

Lot No.: **9D8**

Lot-specific information

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Olerup SSP® DQB1 high resolution for frequent alleles

Product number:	101.221-12 – including <i>Taq</i> polymerase 101.221-12u – without <i>Taq</i> polymerase
Lot number:	9D8
Expiry date:	2019-02-01
Number of tests:	12 tests
Number of wells per test:	95+ 1
Storage - pre-aliquoted primers:	dark at -20°C
- PCR Master Mix:	-20°C
- Adhesive PCR seals	RT
- Product Insert	RT

This Product Description is only valid for Lot No. 9D8.

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

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP®
DQB1 HIGH RESOLUTION LOT (17Y)**

The DQB1*high kit is updated for new alleles to enable separation of:

- Confirmed¹ alleles as listed in the IMGT/HLA database.
- Polymorphisms in exons outside of the region encoding the peptide binding domain.
- Null and Alternatively expressed alleles.

¹As described in section Uniquely Identified Alleles.

The DQB1 high resolution specificity and interpretation tables have been updated with the DQB1 alleles described since the previous *Olerup SSP®* DQB1 high resolution lot was made (**Lot No. 17Y**). The kit design is based on IMGT/HLA database 3.23.0.

As of lot series V, the Specificity Table is included in the lot-specific Product Insert, and the Interpretation Table is included in the Worksheet.

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

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

Well	5'-primer	3'-primer	rationale
1	-	Added	3'-primer added for the DQB1*02:01:21 allele.
5	Modified, Added	-	5'-primer modified for increased yield, 5'-primer added for the DQB1*05:51 allele.
8	-	Added	3'-primers added for the DQB1*02:01:21 and DQB1*06:171 alleles.
13	Added	-	5'-primer added for the DQB1*03:204 allele.
14	Added	-	5'-primer added for the DQB1*03:204 allele.
15	Added	-	5'-primer added for the DQB1*02:42 allele.
18	Added	Removed	5'-primer added for the DQB1*03:188 allele, 3'-primer removed for decreased tendency of primer oligomer formation.
21	Added	-	5'-primer added for the DQB1*04:27 allele.
24	-	Added	3'-primers added for the DQB1*05:02:13, DQB1*05:72 and DQB1*05:88 alleles.
25	-	Added	3'-primers added for the DQB1*05:03:14 and DQB1*05:72 alleles.
30	Added	-	5'-primer added for the DQB1*04:27 allele.
33	Added	-	5'-primer added for the DQB1*03:200 allele.
35	-	Added	3'-primer added for the DQB1*05:101 allele.
36	Added	-	5'-primer added for the DQB1*06:164 allele.
38	Added	-	5'-primer added for the DQB1*05:79 allele.
39	Modified	-	5'-primer modified for increased yield.
40	Added, Modified	-	5'-primer added and modified from well 41 for increased yield.
41	Modified, Moved	Added	5'-primer modified and moved to well 40 for improved HLA-specific amplification, 3'-primer added for the DQB1*03:213N allele.
42	Added	Added	5'-primer added for the DQB1*05:79 allele, 3'-primer added for the DQB1*03:213N allele.
45	Added	-	5'-primer added for the DQB1*06:164 allele.
51	-	Modified	3'-primer modified for decreased tendency of primer oligomer formation.
53	-	Added	3'-primer added for the DQB1*02:51 allele.
54	-	Added	3'-primer added for the DQB1*05:71 allele.
56	Added	Added	5'-primer added for the DQB1*03:177 allele, 3'-primer added for the DQB1*03:197Q allele.
57	-	Added	3'-primer added for the DQB1*02:54 allele.
58	Added	-	5'-primer added for the DQB1*05:51 allele.
59	-	Added	3'-primer added for the DQB1*05:101 allele.
60	-	Added	3'-primer added for the DQB1*05:88 allele.
61	-	Added	3'-primer added for the DQB1*05:88 allele.
62	-	Added	3'-primer added for the DQB1*05:110N allele.
64	-	Added	3'-primer added for the DQB1*02:51 allele.
65	-	Added	3'-primer added for the DQB1*02:46 allele.
66	Added	-	5'-primer added for the DQB1*05:90N allele.
67	Added	-	5'-primer added for the DQB1*02:58N allele.
69	Added	-	5'-primer added for the DQB1*02:58N allele.
71	Added	-	5'-primers added for the DQB1*03:188 and DQB1*03:211 alleles.
72	Added	-	5'-primer added for the DQB1*02:50 allele.
73	Added	-	5'-primers added for the DQB1*03:23:02 and DQB1*03:211 alleles.

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

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74	-	Added	3'-primer added for the DQB1*05:71 allele.
75	-	Added	3'-primer added for the DQB1*03:197Q allele.
78	-	Added	3'-primer added for the DQB1*06:170 allele.
81	Added	-	5'-primer added for the DQB1*03:170 allele.
84	-	Modified	3'-primer modified for increased yield.
85	Added	-	5'-primer added for the DQB1*06:191 allele.
86	Added	Added	Primer pair added for the DQB1*06:99:02, 5'-primer added for the DQB1*06:191 allele.
87	Added	-	5'-primer added for the DQB1*06:179N allele.
88	Moved	Exchanged	5'-primer moved to well 89, 3'-primer exchanged for decreased tendency of primer oligomer formation.
89	Added	-	5'-primer added from well 88.
92	-	Added	3'-primer added for the DQB1*02:54 allele.
93	Removed	-	5'-primer removed for improved HLA-specific amplification.

Change in revision R01 compared to R00:

1. The alleles amplified by primer mixes 5 and 41 have been corrected in the Specificity and Interpretation Tables.

Change in revision R02 compared to R01:

1. Primer mix 25 may have tendencies of primer oligomer formation. A foot note has been added in the Specificity Table.

Change in revision R03 compared to R02:

1. Primer mixes 17 and 51 do not amplify the DQB1*02:10 and 03:49 alleles. Thus, this lot of the DQB1*high kit cannot distinguish the DQB1*02:10 and the DQB1*02:02:01-02:02:02, 02:62 and 02:65 alleles or the DQB1*03:49 and the DQB1*3:01:01:01-03:01:02, 03:01:05-03:01:07, 03:01:09-03:01:12, 03:01:14, 03:01:16-03:01:24, 03:01:26-03:01:31, 03:92-03:93, 03:169, 03:182, 03:191, 03:198 and 03:206 alleles. This has been corrected in the Interpretation and Specificity Tables.

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

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Lot-specific information

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Well **96** contains Negative Control primer pairs, that will amplify more than 95% 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 430 base pairs.

Length of PCR product	105	200	105	80	75	80	85
5'-primer¹	164	340	440	45	45	43	36
	5'-CAC ^{3'}	5'-Agg ^{3'}	5'-TTA ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-TAC ^{3'}
							36
							5'-TAT ^{3'}
3'-primer²	231	2nd I	507	59	58	57	47
	5'-TgC ^{3'}	5'-AAA ^{3'}	5'-TTg ^{3'}	5'-CTC ^{3'}	5'-ggC ^{3'}	5'-CTC ^{3'}	5'-ACA ^{3'}
							48
							5'-gCA ^{3'}
							48
							5'-gCC ^{3'}
							52
							5'-TgT ^{3'}
A*	+	+	+				
B*	+	+	+				
C*	+	+	+				
DRB1				+	+		
DRB3				+	+		
DRB5				+			
DQB1					+		
DPB1						+	
DQA1							+

¹The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd 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 web site. The sequence of the 3 terminal nucleotides of the primer is given.

²The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd exon or the 2nd 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 web site. The sequence of the 3 terminal nucleotides of the primer is given.

Lot No.: **9D8**

Lot-specific information

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PRODUCT DESCRIPTION

DQB1 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DQB1*02:01:01 to DQB1*06:200 alleles.

Please note that DQB1 amplifications usually are somewhat less pronounced than e.g. DRB and DQA1 amplifications even when using the same DNA preparation and exactly the same experimental procedures.

PLATE LAYOUT

Each test consists of 96 PCR reactions in a 96 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	NC

The 96 well cut PCR plate is marked with ‘DQB1 “HIGH”’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘9D8’.

Wells 1 to 95 – DQB1 high resolution primers.

Well 96 – Negative Control.

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.

INTERPRETATION

Only DQB1 alleles will be amplified by the DQB1 high resolution for frequent alleles typing kit. Thus, the interpretation of DQB1 high resolution for frequent alleles typings is not influenced by the DQB2 or DQB3 genes or other HLA class II genes.

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

Lot No.: 9D8

Lot-specific information

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UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DQB1 alleles, i.e. **DQB1*02:01:01 to 02:65, DQB1*03:01:01:01 to 03:221, DQB1*04:01:01 to 04:33, DQB1*05:01:01:01 to 05:119 and DQB1*06:01:01 to 06:200**, recognized by the HLA Nomenclature Committee in January 2016^{1,2} will give rise to unique amplification patterns by the primers in the DQB1 high resolution for frequent alleles typing kit³.

The following DQB1 alleles can be distinguished by the different sizes of the specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
DQB1*02:15, 02:30	67	DQB1*06:02:04, 06:02:16	47
DQB1*02:16, 02:20N	64	DQB1*06:31, 06:145	35
DQB1*02:23, 02:28	68	DQB1*06:35, 06:45	35
DQB1*02:29, 02:31	69	DQB1*06:48, 06:97	62
DQB1*03:31, 03:87	35	DQB1*06:70, 06:76	80
DQB1*03:59, 03:71	43	DQB1*06:73, 06:77N	82
DQB1*04:03:01, 04:12	42	DQB1*06:74, 06:78	83
DQB1*04:05, 04:15	30	DQB1*06:75N, 06:80	84
DQB1*05:10, 05:23	54	DQB1*06:102N, 06:104	90
DQB1*05:13, 05:24	59	DQB1*06:131, 06:176	54
DQB1*05:17, 05:47	54		

The DQB1 typing kit cannot distinguish the following silent mutations: the DQB1*02:01:01-02:01:23 alleles, the DQB1*02:02:01:01 and 02:02:02 alleles, the DQB1*02:14:01-02:14:02 alleles, the DQB1*03:01:01-03:01:02, 03:01:05-03:01:07, 03:01:09-03:01:12, 03:01:14, 03:01:16-03:01:24 and 03:01:26-03:01:31 alleles, the DQB1*03:01:03, 03:01:13, 03:01:15 and 03:01:25 alleles, the DQB1*03:02:01-03:02:19 alleles, the DQB1*03:03:02:01-03:03:05 and 03:03:07-03:03:13 alleles, the DQB1*03:05:01-03:05:04 alleles, the DQB1*03:17:01-03:17:02 alleles, the DQB1*04:01:01-04:01:02 and 04:01:04 alleles, the DQB1*04:02:01-04:02:06 and the 04:02:09-04:02:10 alleles, the DQB1*05:01:01-05:01:08, 05:01:11-05:01:22 and 05:89:01-05:89:02 alleles, the DQB1*05:01:09-05:01:10 alleles, the DQB1*05:02:01 and 05:02:03-05:02:13 alleles, the DQB1*05:03:01:01-05:03:01:02, 05:03:03-05:03:11, 05:03:13 and 05:03:15-05:03:17 alleles, the DQB1*05:05:01-05:05:02 alleles, the DQB1*05:06:01-05:06:02 alleles, the DQB1*05:11:01-05:11:02 alleles, the DQB1*05:66:01-05:66:02, the DQB1*06:01:01, 06:01:03-06:01:06, 06:01:08-06:01:09, 06:01:11 and 06:01:13-06:01:15 alleles, the DQB1*06:01:02 and 06:01:07 alleles, the DQB1*06:02:01, 06:02:03, 06:02:06, 06:02:08-06:02:15, 06:02:17-06:02:18 and 06:02:20-06:02:25 alleles, the DQB1*06:02:04 and 06:02:16 alleles, the DQB1*06:03:01, 06:03:03, 06:03:05-06:03:07, 06:03:11-06:03:12, 06:03:14-06:03:18 and 06:03:20-06:03:22 alleles, the DQB1*06:03:04 and 06:03:08-06:03:09 alleles, the DQB1*06:04:01 and 06:04:03-06:04:10 alleles, the DQB1*06:08:02-06:08:03 alleles, the DQB1*06:09:03, 06:09:06 alleles, the DQB1*06:11:02-06:11:03 alleles, the DQB1*06:14:01-06:14:02 alleles, the DQB1*06:15:01-06:15:02 alleles, the DQB1*06:19:01-06:19:02 alleles or the DQB1*06:27:01-06:27:02 alleles.

¹DQB1 alleles listed on the IMGT/HLA web page 2016-January-19, release 3.23.0, www.ebi.ac.uk/imgt/hla.

²Alleles 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>.

³This lot of the DQB1*high kit cannot distinguish the DQB1*02:10 and the DQB1*02:02:01-02:02:02, 02:62 and 02:65 alleles or the DQB1*03:49 and the DQB1*3:01:01:01-03:01:02, 03:01:05-03:01:07, 03:01:09-03:01:12, 03:01:14, 03:01:16-03:01:24, 03:01:26-03:01:31, 03:92-03:93, 03:169, 03:182, 03:191, 03:198 and 03:206 alleles.

ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*02:01:01	Confirmed	DQB1*02:07:02	Unconfirmed	DQB1*02:36	Unconfirmed
DQB1*02:01:02	Unconfirmed	DQB1*02:08	Unconfirmed	DQB1*02:37	Unconfirmed
DQB1*02:01:03	Unconfirmed	DQB1*02:09	Unconfirmed	DQB1*02:38	Unconfirmed
DQB1*02:01:04	Confirmed	DQB1*02:10	Unconfirmed	DQB1*02:39	Unconfirmed
DQB1*02:01:05	Confirmed	DQB1*02:11	Unconfirmed	DQB1*02:40	Unconfirmed
DQB1*02:01:06	Unconfirmed	DQB1*02:12	Confirmed	DQB1*02:41	Confirmed
DQB1*02:01:07	Confirmed	DQB1*02:13	Unconfirmed	DQB1*02:42	Confirmed
DQB1*02:01:08	Confirmed	DQB1*02:14:01	Confirmed	DQB1*02:43	Unconfirmed
DQB1*02:01:09	Unconfirmed	DQB1*02:14:02	Unconfirmed	DQB1*02:44	Unconfirmed
DQB1*02:01:10	Confirmed	DQB1*02:15	Unconfirmed	DQB1*02:45	Unconfirmed
DQB1*02:01:11	Confirmed	DQB1*02:16	Confirmed	DQB1*02:46	Confirmed
DQB1*02:01:12	Unconfirmed	DQB1*02:17	Confirmed	DQB1*02:47	Unconfirmed
DQB1*02:01:13	Unconfirmed	DQB1*02:18N	Confirmed	DQB1*02:48	Unconfirmed
DQB1*02:01:14	Confirmed	DQB1*02:19	Confirmed	DQB1*02:49	Unconfirmed
DQB1*02:01:15	Unconfirmed	DQB1*02:20N	Confirmed	DQB1*02:50	Confirmed
DQB1*02:01:16	Unconfirmed	DQB1*02:21	Unconfirmed	DQB1*02:51	Confirmed
DQB1*02:01:17	Unconfirmed	DQB1*02:22	Unconfirmed	DQB1*02:52	Unconfirmed
DQB1*02:01:18	Unconfirmed	DQB1*02:23	Confirmed	DQB1*02:53Q	Confirmed
DQB1*02:01:19	Confirmed	DQB1*02:24	Unconfirmed	DQB1*02:54	Confirmed
DQB1*02:01:20	Confirmed	DQB1*02:25	Unconfirmed	DQB1*02:55	Unconfirmed
DQB1*02:01:21	Unconfirmed	DQB1*02:26	Confirmed	DQB1*02:56	Unconfirmed
DQB1*02:01:22	Unconfirmed	DQB1*02:27	Confirmed	DQB1*02:57	Unconfirmed
DQB1*02:01:23	Confirmed	DQB1*02:28	Confirmed	DQB1*02:58N	Unconfirmed
DQB1*02:02:01:01	Confirmed	DQB1*02:29	Confirmed	DQB1*02:59	Unconfirmed
DQB1*02:02:02	Unconfirmed	DQB1*02:30	Confirmed	DQB1*02:60	Unconfirmed
DQB1*02:03	Confirmed	DQB1*02:31	Unconfirmed	DQB1*02:61	Unconfirmed
DQB1*02:04	Unconfirmed	DQB1*02:32	Unconfirmed	DQB1*02:62	Unconfirmed
DQB1*02:05	Confirmed	DQB1*02:33	Confirmed	DQB1*02:63	Unconfirmed
DQB1*02:06	Unconfirmed	DQB1*02:34	Unconfirmed	DQB1*02:64	Unconfirmed
DQB1*02:07:01	Confirmed	DQB1*02:35	Unconfirmed	DQB1*02:65	Unconfirmed

Product Insert

101.221-12 – including *Taq* pol., IFU-01

101.221-12u – without *Taq* pol., IFU-02

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*03:01:01:01	Confirmed	DQB1*03:02:18	Unconfirmed	DQB1*03:29	Unconfirmed	DQB1*03:79	Unconfirmed
DQB1*03:01:01:02	Unconfirmed	DQB1*03:02:19	Confirmed	DQB1*03:30	Unconfirmed	DQB1*03:80	Unconfirmed
DQB1*03:01:01:03	Confirmed	DQB1*03:03:02:01	Confirmed	DQB1*03:31	Unconfirmed	DQB1*03:81	Confirmed
DQB1*03:01:02	Unconfirmed	DQB1*03:03:02:02	Unconfirmed	DQB1*03:32	Unconfirmed	DQB1*03:82	Unconfirmed
DQB1*03:01:03	Confirmed	DQB1*03:03:02:03	Unconfirmed	DQB1*03:33	Unconfirmed	DQB1*03:83	Unconfirmed
DQB1*03:01:04	Confirmed	DQB1*03:03:02:04	Unconfirmed	DQB1*03:34	Unconfirmed	DQB1*03:84N	Unconfirmed
DQB1*03:01:05	Unconfirmed	DQB1*03:03:03	Unconfirmed	DQB1*03:35	Unconfirmed	DQB1*03:85	Unconfirmed
DQB1*03:01:06	Unconfirmed	DQB1*03:03:04	Confirmed	DQB1*03:36	Unconfirmed	DQB1*03:86	Unconfirmed
DQB1*03:01:07	Unconfirmed	DQB1*03:03:05	Confirmed	DQB1*03:37	Confirmed	DQB1*03:87	Unconfirmed
DQB1*03:01:08	Confirmed	DQB1*03:03:06	Unconfirmed	DQB1*03:38	Unconfirmed	DQB1*03:88	Unconfirmed
DQB1*03:01:09	Unconfirmed	DQB1*03:03:07	Confirmed	DQB1*03:39	Unconfirmed	DQB1*03:89	Unconfirmed
DQB1*03:01:10	Unconfirmed	DQB1*03:03:08	Confirmed	DQB1*03:40	Confirmed	DQB1*03:90N	Unconfirmed
DQB1*03:01:11	Unconfirmed	DQB1*03:03:09	Unconfirmed	DQB1*03:41	Unconfirmed	DQB1*03:91Q	Unconfirmed
DQB1*03:01:12	Unconfirmed	DQB1*03:03:10	Unconfirmed	DQB1*03:42	Unconfirmed	DQB1*03:92	Unconfirmed
DQB1*03:01:13	Unconfirmed	DQB1*03:03:11	Confirmed	DQB1*03:43	Unconfirmed	DQB1*03:93	Unconfirmed
DQB1*03:01:14	Confirmed	DQB1*03:03:12	Unconfirmed	DQB1*03:44	Confirmed	DQB1*03:94	Unconfirmed
DQB1*03:01:15	Unconfirmed	DQB1*03:03:13	Unconfirmed	DQB1*03:45	Confirmed	DQB1*03:95N	Unconfirmed
DQB1*03:01:16	Unconfirmed	DQB1*03:04:01	Confirmed	DQB1*03:46	Unconfirmed	DQB1*03:96	Unconfirmed
DQB1*03:01:17	Unconfirmed	DQB1*03:04:02	Unconfirmed	DQB1*03:47	Confirmed	DQB1*03:97	Unconfirmed
DQB1*03:01:18	Unconfirmed	DQB1*03:05:01	Confirmed	DQB1*03:48	Unconfirmed	DQB1*03:98	Unconfirmed
DQB1*03:01:19	Unconfirmed	DQB1*03:05:02	Unconfirmed	DQB1*03:49	Unconfirmed	DQB1*03:99Q	Unconfirmed
DQB1*03:01:20	Unconfirmed	DQB1*03:05:03	Confirmed	DQB1*03:50	Unconfirmed	DQB1*03:100	Unconfirmed
DQB1*03:01:21	Confirmed	DQB1*03:05:04	Unconfirmed	DQB1*03:51	Unconfirmed	DQB1*03:101	Unconfirmed
DQB1*03:01:22	Confirmed	DQB1*03:06	Unconfirmed	DQB1*03:52	Confirmed	DQB1*03:102	Confirmed
DQB1*03:01:23	Unconfirmed	DQB1*03:07	Unconfirmed	DQB1*03:53	Confirmed	DQB1*03:103	Unconfirmed
DQB1*03:01:24	Unconfirmed	DQB1*03:08	Unconfirmed	DQB1*03:54	Confirmed	DQB1*03:104	Unconfirmed
DQB1*03:01:25	Unconfirmed	DQB1*03:09	Confirmed	DQB1*03:55	Confirmed	DQB1*03:105	Confirmed
DQB1*03:01:26	Unconfirmed	DQB1*03:10:01	Unconfirmed	DQB1*03:56	Confirmed	DQB1*03:106	Confirmed
DQB1*03:01:27	Confirmed	DQB1*03:10:02	Confirmed	DQB1*03:57	Unconfirmed	DQB1*03:107	Unconfirmed
DQB1*03:01:28	Unconfirmed	DQB1*03:11	Confirmed	DQB1*03:58	Confirmed	DQB1*03:108	Unconfirmed
DQB1*03:01:29	Unconfirmed	DQB1*03:12	Unconfirmed	DQB1*03:59	Confirmed	DQB1*03:109	Confirmed
DQB1*03:01:30	Unconfirmed	DQB1*03:13	Confirmed	DQB1*03:60	Unconfirmed	DQB1*03:110	Unconfirmed
DQB1*03:01:31	Unconfirmed	DQB1*03:14:01	Unconfirmed	DQB1*03:61	Unconfirmed	DQB1*03:111	Unconfirmed
DQB1*03:02:01	Confirmed	DQB1*03:14:02	Confirmed	DQB1*03:62	Confirmed	DQB1*03:112	Unconfirmed
DQB1*03:02:02	Unconfirmed	DQB1*03:15	Unconfirmed	DQB1*03:63	Confirmed	DQB1*03:113	Confirmed
DQB1*03:02:03	Unconfirmed	DQB1*03:16	Confirmed	DQB1*03:64	Confirmed	DQB1*03:114	Confirmed
DQB1*03:02:04	Unconfirmed	DQB1*03:17:01	Confirmed	DQB1*03:65	Confirmed	DQB1*03:115	Unconfirmed
DQB1*03:02:05	Unconfirmed	DQB1*03:17:02	Confirmed	DQB1*03:66N	Unconfirmed	DQB1*03:116	Unconfirmed
DQB1*03:02:06	Confirmed	DQB1*03:18	Unconfirmed	DQB1*03:67	Confirmed	DQB1*03:117	Unconfirmed
DQB1*03:02:07	Confirmed	DQB1*03:19	Confirmed	DQB1*03:68	Confirmed	DQB1*03:118N	Confirmed
DQB1*03:02:08	Unconfirmed	DQB1*03:20	Unconfirmed	DQB1*03:69	Unconfirmed	DQB1*03:119	Confirmed
DQB1*03:02:09	Unconfirmed	DQB1*03:21	Unconfirmed	DQB1*03:70	Confirmed	DQB1*03:120	Unconfirmed
DQB1*03:02:10	Confirmed	DQB1*03:22	Unconfirmed	DQB1*03:71	Unconfirmed	DQB1*03:121	Unconfirmed
DQB1*03:02:11	Confirmed	DQB1*03:23:01	Unconfirmed	DQB1*03:72	Confirmed	DQB1*03:122	Unconfirmed
DQB1*03:02:12	Unconfirmed	DQB1*03:23:02	Unconfirmed	DQB1*03:73	Unconfirmed	DQB1*03:123	Unconfirmed
DQB1*03:02:13	Confirmed	DQB1*03:24	Unconfirmed	DQB1*03:74	Unconfirmed	DQB1*03:124	Unconfirmed
DQB1*03:02:14	Unconfirmed	DQB1*03:25	Unconfirmed	DQB1*03:75	Confirmed	DQB1*03:125	Unconfirmed
DQB1*03:02:15	Confirmed	DQB1*03:26	Confirmed	DQB1*03:76	Unconfirmed	DQB1*03:126	Unconfirmed
DQB1*03:02:16	Confirmed	DQB1*03:27	Confirmed	DQB1*03:77	Unconfirmed	DQB1*03:127	Unconfirmed
DQB1*03:02:17	Unconfirmed	DQB1*03:28	Unconfirmed	DQB1*03:78	Unconfirmed	DQB1*03:128	Unconfirmed

Product Insert

101.221-12 – including *Taq* pol., IFU-01

101.221-12u – without *Taq* pol., IFU-02

Visit www.olerup.com for
“Instructions for Use” (IFU)

Lot No.: 9D8

Lot-specific information

www.olerup.com

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*03:129	Unconfirmed	DQB1*03:159	Unconfirmed	DQB1*03:189	Unconfirmed	DQB1*03:219	Unconfirmed
DQB1*03:130	Confirmed	DQB1*03:160	Unconfirmed	DQB1*03:190	Unconfirmed	DQB1*03:220	Unconfirmed
DQB1*03:131	Unconfirmed	DQB1*03:161	Unconfirmed	DQB1*03:191	Unconfirmed	DQB1*03:221	Unconfirmed
DQB1*03:132	Unconfirmed	DQB1*03:162	Confirmed	DQB1*03:192	Unconfirmed		
DQB1*03:133	Unconfirmed	DQB1*03:163	Unconfirmed	DQB1*03:193	Unconfirmed		
DQB1*03:134	Unconfirmed	DQB1*03:164	Unconfirmed	DQB1*03:194	Unconfirmed		
DQB1*03:135	Unconfirmed	DQB1*03:165	Unconfirmed	DQB1*03:195	Unconfirmed		
DQB1*03:136	Unconfirmed	DQB1*03:166	Unconfirmed	DQB1*03:196	Unconfirmed		
DQB1*03:137	Unconfirmed	DQB1*03:167	Unconfirmed	DQB1*03:197Q	Unconfirmed		
DQB1*03:138	Confirmed	DQB1*03:168	Unconfirmed	DQB1*03:198	Unconfirmed		
DQB1*03:139	Confirmed	DQB1*03:169	Unconfirmed	DQB1*03:199	Unconfirmed		
DQB1*03:140	Unconfirmed	DQB1*03:170	Confirmed	DQB1*03:200	Confirmed		
DQB1*03:141	Unconfirmed	DQB1*03:171	Unconfirmed	DQB1*03:201	Unconfirmed		
DQB1*03:142	Unconfirmed	DQB1*03:172	Unconfirmed	DQB1*03:202	Unconfirmed		
DQB1*03:143	Unconfirmed	DQB1*03:173	Unconfirmed	DQB1*03:203	Unconfirmed		
DQB1*03:144	Unconfirmed	DQB1*03:174	Unconfirmed	DQB1*03:204	Confirmed		
DQB1*03:145	Unconfirmed	DQB1*03:175	Unconfirmed	DQB1*03:205	Unconfirmed		
DQB1*03:146	Unconfirmed	DQB1*03:176	Unconfirmed	DQB1*03:206	Unconfirmed		
DQB1*03:147	Unconfirmed	DQB1*03:177	Confirmed	DQB1*03:207	Unconfirmed		
DQB1*03:148	Unconfirmed	DQB1*03:178	Unconfirmed	DQB1*03:208	Unconfirmed		
DQB1*03:149	Unconfirmed	DQB1*03:179	Unconfirmed	DQB1*03:209	Unconfirmed		
DQB1*03:150	Unconfirmed	DQB1*03:180	Unconfirmed	DQB1*03:210	Unconfirmed		
DQB1*03:151	Unconfirmed	DQB1*03:181	Unconfirmed	DQB1*03:211	Confirmed		
DQB1*03:152	Unconfirmed	DQB1*03:182	Unconfirmed	DQB1*03:212	Unconfirmed		
DQB1*03:153	Unconfirmed	DQB1*03:183	Unconfirmed	DQB1*03:213N	Unconfirmed		
DQB1*03:154	Unconfirmed	DQB1*03:184	Unconfirmed	DQB1*03:214	Unconfirmed		
DQB1*03:155	Unconfirmed	DQB1*03:185	Unconfirmed	DQB1*03:215	Unconfirmed		
DQB1*03:156	Unconfirmed	DQB1*03:186	Unconfirmed	DQB1*03:216	Unconfirmed		
DQB1*03:157	Unconfirmed	DQB1*03:187	Unconfirmed	DQB1*03:217	Unconfirmed		
DQB1*03:158	Confirmed	DQB1*03:188	Confirmed	DQB1*03:218	Unconfirmed		

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*04:01:01	Confirmed	DQB1*04:08	Unconfirmed	DQB1*04:28	Unconfirmed
DQB1*04:01:02	Unconfirmed	DQB1*04:09	Unconfirmed	DQB1*04:29	Unconfirmed
DQB1*04:01:03	Unconfirmed	DQB1*04:10	Unconfirmed	DQB1*04:30	Unconfirmed
DQB1*04:01:04	Unconfirmed	DQB1*04:11	Confirmed	DQB1*04:31	Unconfirmed
DQB1*04:02:01	Confirmed	DQB1*04:12	Confirmed	DQB1*04:32	Unconfirmed
DQB1*04:02:02	Unconfirmed	DQB1*04:13	Unconfirmed	DQB1*04:33	Unconfirmed
DQB1*04:02:03	Confirmed	DQB1*04:14	Unconfirmed		
DQB1*04:02:04	Confirmed	DQB1*04:15	Unconfirmed		
DQB1*04:02:05	Unconfirmed	DQB1*04:16	Unconfirmed		
DQB1*04:02:06	Unconfirmed	DQB1*04:17	Unconfirmed		
DQB1*04:02:07	Confirmed	DQB1*04:18	Confirmed		
DQB1*04:02:08	Unconfirmed	DQB1*04:19	Unconfirmed		
DQB1*04:02:09	Confirmed	DQB1*04:20	Unconfirmed		
DQB1*04:02:10	Unconfirmed	DQB1*04:21	Unconfirmed		
DQB1*04:03:01	Unconfirmed	DQB1*04:22	Unconfirmed		
DQB1*04:03:02	Unconfirmed	DQB1*04:23	Unconfirmed		
DQB1*04:04	Unconfirmed	DQB1*04:24	Unconfirmed		
DQB1*04:05	Unconfirmed	DQB1*04:25N	Unconfirmed		
DQB1*04:06	Unconfirmed	DQB1*04:26	Unconfirmed		
DQB1*04:07	Unconfirmed	DQB1*04:27	Confirmed		

Product Insert

101.221-12 – including *Taq* pol., IFU-01

101.221-12u – without *Taq* pol., IFU-02

Visit www.olerup.com for
“Instructions for Use” (IFU)

Lot No.: 9D8

Lot-specific information

www.olerup.com

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*05:01:01:01	Confirmed	DQB1*05:03:13	Unconfirmed	DQB1*05:46	Unconfirmed	DQB1*05:94	Unconfirmed
DQB1*05:01:01:02	Unconfirmed	DQB1*05:03:14	Confirmed	DQB1*05:47	Unconfirmed	DQB1*05:95	Unconfirmed
DQB1*05:01:01:03	Unconfirmed	DQB1*05:03:15	Unconfirmed	DQB1*05:48	Unconfirmed	DQB1*05:96	Unconfirmed
DQB1*05:01:02	Unconfirmed	DQB1*05:03:16	Confirmed	DQB1*05:49	Confirmed	DQB1*05:97	Unconfirmed
DQB1*05:01:03	Unconfirmed	DQB1*05:03:17	Unconfirmed	DQB1*05:50	Unconfirmed	DQB1*05:98	Unconfirmed
DQB1*05:01:04	Confirmed	DQB1*05:04	Confirmed	DQB1*05:51	Confirmed	DQB1*05:99	Unconfirmed
DQB1*05:01:05	Confirmed	DQB1*05:05:01	Unconfirmed	DQB1*05:52	Confirmed	DQB1*05:100	Unconfirmed
DQB1*05:01:06	Unconfirmed	DQB1*05:05:02	Unconfirmed	DQB1*05:53	Unconfirmed	DQB1*05:101	Confirmed
DQB1*05:01:07	Unconfirmed	DQB1*05:05:01	Unconfirmed	DQB1*05:54	Unconfirmed	DQB1*05:102	Unconfirmed
DQB1*05:01:08	Confirmed	DQB1*05:06:02	Confirmed	DQB1*05:55	Unconfirmed	DQB1*05:103	Unconfirmed
DQB1*05:01:09	Unconfirmed	DQB1*05:07	Unconfirmed	DQB1*05:56	Unconfirmed	DQB1*05:104	Unconfirmed
DQB1*05:01:10	Unconfirmed	DQB1*05:08	Unconfirmed	DQB1*05:57	Confirmed	DQB1*05:105	Unconfirmed
DQB1*05:01:11	Unconfirmed	DQB1*05:09	Unconfirmed	DQB1*05:58	Unconfirmed	DQB1*05:106	Unconfirmed
DQB1*05:01:12	Unconfirmed	DQB1*05:10	Confirmed	DQB1*05:59	Unconfirmed	DQB1*05:107	Unconfirmed
DQB1*05:01:13	Unconfirmed	DQB1*05:11:01	Unconfirmed	DQB1*05:60	Unconfirmed	DQB1*05:108	Unconfirmed
DQB1*05:01:14	Unconfirmed	DQB1*05:11:02	Confirmed	DQB1*05:61	Unconfirmed	DQB1*05:109	Unconfirmed
DQB1*05:01:15	Unconfirmed	DQB1*05:12	Unconfirmed	DQB1*05:62	Unconfirmed	DQB1*05:110N	Unconfirmed
DQB1*05:01:16	Unconfirmed	DQB1*05:13	Unconfirmed	DQB1*05:63	Confirmed	DQB1*05:111	Unconfirmed
DQB1*05:01:17	Unconfirmed	DQB1*05:14	Unconfirmed	DQB1*05:64	Unconfirmed	DQB1*05:112	Unconfirmed
DQB1*05:01:18	Unconfirmed	DQB1*05:15	Unconfirmed	DQB1*05:65	Unconfirmed	DQB1*05:113	Unconfirmed
DQB1*05:01:19	Unconfirmed	DQB1*05:16	Unconfirmed	DQB1*05:66:01	Unconfirmed	DQB1*05:114	Unconfirmed
DQB1*05:01:20	Unconfirmed	DQB1*05:17	Unconfirmed	DQB1*05:66:02	Unconfirmed	DQB1*05:115	Unconfirmed
DQB1*05:01:21	Unconfirmed	DQB1*05:18	Confirmed	DQB1*05:67	Unconfirmed	DQB1*05:116	Unconfirmed
DQB1*05:01:22	Unconfirmed	DQB1*05:19	Confirmed	DQB1*05:68	Unconfirmed	DQB1*05:117	Unconfirmed
DQB1*05:02:01	Confirmed	DQB1*05:20	Confirmed	DQB1*05:69	Confirmed	DQB1*05:118	Unconfirmed
DQB1*05:02:02	Unconfirmed	DQB1*05:21	Unconfirmed	DQB1*05:70	Unconfirmed	DQB1*05:119	Unconfirmed
DQB1*05:02:03	Unconfirmed	DQB1*05:22	Unconfirmed	DQB1*05:71	Confirmed		
DQB1*05:02:04	Unconfirmed	DQB1*05:23	Confirmed	DQB1*05:72	Confirmed		
DQB1*05:02:05	Unconfirmed	DQB1*05:24	Unconfirmed	DQB1*05:73	Confirmed		
DQB1*05:02:06	Unconfirmed	DQB1*05:25	Unconfirmed	DQB1*05:74	Unconfirmed		
DQB1*05:02:07	Confirmed	DQB1*05:26	Confirmed	DQB1*05:75	Confirmed		
DQB1*05:02:08	Unconfirmed	DQB1*05:27	Confirmed	DQB1*05:76	Unconfirmed		
DQB1*05:02:09	Unconfirmed	DQB1*05:28	Confirmed	DQB1*05:77	Unconfirmed		
DQB1*05:02:10	Unconfirmed	DQB1*05:29	Unconfirmed	DQB1*05:78	Unconfirmed		
DQB1*05:02:11	Confirmed	DQB1*05:30	Unconfirmed	DQB1*05:79	Confirmed		
DQB1*05:02:12	Unconfirmed	DQB1*05:31	Unconfirmed	DQB1*05:80	Confirmed		
DQB1*05:02:13	Unconfirmed	DQB1*05:32	Unconfirmed	DQB1*05:81	Unconfirmed		
DQB1*05:03:01:01	Confirmed	DQB1*05:33	Unconfirmed	DQB1*05:82	Unconfirmed		
DQB1*05:03:01:02	Unconfirmed	DQB1*05:34	Confirmed	DQB1*05:83	Unconfirmed		
DQB1*05:03:02	Confirmed	DQB1*05:35	Unconfirmed	DQB1*05:84	Unconfirmed		
DQB1*05:03:03	Unconfirmed	DQB1*05:36	Unconfirmed	DQB1*05:85	Unconfirmed		
DQB1*05:03:04	Unconfirmed	DQB1*05:37	Unconfirmed	DQB1*05:86	Unconfirmed		
DQB1*05:03:05	Unconfirmed	DQB1*05:38	Unconfirmed	DQB1*05:87Q	Unconfirmed		
DQB1*05:03:06	Unconfirmed	DQB1*05:39	Unconfirmed	DQB1*05:88	Confirmed		
DQB1*05:03:07	Unconfirmed	DQB1*05:40	Unconfirmed	DQB1*05:89:01	Unconfirmed		
DQB1*05:03:08	Confirmed	DQB1*05:41N	Unconfirmed	DQB1*05:89:02	Unconfirmed		
DQB1*05:03:09	Unconfirmed	DQB1*05:42	Unconfirmed	DQB1*05:90N	Unconfirmed		
DQB1*05:03:10	Unconfirmed	DQB1*05:43	Confirmed	DQB1*05:91	Unconfirmed		
DQB1*05:03:11	Unconfirmed	DQB1*05:44	Confirmed	DQB1*05:92	Unconfirmed		
DQB1*05:03:12	Unconfirmed	DQB1*05:45	Unconfirmed	DQB1*05:93	Unconfirmed		

Product Insert

101.221-12 – including *Taq* pol., IFU-01

101.221-12u – without *Taq* pol., IFU-02

Visit www.olerup.com for
“Instructions for Use” (IFU)

Lot No.: **9D8**

Lot-specific information

www.olerup.com

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*06:01:01	Confirmed	DQB1*06:03:11	Confirmed	DQB1*06:18:01	Unconfirmed	DQB1*06:61	Unconfirmed
DQB1*06:01:02	Confirmed	DQB1*06:03:12	Unconfirmed	DQB1*06:18:02	Unconfirmed	DQB1*06:62	Confirmed
DQB1*06:01:03	Unconfirmed	DQB1*06:03:13	Unconfirmed	DQB1*06:19:01	Unconfirmed	DQB1*06:63	Unconfirmed
DQB1*06:01:04	Unconfirmed	DQB1*06:03:14	Unconfirmed	DQB1*06:19:02	Unconfirmed	DQB1*06:64	Confirmed
DQB1*06:01:05	Unconfirmed	DQB1*06:03:15	Unconfirmed	DQB1*06:20	Unconfirmed	DQB1*06:65	Unconfirmed
DQB1*06:01:06	Unconfirmed	DQB1*06:03:16	Unconfirmed	DQB1*06:21	Confirmed	DQB1*06:66	Unconfirmed
DQB1*06:01:07	Unconfirmed	DQB1*06:03:17	Unconfirmed	DQB1*06:22:01	Unconfirmed	DQB1*06:67	Unconfirmed
DQB1*06:01:08	Confirmed	DQB1*06:03:18	Unconfirmed	DQB1*06:22:02	Confirmed	DQB1*06:68	Confirmed
DQB1*06:01:09	Unconfirmed	DQB1*06:03:19	Unconfirmed	DQB1*06:22:03	Confirmed	DQB1*06:69	Confirmed
DQB1*06:01:10	Confirmed	DQB1*06:03:20	Unconfirmed	DQB1*06:23	Unconfirmed	DQB1*06:70	Unconfirmed
DQB1*06:01:11	Unconfirmed	DQB1*06:03:21	Unconfirmed	DQB1*06:24	Unconfirmed	DQB1*06:71	Confirmed
DQB1*06:01:12	Unconfirmed	DQB1*06:03:22	Unconfirmed	DQB1*06:25	Confirmed	DQB1*06:72	Unconfirmed
DQB1*06:01:13	Confirmed	DQB1*06:04:01	Confirmed	DQB1*06:26N	Confirmed	DQB1*06:73	Unconfirmed
DQB1*06:01:14	Confirmed	DQB1*06:04:02	Unconfirmed	DQB1*06:27:01	Unconfirmed	DQB1*06:74	Confirmed
DQB1*06:01:15	Unconfirmed	DQB1*06:04:03	Unconfirmed	DQB1*06:27:02	Confirmed	DQB1*06:75N	Confirmed
DQB1*06:02:01	Confirmed	DQB1*06:04:04	Unconfirmed	DQB1*06:28	Unconfirmed	DQB1*06:76	Unconfirmed
DQB1*06:02:02	Unconfirmed	DQB1*06:04:05	Unconfirmed	DQB1*06:29	Unconfirmed	DQB1*06:77N	Confirmed
DQB1*06:02:03	Unconfirmed	DQB1*06:04:06	Confirmed	DQB1*06:30	Unconfirmed	DQB1*06:78	Confirmed
DQB1*06:02:04	Confirmed	DQB1*06:04:07	Unconfirmed	DQB1*06:31	Unconfirmed	DQB1*06:79:01	Confirmed
DQB1*06:02:05	Confirmed	DQB1*06:04:08	Unconfirmed	DQB1*06:32:01	Unconfirmed	DQB1*06:79:02	Unconfirmed
DQB1*06:02:06	Unconfirmed	DQB1*06:04:09	Unconfirmed	DQB1*06:32:02	Unconfirmed	DQB1*06:80	Unconfirmed
DQB1*06:02:07	Confirmed	DQB1*06:04:10	Unconfirmed	DQB1*06:33	Confirmed	DQB1*06:81	Confirmed
DQB1*06:02:08	Unconfirmed	DQB1*06:05:01	Confirmed	DQB1*06:34	Confirmed	DQB1*06:82	Unconfirmed
DQB1*06:02:09	Unconfirmed	DQB1*06:05:02	Unconfirmed	DQB1*06:35	Unconfirmed	DQB1*06:83	Unconfirmed
DQB1*06:02:10	Unconfirmed	DQB1*06:06	Unconfirmed	DQB1*06:36	Confirmed	DQB1*06:84	Confirmed
DQB1*06:02:11	Confirmed	DQB1*06:07:01	Confirmed	DQB1*06:37	Unconfirmed	DQB1*06:85	Unconfirmed
DQB1*06:02:12	Unconfirmed	DQB1*06:07:02	Confirmed	DQB1*06:38	Unconfirmed	DQB1*06:86	Unconfirmed
DQB1*06:02:13	Unconfirmed	DQB1*06:08:01	Confirmed	DQB1*06:39	Unconfirmed	DQB1*06:87	Unconfirmed
DQB1*06:02:14	Confirmed	DQB1*06:08:02	Unconfirmed	DQB1*06:40	Unconfirmed	DQB1*06:88	Confirmed
DQB1*06:02:15	Unconfirmed	DQB1*06:08:03	Unconfirmed	DQB1*06:41	Confirmed	DQB1*06:89	Unconfirmed
DQB1*06:02:16	Unconfirmed	DQB1*06:09:01	Confirmed	DQB1*06:42	Unconfirmed	DQB1*06:90	Confirmed
DQB1*06:02:17	Confirmed	DQB1*06:09:02	Confirmed	DQB1*06:43	Unconfirmed	DQB1*06:91	Unconfirmed
DQB1*06:02:18	Unconfirmed	DQB1*06:09:03	Unconfirmed	DQB1*06:44	Confirmed	DQB1*06:92	Confirmed
DQB1*06:02:19	Unconfirmed	DQB1*06:09:04	Unconfirmed	DQB1*06:45	Unconfirmed	DQB1*06:93	Confirmed
DQB1*06:02:20	Confirmed	DQB1*06:09:05	Unconfirmed	DQB1*06:46	Confirmed	DQB1*06:94	Confirmed
DQB1*06:02:21	Unconfirmed	DQB1*06:09:06	Confirmed	DQB1*06:47	Unconfirmed	DQB1*06:95	Unconfirmed
DQB1*06:02:22	Unconfirmed	DQB1*06:10	Confirmed	DQB1*06:48	Confirmed	DQB1*06:96	Unconfirmed
DQB1*06:02:23	Unconfirmed	DQB1*06:11:01	Confirmed	DQB1*06:49	Confirmed	DQB1*06:97	Unconfirmed
DQB1*06:02:24	Unconfirmed	DQB1*06:11:02	Confirmed	DQB1*06:50	Confirmed	DQB1*06:98	Unconfirmed
DQB1*06:02:25	Unconfirmed	DQB1*06:11:03	Unconfirmed	DQB1*06:51:01	Unconfirmed	DQB1*06:99:01	Unconfirmed
DQB1*06:03:01	Confirmed	DQB1*06:12	Unconfirmed	DQB1*06:51:02	Unconfirmed	DQB1*06:99:02	Unconfirmed
DQB1*06:03:02	Confirmed	DQB1*06:13:01	Unconfirmed	DQB1*06:52	Unconfirmed	DQB1*06:100	Unconfirmed
DQB1*06:03:03	Unconfirmed	DQB1*06:13:02	Confirmed	DQB1*06:53	Confirmed	DQB1*06:101	Unconfirmed
DQB1*06:03:04	Unconfirmed	DQB1*06:14:01	Confirmed	DQB1*06:54N	Unconfirmed	DQB1*06:102N	Unconfirmed
DQB1*06:03:05	Confirmed	DQB1*06:14:02	Unconfirmed	DQB1*06:55	Confirmed	DQB1*06:103	Confirmed
DQB1*06:03:06	Unconfirmed	DQB1*06:14:03	Confirmed	DQB1*06:56	Unconfirmed	DQB1*06:104	Unconfirmed
DQB1*06:03:07	Confirmed	DQB1*06:15:01	Unconfirmed	DQB1*06:57	Confirmed	DQB1*06:105	Unconfirmed
DQB1*06:03:08	Unconfirmed	DQB1*06:15:02	Confirmed	DQB1*06:58	Confirmed	DQB1*06:106	Confirmed
DQB1*06:03:09	Confirmed	DQB1*06:16	Unconfirmed	DQB1*06:59	Confirmed	DQB1*06:107	Confirmed
DQB1*06:03:10	Unconfirmed	DQB1*06:17	Unconfirmed	DQB1*06:60	Unconfirmed	DQB1*06:108	Unconfirmed

Lot No.: **9D8**

Lot-specific information

www.olerup.com

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DQB1*06:109	Unconfirmed	DQB1*06:138	Unconfirmed	DQB1*06:167	Unconfirmed	DQB1*06:197	Unconfirmed
DQB1*06:110	Unconfirmed	DQB1*06:139	Unconfirmed	DQB1*06:168	Unconfirmed	DQB1*06:198	Unconfirmed
DQB1*06:111	Unconfirmed	DQB1*06:140	Unconfirmed	DQB1*06:169	Confirmed	DQB1*06:199	Unconfirmed
DQB1*06:112N	Unconfirmed	DQB1*06:141	Unconfirmed	DQB1*06:170	Confirmed	DQB1*06:200	Unconfirmed
DQB1*06:113	Unconfirmed	DQB1*06:142	Unconfirmed	DQB1*06:171	Confirmed		
DQB1*06:114	Unconfirmed	DQB1*06:143	Unconfirmed	DQB1*06:172	Confirmed		
DQB1*06:115	Unconfirmed	DQB1*06:144N	Unconfirmed	DQB1*06:173	Unconfirmed		
DQB1*06:116	Unconfirmed	DQB1*06:145	Unconfirmed	DQB1*06:174	Unconfirmed		
DQB1*06:117	Unconfirmed	DQB1*06:146:01	Unconfirmed	DQB1*06:175	Unconfirmed		
DQB1*06:118:01	Unconfirmed	DQB1*06:146:02	Unconfirmed	DQB1*06:176	Unconfirmed		
DQB1*06:118:02	Confirmed	DQB1*06:147	Unconfirmed	DQB1*06:177	Unconfirmed		
DQB1*06:119	Unconfirmed	DQB1*06:148	Unconfirmed	DQB1*06:178	Unconfirmed		
DQB1*06:120	Confirmed	DQB1*06:149	Confirmed	DQB1*06:179N	Confirmed		
DQB1*06:121	Unconfirmed	DQB1*06:150	Unconfirmed	DQB1*06:180	Unconfirmed		
DQB1*06:122	Unconfirmed	DQB1*06:151	Unconfirmed	DQB1*06:181	Unconfirmed		
DQB1*06:123	Confirmed	DQB1*06:152	Unconfirmed	DQB1*06:182	Unconfirmed		
DQB1*06:124	Unconfirmed	DQB1*06:153	Confirmed	DQB1*06:183	Unconfirmed		
DQB1*06:125	Confirmed	DQB1*06:154	Unconfirmed	DQB1*06:184	Unconfirmed		
DQB1*06:126	Confirmed	DQB1*06:155	Confirmed	DQB1*06:185	Unconfirmed		
DQB1*06:127	Unconfirmed	DQB1*06:156	Unconfirmed	DQB1*06:186	Unconfirmed		
DQB1*06:128	Unconfirmed	DQB1*06:157	Unconfirmed	DQB1*06:187	Unconfirmed		
DQB1*06:129	Unconfirmed	DQB1*06:158N	Confirmed	DQB1*06:188	Unconfirmed		
DQB1*06:130	Unconfirmed	DQB1*06:159	Unconfirmed	DQB1*06:189	Unconfirmed		
DQB1*06:131	Unconfirmed	DQB1*06:160	Unconfirmed	DQB1*06:190	Unconfirmed		
DQB1*06:132	Unconfirmed	DQB1*06:161	Unconfirmed	DQB1*06:191	Confirmed		
DQB1*06:133	Unconfirmed	DQB1*06:162	Confirmed	DQB1*06:192	Unconfirmed		
DQB1*06:134	Unconfirmed	DQB1*06:163	Confirmed	DQB1*06:193N	Unconfirmed		
DQB1*06:135	Unconfirmed	DQB1*06:164	Confirmed	DQB1*06:194	Unconfirmed		
DQB1*06:136	Unconfirmed	DQB1*06:165	Unconfirmed	DQB1*06:195	Unconfirmed		
DQB1*06:137	Unconfirmed	DQB1*06:166	Unconfirmed	DQB1*06:196	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2016-January-19, release 3.23.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in DQB1 high homo- and heterozygotes is available upon request.

SPECIFICITY TABLE

DQB1 high resolution for frequent alleles SSP typing

Specificities and sizes of the PCR products of the 95+1 primer mixes used for DQB1 high resolution for frequent alleles SSP typing

Primer Mix	Size of spec. PCR product¹	Size of control band²	Amplified DQB1 alleles³
1⁴	120 bp	515 bp	*02:01:01-02:02:02, 02:04-02:16, 02:18N-02:24, 02:26-02:39, 02:41-02:65
2^{4,7}	85 bp	430 bp	*02:03
3⁶	145 bp	515 bp	*02:01:01-02:01:23, 02:04-02:05, 02:07:01-02:09, 02:13-02:47, 02:49-02:61, 02:63, 03:01:01-01-03:23:02, 03:25-03:78, 03:80-03:96, 03:98-03:163, 03:166-03:221, 04:01:01-04:33, 05:01:01-01-05:13, 05:15-05:83, 05:85-05:119, 06:01:01-06:37, 06:39-06:85, 06:87-06:101, 06:105-06:200
4	140 bp 185 bp	430 bp	*02:02:01-02:03, 02:06, 02:10-02:12, 02:62, 02:64-02:65 *03:28, 03:50
5⁵	145 bp 170 bp	515 bp	*02:04 *03:22, 03:96, 04:23, 05:06:01-05:07, 05:50, 06:04:01 ^w -06:09:06 ^w , 06:10 [?] -06:11:03 [?] , 06:12 ^w , 06:13:01 [?] -06:13:02 [?] , 06:14:02 [?] -06:18:01 [?] , 06:18:02 ^w , 06:19:01 [?] -06:20 [?] , 06:21 ^w , 06:22:01 [?] -06:32:02 [?] , 06:34 ^w , 06:35 [?] , 06:36 ^w , 06:38 ^w , 06:40 [?] , 06:41 ^w -06:42 ^w , 06:45 [?] -06:46 [?] , 06:49 ⁻ 06:50 [?] , 06:51:02 [?] , 06:52 ^w , 06:53 [?] -06:54N [?] , 06:56 [?] -06:57 [?] , 06:58 ^w , 06:59 [?] -06:61 [?] , 06:63 [?] -06:76 [?] , 06:79:02 [?] -06:83 [?] , 06:84 ^w , 06:85 [?] , 06:89 [?] , 06:91 [?] -06:97 [?] , 06:118:01 ^w , 06:118:02 [?] -06:124 [?] , 06:126 [?] , 06:128 [?] , 06:129 ^w , 06:131 [?] -06:147 [?] , 06:149 [?] -06:184 [?] , 06:186 ^w , 06:189 ^w , 06:190 [?] -06:199 [?]
6⁵	260 bp 165 bp	515 bp	*05:03:02, 05:51, 05:119, 06:06 [?] , 06:129, 06:146:01 *03:01:01:01-03:01:07, 03:01:09-03:01:31, 03:04:01-03:04:02, 03:09, 03:13, 03:16, 03:19, 03:21-03:22, 03:24, 03:27-03:29, 03:35-03:36, 03:42, 03:44, 03:46-03:60, 03:69, 03:71, 03:73-03:78, 03:80, 03:82-03:84N, 03:92-03:94, 03:101-03:103, 03:108, 03:113-03:116, 03:118N-03:122, 03:127-03:131, 03:134-03:135, 03:139-03:140, 03:142-03:144, 03:147-03:148, 03:150-03:152, 03:157-03:160, 03:162-03:167, 03:169-03:173, 03:182, 03:184, 03:188, 03:191-03:194, 03:196-03:198, 03:201-03:202, 03:206-03:208, 03:216, 03:218-03:219, 04:09
7	220 bp	515 bp	03:01:01:01-03:01:31, 03:04:01-03:04:02, 03:09-03:10:02, 03:13-03:14:02, 03:16, 03:19, 03:21-03:22, 03:24, 03:27-03:29, 03:35-03:36, 03:42, 03:44, 03:46-03:60, 03:69, 03:71, 03:73, 03:75-03:77, 03:80, 03:82-03:84N, 03:92-03:94, 03:101-03:103, 03:108, 03:114-03:116, 03:118N-03:122, 03:127-03:131, 03:133-03:135, 03:138-03:140, 03:142-03:144, 03:147-03:148, 03:150, 03:152, 03:157-03:160, 03:162-03:167, 03:169-03:173, 03:180, 03:182-03:183, 03:186-03:188, 03:191-03:198, 03:201-03:202, 03:206-03:208, 03:216, 03:218-03:219
8⁶	135 bp	515 bp	*02:01:01-02:02:02, 02:04-02:16, 02:18N-02:36, 02:38-02:65, 03:02:01-03:02:19, 03:07-03:08, 03:11, 03:18, 03:32, 03:37, 03:45, 03:62-03:64, 03:66N-03:68, 03:70, 03:81, 03:85, 03:106-03:107, 03:125, 03:146, 03:153, 03:161, 03:174-03:175, 03:178-03:179, 03:184-03:185, 03:189-03:190, 03:199, 03:203-03:205, 03:210-

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	225 bp		03:211, 03:213N-03:215, 03:220-03:221, 06:03:13, 06:29, 06:63, 06:123, 06:139 *06:171
9	175 bp	515 bp	*03:02:01-03:03:13, 03:04:02-03:05:04, 03:06 [?] -03:08 [?] , 03:10:02 ⁻ -03:15 [?] , 03:17:01 ⁻ -03:18 [?] , 03:19, 03:20 [?] , 03:23:01 ⁻ -03:23:02 [?] , 03:25, 03:26 [?] , 03:30-03:32, 03:33 ⁻ -03:34 [?] , 03:37 [?] , 03:38-03:39, 03:40 [?] , 03:41, 03:43, 03:45, 03:48 [?] , 03:52 ⁻ -03:72 [?] , 03:74 ⁻ -03:78 [?] , 03:79, 03:81 ⁻ -03:82 [?] , 03:85-03:91Q, 03:95N-03:100, 03:101 ⁻ -03:112 [?] , 03:117, 03:118N ⁻ -03:163 [?] , 03:165 ⁻ -03:167 [?] , 03:168, 03:170 ⁻ -03:179 [?] , 03:180-03:181, 03:183 ⁻ -03:185 [?] , 03:187 ⁻ -03:189 [?] , 03:190, 03:192 ⁻ -03:194 [?] , 03:195, 03:199-03:200, 03:201 ⁻ -03:205 [?] , 03:207 ⁻ -03:221 [?] , 04:01:01-04:33
	220 bp		*02:01:01-02:36, 02:38-02:65, 03:02:01-03:03:13, 03:06-03:08, 03:11-03:12, 03:15, 03:18, 03:20, 03:23:01-03:23:02, 03:25-03:26, 03:30-03:34, 03:37-03:41, 03:43, 03:45, 03:62-03:68, 03:70, 03:74, 03:79, 03:81, 03:85-03:91Q, 03:95N-03:99Q, 03:106-03:107, 03:110-03:113, 03:117, 03:123-03:126, 03:136-03:137, 03:141, 03:145-03:146, 03:149, 03:153, 03:155-03:156, 03:161, 03:168, 03:174-03:179, 03:184-03:185, 03:190, 03:199-03:200, 03:203-03:205, 03:209-03:215, 03:217, 03:220-03:221, 04:03:01-04:03:02
10^{4,7}	120 bp 145 bp 175 bp	430 bp	*02:11, 02:25 *02:26, 03:04:01-03:04:02, 03:14:01-03:14:02, 03:80, 03:138 *03:58
11⁴	95 bp 130 bp	430 bp	*03:20 *03:05:01-03:05:04, 03:17:01-03:17:02, 03:53, 03:61-03:62, 03:72, 03:100, 03:132, 03:181, 04:09
12^{4,7}	65 bp 125 bp	430 bp	*03:40 *03:03:06, 03:06, 03:08, 03:25, 03:137, 03:194, 04:01:03, 06:02:02, 06:03:02
	150 bp 195 bp		*03:119 *03:57
13⁴	110 bp 135 bp 150 bp 195 bp	430 bp	*03:15 *03:16 *03:07 *03:54, 03:162, 03:183, 03:204
14	135 bp 180 bp 260 bp	430 bp	*03:09, 05:56 *03:55, 03:204 *03:11, 03:26
15	135 bp	430 bp	*03:10:01-03:10:02, 03:12, 03:14:01-03:14:02, 03:70, 03:179, 03:183, 03:195, 06:01:01-06:01:15, 06:06 [?] , 06:43, 06:54N-06:58, 06:98, 06:99:02-06:105, 06:108, 06:120, 06:132, 06:140, 06:153, 06:157, 06:167-06:168, 06:177, 06:181, 06:194
	200 bp 250 bp		*02:42 *03:27
16	260 bp	515 bp	*03:01:01:01-03:01:07, 03:01:09-03:01:31, 03:04:01-03:04:02, 03:09-03:10:02, 03:12-03:14:02, 03:16, 03:19, 03:21-03:22, 03:24, 03:27-03:29, 03:35-03:36, 03:42, 03:44, 03:46-03:60, 03:70-03:71, 03:73-03:78, 03:80, 03:82-03:84N, 03:92-03:94, 03:101-03:103, 03:108, 03:114-03:116, 03:118N-03:122, 03:127-03:131, 03:133-03:135, 03:139-03:140, 03:143-03:144, 03:147-03:148, 03:150-03:152, 03:157-03:160, 03:162-03:167, 03:169-03:173, 03:179, 03:182-03:183, 03:186-03:188, 03:191-03:198, 03:201-03:202, 03:206, 03:208, 03:216, 03:218-03:219

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17^{4,6}	110 bp 165 bp 195 bp 215 bp 300 bp	430 bp	*05:03:12, 06:23, 06:82, 06:99:01, 06:156, 06:162, 06:169 *03:13 *03:28 *03:47 *06:34
18^{4,7}	80 bp 130 bp 190 bp 220 bp 260 bp	430 bp	*03:188 *03:24, 03:79 *03:60, 03:73, 03:112, 04:30, 05:73, 05:98, 05:116, 06:28, 06:56, 06:79:01-06:79:02 *03:18 *02:36
19	135 bp	515 bp	*03:01:01:01-03:01:07, 03:01:09-03:15, 03:17:01-03:22, 03:24, 03:26-03:103, 03:106-03:108, 03:110-03:152, 03:155-03:171, 03:173-03:188, 03:190-03:204, 03:206-03:213N, 03:215-03:216, 03:218-03:221, 04:09
20⁷	130 bp	430 bp	*02:03, 03:01:01:01-03:01:02, 03:01:04-03:01:07, 03:01:09-03:01:12, 03:01:14, 03:01:16-03:01:24, 03:01:26-03:01:31, 03:03:02:01-03:03:13, 03:06, 03:09-03:10:02, 03:12-03:13, 03:15-03:17:02, 03:19-03:24, 03:26-03:31, 03:33-03:36, 03:38-03:44, 03:46-03:60, 03:65, 03:69, 03:71-03:79, 03:82-03:84N, 03:86-03:103, 03:108, 03:111-03:124, 03:126-03:129, 03:131, 03:133-03:137, 03:139-03:145, 03:147-03:152, 03:155-03:160, 03:162-03:171, 03:173, 03:176-03:177, 03:180, 03:182-03:183, 03:186-03:188, 03:191-03:198, 03:200-03:201, 03:206-03:209, 03:212, 03:216-03:219, 04:09-04:10
21^{4,7}	125 bp 205 bp	515 bp	*04:11 *04:01:01-04:01:04, 04:05-04:08, 04:14-04:17, 04:27
22	140 bp 205 bp	430 bp	*04:14 *03:132, 04:02:01-04:02:07, 04:02:09-04:03:01, 04:04, 04:09-04:13, 04:18-04:19, 04:21-04:33
23	135 bp	430 bp	*05:01:01:01-05:01:22, 05:07, 05:11:01-05:12, 05:18, 05:20, 05:22, 05:25, 05:27, 05:29-05:32, 05:44-05:45, 05:48-05:49, 05:51, 05:54-05:55, 05:61-05:63, 05:68-05:76, 05:80-05:81, 05:84, 05:88-05:89:02, 05:92-05:93, 05:95, 05:99, 05:103-05:104, 05:107, 05:110N-05:112, 05:114-05:115
24⁴	115 bp 215 bp	430 bp	*05:02:01-05:02:13, 05:05:01-05:05:02, 05:14, 05:17, 05:19, 05:26, 05:33-05:37, 05:46-05:47, 05:53, 05:57, 05:59, 05:65, 05:79, 05:83, 05:86-05:88, 05:90N, 05:94, 05:100, 05:102, 05:106, 05:113, 05:116-05:118 *05:72
25^{4,6}	95 bp 120 bp 215 bp	515 bp	*04:28, 05:01:09-05:01:10, 05:02:02, 05:03:01:01-05:03:11, 05:03:13, 05:03:15-05:03:17, 05:06:01-05:06:02, 05:08-05:10, 05:13, 05:15-05:16, 05:24, 05:28, 05:38-05:42, 05:50, 05:56, 05:58, 05:60, 05:64, 05:66:01-05:67, 05:78, 05:85, 05:91, 05:96, 05:98, 05:101, 05:108-05:109, 05:119 *04:28 ^w , 05:03:01:01-05:03:01:02, 05:03:03-05:03:16, 05:06:01-05:06:02, 05:08-05:10, 05:13, 05:15-05:16, 05:23-05:24, 05:28, 05:38-05:43, 05:50, 05:56, 05:60, 05:64, 05:66:01-05:67, 05:78, 05:85, 05:91, 05:96, 05:98, 05:101, 05:108-05:109, 05:119 *05:72
26^{4,5}	120 bp	430 bp	*02:17, 02:32, 06:02:01-06:03:22, 06:05:01 [?] -06:07:01 [?] , 06:08:01 [?] -06:08:03 [?] , 06:09:02 [?] -06:09:03 [?] , 06:09:05 [?] -06:11:03 [?] , 06:13:01 [?] -06:18:01 [?] , 06:19:01 [?] -06:20 [?] , 06:22:01 [?] -06:32:02 [?] , 06:33, 06:35 [?] , 06:37 [?] , 06:39, 06:40 [?] , 06:44, 06:45 [?] -06:46 [?] , 06:47, 06:48 [?] -06:50 [?] , 06:51:02 [?] , 06:53 [?] -06:83 [?] , 06:85 [?] , 06:87-06:88, 06:89 [?] -06:97 [?] , 06:106-06:117, 06:118:02 [?] -06:126 [?] , 06:127, 06:128 [?] , 06:130, 06:131 [?]

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Lot No.	Allele	Product	Allele	Product	Allele	Product
						06:147 [?] , 06:148, 06:149 [?] -06:184 [?] , 06:185, 06:187-06:188, 06:190 [?] -06:199 [?] , 06:200
27	170 bp 210 bp		430 bp			*03:67 *06:01:01-06:02:25, 06:05:02 [?] -06:06 [?] , 06:10-06:11:03, 06:13:01-06:13:02, 06:16, 06:18:01-06:20, 06:24, 06:29, 06:33, 06:35, 06:37, 06:43, 06:45, 06:47-06:51:02, 06:53-06:57, 06:68, 06:70-06:84, 06:95-06:109, 06:111-06:117, 06:120, 06:122-06:127, 06:130-06:132, 06:136-06:140, 06:147, 06:150-06:153, 06:157, 06:159, 06:161, 06:163, 06:166-06:167, 06:173-06:179N, 06:181-06:183, 06:188, 06:192, 06:197-06:198, 06:200
28	190 bp		430 bp			*04:10, 06:02:01-06:02:25, 06:14:01-06:16, 06:19:01-06:20, 06:23-06:24, 06:33, 06:37, 06:46-06:50, 06:51:02, 06:68, 06:70-06:84, 06:95, 06:97, 06:107, 06:109, 06:111-06:117, 06:122, 06:124-06:127, 06:136-06:138, 06:146:01-06:147, 06:150-06:152, 06:156, 06:159, 06:161-06:163, 06:166, 06:173-06:175, 06:178-06:179N, 06:182-06:183, 06:188, 06:192, 06:197-06:198, 06:200
29	130 bp		430 bp			*06:02:07, 06:03:01-06:03:09, 06:03:11-06:03:22, 06:07:01-06:07:02, 06:11:02-06:11:03, 06:14:01-06:14:03, 06:26N, 06:28, 06:30-06:32:02, 06:40-06:41, 06:44, 06:59-06:62, 06:64-06:65, 06:67, 06:87, 06:90-06:92, 06:110, 06:118:01-06:118:02, 06:128, 06:133-06:134, 06:141, 06:143-06:145, 06:148, 06:154, 06:165, 06:184-06:185, 06:187, 06:190-06:191, 06:195-06:196, 06:199
30^{4,5}	105 bp 150 bp		430 bp			*04:15-04:16 *03:23:01, 05:03:12, 06:03:01-06:03:03, 06:03:05-06:03:07, 06:03:11-06:03:22, 06:04:02, 06:07:01, 06:08:01, 06:09:02, 06:11:01-06:11:03, 06:26N, 06:28, 06:30-06:32:01, 06:40-06:41, 06:44, 06:59-06:62, 06:64-06:65, 06:67, 06:90-06:92, 06:94, 06:110, 06:118:01, 06:128, 06:133-06:134, 06:141, 06:143-06:145, 06:148, 06:154, 06:161, 06:165, 06:169-06:170, 06:184-06:185, 06:187, 06:191, 06:195-06:196, 06:199
	205 bp 235 bp					*04:20, 04:27
31⁷	165 bp		515 bp			*03:06, 03:25, 04:04-04:05, 04:18 *06:02:07, 06:03:01-06:03:18, 06:03:20-06:03:22, 06:08:01-06:08:03, 06:11:02-06:12, 06:14:01-06:14:03, 06:21, 06:26N, 06:28, 06:31, 06:40-06:41, 06:44, 06:59, 06:61, 06:63-06:65, 06:67, 06:87, 06:90-06:92, 06:110, 06:128, 06:133-06:134, 06:141, 06:143-06:145, 06:148, 06:154, 06:165, 06:170, 06:184-06:185, 06:187, 06:190-06:191, 06:195-06:196, 06:199
32	210 bp		515 bp			*06:04:01-06:04:10, 06:07:01-06:07:02, 06:17, 06:21, 06:25, 06:34, 06:36, 06:38-06:39, 06:52, 06:58, 06:69, 06:85-06:86, 06:89, 06:92-06:93, 06:135, 06:149, 06:155, 06:158N, 06:160, 06:164, 06:172, 06:180, 06:193N
33^{4,7}	120 bp 170 bp		430 bp			*03:133, 03:200 *06:04:01-06:05:02, 06:06 ^w , 06:07:01-06:07:02, 06:09:01-06:09:03, 06:09:06, 06:18:01-06:18:02, 06:22:02, 06:25, 06:27:01-06:27:02, 06:32:01-06:32:02, 06:34, 06:36, 06:38-06:39, 06:52, 06:58, 06:66, 06:69, 06:85-06:86, 06:88-06:89, 06:93-06:94, 06:118:01-06:118:02, 06:121, 06:129, 06:135, 06:142, 06:155, 06:158N, 06:160, 06:164, 06:168, 06:171-06:172, 06:180, 06:186, 06:189, 06:193N
34⁴	105 bp 130 bp		430 bp			*05:07, 05:75 *05:25, 06:04:01-06:05:01, 06:06, 06:08:01-06:09:06, 06:12, 06:13:01-06:13:02, 06:17-06:18:02, 06:21-06:22:03, 06:27:01-06:27:02, 06:34, 06:36, 06:38-06:39, 06:42, 06:52, 06:58, 06:69, 06:85-06:86, 06:88-06:89, 06:93, 06:119, 06:121, 06:129, 06:135,

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		06:142, 06:149, 06:155, 06:158N, 06:160, 06:164, 06:171, 06:180, 06:186, 06:189, 06:193N	
35^{6,7}	160 bp 210 bp 255 bp	515 bp	*03:27, 03:48, 03:87, 06:35, 06:53, 06:145 *05:101 *03:31, 05:73, 05:80, 05:98, 05:116, 06:05:01-06:06 [?] , 06:20, 06:31, 06:45, 06:156
36^{4,6,7}	95 bp 155 bp 180 bp 210 bp	430 bp	*03:90N *06:164 *03:68 *06:05:01, 06:05:02 [?] -06:06 [?] , 06:09:01-06:09:06, 06:12, 06:15:01-06:15:02, 06:22:01-06:22:03, 06:42, 06:46, 06:66, 06:88, 06:94, 06:118:01-06:119, 06:121, 06:142, 06:189
37⁵	130 bp 165 bp 185 bp	430 bp	*05:63 *05:39 *05:21, 06:06, 06:149
38^{4,6,7}	100 bp 130 bp 180 bp	430 bp	*04:28, 05:38, 05:62, 05:79, 05:119, 06:14:01-06:14:03, 06:69, 06:156, 06:162 *03:01:04, 05:04, 05:08, 05:18, 05:26, 05:52, 05:77, 06:01:10 *03:98, 05:79, 06:10, 06:130
39^{4,7}	115 bp 140 bp 170 bp 195 bp	430 bp	*03:88 *03:165 *03:29-03:30, 03:52, 03:72, 03:100, 03:132, 03:179, 03:215, 04:09, 06:29, 06:96, 06:139 *04:13, 05:62, 06:13:01-06:13:02, 06:16, 06:22:01-06:22:03, 06:55, 06:69, 06:119
40^{4,7}	95 bp 135 bp 155 bp 195 bp	430 bp	*03:196, 05:45, 06:40 *05:27 *02:64, 03:21-03:22, 03:96, 04:23, 05:35, 06:04:01 ^w -06:05:02 ^w , 06:06 [?] , 06:07:01 ^w -06:07:02 ^w , 06:08:01 [?] -06:08:03 [?] , 06:09:01 ^w -06:09:06 ^w , 06:10 [?] -06:11:03 [?] , 06:12 ^w , 06:13:01 [?] -06:18:01 [?] , 06:18:02 ^w , 06:19:01 [?] -06:20 [?] , 06:21 ^w , 06:22:01 [?] -06:32:02 [?] , 06:34 ^w , 06:35 [?] , 06:36 ^w , 06:37 [?] , 06:38 ^w , 06:40 [?] , 06:41 ^w -06:42 ^w , 06:45 [?] -06:46 [?] , 06:48 ⁻ -06:50 [?] , 06:51:02 [?] , 06:52 ^w , 06:53 [?] -06:83 [?] , 06:84 ^w , 06:85 [?] , 06:89 [?] , 06:91 [?] -06:97 [?] , 06:118:01 ^w , 06:118:02 [?] -06:126 [?] , 06:128 [?] , 06:129 ^w , 06:131 [?] -06:147 [?] , 06:149 [?] -06:184 [?] , 06:186 ^w , 06:189 ^w , 06:190 [?] -06:199 [?] *05:41N, 05:90N
41⁶	155 bp 185 bp 265 bp 300 bp	430 bp	*03:213N *03:45, 06:17, 06:24, 06:30, 06:38, 06:42 *06:127 *06:52
42^{4,6,7}	100 bp 145 bp 195 bp 230 bp	515 bp	*03:41, 04:06, 04:12, 04:16 *03:66N, 03:213N, 06:10, 06:25, 06:130, 06:193N *02:08, 03:06, 03:25, 04:03:01-04:03:02, 05:79 *04:18
43^{4,6,7}	85 bp 110 bp 155 bp 185 bp 215 bp 240 bp 270 bp	515 bp	*03:59, 06:37 *06:37 *02:05, 06:100 *06:26N, 06:100 *06:26N *03:71, 06:33, 06:143 *06:33, 06:143
44⁴	120 bp 155 bp	430 bp	*03:42, 03:89, 03:164 *03:94, 04:02:07, 04:09, 05:62, 06:02:01-06:02:04, 06:02:06-06:02:25, 06:05:02, 06:10, 06:13:01-06:16, 06:20, 06:22:01-06:24,

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45	130 bp 155 bp 260 bp	515 bp	*06:07:01-06:07:02, 06:15:01-06:15:02, 06:36, 06:46, 06:66, 06:92, 06:118:01-06:118:02, 06:172 *06:164 *06:85
46	160 bp 210 bp	515 bp	*06:03:01-06:03:14, 06:03:16-06:03:18, 06:03:20-06:03:22, 06:08:01-06:08:03, 06:14:01-06:14:03, 06:21, 06:28, 06:31, 06:40-06:41, 06:44, 06:59, 06:61, 06:63-06:65, 06:67, 06:87, 06:90-06:92, 06:110, 06:128, 06:133-06:134, 06:141, 06:143-06:145, 06:148, 06:154, 06:170, 06:184-06:185, 06:187, 06:190-06:191, 06:195-06:196, 06:199 *06:03:01-06:03:10, 06:03:12-06:03:22, 06:08:01-06:08:03, 06:14:01-06:14:03, 06:27:01-06:28, 06:30-06:32:02, 06:40-06:41, 06:44, 06:59-06:65, 06:67, 06:87, 06:90-06:91, 06:110, 06:128, 06:133-06:134, 06:141, 06:143-06:145, 06:148, 06:154, 06:168, 06:170, 06:184-06:185, 06:187, 06:190-06:191, 06:195-06:196
47^{4,5}	110 bp 155 bp 290 bp	430 bp	*03:42 *03:30, 03:72, 03:84N, 03:98, 03:100, 03:132, 03:215, 04:01:01-04:03:02, 04:06-04:10, 04:12-04:14, 04:16-04:33, 05:38, 05:119, 06:02:05, 06:02:16, 06:05:02, 06:13:02, 06:14:03, 06:19:01-06:19:02, 06:22:01-06:22:02, 06:69, 06:95, 06:119, 06:123 ^w , 06:139, 06:152 *06:02:04, 06:72
48	170 bp 225 bp	430 bp	*03:32, 03:43, 04:07 *03:85
49⁴	105 bp 135 bp 160 bp	430 bp	*03:33, 03:196, 05:32, 05:42, 05:45 *05:87Q *02:33, 02:41, 03:35, 05:14, 05:84, 06:103
50⁴	125 bp 155 bp 200 bp 240 bp	430 bp	*03:130 *03:80, 03:139 *03:37-03:38, 03:46, 03:162, 03:183 *02:14:01-02:14:02, 03:34, 03:143
51	130 bp 185 bp 240 bp 270 bp	430 bp	*03:36, 03:39, 03:53, 03:62, 03:149 *03:51, 03:158 *02:06, 02:48, 03:24, 03:79, 06:117 *02:09
52⁴	95 bp 220 bp	430 bp	*03:06 [?] -03:08 [?] , 03:10:02 [?] -03:15 [?] , 03:17:01 [?] -03:18 [?] , 03:19, 03:20 [?] , 03:23:01 [?] -03:23:02 [?] , 03:26 [?] , 03:37 [?] , 03:40 [?] , 03:48 [?] , 03:52 [?] -03:71 [?] , 03:74 [?] -03:78 [?] , 03:81 [?] -03:82 [?] , 03:101 [?] -03:112 [?] , 03:118N [?] -03:163 [?] , 03:165 [?] -03:167 [?] , 03:170 [?] -03:179 [?] , 03:183 [?] -03:185 [?] , 03:187 [?] -03:189 [?] , 03:192 [?] -03:194 [?] , 03:201 [?] -03:205 [?] , 03:207 [?] -03:221 [?] , 04:08 *06:98, 06:126
53	130 bp 160 bp 195 bp	430 bp	*03:162, 03:183, 06:153 *02:51 *02:07:02, 05:09, 05:29, 05:30
54⁴	110 bp 150 bp 190 bp	430 bp	*05:17, 05:23 *03:115, 06:109-06:110 *05:10, 05:12, 05:47, 05:71, 06:105, 06:185
55^{4,5}	115 bp	430 bp	*06:04:01-06:05:01, 06:05:02 [?] -06:07:01 [?] , 06:07:02, 06:08:01 [?] -06:08:03 [?] , 06:09:01, 06:09:02 [?] -06:09:03 [?] , 06:09:04, 06:09:05 [?] -06:11:03 [?] , 06:12, 06:13:01 [?] -06:18:01 [?] , 06:18:02, 06:19:01 [?] -06:20 [?] , 06:21, 06:22:01 [?] -06:32:02 [?] , 06:34, 06:35 [?] , 06:36, 06:37 [?] , 06:38,

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56⁴	100 bp 150 bp 190 bp 220 bp 265 bp	430 bp	*06:44, 06:47 *03:177 *03:114, 03:197Q *06:43 *03:83
57	150 bp 185 bp	430 bp	*02:54 *02:07:01, 03:01:01:01-03:01:31, 03:04:01-03:04:02, 03:06 [?] -03:08 [?] , 03:09-03:10:01, 03:10:02 [?] -03:15 [?] , 03:16, 03:17:01 [?] -03:18 [?] , 03:20 [?] , 03:21-03:22, 03:23:01 [?] -03:23:02 [?] , 03:24, 03:26 [?] , 03:27-03:29, 03:33 [?] -03:34 [?] , 03:35-03:36, 03:37 [?] , 03:40 [?] , 03:42, 03:44, 03:46-03:47, 03:48 [?] , 03:49-03:51, 03:52 [?] -03:71 [?] , 03:73, 03:74 [?] -03:78 [?] , 03:80, 03:81 [?] -03:82 [?] , 03:83-03:84N, 03:92-03:94, 03:101 [?] -03:112 [?] , 03:113-03:116, 03:118N [?] , 03:119, 03:120 [?] -03:138 [?] , 03:139, 03:140 [?] -03:163 [?] , 03:164, 03:165 [?] -03:167 [?] , 03:169, 03:170 [?] -03:179 [?] , 03:182, 03:183 [?] -03:185 [?] , 03:186, 03:187 [?] -03:189 [?] , 03:191, 03:192 [?] -03:194 [?] , 03:196-03:198, 03:201 [?] -03:205 [?] , 03:206, 03:207 [?] -03:221 [?]
58	150 bp 180 bp 215 bp 250 bp	430 bp	*03:119 *03:56, 05:05:01-05:05:02, 05:11:01-05:11:02, 05:28, 05:66:01-05:66:02, 06:129, 06:146:01 *03:119, 05:30 *03:56, 05:03:02, 05:51-05:52, 05:119, 06:06 [?] , 06:129, 06:146:01
59^{4,5}	100 bp 190 bp 220 bp	430 bp	*03:44, 05:13, 05:117 *03:114, 06:54N *05:24, 05:101
60⁴	110 bp 150 bp 180 bp	430 bp	*05:88 *05:40, 05:69 *05:15, 05:33, 05:49
61⁴	110 bp 155 bp 210 bp	430 bp	*05:88 *05:40, 05:69 *05:16, 05:34, 05:44, 05:73, 05:98, 05:116, 06:156, 06:162, 06:169
62⁴	85 bp 135 bp 160 bp 225 bp	430 bp	*05:110N *03:75 *05:62, 06:02:19, 06:79:02, 06:95, 06:97, 06:158N *03:30, 03:72, 03:100, 03:215, 06:05:02, 06:15:01-06:15:02, 06:22:01-06:22:03, 06:37, 06:48, 06:51:01-06:51:02, 06:69, 06:139
63	180 bp 220 bp	430 bp	*06:50 *03:86
64^{4,6}	100 bp 160 bp 230 bp	430 bp	*02:16, 02:21 *02:51, 04:17 *02:20N
65⁴	115 bp 220 bp	430 bp	*02:21, 05:36 *02:46
66⁴	110 bp 130 bp 165 bp 195 bp	430 bp	*03:116, 05:57 *02:18N, 05:31, 05:46, 05:108, 06:111 *02:19 *05:41N, 05:90N
67⁴	100 bp 160 bp	430 bp	*02:15, 02:27, 02:58N *02:30
68⁴	100 bp 175 bp	430 bp	*02:23-02:24, 02:27 *02:28

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69⁴	105 bp 185 bp	430 bp	*02:24, 02:31, 02:58N *02:29
70⁴	75 bp	430 bp	*03:61, 03:221
71⁴	80 bp 160 bp 185 bp	430 bp	*03:188 *03:63, 03:76, 03:139, 03:168, 03:211 *03:118N
72	135 bp 165 bp 190 bp	430 bp	*05:37, 05:104 *03:64, 03:77 *02:50, 03:118N, 03:99Q
73⁴	95 bp 125 bp 160 bp 225 bp	430 bp	*02:53Q, 03:65 *03:23:01-03:23:02, 03:217, 04:10 *03:211 *03:78, 03:81, 03:159
74⁴	115 bp 140 bp 185 bp	430 bp	*05:19, 05:22 *04:25N *05:71
75^{4,7}	115 bp 155 bp 180 bp	430 bp	*05:75 *03:102, 05:20 *03:197Q, 06:06 [?] , 06:55, 06:58
76	145 bp 185 bp	430 bp	*03:04:02, 03:10:01, 03:12, 03:14:02, 03:70, 03:179, 03:195, 06:01:01, 06:01:03-06:01:06, 06:01:08-06:01:11, 06:01:13-06:01:15, 06:43, 06:53-06:57, 06:98, 06:99:02-06:100, 06:102N-06:105, 06:108, 06:120, 06:132, 06:140, 06:153, 06:157, 06:167-06:168, 06:181, 06:194 *06:54N
77^{4,7}	95 bp 185 bp	430 bp	*06:155 *06:60-06:61
78⁴	100 bp 135 bp 170 bp	430 bp	*06:64 *06:94, 06:170 *06:62
79⁴	90 bp 125 bp 190 bp	430 bp	*06:65 *06:93 *06:116
80^{4,7}	105 bp 175 bp	430 bp	*06:70 *06:76, 06:163
81⁴	120 bp 170 bp	430 bp	*03:95N, 03:210 *03:30, 03:72, 03:100, 03:132, 03:158, 03:170, 03:215, 04:09, 06:29, 06:71, 06:96, 06:139, 06:163
82	170 bp 235 bp 280 bp	430 bp	*06:77N *06:107 *06:73
83	165 bp 235 bp 260 bp	430 bp	*06:78 *06:107 *06:74
84⁴	120 bp 190 bp	430 bp	*06:80 *06:75N, 06:106
85	180 bp 215 bp 265 bp	430 bp	*06:67, 06:174, 06:191 *06:68, 06:112N *06:127
86⁴	95 bp 125 bp 180 bp 220 bp	430 bp	*06:59, 06:90, 06:150, 06:191 *06:99:01-06:99:02, 06:112N *06:90, 06:191 *06:112N

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87⁴	85 bp 110 bp 150 bp	430 bp	*03:08, 03:137, 03:194, 06:29, 06:63, 06:87, 06:96 *06:59, 06:91, 06:150 *06:179N	
88⁴	110 bp 215 bp	430 bp	*06:125 *06:57, 06:81	
89⁴	110 bp 150 bp 185 bp 260 bp	430 bp	*06:125 *06:101 *06:144N *06:83	
90	130 bp 240 bp	430 bp	*06:102N *03:97, 03:117, 06:86, 06:104	
91⁴	70 bp 100 bp	430 bp	*03:10:02, 03:183, 04:02:07 ^w , 05:03:14, 05:43, 06:01:12, 06:51:01, 06:66, 06:96, 06:99:01, 06:172 *06:01:12, 06:51:01-06:51:02, 06:99:01, 06:142	
92⁴	105 bp 160 bp 230 bp	430 bp	*02:22 *02:19, 02:54 *02:12	
93⁴	95 bp 170 bp 225 bp	430 bp	*03:91Q *02:13, 02:41 *03:85	
94⁵	170 bp	430 bp	*02:57, 03:02:01-03:03:13, 03:05:01-03:08, 03:11, 03:15, 03:17:01- 03:18, 03:20, 03:26, 03:30 ^w , 03:31-03:34, 03:37-03:41, 03:43, 03:45, 03:61-03:69, 03:72 ^w , 03:79, 03:81, 03:85-03:91Q, 03:95N-03:99Q, 03:100 ^w , 03:104-03:107, 03:110-03:113, 03:117, 03:123-03:126, 03:132 ^w , 03:136-03:138, 03:141, 03:145, 03:149, 03:153, 03:155- 03:156, 03:161, 03:168, 03:174-03:178, 03:180-03:181, 03:184- 03:185, 03:189-03:190, 03:199-03:200, 03:203-03:205, 03:209- 03:213N, 03:215 ^w , 03:220-03:221, 04:09 ^w , 06:29 ^w , 06:63, 06:66, 06:87, 06:96 ^w , 06:139 ^w , 06:172	
95⁴	95 bp	430 bp	*03:105-03:106, 03:109, 03:120	
96⁸			Negative Control	

¹Alleles 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 DQB1 high resolution typings.

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

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

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

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

²The 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.

³For several DQB1 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

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with the target sequences or not. Assumption is made that unknown sequences in these regions are conserved within allelic groups.

⁴HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁵Primer mixes 6, 26, 30, 37, 47, 55, 59 and 94 may give rise to a lower yield of HLA-specific PCR product than the other DQB1 primer mixes, most pronounced are primer mixes 26, 55 and 94.

⁶Primer mixes 3, 8, 17, 25, 35, 38, 41, 42, 43 and 64 have a tendency to giving rise to primer oligomer formation.

⁷Primer mixes 2, 10, 12, 18, 20, 21, 31, 33, 35, 36, 38, 39, 40, 42, 43, 75, 77 and 80 may have tendencies of unspecific amplifications.

⁸Primer mix 96 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

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

‘w’ , might be weakly amplified.

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PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	120	85	145	140	145	165	220	135	175	120	95	65
PCR product				185	170			225	220	145	130	125
					260					175		150
												195
Length of int. pos. control ¹	515	430	515	430	515	515	515	515	515	430	430	430
5'-primer(s) ²	30(185) 5'-AAG 3'	57(266) 5'-TgA 3'	135(500) 5'-TgA 3'	26(173) 5'-TTA 3'	13(136) 5'-gCA 3'	45(230) 5'-ggA 3'	26(173) 5'-TTA 3'	26(173) 5'-TCT 3'	26(173) 5'-TCT 3'	22(163) 5'-AgT 3'	23(164) 5'-gCA 3'	38(210) 5'-gCA 3'
				101(400) 5'-TCT 3'	39(212) 5'-gCA 3'				139(514) 5'-CAA 3'	26(173) 5'-TTA 3'	26(173) 5'-ggg 3'	
					39(214) 5'-gCC 3'					29(184) 5'-gAg 3'	37(208) 5'-ACA 3'	
					40(216) 5'-TTg 3'					32(193) 5'-ATg 3'		
					130(485) 5'-CCA 3'							
					135(502) 5'-ACg 3'							
3'-primer(s) ³	57(266) 5'-CAg 3'	71(309) 5'-CgT 3'	169(604) 5'-gAC 3'	76(325) 5'-CgC 3'	86(353) 5'-ACg 3'	86(353) 5'-gCT 3'	86(353) 5'-gCT 3'	57(266) 5'-Cgg 3'	86(353) 5'-gCT 3'	57(266) 5'-Cgg 3'	55(260) 5'-gCg 3'	45(232) 5'-CAA 3'
	57(266) 5'-Cgg 3'		169(604) 5'-gAC 3'	135(500) 5'-ggC 3'	169(604) 5'-gAC 3'		86(353) 5'-gTT 3'	57(266) 5'-CAg 3'	185(650) 5'-CgA 3'	71(308) 5'-ggC 3'		62(282) 5'-CTA 3'
	58(270) 5'-TCA 3'			145(532) 5'-ggT 3'				57(266) 5'-Cgg 3'				69(304) 5'-CCC 3'
								58(270) 5'-TCA 3'				75(320) 5'-CCC 3'
								86(355) 5'-gTg 3'				89(362) 5'-TCA 3'
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

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Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec.	110	135	135	260	110	80	135	130	125	140	135	115
PCR product	135	180	200		165	130			205	205		215
	150	260	250		195	190						
	195				215	220						
					300	260						
Length of int. pos. control ¹	430	430	430	515	430	430	515	430	515	430	430	430
5'-primer(s) ²	34(197) 5'-CCA 3'	13(136) 5'-gCC 3'	12(132) 5'-AAA 3'	13(134) 5'-ggC 3'	26(173) 5'-ggg 3'	13(134) 5'-ggA 3'	55(260) 5'-gCC 3'	57(266) 5'-TgA 3'	23(164) 5'-gCT 3'	23(164) 5'-gCg 3'	26(173) 5'-ggg 3'	29(184) 5'-gAC 3'
	36(205) 5'-Agg 3'	36(205) 5'-AgA 3'	13(134) 5'-ggC 3'		26(173) 5'-TTA 3'	26(175) 5'-TTC 3'			23(166) 5'-gCT 3'	23(164) 5'-gCg 3'	26(173) 5'-ggg 3'	
	36(205) 5'-AgA 3'	40(217) 5'-TCC 3'	30(185) 5'-AAg 3'		101(400) 5'-TCT 3'	38(209) 5'-CgT 3'			48(241) 5'-ggA 3'	43(226) 5'-ACA 3'		
	49(242) 5'-ggT 3'	135(500) 5'-TgA 3'				38(211) 5'-CAT 3'						
	55(260) 5'-gCA 3'					73(316) 5'-CgA 3'						
	63(285) 5'-Agg 3'					139(514) 5'-CAA 3'						
3'-primer(s) ³	86(353) 5'-gCT 3'	86(353) 5'-gCT 3'	45(230) 5'-CCC 3'	86(353) 5'-gCT 3'	48(240) 5'-gCg 3'	86(353) 5'-gCT 3'	86(353) 5'-gCT 3'	86(353) 5'-gCT 3'	77(327) 5'-ACg 3'	77(327) 5'-ACg 3'	57(266) 5'-CAA 3'	52(251) 5'-gCA 3'
		166(594) 5'-CgA 3'	82(343) 5'-gTg 3'		67(296) 5'-ggT 3'	87(356) 5'-ggA 3'						56(265) 5'-gCT 3'
		167(596) 5'-CAT 3'			76(325) 5'-CgC 3'	169(604) 5'-gAT 3'						58(270) 5'-TCC 3'
					84(349) 5'-CAT 3'							87(358) 5'-gCC 3'
					141(520) 5'-AAT 3'							
					188(661) 5'-CCA 3'							
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

Lot No.: **9D8**

Lot-specific information

www.olerup.com

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	95	120	170	190	130	105	165	210	120	105	160	95
PCR product	120		210			150			170	130	210	155
	215					205					255	180
						235						210
Length of int.	515	430	430	430	430	430	515	515	430	430	515	430
pos. control ¹												
5'-primer(s) ²	29(184) 5'-gAC 3'	30(185) 5'-AAg 3'	29(184) 5'-gAT 3'	9(122) 5'-gTT 3'	27(177) 5'-gTA 3'	9(122) 5'-gTA 3'	27(177) 5'-gTA 3'	29(184) 5'-gAC 3'	27(177) 5'-gTA 3'	27(177) 5'-gTA 3'	13(136) 5'-gCC 3'	29(184) 5'-gAT 3'
		130(485) 5'-CCg 3'	29(184) 5'-gAT 3'		29(184) 5'-gAC 3'	15(140) 5'-gTA 3'	29(184) 5'-gAC 3'		43(226) 5'-ACA 3'	28(179) 5'-gAC 3'	45(230) 5'-ggA 3'	48(239) 5'-CCA 3'
						21(160) 5'-CCA 3'				30(185) 5'-ACC 3'	115(442) 5'-TgA 3'	
						23(166) 5'-gCT 3'				31(190) 5'-TCC 3'	146(533) 5'-CCA 3'	
						52(251) 5'-gCT 3'				39(212) 5'-gCA 3'		
						59(272) 5'-CgT 3'						
3'-primer(s) ³	47(237) 5'-CgA 3'	56(265) 5'-ggT 3'	73(314) 5'-CCT 3'	57(266) 5'-CAT 3'	57(266) 5'-CAT 3'	48(240) 5'-gCg 3'	69(304) 5'-CCC 3'	86(353) 5'-ACC 3'	69(304) 5'-CCT 3'	57(266) 5'-CAA 3'	70(307) 5'-ggA 3'	47(238) 5'-Cg 3'
	47(237) 5'-CgA 3'	57(268) 5'-ggT 3'	86(353) 5'-ACg 3'	58(270) 5'-TCC 3'	58(270) 5'-TCA 3'	77(327) 5'-ACg 3'	69(304) 5'-CCC 3'	86(354) 5'-TAT 3'			81(338) 5'-TgC 3'	76(324) 5'-gTT 3'
	50(246) 5'-gTg 3'	154(558) 5'-AAA 3'	86(354) 5'-AAT 3'								82(343) 5'-gTg 3'	86(353) 5'-ACC 3'
	56(265) 5'-gTC 3'		86(354) 5'-AAA 3'								86(353) 5'-ACC 3'	
	87(358) 5'-gCC 3'										87(356) 5'-ggA 3'	
											185(650) 5'-CgA 3'	
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

Lot No.: **9D8**

Lot-specific information

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Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec.	130	100	115	95	155	100	85	120	130	160	110	170
PCR product	165	130	140	135	185	145	110	155	155	210	155	225
	185	180	170	155	205	195	155		260		290	
			195	195	265	230	185					
					300		215					
							240					
							270					
Length of int.	430	430	430	430	430	515	515	430	515	515	430	430
pos. control ¹												
5'-primer(s) ²	25(170) 5'-gCA 3'	7(118) 5'-TCA 3'	8(121) 5'-TgC 3'	30(187) 5'-Acg 3'	26(173) 5'-TCT 3'	7(118) 5'-TCA 3'	10(126) 5'-CAT 3'	9(122) 5'-gTT 3'	13(134) 5'-ggA 3'	29(184) 5'-gAC 3'	9(122) 5'-gTT 3'	123(464) 5'-CTT 3'
	27(177) 5'-gTA 3'	9(122) 5'-gTT 3'	9(122) 5'-gTT 3'	118(449) 5'-CTA 3'	98(389) 5'-CAT 3'	15(140) 5'-gTA 3'	11(129) 5'-TTA 3'	139(514) 5'-CAA 3'	48(239) 5'-CCA 3'		139(514) 5'-CAA 3'	140(517) 5'-CTA 3'
	33(195) 5'-AAg 3'	23(166) 5'-gCT 3'	139(514) 5'-CAA 3'	130(485) 5'-CCA 3'	110(426) 5'-AAA 3'	26(173) 5'-TCT 3'	28(181) 5'-CCT 3'		57(266) 5'-TgA 3'			141(520) 5'-gCC 3'
	45(230) 5'-ggA 3'	29(184) 5'-gAT 3'		132(493) 5'-TTT 3'	130(485) 5'-CCA 3'	54(259) 5'-ggT 3'	38(210) 5'-gTg 3'		154(558) 5'-ACT 3'			144(529) 5'-CCg 3'
		135(500) 5'-TgA 3'		139(512) 5'-gAT 3'	133(494) 5'-TCA 3'	59(272) 5'-CgT 3'	38(211) 5'-TgA 3'					
				150(547) 5'-ACA 3'			62(282) 5'-AAg 3'					
3'-primer(s) ³	74(317) 5'-CCg 3'	27(177) 5'-gTT 3'	55(260) 5'-gCg 3'	48(240) 5'-gCg 3'	63(286) 5'-CTA 3'	44(229) 5'-CCA 3'	77(326) 5'-CCg 3'	47(236) 5'-ggT 3'	86(353) 5'-ACC 3'	69(304) 5'-CCC 3'	47(237) 5'-CgA 3'	185(650) 5'-CgA 3'
		29(184) 5'-gTg 3'	55(260) 5'-gCg 3'	169(604) 5'-gAC 3'	70(307) 5'-ggC 3'	56(265) 5'-gCT 3'	86(353) 5'-ACg 3'	48(240) 5'-gCg 3'	186(653) 5'-CCg 3'	86(353) 5'-ACg 3'	47(237) 5'-CTA 3'	
		56(265) 5'-gCT 3'	57(266) 5'-CAA 3'		74(318) 5'-AAg 3'	61(278) 5'-TCT 3'		48(241) 5'-TgC 3'			47(237) 5'-Cgg 3'	
		167(596) 5'-CAT 3'	59(274) 5'-gTT 3'		185(650) 5'-Cgg 3'	63(286) 5'-CTA 3'		162(583) 5'-CAC 3'			48(240) 5'-gCg 3'	
		179(632) 5'-ggT 3'	164(589) 5'-ggT 3'			77(326) 5'-CCT 3'		166(595) 5'-ACA 3'			49(244) 5'-CAT 3'	
			172(611) 5'-AgC 3'			77(327) 5'-ACg 3'		169(604) 5'-gAA 3'			91(369) 5'-TTT 3'	
			182(641) 5'-ggC 3'					174(617) 5'-CgC 3'			162(583) 5'-CAC 3'	
			187(656) 5'-ACA 3'								175(622) 5'-CTA 3'	
											179(632) 5'-ggT 3'	
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

Lot No.: 9D8

Lot-specific information

www.olerup.com

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec.	105	125	130	95	130	110	115	100	150	150	100	110
PCR product	135	155	160	220	160	150		150	185	180	190	150
	160	200	185		195	190		190		215	220	180
		240	240					220		250		
			270					265				
Length of int.	430	430	430	430	430	430	430	430	430	430	430	430
pos. control ¹												
5'-primer(s) ²	14(138)	19(154)	8(119)	13(134)	30(185)	26(173)	130(485)	13(134)	30(185)	13(136)	13(134)	29(184)
	5'-ATA 3'	5'-ACA 3'	5'-CgC 3'	5'-ggT 3'	5'-AAg 3'	5'-ggg 3'	5'-CCA 3'	5'-ggC 3'	5'-AAg 3'	5'-gCA 3'	5'-ggC 3'	5'-gAC 3'
	19(154)	19(154)	23(164)	22(163)	30(187)	135(500)		28(179)	139(514)	19(154)	13(136)	
	5'-ACT 3'	5'-ACC 3'	5'-gCA 3'	5'-AgT 3'	5'-ACC 3'	5'-TgA 3'		5'-gAC 3'	5'-CAA 3'	5'-ACA 3'	5'-gCC 3'	
	128(481)	29(184)	23(166)	30(185)	36(205)			154(558)		30(187)		
	5'-AAA 3'	5'-gAC 3'	5'-gCA 3'	5'-ATg 3'	5'-Agg 3'			5'-ACT 3'		5'-ACC 3'		
	133(494)	30(187)	101(400)	167(596)						37(208)		
	5'-TCA 3'	5'-ACg 3'	5'-TCT 3'	5'-gCA 3'						5'-ACA 3'		
	138(511)	36(204)								38(210)		
	5'-..A 3'	5'-gAC 3'								5'-gCg 3'		
	146(533)	36(205)								38(210)		
	5'-CCg 3'	5'-Agg 3'								5'-gCA 3'		
	146(535)	48(239)										
	5'-CCT 3'	5'-CCA 3'										
150(547)	48(239)											
5'-ACA 3'	5'-CCC 3'											
	57(268)											
	5'-ACT 3'											
3'-primer(s) ³	57(266)	86(353)	55(260)	86(353)	66(294)	51(248)	154(558)	59(274)	66(294)	75(320)	32(191)	52(251)
	5'-Cgg 3'	5'-gCT 3'	5'-gCg 3'	5'-ACg 3'	5'-ACT 3'	5'-gCT 3'	5'-AAA 3'	5'-gTA 3'	5'-ACT 3'	5'-CCC 3'	5'-TAC 3'	5'-gCA 3'
	169(604)		55(260)	185(650)	69(303)	73(316)		64(287)	81(338)	82(343)	61(279)	65(290)
	5'-gAC 3'		5'-gCg 3'	5'-CgA 3'	5'-CTg 3'	5'-Cgg 3'		5'-TCC 3'	5'-Tgg 3'	5'-gTC 3'	5'-TTT 3'	5'-CCC 3'
			127(477)		81(338)	77(328)		73(314)	185(650)	86(353)	64(287)	69(304)
			5'-TTC 3'		5'-TCg 3'	5'-CAA 3'		5'-CCA 3'	5'-Cgg 3'	5'-ACg 3'	5'-TCC 3'	5'-CCT 3'
			141(520)		86(353)	157(566)		88(359)			70(307)	72(311)
			5'-AAT 3'		5'-ACg 3'	5'-ggg 3'		5'-TgA 3'			5'-ggA 3'	5'-CCT 3'
			149(544)			168(599)		174(618)			76(323)	74(317)
			5'-gTC 3'			5'-CTT 3'		5'-ACT 3'			5'-TgC 3'	5'-CCA 3'
			167(596)			174(619)						80(335)
			5'-CAA 3'			5'-CAT 3'						5'-gTT 3'
			169(604)			182(642)						
			5'-gAT 3'			5'-ggT 3'						
		178(631)			185(652)							
		5'-gCg 3'			5'-CAT 3'							
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

Lot No.: **9D8**

Lot-specific information

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Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of spec.	110	85	180	100	115	110	100	100	105	75	80	135
PCR product	155	135	220	160	220	130	160	175	185		160	165
	210	160		230		165					185	190
		225				195						
Length of int.	430	430	430	430	430	430	430	430	430	430	430	430
pos. control ¹												
5'-primer(s) ²	29(184) 5'-gAC 3'	9(122) 5'-gTT 3'	29(184) 5'-gAT 3'	30(185) 5'-AAG 3'	30(185) 5'-AAG 3'	30(185) 5'-AAG 3'	17(147) 5'-TTA 3'	13(134) 5'-ggT 3'	9(122) 5'-gTg 3'	55(260) 5'-gCC 3'	37(207) 5'-TAA 3'	32(192) 5'-..T 3'
		33(196) 5'-ACT 3'		146(533) 5'-CCT 3'	135(501) 5'-gAT 3'	118(449) 5'-CTA 3'	34(199) 5'-gAT 3'	36(204) 5'-gAT 3'	34(199) 5'-gAT 3'		44(227) 5'-CgC 3'	37(207) 5'-TAA 3'
		38(209) 5'-CgA 3'				140(517) 5'-CCA 3'	40(217) 5'-TCT 3'	39(212) 5'-gCT 3'	36(204) 5'-gAT 3'		46(235) 5'-TgA 3'	37(208) 5'-TCA 3'
						145(530) 5'-CAA 3'	40(217) 5'-TCC 3'	40(217) 5'-TCT 3'	38(209) 5'-CgC 3'		46(235) 5'-TgC 3'	41(219) 5'-gAg 3'
						146(535) 5'-CCg 3'					48(239) 5'-CCC 3'	48(239) 5'-TCC 3'
											73(316) 5'-CgA 3'	135(501) 5'-gAT 3'
3'-primer(s) ³	52(251) 5'-gCA 3'	45(232) 5'-CAA 3'	75(322) 5'-gTg 3'	48(241) 5'-CgT 3'	51(248) 5'-gCC 3'	61(279) 5'-TTT 3'	57(266) 5'-Cgg 3'	57(266) 5'-Cgg 3'	57(266) 5'-Cgg 3'	66(294) 5'-ATg 3'	86(353) 5'-gCT 3'	86(353) 5'-gCT 3'
	65(290) 5'-CCC 3'	48(241) 5'-TgC 3'	90(365) 5'-AgT 3'	51(248) 5'-gCC 3'	89(362) 5'-TCT 3'	72(311) 5'-CCg 3'						166(595) 5'-ACA 3'
	69(304) 5'-CCT 3'	49(244) 5'-CAT 3'		69(303) 5'-CTg 3'	163(585) 5'-gTT 3'	169(604) 5'-gAC 3'						
	82(341) 5'-AgC 3'	69(304) 5'-CCT 3'		93(376) 5'-TCA 3'								
	87(356) 5'-ggA 3'			185(650) 5'-CgA 3'								
	88(361) 5'-CCT 3'											
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

Lot No.: 9D8

Lot-specific information

www.olerup.com

Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec.	95	115	115	145	95	100	90	105	120	170	165	120
PCR product	125	140	155	185	185	135	125	175	170	235	235	190
	160	185	180			170	190			280	260	
	225											
Length of int.	430	430	430	430	430	430	430	430	430	430	430	430
pos. control ¹												
5'-primer(s) ²	22(163) 5'-AgA 3'	26(173) 5'-ggg 3'	13(134) 5'-ggC 3'	13(134) 5'-ggC 3'	27(177) 5'-gTA 3'	27(177) 5'-gTA 3'	27(177) 5'-gTA 3'	9(122) 5'-gTT 3'	8(119) 5'-CgC 3'	9(122) 5'-gTT 3'	9(122) 5'-gTT 3'	9(122) 5'-gTT 3'
	26(173) 5'-TTT 3'		19(154) 5'-ACC 3'				105(411) 5'-AgC 3'		9(122) 5'-gTT 3'			
	46(235) 5'-TgC 3'		31(190) 5'-TCC 3'						15(142) 5'-gCC 3'			
	57(267) 5'-gAT 3'								29(182) 5'-CAA 3'			
	65(292) 5'-..g 3'											
	70(306) 5'-AgC 3'											
3'-primer(s) ³	86(353) 5'-gCT 3'	49(242) 5'-CCT 3'	51(250) 5'-CgC 3'	47(237) 5'-CgA 3'	46(233) 5'-ACC 3'	47(238) 5'-gCA 3'	43(224) 5'-Cgg 3'	31(188) 5'-Agg 3'	52(251) 5'-gCA 3'	52(253) 5'-CTA 3'	50(247) 5'-CgA 3'	36(203) 5'-ACC 3'
		54(257) 5'-gCT 3'	57(266) 5'-CAA 3'	61(279) 5'-TTT 3'	75(322) 5'-gTg 3'	58(271) 5'-CTT 3'	55(260) 5'-gCA 3'	52(251) 5'-gCA 3'	52(253) 5'-CTT 3'	74(317) 5'-ACC 3'	74(317) 5'-ACC 3'	58(271) 5'-CTT 3'
		58(271) 5'-CTA 3'	59(274) 5'-gTA 3'		77(326) 5'-CCA 3'	71(308) 5'-ggA 3'	154(558) 5'-AAA 3'	55(262) 5'-AgA 3'	55(260) 5'-gCg 3'	88(359) 5'-CgA 3'	82(341) 5'-AgC 3'	60(276) 5'-CAC 3'
		73(316) 5'-Cgg 3'										
Well No.	73	74	75	76	77	78	79	80	81	82	83	84

Well No.	85	86	87	88	89	90	91	92	93	94	95
Length of spec.	180	95	85	110	110	130	70	105	95	170	95
PCR product	215	125	110	215	150	240	100	160	170		
	265	180	150		185			230	225		
		220			260						
Length of int.	430	430	430	430	430	430	430	430	430	430	430
pos. control ¹											
5'-primer(s) ²	9(124) 5'-TCT 3'	8(121) 5'-TgC 3'	33(196) 5'-ACT 3'	26(174) 5'-TAC 3'	13(136) 5'-gCg 3'	101(400) 5'-TCT 3'	47(237) 5'-TAC 3'	30(185) 5'-AAG 3'	14(138) 5'-ATA 3'	10(126) 5'-CAA 3'	71(309) 5'-ACC 3'
	14(137) 5'-CAC 3'	9(124) 5'-TCT 3'	45(230) 5'-ggC 3'	30(187) 5'-ACT 3'	37(207) 5'-TAA 3'				15(142) 5'-gCA 3'	13(134) 5'-ggg 3'	
	24(167) 5'-CgA 3'	23(166) 5'-gCA 3'	47(238) 5'-ACA 3'	63(285) 5'-Agg 3'	49(242) 5'-ggA 3'				123(464) 5'-CTT 3'		
	24(169) 5'-TgT 3'	24(167) 5'-CgA 3'	55(260) 5'-gCC 3'		63(285) 5'-Agg 3'				166(595) 5'-AgA 3'		
	110(426) 5'-AAA 3'	47(238) 5'-ACA 3'									
3'-primer(s) ³											
	69(304) 5'-CCC 3'	38(209) 5'-gCg 3'	69(304) 5'-CCC 3'	87(356) 5'-ggA 3'	86(353) 5'-ACg 3'	131(488) 5'-ACT 3'	56(265) 5'-gTC 3'	51(248) 5'-gCA 3'	57(266) 5'-Cgg 3'	55(260) 5'-gCg 3'	86(355) 5'-gAC 3'
	185(650) 5'-Cgg 3'	69(304) 5'-CCC 3'				167(596) 5'-CAA 3'	66(294) 5'-ATg 3'	66(294) 5'-ACT 3'	185(650) 5'-CgA 3'	57(266) 5'-Cgg 3'	87(358) 5'-gCC 3'
						172(611) 5'-AgA 3'		72(311) 5'-CCg 3'			93(374) 5'-gCA 3'
								92(372) 5'-CgA 3'			
Well No.	85	86	87	88	89	90	91	92	93	94	95

Product Insert**101.221-12 – including *Taq* pol., IFU-01****101.221-12u – without *Taq* pol., IFU-02**Visit www.olerup.com for
“Instructions for Use” (IFU)**Lot No.: 9D8****Lot-specific information****www.olerup.com**

¹The 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.

²The nucleotide position matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

³The 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 web site. The sequence of the 3 terminal nucleotides of the primer is given.

Product Insert

101.221-12 – including *Taq* pol., IFU-01

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“Instructions for Use” (IFU)

Lot No.: **9D8**

Lot-specific information

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CELL LINE VALIDATION SHEET																			
DQB1 high resolution primer set²																			
				Well															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				201668201	201668202	201550003	201550004	201668205	201550006	201550007	201668208	201550009	201550010	201550011	201550012	201668213	201668214	201668215	201550016
			Production No.																
	IHWC cell line¹		DQB1																
1	9001 SA		*05:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707		*06:01	*02:02	+	-	+	+	-	-	-	+	+	-	-	-	-	+	-
3	9011 E4181324		*06:01		-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
4	9275 GU373		*02:01		+	-	+	-	-	-	-	+	+	-	-	-	-	-	-
5	9009 KAS011		*05:02		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM		*03:02	*06:01	-	-	+	-	-	-	-	+	+	-	-	-	-	+	-
7	9020 QBL		*02:01		+	-	+	-	-	-	-	+	+	-	-	-	-	-	-
8	9025 DEU		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
9	9026 YAR		*03:02		-	-	+	-	-	-	-	+	+	-	-	-	-	-	-
10	9107 LKT3		*04:01		-	-	+	-	-	-	-	+	+	-	-	-	-	-	-
11	9051 PITOUT		*02:02		+	-	-	+	-	-	-	+	+	-	-	-	-	-	-
12	9052 DBB		*03:03		-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
13	9004 JESTHOM		*05:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA		*04:02		-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
15	9075 DKB		*03:03		-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
16	9037 SWEIG007		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
17	9282 CTM3953540		*02:01	*06:03	+	-	+	-	-	-	-	+	+	-	-	-	-	-	-
18	9257 32367		*06:02	*02:02	+	-	+	+	-	-	-	+	+	-	-	-	-	-	-
19	9038 BM16		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
20	9059 SLE005		*06:04		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
22	9056 KOSE		*05:03	*06:04	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL		*05:03	*06:01	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
24	9035 JBUSH		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
25	9049 IBW9		*02:02		+	-	-	+	-	-	-	+	+	-	-	-	-	-	-
26	9285 WT49		*02:01		+	-	+	-	-	-	-	+	+	-	-	-	-	-	-
27	9191 CH1007		*04:01	*05:01	-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
28	9320 BEL5GB		*02:02	*03:01	+	-	+	+	-	+	+	+	+	-	-	-	-	-	+
29	9050 MOU		*02:02		+	-	-	+	-	-	-	+	+	-	-	-	-	-	-
30	9021 RSH		*04:02		-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
31	9019 DUCAF		*02:01		+	-	+	-	-	-	-	+	+	-	-	-	-	-	-
32	9297 HAG		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
33	9098 MT14B		*03:02		-	-	+	-	-	-	-	+	+	-	-	-	-	-	-
34	9104 DHIF		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
35	9302 SSTO		*03:05		-	-	+	-	-	-	-	-	+	-	+	-	-	-	-
36	9024 KT17		*03:02		-	-	+	-	-	-	-	+	+	-	-	-	-	-	-
37	9065 HHKB		*06:03		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
39	9315 CML		*02:01	*03:01	+	-	+	-	-	+	+	+	+	-	-	-	-	-	+
40	9134 WHONP199		*02:02	*03:03	+	-	+	+	-	-	-	+	+	-	-	-	-	-	-
41	9055 H0301		*06:09		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089		*06:01		-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
43	9076 T7526		*03:03		-	-	+	-	-	-	-	-	+	-	-	-	-	-	-
44	9057 TEM		*05:03		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO		*02:02		+	-	-	+	-	-	-	+	+	-	-	-	-	-	-
46	9013 SCHU		*06:02		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO		*03:01		-	-	+	-	-	+	+	-	-	-	-	-	-	-	+
48	9303 TER-ND		*05:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-



Product Insert

101.221-12 – including *Taq* pol., IFU-01

Visit www.olerup.com for

101.221-12u – without *Taq* pol., IFU-02

“Instructions for Use” (IFU)

Lot No.: **9D8**

Lot-specific information

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CELL LINE VALIDATION SHEET																					
DQB1 high resolution primer set²																					
				Production No.	Well																
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
					201550017	201668218	201550019	201550020	201668221	201550022	201550023	201668224	201668225	201550026	201550027	201550028	201550029	201668230	201550031	201550032	
	IHWC cell line¹	DQB1																			
1	9001 SA	*05:01			-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*06:01	*02:02		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
3	9011 E4181324	*06:01			-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
4	9275 GU373	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*05:02			-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
6	9353 SM	*03:02	*06:01		-	-	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-
7	9020 QBL	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*03:02			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*04:01			-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*02:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*03:03			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*05:01			-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*04:02			-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*03:03			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*02:01	*06:03		-	-	-	-	-	-	-	-	-	+	-	-	+	+	+	-	-
18	9257 32367	*06:02	*02:02		-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-
19	9038 BM16	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*06:04			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
21	9064 AMALA	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*05:03	*06:04		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	+
23	9124 IHL	*05:03	*06:01		-	-	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-
24	9035 JBUSH	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*02:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*04:01	*05:01		-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*02:02	*03:01		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*02:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*04:02			-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B	*03:02			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*03:05			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*03:02			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*06:03			-	-	-	-	-	-	-	-	-	+	-	-	+	+	+	-	-
38	9099 LZL	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML	*02:01	*03:01		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*02:02	*03:03		-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301	*06:09			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*06:01			-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
43	9076 T7526	*03:03			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*05:03			-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
45	9239 SHJO	*02:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*06:02			-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-	-
47	9045 TUBO	*03:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*05:01			-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-



Lot No.: **9D8**

Lot-specific information

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CELL LINE VALIDATION SHEET																				
DQB1 high resolution primer set²																				
					Well															
					49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
					201550049	201550050	201668251	201550052	201668253	201668254	201668255	201668256	201668257	201668258	201668259	201668260	201668261	201668262	201550063	201668264
	IHWC cell line¹		DQB1																	
1	9001	SA	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*06:01	*02:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*06:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*05:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*03:02	*06:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
9	9026	YAR	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
17	9282	CTM3953540	*02:01	*06:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*06:02	*02:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
20	9059	SLE005	*06:04		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
22	9056	KOSE	*05:03	*06:04	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
23	9124	IHL	*05:03	*06:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
25	9049	IBW9	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*04:01	*05:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*02:02	*03:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
29	9050	MOU	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
33	9098	MT14B	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
35	9302	SSTO	*03:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*06:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
39	9315	CML	*02:01	*03:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
40	9134	WHONP199	*02:02	*03:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*06:09		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*06:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*05:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*06:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*03:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
48	9303	TER-ND	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lot No.: **9D8**

Lot-specific information

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CELL LINE VALIDATION SHEET																							
DQB1 high resolution primer set²																							
				Well																			
				65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80				
				201668265	201668266	201668267	201550068	201668269	201550070	201668271	201668272	201668273	201668274	201668275	201550076	201550077	201668278	201550079	201550080				
			Production No.	IHWC cell line¹		DQB1																	
1	9001	SA	*05:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
2	9280	LK707	*06:01	*02:02	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-				
3	9011	E4181324	*06:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-				
4	9275	GU373	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
5	9009	KAS011	*05:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
6	9353	SM	*03:02	*06:01	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-				
7	9020	QBL	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
8	9025	DEU	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
9	9026	YAR	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
10	9107	LKT3	*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
11	9051	PITOUT	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
12	9052	DBB	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
13	9004	JESTHOM	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
14	9071	OLGA	*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
15	9075	DKB	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
16	9037	SWEIG007	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
17	9282	CTM3953540	*02:01	*06:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
18	9257	32367	*06:02	*02:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
19	9038	BM16	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
20	9059	SLE005	*06:04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
21	9064	AMALA	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
22	9056	KOSE	*05:03	*06:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
23	9124	IHL	*05:03	*06:01	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-				
24	9035	JBUSH	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
25	9049	IBW9	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
26	9285	WT49	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
27	9191	CH1007	*04:01	*05:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
28	9320	BEL5GB	*02:02	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
29	9050	MOU	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
30	9021	RSH	*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
31	9019	DUCAF	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
32	9297	HAG	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
33	9098	MT14B	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
34	9104	DHIF	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
35	9302	SSTO	*03:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
36	9024	KT17	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
37	9065	HHKB	*06:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
38	9099	LZL	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
39	9315	CML	*02:01	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
40	9134	WHONP199	*02:02	*03:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
41	9055	H0301	*06:09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
42	9066	TAB089	*06:01		-	-	-	-	-	-	-	-	-	-	+	-	-	-	-				
43	9076	T7526	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
44	9057	TEM	*05:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
45	9239	SHJO	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
46	9013	SCHU	*06:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
47	9045	TUBO	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
48	9303	TER-ND	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				

Lot No.: **9D8**

Lot-specific information

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CELL LINE VALIDATION SHEET																			
DQB1 high resolution primer set²																			
				Well															
				81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	
				201668281	201550082	201550083	201668284	201668285	201668286	201668287	201668288	201668289	201550090	201550091	201668292	201668293	201668294	201434795	
			Production No.																
IHWC cell line¹			DQB1																
1	9001	SA	*05:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	9280	LK707	*06:01	*02:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	9011	E4181324	*06:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	9275	GU373	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	9009	KAS011	*05:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	9353	SM	*03:02	*06:01	-	-	-	-	-	-	-	-	-	-	-	-	+	-	
7	9020	QBL	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	9025	DEU	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	9026	YAR	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
10	9107	LKT3	*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	9051	PITOUT	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	9052	DBB	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
13	9004	JESTHOM	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	9071	OLGA	*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	9075	DKB	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
16	9037	SWEIG007	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	9282	CTM3953540	*02:01	*06:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	9257	32367	*06:02	*02:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	9038	BM16	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	9059	SLE005	*06:04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	9064	AMALA	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	9056	KOSE	*05:03	*06:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	9124	IHL	*05:03	*06:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	9035	JBUSH	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	9049	IBW9	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26	9285	WT49	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27	9191	CH1007	*04:01	*05:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	9320	BEL5GB	*02:02	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	9050	MOU	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	9021	RSH	*04:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31	9019	DUCAF	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32	9297	HAG	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
33	9098	MT14B	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
34	9104	DHIF	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	9302	SSTO	*03:05		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
36	9024	KT17	*03:02		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
37	9065	HHKB	*06:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
38	9099	LZL	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
39	9315	CML	*02:01	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	9134	WHONP199	*02:02	*03:03	-	-	-	-	-	-	-	-	-	-	-	-	+	-	
41	9055	H0301	*06:09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42	9066	TAB089	*06:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
43	9076	T7526	*03:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	
44	9057	TEM	*05:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45	9239	SHJO	*02:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
46	9013	SCHU	*06:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
47	9045	TUBO	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48	9303	TER-ND	*05:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Product Insert**101.221-12 – including *Taq* pol., IFU-01****101.221-12u – without *Taq* pol., IFU-02**Visit www.olerup.com for
“Instructions for Use” (IFU)**Lot No.: 9D8****Lot-specific information****www.olerup.com**

¹The 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.

²The 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 2, 5, 12 to 14, 17, 18, 37 to 43, 45, 48 to 51, 53, 54, 56, 58 to 75, 77 to 93 and 95 were available.

The specificities of the primers in primer solutions 2, 5, 12 to 14, 17, 18, 37 to 39, 41, 42, 45, 50, 51, 53, 58, 61, 62, 64, 66, 70, 72, 73, 75, 79, 81, 86, 87 and 91, were tested by separately adding additional 5'-primers, respectively additional 3'-primers.

In primer solution 40, 43, 48, 49, 67 to 69, 71, 85, 88, 89 and 93 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

In primer solution 54, 56, 59, 60, 63, 65, 74, 77, 78, 80, 82 to 84, 90, 92 and 95 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 5, 10, 11, 13 to 15, 18, 21 to 23, 30, 33 to 38, 41, 42, 45, 50 to 53, 58, 62, 64, 66, 72, 73, 75, 79, 81, 86, 87 and 94 one or more 5'-primers were not possible to test.

In primer solutions 1, 3, 4, 7, 8, 10, 12, 14, 15, 17, 18, 24 to 29, 31, 32, 35, 36, 38, 39, 41, 42, 44, 45, 47, 51, 53, 57, 58, 61, 62, 64, 66, 72, 75, 76, 79, 81 and 94 one or more 3'-primers were not possible to test.

Additional primers in primer solutions 4, 15, 26, 29 to 31, 34, 35, 44, 46, 47, 52 and 57 were tested by separately adding additional 5'-primers or 3'-primers.

Lot No.: 9D8

Lot-specific information

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Product Insert

101.221-12 – including *Taq* pol., IFU-01

101.221-12u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **9D8**

Lot-specific information

www.olerup.com

ADDRESSES:

Manufacturer:

Olerup SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Tel: +46-8-717 88 27

Fax: +46-8-717 88 18

E-mail: olerup-se@caredx.com

Web page: <http://www.olerup.com>

Distributed by:

Olerup GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.

Tel: +43-1-710 15 00

Fax: +43-1-710 15 00 10

E-mail: olerup-at@caredx.com

Web page: <http://www.olerup.com>

Olerup Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: olerup-us@caredx.com

Web page: <http://www.olerup.com>

For information on *Olerup* distributors worldwide, contact **Olerup GmbH**.