

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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

Lot No.: **7F2**

Lot-specific information
Olerup SSP[®] DRB1*11

Product number:	101.115-24/03 – including <i>Taq</i> pol. 101.115-24u/03u – without <i>Taq</i> pol.
Lot number:	7F2
Expiry date:	2020-07-01
Number of tests:	24 tests – Product No. 101.115-24/24u 3 tests – Product No. 101.115-03/03u
Number of wells per test:	47+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. 7F2.

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

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP[®]
DRB1*11 Lot (7D1)**

The DRB1*11 kit is updated to enable separation of:

- Confirmed DRB1*11 alleles as listed in the IMGT/HLA database¹
- Polymorphisms in exons outside of the region encoding the peptide binding domain
- Null and Alternatively expressed alleles

The format of the Worksheet has been changed.

¹As described in section Uniquely Identified Alleles.

The DRB1*11 specificity and interpretation tables have been updated for the DRB1 alleles described since the previous *Olerup SSP[®]* DRB1*11 lot was made (**Lot No. 7D1**). The kit design is based on IMGT/HLA database 3.29.0.

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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
6	-	Added	3'-primer added for the DRB1*11:55 allele.
13	-	-	Exchange of positive control for decreased tendency of primer oligomer formation.
23	-	Modified	5'-primer added for the DRB1*11:217N allele.
27	Modified, moved	-	5'-primer modified for improved HLA-specific amplification, 5'-primer moved to well 29 for improved HLA-specific amplification.
28	Modified	-	5'-primer modified for improved HLA-specific amplification.
29	Added	-	5'-primer added from well 27 for improved HLA-specific amplification.
35	Added	-	5'-primer added for the DRB1*11:217N allele.
36	-	Modified	3'-primer modified for decreased tendency of primer oligomer formation.
39	-	Added	3'-primer added for the DRB1*11:197 allele.
43	-	Added	3'-primer added for the DRB1*11:147:01 and DRB1*11:147:02 alleles.
44	-	Added	3'-primer added for the DRB1*11:147:01 and DRB1*11:147:02 alleles.
45	-	Added	3'-primer added for the DRB1*11:197 allele.
46	Added	Added	Primer pair added for the DRB1*11:198 allele.
47	Added	Added	Primer pair added for the DRB1*11:198 allele.

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Well **48** 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.

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Lot-specific information

PRODUCT DESCRIPTION

DRB1*11 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB1*11:01 to DRB1*11:217N alleles.

PLATE LAYOUT

Each test consists of 48 PCR reactions in a 48 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	NC

The 48 well cut PCR plate is marked with 'DRB1*11', in silver/gray ink.

Well No. 1 is marked with the Lot No. '7F2'.

Wells 1 to 47 – DRB1*11 high resolution primers.

Well 48 – Negative Control (NC).

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded. The PCR plates are heat-sealed with a PCR-compatible foil.

Please note: When removing each 48 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

Due to the sharing of sequence motifs between DRB1 alleles non-DRB1*11 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the phenotypically different DRB1*11 alleles, i.e. **DRB1*11:01 to DRB1*11:217N**, recognized by the HLA Nomenclature Committee in August 2017^{1,2} will be amplified by the primers in the DRB1*11 subtyping kit.

The DRB1*11 kit enables separation of the confirmed DRB1*11 alleles as listed in the IMGT/HLA database. An HLA allele is listed as confirmed by IMGT/HLA if it has been sequenced by more than a single laboratory or from multiple sources. Current allele confirmation status for DRB1*11 alleles is listed below.

The DRB1*11 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

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The following DRB1*11 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
DRB1*11:24, 11:91	16
DRB1*11:61, 11:90	12
DRB1*11:97, 11:169N	34
DRB1*11:99, 11:128, 11:175	36

¹DRB1 alleles listed on the IMGT/HLA web page 2017-August-10, release 3.29.0, 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>.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in DRB1*11 homo- and heterozygotes is available upon request.

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ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DRB1*11:01:01:01	Confirmed	DRB1*11:04:12	Unconfirmed	DRB1*11:33	Confirmed	DRB1*11:74:02	Unconfirmed
DRB1*11:01:01:02	Unconfirmed	DRB1*11:04:13	Unconfirmed	DRB1*11:34	Confirmed	DRB1*11:75	Confirmed
DRB1*11:01:01:03	Unconfirmed	DRB1*11:04:14	Unconfirmed	DRB1*11:35	Confirmed	DRB1*11:76	Confirmed
DRB1*11:01:01:04	Unconfirmed	DRB1*11:04:15	Unconfirmed	DRB1*11:36	Confirmed	DRB1*11:77	Unconfirmed
DRB1*11:01:02	Confirmed	DRB1*11:05	Confirmed	DRB1*11:37:01	Confirmed	DRB1*11:78	Confirmed
DRB1*11:01:03	Confirmed	DRB1*11:06:01	Confirmed	DRB1*11:37:02	Confirmed	DRB1*11:79	Unconfirmed
DRB1*11:01:04	Unconfirmed	DRB1*11:06:02	Confirmed	DRB1*11:38	Unconfirmed	DRB1*11:80	Unconfirmed
DRB1*11:01:05	Confirmed	DRB1*11:06:03	Confirmed	DRB1*11:39	Confirmed	DRB1*11:81	Confirmed
DRB1*11:01:06	Unconfirmed	DRB1*11:07:01	Confirmed	DRB1*11:40	Unconfirmed	DRB1*11:82	Unconfirmed
DRB1*11:01:07	Confirmed	DRB1*11:07:02	Unconfirmed	DRB1*11:41	Confirmed	DRB1*11:83	Confirmed
DRB1*11:01:08	Unconfirmed	DRB1*11:08:01	Confirmed	DRB1*11:42:01	Confirmed	DRB1*11:84:01	Confirmed
DRB1*11:01:09	Confirmed	DRB1*11:08:02	Confirmed	DRB1*11:42:02	Confirmed	DRB1*11:84:02	Confirmed
DRB1*11:01:10	Confirmed	DRB1*11:08:03	Confirmed	DRB1*11:43	Confirmed	DRB1*11:84:03	Unconfirmed
DRB1*11:01:11	Confirmed	DRB1*11:09	Confirmed	DRB1*11:44	Unconfirmed	DRB1*11:85	Unconfirmed
DRB1*11:01:12	Confirmed	DRB1*11:10:01	Confirmed	DRB1*11:45	Confirmed	DRB1*11:86	Unconfirmed
DRB1*11:01:13	Confirmed	DRB1*11:10:02	Confirmed	DRB1*11:46:01	Confirmed	DRB1*11:87	Confirmed
DRB1*11:01:14	Unconfirmed	DRB1*11:11:01	Confirmed	DRB1*11:46:02	Unconfirmed	DRB1*11:88	Confirmed
DRB1*11:01:15	Confirmed	DRB1*11:11:03	Unconfirmed	DRB1*11:47	Confirmed	DRB1*11:89	Unconfirmed
DRB1*11:01:16	Confirmed	DRB1*11:12:01	Confirmed	DRB1*11:48	Confirmed	DRB1*11:90	Unconfirmed
DRB1*11:01:17	Unconfirmed	DRB1*11:12:02	Unconfirmed	DRB1*11:49:01	Confirmed	DRB1*11:91	Unconfirmed
DRB1*11:01:18	Confirmed	DRB1*11:12:03	Unconfirmed	DRB1*11:49:02	Unconfirmed	DRB1*11:92	Unconfirmed
DRB1*11:01:19	Unconfirmed	DRB1*11:13:01	Confirmed	DRB1*11:50	Unconfirmed	DRB1*11:93	Confirmed
DRB1*11:01:20	Unconfirmed	DRB1*11:13:02	Confirmed	DRB1*11:51	Confirmed	DRB1*11:94	Confirmed
DRB1*11:01:21	Unconfirmed	DRB1*11:14:01	Confirmed	DRB1*11:52	Confirmed	DRB1*11:95	Unconfirmed
DRB1*11:01:22	Unconfirmed	DRB1*11:14:02	Confirmed	DRB1*11:53	Unconfirmed	DRB1*11:96	Confirmed
DRB1*11:01:23	Unconfirmed	DRB1*11:15	Confirmed	DRB1*11:54:01	Unconfirmed	DRB1*11:97	Unconfirmed
DRB1*11:01:24	Unconfirmed	DRB1*11:16	Confirmed	DRB1*11:54:02	Unconfirmed	DRB1*11:98	Confirmed
DRB1*11:01:25	Unconfirmed	DRB1*11:17	Confirmed	DRB1*11:55	Unconfirmed	DRB1*11:99	Confirmed
DRB1*11:01:26	Unconfirmed	DRB1*11:18	Confirmed	DRB1*11:56	Unconfirmed	DRB1*11:100	Unconfirmed
DRB1*11:01:27	Confirmed	DRB1*11:19:01	Confirmed	DRB1*11:57	Confirmed	DRB1*11:101:01	Confirmed
DRB1*11:01:28	Unconfirmed	DRB1*11:19:02	Unconfirmed	DRB1*11:58:01	Confirmed	DRB1*11:101:02	Unconfirmed
DRB1*11:01:29	Unconfirmed	DRB1*11:19:03	Unconfirmed	DRB1*11:58:02	Confirmed	DRB1*11:102:01	Confirmed
DRB1*11:02:01	Confirmed	DRB1*11:20	Confirmed	DRB1*11:59	Unconfirmed	DRB1*11:102:02	Confirmed
DRB1*11:02:02	Confirmed	DRB1*11:21	Confirmed	DRB1*11:60	Unconfirmed	DRB1*11:103:01	Confirmed
DRB1*11:02:03	Unconfirmed	DRB1*11:22	Unconfirmed	DRB1*11:61	Unconfirmed	DRB1*11:103:02	Unconfirmed
DRB1*11:02:04	Unconfirmed	DRB1*11:23:01	Confirmed	DRB1*11:62:01	Unconfirmed	DRB1*11:104	Confirmed
DRB1*11:02:05	Unconfirmed	DRB1*11:23:02	Confirmed	DRB1*11:62:02	Unconfirmed	DRB1*11:105	Confirmed
DRB1*11:03:01	Confirmed	DRB1*11:24	Confirmed	DRB1*11:63:01	Unconfirmed	DRB1*11:106	Confirmed
DRB1*11:03:02	Unconfirmed	DRB1*11:25	Confirmed	DRB1*11:63:02	Unconfirmed	DRB1*11:107	Unconfirmed
DRB1*11:04:01	Confirmed	DRB1*11:26	Unconfirmed	DRB1*11:64	Unconfirmed	DRB1*11:108	Confirmed
DRB1*11:04:02	Confirmed	DRB1*11:27:01	Confirmed	DRB1*11:65:01	Confirmed	DRB1*11:109	Unconfirmed
DRB1*11:04:03	Unconfirmed	DRB1*11:27:02	Confirmed	DRB1*11:65:02	Unconfirmed	DRB1*11:110	Unconfirmed
DRB1*11:04:04	Unconfirmed	DRB1*11:27:03	Confirmed	DRB1*11:66	Confirmed	DRB1*11:111	Confirmed
DRB1*11:04:05	Confirmed	DRB1*11:28:01	Confirmed	DRB1*11:67	Unconfirmed	DRB1*11:112	Unconfirmed
DRB1*11:04:06	Unconfirmed	DRB1*11:28:02	Confirmed	DRB1*11:68	Unconfirmed	DRB1*11:113	Confirmed
DRB1*11:04:07	Unconfirmed	DRB1*11:29:01	Confirmed	DRB1*11:69	Confirmed	DRB1*11:114	Unconfirmed
DRB1*11:04:08	Unconfirmed	DRB1*11:29:02	Confirmed	DRB1*11:70	Unconfirmed	DRB1*11:115	Unconfirmed
DRB1*11:04:09	Unconfirmed	DRB1*11:30	Unconfirmed	DRB1*11:72	Confirmed	DRB1*11:116	Confirmed
DRB1*11:04:10	Unconfirmed	DRB1*11:31	Unconfirmed	DRB1*11:73	Unconfirmed	DRB1*11:117	Unconfirmed
DRB1*11:04:11	Confirmed	DRB1*11:32	Confirmed	DRB1*11:74:01	Confirmed	DRB1*11:118	Unconfirmed

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DRB1*11:119	Unconfirmed	DRB1*11:148	Unconfirmed	DRB1*11:178	Unconfirmed	DRB1*11:207	Unconfirmed
DRB1*11:120	Confirmed	DRB1*11:149	Unconfirmed	DRB1*11:179	Unconfirmed	DRB1*11:208	Unconfirmed
DRB1*11:121	Unconfirmed	DRB1*11:150	Unconfirmed	DRB1*11:180	Unconfirmed	DRB1*11:209	Unconfirmed
DRB1*11:122	Unconfirmed	DRB1*11:151	Unconfirmed	DRB1*11:181	Unconfirmed	DRB1*11:210	Unconfirmed
DRB1*11:123	Unconfirmed	DRB1*11:152	Unconfirmed	DRB1*11:182	Unconfirmed	DRB1*11:211	Unconfirmed
DRB1*11:124	Unconfirmed	DRB1*11:153	Unconfirmed	DRB1*11:183	Unconfirmed	DRB1*11:212	Unconfirmed
DRB1*11:125	Confirmed	DRB1*11:154	Confirmed	DRB1*11:184	Unconfirmed	DRB1*11:213	Confirmed
DRB1*11:126	Unconfirmed	DRB1*11:155	Unconfirmed	DRB1*11:185	Unconfirmed	DRB1*11:214	Confirmed
DRB1*11:127	Unconfirmed	DRB1*11:156	Unconfirmed	DRB1*11:186	Unconfirmed	DRB1*11:215	Unconfirmed
DRB1*11:128	Confirmed	DRB1*11:157	Unconfirmed	DRB1*11:187	Confirmed	DRB1*11:216	Unconfirmed
DRB1*11:129	Unconfirmed	DRB1*11:158	Unconfirmed	DRB1*11:188	Unconfirmed	DRB1*11:217N	Unconfirmed
DRB1*11:130	Unconfirmed	DRB1*11:159	Unconfirmed	DRB1*11:189	Confirmed		
DRB1*11:131	Unconfirmed	DRB1*11:160	Confirmed	DRB1*11:190	Unconfirmed		
DRB1*11:132	Unconfirmed	DRB1*11:161	Unconfirmed	DRB1*11:191	Unconfirmed		
DRB1*11:133	Unconfirmed	DRB1*11:162	Unconfirmed	DRB1*11:192	Unconfirmed		
DRB1*11:134	Unconfirmed	DRB1*11:163	Unconfirmed	DRB1*11:193:01	Confirmed		
DRB1*11:135	Unconfirmed	DRB1*11:164	Unconfirmed	DRB1*11:193:02	Unconfirmed		
DRB1*11:136	Unconfirmed	DRB1*11:165	Confirmed	DRB1*11:194	Unconfirmed		
DRB1*11:137	Confirmed	DRB1*11:166	Unconfirmed	DRB1*11:195	Unconfirmed		
DRB1*11:138	Unconfirmed	DRB1*11:167	Unconfirmed	DRB1*11:196	Confirmed		
DRB1*11:139	Unconfirmed	DRB1*11:168	Unconfirmed	DRB1*11:197	Confirmed		
DRB1*11:140	Unconfirmed	DRB1*11:169N	Unconfirmed	DRB1*11:198	Confirmed		
DRB1*11:141	Unconfirmed	DRB1*11:170	Unconfirmed	DRB1*11:199	Unconfirmed		
DRB1*11:142	Confirmed	DRB1*11:171	Unconfirmed	DRB1*11:200	Unconfirmed		
DRB1*11:143	Unconfirmed	DRB1*11:172	Unconfirmed	DRB1*11:201	Unconfirmed		
DRB1*11:144	Unconfirmed	DRB1*11:173	Unconfirmed	DRB1*11:202	Unconfirmed		
DRB1*11:145	Unconfirmed	DRB1*11:174	Unconfirmed	DRB1*11:203	Unconfirmed		
DRB1*11:146	Unconfirmed	DRB1*11:175	Unconfirmed	DRB1*11:204	Unconfirmed		
DRB1*11:147:01	Unconfirmed	DRB1*11:176	Unconfirmed	DRB1*11:205	Unconfirmed		
DRB1*11:147:02	Confirmed	DRB1*11:177	Unconfirmed	DRB1*11:206	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2017-August-10, release 3.29.0, www.ebi.ac.uk/imgt/hla.

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Lot-specific information
SPECIFICITY TABLE

DRB1*11 SSP subtyping

Specificities and sizes of the PCR products of the 47+1 primer mixes used for DRB1*11 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified DRB1*11 alleles ³	Other amplified DRB alleles
1	175 bp	515 bp	*11:01:01:01-11:01:27, 11:01:29-11:04:12, 11:04:14- 11:04:15, 11:06:01-11:11:01, 11:11:03-11:21, 11:23:01- 11:29:02, 11:31-11:66, 11:68- 11:70, 11:72-11:103:02, 11:105-11:192, 11:194-11:208, 11:210-11:217N	*03:08, 03:65, 03:140
2	175 bp	430 bp	*11:05, 11:67, 11:193:01- 11:193:02, 11:209	*08:31, 08:41, 08:63, 08:75, 12:04, 12:49, 14:11, 14:148
3 ⁴	70 bp	430 bp	*11:01:01:01-11:01:29, 11:03:01-11:04:12, 11:04:14- 11:06:03, 11:09-11:11:01, 11:11:03-11:12:03, 11:15, 11:22-11:25, 11:27:01-11:30, 11:32-11:33, 11:35, 11:37:01- 11:41, 11:43-11:44, 11:46:01- 11:47, 11:49:01-11:51, 11:54:01-11:56, 11:58:01- 11:63:02, 11:66-11:67, 11:72, 11:74:01-11:78, 11:80-11:81, 11:83-11:85, 11:87-11:88, 11:90-11:97, 11:99-11:102:02, 11:104, 11:106, 11:108-11:109, 11:111-11:117, 11:120-11:123, 11:126, 11:128-11:129, 11:133- 11:135, 11:137-11:142, 11:144- 11:152, 11:154-11:155, 11:157- 11:158, 11:160-11:166, 11:168- 11:170, 11:172, 11:174-11:183, 11:186-11:190, 11:193:01- 11:201, 11:203-11:217N	*04:15, 08:31, 08:41, 08:75, 12:49, 16:27, DRB5*01:13
4 ^{5,7}	200 bp	430 bp	*11:02:01-11:02:05, 11:14:01- 11:14:02, 11:16, 11:18-11:21, 11:31, 11:45, 11:48, 11:65:01- 11:65:02, 11:70, 11:73, 11:86, 11:98, 11:118-11:119, 11:124, 11:127, 11:132, 11:171, 11:184, 11:191	*03:125, 13:01:01:01-13:01:06, 13:01:08-13:02:09, 13:02:11-13:04, 13:06, 13:08, 13:10, 13:12:01- 13:13, 13:15-13:16, 13:19, 13:22- 13:23:02, 13:27-13:28, 13:30- 13:41, 13:45, 13:48, 13:51-13:53, 13:57-13:59, 13:61:01-13:61:02, 13:64-13:66:02, 13:68-13:70, 13:72-13:73, 13:76-13:77, 13:79- 13:85, 13:87, 13:89-13:99, 13:101- 13:102, 13:104-13:107, 13:109- 13:110, 13:112-13:113N, 13:115,

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30 ⁴	215 bp 100 bp	515 bp	*11:154 *11:01:01:01-11:01:29, 11:03:01-11:06:03, 11:09-11:11:01, 11:11:03-11:12:03, 11:15, 11:22-11:25, 11:27:01-11:30, 11:32-11:33, 11:35, 11:38-11:40, 11:43-11:44, 11:46:01-11:47, 11:49:01-11:49:02, 11:51, 11:54:01-11:55, 11:58:01-11:63:02, 11:66-11:67, 11:72, 11:74:01-11:78, 11:80-11:81, 11:84:01-11:85, 11:87, 11:90-11:97, 11:99-11:102:02, 11:104, 11:106, 11:108-11:117, 11:120-11:123, 11:126, 11:128-11:129, 11:133-11:135, 11:137-11:142, 11:144, 11:146-11:148, 11:150-11:152, 11:154-11:158, 11:160-11:169N, 11:172, 11:174-11:182, 11:185-11:188, 11:190, *08:17, 08:28, 12:02:01:01-12:02:07, 12:13, 12:15-12:16:03, 12:18-12:20, 12:23, 12:26-12:27, 12:31N-12:33, 12:37, 12:42-12:45, 12:49-12:52, 12:55-12:56, 12:60N-12:61, 12:64-12:65, 12:67, 13:05:01-13:05:03, 13:11:01-13:11:02, 13:14:01-13:14:03, 13:18, 13:21:01-13:21:02, 13:24, 13:42, 13:46, 13:50:01-13:50:03, 13:54, 13:62-13:63, 13:75, 13:100, 13:111, 13:132, 13:136, 13:144, 13:150, 13:158, 13:169, 13:197, 13:199, 13:203, 13:229, 14:53, 14:128, 16:09:01-16:09:02, 16:33, DRB5*01:34-01:35

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: 7F2

Lot-specific information

Lot No.: 7F2		Lot-specific information	
31 ⁴	85 bp	515 bp	11:192-11:199, 11:201, 11:203-11:217N *11:04:01-11:04:15, 11:06:01-11:06:03, 11:18, 11:25, 11:35, 11:38, 11:42:01-11:44, 11:46:01-11:47, 11:50, 11:54:01-11:54:02, 11:56-11:58:02, 11:60, 11:67, 11:77-11:78, 11:83-11:84:03, 11:88, 11:92, 11:102:01-11:102:02, 11:104, 11:113, 11:115-11:116, 11:119, 11:123, 11:129-11:130, 11:135, 11:137, 11:146, 11:148, 11:156, 11:160, 11:163, 11:165, 11:174, 11:179-11:182, 11:187, 11:189-11:190, 11:194, 11:196, 11:198, 11:200-11:201, 11:203, 11:206-11:207, 11:209-11:211, 11:214, 11:216-11:217N *01:23, 04:12, 04:15, 04:18, 04:25, 04:36, 04:53:01-04:53:02, 04:58, 04:99, 04:136, 08:04:01, 08:04:04-08:04:07, 08:06, 08:10, 08:12, 08:20, 08:22, 08:28, 08:31, 08:54, 08:59, 08:67, 08:70, 08:75, 08:80, 12:01:01:01-12:15, 12:17-12:21, 12:23-12:38, 12:40-12:65, 12:67, 13:06, 13:11:01-13:11:02, 13:18, 13:42, 13:58, 13:77, 13:108, 13:144, 13:150, 13:156, 13:163-13:164, 13:169, 13:181, 13:231, 14:12:01-14:12:02, 14:15, 14:73-14:74, 14:78, 14:84, 14:105, 14:128, 14:156, 14:173, 15:21, 16:15, 16:23, 16:33-16:34, 16:36, 16:38, DRB5*01:31, DRB5*02:08, DRB5*02:12
32 ^{4,8}	75 bp	430 bp	*11:13:01-11:13:02, 11:17, 11:51-11:52, 11:89, 11:159, 11:202 *14:11
33	155 bp	430 bp	*11:88, 11:94 *13:177
34 ⁴	80 bp	515 bp	*11:31, 11:96, 11:148 *03:10, 13:43, 13:45, 13:179, 13:217, 14:35, 14:53, 14:72, 14:128, 14:132, 14:138, 14:186
	135 bp		*11:169N
	290 bp		*11:97
35 ⁴	85 bp	430 bp	*11:98 *11:217N
36 ⁴	90 bp	430 bp	*11:102:01-11:102:02, 11:175 *03:49, 14:161
	115 bp		*11:99
	165 bp		*11:110
	245 bp		*11:128
37	150 bp	430 bp	*11:101:01-11:101:02
38	150 bp	430 bp	*11:78, 11:106, 11:152
39 ⁴	110 bp	430 bp	*11:108, 11:160-11:161, 11:197
40	180 bp	430 bp	*11:116, 11:120 *03:13:01-03:13:02, 03:38, 03:79, 03:88, 13:39, 13:54, 13:77-13:79, 13:100, 13:162-13:163, 13:181, 14:48, 14:64, 14:109, 14:115, 14:177, DRB3*01:14, DRB3*01:25?
41 ⁴	65 bp	430 bp	*11:07:01-11:07:02, 11:13:01-11:13:02, 11:17, 11:26, 11:34, 11:52, 11:79, 11:103:01-11:103:02, 11:105, 11:107, 11:131, 11:136, 11:159, 11:202 *01:75, 03:08, 03:140, 04:61, 04:145, 04:154, 04:170, 14:11, DRB3*02:18
42	135 bp	430 bp	*11:72, 11:92, 11:180 *01:75
	180 bp		*11:104
43 ⁴	105 bp	430 bp	*11:147:01-11:147:02 *03:78
	235 bp		*11:112, 11:137

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: 7F2		Lot-specific information	
44 ^{4,8}	105 bp 200 bp 270 bp	430 bp	*11:147:01-11:147:02 *11:111 *11:187
45 ⁴	100 bp	430 bp	*11:23:01-11:23:02, 11:25, 11:32, 11:45, 11:55, 11:64, 11:67, 11:70, 11:119, 11:197 *08:63, 08:75
46 ⁴	70 bp 110 bp	430 bp	*11:60, 11:109 *11:198
47 ⁴	110 bp 210 bp	430 bp	*11:198 *11:193:01-11:193:02, 11:209 *08:05, 08:18, 08:24:01-08:24:02, 08:29, 08:31, 08:40-08:41, 12:01:02, 12:02:04, 12:16:01, 12:49, 12:66, 13:17, 13:116, 13:175, 13:214, 14:04:01-14:04:03, 14:11, 14:28, 14:31, 14:52, 14:68:01-14:68:02, 14:71, 14:73, 14:120, 14:126:01-14:126:02, 14:138, 14:145, 14:148, 14:152N, 14:175, 14:180
48 ¹¹	-	-	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 DRB1*11 SSP typings.

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

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

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 DRB1 alleles 1st and/or 3rd exon(s) and beyond, as well as intron nucleotide sequences, are not available. In these instances it is not known whether some of the primers of the SSP sets are completely matched with the target sequences or not. Assumption is made that unknown sequences in these regions are conserved within allelic groups.

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

In order to have as little co-amplification as possible of non-DRB1*11 alleles by the primer pairs of the DRB1*11 subtyping kit, the DRB1*11 characteristic sequence motif in codon 58, 'Ag', has been used in either the 5'-primer or the 3'-primer in many of the DRB1*11 primer mixes and consequently many of the specific PCR products are shorter than 100 base pairs.

⁵Primer mix 4 may faintly amplify the DRB1*13:29 allele.

⁶Primer mix 10 may faintly amplify the DRB1*11:53 allele.

⁷Primer mix 4 has a tendency giving rise to primer oligomer formation.

⁸Primer mixes 6, 13, 19, 32 and 44 may have tendencies of unspecific amplifications.

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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⁹Primer mix 17 may give rise to a lower yield of HLA-specific PCR product than the other DRB1*11 primer mixes.

¹⁰Primer mix 12 may amplify the DRB1*11:60 and 11:109 and the DRB1*15:68 alleles.

¹¹Primer mix 48 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.

‘w’, may be weakly amplified.

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

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **7F2**

Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	175	175	70	200	85	80	125	125	85	85	155	95
									115	120	200	145
											255	185
Length of int. pos. control ¹	515	430	430	430	515	430	430	430	430	430	515	430
5'-primer(s) ²	13(125) 5'-gTC ^{3'}	13(125) 5'-ggg ^{3'}	58(261) 5'-gAg ^{3'}	13(125) 5'-gTC ^{3'}	58(260) 5'-TgA ^{3'}	58(261) 5'-gAg ^{3'}	58(261) 5'-gAg ^{3'}	58(261) 5'-gAg ^{3'}	58(261) 5'-gAg ^{3'}	58(261) 5'-gAg ^{3'}	13(125) 5'-gTC ^{3'}	10(116) 5'-gCT ^{3'}
												24(157) 5'-ggA ^{3'}
												41(208) 5'-TCA ^{3'}
3'-primer(s) ³	58(260) 5'-CCT ^{3'}	58(260) 5'-CCT ^{3'}	67(286) 5'-gAA ^{3'}	67(286) 5'-gAT ^{3'}	71(298) 5'-CCT ^{3'}	71(298) 5'-CTC ^{3'}	86(344) 5'-CAC ^{3'}	86(344) 5'-CCA ^{3'}	73(305) 5'-ggC ^{3'}	73(305) 5'-ggC ^{3'}	51(238) 5'-CgC ^{3'}	58(260) 5'-CCT ^{3'}
	58(260) 5'-CCT ^{3'}		67(286) 5'-gAA ^{3'}	67(286) 5'-gAT ^{3'}	72(303) 5'-gCg ^{3'}	71(298) 5'-CTC ^{3'}			73(305) 5'-ggC ^{3'}	73(305) 5'-ggC ^{3'}	67(286) 5'-gAg ^{3'}	
	58(260) 5'-CCT ^{3'}		67(286) 5'-gAA ^{3'}		72(303) 5'-gCA ^{3'}				83(334) 5'-gTg ^{3'}	74(307) 5'-CAg ^{3'}	85(341) 5'-CAg ^{3'}	
			67(288) 5'-AgA ^{3'}		74(307) 5'-CAg ^{3'}					84(338) 5'-CCT ^{3'}		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec. PCR product	105	145	60	110	90	95	180	115	135	115	120	155
			105	255			225		175	180	190	250
							260			215		
										245		
Length of int. pos. control ¹	515	430	430	430	430	430	430	515	430	430	430	430
5'-primer(s) ²	37(196) 5'-AgA ^{3'}	13(125) 5'-gTC ^{3'}	37(197) 5'-gTT ^{3'}	13(125) 5'-gTC ^{3'}	58(260) 5'-TgA ^{3'}	58(261) 5'-gAg ^{3'}	13(125) 5'-gTC ^{3'}	13(125) 5'-gTC ^{3'}	13(125) 5'-ACA ^{3'}	13(125) 5'-gTC ^{3'}	36(193) 5'-AgT ^{3'}	13(125) 5'-gTC ^{3'}
	37(196) 5'-AgA ^{3'}		37(197) 5'-gTT ^{3'}						26(164) 5'-gTA ^{3'}		59(263) 5'-ggg ^{3'}	
			51(239) 5'-gAT ^{3'}									
3'-primer(s) ³	58(260) 5'-CCT ^{3'}	47(227) 5'-ggT ^{3'}	58(260) 5'-CCT ^{3'}	37(196) 5'-gTC ^{3'}	74(307) 5'-CAg ^{3'}	77(317) 5'-AAT ^{3'}	60(265) 5'-gTg ^{3'}	37(197) 5'-Cgg ^{3'}	58(260) 5'-CCT ^{3'}	38(199) 5'-CAA ^{3'}	86(344) 5'-CCA ^{3'}	51(239) 5'-CCC ^{3'}
				38(199) 5'-CAg ^{3'}	74(308) 5'-CCT ^{3'}	77(317) 5'-AgT ^{3'}	74(308) 5'-CCA ^{3'}	37(197) 5'-CgA ^{3'}		59(264) 5'-TAG ^{3'}		81(330) 5'-TTT ^{3'}
				38(199) 5'-CAA ^{3'}			86(344) 5'-CAT ^{3'}	38(200) 5'-gCg ^{3'}		71(299) 5'-gCg ^{3'}		85(341) 5'-CAg ^{3'}
				38(200) 5'-gCg ^{3'}						81(330) 5'-TTT ^{3'}		
				85(340) 5'-AAT ^{3'}								
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **7F2**

Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	110	120	85	85	100	100	85	75	155	80	85	90
PCR product		160			215					135	190	115
										290		165
												245
Length of int. pos. control ¹	430	430	430	430	515	515	515	430	430	515	430	430
5'-primer(s) ²	34(189) 5'-CAg ^{3'}	19(143) 5'-CAg ^{3'}	71(299) 5'-CgA ^{3'}	71(299) 5'-CgA ^{3'}	29(172) 5'-ACg ^{3'}	47(227) 5'-gTT ^{3'}	71(299) 5'-CAg ^{3'}	58(261) 5'-gAg ^{3'}	13(125) 5'-gTC ^{3'}	47(227) 5'-gTT ^{3'}	36(193) 5'-AgT ^{3'}	16(133) 5'-gTC ^{3'}
	37(196) 5'-AgA ^{3'}	32(181) 5'-TCC ^{3'}			67(286) 5'-ACA ^{3'}					98(381) 5'-AAT ^{3'}	71(299) 5'-Cgg ^{3'}	
3'-primer(s) ³	58(260) 5'-CCT ^{3'}	58(260) 5'-CCT ^{3'}	86(344) 5'-CAC ^{3'}	86(344) 5'-CCA ^{3'}	86(344) 5'-CAC ^{3'}	67(286) 5'-gAA ^{3'}	86(344) 5'-CCA ^{3'}	70(296) 5'-TCC ^{3'}	48(230) 5'-CCT ^{3'}	60(265) 5'-gTg ^{3'}	86(344) 5'-CCA ^{3'}	33(184) 5'-gTg ^{3'}
						67(286) 5'-gAA ^{3'}		72(302) 5'-CCT ^{3'}	55(251) 5'-gCT ^{3'}	79(323) 5'-TgC ^{3'}		40(206) 5'-Cgg ^{3'}
						67(286) 5'-gAA ^{3'}				181(630) 5'-CTT ^{3'}		57(256) 5'-ATT ^{3'}
						67(288) 5'-AgA ^{3'}						84(339) 5'-AgC ^{3'}
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38	39	40	41	42	43	44	45	46	47
Length of spec.	150	150	110	180	65	135	105	105	100	70	110
PCR product						180	235	200		110	210
								270			
Length of int. pos. control ¹	430	430	430	430	430	430	430	430	430	430	430
5'-primer(s) ²	47(227) 5'-gTT ^{3'}	19(143) 5'-CAg ^{3'}	58(261) 5'-gAg ^{3'}	13(125) 5'-gTC ^{3'}	58(261) 5'-gAg ^{3'}	11(119) 5'-CTT ^{3'}	13(125) 5'-gTC ^{3'}	13(125) 5'-gTC ^{3'}	58(261) 5'-gAg ^{3'}	49(233) 5'-ggA ^{3'}	16(133) 5'-gTT ^{3'}
		23(155) 5'-gCA ^{3'}				26(165) 5'-TTg ^{3'}				117(438) 5'-TgT ^{3'}	117(438) 5'-TgT ^{3'}
3'-primer(s) ³	84(337) 5'-CCg ^{3'}	58(260) 5'-CCT ^{3'}	81(328) 5'-gTA ^{3'}	60(266) 5'-Agg ^{3'}	67(286) 5'-gAg ^{3'}	58(260) 5'-CCT ^{3'}	35(191) 5'-CCC ^{3'}	35(191) 5'-CCC ^{3'}	74(308) 5'-CCA ^{3'}	58(260) 5'-CCT ^{3'}	72(303) 5'-gCC ^{3'}
	84(337) 5'-CCT ^{3'}		81(329) 5'-TgC ^{3'}				77(317) 5'-AgC ^{3'}	66(283) 5'-gTT ^{3'}	81(329) 5'-TgC ^{3'}	140(505) 5'-AgC ^{3'}	140(505) 5'-AgC ^{3'}
			82(332) 5'-AgC ^{3'}					90(356) 5'-CTC ^{3'}			
Well No.	37	38	39	40	41	42	43	44	45	46	47

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.

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **7F2**

Lot-specific information

CELL LINE VALIDATION SHEET																					
DRB1*11 SSP subtyping kit ²																					
				Prod. No.:	Well																
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
	IHWC cell line ¹	DRB1			201442201	201442202	201665603	201442204	201665605	201785806	201442207	201442208	201665609	201442210	201442211	201785812	201785813	201442214	201665615	201442216	
1	9001 SA	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*15:02	*04:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*15:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*16:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*04:07	*08:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU	*04:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*04:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*04:05			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*08:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*09:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*11:01			+	-	+	-	+	-	+	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*03:01	*13:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367	*09:01	*11:01		+	-	+	-	+	-	+	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*12:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*13:02			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA	*14:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
22	9056 KOSE	*13:02	*14:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-	-
23	9124 IHL	*08:03	*14:14		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
24	9035 JBUSH	*11:01			+	-	+	-	+	-	+	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*04:05	*10:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*04:16	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*03:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
31	9019 DUCAF	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*13:03			-	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-	-
33	9098 MT14B	*04:04			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*11:01			+	-	+	-	+	-	+	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*04:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*04:03	*04:06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*13:01			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*14:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
39	9315 CML	*03:01	*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*07:01	*09:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301	*13:02			-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*08:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526	*09:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*14:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
45	9239 SHJO	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*15:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*11:04	*12:01		+	-	+	-	+	-	+	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*01:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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

Lot No.: **7F2**

Lot-specific information

CELL LINE VALIDATION SHEET																					
DRB1*11 SSP subtyping kit ²																					
				Prod. No.:	Well																
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	IHWC cell line ¹	DRB1			201442217	201442218	201442219	201442220	201442221	201442222	201785823	201442224	201785825	201442226	201785827	201785828	201785829	201666630	201666631	201442232	
1	9001 SA	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*15:02	*04:05		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
3	9011 E4181324	*15:02			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
4	9275 GU373	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*16:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*04:07	*08:03		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
7	9020 QBL	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU	*04:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*04:02			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
10	9107 LKT3	*04:05			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
12	9052 DBB	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
13	9004 JESTHOM	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*08:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*09:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
17	9282 CTM3953540	*03:01	*13:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
18	9257 32367	*09:01	*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
19	9038 BM16	*12:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
20	9059 SLE005	*13:02			-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
21	9064 AMALA	*14:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*13:02	*14:01		-	-	+	+	-	-	-	-	-	-	+	-	+	-	-	-	-
23	9124 IHL	*08:03	*14:14		-	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
24	9035 JBUSH	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
25	9049 IBW9	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
26	9285 WT49	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*04:05	*10:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*04:16	*07:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
29	9050 MOU	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
30	9021 RSH	*03:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*13:03			-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
33	9098 MT14B	*04:04			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
35	9302 SSTO	*04:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*04:03	*04:06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*13:01			-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-
38	9099 LZL	*14:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML	*03:01	*04:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*07:01	*09:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
41	9055 H0301	*13:02			-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-
42	9066 TAB089	*08:03			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
43	9076 T7526	*09:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*14:01			-	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*07:01			-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
46	9013 SCHU	*15:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*11:04	*12:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-
48	9303 TER-ND	*01:03			-	-	-	-	-	-	-	-	-	-	+	-	+	-	-	-	-

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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

Lot No.: **7F2**

Lot-specific information

CELL LINE VALIDATION SHEET																			
DRB1*11 SSP subtyping kit ²																			
				Well															
				33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	
				Prod. No.:	201785833	201785834	201785835	201785836	201665637	201665638	201785839	201442240	201785841	201785842	201785843	201785844	201785845	201785846	201785847
IHWC cell line ¹		DRB1																	
1	9001	SA	*01:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	9280	LK707	*15:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3	9011	E4181324	*15:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4	9275	GU373	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5	9009	KAS011	*16:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6	9353	SM	*04:07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7	9020	QBL	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8	9025	DEU	*04:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9	9026	YAR	*04:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10	9107	LKT3	*04:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	9051	PITOUT	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12	9052	DBB	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
13	9004	JESTHOM	*01:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
14	9071	OLGA	*08:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	9075	DKB	*09:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
16	9037	SWEIG007	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
17	9282	CTM3953540	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
18	9257	32367	*09:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
19	9038	BM16	*12:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
20	9059	SLE005	*13:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	9064	AMALA	*14:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
22	9056	KOSE	*13:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
23	9124	IHL	*08:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
24	9035	JBUSH	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
25	9049	IBW9	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
26	9285	WT49	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
27	9191	CH1007	*04:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	9320	BEL5GB	*04:16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
29	9050	MOU	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
30	9021	RSH	*03:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31	9019	DUCAF	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32	9297	HAG	*13:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
33	9098	MT14B	*04:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
34	9104	DHIF	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	9302	SSTO	*04:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
36	9024	KT17	*04:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
37	9065	HHKB	*13:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
38	9099	LZL	*14:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
39	9315	CML	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
40	9134	WHONP199	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
41	9055	H0301	*13:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
42	9066	TAB089	*08:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
43	9076	T7526	*09:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
44	9057	TEM	*14:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
45	9239	SHJO	*07:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
46	9013	SCHU	*15:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
47	9045	TUBO	*11:04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48	9303	TER-ND	*01:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: 7F2

Lot-specific information

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 12, 16, 21 to 23, 33 to 40 and 42 to 46 were available. The specificities of the primers in primer solutions 12, 16, 21, 22, 33, 34, 40, 42, 45 and 46 were tested by separately adding one or more additional 5'-primers, respectively one or more additional 3'-primers.

In primer solution 23, 35, 36 and 38 the 3'-primers were tested by separately adding one 5'-primer, the 5'-primers were not possible test.

In primer solution 37, 39, 43 and 44 the 5'-primers were tested by separately adding one 3'-primer, the 3'-primers were not possible test.

In primer solutions 3, 6, 9 to 11, 16, 19, 22, 24, 30, 32, 33, 34, 36 and 45 one, two or three of the 3'-primers were not possible to test, and in primer solutions 12, 15, 26, 29, 34, 42 and 46 one, two or three of the 5'-primers were not possible to test.

Additional primers in primer solutions 5, 10, 17 to 20, 24 and 47 were tested by separately adding one or more 5'-primers and/or one 3'-primer.

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: 7F2

Lot-specific information

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: 7F2

Lot-specific information

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: 7F2

Lot-specific information

101.115-24/03 – including *Taq* polymerase, IFU-01
101.115-24u/03u – without *Taq* polymerase, IFU-02

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

Lot No.: **7F2**

Lot-specific information

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Fax: +46-8-717 88 18

E-mail: olerup-se@caredx.com

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

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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

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