-	-	-	-	-	-	-	-	Ŀ	-
2		LK707	*01:02	+	+	+	-	Ŀ	+	+	-	-	-	-	-	-	-	-	-
3		E4181324	*01:02	+	+	+	-	-	+	+	-	-	-	-	-	-	-	-	-
5		GU373 KAS011	*02.02	-	-	-	-	Ŀ	-	-	-	-	-	-	-	-	-	-	-
-	9353		*02:02	-	-	-	-	-	-	-	+	-	-	+	+	-	-	-	-
6	9020			-	-	-	-	Ė	-	-	-	-	-	-	-	-	-	Ė	-
8	9020			H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9025			-		÷	-	÷	-	-		-		-	-		-	÷	H
10	9107			-	-	÷	-	÷	-	-	-	-	-	-	-	-	-	÷	H
11		PITOUT		H	H	-	-	÷	-	-	1	-	H	-	-	1	-	÷	H
12	9052			-	-	-	-	÷	-	-	-	-	-	-	-	-	-	-	-
13		JESTHOM				-		-	-		-	-	-			-			-
14		OLGA		-	-	-	-		-	-	-	-	-	-	-	-	-		-
15	9075			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16		SWEIG007		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17		CTM3953540		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18		32367		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19		BM16		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20		SLE005		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21		AMALA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22		KOSE		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24		JBUSH		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25		IBW9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26		WT49		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27		CH1007		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28		BEL5GB		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31		DUCAF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33		MT14B		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36		KT17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43		T7526		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*01:01	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-
47		TUBO		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

DRB5 Product Insert Page 10 of 12

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

Visit <a href="www.caredx.com">www.caredx.com</a> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

		LINE VAL				ΞE'	T	
		DRB5 SSP s	ubtypin	g k	it			
					W	ell <sup>2</sup>		
				17		19	20	21
				Ι.				
				617	818	616	620	621
			Z	30	30	30	30	30
			Prod. No.:	202130617	202130618	202130619	202130620	202130621
		1		2	7	7	7	7
		C cell line <sup>1</sup>	DRB5	<u> </u>				
1	9001		*04.00	-	-	-	-	-
2		LK707	*01:02	-	-	-	-	+
3		E4181324	*01:02	-	-	-	-	+
4 5		GU373 KAS011	*02:02	Ε.	-	-	-	-
6	9353		02.02	H	-	Ë	-	-
7	9020			HΞ	Ė		-	
8	9020			+-	Ė	-	-	-
9	9026			-	-	-	-	-
10		LKT3		<b> </b> -	-	-	-	-
11		PITOUT		-	-	-	-	-
12	9052			<b> </b> -	-	-	-	-
13	9004	JESTHOM		-	-	-	-	-
14	9071	OLGA		-	-	-	-	-
15	9075	DKB		-	-	-	-	-
16	9037	SWEIG007		-	-	-	-	-
17	9282	CTM3953540		-	-	-	-	-
18		32367		-	-	-	-	-
19		BM16		-	-	-	-	-
20		SLE005		-	-	-	-	-
21		AMALA		ļ-	-	-	-	-
22		KOSE		-	-	-	-	-
23	9124			-	-	-	-	-
24		JBUSH		-	-	-	-	-
25		IBW9		-	-	-	-	-
26 27		WT49 CH1007		ι-	-	-	-	-
28		BEL5GB		H			-	-
28		MOU		1-	÷	-	-	-
30	9030			+-	Ë	-	_	-
31		DUCAF		+-	-	-	_	_
32		HAG		۱.	-	-	-	-
33		MT14B		<b> </b>	-	-	-	-
34	9104			-	-	-	-	-
35		SSTO		-	-	-	-	-
36		KT17		1 -	-	-	-	-
37	9065	HHKB		-	-	-	-	-
38	9099	LZL		-	-	-	-	-
39	9315	CML		-	-	-	-	-
40		WHONP199		-	-	-	-	-
41		H0301		-	-	-	-	-
42		TAB089		-	-	-	-	-
43		T7526		-	-	-	-	-
44	9057			<b>!</b> -	-	-	-	-
45		SHJO	****	-	-	-	-	-
46		SCHU	*01:01	ļ-	-	-	-	+
47		TUBO		ļ-	-	-	-	-
48	9303	TER-ND		<b>-</b>	-	-	-	-



DRB5 Product Insert Page 11 of 12

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

OLERUP SSP

Visit <u>www.caredx.com</u> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

<sup>1</sup>The provided cell line HLA specificities are retrieved from the <a href="http://www.ihwg.org/hla">http://www.ihwg.org/hla</a> 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.

DRB5 Product Insert Page 12 of 12

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

Visit <u>www.caredx.com</u> for "Instructions for Use" (IFU)

Lot No.: 8N2 Lot-specific information

## ADDRESSES:

**■LERUP SSP**\*

Manufacturer:

CareDx AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Tel: +46-8-508 939 00 Fax: +46-8-717 88 18

**E-mail:** orders-se@caredx.com **Web page:** 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
Web page: www.caredx.com

For information on CareDx distributors worldwide, contact CareDx AB.