

**DRB1\*04**

**101.114-24/03 – including *Taq* pol., IFU-01**

**101.114-24u/03u – without *Taq* pol., IFU-02**

Visit <https://labproducts.caredx.com> for

**“Instructions for Use” (IFU)**

**Lot No.: 4L9**

Lot-specific information

## **Olerup SSP<sup>®</sup> DRB1\*04**

|                                         |                                                                                                |
|-----------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Product number:</b>                  | <b>101.114-24/03 – including <i>Taq</i> pol.<br/>101.114-24u/03u – without <i>Taq</i> pol.</b> |
| <b>Lot number:</b>                      | <b>4L9</b>                                                                                     |
| <b>Expiry date:</b>                     | <b>2024-08-01</b>                                                                              |
| <b>Number of tests:</b>                 | <b>24 tests – Product No. 101.114-24/24u<br/>3 tests – Product No. 101.114-03/03u</b>          |
| <b>Number of wells per test:</b>        | <b>47+1</b>                                                                                    |
| <b>Storage - pre-aliquoted primers:</b> | <b>dark at -20°C</b>                                                                           |
| - PCR Master Mix:                       | <b>-20°C</b>                                                                                   |
| - Adhesive PCR seals                    | <b>RT</b>                                                                                      |
| - Product Insert                        | <b>RT</b>                                                                                      |

**This Product Description is only valid for Lot No. 4L9.**

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

### **CHANGES COMPARED TO THE PREVIOUS OLERUP SSP<sup>®</sup> DRB1\*04 Lot (4K2)**

- The product documentation has been updated for new alleles of IMGT 3.40.0
- 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 DRB1\*04 specificity and interpretation tables have been updated for the DRB1 alleles reported since the previous Olerup SSP<sup>®</sup> DRB1\*04 lot was made (**Lot No. 4K2**).

The DRB1\*04 primer set is unchanged compared to the previous Olerup SSP<sup>®</sup> DRB1\*04 lot (**Lot No. 4K2**).

<sup>1</sup>S. J. Mack, P. Cano, J. A. Hollenbach et al.  
Common and well-documented HLA alleles: 2012 update to  
the CWD catalogue. Tissue Antigens, 2013, 81, 194–203

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Well **48** contains Negative Control primer pairs, that will amplify the 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 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> |
|                              |                      |                         |                      |                      |                      |                      | <b>36</b>            |
|                              |                      |                         |                      |                      |                      |                      | 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> |
|                              |                      |                         |                      |                      |                      |                      | <b>48</b>            |
|                              |                      |                         |                      |                      |                      |                      | 5'-gCA <sup>3'</sup> |
|                              |                      |                         |                      |                      |                      |                      | <b>48</b>            |
|                              |                      |                         |                      |                      |                      |                      | 5'-gCC <sup>3'</sup> |
|                              |                      |                         |                      |                      |                      |                      | <b>52</b>            |
|                              |                      |                         |                      |                      |                      |                      | 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

### DRB1\*04 SSP subtyping

#### CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB1\*04:01 to DRB1\*04:304 alleles.

#### PLATE LAYOUT

Each test consists of 48 PCR reactions in a 48 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>32</b> |
| <b>33</b> | <b>34</b> | <b>35</b> | <b>36</b> | <b>37</b> | <b>38</b> | <b>39</b> | <b>40</b> |
| <b>41</b> | <b>42</b> | <b>43</b> | <b>44</b> | <b>45</b> | <b>46</b> | <b>47</b> | <b>NC</b> |

The 48 well cut PCR plate is marked with ‘DRB1\*04’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘4L9’.

Wells 1 to 47 – DRB1\*04 primers.

Well 48 – 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 DRB1 alleles, non-DRB1\*04 alleles will be amplified by some primer mixes. In addition, DRB3 and DRB5 alleles will be amplified by some primer mixes. For further details see Specificity Table.

#### UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DRB1\*04 alleles, i.e. **DRB1\*04:01 to DRB1\*04:304**, recognized by the HLA Nomenclature Committee in April 2020<sup>1,2</sup> will be amplified by the primers in the DRB1\*04 subtyping kit.

The DRB1\*04 kit enables separation of the confirmed DRB1\*04 alleles as listed in the IMGT/HLA database 3.27.0. 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 DRB1\*04 alleles is listed below.

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The DRB1\*04 kit also enables identification of many null and alternatively expressed alleles.

The following DRB1\*04 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

| Alleles            | Primer mix | Alleles                       | Primer mix |
|--------------------|------------|-------------------------------|------------|
| DRB1*04:16, 04:151 | 12         | DRB1*04:49, 04:219            | 27         |
| DRB1*04:23, 04:180 | 12         | DRB1*04:79, 04:211,<br>04:301 | 42         |
| DRB1*04:27, 04:110 | 20         | DRB1*04:89, 04:178N           | 38         |
| DRB1*04:39, 04:101 | 19         | DRB1*04:117, 04:119N          | 47         |

<sup>1</sup>DRB1 alleles listed on the IMGT/HLA web page 2020-April-20, release 3.40.0, [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> |
|------------------|---------------------|---------------|---------------------|---------------|---------------------|----------------|---------------------|
| DRB1*04:01:01:01 | Confirmed           | DRB1*04:05:05 | Confirmed           | DRB1*04:25    | Confirmed           | DRB1*04:72:01  | Unconfirmed         |
| DRB1*04:01:01:02 | Unconfirmed         | DRB1*04:05:06 | Unconfirmed         | DRB1*04:26    | Confirmed           | DRB1*04:72:02  | Confirmed           |
| DRB1*04:01:02    | Confirmed           | DRB1*04:05:07 | Unconfirmed         | DRB1*04:27    | Unconfirmed         | DRB1*04:73     | Unconfirmed         |
| DRB1*04:01:03    | Unconfirmed         | DRB1*04:05:08 | Unconfirmed         | DRB1*04:28    | Unconfirmed         | DRB1*04:74     | Confirmed           |
| DRB1*04:01:04    | Unconfirmed         | DRB1*04:05:09 | Confirmed           | DRB1*04:29    | Unconfirmed         | DRB1*04:75     | Unconfirmed         |
| DRB1*04:01:05    | Confirmed           | DRB1*04:05:10 | Confirmed           | DRB1*04:30    | Unconfirmed         | DRB1*04:76     | Unconfirmed         |
| DRB1*04:01:06    | Confirmed           | DRB1*04:05:11 | Confirmed           | DRB1*04:31    | Confirmed           | DRB1*04:77     | Unconfirmed         |
| DRB1*04:01:07    | Unconfirmed         | DRB1*04:05:13 | Confirmed           | DRB1*04:32    | Confirmed           | DRB1*04:78     | Unconfirmed         |
| DRB1*04:01:08    | Unconfirmed         | DRB1*04:05:14 | Confirmed           | DRB1*04:33    | Confirmed           | DRB1*04:79     | Confirmed           |
| DRB1*04:01:09    | Unconfirmed         | DRB1*04:05:15 | Unconfirmed         | DRB1*04:34    | Confirmed           | DRB1*04:80     | Unconfirmed         |
| DRB1*04:01:10    | Confirmed           | DRB1*04:05:16 | Unconfirmed         | DRB1*04:35    | Unconfirmed         | DRB1*04:81N    | Unconfirmed         |
| DRB1*04:01:11    | Unconfirmed         | DRB1*04:05:17 | Unconfirmed         | DRB1*04:36    | Confirmed           | DRB1*04:82     | Unconfirmed         |
| DRB1*04:01:12    | Confirmed           | DRB1*04:05:18 | Unconfirmed         | DRB1*04:37    | Unconfirmed         | DRB1*04:83     | Confirmed           |
| DRB1*04:01:13    | Unconfirmed         | DRB1*04:06:01 | Confirmed           | DRB1*04:38    | Confirmed           | DRB1*04:84     | Unconfirmed         |
| DRB1*04:01:14    | Unconfirmed         | DRB1*04:06:02 | Unconfirmed         | DRB1*04:39    | Confirmed           | DRB1*04:85     | Unconfirmed         |
| DRB1*04:01:15    | Unconfirmed         | DRB1*04:06:03 | Unconfirmed         | DRB1*04:40    | Confirmed           | DRB1*04:86     | Unconfirmed         |
| DRB1*04:01:16    | Unconfirmed         | DRB1*04:06:04 | Unconfirmed         | DRB1*04:41    | Confirmed           | DRB1*04:87     | Confirmed           |
| DRB1*04:01:17    | Unconfirmed         | DRB1*04:06:05 | Unconfirmed         | DRB1*04:42    | Confirmed           | DRB1*04:88     | Confirmed           |
| DRB1*04:02:01    | Confirmed           | DRB1*04:06:06 | Unconfirmed         | DRB1*04:43    | Confirmed           | DRB1*04:89     | Confirmed           |
| DRB1*04:02:02    | Unconfirmed         | DRB1*04:07:01 | Confirmed           | DRB1*04:44:01 | Unconfirmed         | DRB1*04:90     | Unconfirmed         |
| DRB1*04:02:03    | Unconfirmed         | DRB1*04:07:02 | Unconfirmed         | DRB1*04:44:02 | Unconfirmed         | DRB1*04:91     | Unconfirmed         |
| DRB1*04:02:04    | Unconfirmed         | DRB1*04:07:03 | Confirmed           | DRB1*04:45    | Confirmed           | DRB1*04:92     | Unconfirmed         |
| DRB1*04:02:05    | Confirmed           | DRB1*04:07:04 | Confirmed           | DRB1*04:46    | Unconfirmed         | DRB1*04:93     | Unconfirmed         |
| DRB1*04:03:01    | Confirmed           | DRB1*04:07:05 | Unconfirmed         | DRB1*04:47    | Unconfirmed         | DRB1*04:94:01N | Unconfirmed         |
| DRB1*04:03:02    | Confirmed           | DRB1*04:08:01 | Confirmed           | DRB1*04:48    | Unconfirmed         | DRB1*04:95:01  | Confirmed           |
| DRB1*04:03:03    | Unconfirmed         | DRB1*04:08:02 | Confirmed           | DRB1*04:49    | Unconfirmed         | DRB1*04:95:02  | Unconfirmed         |
| DRB1*04:03:04    | Unconfirmed         | DRB1*04:08:03 | Unconfirmed         | DRB1*04:50    | Confirmed           | DRB1*04:96     | Confirmed           |
| DRB1*04:03:05    | Confirmed           | DRB1*04:08:04 | Unconfirmed         | DRB1*04:51    | Unconfirmed         | DRB1*04:97     | Unconfirmed         |
| DRB1*04:03:06    | Unconfirmed         | DRB1*04:09    | Confirmed           | DRB1*04:52    | Unconfirmed         | DRB1*04:98:01  | Unconfirmed         |
| DRB1*04:03:07    | Unconfirmed         | DRB1*04:10:01 | Confirmed           | DRB1*04:53:01 | Unconfirmed         | DRB1*04:98:02  | Confirmed           |
| DRB1*04:03:08    | Confirmed           | DRB1*04:10:02 | Unconfirmed         | DRB1*04:53:02 | Unconfirmed         | DRB1*04:99     | Confirmed           |
| DRB1*04:03:09    | Confirmed           | DRB1*04:10:03 | Unconfirmed         | DRB1*04:54    | Confirmed           | DRB1*04:100    | Confirmed           |
| DRB1*04:03:10    | Unconfirmed         | DRB1*04:11:01 | Confirmed           | DRB1*04:55    | Unconfirmed         | DRB1*04:101    | Confirmed           |
| DRB1*04:03:11    | Unconfirmed         | DRB1*04:11:02 | Unconfirmed         | DRB1*04:56:01 | Unconfirmed         | DRB1*04:102    | Unconfirmed         |
| DRB1*04:03:12    | Confirmed           | DRB1*04:11:03 | Unconfirmed         | DRB1*04:56:02 | Confirmed           | DRB1*04:103    | Unconfirmed         |
| DRB1*04:03:13    | Confirmed           | DRB1*04:11:04 | Unconfirmed         | DRB1*04:57    | Unconfirmed         | DRB1*04:104    | Unconfirmed         |
| DRB1*04:04:01    | Confirmed           | DRB1*04:12    | Confirmed           | DRB1*04:58    | Unconfirmed         | DRB1*04:105:01 | Confirmed           |
| DRB1*04:04:02    | Unconfirmed         | DRB1*04:13    | Confirmed           | DRB1*04:59    | Unconfirmed         | DRB1*04:105:02 | Confirmed           |
| DRB1*04:04:03    | Confirmed           | DRB1*04:14    | Confirmed           | DRB1*04:60    | Unconfirmed         | DRB1*04:106    | Unconfirmed         |
| DRB1*04:04:04    | Unconfirmed         | DRB1*04:15    | Confirmed           | DRB1*04:61    | Unconfirmed         | DRB1*04:107    | Unconfirmed         |
| DRB1*04:04:05    | Unconfirmed         | DRB1*04:16    | Confirmed           | DRB1*04:62    | Unconfirmed         | DRB1*04:108    | Confirmed           |
| DRB1*04:04:06    | Unconfirmed         | DRB1*04:17:01 | Confirmed           | DRB1*04:63    | Confirmed           | DRB1*04:109    | Unconfirmed         |
| DRB1*04:04:07    | Confirmed           | DRB1*04:17:02 | Confirmed           | DRB1*04:64    | Unconfirmed         | DRB1*04:110    | Unconfirmed         |
| DRB1*04:04:08    | Unconfirmed         | DRB1*04:18    | Confirmed           | DRB1*04:65    | Unconfirmed         | DRB1*04:111    | Unconfirmed         |
| DRB1*04:04:09    | Unconfirmed         | DRB1*04:19    | Confirmed           | DRB1*04:66    | Unconfirmed         | DRB1*04:112    | Unconfirmed         |
| DRB1*04:04:10    | Unconfirmed         | DRB1*04:20    | Confirmed           | DRB1*04:67    | Unconfirmed         | DRB1*04:113    | Unconfirmed         |
| DRB1*04:05:01    | Confirmed           | DRB1*04:21    | Unconfirmed         | DRB1*04:68    | Confirmed           | DRB1*04:114    | Confirmed           |
| DRB1*04:05:02    | Unconfirmed         | DRB1*04:22    | Unconfirmed         | DRB1*04:69    | Unconfirmed         | DRB1*04:115    | Unconfirmed         |
| DRB1*04:05:03    | Confirmed           | DRB1*04:23    | Unconfirmed         | DRB1*04:70    | Unconfirmed         | DRB1*04:116    | Confirmed           |
| DRB1*04:05:04    | Confirmed           | DRB1*04:24    | Unconfirmed         | DRB1*04:71    | Unconfirmed         | DRB1*04:117    | Confirmed           |

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| Allele             | Status <sup>1</sup> | Allele             | Status <sup>1</sup> | Allele             | Status <sup>1</sup> | Allele              | Status <sup>1</sup> |
|--------------------|---------------------|--------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| DRB1*04:118        | Unconfirmed         | DRB1*04:147        | Unconfirmed         | DRB1*04:177        | Unconfirmed         | DRB1*04:207         | Unconfirmed         |
| DRB1*04:119N       | Unconfirmed         | <b>DRB1*04:148</b> | <b>Confirmed</b>    | DRB1*04:178N       | Unconfirmed         | DRB1*04:208         | Unconfirmed         |
| DRB1*04:120N       | Unconfirmed         | DRB1*04:149        | Unconfirmed         | DRB1*04:179        | Unconfirmed         | DRB1*04:209         | Unconfirmed         |
| DRB1*04:121        | Unconfirmed         | <b>DRB1*04:150</b> | <b>Confirmed</b>    | DRB1*04:180        | Unconfirmed         | DRB1*04:210         | Unconfirmed         |
| DRB1*04:122        | Unconfirmed         | DRB1*04:151        | Unconfirmed         | DRB1*04:181        | Unconfirmed         | DRB1*04:211         | Unconfirmed         |
| <b>DRB1*04:123</b> | <b>Confirmed</b>    | DRB1*04:152        | Unconfirmed         | <b>DRB1*04:182</b> | <b>Confirmed</b>    | <b>DRB1*04:212N</b> | <b>Confirmed</b>    |
| DRB1*04:124        | Unconfirmed         | DRB1*04:153        | Unconfirmed         | DRB1*04:183        | Unconfirmed         | <b>DRB1*04:213</b>  | <b>Confirmed</b>    |
| DRB1*04:125        | Unconfirmed         | <b>DRB1*04:154</b> | <b>Confirmed</b>    | DRB1*04:184        | Unconfirmed         | DRB1*04:214N        | Unconfirmed         |
| DRB1*04:126        | Unconfirmed         | DRB1*04:155        | Unconfirmed         | DRB1*04:185        | Unconfirmed         | DRB1*04:215         | Unconfirmed         |
| <b>DRB1*04:127</b> | <b>Confirmed</b>    | DRB1*04:156        | Unconfirmed         | DRB1*04:186N       | Unconfirmed         | DRB1*04:216         | Unconfirmed         |
| DRB1*04:128        | Unconfirmed         | DRB1*04:157N       | Unconfirmed         | DRB1*04:187        | Unconfirmed         | DRB1*04:217         | Unconfirmed         |
| <b>DRB1*04:129</b> | <b>Confirmed</b>    | DRB1*04:158N       | Unconfirmed         | DRB1*04:188        | Unconfirmed         | DRB1*04:218         | Unconfirmed         |
| DRB1*04:130        | Unconfirmed         | DRB1*04:159        | Unconfirmed         | DRB1*04:189        | Unconfirmed         | DRB1*04:219         | Unconfirmed         |
| DRB1*04:131:01     | Unconfirmed         | DRB1*04:160        | Unconfirmed         | DRB1*04:190        | Unconfirmed         | DRB1*04:220         | Unconfirmed         |
| DRB1*04:131:02     | Unconfirmed         | DRB1*04:161        | Unconfirmed         | DRB1*04:191        | Unconfirmed         | DRB1*04:221         | Unconfirmed         |
| DRB1*04:132        | Unconfirmed         | DRB1*04:162        | Unconfirmed         | <b>DRB1*04:192</b> | <b>Confirmed</b>    |                     |                     |
| DRB1*04:133        | Unconfirmed         | DRB1*04:163        | Unconfirmed         | DRB1*04:193        | Unconfirmed         |                     |                     |
| DRB1*04:134        | Unconfirmed         | DRB1*04:164        | Unconfirmed         | DRB1*04:194        | Unconfirmed         |                     |                     |
| DRB1*04:135        | Unconfirmed         | DRB1*04:165        | Unconfirmed         | DRB1*04:195        | Unconfirmed         |                     |                     |
| DRB1*04:136        | Unconfirmed         | DRB1*04:166        | Unconfirmed         | DRB1*04:196        | Unconfirmed         |                     |                     |
| DRB1*04:137        | Unconfirmed         | DRB1*04:167        | Unconfirmed         | DRB1*04:197        | Unconfirmed         |                     |                     |
| <b>DRB1*04:138</b> | <b>Confirmed</b>    | <b>DRB1*04:168</b> | <b>Confirmed</b>    | DRB1*04:198        | Unconfirmed         |                     |                     |
| DRB1*04:139        | Unconfirmed         | DRB1*04:169        | Unconfirmed         | DRB1*04:199        | Unconfirmed         |                     |                     |
| DRB1*04:140        | Unconfirmed         | DRB1*04:170        | Unconfirmed         | DRB1*04:200        | Unconfirmed         |                     |                     |
| DRB1*04:141        | Unconfirmed         | DRB1*04:171        | Unconfirmed         | DRB1*04:201        | Unconfirmed         |                     |                     |
| DRB1*04:142N       | Unconfirmed         | DRB1*04:172        | Unconfirmed         | DRB1*04:202        | Unconfirmed         |                     |                     |
| DRB1*04:143        | Unconfirmed         | DRB1*04:173        | Unconfirmed         | <b>DRB1*04:203</b> | <b>Confirmed</b>    |                     |                     |
| DRB1*04:144        | Unconfirmed         | DRB1*04:174        | Unconfirmed         | DRB1*04:204        | Unconfirmed         |                     |                     |
| DRB1*04:145        | Unconfirmed         | DRB1*04:175        | Unconfirmed         | <b>DRB1*04:205</b> | <b>Confirmed</b>    |                     |                     |
| DRB1*04:146        | Unconfirmed         | DRB1*04:176        | Unconfirmed         | DRB1*04:206        | Unconfirmed         |                     |                     |

<sup>1</sup>Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2017-January-20, release 3.27.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

## RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in DRB1\*04 homo- and heterozygotes is available upon request.

**DRB1\*04**

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **4L9**

Lot-specific information

## SPECIFICITY TABLE

### DRB1\*04 SSP subtyping

Specificities and sizes of the PCR products of the 47+1 primer mixes used for DRB1\*04 SSP subtyping

| Primer Mix | Size of spec. PCR product <sup>1</sup> | Size of control band <sup>2</sup> | Amplified DRB1*04 alleles <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Other amplified DRB alleles |
|------------|----------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>1</b>   | 215 bp                                 | <b>515 bp</b>                     | *04:01:01:01-04:01:22, 04:09, 04:13, 04:16, 04:21, 04:26, 04:33, 04:35, 04:38, 04:62-04:63, 04:67, 04:72:01-04:72:02, 04:76, 04:100, 04:111-04:115, 04:117, 04:119N, 04:123, 04:125, 04:127, 04:130:01-04:130:02, 04:135, 04:139, 04:145, 04:150-04:151, 04:153, 04:158N-04:159, 04:171, 04:174-04:175, 04:179, 04:184, 04:187, 04:190, 04:192, 04:194, 04:196, 04:200, 04:208, 04:215-04:217, 04:233, 04:236, 04:239, 04:241-04:243, 04:248, 04:253-04:254, 04:257, 04:261, 04:266N-04:268, 04:270-04:271, 04:273-04:274, 04:280N-04:281, 04:285, 04:296, 04:304                                                                                        |                             |
| <b>2</b>   | 215 bp                                 | 430 bp                            | *04:02:01-04:02:06, 04:14, 04:37, 04:106, 04:124, 04:132-04:134, 04:138, 04:143, 04:161, 04:204, 04:210, 04:237-04:238, 04:259, 04:287, 04:299N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | *14:57                      |
| <b>3</b>   | 225 bp                                 | 430 bp                            | *04:03:01:01-04:03:16, 04:06:01-04:07:06, 04:11:01-04:11:06, 04:17:01-04:17:02, 04:20, 04:27, 04:39, 04:41, 04:46, 04:49-04:52, 04:59-04:60, 04:65, 04:69, 04:71, 04:78, 04:85, 04:88, 04:91-04:93, 04:95:02-04:97, 04:100-04:102, 04:109-04:110, 04:114, 04:129, 04:136, 04:142N, 04:144, 04:146, 04:148, 04:150, 04:154, 04:156, 04:160, 04:163, 04:165, 04:169-04:170, 04:172, 04:176, 04:181, 04:183, 04:188, 04:195, 04:197-04:199, 04:203, 04:209, 04:218-04:219, 04:222, 04:226:01-04:226:02, 04:228, 04:234-04:235, 04:246, 04:249, 04:251, 04:256, 04:260, 04:262-04:263, 04:269, 04:277-04:279, 04:291, 04:293-04:295, 04:298, 04:300N, 04:303 | *14:10, 14:143              |
| <b>4</b>   | 225 bp                                 | <b>515 bp</b>                     | *04:01:01:01-04:02:06, 04:04:01-04:04:16, 04:05:01:01-04:05:11, 04:05:13-04:05:22, 04:08:01-04:10:03, 04:13-04:16, 04:19, 04:21, 04:23-04:24, 04:26, 04:28-04:30, 04:32-04:33, 04:35-04:38, 04:40, 04:42-04:43, 04:44:01 <sup>w</sup> , 04:44:02-04:45, 04:47-04:48, 04:53:01-04:53:02, 04:56:01-04:57, 04:61-04:63, 04:67-04:68, 04:70, 04:72:01, 04:72:02 <sup>w</sup> , 04:73:01-04:73:02, 04:75-04:77,                                                                                                                                                                                                                                               | *11:22, 14:57, 14:182       |



DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **4L9**

**Lot-specific information**

|                |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                |
|----------------|--------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                |        |        | 04:79-04:84, 04:87, 04:89, 04:99,<br>04:104-04:108, 04:111-04:113, 04:115-<br>04:125, 04:127-04:128, 04:130:01-<br>04:130:02, 04:131:01 <sup>w</sup> , 04:131:02-<br>04:135, 04:138-04:139, 04:141, 04:143,<br>04:145, 04:147, 04:149, 04:151-04:153,<br>04:158N-04:159, 04:161-04:162,<br>04:164, 04:166, 04:168, 04:171, 04:173-<br>04:175, 04:177-04:180, 04:182, 04:184,<br>04:187, 04:189-04:190, 04:192-04:194,<br>04:196, 04:200-04:202, 04:204-04:208,<br>04:210-04:211, 04:213-04:217, 04:220-<br>04:221, 04:223-04:225, 04:227, 04:230-<br>04:233, 04:236-04:243, 04:245,<br>04:247N-04:248, 04:250, 04:252-<br>04:255, 04:257-04:259, 04:261,<br>04:264N-04:268, 04:270-04:276,<br>04:280N-04:282, 04:284-04:290,<br>04:292, 04:296-04:297, 04:299N,<br>04:301-04:302, 04:304 |                |
| 5              | 170 bp | 430 bp | *04:05:01:01-04:05:11, 04:05:13-<br>04:05:22, 04:09-04:12, 04:17:01-<br>04:17:02, 04:24, 04:28-04:30, 04:45,<br>04:48, 04:57, 04:67, 04:77, 04:80-<br>04:81N, 04:83-04:84, 04:86-04:87,<br>04:89-04:91, 04:103-04:104, 04:106-<br>04:107, 04:116, 04:125-04:126,<br>04:131:01-04:131:02, 04:136-04:137,<br>04:147, 04:152, 04:162, 04:173,<br>04:178N, 04:191, 04:201-04:203,<br>04:207, 04:213-04:214N, 04:227,<br>04:232, 04:245, 04:250, 04:255,<br>04:264N, 04:286N, 04:289, 04:292,<br>04:303                                                                                                                                                                                                                                                                                       |                |
| 6 <sup>4</sup> | 115 bp | 430 bp | *04:06:01-04:06:07, 04:19-04:21, 04:46,<br>04:49, 04:65, 04:68, 04:78, 04:84-04:85,<br>04:91, 04:99, 04:114, 04:144, 04:176,<br>04:186N, 04:219, 04:235, 04:244,<br>04:260, 04:277                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                |
| 7              | 260 bp | 430 bp | *04:01:01:01-04:01:22, 04:05:01:01-<br>04:05:11, 04:05:13-04:05:22,<br>04:07:01:01-04:09, 04:14, 04:16-<br>04:17:02, 04:19-04:21, 04:24, 04:26,<br>04:28-04:31, 04:33, 04:35, 04:38, 04:43,<br>04:45, 04:47-04:48, 04:54, 04:57, 04:61-<br>04:63, 04:69, 04:72:01-04:72:02, 04:74-<br>04:77, 04:80-04:84, 04:86-04:87, 04:89-<br>04:90, 04:92, 04:98:01-04:98:02,<br>04:102-04:107, 04:111-04:113, 04:115-<br>04:117, 04:119N, 04:123, 04:125,<br>04:127-04:132, 04:135, 04:137, 04:139-<br>04:141, 04:145, 04:151-04:153, 04:155,<br>04:158N-04:159, 04:162, 04:166,<br>04:170-04:175, 04:178N-04:179,<br>04:184-04:185, 04:187-04:192, 04:194,<br>04:196-04:197, 04:199-04:200, 04:202,<br>04:205-04:206, 04:208-04:209,<br>04:212N-04:214N, 04:216-04:217,                            | *11:22, 14:143 |



DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **4L9**

**Lot-specific information**

|          |        |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                  |
|----------|--------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|          |        |        | 04:222, 04:225, 04:227, 04:231-04:233,<br>04:236, 04:239, 04:241-04:243, 04:245-<br>04:246, 04:248-04:249, 04:252-04:257,<br>04:261-04:266N, 04:268-04:271,<br>04:273-04:274, 04:278, 04:280N-<br>04:281, 04:283, 04:285-04:286N,<br>04:289, 04:292, 04:296-04:297, 04:304                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |
| <b>8</b> | 260 bp | 430 bp | *04:02:01-04:04:17, 04:06:01-04:06:07,<br>04:10:01-04:13, 04:15, 04:18, 04:22-<br>04:23, 04:25, 04:27, 04:32, 04:36-04:37,<br>04:39-04:42, 04:44:01-04:44:02, 04:46,<br>04:49-04:53:02, 04:55-04:56:02, 04:58-<br>04:60, 04:65, 04:67-04:68, 04:70-04:71,<br>04:73:01-04:73:02, 04:78-04:79, 04:85,<br>04:88, 04:91, 04:93-04:97, 04:99-<br>04:101, 04:108-04:110, 04:114, 04:118,<br>04:120N-04:122, 04:124, 04:126,<br>04:133-04:134, 04:136, 04:138,<br>04:142N-04:144, 04:146-04:150,<br>04:154, 04:156-04:157N, 04:161,<br>04:163-04:165, 04:167-04:169, 04:176-<br>04:177, 04:180-04:183, 04:186N,<br>04:193, 04:198, 04:201, 04:203-04:204,<br>04:207, 04:210-04:211, 04:218-04:221,<br>04:223-04:224, 04:226:01-04:226:02,<br>04:228, 04:230, 04:234-04:235, 04:237-<br>04:238, 04:240, 04:244, 04:247N,<br>04:250-04:251, 04:258-04:260,<br>04:267N, 04:272, 04:275-04:277,<br>04:279, 04:282, 04:284, 04:287-04:288,<br>04:290-04:291, 04:293-04:295,<br>04:299N-04:303                                                                                                                                                                                                                                | *14:10, 14:57, 14:182            |
| <b>9</b> | 215 bp | 430 bp | *04:03:01:01-04:04:04, 04:04:05 <sup>w</sup> ,<br>04:04:06-04:05:07, 04:05:08 <sup>w</sup> , 04:05:09-<br>04:05:11, 04:05:13-04:08:04, 04:08:05 <sup>w</sup> ,<br>04:10:01-04:11:06, 04:12 <sup>w</sup> , 04:15,<br>04:17:01-04:17:02, 04:18 <sup>w</sup> , 04:19-04:20,<br>04:23-04:24, 04:25 <sup>w</sup> , 04:27-04:30,<br>04:31 <sup>w</sup> , 04:32, 04:36, 04:39-04:46,<br>04:47 <sup>w</sup> , 04:48-04:52, 04:53:01 <sup>w</sup> ,<br>04:53:02, 04:54 <sup>w</sup> -04:55 <sup>w</sup> , 04:56:01-<br>04:57, 04:58 <sup>w</sup> , 04:59-04:61, 04:68-<br>04:71, 04:74, 04:77-04:81N, 04:82 <sup>w</sup> ,<br>04:83-04:85, 04:86 <sup>w</sup> , 04:87-04:96,<br>04:99 <sup>w</sup> , 04:101-04:102, 04:103 <sup>w</sup> , 04:104,<br>04:107-04:110, 04:116, 04:118,<br>04:120N-04:121, 04:126 <sup>w</sup> , 04:129,<br>04:131:01-04:131:02, 04:136-04:137,<br>04:142N, 04:144, 04:146-04:149,<br>04:152, 04:154, 04:156-04:157N,<br>04:162-04:165, 04:167-04:170, 04:172,<br>04:176-04:178N, 04:180-04:183,<br>04:185 <sup>w</sup> , 04:186N, 04:189 <sup>w</sup> , 04:191 <sup>w</sup> ,<br>04:193, 04:195, 04:197-04:199, 04:201-<br>04:203, 04:205-04:207, 04:209, 04:211-<br>04:214N, 04:218-04:228, | *11:22, 14:10, 14:143,<br>14:182 |

DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **4L9**

**Lot-specific information**

|                       |        |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                      |
|-----------------------|--------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
|                       |        |               | 04:230-04:232, 04:234-04:235, 04:240, 04:244-04:247N, 04:249-04:252, 04:255-04:256, 04:258, 04:260, 04:262-04:265, 04:269, 04:272, 04:275-04:279, 04:282, 04:286N, 04:288-04:292, 04:294-04:295, 04:297-04:298, 04:300N-04:303                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                      |
| <b>10</b>             | 170 bp | <b>515 bp</b> | *04:01:01:01-04:04:17, 04:05:18, 04:06:01-04:08:05, 04:11:03, 04:13-04:16, 04:18-04:23, 04:25, 04:27, 04:31-04:33, 04:35-04:44:02, 04:46-04:47, 04:49-04:56:02, 04:58-04:61, 04:63, 04:65, 04:68, 04:70-04:76, 04:78-04:79, 04:85, 04:88, 04:92-04:98:02, 04:100-04:102, 04:105:01-04:105:02, 04:109-04:115, 04:117-04:124, 04:127-04:130:02, 04:132-04:135, 04:138-04:145, 04:148-04:151, 04:153-04:159, 04:161, 04:163-04:168, 04:170-04:172, 04:174-04:177, 04:179-04:190, 04:192-04:200, 04:204-04:206, 04:208-04:212N, 04:215-04:226:02, 04:228, 04:230-04:231, 04:233-04:234, 04:236-04:244, 04:246-04:249, 04:252-04:254, 04:256-04:263, 04:265-04:285, 04:287-04:288, 04:290-04:291, 04:293-04:302, 04:304 | *11:22, 14:57                                        |
| <b>11</b>             | 175 bp | 430 bp        | *04:15, 04:61, 04:138, 04:145, 04:154, 04:170, 04:265, 04:291                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | *11:22                                               |
|                       | 220 bp |               | *04:22, 04:98:02, 04:283                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                      |
| <b>12</b>             | 180 bp | <b>515 bp</b> | *04:16, 04:180                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                      |
|                       | 265 bp |               | *04:23, 04:52, 04:151, 04:203, 04:207                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                      |
| <b>13</b>             | 170 bp | 430 bp        | *04:46                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      |
|                       | 225 bp |               | *04:12, 04:18, 04:25, 04:31, 04:54-04:55, 04:58, 04:86, 04:103, 04:126, 04:185, 04:191                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      |
| <b>14<sup>6</sup></b> | 210 bp | 430 bp        | *04:02:01-04:02:06, 04:12, 04:14, 04:18, 04:38, 04:48, 04:53:01-04:53:02, 04:56:01-04:56:02, 04:73:01 <sup>w</sup> , 04:82, 04:86, 04:88, 04:99-04:100, 04:105:01 <sup>w</sup> -04:105:02 <sup>w</sup> , 04:106-04:107, 04:124-04:125, 04:133-04:134, 04:136, 04:138, 04:161, 04:185, 04:204-04:205, 04:210, 04:237-04:238, 04:259, 04:287                                                                                                                                                                                                                                                                                                                                                                         | *14:57                                               |
| <b>15</b>             | 175 bp | 430 bp        | *04:123                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | *01:10                                               |
|                       | 215 bp |               | *04:34                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      |
| <b>16</b>             | 170 bp | 430 bp        | *04:116, 04:148                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | *07:73, 11:126, 15:64, <b>DRB3*03:05, DRB5*01:65</b> |
| <b>17</b>             | 190 bp | 430 bp        | *04:15, 04:25, 04:36, 04:47, 04:54, 04:57, 04:191, 04:265                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | *11:22                                               |
| <b>18</b>             | 145 bp | 430 bp        | *04:28, 04:35, 04:42-04:43, 04:59, 04:147, 04:156, 04:199, 04:210, 04:230, 04:284, 04:291                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | *11:22                                               |
| <b>19</b>             | 140 bp | <b>515 bp</b> | *04:39                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                      |
|                       | 210 bp |               | *04:24, 04:69, 04:78, 04:101, 04:168, 04:251                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | *14:10, 14:143, 14:182                               |

DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **4L9**

Lot-specific information

|                       |                            |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|----------------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>20<sup>4</sup></b> | 100 bp<br>175 bp<br>255 bp | 430 bp        | *04:63, 04:110, 04:161, 04:253,<br>04:264N<br>*04:40<br>*04:27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>21<sup>5</sup></b> | 155 bp<br>210 bp           | <b>515 bp</b> | *04:29<br>*04:37, 04:58, 04:73:01-04:73:02,<br>04:105:01-04:105:02, 04:122, 04:132,<br>04:206, 04:284                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>22<sup>5</sup></b> | 230 bp                     | 430 bp        | *04:32, 04:50, 04:139, 04:166                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>23</b>             | 135 bp<br>255 bp           | 430 bp        | *04:33<br>*04:201                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>24<sup>4</sup></b> | 85 bp                      | 430 bp        | *04:01:01:01-04:01:22, 04:09, 04:16,<br>04:21, 04:26, 04:33-04:35, 04:38 <sup>w</sup> ,<br>04:62-04:64, 04:66, 04:72:01-04:72:02,<br>04:76, 04:98:01-04:98:02, 04:111-<br>04:113, 04:115, 04:117, 04:119N,<br>04:123, 04:125 <sup>w</sup> , 04:127-04:128,<br>04:130:01-04:130:02, 04:135, 04:139-<br>04:141, 04:145, 04:151, 04:153, 04:155,<br>04:158N-04:159, 04:171, 04:174,<br>04:175 <sup>w</sup> , 04:179 <sup>w</sup> , 04:184, 04:187-<br>04:188, 04:190, 04:192, 04:194, 04:196,<br>04:200, 04:208, 04:216-04:217, 04:233,<br>04:236, 04:239, 04:241-04:243, 04:248,<br>04:253-04:254, 04:257, 04:261,<br>04:266N, 04:268, 04:270-04:271,<br>04:273-04:274, 04:280N-04:281,<br>04:283, 04:285, 04:296, 04:304 | *01:10, 01:16, 03:02:01-<br>03:02:04, 03:05:01-03:05:03,<br>03:09, 03:14, 03:17, 03:27,<br>03:29, 03:35, 03:38, 03:40-<br>03:41:02, 03:53, 03:74,<br>03:81, 03:88, 03:90, 03:102 <sup>w</sup> ,<br>03:103, 03:115, 03:122,<br>03:130-03:131, 03:154-<br>03:155, 03:167, 11:53 <sup>w</sup> ,<br>11:79, 11:103:01-11:103:02,<br>11:105, 11:107, 11:125 <sup>w</sup> ,<br>11:136, 13:196 <sup>w</sup> , 14:19,<br>14:109, 14:141, 15:103 <sup>w</sup> ,<br><b>DRB3*01:01:02:01-01:18,</b><br><b>DRB3*01:20-01:30,</b><br><b>DRB3*01:31<sup>w</sup>, DRB3*01:32-</b><br><b>01:33, DRB3*01:35-01:85,</b><br><b>DRB3*02:02:01:01-02:03,</b><br><b>DRB3*02:05:01-02:10,</b><br><b>DRB3*02:11<sup>w</sup>, DRB3*02:12-</b><br><b>02:13, DRB3*02:15-02:16,</b><br><b>DRB3*02:17<sup>w</sup>, DRB3*02:18-</b><br><b>02:23, DRB3*02:25,</b><br><b>DRB3*02:27-02:47,</b><br><b>DRB3*02:49-02:57,</b><br><b>DRB3*02:59-02:64,</b><br><b>DRB3*02:66-02:88,</b><br><b>DRB3*02:90-02:102,</b><br><b>DRB3*02:105,</b><br><b>DRB3*02:107-02:110,</b><br><b>DRB3*02:112-02:130,</b><br><b>DRB3*02:132-02:140,</b><br><b>DRB3*02:142, DRB3*03:03,</b><br><b>DRB3*03:06</b> |
| <b>25<sup>4</sup></b> | 125 bp<br>230 bp<br>260 bp | 430 bp        | *04:26<br>*04:45<br>*04:64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>26</b>             | 200 bp                     | <b>515 bp</b> | *04:01:01:01-04:01:22, 04:03:01:01-<br>04:05:11, 04:05:13-04:11:06, 04:13,<br>04:16-04:17:02, 04:19-04:24, 04:26-<br>04:33, 04:35, 04:39-04:46, 04:48-04:52,<br>04:55, 04:57, 04:59-04:63, 04:65, 04:67-<br>04:72:02, 04:74-04:79, 04:83-04:85,<br>04:87, 04:89-04:92, 04:94:01N-<br>04:98:02, 04:101-04:104,                                                                                                                                                                                                                                                                                                                                                                                                           | *14:10, 14:143, 14:182                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **4L9**

**Lot-specific information**

|                           |                 |               |                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|-----------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           |                 |               | 04:108-04:113, 04:115-04:123, 04:126-04:131:02, 04:135, 04:137, 04:139-04:142N, 04:144-04:149, 04:151-04:159, 04:162-04:174, 04:176-04:178N, 04:180-04:181, 04:183-04:184, 04:186N-04:188, 04:190, 04:192-04:203, 04:207-04:208, 04:211-04:228, 04:230-04:236, 04:239-04:258, 04:260-04:264N, 04:266N-04:283, 04:285-04:286N, 04:288-04:292, 04:294-04:298, 04:300N-04:304 |                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>27<sup>4</sup></b>     | 115 bp          | <b>515 bp</b> | *04:10:01-04:11:04, 04:11:06-04:12, 04:60, 04:67, 04:91, 04:126, 04:136, 04:147, 04:201, 04:203, 04:207, 04:219, 04:250, 04:303                                                                                                                                                                                                                                            | *03:12, 03:158, 08:06, 08:10, 08:12, 08:22, 08:54, 08:70, 12:46, 13:04, 13:32, 13:48, 13:58, 13:75, 13:81, 13:89:01-13:89:02, 13:93-13:94:02, 13:108, 13:164, 13:169, 13:276, 14:65, 14:78, 14:169-14:170, 15:12                                                                                                                                                                 |
|                           | 265 bp          |               | *04:49                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>28<sup>4</sup></b>     | 90 bp           | 430 bp        | *04:11:01-04:11:04, 04:11:06, 04:17:01-04:17:02, 04:91, 04:136, 04:203, 04:303                                                                                                                                                                                                                                                                                             | *08:29, 13:188, 14:169                                                                                                                                                                                                                                                                                                                                                           |
| <b>29<sup>4,5</sup></b>   | 75 bp           | 430 bp        | *04:07:01:01-04:07:06, 04:17:01-04:17:02, 04:20, 04:69, 04:74, 04:92, 04:102, 04:129, 04:160, 04:170, 04:172, 04:197, 04:199, 04:209, 04:212N, 04:222, 04:246, 04:249, 04:256, 04:262-04:263, 04:269, 04:278                                                                                                                                                               | *01:17, 09:01:02:01-09:01:05, 09:01:08-09:02:02, 09:04-09:05, 09:07-09:08, 09:10-09:44, 10:29, 14:07:01-14:07:02, 14:14, 14:36, 14:42, 14:44:01-14:44:03, 14:51, 14:68:01-14:68:02, 14:93, 14:134, 14:143, <b>DRB4*01:60, DRB5*01:12 DRB3*02:84</b>                                                                                                                              |
| <b>30<sup>4</sup></b>     | 270 bp<br>80 bp | 430 bp        | *04:19 <sup>?</sup> -04:21 <sup>?</sup> , 04:64, 04:192, 04:213<br>*04:09, 04:67, 04:106, 04:125                                                                                                                                                                                                                                                                           | *08:40, 08:92, 13:03:01-13:04, 13:32-13:33:03, 13:38, 13:48, 13:65-13:66:02, 13:75, 13:81, 13:88-13:89:02, 13:93-13:95, 13:101, 13:115, 13:120, 13:122, 13:133, 13:139, 13:151-13:152, 13:167 <sup>?</sup> , 13:174, 13:188, 13:194, 13:216, 13:219, 13:227, 13:230, 13:253, 13:276                                                                                              |
| <b>31<sup>4,5,6</sup></b> | 85 bp           | 430 bp        | *04:14, 04:106, 04:132                                                                                                                                                                                                                                                                                                                                                     | *01:03:01-01:03:04, 01:39N, 01:89, 01:99, 01:102, 08:40, 08:92, 11:11:01, 11:11:03, 11:14:01-11:14:02, 11:20, 11:68, 11:73, 11:93, 11:122, 11:168, 11:184, 11:237, 13:02:01:01-13:02:03, 13:02:05-13:02:09, 13:02:11-13:03:09, 13:23:01-13:23:02, 13:29, 13:31, 13:33:01-13:34, 13:36-13:39, 13:41, 13:45, 13:63, 13:65-13:67, 13:73-13:74, 13:85, 13:88, 13:90, 13:95-13:97:02, |

DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

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Lot No.: **4L9**

Lot-specific information

|                       |                  |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|------------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       |                  |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 13:99, 13:101, 13:103-13:104, 13:107, 13:115, 13:120, 13:122-13:124, 13:126, 13:128, 13:135, 13:139, 13:143, 13:145, 13:147, 13:151-13:152, 13:155, 13:159, 13:165, 13:167-13:168, 13:170-13:172, 13:174, 13:179-13:180, 13:182, 13:188, 13:194-13:195, 13:198, 13:202, 13:207-13:212, 13:216, 13:219-13:220, 13:225, 13:227, 13:230, 13:236-13:237, 13:239-13:241, 13:243-13:244, 13:247, 13:250, 13:253, 13:255N, 13:257, 13:264-13:265, 13:268N-13:269, 13:275, 13:280, 13:282, 13:285, 13:288-13:289N, 13:292-13:293, 13:297-13:298N |
|                       | 200 bp           |               | *04:214N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                       | 260 bp           |               | *04:64                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>32<sup>4</sup></b> | 120 bp           | 430 bp        | *04:01:01:01-04:05:01:04, 04:05:03-04:05:11, 04:05:13-04:05:14, 04:05:16-04:05:22, 04:07:01:01-04:18, 04:22-04:33, 04:35-04:45, 04:47-04:48, 04:50-04:63, 04:67, 04:69-04:77, 04:79-04:83, 04:86-04:90, 04:92-04:95:02, 04:97-04:98:02, 04:100-04:113, 04:115-04:132, 04:134-04:143, 04:145-04:151, 04:153-04:159, 04:161-04:163, 04:166-04:175, 04:177-04:183, 04:185, 04:187-04:216, 04:218, 04:220-04:223, 04:225-04:227, 04:230, 04:232-04:234, 04:236-04:237, 04:239-04:243, 04:245-04:259, 04:261-04:276, 04:278-04:304 | *11:22                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>33</b>             | 215 bp           | 430 bp        | *04:158N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>34</b>             | 270 bp           | <b>515 bp</b> | *04:19 <sup>?</sup> -04:21 <sup>?</sup> , 04:34, 04:66, 04:160, 04:192, 04:213, 04:229                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>DRB3*02:84</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>35</b>             | 210 bp<br>245 bp | 430 bp        | *04:81N<br>*04:51, 04:70, 04:260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>36<sup>4</sup></b> | 120 bp<br>180 bp | <b>515 bp</b> | *04:96<br>*04:71                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | *03:149                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>37</b>             | 225 bp           | 430 bp        | *04:22, 04:44:01-04:44:02, 04:65, 04:72:01-04:72:02, 04:74, 04:95:01-04:95:02, 04:131:01-04:131:02, 04:140, 04:244, 04:283                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>38</b>             | 140 bp<br>225 bp | 430 bp        | *04:89<br>*04:73:01-04:73:02, 04:75, 04:105:01-04:105:02, 04:122, 04:178N, 04:284, 04:293                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

**DRB1\*04**

**101.114-24/03 – including *Taq* pol., IFU-01**

**101.114-24u/03u – without *Taq* pol., IFU-02**

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**Lot No.: 4L9**

**Lot-specific information**

|                       |                  |               |                                                                                                                   |                                         |
|-----------------------|------------------|---------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| <b>39<sup>4</sup></b> | 100 bp<br>175 bp | 430 bp        | *04:83<br>*04:15, 04:61-04:62, 04:69, 04:138,<br>04:145-04:146, 04:154, 04:170, 04:235,<br>04:251, 04:265, 04:291 | *11:22, 14:10, 14:57, 14:143,<br>14:182 |
| <b>40</b>             | 145 bp<br>200 bp | 430 bp        | *04:30, 04:85<br>*04:38, 04:56:01-04:56:02, 04:88,<br>04:100, 04:107, 04:125, 04:205                              |                                         |
| <b>41</b>             | 165 bp<br>205 bp | 430 bp        | *04:76, 04:108<br>*04:182                                                                                         |                                         |
| <b>42<sup>4</sup></b> | 110 bp           | 430 bp        | *04:41, 04:77, 04:102, 04:113, 04:152,<br>04:164, 04:211, 04:225, 04:230, 04:250,<br>04:301                       | *14:10, 14:57, 14:143,<br>14:182        |
| <b>43<sup>4</sup></b> | 140 bp<br>125 bp | <b>515 bp</b> | *04:79<br>*04:80, 04:179, 04:209, 04:218                                                                          | *11:53, 11:125, 11:173                  |
| <b>44</b>             | 165 bp<br>240 bp | 430 bp        | *04:127<br>*04:87, 04:94:01N, 04:120N, 04:129,<br>04:157N, 04:186N, 04:212N                                       |                                         |
| <b>45</b>             | 240 bp           | <b>515 bp</b> | *04:03:08, 04:04:04, 04:10:02, 04:44:01,<br>04:72:02, 04:74, 04:95:01, 04:131:01,<br>04:140, 04:157N, 04:244      |                                         |
| <b>46<sup>4</sup></b> | 75 bp<br>200 bp  | 430 bp        | *04:92, 04:274<br>*04:214N                                                                                        |                                         |
| <b>47</b>             | 140 bp<br>250 bp | 430 bp        | *04:117<br>*04:119N, 04:142N                                                                                      |                                         |
| <b>48<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 DRB1\*04 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 DRB1 alleles 1st and/or 3rd 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 21, 22, 29 and 31 may have tendencies of unspecific amplifications.

<sup>6</sup>Primer mixes 14 and 31 have a tendency to giving rise to primer oligomer formation.

<sup>7</sup>Primer mix 48 contains a negative control, which will amplify the majority of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR

**DRB1\*04**

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**Lot No.: 4L9**

**Lot-specific information**

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

w: might be weakly amplified.

?: nucleotide sequence information not available for the primer matching sequence.



DRB1\*04

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Lot No.: **4L9**

Lot-specific information

## PRIMER SPECIFICATION

| Well No.                                 | 1                    | 2                    | 3                    | 4                    | 5                    | 6                    | 7                    | 8                    | 9                    | 10                   | 11                   | 12                   |
|------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Length of spec. PCR product              | 215                  | 215                  | 225                  | 225                  | 170                  | 115                  | 260                  | 260                  | 215                  | 170                  | 175                  | 180                  |
|                                          |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      | 220                  | 265                  |
| Length of int. pos. control <sup>1</sup> | 515                  | 430                  | 430                  | 515                  | 430                  | 430                  | 430                  | 430                  | 430                  | 515                  | 430                  | 515                  |
| 5'-primer(s) <sup>2</sup>                | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' |
|                                          |                      |                      | 13(125)<br>5'-ACC 3' |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| 3'-primer(s) <sup>3</sup>                | 71(298)<br>5'-CTT 3' | 71(298)<br>5'-CTC 3' | 74(308)<br>5'-CCT 3' | 74(308)<br>5'-CCg 3' | 57(256)<br>5'-gCT 3' | 37(197)<br>5'-Cgg 3' | 86(344)<br>5'-CAC 3' | 86(344)<br>5'-CCA 3' | 71(298)<br>5'-TCT 3' | 57(256)<br>5'-ATC 3' | 58(260)<br>5'-CCT 3' | 59(262)<br>5'-CTg 3' |
|                                          | 71(298)<br>5'-TTT 3' |                      |                      |                      | 57(256)<br>5'-gCT 3' |                      |                      |                      | 71(298)<br>5'-CCT 3' | 57(256)<br>5'-ATC 3' | 73(305)<br>5'-ggC 3' | 88(351)<br>5'-AAT 3' |
|                                          |                      |                      |                      |                      | 57(256)<br>5'-gCT 3' |                      |                      |                      |                      | 57(256)<br>5'-gTC 3' |                      |                      |
|                                          |                      |                      |                      |                      |                      |                      |                      |                      |                      | 58(261)<br>5'-TCC 3' |                      |                      |
|                                          |                      |                      |                      |                      |                      |                      |                      |                      |                      | 58(261)<br>5'-TCA 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              | 170                  | 210                  | 175                  | 170                  | 190                  | 145                  | 140                  | 100                  | 155                  | 230                  | 135                   | 85                   |
|                                          |                      |                      | 215                  |                      |                      |                      | 210                  | 175                  | 210                  |                      | 255                   |                      |
|                                          |                      |                      |                      |                      |                      |                      | 255                  |                      |                      |                      |                       |                      |
| Length of int. pos. control <sup>1</sup> | 430                  | 430                  | 430                  | 430                  | 430                  | 430                  | 515                  | 430                  | 515                  | 430                  | 430                   | 430                  |
| 5'-primer(s) <sup>2</sup>                | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACC 3' | 44(217)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 39(203)<br>5'-gCA 3'  | 71(299)<br>5'-gAA 3' |
|                                          |                      |                      | 26(165)<br>5'-TTg 3' |                      |                      |                      |                      |                      |                      |                      | 104(397)<br>5'-CTg 3' | 71(299)<br>5'-gAA 3' |
| 3'-primer(s) <sup>3</sup>                | 56(253)<br>5'-AgC 3' | 67(286)<br>5'-gAT 3' | 71(298)<br>5'-CTT 3' | 86(344)<br>5'-CCA 3' | 60(265)<br>5'-gTT 3' | 47(227)<br>5'-ggA 3' | 46(225)<br>5'-TAg 3' | 33(184)<br>5'-gTT 3' | 51(239)<br>5'-CCA 3' | 72(302)<br>5'-CCT 3' | 71(299)<br>5'-gCT 3'  | 86(344)<br>5'-CAC 3' |
|                                          | 74(307)<br>5'-CAg 3' | 67(286)<br>5'-gAT 3' |                      | 86(344)<br>5'-CAC 3' | 67(286)<br>5'-gAA 3' |                      | 70(296)<br>5'-TCC 3' | 58(260)<br>5'-CgC 3' | 67(286)<br>5'-gAg 3' | 78(319)<br>5'-gTg 3' | 174(609)<br>5'-ACg 3' |                      |
|                                          |                      | 67(286)<br>5'-gAT 3' |                      |                      |                      |                      |                      | 85(341)<br>5'-CAg 3' | 71(298)<br>5'-CgC 3' |                      |                       |                      |
|                                          |                      | 73(304)<br>5'-ggA 3' |                      |                      |                      |                      |                      |                      |                      |                      |                       |                      |
| Well No.                                 | 13                   | 14                   | 15                   | 16                   | 17                   | 18                   | 19                   | 20                   | 21                   | 22                   | 23                    | 24                   |

DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **4L9**

Lot-specific information

| Well No.                  | 25                   | 26                   | 27                   | 28                   | 29                   | 30                   | 31                   | 32                   | 33                   | 34                   | 35                   | 36                   |
|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Length of spec.           | 125                  | 200                  | 115                  | 90                   | 75                   | 80                   | 85                   | 120                  | 215                  | 270                  | 210                  | 120                  |
| PCR product               | 230                  |                      | 265                  |                      | 270                  |                      | 200                  |                      |                      |                      | 245                  | 180                  |
|                           | 260                  |                      |                      |                      |                      |                      | 260                  |                      |                      |                      |                      |                      |
| Length of int.            | 430                  | 515                  | 515                  | 430                  | 430                  | 430                  | 430                  | 430                  | 430                  | 515                  | 430                  | 515                  |
| pos. control <sup>1</sup> |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| 5'-primer(s) <sup>2</sup> | 13(125)<br>5'-ATA 3' | 13(125)<br>5'-ACA 3' | 11(118)<br>5'-AgA 3' | 57(258)<br>5'-AgC 3' | 6(103)<br>5'-CAA 3'  | 57(258)<br>5'-AgC 3' | 13(125)<br>5'-ATA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 6(103)<br>5'-CAA 3'  | 13(125)<br>5'-ACA 3' | 20(145)<br>5'-ACC 3' |
|                           | 23(155)<br>5'-gCC 3' |                      | 57(258)<br>5'-AgC 3' |                      | 13(125)<br>5'-ATA 3' |                      | 34(187)<br>5'-ACT 3' |                      |                      | 13(125)<br>5'-gTC 3' |                      | 41(208)<br>5'-TCA 3' |
|                           | 58(259)<br>5'-ATA 3' |                      | 63(275)<br>5'-CAA 3' |                      | 74(308)<br>5'-CgA 3' |                      | 71(299)<br>5'-CgA 3' |                      |                      | 13(125)<br>5'-ACC 3' |                      |                      |
|                           |                      |                      |                      |                      |                      |                      | 71(299)<br>5'-CAA 3' |                      |                      |                      |                      |                      |
| 3'-primer(s) <sup>3</sup> | 86(344)<br>5'-CAC 3' | 67(286)<br>5'-gAg 3' | 86(344)<br>5'-CCA 3' | 74(308)<br>5'-CCT 3' | 86(344)<br>5'-CAC 3' | 71(299)<br>5'-gCT 3' | 86(344)<br>5'-CAC 3' | 37(197)<br>5'-CgT 3' | 72(301)<br>5'-CCg 3' | 86(344)<br>5'-CAC 3' | 69(293)<br>5'-..T 3' | 67(286)<br>5'-gAg 3' |
|                           |                      | 67(288)<br>5'-AgA 3' |                      |                      |                      |                      |                      | 39(203)<br>5'-AgT 3' |                      |                      | 81(328)<br>5'-gTA 3' |                      |
| Well No.                  | 25                   | 26                   | 27                   | 28                   | 29                   | 30                   | 31                   | 32                   | 33                   | 34                   | 35                   | 36                   |

| Well No.                  | 37                   | 38                   | 39                   | 40                   | 41                   | 42                   | 43                    | 44                   | 45                   | 46                    | 47                   |
|---------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|----------------------|----------------------|-----------------------|----------------------|
| Length of spec.           | 225                  | 140                  | 100                  | 145                  | 165                  | 110                  | 125                   | 165                  | 240                  | 75                    | 140                  |
| PCR product               |                      | 225                  | 175                  | 200                  | 205                  | 140                  |                       | 240                  |                      | 200                   | 250                  |
| Length of int.            | 430                  | 430                  | 430                  | 430                  | 430                  | 430                  | 515                   | 430                  | 515                  | 430                   | 430                  |
| pos. control <sup>1</sup> |                      |                      |                      |                      |                      |                      |                       |                      |                      |                       |                      |
| 5'-primer(s) <sup>2</sup> | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 37(197)<br>5'-gTA 3'  | 13(125)<br>5'-ACA 3' | 13(125)<br>5'-ACA 3' | 34(187)<br>5'-ACT 3'  | 13(125)<br>5'-ACA 3' |
|                           |                      |                      |                      |                      |                      |                      | 123(454)<br>5'-TCC 3' |                      |                      | 196(674)<br>5'-ACA 3' |                      |
| 3'-primer(s) <sup>3</sup> | 71(298)<br>5'-CCA 3' | 46(224)<br>5'-ACC 3' | 33(185)<br>5'-ggA 3' | 46(223)<br>5'-CTT 3' | 53(244)<br>5'-CAT 3' | 37(196)<br>5'-gTT 3' | 67(286)<br>5'-gAA 3'  | 55(251)<br>5'-gCg 3' | 77(317)<br>5'-AAT 3' | 86(344)<br>5'-CAC 3'  | 46(223)<br>5'-CTg 3' |
|                           | 77(317)<br>5'-AgT 3' | 71(299)<br>5'-gCg 3' | 57(257)<br>5'-CAg 3' | 49(233)<br>5'-CCA 3' | 57(256)<br>5'-ATg 3' | 37(197)<br>5'-CgA 3' | 149(534)<br>5'-TTC 3' | 78(321)<br>5'-CAT 3' | 83(336)<br>5'-CCA 3' | 207(706)<br>5'-CAT 3' | 83(336)<br>5'-CCC 3' |
|                           | 77(318)<br>5'-TAA 3' | 77(318)<br>5'-TAg 3' | 58(260)<br>5'-CCT 3' | 67(286)<br>5'-gAT 3' | 67(287)<br>5'-ggg 3' | 47(226)<br>5'-gTg 3' |                       | 81(328)<br>5'-gTA 3' |                      |                       | 83(336)<br>5'-CCT 3' |
| Well No.                  | 37                   | 38                   | 39                   | 40                   | 41                   | 42                   | 43                    | 44                   | 45                   | 46                    | 47                   |

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

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### Lot-specific information

| CELL LINE VALIDATION SHEET             |                             |        |      |        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|----------------------------------------|-----------------------------|--------|------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| DRB1*04 SSP subtyping kit <sup>2</sup> |                             |        |      |        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|                                        |                             |        |      |        | Prod. No. | Well      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|                                        |                             |        |      |        |           | 1         | 2         | 3         | 4         | 5         | 6         | 7         | 8         | 9         | 10        | 11        | 12        | 13        | 14        | 15        | 16        |
|                                        |                             |        |      |        |           | 201781301 | 201781302 | 201781303 | 201781304 | 201781305 | 201781306 | 201781307 | 201781308 | 201781309 | 202023610 | 201781311 | 201781312 | 201781313 | 201781314 | 201781315 | 201781316 |
|                                        | IHWC cell line <sup>1</sup> |        | DRB1 |        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 1                                      | 9001 SA                     | *01:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2                                      | 9280 LK707                  | *15:02 |      | *04:05 | -         | -         | -         | +         | +         | -         | +         | -         | +         | -         | -         | -         | -         | -         | -         | -         | -         |
| 3                                      | 9011 E4181324               | *15:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 4                                      | 9275 GU373                  | *03:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 5                                      | 9009 KAS011                 | *16:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 6                                      | 9353 SM                     | *04:07 |      | *08:03 | -         | -         | +         | -         | -         | -         | +         | -         | +         | +         | -         | -         | -         | -         | -         | -         | -         |
| 7                                      | 9020 QBL                    | *03:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 8                                      | 9025 DEU                    | *04:01 |      |        | +         | -         | -         | +         | -         | -         | +         | -         | -         | +         | -         | -         | -         | -         | -         | -         | -         |
| 9                                      | 9026 YAR                    | *04:02 |      |        | -         | +         | -         | +         | -         | -         | -         | +         | -         | +         | -         | -         | -         | -         | +         | -         | -         |
| 10                                     | 9107 LKT3                   | *04:05 |      |        | -         | -         | -         | +         | +         | -         | +         | -         | +         | +         | -         | -         | -         | -         | -         | -         | -         |
| 11                                     | 9051 PITOUT                 | *07:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 12                                     | 9052 DBB                    | *07:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 13                                     | 9004 JESTHOM                | *01:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 14                                     | 9071 OLGA                   | *08:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 15                                     | 9075 DKB                    | *09:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 16                                     | 9037 SWEIG007               | *11:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 17                                     | 9282 CTM3953540             | *03:01 |      | *13:01 | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 18                                     | 9257 32367                  | *09:01 |      | *11:01 | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 19                                     | 9038 BM16                   | *12:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 20                                     | 9059 SLE005                 | *13:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 21                                     | 9064 AMALA                  | *14:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 22                                     | 9056 KOSE                   | *13:02 |      | *14:01 | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 23                                     | 9124 IHL                    | *08:03 |      | *14:14 | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 24                                     | 9035 JBUSH                  | *11:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 25                                     | 9049 IBW9                   | *07:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 26                                     | 9285 WT49                   | *03:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 27                                     | 9191 CH1007                 | *04:05 |      | *10:01 | -         | -         | -         | +         | +         | -         | +         | -         | +         | +         | -         | -         | -         | -         | -         | -         | -         |
| 28                                     | 9320 BEL5GB                 | *04:16 |      | *07:01 | +         | -         | -         | +         | -         | -         | +         | -         | -         | +         | +         | -         | +         | -         | -         | -         | -         |
| 29                                     | 9050 MOU                    | *07:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 30                                     | 9021 RSH                    | *03:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 31                                     | 9019 DUCAF                  | *03:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 32                                     | 9297 HAG                    | *13:03 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 33                                     | 9098 MT14B                  | *04:04 |      |        | -         | -         | -         | +         | -         | -         | -         | +         | +         | +         | -         | -         | -         | -         | -         | -         | -         |
| 34                                     | 9104 DHIF                   | *11:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 35                                     | 9302 SSTO                   | *04:03 |      |        | -         | -         | +         | -         | -         | -         | -         | +         | +         | +         | -         | -         | -         | -         | -         | -         | -         |
| 36                                     | 9024 KT17                   | *04:03 |      | *04:06 | -         | -         | +         | -         | -         | +         | -         | +         | +         | +         | -         | -         | -         | -         | -         | -         | -         |
| 37                                     | 9065 HHKB                   | *13:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 38                                     | 9099 LZL                    | *14:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 39                                     | 9315 CML                    | *03:01 |      | *04:01 | +         | -         | -         | +         | -         | -         | +         | -         | -         | +         | +         | -         | -         | -         | -         | -         | -         |
| 40                                     | 9134 WHONP199               | *07:01 |      | *09:01 | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 41                                     | 9055 H0301                  | *13:02 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 42                                     | 9066 TAB089                 | *08:03 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 43                                     | 9076 T7526                  | *09:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 44                                     | 9057 TEM                    | *14:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 45                                     | 9239 SHJO                   | *07:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 46                                     | 9013 SCHU                   | *15:01 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 47                                     | 9045 TUBO                   | *11:04 |      | *12:01 | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 48                                     | 9303 TER-ND                 | *01:03 |      |        | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |

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### Lot-specific information

CE  
0197

DRB1\*04

101.114-24/03 – including *Taq* pol., IFU-01

101.114-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **4L9**

Lot-specific information

| CELL LINE VALIDATION SHEET             |                             |            |        |        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|----------------------------------------|-----------------------------|------------|--------|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| DRB1*04 SSP subtyping kit <sup>2</sup> |                             |            |        |        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|                                        |                             |            |        |        | Prod. No. | Well      |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
|                                        |                             |            |        |        |           | 33        | 34        | 35        | 36        | 37        | 38        | 39        | 40        | 41        | 42        | 43        | 44        | 45        | 46        | 47        |
|                                        |                             |            |        |        |           | 202023633 | 201781334 | 201781335 | 201781336 | 202023637 | 201781338 | 201781339 | 201781340 | 201781341 | 201781342 | 201781343 | 201781344 | 201781345 | 201781346 | 201781347 |
|                                        | IHWC cell line <sup>1</sup> |            | DRB1   |        |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |
| 1                                      | 9001                        | SA         | *01:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 2                                      | 9280                        | LK707      | *15:02 | *04:05 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 3                                      | 9011                        | E4181324   | *15:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 4                                      | 9275                        | GU373      | *03:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 5                                      | 9009                        | KAS011     | *16:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 6                                      | 9353                        | SM         | *04:07 | *08:03 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 7                                      | 9020                        | QBL        | *03:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 8                                      | 9025                        | DEU        | *04:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 9                                      | 9026                        | YAR        | *04:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 10                                     | 9107                        | LKT3       | *04:05 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 11                                     | 9051                        | PITOUT     | *07:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 12                                     | 9052                        | DBB        | *07:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 13                                     | 9004                        | JESTHOM    | *01:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 14                                     | 9071                        | OLGA       | *08:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 15                                     | 9075                        | DKB        | *09:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 16                                     | 9037                        | SWEIG007   | *11:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 17                                     | 9282                        | CTM3953540 | *03:01 | *13:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 18                                     | 9257                        | 32367      | *09:01 | *11:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 19                                     | 9038                        | BM16       | *12:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 20                                     | 9059                        | SLE005     | *13:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 21                                     | 9064                        | AMALA      | *14:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 22                                     | 9056                        | KOSE       | *13:02 | *14:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 23                                     | 9124                        | IHL        | *08:03 | *14:14 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 24                                     | 9035                        | JBUSH      | *11:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 25                                     | 9049                        | IBW9       | *07:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 26                                     | 9285                        | WT49       | *03:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 27                                     | 9191                        | CH1007     | *04:05 | *10:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 28                                     | 9320                        | BEL5GB     | *04:16 | *07:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 29                                     | 9050                        | MOU        | *07:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 30                                     | 9021                        | RSH        | *03:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 31                                     | 9019                        | DUCAF      | *03:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 32                                     | 9297                        | HAG        | *13:03 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 33                                     | 9098                        | MT14B      | *04:04 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 34                                     | 9104                        | DHIF       | *11:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 35                                     | 9302                        | SSTO       | *04:03 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 36                                     | 9024                        | KT17       | *04:03 | *04:06 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 37                                     | 9065                        | HHKB       | *13:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 38                                     | 9099                        | LZL        | *14:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 39                                     | 9315                        | CML        | *03:01 | *04:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 40                                     | 9134                        | WHONP199   | *07:01 | *09:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 41                                     | 9055                        | H0301      | *13:02 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 42                                     | 9066                        | TAB089     | *08:03 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 43                                     | 9076                        | T7526      | *09:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 44                                     | 9057                        | TEM        | *14:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 45                                     | 9239                        | SHJO       | *07:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 46                                     | 9013                        | SCHU       | *15:01 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 47                                     | 9045                        | TUBO       | *11:04 | *12:01 |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |
| 48                                     | 9303                        | TER-ND     | *01:03 |        |           | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         | -         |

**DRB1\*04**

**101.114-24/03 – including *Taq* pol., IFU-01**

**101.114-24u/03u – without *Taq* pol., IFU-02**

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**“Instructions for Use” (IFU)**

**Lot No.: 4L9**

**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 11, 13, 15 to 23, 25, 33 to 39 and 41 to 47 were available. The specificities of the primers in primer solutions 11, 13, 15, 17 to 21, 23, 35, 37 to 39, 42, 43, 45 and 46 were tested by separately adding one or two additional 5'-primers or one additional 3'-primer respectively. In primer solutions 16, 25, 34 and 36 it was only possible to test the 3'-primers, the 5'-primers were not possible to be tested. In primer solutions 22, 33, 41, 44 and 47 it was only possible to test the 5'-primers, the 3'-primers were not possible to be tested. One or two 3'-primers in primer solutions 1, 5, 10, 12 to 14, 17, 19 to 21, 23, 26, 32, 35, 37 to 40, 42, 43, 45 and 46 were not possible to be tested. In primer solutions 3, 15, 23, 24, 27, 29, 31, 43 and 46 one or two 5'-primers were not possible to be tested. In addition, one 3'-primer in primer solution 10 was tested by separately adding one 5'-primer.

DRB1\*04

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**ADDRESSES:****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](mailto:orders-se@caredx.com)**Web page:** <https://labproducts.caredx.com/>**Distributed by:****CareDx GmbH**, Löwengasse 47 / 6, AT-1030 Vienna, Austria.**Tel:** +43-1-710 15 00**Fax:** +43-1-710 15 00 10**E-mail:** [orders-at@caredx.com](mailto:orders-at@caredx.com)**Web page:** <https://labproducts.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:** <https://labproducts.caredx.com/>For information on CareDx distributors worldwide, contact **CareDx GmbH**.