

101.116-24/03 – including *Taq* pol., IFU-01
101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

Olerup SSP® DRB1*13

Product number:	101.116-24/03 – including <i>Taq</i> pol. 101.116-24u/03u – without <i>Taq</i> pol.
Lot number:	59S
Expiry date:	2016-March- 01
Number of tests:	24 tests – Product No. 101.116-24 3 tests – Product No. 101.116-03
Number of wells per test:	48
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. 59S.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® DRB1*13 LOT (51N)

The DRB1*13 specificity and interpretation tables have been updated for the DRB alleles described since the previous *Olerup SSP*® DRB1*13 lot was made (**Lot No. 51N**).

The DRB1*13 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

Five well have been added to the DRB1*13 kit, wells **44 to 48**.

The Lot-specific information for DRB1*13 including and without *Taq* polymerase is described in one common Product Insert.

¹As described in section Uniquely Identified Alleles.

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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
2	-	Added	3'-primer added for increased yield of HLA-specific PCR product.
11	-	Modified	3'-primer modified for improved specificity of amplification.
20	Moved	Moved, modified	Primer pair moved to well 47 for decreased tendencies of primer oligomer formation, modified 3'-primer for increased yield of HLA-specific PCR product.
26	Added	-	5'-primer added for the DRB1*13:150 allele.
30	Added	-	5'-primers added for increased yield of HLA-specific PCR products.
31	Added	-	5'-primer added for the DRB1*13:152 allele.
44	New	New	New primer pair for resolution of the DRB1*13:97:02 and DRB1*13:23 alleles.
45	New	New	New primer pair for the DRB1*13:141 allele.
46	New	New	New primer pairs for the DRB1*13:137N and 13:142N alleles.
47	Added	Added	Primer pair from well 20.
48	New	New	New primer pair for the DRB*13:148 allele.

Change in revision R01 compared to R00:

1. Primer mix 20 may give rise to unspecific amplification. A footnote has been added in the Specificity Table.

Change in revision R02 compared to R01:

1. Primer mix 43 does not amplify the DRB1*13:117 allele. This has been corrected in the Specificity and Interpretation tables.

Change in revision R03 compared to R02:

1. Primer mix 45 amplifies the DRB1*13:28 and DRB1*03:37 alleles. This has been corrected in the Specificity and Interpretation tables.

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PRODUCT DESCRIPTION

DRB1*13 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the DRB1*13:01 to DRB1*13:164 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	48

The 48 well cut PCR plate is marked with 'DRB1*13' in silver/gray ink.

Well No. 1 is marked with the Lot No '59S'.

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.

The PCR plates are covered with a PCR-compatible foil.

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

INTERPRETATION

The interpretation of DRB1*13 PCR-SSP subtypings will be influenced by two DRB1*01, the DRB1*03, several DRB1*04, six DRB1*08, most DRB1*11, most DRB1*12, most DRB1*14, most DRB1*15 and the DRB1*16:08 alleles, when present on the other haplotype. In addition, the DRB3*01:14 allele will be amplified by primer mixes 1, 9, 13, 18 and 22 to 24, the DRB3*01:08, DRB3*02:06 and DRB3*02:20 alleles will be amplified by primer mix 7 and the DRB3*02:27 allele will be amplified by primer mix 20.

UNIQUELY IDENTIFIED ALLELES

All the DRB1*13 alleles, i.e. **DRB1*13:01 to DRB1*13:164**, recognized by the HLA Nomenclature Committee in July 2013¹ will be amplified by the primers in the DRB1*13 subtyping kit².

The DRB1*13 kit enables separation of the confirmed DRB1*13 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*13 alleles is listed below.

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The DRB1*13 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles

The DRB1*13:92 and 13:98 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 36.

The DRB1*13 subtyping kit cannot the following silent mutations: the DRB1*13:01:01-13:01:02, 13:01:04-13:01:06, 13:01:08 and 13:01:10-13:01:13, the DRB1*13:02:01 and 13:02:03-13:02:08, the DRB1*13:03:01-13:03:06, the DRB1*13:05:01-13:05:02, the DRB1*13:07:01-13:07:02, the DRB1*13:11:01-13:11:02, the DRB1*13:12:01-13:12:03, DRB1*13:14:01-13:14:03 alleles, the DRB1*13:21:01-13:21:02, the DRB1*13:23:01-13:23:02, the DRB1*13:33:02-13:33:03 and the DRB1*13:66:01-13:66:02 alleles.

¹DRB1 alleles listed on the IMGT/HLA web page 2013-July-25, release 3.13.1, www.ebi.ac.uk/imgt/hla.

²The DRB1*13 primer set cannot separate the DRB1*13:01:01-13:01:02, 13:01:04-13:01:06, 13:01:08 and 13:01:10-13:01:13 and the DRB1*13:117 alleles.

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ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
DRB1*13:01:01	Confirmed	DRB1*13:20	Confirmed	DRB1*13:63	Unconfirmed	DRB1*13:109	Unconfirmed
DRB1*13:01:02	Unconfirmed	DRB1*13:21:01	Confirmed	DRB1*13:64	Unconfirmed	DRB1*13:110	Unconfirmed
DRB1*13:01:03	Confirmed	DRB1*13:21:02	Confirmed	DRB1*13:65	Unconfirmed	DRB1*13:111	Confirmed
DRB1*13:01:04	Unconfirmed	DRB1*13:22	Confirmed	DRB1*13:66:01	Unconfirmed	DRB1*13:112	Confirmed
DRB1*13:01:05	Unconfirmed	DRB1*13:23:01	Unconfirmed	DRB1*13:66:02	Confirmed	DRB1*13:113N	Unconfirmed
DRB1*13:01:06	Unconfirmed	DRB1*13:23:02	Unconfirmed	DRB1*13:67	Unconfirmed	DRB1*13:114	Unconfirmed
DRB1*13:01:07	Unconfirmed	DRB1*13:24	Unconfirmed	DRB1*13:68	Unconfirmed	DRB1*13:115	Unconfirmed
DRB1*13:01:08	Confirmed	DRB1*13:25	Unconfirmed	DRB1*13:69	Unconfirmed	DRB1*13:116	Unconfirmed
DRB1*13:01:09	Unconfirmed	DRB1*13:26:01	Confirmed	DRB1*13:70	Confirmed	DRB1*13:117	Unconfirmed
DRB1*13:01:10	Unconfirmed	DRB1*13:26:02	Unconfirmed	DRB1*13:71	Unconfirmed	DRB1*13:118	Unconfirmed
DRB1*13:01:11	Unconfirmed	DRB1*13:27	Confirmed	DRB1*13:72	Unconfirmed	DRB1*13:119	Unconfirmed
DRB1*13:01:12	Unconfirmed	DRB1*13:28	Confirmed	DRB1*13:73	Unconfirmed	DRB1*13:120	Confirmed
DRB1*13:01:13	Unconfirmed	DRB1*13:29	Confirmed	DRB1*13:74	Unconfirmed	DRB1*13:121	Unconfirmed
DRB1*13:02:01	Confirmed	DRB1*13:30	Unconfirmed	DRB1*13:75	Unconfirmed	DRB1*13:122	Unconfirmed
DRB1*13:02:02	Confirmed	DRB1*13:31	Confirmed	DRB1*13:76	Unconfirmed	DRB1*13:123	Unconfirmed
DRB1*13:02:03	Unconfirmed	DRB1*13:32	Unconfirmed	DRB1*13:77	Unconfirmed	DRB1*13:124	Unconfirmed
DRB1*13:02:04	Unconfirmed	DRB1*13:33:01	Unconfirmed	DRB1*13:78	Unconfirmed	DRB1*13:125	Unconfirmed
DRB1*13:02:05	Confirmed	DRB1*13:33:02	Unconfirmed	DRB1*13:79	Confirmed	DRB1*13:126	Unconfirmed
DRB1*13:02:06	Unconfirmed	DRB1*13:33:03	Confirmed	DRB1*13:80	Unconfirmed	DRB1*13:127	Unconfirmed
DRB1*13:02:07	Unconfirmed	DRB1*13:34	Unconfirmed	DRB1*13:81	Confirmed	DRB1*13:128	Confirmed
DRB1*13:02:08	Unconfirmed	DRB1*13:35	Unconfirmed	DRB1*13:82	Confirmed	DRB1*13:129	Unconfirmed
DRB1*13:03:01	Confirmed	DRB1*13:36	Confirmed	DRB1*13:83	Unconfirmed	DRB1*13:130	Unconfirmed
DRB1*13:03:02	Confirmed	DRB1*13:37	Confirmed	DRB1*13:84	Unconfirmed	DRB1*13:131	Unconfirmed
DRB1*13:03:03	Unconfirmed	DRB1*13:38	Confirmed	DRB1*13:85	Unconfirmed	DRB1*13:132	Unconfirmed
DRB1*13:03:04	Confirmed	DRB1*13:39	Unconfirmed	DRB1*13:86	Unconfirmed	DRB1*13:133	Unconfirmed
DRB1*13:03:05	Unconfirmed	DRB1*13:40	Confirmed	DRB1*13:87	Confirmed	DRB1*13:134	Confirmed
DRB1*13:03:06	Unconfirmed	DRB1*13:41	Confirmed	DRB1*13:88	Unconfirmed	DRB1*13:135	Unconfirmed
DRB1*13:04	Confirmed	DRB1*13:42	Confirmed	DRB1*13:89	Confirmed	DRB1*13:136	Unconfirmed
DRB1*13:05:01	Confirmed	DRB1*13:43	Unconfirmed	DRB1*13:90	Confirmed	DRB1*13:137N	Unconfirmed
DRB1*13:05:02	Unconfirmed	DRB1*13:44	Unconfirmed	DRB1*13:91	Confirmed	DRB1*13:138	Unconfirmed
DRB1*13:06	Confirmed	DRB1*13:45	Unconfirmed	DRB1*13:92	Confirmed	DRB1*13:139	Unconfirmed
DRB1*13:07:01	Confirmed	DRB1*13:46	Unconfirmed	DRB1*13:93	Confirmed	DRB1*13:140	Unconfirmed
DRB1*13:07:02	Unconfirmed	DRB1*13:47	Unconfirmed	DRB1*13:94:01	Unconfirmed	DRB1*13:141	Confirmed
DRB1*13:08	Confirmed	DRB1*13:48	Confirmed	DRB1*13:94:02	Unconfirmed	DRB1*13:142N	Unconfirmed
DRB1*13:09	Confirmed	DRB1*13:49	Confirmed	DRB1*13:95	Confirmed	DRB1*13:143	Unconfirmed
DRB1*13:10	Confirmed	DRB1*13:50:01	Confirmed	DRB1*13:96:01	Confirmed	DRB1*13:144	Unconfirmed
DRB1*13:11:01	Confirmed	DRB1*13:50:02	Unconfirmed	DRB1*13:96:02	Unconfirmed	DRB1*13:145	Unconfirmed
DRB1*13:11:02	Confirmed	DRB1*13:51	Unconfirmed	DRB1*13:97:01	Confirmed	DRB1*13:146	Unconfirmed
DRB1*13:12:01	Confirmed	DRB1*13:52	Confirmed	DRB1*13:97:02	Unconfirmed	DRB1*13:147	Unconfirmed
DRB1*13:12:02	Unconfirmed	DRB1*13:53	Unconfirmed	DRB1*13:98	Unconfirmed	DRB1*13:148	Confirmed
DRB1*13:12:03	Unconfirmed	DRB1*13:54	Confirmed	DRB1*13:99	Unconfirmed	DRB1*13:149	Unconfirmed
DRB1*13:13	Confirmed	DRB1*13:55	Unconfirmed	DRB1*13:100	Unconfirmed	DRB1*13:150	Confirmed
DRB1*13:14:01	Confirmed	DRB1*13:56	Confirmed	DRB1*13:101	Confirmed	DRB1*13:151	Unconfirmed
DRB1*13:14:02	Confirmed	DRB1*13:57	Unconfirmed	DRB1*13:102	Unconfirmed	DRB1*13:152	Confirmed
DRB1*13:14:03	Unconfirmed	DRB1*13:58	Unconfirmed	DRB1*13:103	Unconfirmed	DRB1*13:153	Unconfirmed
DRB1*13:15	Confirmed	DRB1*13:59	Confirmed	DRB1*13:104	Unconfirmed	DRB1*13:154	Unconfirmed
DRB1*13:16	Confirmed	DRB1*13:60	Unconfirmed	DRB1*13:105	Unconfirmed	DRB1*13:155	Unconfirmed
DRB1*13:17	Confirmed	DRB1*13:61:01	Unconfirmed	DRB1*13:106	Confirmed	DRB1*13:156	Unconfirmed
DRB1*13:18	Confirmed	DRB1*13:61:02	Confirmed	DRB1*13:107	Unconfirmed	DRB1*13:157	Unconfirmed
DRB1*13:19	Confirmed	DRB1*13:62	Unconfirmed	DRB1*13:108	Unconfirmed	DRB1*13:158	Unconfirmed
						DRB1*13:159	Unconfirmed
						DRB1*13:160	Unconfirmed
						DRB1*13:161	Unconfirmed
						DRB1*13:162	Unconfirmed
						DRB1*13:163	Unconfirmed
						DRB1*13:164	Unconfirmed

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2013-July-25, release 3.13.1, www.ebi.ac.uk/imgt/hla.

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SPECIFICITY TABLE

DRB1*13 SSP subtyping

Specificities and sizes of the PCR products of the 48 primer mixes used for
 DRB1*13 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified DRB1*13 alleles ³	Other amplified DRB alleles ^{3,4}
1	175 bp	515 bp	*13:01:01-13:16, 13:18-13:42, 13:44, 13:46-13:66:02, 13:68-13:102, 13:104-13:115, 13:117-13:121, 13:123-13:158, 13:161-13:164	*03:01:01:01-03:01:05, 03:01:07-03:01:08, 03:01:10-03:07, 03:09, 03:11:01-03:41, 03:43-03:45, 03:47-03:63, 03:66-03:68N, 03:70-03:84, 03:86, 03:88-03:91, 03:93, 08:20, 14:02-14:03:02, 14:05:01-14:06:02, 14:09, 14:12:01-14:14, 14:17-14:21, 14:23:01, 14:23:02 ^w , 14:23:03-14:24, 14:27, 14:29-14:30, 14:33, 14:36-14:37, 14:40-14:45, 14:47-14:48, 14:51, 14:56, 14:59, 14:63-14:65, 14:67, 14:77-14:78, 14:80-14:81, 14:83-14:85, 14:89, 14:91, 14:94-14:96, 14:98, 14:100, 14:102-14:103, 14:106, 14:108-14:109, 14:115-14:116, 14:121, 14:123, 14:127:01-14:127:02, 14:134-14:136, DRB3*01:14
2⁵	200 bp	430 bp	*13:01:01-13:04, 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, 13:74 ^w , 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, 13:117-13:118, 13:120-13:131, 13:135, 13:137N-13:139, 13:141-13:143, 13:145-13:148,	*11:02:01-11:02:02, 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, 11:82, 11:86, 11:98, 11:118-11:119, 11:124, 11:127, 11:132, 14:16, 14:24, 14:37, 14:63, 14:67, 14:78

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			13:151-13:157, 13:159, 13:161-13:163	
3	200 bp	430 bp	*13:05:01-13:05:02, 13:07:01-13:07:02, 13:11:01-13:11:02, 13:14:01-13:14:03, 13:18, 13:21:01-13:21:02, 13:24, 13:26:01-13:26:02, 13:42, 13:46-13:47, 13:49- 13:50:02, 13:54-13:55, 13:62-13:63, 13:75, 13:100, 13:108, 13:111, 13:132, 13:136, 13:144, 13:150, 13:158, 13:164	*08:20, 11:01:01-11:01:17, 11:03- 11:04:11, 11:06:01-11:06:03, 11:09- 11:12:02, 11:15, 11:23:01-11:25, 11:27:01-11:29, 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, 11:66, 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, 11:106, 11:108-11:117, 11:120- 11:123, 11:126, 11:128-11:129, 11:133-11:135, 11:137-11:142, 11:144-11:147, 14:22, 14:25, 14:27, 14:53, 14:105, 14:128
4	170 bp	430 bp	*13:03:01-13:04, 13:12:01- 13:13, 13:21:01-13:21:02, 13:30, 13:32-13:33:03, 13:38, 13:48-13:49, 13:55, 13:58, 13:65-13:66:02, 13:75, 13:81, 13:88-13:90, 13:93-13:95, 13:101, 13:108, 13:115, 13:118, 13:120, 13:122, 13:133- 13:134, 13:139, 13:151- 13:152, 13:154, 13:161, 13:164	*03:12, 14:13, 14:63, 14:65, 14:78, 14:85
5	220 bp	430 bp	*13:03:01-13:03:06, 13:05:01-13:07:02, 13:10- 13:14:03, 13:18, 13:21:01- 13:21:02, 13:25-13:26:02, 13:30, 13:33:01-13:33:03, 13:37, 13:42, 13:44, 13:46-13:47, 13:49- 13:50:02, 13:55-13:56, 13:58, 13:60, 13:62, 13:66:01-13:66:02, 13:77, 13:81-13:82, 13:85-13:86, 13:88-13:90, 13:94:01- 13:95, 13:100-13:101, 13:108, 13:115, 13:118- 13:120, 13:122, 13:132- 13:134, 13:136, 13:144, 13:146, 13:150-13:152, 13:154, 13:156-13:158,	*03:76, 08:20, 11:01:01-11:01:19, 11:04:01-11:04:11, 11:06:01- 11:06:03, 11:08:01-11:10:02, 11:12:01-11:13:02, 11:15, 11:17- 11:19:03, 11:23:01-11:29, 11:31- 11:35, 11:37:01-11:39, 11:42-11:47, 11:49:01-11:50, 11:52, 11:54:01- 11:58:02, 11:60-11:62, 11:64, 11:66, 11:72-11:75, 11:77-11:81, 11:83- 11:84:03, 11:87-11:97, 11:99- 11:102:02, 11:106, 11:108-11:117, 11:119-11:121, 11:123, 11:126, 11:128-11:135, 11:137, 11:140- 11:147, 14:01:01-14:03:02, 14:05:01-14:09, 14:12:01-14:14, 14:17-14:23:04, 14:25-14:27, 14:29- 14:30, 14:32:01-14:36, 14:38-14:45, 14:47-14:49, 14:51, 14:53-14:55,

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6	215 bp	515 bp	*13:01:01-13:02:08, 13:04, 13:08-13:09, 13:15-13:16, 13:19-13:20, 13:22-13:24, 13:27-13:29, 13:31-13:32, 13:34-13:36, 13:38-13:41, 13:43, 13:45, 13:48, 13:51-13:54, 13:57, 13:59, 13:61:01-13:61:02, 13:63-13:65, 13:68-13:76, 13:78-13:80, 13:83-13:84, 13:87, 13:91-13:93, 13:96:01-13:99, 13:102, 13:104-13:107, 13:109, 13:111-13:114, 13:117, 13:121, 13:123-13:131, 13:135, 13:138-13:143, 13:145-13:149, 13:153, 13:155, 13:159, 13:162	*11:02:01-11:03, 11:11:01-11:11:02, 11:14:01-11:14:02, 11:16, 11:20-11:21, 11:36, 11:40-11:41, 11:48, 11:55, 11:59, 11:63, 11:65:01-11:65:02, 11:68-11:70, 11:76, 11:82, 11:85-11:86, 11:118, 11:122, 11:124, 11:127, 11:138-11:139, 14:16, 14:24, 14:37
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27	145 bp	515 bp	*13:01:01-13:01:08, 13:01:10-13:02:08, 13:04- 13:06, 13:09-13:11:02, 13:14:01-13:16, 13:18, 13:20-13:25, 13:27-13:31, 13:34, 13:39, 13:41-13:46, 13:50:01-13:52, 13:54, 13:56-13:57, 13:59, 13:61:01-13:64, 13:66:01- 13:66:02, 13:68-13:69, 13:71, 13:73-13:75, 13:77- 13:80, 13:82-13:83, 13:86- 13:87, 13:91-13:93, 13:96:01-13:100, 13:102, 13:104-13:107, 13:109- 13:114, 13:117, 13:119, 13:121, 13:123-13:132, 13:136-13:148, 13:150, 13:153-13:158, 13:162- 13:163	*03:01:01:01-03:01:22, 03:04:01- 03:05:03, 03:07-03:16, 03:18-03:25, 03:28-03:30, 03:32-03:34, 03:36- 03:37, 03:39-03:40, 03:43-03:52, 03:54-03:59, 03:61-03:68N, 03:70- 03:73, 03:76-03:79, 03:81, 03:83- 03:84, 03:86, 03:89, 03:91, 03:93, 11:01:01-11:01:06, 11:01:08- 11:04:11, 11:06:01-11:16, 11:18- 11:21, 11:23:01-11:29, 11:31-11:36, 11:38-11:40, 11:42-11:47, 11:49:01- 11:49:02, 11:51, 11:53-11:55, 11:57- 11:66, 11:68-11:70, 11:72-11:82, 11:84:01-11:87, 11:89-11:103, 11:105-11:106, 11:108-11:144, 11:146-11:147, 14:17, 14:21, 14:30, 14:33, 14:35, 14:42, 14:53, 14:64- 14:65, 14:72, 14:95, 14:128, 14:132, 14:134
28	160 bp	430 bp	*13:01:01-13:01:13, 13:04, 13:06, 13:09-13:11:02, 13:15, 13:17-13:18, 13:20, 13:22, 13:24, 13:27-13:28, 13:35, 13:42-13:44, 13:51- 13:52, 13:54, 13:57, 13:59, 13:61:01-13:61:02, 13:64, 13:68-13:69, 13:71, 13:75, 13:77-13:80, 13:83, 13:87, 13:91-13:93, 13:98, 13:102, 13:105-13:106, 13:110-13:114, 13:117, 13:121, 13:125, 13:127, 13:129-13:131, 13:137N- 13:138, 13:141, 13:144, 13:146, 13:148, 13:150, 13:153, 13:156, 13:160, 13:162-13:163	*01:44, 03:01:01:01-03:01:15, 03:01:17-03:01:22, 03:04:01- 03:04:02, 03:07-03:08, 03:10- 03:13:02, 03:15-03:16, 03:18-03:25, 03:28, 03:30, 03:32-03:34, 03:36- 03:37, 03:39, 03:42-03:52, 03:54- 03:56, 03:58-03:59, 03:61-03:62, 03:64-03:73, 03:76, 03:78-03:79, 03:82-03:84, 03:86-03:87, 03:91- 03:93, 04:42, 04:59, 04:147, 04:156, 08:28, 11:02:01-11:04:11, 11:06:01- 11:07, 11:13:01-11:13:02, 11:16, 11:18, 11:21, 11:25, 11:34-11:36, 11:38, 11:40, 11:42-11:44, 11:46:01- 11:47, 11:54:01-11:55, 11:57-11:60, 11:63, 11:65:01-11:65:02, 11:67, 11:70, 11:76-11:78, 11:84:01-11:85, 11:89, 11:92, 11:98, 11:102:01- 11:102:02, 11:104, 11:113, 11:115- 11:116, 11:118-11:119, 11:123- 11:124, 11:127, 11:129-11:132, 11:135, 11:137-11:139, 11:146, 12:01:01-12:10, 12:12-12:15, 12:17- 12:20, 12:23-12:37, 12:40, 14:17,

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29⁸	155 bp	430 bp	*13:15, 13:19, 13:53, 13:57, 13:85, 13:104	*08:32, 12:01:01-12:01:05, 12:03:02-12:06, 12:08-12:11, 12:14, 12:17, 12:22, 12:24N-12:25, 12:29-12:30, 12:34-12:36, 12:38-12:40, 14:63, 14:67, 14:78
30⁶	85 bp	515 bp	*13:01:01-13:01:06, 13:01:08-13:01:13, 13:04, 13:08, 13:15, 13:17, 13:19-13:20, 13:22, 13:24, 13:27-13:28, 13:32, 13:35, 13:40, 13:43, 13:48, 13:51-13:54, 13:57, 13:59, 13:61:01-13:61:02, 13:64, 13:68-13:72, 13:75-13:76, 13:78-13:80, 13:83-13:84, 13:87, 13:91-13:93, 13:98, 13:102, 13:105-13:106, 13:110-13:114, 13:116-13:117, 13:121, 13:125, 13:127, 13:130-13:131, 13:138, 13:141, 13:146, 13:148-13:149, 13:153, 13:160, 13:162	*01:42, 04:02:01-04:02:03, 04:37, 04:124, 04:133-04:134, 04:138, 04:143, 04:161, 11:02:01-11:03, 11:16, 11:21, 11:36, 11:40-11:41, 11:48, 11:55, 11:59, 11:63, 11:65:01-11:65:02, 11:70, 11:76, 11:85, 11:118, 11:124, 11:127, 11:138-11:139, 14:16, 14:57, 15:10
31¹⁹	145 bp, 175 bp, 205 bp	430 bp	*13:59, 13:72, 13:152	
32	220 bp	430 bp	*13:02:02, 13:03:01-13:03:06, 13:10, 13:26:01, 13:33:01-13:33:03, 13:37, 13:60, 13:66:01-13:66:02, 13:77, 13:81, 13:85, 13:88-13:90, 13:94:01-13:95, 13:101, 13:115, 13:120, 13:122, 13:133, 13:151-13:152, 13:163	*03:76, 11:01:03, 11:01:10-11:01:11, 11:04:07, 11:19:02, 11:73, 11:79, 11:93, 11:131-11:132, 14:19, 14:21, 14:32:03, 14:109

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33⁶	80 bp	430 bp	*13:43, 13:45	*03:10, 11:31, 11:96, 14:35, 14:53, 14:72, 14:128, 14:132, 14:138
34²⁰	145 bp, 255 bp	430 bp	*13:58, 13:80-13:81, 13:163	*03:16, 03:20, 11:06:01-11:06:03, 11:21, 11:47, 11:57, 11:129, 14:29, 14:99
35	150 bp	430 bp	*13:51	
36^{6,8,21}	75 bp, 170 bp, 260 bp	430 bp	*13:90, 13:92, 13:98	*14:26
37⁶	100 bp	515 bp	*13:32, 13:65, 13:93, 13:120, 13:139	*03:12, 14:13, 14:63, 14:78, 14:85
38⁶	70 bp	430 bp	*13:33:01, 13:61:02, 13:94:01, 13:96:01	*03:19, 15:37:01
39^{6,22}	80 bp, 130 bp	430 bp	*13:95, 13:102	
40^{6,23}	90 bp, 120 bp, 155 bp	430 bp	*13:91, 13:99, 13:101	*14:118
41^{6,24}	115 bp, 160 bp	430 bp	*13:106, 13:113N	*03:26, 03:33, 03:44, 11:44, 11:49:01-11:50, 11:85, 11:127, 14:97
42	235 bp	430 bp	*13:112, 13:128	
43	185 bp	430 bp		
44	145 bp	430 bp	*13:01:01-13:01:06, 13:01:08-13:02:08, 13:08, 13:10, 13:15-13:16, 13:19, 13:27-13:28, 13:31-13:32, 13:34-13:36, 13:39-13:41, 13:51-13:53, 13:57, 13:61:01-13:61:02, 13:64- 13:65, 13:67-13:68, 13:72- 13:73, 13:76, 13:79-13:80, 13:83-13:85, 13:87, 13:91- 13:93, 13:96:01-13:99, 13:102-13:107, 13:109- 13:110, 13:112-13:113N, 13:117, 13:120-13:121, 13:123-13:128, 13:130- 13:131, 13:135, 13:137N- 13:139, 13:141-13:143, 13:145-13:148, 13:153, 13:155, 13:159-13:160	*11:16, 11:20, 11:118, 14:16, 14:57
45	250 bp	430 bp	*13:28, 13:141	*03:37, 03:56
46	205 bp	430 bp	*13:137N, 13:142N	
47	180 bp	430 bp	*13:73	*11:139
48	135 bp	430 bp	*13:148	

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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*13 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 respective lengths of the HLA-specific PCR product(s) are given for the alleles amplified by these primer mixes.

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 two different control primer pairs give rise to either an internal positive control band of 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DRB1*13 subtyping.

In addition, wells number 6, 13, 15, 20, 27, 30 and 37 contain the primer pair giving rise to the longer, 515 bp, internal positive control band in order to allow 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 with the target sequences or not. We assume that unknown sequences in these regions are conserved within allelic groups, that unknown sequences in the first hyperpolymorphic region of the second exon of DRB alleles are conserved within allelic groups and that unknown sequences of codons 87 to 92 are identical with the DRB1*0101 consensus sequence.

⁴Due to the sharing of sequence motifs within groups of DRB1 alleles, non-DRB1*13 alleles are amplified by primer mixes 1 to 30, 32 to 34, 36 to 38, 40,41, 44, 45 and 47. In addition, the DRB3*01:14 allele will be amplified by primer mixes 1, 9, 13, 18 and 22 to 24, the DRB3*01:08, DRB3*02:06 and DRB3*02:20 alleles will be amplified by primer mix 7 and the DRB3*02:27 allele will be amplified by primer mix 20.

⁵Primer mix 2 may faintly amplify the DRB1*13:29 allele.

⁶HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁷Primer mixes 20, 21 and 26 may have tendencies of unspecific amplifications.

⁸Primer mixes 22, 29 and 36 have a tendency to giving rise to primer oligomer formation.

⁹Primer mix 15 may give rise to a lower yield of HLA-specific PCR product than the other DRB1*13 primer mixes.

¹⁰Primer mix 15: Specific PCR fragment of 85 bp in the DRB1*13:15, 13:19, 13:26:01-13:26:02, 13:53, 13:57, 13:85-13:86 and 13:104, and the DRB1*03:02:02, 03:27, 03:90, 14:02-14:03:02, 14:06:01-14:06:02, 14:12:01-14:13, 14:18-14:20, 14:24, 14:27, 14:29, 14:40-14:41, 14:47-14:49, 14:51, 14:63, 14:67, 14:77-14:78, 14:81, 14:83, 14:85, 14:89, 14:94, 14:98, 14:102, 14:106, 14:108-14:109, 14:115 and 14:135 alleles. Specific PCR fragment of 235 bp in the DRB1*13:33:01, 13:61:02, 13:94:01 and 13:96:01, and the DRB1*03:01:01:01-03:01:01:02, 03:01:03-03:01:16, 03:01:18-03:01:21, 03:04:01-03:05:02, 03:06-03:13:01, 03:16, 03:18-03:23, 03:25-03:26, 03:28, 03:30-03:34, 03:36-03:37, 03:39-03:41, 03:43-03:52, 03:54-03:68N, 03:70-03:73, 03:75-03:77, 03:79-03:80, 03:82-03:84, 03:86, 03:89, 03:91, 03:93, 11:07, 11:27:02-11:27:03, 11:84:02-11:84:03, 11:103, 11:107 and 11:125 alleles. Specific PCR fragments of 85 and 235 bp in DRB1*03:02:01, 03:03, 03:29, 03:38, 03:53, 03:74 and 03:88 alleles. Both specific PCR fragments may not be visible.

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¹¹Primer mix 17: Specific PCR fragment of 220 bp in the DRB1*13:02:02, 13:26:01, 13:60, 13:77 and 13:163 and the DRB1*11:01:03, 11:01:10-11:01:11, 11:04:07, 11:19:02 and 14:32:03 alleles. Specific PCR fragment of 255 bp in the DRB1*13:28 and the DRB1*03:73 alleles.

¹²Primer mix 18: Specific PCR fragment of 110 bp in the DRB1*13:87 allele. Specific PCR fragment of 230 bp in the DRB1*13:13, 13:18, 13:33:02-13:33:03, 13:47, 13:55, 13:61:01, 13:94:02, 13:96:02, 13:119, 13:144, 13:146, 13:154, 13:156, 13:158 and 13:164 and the DRB1*03:01:02, 03:02:02, 03:05:03, 03:13:02, 03:17, 03:24, 03:27, 03:35, 03:81, 08:20, 11:23:01-11:23:02, 11:25, 11:27:01, 11:45, 11:55, 11:64, 11:84:01, 11:119, 11:124, 11:136, 11:138, 14:03:01-14:03:02, 14:12:01-14:12:02, 14:27, 14:38, 14:40, 14:47, 14:55, 14:63, 14:67, 14:77-14:78, 14:84-14:85, 14:89, 14:98, 14:102, 14:115-14:116, 14:127:01 and 14:135-14:136 and in the DRB3*01:14 alleles.

¹³Primer mix 19: Specific PCR fragment of 110 bp in the DRB1*13:87 allele. Specific PCR fragment of 205 bp in the DRB1*13:74 allele. Specific PCR fragment of 260 bp in the DRB1*13:16 and the DRB1*11:86 alleles.

¹⁴Primer mix 21: Specific PCR fragment of 175 bp in the DRB1*13:27, 13:41 and 13:71 and the DRB1*03:76 and 11:59 alleles. Specific PCR fragment of 220 bp in the DRB1*13:103 and 13:160 alleles.

¹⁵Primer mix 22: Specific PCR fragment of 110 bp in the DRB1*13:68 and the DRB1*11:24 alleles. Specific PCR fragment of 175 bp in the DRB1*13:31, 13:46, 13:54, 13:77, 13:100 and 13:162 and the DRB1*03:38, 03:79 and 14:48 and in the DRB3*01:14 alleles.

¹⁶Primer mix 23: Specific PCR fragment of 115 bp in the DRB1*13:34, 13:64 and 13:136 and the DRB1*03:43, 03:71, 11:76, 11:114, 14:41 and 14:77 and in the DRB3*01:14 alleles. Specific PCR fragment of 245 bp in the DRB1*13:01:03, 13:76 and 13:163 and the DRB1*03:01:17, 11:01:05, 11:01:10, 11:04:03, 11:06:02, 11:13:01-11:13:02, 11:17, 11:52, 11:54:01, 14:01:01, 14:01:03-14:01:04, 14:05:01-14:05:02, 14:05:04, 14:07:01-14:08, 14:14, 14:18, 14:23:01-14:23:04, 14:26, 14:32:02-14:32:03, 14:34-14:36, 14:39, 14:42-14:44:01, 14:44:03-14:45, 14:54:01-14:56, 14:58-14:60, 14:62, 14:64-14:65, 14:70, 14:72, 14:82, 14:86-14:88, 14:90-14:92N, 14:95-14:97, 14:99-14:101, 14:104-14:105, 14:111-14:114, 14:117-14:118, 14:122-14:125, 14:127:02, 14:129-14:134, 14:137N, 14:139-14:140 and 14:142 alleles. Specific PCR fragment of 115 and 245 bp in the DRB1*14:110 allele.

¹⁷Primer mix 24: Specific PCR fragment of 145 bp in the DRB1*13:35 and 13:161 alleles. Specific PCR fragment of 180 bp in the DRB1*13:39, 13:54, 13:77-13:79, 13:100 and 13:162-13:163 and the DRB1*03:13:01-03:13:02, 03:38, 03:79, 03:88, 11:116, 11:120, 14:48, 14:64, 14:109 and 14:115 and in the DRB3*01:14 alleles.

¹⁸Primer mix 26: Specific PCR fragment of 90 bp in the DRB1*13:150 and the DRB1*11:39, 11:43, 11:50 and 11:145 alleles. Specific PCR fragment of 140 bp in the DRB1*13:05:01-13:05:02, 13:18, 13:26:01-13:26:02, 13:42, 13:50:02, 13:63, 13:111, 13:132, 13:136, 13:144 and 13:158 and the DRB1*08:09, 08:21, 11:01:12, 11:04:04, 11:09-11:10:02, 11:12:02, 11:22, 11:28:02, 11:40, 11:46:01, 11:58:01, 11:59, 11:83, 11:87, 11:113, 11:122, 14:15, 14:22, 14:27, 14:73 and 14:105 alleles. PCR fragment of 90 and 140 bp in the DRB1*11:115 allele.

¹⁹Primer mix 31: Specific PCR fragment of 145 bp in the DRB1*13:152 allele. Specific PCR fragment of 175 bp in the DRB1*13:59 allele. Specific PCR fragment of 205 bp in the DRB1*13:72 allele.

²⁰Primer mix 34: Specific PCR fragment of 145 bp in the DRB1*13:80 and the DRB1*03:16 alleles. Specific PCR fragment of 255 bp in the DRB1*13:58, 13:81 and 13:163 and the DRB1*03:20, 11:06:01-11:06:03, 11:21, 11:47, 11:57, 11:129, 14:29 and 14:99 alleles.

²¹Primer mix 36: Specific PCR fragment of 75 bp in the DRB1*13:92 and the DRB1*14:26 alleles. Specific PCR fragment of 170 bp in the DRB1*13:90 allele. Specific PCR fragment of 260 bp in the DRB1*13:98 allele.

²²Primer mix 39: Specific PCR Specific PCR fragment of of 80 bp in the DRB1*13:102 allele. Specific PCR Specific PCR fragment of of 130 bp in the DRB1*13:95 allele.

²³Primer mix 40: Specific PCR fragment of 90 bp in the DRB1*13:101 allele. Specific PCR fragment of 120 bp in the DRB1*13:91 allele. Specific PCR fragment of 155 bp in the DRB1*13:99 and the DRB1*14:118 alleles.

²⁴Primer mix 41: Specific PCR fragment of 115 bp in the DRB1*13:106 and the DRB1*03:26, 03:33, 03:44, 11:44, 11:49:01-11:50, 11:85, 11:127 and 14:97 alleles. Specific PCR fragment of 160 bp in the DRB1*13:113N allele.

‘w’, may be weakly amplified.

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INTERPRETATION TABLE																									
DRB1*13 SSP subtyping																									
Amplification patterns of the DRB1*13:01 to *13:164 alleles																									
	Well ⁶																								
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180	
Length of int. pos. control ¹	515	430	430	430	430	515	430	430	430	430	430	430	515	430	515	430	430	430	430	515	430	430	430	430	
5'-primer(s) ²	13(125)	13(125)	13(125)	13(125)	13(125)	13(125)	36(196)	36(196)	13(125)	13(125)	13(125)	13(125)	13(125)	31(181)	13(125)	34(189)	13(125)	13(125)	13(125)	10(116)	12(122)	13(125)	13(125)	13(125)	
	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -AgA 3'	5' -AgA 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -TCT 3'	5' -gTC 3'	5' -Cag 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	5' -gCT 3'	5' -TAT 3'	5' -gTC 3'	5' -gTC 3'	5' -gTC 3'	
							5' -AgA 3'							5' -CAA 3'		5' -Cag 3'				5' -gTT 3'	5' -gTA 3'				
														5' -gTT 3'											
3'-primer(s) ³	58(260)	66(286)	66(286)	56(256)	70(298)	70(298)	86(344)	86(344)	86(344)	86(344)	66(286)	71(299)	47(227)	70(298)	28(171)	70(298)	72(303)	36(196)	36(196)	71(299)	71(299)	36(196)	37(199)	48(230)	
	5' -Cgg 3'	5' -gAT 3'	5' -gAA 3'	5' -gCT 3'	5' -CTT 3'	5' -CTC 3'	5' -CAC 3'	5' -CCA 3'	5' -CAC 3'	5' -CCA 3'	5' -gAg 3'	5' -gCT 3'	5' -ggT 3'	5' -CTC 3'	5' -CTC 3'	5' -CTC 3'	5' -gCg 3'	5' -gAT 3'	5' -gAT 3'	5' -gCT 3'	5' -gCT 3'	5' -gTC 3'	5' -Cag 3'	5' -CCA 3'	
	5' -Cag 3'	5' -gAT 3'	5' -gAA 3'		5' -CCT 3'	5' -CgC 3'	5' -CCT 3'		5' -CCT 3'		5' -gAg 3'	5' -gCg 3'			5' -AgT 3'		5' -CCg 3'	5' -Cag 3'	5' -CCC 3'			5' -CgA 3'	5' -CAA 3'	5' -Agg 3'	
	66(286)	66(286)	66(286)		73(307)	70(298)	92(364)		92(364)		66(286)	72(303)			77(317)		83(337)	73(307)	68(290)			57(257)	78(321)		
	5' -gAT 3'				5' -CAG 3'						5' -gCg 3'						5' -TAA 3'	5' -CAT 3'				83(337)			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 59S

Lot-specific information

INTERPRETATION TABLE																																															
DRB1*13 SSP subtyping																																															
Amplification patterns of the DRB1*13:01 to *13:164 alleles																																															
Well ⁶																																															
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48																								
110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135																								
	140					175			255		170			130	120	160				205																											
430	430	515	430	430	515	430	430	430	430	430	430	515	430	430	430	430	430	430	430	430	430	430	430																								
5'-gTC 3'	5'-CAG 3'	5'-gTC 3'	5'-gTT 3'	5'-gAG 3'	5'-CgA 3'	5'-CAA 3'	5'-gTC 3'	5'-gTT 3'	5'-gTC 3'	5'-gTC 3'	5'-gTC 3'	5'-AgA 3'	5'-ACA 3'	5'-gTC 3'	5'-gTC 3'	5'-gTC 3'	5'-CAT 3'	5'-TCT 3'	5'-TCC 3'	5'-gTC 3'	5'-gTC 3'	5'-gCT 3'	5'-gTC 3'																								
	34(189)			28(171)		27(167)																																									
	51(239)					37(197)																																									
36(196)	66(286)	47(227)	86(344)	66(286)	86(344)	71(299)	70(298)	59(265)	47(229)	49(235)	25(161)	56(256)	77(317)	26(164)	30(176)	38(200)	70(298)	181(630)	66(286)	82(332)	63(277)	71(299)	43(217)																								
5'-gAA 3'	5'-gAA 3'	5'-ggA 3'	5'-CCA 3'	5'-gAT 3'	5'-CCA 3'	5'-gCT 3'	5'-CTT 3'	5'-gTg 3'	5'-CCA 3'	5'-CAA 3'	5'-ACT 3'	5'-gCT 3'	5'-AgT 3'	5'-ggg 3'	5'-Agg 3'	5'-gCg 3'	5'-CTC 3'	5'-CTT 3'	5'-gAT 3'	5'-AgC 3'	5'-CTA 3'	5'-gCT 3'	5'-CAA 3'																								
36(196)	66(286)	47(229)		66(286)			72(303)		85(341)		56(254)			42(214)	38(202)	53(245)					70(298)																										
5'-gTA 3'	5'-gAA 3'	5'-CCA 3'		5'-gAT 3'			5'-gCg 3'		5'-CAG 3'		5'-TAA 3'			5'-gTA 3'	5'-gCA 3'	5'-CCA 3'				5'-CTA 3'																											
5'-ggA 3'											85(343)				51(239)																																
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48																								
																							Well No.																								

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
DRB1 allele ⁴																								
*13:01:01-13:01:02, 13:01:04-13:01:06, 13:01:08, 13:01:10- 13:01:13, 13:105, 13:117, 13:121, 13:125, 13:127, 13:130- 13:131, 13:138, 13:153 ⁷	1	2				6		8		10		12				16								
*13:01:03	1	2				6		8		10		12				16							23	
*13:01:07	1	2				6		8		10		12				16								
*13:01:09	1	2				6		8		10		12				16								
*13:02:01, 13:02:03- 13:02:08, 13:123-13:124, 13:126, 13:143, 13:145, 13:147, 13:155	1	2				6	7		9			12				16								
*13:02:02	1	2				6	7		9			12					17							
*13:03:01-13:03:06	1	2		4	5				9			12	13											
*13:04	1	2		4		6				10		12		14										
*13:05:01-13:05:02, 13:50:02	1		3		5		7		9															
*13:06	1	2			5			8		10														
*13:07:01-13:07:02	1		3		5				9				13											
*13:08	1	2				6				10		12	13	14		16								
*13:09, 13:129	1	2				6		8		10	11													
*13:10	1	2			5			8		10		12												
*13:11:01-13:11:02	1		3		5					10														
*13:12:01-13:12:03, 13:118	1	2		4	5				9				13											
*13:13	1	2		4	5				9				13					18						
*13:14:01-13:14:03	1		3		5				9															
*13:15	1	2				6		8		10		12			15	16								
*13:16	1	2				6						12				16			19					
*13:17														14						20				
*13:18, 13:144	1		3		5			8		10								18						
*13:19	1	2				6				10		12	13	14	15	16								
*13:20	1					6		8		10	11	12				16								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175 145			255 145		260 170			130	120	160								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
																								DRB1 allele ⁴
			27 28		30														44					*13:01:01-13:01:02, 13:01:04-13:01:06, 13:01:08, 13:01:10- 13:01:13, 13:105, 13:117, 13:121, 13:125, 13:127, 13:130- 13:131, 13:138, 13:153 ⁷
		27 28		30															44					*13:01:03
		27 28																						*13:01:07
		28		30															44					*13:01:09
		27																	44					*13:02:01, 13:02:03- 13:02:08, 13:123-13:124, 13:126, 13:143, 13:145, 13:147, 13:155
		27				32													44					*13:02:02
25						32																		*13:03:01-13:03:06
25		27 28		30																				*13:04
	26 27																							*13:05:01-13:05:02, 13:50:02
		27 28																						*13:06
25																								*13:07:01-13:07:02
25					30														44					*13:08
		27 28																						*13:09, 13:129
		27 28				32													44					*13:10
25		27 28																						*13:11:01-13:11:02
25																								*13:12:01-13:12:03, 13:118
25																								*13:13
25		27																						*13:14:01-13:14:03
		27 28	29 30																44					*13:15
		27																	44					*13:16
			28		30																			*13:17
	26 27 28																							*13:18, 13:144
25				29 30															44					*13:19
		27 28		30																				*13:20
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*13:21:01-13:21:02	1		3	4	5				9															
*13:22	1	2				6				10		12		14										
*13:23:01-13:23:02	1	2				6			9			12		14										
*13:24	1		3			6				10		12		14										
*13:25	1				5				9		11													
*13:26:01	1		3		5		7		9			12	13		15		17							
*13:26:02	1		3		5		7		9				13		15									
*13:27	1	2				6		8		10		12				16					21			
*13:28	1	2				6		8		10		12				16	17						23	
*13:29	1					6	7		9		11	12				16								
*13:30	1	2		4	5				9															
*13:31	1	2				6	7		9			12				16						22		
*13:32	1	2		4		6		8		10		12	13			16								
*13:33:01	1	2		4	5				9			12	13		15									
*13:33:02-13:33:03	1	2		4	5				9			12	13					18						
*13:34	1	2				6	7		9			12				16							23	
*13:35	1	2				6		8		10		12				16								24
*13:36	1	2				6	7		9			12	13			16								
*13:37	1	2			5				9			12	13											
*13:38	1	2		4		6			9			12	13	14										
*13:39	1	2				6	7		9			12				16								24
*13:40	1	2				6		8		10		12	13			16								
*13:41	1	2				6	7		9			12				16					21			
*13:42	1		3		5			8		10														
*13:43						6		8		10	11	12				16								
*13:44	1				5					10														
*13:45		2				6			9			12		14										
*13:46	1		3		5				9													22		
*13:47	1		3		5				9				13					18						
*13:48	1	2		4		6				10		12	13	14										
*13:49	1		3	4	5				9				13											
*13:50:01	1		3		5		7		9															
*13:51	1	2				6		8		10		12				16								
*13:52	1	2				6				10		12				16								
*13:53	1	2				6		8		10		12	13		15	16								
*13:54	1		3			6				10		12		14								22		24
*13:55	1		3	4	5				9				13					18						
*13:56	1				5		7		9		11													
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec.
	140					175			255		170			130	120	160								PCR product(s)
						205					260				155									
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25		27																						*13:21:01-13:21:02
25		27	28		30																			*13:22
25		27																						*13:23:01-13:23:02
25		27	28		30																			*13:24
25		27																						*13:25
	26						32																	*13:26:01
	26																							*13:26:02
		27	28		30														44					*13:27
		27	28		30														44	45				*13:28
		27																						*13:29
25		27																						*13:30
		27																	44					*13:31
					30							37							44					*13:32
25							32						38											*13:33:01
25							32																	*13:33:02-13:33:03
		27																	44					*13:34
			28		30														44					*13:35
																			44					*13:36
25							32																	*13:37
25																								*13:38
		27																	44					*13:39
					30														44					*13:40
		27																	44					*13:41
	26	27	28																					*13:42
		27	28		30			33																*13:43
25		27	28																					*13:44
25		27						33																*13:45
25		27																						*13:46
25																								*13:47
25					30																			*13:48
25																								*13:49
		27																						*13:50:01
		27	28		30				35										44					*13:51
25		27	28		30														44					*13:52
				29	30														44					*13:53
25		27	28		30																			*13:54
25																								*13:55
		27																						*13:56
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*13:57	1	2				6				10		12		14	15	16								
*13:58	1	2		4	5					10		12		13										
*13:59	1	2				6		8		10		12				16								
*13:60	1				5				9		11	12	13				17							
*13:61:01	1	2				6		8		10		12				16		18						
*13:61:02	1	2				6		8		10		12			15	16								
*13:62	1		3		5				9															
*13:63	1		3			6	7		9			12				16								
*13:64	1	2				6				10		12		14		16							23	
*13:65	1	2		4		6	7		9			12	13			16								
*13:66:01-13:66:02	1	2		4	5				9			12												
*13:67							7									16			20					
*13:68	1	2				6				10		12				16						22		
*13:69	1	2				6		8		10		12		14		16								
*13:70	1	2				6				10		12	13	14										
*13:71	1					6		8		10	11	12				16					21			
*13:72	1	2				6				10		12	13	14		16								
*13:73	1	2				6	7		9			12				16								
*13:74	1	w				6	7		9			12				16			19					
*13:75	1		3	4		6				10		12		14										
*13:76	1	2				6				10		12	13	14		16							23	
*13:77	1	2			5			8		10		12					17				22		24	
*13:78	1					6		8		10	11	12				16							24	
*13:79	1	2				6		8		10		12				16							24	
*13:80	1	2				6		8		10		12				16								
*13:81	1	2		4	5					10		12	13											
*13:82	1	2			5				9															
*13:83	1	2				6				10		12		14		16								
*13:84	1	2				6				10		12	13			16								
*13:85	1	2			5		7		9			12	13		15									
*13:86	1				5				9						15									
*13:87	1	2				6		8		10		12				16		18	19					
*13:88	1			4	5				9		11	12	13											
*13:89	1	2		4	5					10		12	13											
*13:90	1	2		4	5				9			12	13											
*13:91	1	2				6		8		10		12				16								
*13:92, 13:98 ⁵	1	2				6		8		10		12				16								
*13:93	1	2		4		6		8		10		12				16								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175			255		260 170			130	120	160								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25		27	28	29	30														44					*13:57
25									34															*13:58
		27	28		30	31																		*13:59
25							32																	*13:60
		27	28		30														44					*13:61:01
		27	28		30								38						44					*13:61:02
		27																						*13:62
	26	27																						*13:63
		27	28		30														44					*13:64
												37							44					*13:65
25		27					32																	*13:66:01-13:66:02
																			44					*13:67
		27	28		30														44					*13:68
		27	28		30																			*13:69
25					30																			*13:70
		27	28		30																			*13:71
25					30	31													44					*13:72
		27																	44		47			*13:73
		27																						*13:74
25		27	28		30																			*13:75
25					30														44					*13:76
		27	28				32																	*13:77
		27	28		30																			*13:78
		27	28		30														44					*13:79
		27	28		30				34										44					*13:80
25							32		34															*13:81
25		27																						*13:82
25		27	28		30														44					*13:83
25					30														44					*13:84
				29			32												44					*13:85
25		27																						*13:86
		27	28		30														44					*13:87
25							32																	*13:88
25							32																	*13:89
25							32				36													*13:90
		27	28		30									40					44					*13:91
		27	28		30						36								44					*13:92, 13:98 ⁵
		27	28		30							37							44					*13:93
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Length of spec. PCR product(s)	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*13:94:01	1	2		4	5					10		12	13		15									
*13:94:02	1	2		4	5					10		12	13					18						
*13:95	1	2		4	5				9			12	13											
*13:96:01	1	2				6	7		9			12			15	16								
*13:96:02	1	2				6	7		9			12				16		18						
*13:97:01	1	2				6			9			12				16								
*13:97:02	1	2				6			9			12		14										
*13:99	1	2				6	7		9			12				16								
*13:100	1		3		5				9													22		24
*13:101	1	2		4	5				9			12	13											
*13:102	1	2				6		8		10		12				16								
*13:103							7									16				21				
*13:104	1	2				6	7		9			12			15	16								
*13:106	1	2				6				10		12				16								
*13:107	1	2				6			9			12		14		16								
*13:108	1		3	4	5					10			13											
*13:109	1	2				6						12				16								
*13:110	1	2						8		10														
*13:111	1		3			6		8		10		12				16								
*13:112	1	2				6		8		10		12				16								
*13:113N	1	2				6		8		10		12				16								
*13:114	1					6		8		10		12				16								
*13:115	1	2		4	5		7		9			12	13											
*13:116														14					20					
*13:119	1				5		7		9		11							18						
*13:120	1	2		4	5		7		9			12	13											
*13:122		2		4	5				9			12	13											
*13:128	1	2				6	7		9			12				16								
*13:132	1		3		5				9															
*13:133	1			4	5				9			12	13											
*13:134	1			4	5				9		11		13											
*13:135	1	2				6			9			12	13	14		16								
*13:136	1		3		5		7		9													23		
*13:137N	1	2						8		10		12												
*13:139	1	2		4		6	7		9			12				16								
*13:140	1					6	7		9			12				16								
*13:141	1	2				6		8		10		12				16								
*13:142N	1	2				6	7		9			12				16								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175			255		260 170			130	120	160								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25							32						38											*13:94:01
25							32																	*13:94:02
25							32							39										*13:95
		27											38						44					*13:96:01
		27																	44					*13:96:02
25		27																	44					*13:97:01
25		27																	44					*13:97:02
		27													40				44					*13:99
25		27																						*13:100
25							32								40									*13:101
		27	28		30									39					44					*13:102
																			44					*13:103
		27		29															44					*13:104
		27	28		30											41			44					*13:106
25		27																	44					*13:107
25																								*13:108
		27																	44					*13:109
		27	28		30														44					*13:110
26	27	28		30																				*13:111
		27	28		30												42		44					*13:112
		27	28		30											41			44					*13:113N
		27	28		30																			*13:114
							32																	*13:115
					30																			*13:116
		27																						*13:119
							32					37							44					*13:120
25							32																	*13:122
		27															42		44					*13:128
25	26	27																						*13:132
25							32																	*13:133
25																								*13:134
25																			44					*13:135
	26	27																						*13:136
		27	28																44	46				*13:137N
		27										37							44					*13:139
		27																						*13:140
		27	28		30														44	45				*13:141
		27																	44	46				*13:142N
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*13:146	1	2			5	6		8		10								18						
*13:148	1	2				6		8		10		12				16								
*13:149	1					6				10	11	12	13	14										
*13:150	1		3		5					10														
*13:151	1	2		4	5				9			12	13											
*13:152	1	2		4	5				9			12	13											
*13:154	1	2		4	5				9									18						
*13:156	1	2			5			8		10								18						
*13:157	1	2			5		7		9															
*13:158	1		3		5		7		9									18						
*13:159		2				6	7		9			12	13			16								
*13:160								8								16					21			
*13:161	1	2		4	5				9															24
*13:162	1	2				6				10		12		14								22		24
*13:163	1	2			5			8		10		12					17					23		24
*13:164	1		3	4	5					10			13					18						
*01:42																								
*01:44, 04:42, 04:59, 04:147, 04:156, 08:28, 11:67, 11:104, 12:02:01-12:02:05, 12:07, 12:12-12:13, 12:15, 12:18-12:20, 12:23, 12:26-12:28, 12:31N-12:33, 12:37, 15:01:01:01-15:01:21, 15:03:01:01-15:06:02, 15:09, 15:12-15:13, 15:16-15:18, 15:20- 15:25, 15:28, 15:33, 15:35-15:36, 15:37:02, 15:40-15:43, 15:45- 15:46, 15:49-15:57, 15:59, 15:61-15:62, 15:64-15:67, 15:69- 15:73, 15:75-15:77, 15:79, 15:81-15:84, 15:86-15:87, 15:89- 15:95, 15:97-15:98																								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					175			255		170			130	120	160								
						205					260				155									
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
		27	28		30														44					*13:146
		27	28		30														44				48	*13:148
25					30																			*13:149
25	26	27	28																					*13:150
							32																	*13:151
25						31	32																	*13:152
25		27																						*13:154
		27	28																					*13:156
		27																						*13:157
	26	27																						*13:158
																								*13:159
																			44					*13:160
			28		30														44					*13:161
25																								*13:162
25		27	28		30																			*13:163
		27	28				32		34															*13:164
25																								*13:164
					30																			*01:42
																								*01:44, 04:42, 04:59, 04:147, 04:156, 08:28, 11:67, 11:104, 12:02:01-12:02:05, 12:07, 12:12-12:13, 12:15, 12:18-12:20, 12:23, 12:26-12:28, 12:31N-12:33, 12:37, 15:01:01:01-15:01:21, 15:03:01:01-15:06:02, 15:09, 15:12-15:13, 15:16-15:18, 15:20- 15:25, 15:28, 15:33, 15:35-15:36, 15:37:02, 15:40-15:43, 15:45- 15:46, 15:49-15:57, 15:59, 15:61-15:62, 15:64-15:67, 15:69- 15:73, 15:75-15:77, 15:79, 15:81-15:84, 15:86-15:87, 15:89- 15:95, 15:97-15:98
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*03:01:01:01- 03:01:01:02, 03:01:03- 03:01:05, 03:01:07- 03:01:08, 03:01:10- 03:01:15, 03:01:18- 03:01:22, 03:07, 03:11:01, 03:18, 03:22- 03:23, 03:28, 03:32, 03:34, 03:36, 03:39, 03:45, 03:47-03:48, 03:50-03:51, 03:54- 03:55, 03:58-03:59, 03:61-03:62, 03:66- 03:68N, 03:70, 03:72, 03:83-03:84, 03:86, 03:91, 03:93	1							8		10					15									
*03:01:02, 03:24	1							8		10								18						
*03:01:06, 03:01:09, 03:08, 03:46, 03:64- 03:65								8		10					15									
*03:01:16, 03:77, 03:89	1							8		10					15									
*03:01:17	1							8		10													23	
*03:02:01, 03:74, 03:90	1						7		9				13		15									
*03:02:02, 03:27	1						7		9				13		15			18						
*03:03, 03:06, 03:60, 03:80	1							8		10			13		15									
*03:04:01-03:04:02, 03:21, 03:25, 03:30, 03:49	1									10					15									
*03:05:01-03:05:02, 03:09, 03:29	1						7		9						15									
*03:05:03	1						7		9									18						
*03:10								8		10					15									
*03:12	1			4				8		10					15									
*03:13:01	1							8		10					15									24
*03:13:02	1							8		10								18						24
*03:14	1						7		9															
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec.
	140					175			255		170			130	120	160								PCR product(s)
						205					260				155									
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
		27	28																					*03:01:01:01-03:01:01:02, 03:01:03-03:01:05, 03:01:07-03:01:08, 03:01:10-03:01:15, 03:01:18-03:01:22, 03:07, 03:11:01, 03:18, 03:22-03:23, 03:28, 03:32, 03:34, 03:36, 03:39, 03:45, 03:47-03:48, 03:50-03:51, 03:54-03:55, 03:58-03:59, 03:61-03:62, 03:66-03:68N, 03:70, 03:72, 03:83-03:84, 03:86, 03:91, 03:93
		27	28																					*03:01:02, 03:24
		27	28																					*03:01:06, 03:01:09, 03:08, 03:46, 03:64-03:65
		27																						*03:01:16, 03:77, 03:89
		27	28																					*03:01:17
																								*03:02:01, 03:74, 03:90
																								*03:02:02, 03:27
																								*03:03, 03:06, 03:60, 03:80
25		27	28																					*03:04:01-03:04:02, 03:21, 03:25, 03:30, 03:49
		27																						*03:05:01-03:05:02, 03:09, 03:29
		27																						*03:05:03
		27	28					33																*03:10
		27	28									37												*03:12
		27	28																					*03:13:01
		27	28																					*03:13:02
		27																						*03:14
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*03:15, 03:78	1							8		10														
*03:16, 03:20	1							8		10					15									
*03:17, 03:35	1								9				13				18							
*03:19	1							8		10					15									
*03:26	1							8		10			13		15									
*03:31, 03:75	1									10			13		15									
*03:33	1							8		10					15									
*03:37, 03:56	1							8		10					15									
*03:38	1						7		9				13		15						22		24	
*03:40	1								9						15									
*03:41	1								9				13		15									
*03:42, 03:69, 03:87, 03:92, 15:32								8																
*03:43	1									10					15								23	
*03:44	1									10					15									
*03:52	1									10					15									
*03:53	1						7		9						15									
*03:57, 03:63	1														15									
*03:71	1							8		10					15								23	
*03:73	1							8		10					15		17						23	
*03:76	1				5			8		10		12			15						21			
*03:79	1							8		10					15							22		24
*03:81	1						7	8	9	10							18							
*03:82	1							8		10					15									
*03:88	1						7		9				13		15									24
*04:02:01-04:02:03, 04:37, 04:124, 04:133- 04:134, 04:138, 04:143, 04:161														14										
*04:14, 04:106, 04:132														14										
*04:77, 04:102, 04:113, 14:46, 16:08, <i>DRB3*01:08</i> , <i>DRB3*02:06</i> , <i>DRB3*02:20</i>							7																	
*08:09, 08:21, 11:22, 14:15, 14:73																								
*08:20	1		3		5					10			13				18							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175 145			255 145		260 170 75			130 80	155 120 90	160 115								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
		27	28																					*03:15, 03:78
		27	28						34															*03:16, 03:20
25																								*03:17, 03:35
		27	28										38											*03:19
																41								*03:26
25																								*03:31, 03:75
		27	28													41								*03:33
		27	28																	45				*03:37, 03:56
25		27																						*03:38
25																								*03:40
																								*03:41
			28																					*03:42, 03:69, 03:87, 03:92, 15:32
		27	28																					*03:43
		27	28													41								*03:44
		27	28																					*03:52
																								*03:53
		27																						*03:57, 03:63
		27	28																					*03:71
		27	28																					*03:73
		27	28				32																	*03:76
		27	28																					*03:79
		27																						*03:81
			28																					*03:82
																								*03:88
					30																			*04:02:01-04:02:03, 04:37, 04:124, 04:133- 04:134, 04:138, 04:143, 04:161
																								*04:14, 04:106, 04:132
																								*04:77, 04:102, 04:113, 14:46, 16:08, DRB3*01:08, DRB3*02:06, DRB3*02:20
	26																							*08:09, 08:21, 11:22, 14:15, 14:73
25																								*08:20

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
																			260					
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*08:32, 12:11, 12:22, 12:38-12:39																								
*08:40, <i>DRB3</i> *02:27																			20					
*11:01:01-11:01:02, 11:01:04, 11:01:06, 11:01:08-11:01:09, 11:01:13-11:01:17, 11:12:01, 11:29, 11:32-11:33, 11:61-11:62, 11:66, 11:72, 11:74:01-11:75, 11:80-11:81, 11:90-11:91, 11:94-11:95, 11:97, 11:99-11:101, 11:106, 11:108-11:112, 11:117, 11:121, 11:126, 11:128, 11:133-11:134, 11:140-11:142, 11:144, 11:147			3		5				9															
*11:01:03, 11:01:11			3		5				9		12						17							
*11:01:05			3		5				9														23	
*11:01:07			3		5				9															
*11:01:10			3		5				9		12						17						23	
*11:01:12, 11:10:01-11:10:02, 11:12:02, 11:39			3		5				9															
*11:01:18-11:01:19, 11:26, 11:143					5				9															
*11:02:01-11:02:02, 11:65:01-11:65:02, 11:70		2				6				10	12		14											
*11:03, 11:63			3			6				10	12		14											
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec.	
	140					175			255		170			130	120	160								PCR product(s)	
						205					260				155										
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	
				29																				*08:32, 12:11, 12:22, 12:38-12:39	
																								*08:40, <i>DRB3</i> *02:27	
25		27																							*11:01:01-11:01:02, 11:01:04, 11:01:06, 11:01:08-11:01:09, 11:01:13-11:01:17, 11:12:01, 11:29, 11:32-11:33, 11:61-11:62, 11:66, 11:72, 11:74:01-11:75, 11:80-11:81, 11:90-11:91, 11:94-11:95, 11:97, 11:99-11:101, 11:106, 11:108-11:112, 11:117, 11:121, 11:126, 11:128, 11:133-11:134, 11:140-11:142, 11:144, 11:147
25		27					32																	*11:01:03, 11:01:11	
25		27																						*11:01:05	
25																								*11:01:07	
25		27					32																	*11:01:10	
25	26	27																						*11:01:12, 11:10:01-11:10:02, 11:12:02, 11:39	
25		27																						*11:01:18-11:01:19, 11:26, 11:143	
25		27	28		30																			*11:02:01-11:02:02, 11:65:01-11:65:02, 11:70	
25		27	28		30																			*11:03, 11:63	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	220	110	110	215	175	110	115	145	
PCR product(s)															235		255	230	205	110	215	220	175	110	115	145
																			260							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
*11:04:01-11:04:02, 11:04:05-11:04:06, 11:04:08-11:04:11, 11:35, 11:38, 11:46:02, 11:54:02, 11:60, 11:77-11:78, 11:92, 11:102:01- 11:102:02, 11:123, 11:135, 11:137, 11:146			3		5					10																
*11:04:03, 11:54:01			3		5					10													23			
*11:04:04, 11:43, 11:46:01			3		5					10																
*11:04:07			3		5					10	12						17									
*11:06:01, 11:06:03, 11:47, 11:129			3		5					10																
*11:06:02			3		5					10													23			
*11:07										10					15											
*11:08:01-11:08:02					5				9		11															
*11:09, 11:28:02, 11:87			3		5		7		9																	
*11:11:01-11:11:02			3			6			9			12		14												
*11:13:01-11:13:02					5					10													23			
*11:14:01-11:14:02		2				6			9			12		14												
*11:15			3		5				9																	
*11:16		2				6		8		10		12				16										
*11:17, 11:52, 14:01:01, 14:01:03- 14:01:04, 14:08, 14:32:02, 14:34, 14:39, 14:54:01- 14:54:02, 14:58, 14:60, 14:62, 14:70, 14:82, 14:86, 14:88, 14:90, 14:92N, 14:101, 14:112-14:114, 14:117, 14:122, 14:124-14:125, 14:129- 14:131, 14:139-14:140					5					10				13									23			
*11:18		2			5					10																
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175 145			255 145		260 170			130 80	155 120 90	160 115								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25		27	28																					*11:04:01-11:04:02, 11:04:05-11:04:06, 11:04:08-11:04:11, 11:35, 11:38, 11:46:02, 11:54:02, 11:60, 11:77-11:78, 11:92, 11:102:01- 11:102:02, 11:123, 11:135, 11:137, 11:146
25		27	28																					*11:04:03, 11:54:01
25	26	27	28																					*11:04:04, 11:43, 11:46:01
25		27	28				32																	*11:04:07
25		27	28						34															*11:06:01, 11:06:03, 11:47, 11:129
25		27	28						34															*11:06:02
25		27	28																					*11:07
25		27																						*11:08:01-11:08:02
	26	27																						*11:09, 11:28:02, 11:87
25		27																						*11:11:01-11:11:02
25		27	28																					*11:13:01-11:13:02
25		27																						*11:14:01-11:14:02
		27																						*11:15
		27	28		30													44						*11:16
25																								*11:17, 11:52, 14:01:01, 14:01:03- 14:01:04, 14:08, 14:32:02, 14:34, 14:39, 14:54:01- 14:54:02, 14:58, 14:60, 14:62, 14:70, 14:82, 14:86, 14:88, 14:90, 14:92N, 14:101, 14:112-14:114, 14:117, 14:122, 14:124-14:125, 14:129- 14:131, 14:139-14:140
25		27	28																					*11:18
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205	260		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
*11:19:01, 11:19:03		2			5				9																
*11:19:02		2			5				9			12					17								
*11:20		2				6	7		9			12				16									
*11:21		2				6				10		12		14											
*11:23:01-11:23:02, 11:27:01			3		5				9									18							
*11:24			3		5				9													22			
*11:25, 11:84:01			3		5					10								18							
*11:27:02-11:27:03			3		5				9						15										
*11:28:01			3		5		7		9																
*11:31		2			5				9																
*11:34, 11:89					5					10															
*11:36						6				10	11	12		14											
*11:37:01-11:37:02, 14:25			3		5				9				13												
*11:40			3			6		8		10		12				16									
*11:41			3			6				10		12	13	14											
*11:42, 11:130					5					10	11														
*11:44			3		5					10															
*11:45		2			5				9									18							
*11:48		2				6				10		12	13	14											
*11:49:01-11:49:02			3		5				9																
*11:50			3		5					10			13												
*11:51			3						9																
*11:53, 11:105									9																
*11:55			3		5	6				10								18							
*11:56			3		5					10			13												
*11:57					5					10	11														
*11:58:01, 11:113, 11:115			3		5			8		10															
*11:58:02			3		5					10															
*11:59			3			6		8		10		12				16					21				
*11:64					5				9		11							18							
*11:68						6			9		11	12		14											
*11:69						6			9		11														
*11:73		2			5				9			12													
*11:76			3			6				10		12		14									23		
*11:79					5				9			12													
*11:82		2				6			9		11														
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175 145			255 145		260 170			130	120	160								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25		27																						*11:19:01, 11:19:03
25		27					32																	*11:19:02
		27																	44					*11:20
25		27	28		30				34															*11:21
25		27																						*11:23:01-11:23:02, 11:27:01
		27																						*11:24
25		27	28																					*11:25, 11:84:01
25		27																						*11:27:02-11:27:03
		27																						*11:28:01
25		27						33																*11:31
25		27	28																					*11:34, 11:89
25		27	28		30																			*11:36
25																								*11:37:01-11:37:02, 14:25
	26	27	28		30																			*11:40
25					30																			*11:41
25		27	28																					*11:42, 11:130
		27	28													41								*11:44
25		27																						*11:45
25					30																			*11:48
		27														41								*11:49:01-11:49:02
	26															41								*11:50
25		27																						*11:51
25		27																						*11:53, 11:105
25		27	28		30																			*11:55
25																								*11:56
25		27	28						34															*11:57
	26	27	28																					*11:58:01, 11:113, 11:115
		27	28																					*11:58:02
	26	27	28		30																			*11:59
25		27																						*11:64
25		27																						*11:68
25		27																						*11:69
25		27					32																	*11:73
		27	28		30																			*11:76
25		27					32																	*11:79
25		27																						*11:82
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*11:83			3		5			8		10			13											
*11:84:02-11:84:03			3		5					10					15									
*11:85			3			6				10		12		14										
*11:86		2				6						12		14				19						
*11:88			3		5					10														
*11:93			3		5				9			12												
*11:96, 14:53			3		5				9															
*11:98		2								10														
*11:103, 11:125									9						15									
*11:107									9				13		15									
*11:114			3		5				9														23	
*11:116			3		5					10														24
*11:118		2				6				10		12				16								
*11:119		2			5					10								18						
*11:120			3		5				9															24
*11:122			3			6	7		9			12				16								
*11:124		2				6				10		12		14				18						
*11:127		2				6				10		12		14										
*11:131					5					10		12												
*11:132		2			5					10		12												
*11:136									9									18						
*11:138			3			6				10		12		14				18						
*11:139			3			6				10		12		14										
*11:145, 14:22			3		5				9				13											
*12:01:01-12:01:05, 12:03:02-12:06, 12:08- 12:10, 12:14, 12:17, 12:24N-12:25, 12:29- 12:30, 12:34-12:36, 12:40																								
*14:01:02, 14:32:01, 14:75					5					10			13											
*14:02, 14:51	1				5		7		9				13		15									
*14:03:01, 14:135	1				5		7		9		11		13		15			18						
*14:03:02	1				5		7		9		11				15			18						
*14:05:01-14:05:02, 14:05:04, 14:23:01, 14:23:03-14:23:04, 14:43, 14:45, 14:91, 14:96, 14:100, 14:123	1				5					10			13										23	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec.
	140					175			255		260			130	120	160								PCR product(s)
						205									155									
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
	26																							*11:83
25		27	28																					*11:84:02-11:84:03
		27	28		30											41								*11:85
25		27																						*11:86
25																								*11:88
25		27					32																	*11:93
25		27						33																*11:96, 14:53
25		27	28																					*11:98
25		27																						*11:103, 11:125
25																								*11:107
		27																						*11:114
25		27	28																					*11:116
25		27	28		30														44					*11:118
25		27	28																					*11:119
25		27																						*11:120
	26	27																						*11:122
25		27	28		30																			*11:124
		27	28		30											41								*11:127
25		27	28				32																	*11:131
25		27	28				32																	*11:132
25		27																						*11:136
25		27	28		30																			*11:138
25		27	28		30																	47		*11:139
25	26																							*11:145, 14:22
			28	29																				*12:01:01-12:01:05, 12:03:02-12:06, 12:08- 12:10, 12:14, 12:17, 12:24N-12:25, 12:29- 12:30, 12:34-12:36, 12:40
25																								*14:01:02, 14:32:01, 14:75
																								*14:02, 14:51
																								*14:03:01, 14:135
																								*14:03:02
25																								*14:05:01-14:05:02, 14:05:04, 14:23:01, 14:23:03-14:23:04, 14:43, 14:45, 14:91, 14:96, 14:100, 14:123
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	220	110	110	215	175	110	115	145
PCR product(s)															235				230	205		220	175	245	180
																			260						
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
*14:05:03, 14:103	1				5					10			13												
*14:06:01-14:06:02, 14:81, 14:83, 14:106, 14:108	1				5			8		10			13		15										
*14:07:01-14:07:02					5				9				13										23		
*14:09	1				5		7		9				13												
*14:12:01-14:12:02	1				5			8		10	11		13		15			18							
*14:13	1			4	5		7		9				13		15										
*14:14, 14:36, 14:44:01, 14:44:03	1				5				9				13										23		
*14:16		2				6				10		12	13	14		16									
*14:17, 14:33	1				5			8		10															
*14:18	1				5			8		10			13		15								23		
*14:19	1				5		7		9			12	13		15										
*14:20	1				5					10			13		15										
*14:21	1				5			8		10		12													
*14:23:02	w				5					10			13										23		
*14:24	1	2				6	7		9		11		13		15										
*14:26					5					10			13										23		
*14:27	1		3		5		7		9				13		15			18							
*14:29	1				5			8		10			13		15										
*14:30	1				5		7		9																
*14:32:03					5					10		12	13					17					23		
*14:35, 14:72					5					10													23		
*14:37	1	2				6				10	11		13												
*14:38					5					10			13					18							
*14:40, 14:102	1				5				9		11		13		15			18							
*14:41	1				5				9				13		15								23		
*14:42	1				5				9														23		
*14:44:02	1				5				9				13												
*14:47, 14:89	1				5		7		9				13		15			18							
*14:48	1				5		7		9				13		15							22		24	
*14:49					5				9				13		15										
*14:52								8																	
*14:55					5					10			13					18					23		
*14:56, 14:127:02	1									10			13										23		
*14:57														14		16									
*14:59	1				5			8		10			13										23		
*14:63	1	2		4	5		7		9				13		15			18							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec. PCR product(s)
	140					205 175 145			255		260 170			130	120 155	160								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25																								*14:05:03, 14:103
																								*14:06:01-14:06:02, 14:81, 14:83, 14:106, 14:108
25																								*14:07:01-14:07:02
																								*14:09
												37												*14:12:01-14:12:02
																								*14:13
25																								*14:14, 14:36, 14:44:01, 14:44:03
25					30													44						*14:16
		27	28																					*14:17, 14:33
																								*14:18
							32																	*14:19
25																								*14:20
		27	28				32																	*14:21
25																								*14:23:02
																								*14:24
25											36													*14:26
	26																							*14:27
								34																*14:29
		27																						*14:30
25							32																	*14:32:03
25		27	28					33																*14:35, 14:72
25																								*14:37
25																								*14:38
25																								*14:40, 14:102
																								*14:41
25		27																						*14:42
25																								*14:44:02
																								*14:47, 14:89
																								*14:48
25																								*14:49
																								*14:52
25																								*14:55
25																								*14:56, 14:127:02
					30													44						*14:57
																								*14:59
				29								37												*14:63
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

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 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **59S**

Lot-specific information

Length of spec.	175	200	200	170	220	215	200	190	270	260	210	220	145	150	85	150	220	110	110	215	175	110	115	145
PCR product(s)															235		255	230	205		220	175	245	180
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*14:64	1				5			8		10													23	24
*14:65	1			4	5					10													23	
*14:67	1	2			5		7		9				13		15			18						
*14:69					5				9		11		13											
*14:74					5					10	11		13											
*14:77	1				5				9		11		13		15			18					23	
*14:78	1	2		4	5			8		10			13		15			18						
*14:80, 14:121	1				5			8		10			13											
*14:84	1				5					10	11		13					18						
*14:85	1			4	5		7		9		11		13		15			18						
*14:87, 14:104, 14:111										10			13										23	
*14:94	1				5				9				13		15									
*14:95	1				5			8		10													23	
*14:97					5					10			13										23	
*14:98	1						7		9		11		13		15			18						
*14:99					5					10			13										23	
*14:105			3		5					10			13										23	
*14:109	1				5		7		9			12	13		15									24
*14:110					5					10			13										23	
*14:115	1				5		7		9		11		13		15			18						24
*14:116	1				5				9		11		13					18						
*14:118					5					10			13										23	
*14:119					5				9				13											
*14:127:01, 14:136	1				5					10			13					18						
*14:128			3		5					10														
*14:132					5			8		10													23	
*14:133					5			8		10			13										23	
*14:134	1				5		7		9														23	
*14:137N										10		12	13										23	
*14:138																								
*14:142					5								13										23	
*15:10														14		16								
*15:37:01																								
DRB3*01:14	1								9				13					18				22	23	24
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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Lot No.: **59S**

Lot-specific information

110	90	145	160	155	85	145	220	80	145	150	75	100	70	80	90	115	235	185	145	250	205	180	135	Length of spec.
	140					175			255		170			130	120	160								PCR product(s)
						205					260				155									
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
		27	28																					*14:64
25		27	28																					*14:65
				29																				*14:67
25																								*14:69
25																								*14:74
																								*14:77
				29								37												*14:78
																								*14:80, 14:121
25												37												*14:84
																								*14:85
25																								*14:87, 14:104, 14:111
25																								*14:94
		27	28																					*14:95
																41								*14:97
																								*14:98
25									34															*14:99
25	26																							*14:105
						32																		*14:109
																								*14:110
																								*14:115
25																								*14:116
25															40									*14:118
25																								*14:119
25																								*14:127:01, 14:136
25		27	28					33																*14:128
		27	28					33																*14:132
																								*14:133
		27																						*14:134
25																								*14:137N
			28					33																*14:138
25																								*14:142
			28		30																			*15:10
			28									38												*15:37:01
																								DRB3*01:14
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

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Lot No.: 59S**Lot-specific information**

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 430 base pairs, for most wells, or a band of 515 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the longer, 515 bp, internal positive control band in order to help in the correct orientation of the DRB1*13 subtyping.

In addition, wells number 6, 13, 15, 20, 27, 30 and 37 contain the primer pair giving rise to the longer, 515 bp, internal positive control band in order to allow kit identification.

In the presence of a specific amplification the intensity of the control band often decreases.

²The codon, and in parenthesis the nucleotide, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Codon and 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 codon, and in parenthesis the nucleotide, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Codon and 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.

⁴DRB1*13 alleles in bold lettering are listed as confirmed alleles on the on the IMGT/HLA web page www.ebi.ac.uk/imgt/hla, release 3.13.1, July 2013.

⁵The DRB1*13:92 and 13:98 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 36.

⁶Primer mix 15: Specific PCR fragment of 85 bp in the DRB1*13:15, 13:19, 13:26:01-13:26:02, 13:53, 13:57, 13:85-13:86 and 13:104, and the DBR1*03:02:02, 03:27, 03:90, 14:02-14:03:02, 14:06:01-14:06:02, 14:12:01-14:13, 14:18-14:20, 14:24, 14:27, 14:29, 14:40-14:41, 14:47-14:49, 14:51, 14:63, 14:67, 14:77-14:78, 14:81, 14:83, 14:85, 14:89, 14:94, 14:98, 14:102, 14:106, 14:108-14:109, 14:115 and 14:135 alleles. Specific PCR fragment of 235 bp in the DRB1*13:33:01, 13:61:02, 13:94:01 and 13:96:01, and the DRB1*03:01:01:01-03:01:01:02, 03:01:03-03:01:16, 03:01:18-03:01:21, 03:04:01-03:05:02, 03:06-03:13:01, 03:16, 03:18-03:23, 03:25-03:26, 03:28, 03:30-03:34, 03:36-03:37, 03:39-03:41, 03:43-03:52, 03:54-03:68N, 03:70-03:73, 03:75-03:77, 03:79-03:80, 03:82-03:84, 03:86, 03:89, 03:91, 03:93, 11:07, 11:27:02-11:27:03, 11:84:02-11:84:03, 11:103, 11:107 and 11:125 alleles. Specific PCR fragments of 85 and 235 bp in DRB1*03:02:01, 03:03, 03:29, 03:38, 03:53, 03:74 and 03:88 alleles. Both specific PCR fragments may not be visible.

Primer mix 17: Specific PCR fragment of 220 bp in the DRB1*13:02:02, 13:26:01, 13:60, 13:77 and 13:163 and the DRB1*11:01:03, 11:01:10-11:01:11, 11:04:07, 11:19:02 and 14:32:03 alleles. Specific PCR fragment of 255 bp in the DRB1*13:28 and the DRB1*03:73 alleles.

Primer mix 18: Specific PCR fragment of 110 bp in the DRB1*13:87 allele. Specific PCR fragment of 230 bp in the DRB1*13:13, 13:18, 13:33:02-13:33:03, 13:47, 13:55, 13:61:01, 13:94:02, 13:96:02, 13:119, 13:144, 13:146, 13:154, 13:156, 13:158 and 13:164 and the DRB1*03:01:02, 03:02:02, 03:05:03, 03:13:02, 03:17, 03:24, 03:27, 03:35, 03:81, 08:20, 11:23:01-11:23:02, 11:25, 11:27:01, 11:45, 11:55, 11:64, 11:84:01, 11:119, 11:124, 11:136, 11:138, 14:03:01-14:03:02, 14:12:01-14:12:02, 14:27, 14:38, 14:40, 14:47, 14:55, 14:63, 14:67, 14:77-14:78, 14:84-14:85, 14:89, 14:98, 14:102, 14:115-14:116, 14:127:01 and 14:135-14:136 and in the DRB3*01:14 alleles.

Primer mix 19: Specific PCR fragment of 110 bp in the DRB1*13:87 allele. Specific PCR fragment of 205 bp in the DRB1*13:74 allele. Specific PCR fragment of 260 bp in the DRB1*13:16 and the DRB1*11:86 alleles.

Primer mix 21: Specific PCR fragment of 175 bp in the DRB1*13:27, 13:41 and 13:71 and the DRB1*03:76 and 11:59 alleles. Specific PCR fragment of 220 bp in the DRB1*13:103 and 13:160 alleles.

Primer mix 22: Specific PCR fragment of 110 bp in the DRB1*13:68 and the DRB1*11:24 alleles. Specific PCR fragment of 175 bp in the DRB1*13:31, 13:46, 13:54, 13:77, 13:100 and 13:162 and the DRB1*03:38, 03:79 and 14:48 and in the DRB3*01:14 alleles.

Primer mix 23: Specific PCR fragment of 115 bp in the DRB1*13:34, 13:64 and 13:136 and the DRB1*03:43, 03:71, 11:76, 11:114, 14:41 and 14:77 and in the DRB3*01:14 alleles.

Specific PCR fragment of 245 bp in the DRB1*13:01:03, 13:76 and 13:163 and the DRB1*03:01:17, 11:01:05, 11:01:10, 11:04:03, 11:06:02, 11:13:01-11:13:02, 11:17, 11:52, 11:54:01, 14:01:01, 14:01:03-14:01:04, 14:05:01-14:05:02, 14:05:04, 14:07:01-14:08, 14:14,

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Lot No.: 59S**Lot-specific information**

14:18, 14:23:01-14:23:04, 14:26, 14:32:02-14:32:03, 14:34-14:36, 14:39, 14:42-14:44:01, 14:44:03-14:45, 14:54:01-14:56, 14:58-14:60, 14:62, 14:64-14:65, 14:70, 14:72, 14:82, 14:86-14:88, 14:90-14:92N, 14:95-14:97, 14:99-14:101, 14:104-14:105, 14:111-14:114, 14:117-14:118, 14:122-14:125, 14:127:02, 14:129-14:134, 14:137N, 14:139-14:140 and 14:142 alleles. Specific PCR fragment of 115 and 245 bp in the DRB1*14:110 allele.

Primer mix 24: Specific PCR fragment of 145 bp in the DRB1*13:35 and 13:161 alleles. Specific PCR fragment of 180 bp in the DRB1*13:39, 13:54, 13:77-13:79, 13:100 and 13:162-13:163 and the DRB1*03:13:01-03:13:02, 03:38, 03:79, 03:88, 11:116, 11:120, 14:48, 14:64, 14:109 and 14:115 and in the DRB3*01:14 alleles.

Primer mix 26: Specific PCR fragment of 90 bp in the DRB1*13:150 and the DRB1*11:39, 11:43, 11:50 and 11:145 alleles. Specific PCR fragment of 140 bp in the DRB1*13:05:01-13:05:02, 13:18, 13:26:01-13:26:02, 13:42, 13:50:02, 13:63, 13:111, 13:132, 13:136, 13:144 and 13:158 and the DRB1*08:09, 08:21, 11:01:12, 11:04:04, 11:09-11:10:02, 11:12:02, 11:22, 11:28:02, 11:40, 11:46:01, 11:58:01, 11:59, 11:83, 11:87, 11:113, 11:122, 14:15, 14:22, 14:27, 14:73 and 14:105 alleles. PCR fragment of 90 and 140 bp in the DRB1*11:115 allele.

Primer mix 31: Specific PCR fragment of 145 bp in the DRB1*13:152 allele. Specific PCR fragment of 175 bp in the DRB1*13:59 allele. Specific PCR fragment of 205 bp in the DRB1*13:72 allele.

Primer mix 34: Specific PCR fragment of 145 bp in the DRB1*13:80 and the DRB1*03:16 alleles. Specific PCR fragment of 255 bp in the DRB1*13:58, 13:81 and 13:163 and the DRB1*03:20, 11:06:01-11:06:03, 11:21, 11:47, 11:57, 11:129, 14:29 and 14:99 alleles.

Primer mix 36: Specific PCR fragment of 75 bp in the DRB1*13:92 and the DRB1*14:26 alleles. Specific PCR fragment of 170 bp in the DRB1*13:90 allele. Specific PCR fragment of 260 bp in the DRB1*13:98 allele.

Primer mix 39: Specific PCR Specific PCR fragment of of 80 bp in the DRB1*13:102 allele. Specific PCR Specific PCR fragment of of 130 bp in the DRB1*13:95 allele.

Primer mix 40: Specific PCR fragment of 90 bp in the DRB1*13:101 allele. Specific PCR fragment of 120 bp in the DRB1*13:91 allele. Specific PCR fragment of 155 bp in the DRB1*13:99 and the DRB1*14:118 alleles.

Primer mix 41: Specific PCR fragment of 115 bp in the DRB1*13:106 and the DRB1*03:26, 03:33, 03:44, 11:44, 11:49:01-11:50, 11:85, 11:127 and 14:97 alleles. Specific PCR fragment of 160 bp in the DRB1*13:113N allele.

⁷The DRB1*13 primer set cannot separate the DRB1*13:01:01-13:01:02, 13:01:04-13:01:06, 13:01:08 and 13:01:10-13:01:13 and the DRB1*13:117 alleles.

‘w’, may be weakly amplified.

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Lot-specific information

[illegible]

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Lot-specific information

[illegible]

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Lot No.: **59S**

Lot-specific information

CELL LINE VALIDATION SHEET															
DRB1*13 SSP subtyping kit															
					Well										
					33	34	35	36	37	38	39	40	41	42	43
					44	45	46	47	48						
					Prod. No.:	201077633	201077634	201077635	201077636	201077637	201077638	201077639	201077640	201298841	201298842
						201298843	201321344	201321345	201321346	201321347	201321348				
					IHWC cell line	DRB1									
1	9001	SA	*01:01		-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*15:02	*04:05	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*15:02		-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*03:01		-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*16:01		-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*04:07	*08:03	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*03:01		-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*04:01		-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*04:02		-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*04:05		-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*07:01		-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*07:01		-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*01:01		-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*08:02		-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*09:01		-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*11:01		-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:01	*13:01	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*09:01	*11:01	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*12:01		-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*13:02		-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*14:02		-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*13:02	*14:54	-	-	-	-	-	-	-	-	-	-	-
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		-	-	-	-	-	-	-	-	-	-	-

101.116-24/03 – including *Taq* pol., IFU-01
 101.116-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **59S**

Lot-specific information

CERTIFICATE OF ANALYSIS

Olerup SSP® DRB1*13 SSP

Product number: 101.116-24/03 – including *Taq* pol.
 101.116-24u/03u – without *Taq* pol.
 Lot number: 59S
 Expiry date: 2016-March- 01
 Number of tests: 24 tests – Product No. 101.116-24
 3 tests – Product No. 101.116-03
 Number of wells per test: 48

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-776-01	17	2010-776-17	33	2010-776-33
2	2013-213-02	18	2010-776-18	34	2010-776-34
3	2010-776-03	19	2010-776-19	35	2010-776-35
4	2010-776-04	20	2013-213-20	36	2010-776-36
5	2010-776-05	21	2013-213-21	37	2010-776-37
6	2010-776-06	22	2010-776-22	38	2010-776-38
7	2012-988-07	23	2010-776-23	39	2010-776-39
8	2010-776-08	24	2010-776-24	40	2010-776-40
9	2012-988-09	25	2010-776-25	41	2012-988-41
10	2010-776-10	26	2013-213-26	42	2012-988-42
11	2013-213-11	27	2010-776-27	43	2012-988-43
12	2010-776-12	28	2010-776-28	44	2013-213-44
13	2010-776-13	29	2010-776-29	45	2013-213-45
14	2010-776-14	30	2013-213-30	46	2013-213-46
15	2010-776-15	31	2013-213-31	47	2013-213-47
16	2010-776-16	32	2010-776-32	48	2013-213-48

The specificity of each primer solution of the kit has been tested against 48 well characterized IHWC cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 17, 19 to 21, 24, 31, 33 to 36, 38 to 43 and 45 to 48 were available. The specificities of the primers in primer solution 17, 20, 21, 24, 31, 33, 34, 38 and 41 were tested by separately adding additional 5'-primers or 3'-primers. In primer solutions 19, 35, 36, 39, 40, 45, 46 and 48 it was only possible to test the 5'-primer, the 3'-primers were not possible to test. In primer solutions 42, 43 and 47 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solution 21, 26 and 31 one or two of the 5'-primers were not possible to test. One of the 3'-primers in primer solutions 7, 9, 17, 18, 22 to 24, 27, 34 and 41 was not possible to test.

Additional primers in primer solutions 2, 5, 6, 11, 12, 14, 18, 23, 26 and 32 were tested by separately adding one 5'-primer and/or one 3'-primer.

101.116-24/03 – including *Taq* pol., IFU-01
101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

Results: No false positive or false negative amplifications were obtained.

Date of approval: 2013-October-02

Approved by:

Production Quality Control

101.116-24/03 – including *Taq* pol., IFU-01
101.116-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **59S**

Lot-specific information

Declaration of Conformity

Product name: *Olerup* SSP® DRB1*13
Product number: 101.116-24/24u, -03/03u
Lot number: 59S

Intended use: DRB1*13 high resolution histocompatibility testing

Manufacturer: *Olerup* SSP AB
Franzengatan 5
SE-112 51 Stockholm, Sweden
Phone: +46-8-717 88 27
Fax: +46-8-717 88 18

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2012, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

The Technical Documentation File is maintained at *Olerup* SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Notified Body: Lloyd's Register Quality Assurance Limited, Hiramford, Middlemarch Office Village, Siskin Drive, Coventry CV3 4FJ, United Kingdom. (Notified Body number: 0088.)

Stockholm, Sweden

Daniel Malica
Head of QA and Regulatory Affairs

101.116-24/03 – including *Taq* pol., IFU-01
101.116-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **59S**

Lot-specific information

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