101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

Visit www.olerup-ssp.com for **"Instructions for Use" (IFU)**

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

Olerup SSP® HLA-B*51

Product number:	**101.561-24/03 – including *Taq* pol.** **101.561-24u/03u – without *Taq* pol.**
Lot number:	**05R**
Expiry date:	**2015-February-01**
Number of tests:	**24 tests – Product No. 101.561-24/24u** **3 tests – Product No. 101.561-03/03u**
Number of wells per test:	**72**
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. 05R.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP® HLA-B*51 LOT (48M).

The HLA-B*51 kit is updated for new alleles to enable separation of:

- Confirmed[1] 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

Eight wells have been added to the HLA-B*51 kit, wells **65 to 72**.

The Lot-specific information for HLA-B*51 including and without *Taq* polymerase is now described in one common Product Insert.

[1]As described in section Uniquely Identified Alleles.

The HLA-B*51 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup* SSP® HLA-B*51 lot was made **(Lot No. 48M)**.

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

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

Well	5'-primer	3'-primer	rationale
29	-	Added	3'-primer added for the B*51:01:32 allele.
30	Added	-	5'-primer added for the B*51:56:02 allele.
37	-	Modified	Increased yield of HLA-specific primer pair.
46	Added	Added	Primer pair added for the B*51:123 allele.
54	Added	Added	Primer pair added for the B*51:124 allele.
60	-	-	Exchanged positive control primer pair.
63	Moved	-	5'-primer moved to well 64, for decreased tendencies of primer oligomer formation.
64	Added	-	Primer from well 63.
65	New	New	New primer pairs for the B*51:98 and B*51:103 alleles.
66	New	New	New primer pair for the B*51:109 and B*51:120 alleles.
67	New	New	New primer pair for the B*51:100 and B*51:122 alleles.
68	New	New	New primer pair for the B*51:105 allele.
69	New	New	New primer pair for the B*51:110N allele.
70	New	New	New primer pair for the B*51:111 allele.
71	New	New	New primer pair for the B*51:117 allele.
72	New	New	New primer pair for the B51:118N allele.

Change in revision R01 compared to R00:

1. The C*03:19 and 03:102 alleles are amplified by primer mix 16. This has been corrected in the Specificity and Interpretation Tables.

PRODUCT DESCRIPTION

HLA-B*51 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*51:01 to B*51:131 alleles.

PLATE LAYOUT

Each test consists of 72 PCR reactions in a 96 well PCR plate. Wells 73 to 96 are empty

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	42	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
empty	empty	empty	empty	empty	empty	empty	empty
empty	empty	empty	empty	empty	empty	empty	empty
empty	empty	empty	empty	empty	empty	empty	empty

The 96 well cut PCR plate is marked with 'HLA-B*51' in silver/gray ink.
Well No. 1 is marked with the Lot No. '05R'.
A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.
The PCR plates are covered with a PCR-compatible foil.

INTERPRETATION

The interpretation of HLA-B*51 SSP subtypings will be influenced by most B*07, several B*08, most B*13, the B*14, many B*15, the B*18, several B*27, most B*35, the B*37, three B*38, fourteen B*39, many B*40, ten B*41, two B*42, most B*44, the B*45, two B*46, most B*48, the B*49, the B*50, the B*52, the B*53, the B*54, the B*55, the B*56, most B*57, most B*58, the B*59, the B*73, the B*78, the B*81, the B*82 and the B*83:01 alleles when present on the other haplotype.
In addition, primer mixes 2 and 7 will amplify the C*01:30 and C*08:51 alleles, primer mixes 2, 5 and 27 will amplify the C*15:39 allele, primer mixes 34 and 35 will amplify the C*15:25 allele, primer mix 41 will amplify the C*08:24 allele, primer mix 50 will amplify the C*03:05, C*03:25, C*03:27 and C*08:08 alleles and primer mix 56 will amplify the A*24:146 allele.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*51 alleles, i.e. **B*51:01 to B*51:131**, recognized by the HLA Nomenclature Committee in April 2012[1] will be amplified by the primers in the HLA-B*51 subtyping kit[2].

The B*51:51 and 51:76 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 44.
The B*51:57 and 51:123 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 46.
The B*51:66 and 51:67 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 64.
The B*51:68 and 51:72 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 51.
The B*51:70 and 51:71 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 53.
The B*51:54 and 51:124 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 54.
The B*51:75 and 51:77 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 55.
The B*51:83 and 51:88 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 59.
The B*51:84 and 51:94 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 60.
The B*51:86 and 51:95 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 62.

The HLA-B*51 kit enables separation of the confirmed HLA-B*51 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 HLA-B*51 alleles is listed below.

The HLA-B*51 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 HLA-B*51 subtyping kit cannot distinguish following silent mutations: the B*51:01:01, 51:01:03-51:01:07, 51:01:10-51:01:14, 51:01:16-51:01:20, 51:01:22-51:01:24 and 51:01:26-51:01:34 alleles, the B*51:01:08 and 51:01:15 alleles, the B*51:01:21 and 51:01:25 alleles, the B*51:02:01 and 51:02:03-51:02:05 alleles, the B*51:13:01-51:13:02 alleles, the B*51:24:02-51:24:03 alleles and the B*51:56:01-51:56:02 alleles.

[1]HLA-B alleles listed on the IMGT/HLA web page 2012-April-12, release 3.8.0, www.ebi.ac.uk/imgt/hla.
[2]The B*51:78:02 and B*78:02:01 alleles will give rise to identical amplification patterns with the HLA-B*51 subtyping kit. These alleles can be distinguished by the HLA-B low resolution kit and/or the HLA-B*78 subtyping kit.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

Visit www.olerup-ssp.com for **"Instructions for Use" (IFU)**

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

ALLELE CONFIRMATION STATUS

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
B*51:01:01	**Confirmed**	**B*51:11N**	**Confirmed**	B*51:58	Unconfirmed	B*51:107	Unconfirmed
B*51:01:02	**Confirmed**	B*51:12	Unconfirmed	B*51:59	Unconfirmed	**B*51:108**	**Confirmed**
B*51:01:03	Unconfirmed	**B*51:13:01**	**Confirmed**	B*51:60	Unconfirmed	**B*51:109**	**Confirmed**
B*51:01:04	**Confirmed**	**B*51:13:02**	**Confirmed**	**B*51:61**	**Confirmed**	B*51:110N	Unconfirmed
B*51:01:05	Unconfirmed	**B*51:14**	**Confirmed**	B*51:62	Unconfirmed	**B*51:111**	**Confirmed**
B*51:01:06	Unconfirmed	B*51:15	Unconfirmed	B*51:63	Unconfirmed	B*51:112	Unconfirmed
B*51:01:07	Unconfirmed	**B*51:16**	**Confirmed**	**B*51:64**	**Confirmed**	B*51:113	Unconfirmed
B*51:01:08	Unconfirmed	B*51:17	Unconfirmed	**B*51:65**	**Confirmed**	B*51:114	Unconfirmed
B*51:01:09	**Confirmed**	B*51:18	Unconfirmed	B*51:66	Unconfirmed	B*51:115	Unconfirmed
B*51:01:10	**Confirmed**	**B*51:19**	**Confirmed**	**B*51:67**	**Confirmed**	B*51:116	Unconfirmed
B*51:01:11	Unconfirmed	**B*51:20**	**Confirmed**	**B*51:68**	**Confirmed**	**B*51:117**	**Confirmed**
B*51:01:12	Unconfirmed	B*51:21	Unconfirmed	**B*51:69**	**Confirmed**	B*51:118N	Unconfirmed
B*51:01:13	Unconfirmed	**B*51:22**	**Confirmed**	**B*51:70**	**Confirmed**	B*51:119	Unconfirmed
B*51:01:14	Unconfirmed	**B*51:23**	**Confirmed**	B*51:71	Unconfirmed	**B*51:120**	**Confirmed**
B*51:01:15	Unconfirmed	**B*51:24:01**	**Confirmed**	B*51:72	Unconfirmed	B*51:121	Unconfirmed
B*51:01:16	Unconfirmed	B*51:24:02	Unconfirmed	**B*51:73**	**Confirmed**	**B*51:122**	**Confirmed**
B*51:01:17	Unconfirmed	**B*51:24:03**	**Confirmed**	**B*51:74**	**Confirmed**	**B*51:123**	**Confirmed**
B*51:01:18	**Confirmed**	**B*51:24:04**	**Confirmed**	**B*51:75**	**Confirmed**	**B*51:124**	**Confirmed**
B*51:01:19	**Confirmed**	**B*51:26**	**Confirmed**	B*51:76	Unconfirmed	B*51:125	Unconfirmed
B*51:01:20	**Confirmed**	B*51:27N	Unconfirmed	B*51:77	Unconfirmed	B*51:126	Unconfirmed
B*51:01:21	**Confirmed**	B*51:28	Unconfirmed	**B*51:78:01**	**Confirmed**	B*51:127	Unconfirmed
B*51:01:22	Unconfirmed	**B*51:29**	**Confirmed**	B*51:78:02	Unconfirmed	B*51:128	Unconfirmed
B*51:01:23	Unconfirmed	B*51:30	Unconfirmed	**B*51:79**	**Confirmed**	B*51:129	Unconfirmed
B*51:01:24	Unconfirmed	B*51:31	Unconfirmed	B*51:80	Unconfirmed	B*51:130	Unconfirmed
B*51:01:25	Unconfirmed	B*51:32	Unconfirmed	B*51:81	Unconfirmed	B*51:131	Unconfirmed
B*51:01:26	Unconfirmed	B*51:33	Unconfirmed	**B*51:82**	**Confirmed**		
B*51:01:27	Unconfirmed	**B*51:34**	**Confirmed**	**B*51:83**	**Confirmed**		
B*51:01:28	Unconfirmed	B*51:35	Unconfirmed	B*51:84	Unconfirmed		
B*51:01:29	**Confirmed**	**B*51:36**	**Confirmed**	B*51:85	Unconfirmed		
B*51:01:30	Unconfirmed	**B*51:37**	**Confirmed**	B*51:86	Unconfirmed		
B*51:01:31	Unconfirmed	**B*51:38**	**Confirmed**	B*51:87	Unconfirmed		
B*51:01:32	Unconfirmed	B*51:39	Unconfirmed	B*51:88	Unconfirmed		
B*51:01:33	**Confirmed**	**B*51:40**	**Confirmed**	B*51:89	Unconfirmed		
B*51:01:34	Unconfirmed	B*51:41N	Unconfirmed	**B*51:90**	**Confirmed**		
B*51:02:01	**Confirmed**	B*51:42	Unconfirmed	B*51:91	Unconfirmed		
B*51:02:02	**Confirmed**	**B*51:43**	**Confirmed**	B*51:92	Unconfirmed		
B*51:02:03	Unconfirmed	B*51:44N	Unconfirmed	B*51:93	Unconfirmed		
B*51:02:04	Unconfirmed	B*51:45	Unconfirmed	**B*51:94**	**Confirmed**		
B*51:02:05	**Confirmed**	B*51:46	Unconfirmed	B*51:95	Unconfirmed		
B*51:03	Unconfirmed	B*51:48	Unconfirmed	B*51:96	Unconfirmed		
B*51:04	Unconfirmed	B*51:49	Unconfirmed	B*51:97	Unconfirmed		
B*51:05	**Confirmed**	**B*51:50**	**Confirmed**	B*51:98N	Unconfirmed		
B*51:06:01	**Confirmed**	B*51:51	Unconfirmed	B*51:99	Unconfirmed		
B*51:06:02	**Confirmed**	**B*51:52**	**Confirmed**	**B*51:100**	**Confirmed**		
B*51:07:01	**Confirmed**	B*51:53	Unconfirmed	B*51:101	Unconfirmed		
B*51:07:02	Unconfirmed	B*51:54	Unconfirmed	B*51:102	Unconfirmed		
B*51:08	**Confirmed**	**B*51:55**	**Confirmed**	**B*51:103**	**Confirmed**		
B*51:09:01	**Confirmed**	**B*51:56:01**	**Confirmed**	B*51:104	Unconfirmed		
B*51:09:02	**Confirmed**	B*51:56:02	Unconfirmed	**B*51:105**	**Confirmed**		
B*51:10	**Confirmed**	B*51:57	Unconfirmed	B*51:106	Unconfirmed		

[1]Allele status "confirmed" or "unconfirmed" as listed on the IMGT/HLA web page 2012-April12, release 3.8.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 182 alleles generate 115 amplification patterns that can be combined in 6670 homozygous and heterozygous combinations. 3209 of these genotypes do not give rise to unique amplification patterns. The different lengths of the specific PCR products were not considered in these calculations.

SPECIFICITY TABLE

HLA-B*51 SSP subtyping

Specificities and sizes of the PCR products of the 72 primer mixes used for HLA-B*51 SSP subtyping

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-B*51 alleles[3]	Other amplified HLA-B alleles[4]
1[5]	105 bp	**800 bp**	*51:01:01-51:06:02, 51:08-51:21, 51:23-51:24:04, 51:26-51:46, 51:48-51:103, 51:105-51:111, 51:113-51:127, 51:129-51:131	*08:32, 18:07:01-18:07:02, 18:29, 35:01:01:01-35:08:01, 35:08:03-35:08:04, 35:09:01-35:18, 35:21-35:24:02, 35:27, 35:29:01-35:45, 35:48, 35:50-35:62, 35:64-35:71, 35:74-35:75, 35:77, 35:79-35:81, 35:83-35:84, 35:86-35:94, 35:96-35:134N, 35:136-35:153, 35:155-35:185, 35:187-35:197, 35:199-35:200, 37:21, 38:06-38:07, 44:06, 52:06:01-52:06:02, 53:01:01-53:08:02, 53:10-53:16, 53:18-53:27, 78:01:01-78:02:02, 78:04, 78:07
2[5]	95 bp	1070 bp	*51:01:01-51:01:34, 51:03-51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:22, 51:24:01-51:24:04, 51:26-51:30, 51:32-51:33, 51:35, 51:37-51:39, 51:41N, 51:43, 51:45-51:46, 51:48-51:52, 51:55-51:58, 51:60-51:72, 51:74-51:80, 51:82-51:92, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:119, 51:121, 51:123-51:131	*14:01:01-14:32, 15:37-15:38:02, 18:15, 18:19, 18:30, 18:57, 35:21, 35:96, 35:188, 40:28, 40:51, 40:174, 49:09, 52:01:01:01-52:02, 52:04-52:09, 52:12-52:18, 52:20-52:27, 53:06, 56:05:01-56:06, 56:21, 58:08:01-58:08:02, 78:01:01-78:03, 78:05-78:07, **C*01:30, C*08:51, C*15:39**
3[6]	265 bp	1070 bp	*51:02:01-51:02:05, 51:05, 51:10, 51:15, 51:23, 51:34, 51:36, 51:40, 51:54, 51:93, 51:108	*07:78, 07:84, 08:09, 08:84, 13:02:01-13:04, 13:08Q-13:09, 13:14, 13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:45-13:49N, 13:53-13:54,

				15:04, 15:16:01-15:16:03, 15:42, 15:67, 15:83, 15:95, 15:137, 15:155, 15:222, 27:14, 27:81, 35:37, 35:60, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 40:06:01:01-40:06:05, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 41:01, 41:05-41:07, 41:09, 41:12, 41:14, 41:16-41:17, 41:20, 42:04, 44:15, 44:18, 44:20, 44:47, 44:100, 45:01-45:14, 46:11, 46:18, 49:01:01-49:08, 49:10-49:20, 50:01:01-50:02, 50:04-50:11, 50:13-50:16, 52:03, 52:11, 54:01:01-54:05N, 54:07-54:08N, 54:10-54:26, 55:01:01-55:01:06, 55:01:08-55:02:02, 55:02:04-55:03, 55:05, 55:07, 55:09-55:13, 55:15-55:48, 55:50, 55:52-55:56, 56:01:01-56:01:04, 56:07-56:08, 56:13-56:17, 56:19N-56:20:02, 56:22-56:30, 56:33, 56:35, 59:01:01:01-59:05, 78:04
4	255 bp	1070 bp	*51:03	
5	270 bp	1070 bp	*51:04, 51:46, 51:56:01-51:56:02	*14:10, 18:22, 18:69^{w}, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 37:04:01^{w}-37:04:02^{w}, 40:28, 53:02, 53:06, 57:14, 58:09, **C*15:39**
6[6]	210 bp	**800 bp**	*51:05^{w}, 51:09:01-51:10, 51:15, 51:19, 51:31, 51:40, 51:54^{w}, 51:73, 51:93, 51:108, 51:122	*13:02:01-13:04, 13:08Q-13:09, 13:14-13:15, 13:18^{w}, 13:19, 13:27, 13:30, 13:32-13:35, 13:37-13:38, 13:40, 13:42, 13:44-13:45, 13:47, 13:49N, 13:53-13:54, 15:155, 15:222, 27:14, 27:81, 35:37, 35:60, 39:06:01-39:06:02, 39:33^{w}, 39:34, 39:50, 39:57, 39:62, 39:64, 40:06:01:01-40:06:05, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:159, 40:162, 40:165, 40:167, 40:177, 40:190, 44:47, 46:11, 46:18, 49:11, 52:03,

				52:10:01-52:10:02, 54:01:01-54:05N, 54:07-54:08N, 54:10[W], 54:11-54:19, 54:21-54:26, 55:02:01-55:02:06, 55:07, 55:10, 55:12-55:13, 55:16, 55:18-55:19, 55:22-55:23, 55:26-55:27, 55:30, 55:32, 55:34-55:35, 55:37[W], 55:39, 55:41-55:43, 55:46-55:48, 55:50, 56:01:01-56:01:04, 56:07-56:08, 56:14-56:17, 56:19N-56:20:02, 56:22-56:24, 56:26-56:29, 56:33-56:35, 59:01:01:01-59:05, 73:01-73:02, 78:04
7	270 bp	1070 bp	*51:06:01-51:06:02, 51:45, 51:62, 51:64	*14:01:01-14:09, 14:11-14:19, 14:21-14:32, 15:37-15:38:02, 15:185, 18:01:01:01-18:09, 18:12-18:15, 18:17N-18:20, 18:23N-18:34, 18:36-18:38, 18:40-18:55, 18:57, 18:59-18:68, 18:70-18:71, 27:28, 27:62, 39:32, 39:43, 39:48, 40:51, 40:113, 40:163, 40:174, 56:31, **C*01:30, C*08:51**
8[5]	105 bp	**800 bp**	*51:07:01-51:07:02	*15:202, 15:239, 18:01:01:01-18:06, 18:08-18:15, 18:17N-18:28, 18:30-18:32, 18:34-18:36, 18:38-18:47, 18:49-18:65, 18:67-18:71, 35:20:01-35:20:02, 35:28, 35:72, 35:95, 37:01:01-37:01:05, 37:01:07-37:05, 37:07-37:20, 37:22-37:25, 37:27, 37:29-37:33N, 40:185, 44:83, 44:134, 49:03, 52:01:01:01-52:01:11, 52:03-52:05, 52:07-52:15, 52:17-52:21, 52:24-52:29, 53:09, 53:17:01-53:17:02, 78:05-78:06
9[5,6,9]	85 bp, 205 bp	1070 bp	*51:08, 51:17, 51:20, 51:35, 51:44N, 51:97	*37:04:01-37:04:02, 52:19
10[10]	160 bp, 245 bp	1070 bp	*51:01:09, 51:01:21, 51:01:25, 51:10, 51:21, 51:24:02-51:24:04, 51:36, 51:101	*07:78, 07:84, 08:09, 08:84, 13:46, 13:53, 15:42, 15:83, 27:14, 27:81, 35:60, 39:06:01-39:06:02, 39:34, 39:57, 39:62, 39:64, 40:06:01:01-40:06:04, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 41:01, 41:05-41:07, 41:09, 41:12,

				41:14, 41:16, 41:20, 42:04, 45:08, 46:18, 54:01:01-54:02, 54:04-54:05N, 54:07-54:08N, 54:10-54:25, 55:01:01-55:01:06, 55:01:08-55:03, 55:05, 55:07, 55:10-55:13, 55:15-55:21, 55:23, 55:25-55:48, 55:50, 55:52-55:56, 56:20:02, 56:23, 59:01:01:01-59:03, 59:05, 73:01-73:02, 78:07
11	245 bp	1070 bp	*51:10, 51:16, 51:31, 51:34, 51:82, 51:93	*07:78, 07:84, 13:02:01-13:02:12, 13:08Q-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:47, 13:49N, 13:54, 27:14, 27:81, 39:50, 40:06:01:01-40:06:05, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 45:10, 49:07, 52:08, 54:26, 55:09, 55:22, 55:24, 73:01-73:02
12	495 bp	1070 bp	*51:11N	
13	200 bp	1070 bp	*51:12	
14[5]	105 bp	1070 bp	*51:13:01-51:13:02, 51:92	*13:46, 15:137, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 40:86, 45:02, 50:09, 52:14, 55:13, 56:22, 59:03, 73:01-73:02
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16[12]	170 bp, 195 bp	1070 bp	*51:15, 51:18, 51:35, 51:62, 51:106	*13:03, 13:48, 15:73, 40:71, 44:10, 44:15, 44:18, 44:140, 45:01, 45:04-45:07, 45:11-45:14, 46:11, 49:01:01-49:03, 49:06, 49:08-49:17, 49:19N-49:20, 50:01:01-50:02, 50:04-50:08, 50:10-50:13, 50:15-50:16, 52:25, 54:03, 56:01:01-56:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:20:01-56:20:02, 56:24-56:30, 56:33-56:35, 59:04, 82:01-82:03, **C*03:19, C*03:102**
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26[5,16]	105 bp, 155 bp	1070 bp	*51:13:01-51:13:02, 51:32, 51:37, 51:63, 51:92, 51:97	*13:04, 13:46, 15:04, 15:16:01-15:16:03, 15:67, 15:95, 15:137, 15:155, 15:222, 27:69, 35:37, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 40:86, 40:159, 45:02, 45:09, 49:04-49:05, 50:09, 52:14, 54:14, 55:13, 55:23, 55:32, 56:22, 59:03, 73:01-73:02
27[8,17]	205 bp, 270 bp, 345 bp	**800 bp**	*51:04, 51:33, 51:39, 51:46, 51:56:01-51:56:02	*14:10, 18:22, 18:69[w], 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 37:04:01[w]-37:04:02[w], 40:28, 44:24, 53:02, 53:06, 57:14, 58:09, **C*15:39**
28[18]	205 bp, 255 bp	1070 bp	*51:23, 51:33, 51:108	*44:15, 44:18, 44:20, 44:47, 44:100, 45:01-45:03, 45:05-45:07, 45:09, 45:11-45:14, 49:20, 50:02, 52:15
29	245 bp	1070 bp	*51:01:01-51:03, 51:05, 51:07:01-51:09:02, 51:11N-51:15, 51:17-51:20, 51:22-51:24:04, 51:26-51:30, 51:32-51:33, 51:35, 51:37-51:41N, 51:43-51:44N, 51:48-51:55, 51:57-51:58, 51:60-51:61:01, 51:63, 51:65-51:80, 51:83-51:92, 51:94-51:100, 51:102-51:131	*13:03-13:04, 13:48, 15:04, 15:16:01-15:16:03, 15:67, 15:95, 15:137, 15:155, 15:222, 35:37, 39:33, 41:17, 44:15, 44:18, 44:20, 44:47, 44:100, 45:01-45:07, 45:09, 45:11-45:14, 46:11, 49:01:01-49:06, 49:08-49:20, 50:01:01-50:02, 50:04-50:11, 50:13-50:16, 52:01:01:01-52:07, 52:09-52:29, 54:03, 56:01:01-56:01:04, 56:05:01-56:08, 56:13-56:17, 56:19N-56:22, 56:24-56:30, 56:33-56:35, 58:08:01-58:08:02, 59:04, 78:01:01-78:06
30[5]	100 bp	**800 bp**	*51:06:01, 51:56:01-51:56:02, 51:59, 51:64	*07:02:11, 07:05:03, 15:01:02, 15:09, 15:243, 35:01:10, 35:04:02, 40:01:06, 40:26, 40:28, 44:62, 49:18, 50:14, 55:01:04
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32	165 bp	1070 bp	*51:16, 51:31, 51:34, 51:82, 51:93	*07:02:11, 07:05:03, 27:04:03, 40:01:06, 40:95, 52:08
33	195 bp	1070 bp	*51:41N	
34	260 bp	1070 bp	*51:42	*35:45, 35:71, 35:169, 44:02:01:01-44:02:07, 44:02:09-44:14, 44:17, 44:19N, 44:21-44:30, 44:32-44:36, 44:38-44:40, 44:43:01-44:46, 44:48-44:53, 44:55-44:63, 44:66-44:90, 44:92-44:98, 44:102-44:105, 44:107-44:131, 44:133-44:134, 44:136-44:137, 44:139-44:149N, 44:151-44:152, 53:22, 57:07, 83:01, **C*15:25**
35	225 bp	1070 bp		*08:49, 08:60, 08:76, 35:38, 35:115, 35:169, 37:01:01-37:01:07, 37:03N-37:06, 37:08, 37:10-37:33N, 42:13, 44:02:01:01-44:02:24, 44:05:01-44:06, 44:08-44:09, 44:11-44:12, 44:14, 44:16-44:17, 44:19N, 44:21-44:25, 44:27:01-44:27:02, 44:33-44:34, 44:42, 44:44, 44:48-44:49, 44:51-44:53, 44:55, 44:58N-44:59, 44:62-44:63, 44:66-44:68, 44:70-44:75, 44:78, 44:80, 44:83-44:84, 44:86-44:91, 44:93, 44:95, 44:97, 44:101-44:102, 44:104, 44:112-44:113, 44:116-44:119, 44:121, 44:123, 44:126:01-44:127, 44:131-44:134, 44:136-44:137, 44:139-44:140, 44:142Q, 44:145, 44:148-44:149N, 44:151-44:152, 53:22, 57:09, 57:24, 83:01, **C*15:25**
36	215 bp	1070 bp	*51:43	
37[20]	165 bp, 225 bp	1070 bp	*51:44N, 51:55	
38	205 bp	1070 bp	*51:37, 51:45, 51:63, 51:97	*15:38:01-15:38:02, 15:185, 18:01:01:01-18:09, 18:12-18:15,

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39[7,8]	250 bp	1070 bp	*51:46, 51:64-51:65	*14:05, 14:13, 18:14, 40:174
40	185 bp	1070 bp	*51:01:01-51:24:04, 51:26-51:46, 51:48-51:53, 51:55-51:59, 51:61:01-51:72, 51:74-51:77, 51:79-51:102, 51:104-51:124, 51:126-51:131	*07:36, 07:38, 07:81, 15:13:01-15:13:02, 15:17:01:01-15:17:02, 15:24, 15:87, 15:157, 15:162, 15:168, 15:177, 15:196, 15:208, 15:216, 15:230, 27:75, 44:06, 48:18, 49:03, 52:01:01:01-52:19, 52:21-52:29, 53:01:01-53:02, 53:04-53:08:02, 53:10, 53:14-53:27, 57:01:01-57:01:08, 57:01:10-57:11, 57:13-57:50, 57:52-57:57, 58:01:01-58:02, 58:04-58:16, 58:18-58:36
41[21]	225 bp, 315 bp	1070 bp	*51:05, 51:29, 51:48, 51:54, 51:61:01, 51:82	*07:78, 07:84, 13:18, 13:31, 13:41, 15:04, 15:137, 39:33, 40:161, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21, 55:37, 55:52, **C*08:24**
42[5,22]	100 bp, 135 bp	**800 bp**	*51:49, 51:60	
43[5,23]	115 bp, 215 bp	**800 bp**	*51:50, 51:58	
44[24]	280 bp, 385 bp	**800 bp**	*51:51, 51:76	*08:39, 35:101:02, 35:195
45	190 bp	1070 bp	*51:52	
46[5,25]	80 bp, 170 bp	**800 bp**	*51:57, 51:123	
47[5]	125 bp	**800 bp**	*51:20	*07:65, 07:134, 08:32, 18:03, 35:29:01-35:29:02, 35:69, 35:76, 35:136, 35:186[W], 39:19:01-39:19:02, 53:23, 56:06, 78:01:01-78:01:02, 78:03, 78:07
48[5,26]	95 bp, 220 bp	1070 bp	*51:37, 51:61:01, 51:90, 51:92	*07:84, 13:04, 13:31, 13:35, 13:41, 15:04, 15:16:01-15:16:03, 15:67, 15:95, 15:137, 15:155, 15:222, 35:37, 40:44, 40:159, 44:20, 44:47, 44:100, 45:09, 49:04-49:05, 52:12, 52:21, 52:26, 54:14-54:16, 55:21, 55:23, 55:27, 55:46

49	160 bp	1070 bp	*51:01:02, 51:01:09, 51:02:02, 51:05, 51:07:02, 51:09:02, 51:15, 51:54, 51:78:02, 51:93	*07:56:01-07:56:02, 07:72, 08:26, 08:56, 15:02:01-15:02:05, 15:08, 15:11:01-15:11:05, 15:13:01-15:13:02, 15:15, 15:21, 15:31, 15:44, 15:55, 15:76, 15:88-15:89, 15:112, 15:121, 15:139, 15:143-15:144, 15:148, 15:170, 15:189, 15:191, 15:194, 15:209N, 15:213-15:215, 15:223, 18:29, 35:01:01:01-35:08:04, 35:09:01-35:09:03, 35:11:01-35:12:03, 35:14:01-35:15, 35:17-35:24:02, 35:26-35:27, 35:29:01-35:42:01, 35:43:01-35:62, 35:64-35:68:02, 35:70-35:72, 35:74-35:79, 35:81-35:83, 35:85-35:89, 35:91-35:123, 35:126-35:141, 35:143-35:149, 35:151-35:161, 35:163-35:183, 35:187-35:190, 35:192-35:200, 38:28, 53:01:01-53:05, 53:07-53:16, 53:18-53:27, 54:01:01-54:20, 54:22-54:24, 54:25^{W}, 54:26, 55:01:01-55:05, 55:07-55:09, 55:11-55:17, 55:19-55:33, 55:35, 55:37-55:39, 55:41-55:46, 55:47^{W}, 55:48-55:56, 56:01:01-56:04, 56:05:02, 56:07, 56:09-56:13, 56:15, 56:17-56:35, 59:01:01:01-59:05, 78:02:01, 78:04
50	155 bp	1070 bp	*51:81	*07:02:01-07:02:13, 07:02:15-07:02:19, 07:02:21-07:06, 07:08-07:11, 07:13, 07:15-07:17, 07:19-07:21, 07:23-07:67N, 07:68:03-07:76, 07:79-07:83, 07:85-07:99, 07:101-07:136, 07:138-07:154, 08:01:02, 08:01:13, 08:20, 08:79, 27:07:01-27:07:02, 27:11, 27:24, 27:32-27:34, 27:43, 35:31, 35:114, 37:07, 37:09, 40:02:01-40:03, 40:05, 40:08-40:09, 40:13, 40:15-40:16, 40:18-40:19, 40:24, 40:27:01-40:27:02, 40:29, 40:31-40:32, 40:35, 40:37, 40:39-40:40, 40:45, 40:50, 40:56-40:58, 40:80, 40:82, 40:85, 40:89-40:91, 40:94, 40:97-40:98, 40:104-40:105, 40:107, 40:111, 40:115, 40:119, 40:122, 40:133Q, 40:142N-40:145, 40:157, 40:164,

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51[5,27]	85 bp, 215 bp	**800 bp**	*51:68, 51:72	
52	150 bp	1070 bp	*51:69	*18:65
53[28]	165 bp, 260 bp	1070 bp	*51:70-51:71	
54[5,29]	120 bp, 255 bp	1070 bp	*51:74, 51:124	*35:46-35:47, 35:154, 40:07-40:08, 40:13, 40:68, 40:106, 40:162
55[5,30]	75 bp, 200 bp	1070 bp	*51:75, 51:77	
56	380 bp	1070 bp	*51:01:01-51:01:07, 51:01:09-51:01:14, 51:01:16-51:12, 51:16-51:24:04, 51:26-51:36, 51:38-51:41N, 51:43-51:44N, 51:46, 51:48-51:49, 51:51-51:53, 51:55-51:61:01, 51:64-51:77, 51:79-51:84, 51:86-51:89, 51:91, 51:93-51:96, 51:98N-51:105, 51:107-51:131	*08:03, 08:52, 08:78, 40:13, 40:19, 40:109, 40:117, 48:18, 49:18, 52:01:01:01-52:11, 52:13, 52:15-52:19, 52:21-52:24, 52:27-52:29, 53:19, 56:21, 57:02:01-57:03:02, 57:05, 57:07, 57:09, 57:17, 57:39, 57:42, 57:46, 57:57, 58:08:01-58:08:02, 58:27-58:28, 59:02, **A*24:146**
57[31]	145 bp, 210 bp	1070 bp	*51:78:01, 51:79	*44:02:10, 44:34
58	165 bp	1070 bp	*51:80	
59[5,32]	120 bp, 240 bp	1070 bp	*51:83, 51:88	
60[5,8,33]	85 bp, 190 bp	**800 bp**	*51:84, 51:94	
61[5,34]	100 bp, 210 bp	1070 bp	*51:85, 51:87	*27:14, 27:81, 44:20, 44:47, 44:100, 52:26
62[35]	175 bp, 250 bp	1070 bp	*51:86, 51:95	*39:57
63[5]	70 bp	1070 bp	*51:91	

64[5,36]	115 bp, 170 bp	1070 bp	*51:66-51:67, 51:89	
65[37]	185 bp, 215 bp	1070 bp	*51:98N, 51:103, 51:116	*08:62, 18:07:01-18:07:02, 18:29, 27:23, 35:50, 35:84, 35:162, 37:21, 40:07-40:08, 40:13, 40:68, 40:106, 40:162
66[38]	170 bp, 210 bp	1070 bp	*51:109, 51:120	
67[5,39]	110 bp, 230 bp	1070 bp	*51:93, 51:100, 51:122	
68	190 bp	1070 bp	*51:105	
69	225 bp	1070 bp	*51:110N	
70	160 bp	1070 bp	*51:111	
71	180 bp	1070 bp	*51:117	
72[5]	90 bp	1070 bp	*51:118N	

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*51 SSP typings.
When the primers in a primer mix can give rise to 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 specific PCR product(s) of the alleles amplified by these primer mixes are given.
Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers, e.g. the primers in wells number 4, 5, 6, 7, 8, 9, 15, 17, 18 and 19 have a higher tendency of giving rise to nonspecific amplifications than other primers.
PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.
PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.
Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherit feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.
[2]The 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 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*51 subtyping.
In addition, wells number 6, 8, 15, 17 to 19, 25, 27, 30, 42 to 44, 46, 47, 51 and 60 contain the primer pair giving rise to the shorter, 800 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.
[3]For several HLA-B alleles 1st, 4th and 5th exon or 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.
[4]Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*51 alleles will be amplified by many the HLA-B*51 primer mixes.
In addition, primer mixes 2 and 7 will amplify the C*01:30 and C*08:51 alleles, primer mixes 2, 5 and 27 will amplify the C*15:39 allele, primer mixes 34 and 35 will amplify the C*15:25 allele, primer mix 41 will

amplify the C*08:24 allele, primer mix 50 will amplify the C*03:05, C*03:25, C*03:27 and C*08:08 alleles and primer mix 56 will amplify the A*24:146 allele.

[5]Short specific PCR fragments are less intense and not as sharp as longer specific bands.

[6]Primer mixes 3, 6 and 9 may give a lower yield of specific PCR product than the other HLA-B*51 mixes.

[7]Primer mixes 25 and 39 have a tendency to giving rise to nonspecific amplifications.

[8]Primer mixes 27, 39 and 60 may have a tendency to giving rise to primer oligomer formation.

[9]Primer mix 9: Specific PCR fragment of 85 bp in the B*51:08, 51:20, 51:44N and 51:97 and the B*37:04:01-37:04:02, 52:19 alleles. Specific PCR fragment of 205 bp in the B*51:17 and 51:35 alleles.

[10]Primer mix 10: Specific PCR fragment of 160 bp in the B*51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 07:78, 07:84, 27:14, 27:81, 40:06:01:01-40:06:04, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 56:20:02, 73:01-73:02 alleles. Specific PCR fragment of 245 bp in the B*51:21, 51:36, 51:101, 08:09, 08:84, 13:46, 13:53, 15:42, 15:83, 35:60, 39:06:01-39:06:02, 39:34, 39:57, 39:62, 39:64, 41:01, 41:05-41:07, 41:09, 41:12, 41:14, 41:16, 41:20, 42:04, 45:08, 46:18, 54:01:01-54:02, 54:04-54:05N, 54:07-54:08N, 54:10, 54:12-54:25, 55:01:01-55:01:06, 55:01:08-55:03, 55:05, 55:07, 55:10-55:13, 55:15-55:21, 55:23, 55:25-55:48, 55:50, 55:52-55:56, 56:23, 59:01:01:01-59:03, 59:05, 78:07 alleles. Specific PCR fragment of 160 and 245 bp in the B*54:11 allele.

[11]Primer mix 15: Specific PCR fragment of 100 bp in the B*51:14 allele. Specific PCR fragment of 230 bp in the B*51:19 and 51:101 and the B* 39:06:01-39:06:02, 39:57, 39:62 and 39:64 alleles.

[12]Primer mix 16: Specific PCR fragment of 170 bp in the B*51:15, 51:35, 51:62 and 51:106 and B*13:03, 13:48, 15:73, 40:71, 44:10, 44:15, 44:18, 44:140, 45:01, 45:04-45:07, 45:11-45:14, 46:11, 49:01:01-49:03, 49:06, 49:08-49:17, 49:19N-49:20, 50:01:01-50:02, 50:04-50:08, 50:10-50:13, 50:15-50:16, 52:25, 54:03, 56:01:01-56:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:20:01-56:20:02, 56:24-56:30, 56:33-56:35, 59:04 and 82:01-82:03 alleles. Specific PCR fragment of 195 bp in the B*51:18 allele.

[13]Primer mix 18: Specific PCR fragment of 140 bp in the B*51:28 allele. Specific PCR fragment of 220 bp in the B*51:08, 51:20, 51:36, 51:44N and 51:97 and the B*08:09, 08:84, 13:46, 15:83, 41:01, 41:05-41:07, 41:09, 41:12, 41:14, 41:16-41:17, 41:20, 42:04, 44:15, 44:18, 44:20, 44:100, 45:01-45:14, 52:19, 55:20, 55:56, 56:13 alleles.

[14]Primer mix 21: Specific PCR fragment of 130 bp in the B*51:38 and the B*13:42 alleles. Specific PCR fragment of 185 bp in the B*51:27N allele.

[15]Primer mix 25: Specific PCR fragment of 130 bp in the B*51:38 and the B*13:42 alleles. Specific PCR fragment of 175 bp in the B*51:30 allele. Specific PCR fragment of 205 bp in the B*51:53 and the B*52:29 and 55:54 alleles.

[16]Primer mix 26: Specific PCR fragment of 105 bp in the B*51:13:01-51:13:02, 51:37, 51:63, 51:92 and 51:97 and the B*13:04, 13:46, 15:04, 15:16:01-15:16:03, 15:67, 15:95, 15:137, 15:155, 15:222, 35:37, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 40:86, 40:159, 45:02, 45:09, 49:04-49:05, 50:09, 52:14, 54:14, 55:13, 55:23, 55:32, 56:22, 59:03 and 73:01-73:02 alleles. Specific PCR fragment of 155 bp in the B*51:32 and the B*27:69 alleles.

[17]Primer mix 27: Specific PCR fragment of 205 bp in the B*51:33 allele. Specific PCR fragment of 270 bp in the B*51:04, 51:46 and 51:56:01-51:56:02 and the B*14:10, 18:22, 18:69[w], 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 37:04:01[w]-37:04:02[w], 40:28, 53:02, 53:06, 57:14 and 58:09 and the C*15:39 alleles. Specific PCR fragment of 345 bp in the B*51:39 and B*44:24 alleles.

[18]Primer mix 28: Specific PCR fragment of 205 bp in the B*51:33 allele. Specific PCR fragment of 255 bp in the B*51:23 and 51:108 and the B*44:15, 44:18, 44:20, 44:47, 44:100, 45:01-45:03, 45:05-45:07, 45:09, 45:11-45:14, 49:20, 50:02 and 52:15 alleles.

[19]Primer mix 31: Specific PCR fragment of 105 bp in the B*51:13:01-51:13:02, 51:37, 51:63, 51:92, 51:97, 13:04, 13:46, 15:16:01-15:16:03, 15:67, 15:95, 15:155, 15:222, 35:37, 39:06:01-39:06:02, 39:34, 39:50, 39:57, 39:62, 39:64, 40:86, 40:159, 45:02, 45:09, 49:04-49:05, 50:09, 52:14, 54:14, 55:13, 55:23, 55:32, 56:22, 59:03, 73:01-73:02 alleles. Specific PCR fragment of 225 bp in the B*51:05, 51:29, 51:54, 51:61:01, 51:82, 07:78, 07:84, 13:18, 13:31, 13:41, 40:161, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21, 55:37, 55:52 alleles. Specific PCR fragment of 105 and 225 bp in the B*15:04, 15:137 and 39:33 alleles.

[20]Primer mix 37: Specific PCR fragment of 165 bp in the B*51:44N allele. Specific PCR fragment of 225 bp in the B*51:55 allele.

[21]Primer mix 41: Specific PCR fragment of 225 bp in the B*51:05, 51:29, 51:54, 51:61:01 and 51:82 and the B*07:78, 07:84, 13:18, 13:31, 13:41, 15:04, 15:137, 39:33, 40:161, 52:21, 52:24, 54:10, 54:20,

55:09, 55:21, 55:37 and 55:52 alleles. Specific PCR fragment of 315 bp in the B*51:48 and C*08:24 alleles.

[22]Primer mix 42: Specific PCR fragment of 100 bp in the B*51:60 allele. Specific PCR fragment of 135 bp in the B*51:49 allele.

[23]Primer mix 43: Specific PCR fragment of 115 bp in the B*51:58 allele. Specific PCR fragment of 215 bp in the B*51:50 allele.

[24]Primer mix 44: Specific PCR fragment of 280 bp in the B*51:76 and the B*08:39, 35:101:02 and 35:195 alleles. Specific PCR fragment of 385 bp in the B*51:51 allele.

[25]Primer mix 46: Specific PCR fragment of 80 bp in the B*51:57 allele. Specific PCR fragment of 170 bp in the B*51:123 allele.

[26]Primer mix 48: Specific PCR fragment of 95 bp in the B*51:37, 51:90 and 51:92 and the B*07:84, 13:04, 13:35, 15:16:01-15:16:03, 15:67, 15:95, 15:155, 15:222, 35:37, 40:44, 40:159, 44:20, 44:47, 44:100, 45:09, 49:04-49:05, 52:12, 52:26, 54:14-54:15, 54:16, 55:23, 55:27 and 55:46 alleles. Specific PCR fragment of 220 bp in the B*51:61:01 and the B*13:31, 13:41, 15:137, 52:21 and 55:21 alleles. Specific PCR fragment of 95 and 220 bp in the B*15:04 allele.

[27]Primer mix 51: Specific PCR fragment of 85 bp in the B*51:68 allele. Specific PCR fragment of 215 bp in the B*51:72 allele.

[28]Primer mix 53: Specific PCR fragment of 165 bp in the B*51:71 allele. Specific PCR fragment of 260 bp in the B*51:70 allele.

[29]Primer mix 54: Specific PCR fragment of 120 bp in the B*51:74 and the B*35:46-35:47, 35:154, 40:07-40:08, 40:13, 40:68, 40:106 and 40:162 alleles. Specific PCR fragment of 255 bp in the B*51:124 allele.

[30]Primer mix 55: Specific PCR fragment of 75 bp in the B*51:77 allele. Specific PCR fragment of 200 bp in the B*51:75 allele.

[31]Primer mix 57: Specific PCR fragment of 145 bp in the B*51:79 allele. Specific PCR fragment of 210 bp in the B*51:78:01 and the B*44:02:10 and 44:34 alleles.

[32]Primer mix 59: Specific PCR fragment of 120 bp in the B*51:83 allele. Specific PCR fragment of 240 bp in the B*51:88 allele.

[33]Primer mix 60: Specific PCR fragment of 85 bp in the B*51:94 allele. Specific PCR fragment of 190 bp in the B*51:84 allele.

[34]Primer mix 61: Specific PCR fragment of 100 bp in the B*51:85 and the B*27:14, 27:81, 44:20, 44:47, 44:100 and 52:26 alleles. Specific PCR fragment of 210 bp in the B*51:87 allele.

[35]Primer mix 62: Specific PCR fragment of 175 bp in the B*51:86 allele. Specific PCR fragment of 250 bp in the B*51:95 and in the B*39:57 alleles.

[36]Primer mix 64: Specific PCR fragment of 115 bp in the B*51:67 allele. Specific PCR fragment of 175 bp in the B*51:66 and 51:89 alleles.

[37]Primer mix 65: Specific PCR fragment of 185 bp in the B*51:98N allele. Specific PCR fragment of 215 bp in the B*51:103 and 51:116 and the B*08:62, 18:07:01-18:07:02, 18:29, 27:23, 35:50, 35:84, 35:162, 37:21, 40:07-40:08, 40:13, 40:68, 40:106 and 40:162 alleles.

[38]Primer mix 66: Specific PCR fragment of 170 bp in the B*51:109 allele. Specific PCR fragment of 210 bp in the B*51:120 allele.

[39]Primer mix 67: Specific PCR fragment of 110 bp in the B*51:93 and 51:122 alleles. Specific PCR fragment of 230 bp in the B*51:100 allele.

'w', might be weakly amplified.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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INTERPRETATION TABLE

HLA-B*51 SSP subtyping

Amplification patterns of the B*51:01 to B*51:131 alleles

	Well[15]																																			
	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
Length of spec.	105	95	265	255	270	210	270	105	85	160	245	495	200	105	100	170	105	140	145	110	130	160	210	210	130	105	205	205	245	100	105	165	195	260	225	215
PCR product(s)									205	245					230	195		220			185				175	155	270	255			225					
																									205		345									
Length of int. pos. control[1]	800	1070	1070	1070	1070	800	1070	800	1070	1070	1070	1070	1070	1070	800	1070	800	800	800	1070	1070	1070	1070	1070	800	1070	800	1070	1070	800	1070	1070	1070	1070	1070	1070
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	25	26	27	28	29	30	31	32	33	34	35	36
HLA-B allele[2,3]																																				
***51:01:01,** 51:01:03-51:01:07, **51:01:10**-51:01:14, 51:01:16-**51:01:20,** 51:01:22-51:01:24, 51:01:26-51:01:34, 51:96, 51:99, 51:102, 51:107, 51:113-51:114, 51:121, 51:126-51:127, 51:129-51:131	1	2																				22		24					29							
***51:01:02**	1	2																											29							
*51:01:08, 51:01:15	1	2																				22		24					29							
***51:01:09**	1	2								10																			29							
***51:01:21,** 51:01:25	1	2								10												22		24					29							
***51:02:01,** 51:02:03-**51:02:05**	1		3																			22		24					29							
***51:02:02**	1		3																										29							
*51:03	1	2		4																		22		24					29							
*51:04	1	2			5																	22		24			27									
***51:05**	1		3			w																							29		31					
***51:06:01**	1	2					7															22		24						30						
***51:06:02**	1	2					7															22		24												
***51:07:01**		2						8														22		24					29							
*51:07:02		2						8																					29							
***51:08**	1								9									18				22		24					29							
***51:09:01**	1					6																22		24					29							
***51:09:02**	1					6																							29							
***51:10**	1		3			6				10	11								19			22		24												
***51:11N**	1	2										12										22		24					29							
*51:12	1	2											13									22		24					29							
***51:13:01-51:13:02**	1	2												14								22		24		26			29		31					
***51:14**	1	2													15							22		24					29							
*51:15	1		3			6										16													29							
***51:16**	1	2									11											22		24								32				
*51:17	1	2							9													22		24					29							
*51:18	1	2														16						22		24					29							
***51:19**	1					6									15							22		24					29							
***51:20**	1								9									18				22		24					29							
*51:21	1	2								10												22		24												
***51:22**		2															17					22		24					29							
***51:23**	1		3																			22		24				28	29							
***51:24:01**	1	2																	19			22		24					29							
*51:24:02-**51:24:04**	1	2								10									19			22		24					29							
***51:26**	1	2																		20		22		24					29							
*51:27N	1	2																			21	22		24					29							
*51:28	1	2																18				22		24					29							
***51:29**	1	2																				22		24					29		31					
*51:30	1	2																				22		24	25				29							
*51:31	1					6					11											22		24								32				
*51:32	1	2																				22		24		26			29							
*51:33	1	2																				22		24			27	28	29							
***51:34**	1		3								11											22		24								32				
*51:35	1	2							9							16						22		24					29							
***51:36**	1		3							10								18				22		24												
***51:37**	1	2																				22		24		26			29		31					
***51:38**	1	2																			21	22		24	25				29							
*51:39	1	2																				22		24			27		29							
***51:40**	1		3			6																22		24					29							
*51:41N	1	2																				22		24					29				33			
*51:42	1																					22		24										34		
***51:43**	1	2																				22		w					29							36
*51:44N	1								9									18				22		24					29							
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	25	26	27	28	29	30	31	32	33	34	35	36

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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INTERPRETATION TABLE

HLA-B*51 SSP subtyping

Amplification patterns of the B*51:01 to B*51:131 alleles

Well[15]																																				
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	
165	205	250	185	225	100	115	280	190	80	125	95	160	155	85	150	165	120	75	380	145	165	120	85	100	175	70	115	185	170	110	190	225	160	180	90	Length of spec.
225				315	135	215	385		170		220			215		260	255	200		210		240	190	210	250		175	215	210	230						PCR product(s)
1070	1070	1070	1070	1070	800	800	800	1070	800	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	Length of int. pos. control[1]
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	Well No.
																																				HLA-B allele[2,3]
			40																56																	***51:01:01,** 51:01:03-51:01:07, **51:01:10**-51:01:14, 51:01:16-**51:01:20,** 51:01:22-51:01:24, 51:01:26-51:01:34, 51:96, 51:99, 51:102, 51:107, 51:113-51:114, 51:121, 51:126-51:127, 51:129-51:131
			40									49							56																	***51:01:02**
			40																																	*51:01:08, 51:01:15
			40									49							56																	***51:01:09**
			40																56																	***51:01:21,** 51:01:25
			40																56																	***51:02:01,** 51:02:03-**51:02:05**
			40									49							56																	***51:02:02**
			40																56																	*51:03
			40																56																	*51:04
			40	41								49							56																	***51:05**
			40																56																	***51:06:01**
			40																56																	***51:06:02**
			40																56																	***51:07:01**
			40									49							56																	*51:07:02
			40																56																	***51:08**
			40																56																	***51:09:01**
			40									49							56																	***51:09:02**
			40																56																	***51:10**
			40																56																	***51:11N**
			40																56																	*51:12
			40																																	***51:13:01-51:13:02**
			40																																	***51:14**
			40									49																								*51:15
			40																56																	***51:16**
			40																56																	*51:17
			40																56																	*51:18
			40																56																	***51:19**
			40							47									56																	***51:20**
			40																56																	*51:21
			40																56																	***51:22**
			40																56																	***51:23**
			40																56																	***51:24:01**
			40																56																	*51:24:02-**51:24:04**
			40																56																	***51:26**
			40																56																	*51:27N
			40																56																	*51:28
			40	41															56																	***51:29**
			40																56																	*51:30
			40																56																	*51:31
			40																56																	*51:32
			40																56																	*51:33
			40																56																	***51:34**
			40																56																	*51:35
			40																56																	***51:36**
	38		40								48																									***51:37**
			40																56																	***51:38**
			40																56																	*51:39
			40																56																	***51:40**
			40																56																	*51:41N
			40																																	*51:42
			40																56																	***51:43**
37			40																56																	*51:44N
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	Well No.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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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	25	26	27	28	29	30	31	32	33	34	35	36
*51:45	1	2					7															22		24												
*51:46	1	2			5																	22		24			27									
*51:48	1	2																				22		24					29							
*51:49	1	2																				22		24					29							
***51:50**	1	2																				22		24					29							
*51:51, 51:76[5]	1	2																				22		24					29							
***51:52**	1	2																				22		24					29							
*51:53	1																					22		24	25				29							
*51:54	1		3			w																							29		31					
***51:55**	1	2																				22		24					29							
***51:56:01**-51:56:02	1	2			5																	22		24			27			30						
*51:57, **51:123**[6]	1	2																				22		24					29							
*51:58	1	2																				22		24					29							
*51:59	1																					22		24						30						
*51:60	1	2																				22		24					29							
***51:61**	1	2																				22		24					29		31					
*51:62	1	2					7									16						22		24												
*51:63	1	2																				22		24		26			29		31					
***51:64**	1	2					7															22		24						30						
***51:65**	1	2																				22		24					29							
*51:66, **51:67**[7]	1	2																				22		24					29							
***51:68,** 51:72[8]	1	2																				22		24					29							
***51:69**	1	2																				22		24					29							
***51:70,** 51:71[9]	1	2																				22		24					29							
***51:73**	1					6																22		24					29							
***51:74, 51:124**[10]	1	2																				22		24					29							
***51:75,** 51:77[11]	1	2																				22		24					29							
***51:78:01**	1	2																				22							29							
*51:78:02, 78:02:01[4]	1	2																											29							
***51:79**	1	2																				22		24					29							
*51:80	1	2																				22		24					29							
*51:81	1																					22		24												
***51:82**	1	2									11											22		24							31	32				
***51:83,** 51:88[12]	1	2																				22		24					29							
*51:84, **51:94**[13]	1	2																				22		24					29							
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*55:01:04			3							10																				30						
*55:02:03						6				10																										
*55:09			3								11																				31					
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*55:20			3							10								18	19																	
*55:21			3							10																					31					
*55:24			3								11																									
*55:32			3			6				10																26					31					
*55:54			3							10															25											
*55:56			3							10								18																		
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*56:05:02		2																											29							
*56:06		2																				w	23						29							
*56:13			3													16		18											29							
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*56:20:01			3			6										16			19										29							
*56:20:02			3			6				10						16			19										29							
*56:21		2																											29							
*56:22			3			6								14												26			29		31					
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*56:31							7																													
*56:34						6										16													29							
*57:02:01-57:03:02, 57:05, 57:17, 57:39, 57:42, 57:46, 57:57, 58:28																																				
*57:07																																		34		
*57:09																																			35	
*57:14, 58:09					5																						27									
*57:24																																			35	
*59:02			3			6				10									19																	
*73:01-73:02						6				10	11			14					19							26					31					
*78:01:01-78:01:02	1	2																				22	23						29							
*78:02:02	1	2																				22	23						29							
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	25	26	27	28	29	30	31	32	33	34	35	36

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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			40	41															56																	*52:24
			40																																	*52:25
			40								48													61												*52:26
			40																56																	*52:28
			40																56																	*52:29
			40									49																								*53:01:01-53:01:07, 53:04-53:05, 53:07-53:08:02, 53:10, 53:14-53:16, 53:18, 53:20-53:21, 53:24-53:27
	38		40									49																								*53:02
	38		40																																	*53:06
			40																																	*53:17:01-53:17:02
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			40									49																								*53:22
			40							47		49																								*53:23
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												49																								*55:01:04
												49																								*55:02:03
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			40																56																	*57:02:01-57:03:02, 57:05, 57:17, 57:39, 57:42, 57:46, 57:57, 58:28
			40																56																	*57:07
			40																56																	*57:09
	38		40																																	*57:14, 58:09
			40																																	*57:24
												49							56																	*59:02
																																				*73:01-73:02
										47																										*78:01:01-78:01:02
																																				*78:02:02
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	Well No.

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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	25	26	27	28	29	30	31	32	33	34	35	36
*78:03		**2**															**17**					**22**	**23**						**29**							
*78:04	**1**		**3**			**6**																							**29**							
*78:07	**1**	**2**								**10**												**22**	**23**													
*C*08:24*																																				
HLA-B allele[2,3]																																				
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**	**25**	**26**	**27**	**28**	**29**	**30**	**31**	**32**	**33**	**34**	**35**	**36**

[1]The 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 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.
Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*51 subtyping. .
In addition, wells number 6, 8, 15, 17 to 19, 25, 27, 30, 42 to 44, 46, 47, 51 and 60 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
[2]The B*51:25 nucleotide sequence has been shown to be identical to B*51:22.
The B*51:47 nucleotide sequence has been renamed to B*51:09:02.
[3]HLA-B*51 alleles in bold lettering are listed as confirmed alleles on the IMGT/HLA web page www.ebi.ac.uk/imgt/hla, release 3.8.0, April 2012.
[4]The B*51:78:02 and B*78:02:01 alleles will give rise to identical amplification patterns with the HLA-B*51 subtyping kit. These alleles can be distinguished by the HLA-B low resolution kit and/or the HLA-B*78 subtyping kit.
[5]The B*51:51 and 51:76 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 44.
[6]The B*51:57 and 51:123 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 46.
[7]The B*51:66 and 51:67 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 64.
[8]The B*51:68 and 51:72 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 51.
[9]The B*51:70 and 51:71 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 53.
[10]The B*51:54 and 51:124 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 54.
[11]The B*51:75 and 51:77 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 55.
[12]The B*51:83 and 51:88 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 59.
[13]The B*51:84 and 51:94 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 60.
[14]The B*51:86 and 51:95 alleles may be distinguished by the different sizes of the specific PCR products generated by primer mix 62.
[15]Primer mix 9: Specific PCR fragment of 85 bp in the B*51:08, 51:20, 51:44N and 51:97 and the B*37:04:01-37:04:02, 52:19 alleles. Specific PCR fragment of 205 bp in the B*51:17 and 51:35 alleles.
Primer mix 10: Specific PCR fragment of 160 bp in the B*51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 07:78, 07:84, 27:14, 27:81, 40:06:01:01-40:06:04, 40:44, 40:53, 40:70, 40:75, 40:83, 40:86, 40:93, 40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 56:20:02, 73:01-73:02 alleles. Specific PCR fragment of 245 bp in the B*51:21, 51:36, 51:101, 08:09, 08:84, 13:46, 13:53, 15:42, 15:83, 35:60, 39:06:01-39:06:02, 39:34, 39:57, 39:62, 39:64, 41:01, 41:05-41:07, 41:09, 41:12, 41:14, 41:16, 41:20, 42:04, 45:08, 46:18, 54:01:01-54:02, 54:04-54:05N, 54:07-54:08N, 54:10, 54:12-54:25, 55:01:01-55:01:06, 55:01:08-55:03, 55:05, 55:07, 55:10-55:13, 55:15-55:21, 55:23, 55:25-55:48, 55:50, 55:52-55:56, 56:23, 59:01:01:01-59:03, 59:05, 78:07 alleles. Specific PCR fragment of 160 and 245 bp in the B*54:11 allele.
Primer mix 15: Specific PCR fragment of 100 bp in the B*51:14 allele. Specific PCR fragment of 230 bp in the B*51:19 and 51:101 and the B* 39:06:01-39:06:02, 39:57, 39:62 and 39:64 alleles.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	Well No.
										47																										*78:03
												49																								*78:04
										47																										*78:07
				41																																*C*08:24*
																																				HLA-B allele[2,3]
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	Well No.

Primer mix 16: Specific PCR fragment of 170 bp in the B*51:15, 51:35, 51:62 and 51:106 and B*13:03, 13:48, 15:73, 40:71, 44:10, 44:15, 44:18, 44:140, 45:01, 45:04-45:07, 45:11-45:14, 46:11, 49:01:01-49:03, 49:06, 49:08-49:17, 49:19N-49:20, 50:01:01-50:02, 50:04-50:08, 50:10-50:13, 50:15-50:16, 52:25, 54:03, 56:01:01-56:02, 56:04, 56:07-56:08, 56:13-56:14, 56:16-56:17, 56:20:01-56:20:02, 56:24-56:30, 56:33-56:35, 59:04 and 82:01-82:03 alleles. Specific PCR fragment of 195 bp in the B*51:18 allele.
Primer mix 18: Specific PCR fragment of 140 bp in the B*51:28 allele. Specific PCR fragment of 220 bp in the B*51:08, 51:20, 51:36, 51:44N and 51:97 and the B*08:09, 08:84, 13:46, 15:83, 41:01, 41:05-41:07, 41:09, 41:12, 41:14, 41:16-41:17, 41:20, 42:04, 44:15, 44:18, 44:20, 44:100, 45:01-45:14, 52:19, 55:20, 55:56, 56:13 alleles.
Primer mix 21: Specific PCR fragment of 130 bp in the B*51:38 and the B*13:42 alleles. Specific PCR fragment of 185 bp in the B*51:27N allele.
Primer mix 25: Specific PCR fragment of 130 bp in the B*51:38 and the B*13:42 alleles. Specific PCR fragment of 175 bp in the B*51:30 allele. Specific PCR fragment of 205 bp in the B*51:53 and the B*52:29 and 55:54 alleles.
Primer mix 26: Specific PCR fragment of 105 bp in the B*51:13:01-51:13:02, 51:37, 51:63, 51:92 and 51:97 and the B*13:04, 13:46, 15:04, 15:16:01-15:16:03, 15:67, 15:95, 15:137, 15:155, 15:222, 35:37, 39:06:01-39:06:02, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 40:86, 40:159, 45:02, 45:09, 49:04-49:05, 50:09, 52:14, 54:14, 55:13, 55:23, 55:32, 56:22, 59:03 and 73:01-73:02 alleles. Specific PCR fragment of 155 bp in the B*51:32 and the B*27:69 alleles.
Primer mix 27: Specific PCR fragment of 205 bp in the B*51:33 allele. Specific PCR fragment of 270 bp in the B*51:04, 51:46 and 51:56:01-51:56:02 and the B*14:10, 18:22, 18:69[W], 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 37:04:01[W]-37:04:02[W], 40:28, 53:02, 53:06, 57:14 and 58:09 and the C*15:39 alleles. Specific PCR fragment of 345 bp in the B*51:39 and B*44:24 alleles.
Primer mix 28: Specific PCR fragment of 205 bp in the B*51:33 allele. Specific PCR fragment of 255 bp in the B*51:23 and 51:108 and the B*44:15, 44:18, 44:20, 44:47, 44:100, 45:01-45:03, 45:05-45:07, 45:09, 45:11-45:14, 49:20, 50:02 and 52:15 alleles.
Primer mix 31: Specific PCR fragment of 105 bp in the B*51:13:01-51:13:02, 51:37, 51:63, 51:92, 51:97, 13:04, 13:46, 15:16:01-15:16:03, 15:67, 15:95, 15:155, 15:222, 35:37, 39:06:01-39:06:02, 39:34, 39:50, 39:57, 39:62, 39:64, 40:86, 40:159, 45:02, 45:09, 49:04-49:05, 50:09, 52:14, 54:14, 55:13, 55:23, 55:32, 56:22, 59:03, 73:01-73:02 alleles. Specific PCR fragment of 225 bp in the B*51:05, 51:29, 51:54, 51:61:01, 51:82, 07:78, 07:84, 13:18, 13:31, 13:41, 40:161, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21, 55:37, 55:52 alleles. Specific PCR fragment of 105 and 225 bp in the B*15:04, 15:137 and 39:33 alleles.
Primer mix 37: Specific PCR fragment of 165 bp in the B*51:44N allele. Specific PCR fragment of 225 bp in the B*51:55 allele.
Primer mix 41: Specific PCR fragment of 225 bp in the B*51:05, 51:29, 51:54, 51:61:01 and 51:82 and the B*07:78, 07:84, 13:18, 13:31, 13:41, 15:04, 15:137, 39:33, 40:161, 52:21, 52:24, 54:10, 54:20, 55:09, 55:21, 55:37 and 55:52 alleles. Specific PCR fragment of 315 bp in the B*51:48 and C*08:24 alleles.
Primer mix 42: Specific PCR fragment of 100 bp in the B*51:60 allele. Specific PCR fragment of 135 bp in the B*51:49 allele.
Primer mix 43: Specific PCR fragment of 115 bp in the B*51:58 allele. Specific PCR fragment of 215 bp in the B*51:50 allele.
Primer mix 44: Specific PCR fragment of 280 bp in the B*51:76 and the B*08:39, 35:101:02 and 35:195 alleles. Specific PCR fragment of 385 bp in the B*51:51 allele.
Primer mix 46: Specific PCR fragment of 80 bp in the B*51:57 allele. Specific PCR fragment of 170 bp in the B*51:123 allele.

Primer mix 48: Specific PCR fragment of 95 bp in the B*51:37, 51:90 and 51:92 and the B*07:84, 13:04, 13:35, 15:16:01-15:16:03, 15:67, 15:95, 15:155, 15:222, 35:37, 40:44, 40:159, 44:20, 44:47, 44:100, 45:09, 49:04-49:05, 52:12, 52:26, 54:14-54:15, 54:16, 55:23, 55:27 and 55:46 alleles. Specific PCR fragment of 220 bp in the B*51:61:01 and the B*13:31, 13:41, 15:137, 52:21 and 55:21 alleles. Specific PCR fragment of 95 and 220 bp in the B*15:04 allele.
Primer mix 51: Specific PCR fragment of 85 bp in the B*51:68 allele. Specific PCR fragment of 215 bp in the B*51:72 allele.
Primer mix 53: Specific PCR fragment of 165 bp in the B*51:71 allele. Specific PCR fragment of 260 bp in the B*51:70 allele.
Primer mix 54: Specific PCR fragment of 120 bp in the B*51:74 and the B*35:46-35:47, 35:154, 40:07-40:08, 40:13, 40:68, 40:106 and 40:162 alleles. Specific PCR fragment of 255 bp in the B*51:124 allele.
Primer mix 55: Specific PCR fragment of 75 bp in the B*51:77 allele. Specific PCR fragment of 200 bp in the B*51:75 allele.
Primer mix 57: Specific PCR fragment of 145 bp in the B*51:79 allele. Specific PCR fragment of 210 bp in the B*51:78:01 and the B*44:02:10 and 44:34 alleles.
Primer mix 59: Specific PCR fragment of 120 bp in the B*51:83 allele. Specific PCR fragment of 240 bp in the B*51:88 allele.
Primer mix 60: Specific PCR fragment of 85 bp in the B*51:94 allele. Specific PCR fragment of 190 bp in the B*51:84 allele.
Primer mix 61: Specific PCR fragment of 100 bp in the B*51:85 and the B*27:14, 27:81, 44:20, 44:47, 44:100 and 52:26 alleles. Specific PCR fragment of 210 bp in the B*51:87 allele.
Primer mix 62: Specific PCR fragment of 175 bp in the B*51:86 allele. Specific PCR fragment of 250 bp in the B*51:95 and in the B*39:57 alleles.
Primer mix 64: Specific PCR fragment of 115 bp in the B*51:67 allele. Specific PCR fragment of 175 bp in the B*51:66 and 51:89 alleles.
Primer mix 65: Specific PCR fragment of 185 bp in the B*51:98N allele. Specific PCR fragment of 215 bp in the B*51:103 and 51:116 and the B*08:62, 18:07:01-18:07:02, 18:29, 27:23, 35:50, 35:84, 35:162, 37:21, 40:07-40:08, 40:13, 40:68, 40:106 and 40:162 alleles.
Primer mix 66: Specific PCR fragment of 170 bp in the B*51:109 allele. Specific PCR fragment of 210 bp in the B*51:120 allele.
Primer mix 67: Specific PCR fragment of 110 bp in the B*51:93 and 51:122 alleles. Specific PCR fragment of 230 bp in the B*51:100 allele.
'w', might be weakly amplified.

101.561-24/03 – including *Taq* pol., IFU-01
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Primers

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of	105	95	265	255	270	210	270	105	85	160	245	495
spec. PCR									205	245		
product(s)												
5'-primer(s)[1]	206	527	357	357	355	357	355	206	408	357	357	3rd I
	5' -gAC 3'	5' -TgA 3'	5' -Tgg 3'	5' -Tgg 3'	5' -TCA 3'	5' -Tgg 3'	5' -CCC 3'	5' -gAC 3'	5' -ggT 3'	5' -Tgg 3'	5' -Tgg 3'	5' -CTT 3'
									431			
									5' -CgA 3'			
									540			
									5' -gAC 3'			
3'-primer(s)[2]	272	583	583	571	583	527	583	272	583	477	559	621
	5' -TgA 3'	5' -gTg 3'	5' -gTA 3'	5' -CCC 3'	5' -gTg 3'	5' -CCA 3'	5' -gTg 3'	5' -Tgg 3'	5' -gTg 3'	5' -gCg 3'	5' -CTC 3'	5' -ggg 3'
						527				559		
						5' -CCA 3'				5' -CgT 3'		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of	200	105	100	170	105	140	145	110	130	160	210	210
spec. PCR			230	195		220			185			
product(s)												
5'-primer(s)[1]	165	357	357	404	206	141	357	141	357	141	141	141
	5' -ACC 3'	5' -Tgg 3'	5' -Tgg 3'	5' -CCC 3'	5' -gAC 3'	5' -ATT 3'	5' -Tgg 3'	5' -ATT 3'	5' -Tgg 3'	5' -ATT 3'	5' -ATT 3'	5' -ATT 3'
				420		357						
				5' -TTA 3'		5' -Tgg 3'						
				431								
				5' -CgA 3'								
3'-primer(s)[2]	322	419	414	559	272	242	463	211	445	259	311	309
	5' -gTC 3'	5' -CgA 3'	5' -TgT 3'	5' -CAg 3'	5' -TgC 3'	5' -CCC 3'	5' -gCg 3'	5' -ggT 3'	5' -ggA 3'	5' -gTT 3'	5' -ggT 3'	5' -ATC 3'
			544			538			502			
			5' -ggT 3'			5' -gTC 3'			5' -CTA 3'			
			544									
			5' -ggT 3'									
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of	130	105	205	205	245	100	105	165	195	260	225	215
spec. PCR	175	155	270	255			225					
product(s)	205		345									
5'-primer(s)[1]	357	357	49	49	357	369	357	435	141	355	355	133
	5' -Tgg 3'	5' -Tgg 3'	5' -CAg 3'	5' -CAg 3'	5' -Tgg 3'	5' -TAC 3'	5' -Tgg 3'	5' -AAA 3'	5' -ATT 3'	5' -TCA 3'	5' -TCA 3'	5' -CCg 3'
	652	756	355	357		369						
	5' -CCg 3'	5' -ACT 3'	5' -TCA 3'	5' -Tgg 3'		5' -TAC 3'						
						379						
						5' -ACC 3'						
3'-primer(s)[2]	445	419	83	83	559	435	419	559	295	572	538	309
	5' -ggA 3'	5' -Cgg 3'	5' -TgA 3'	5' -TgA 3'	5' -CAg 3'	5' -TCT 3'	5' -Cgg 3'	5' -CTC 3'	5' -TCA 3'	5' -gCg 3'	5' -gTC 3'	5' -ATC 3'
	523	419	226	572	559		419					
	5' -ACA 3'	5' -CgA 3'	5' -CAC 3'	5' -gCg 3'	5' -CAg 3'		5' -CgA 3'					
	787	872	583				539					
	5' -TCC 3'	5' -TCA 3'	5' -gTg 3'				5' -TCC 3'					
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of	165	205	250	185	225	100	115	280	190	80	125	95
spec. PCR	225				315	135	215	385		170		220
product(s)												
5'-primer(s)[1]	141	419	362	165	357	106	141	106	141	103	209	357
	5'-ATT 3'	5'-gTC 3'	5'-gAC 3'	5'-ACC 3'	5'-Tgg 3'	5'-CCA 3'	5'-ATT 3'	5'-CCA 3'	5'-ATT 3'	5'-CCT 3'	5'-ggA 3'	5'-Tgg 3'
	357		363		736	488		667		357		
	5'-Tgg 3'		5'-AgC 3'		5'-gCA 3'	5'-Cgg 3'		5'-AgA 3'		5'-Tgg 3'		
			383									
			5'-ggA 3'									
3'-primer(s)[2]	265	583	583	309	539	163	214	343	292	141	292	412
	5'-CTA 3'	5'-gTg 3'	5'-gTg 3'	5'-ATC 3'	5'-TCC 3'	5'-ggC 3'	5'-CCA 3'	5'-T 3'	5'-gTg 3'	5'-gCA 3'	5'-gTC 3'	5'-gTC 3'
	539				916	583	314	916		487	292	412
	5'-TCT 3'				5'-gAT 3'	5'-gTg 3'	5'-gCC 3'	5'-gAT 3'		5'-Cgg 3'	5'-gTC 3'	5'-gTC 3'
												538
												5'-CCA 3'
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of	160	155	85	150	165	120	75	380	145	165	120	85
spec. PCR			215		260	255	200		210		240	190
product(s)												
5'-primer(s)[1]	142	363	97	475	357	193	141	317	141	457	141	357
	5'-TCg 3'	5'-AgC 3'	5'-TCg 3'	5'-CCA 3'	5'-Tgg 3'	5'-CCA 3'	5'-ATT 3'	5'-gCT 3'	5'-ATT 3'	5'-AgC 3'	5'-ATT 3'	5'-Tgg 3'
			357			368	357				357	
			5'-Tgg 3'			5'-gTg 3'	5'-Tgg 3'				5'-Tgg 3'	
3'-primer(s)[2]	259	477	141	583	481	272	177	412	246	583	218	403
	5'-gTT 3'	5'-gCg 3'	5'-gCA 3'	5'-gTg 3'	5'-gTg 3'	5'-TgA 3'	5'-AAA 3'	5'-gTT 3'	5'-TAA 3'	5'-gTg 3'	5'-gCC 3'	5'-gCA 3'
	259		530		578	583	514		309		555	505
	5'-gTT 3'		5'-CCT 3'		5'-TgA 3'	5'-gTg 3'	5'-CTg 3'		5'-gTg 3'		5'-CCg 3'	5'-gCC 3'
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of	100	175	70	115	185	170	110	190	225	160	180	90
spec. PCR	210	250		175	215	210	230					
product(s)												
5'-primer(s)[1]	357	357	529	138	97	357	141	121	141	155	357	267
	5'-Tgg 3'	5'-Tgg 3'	5'-AgA 3'	5'-TTg 3'	5'-TCC 3'	5'-Tgg 3'	5'-ATT 3'	5'-gCT 3'	5'-ATT 3'	5'-CgC 3'	5'-Tgg 3'	5'-.Ag 3'
				145	127		435					
				5'-CAA 3'	5'-ggT 3'		5'-AAA 3'					
				200								
				5'-TCg 3'								
3'-primer(s)[2]	418	493	559	272	272	488	331	272	327	272	494	317
	5'-gTC 3'	5'-CCT 3'	5'-CAg 3'	5'-TgA 3'	5'-TgA 3'	5'-CCA 3'	5'-CTC 3'	5'-TgA 3'	5'-TTC 3'	5'-TgA 3'	5'-TCg 3'	5'-ggA 3'
	528	565				526	506					
	5'-gCA 3'	5'-CAT 3'				5'-CTT 3'	5'-TgA 3'					
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

[1]The nucleotide position, in the 1st, 2nd, 3rd or 4th exon or 3rd intron, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[2]The nucleotide position, in the 2nd, 3rd, 4th or 5th exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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HLA-B*51 SSP subtyping kit

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	201073101	201204602	201073103	201073104	201073105	201204606	201073107	201204608	201073109	201073110	201073111	201073112	201073113	201073114	201073115	201073116
	IHWC cell line		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	+	-	-	-	+	-	+	-	+	+	-	-	+	-	-
3	9011	E4181324	*52:01		-	+	-	-	-	-	-	+	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	+	-	-	+	-	-	-	+	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	+	-	-	-	-	-	-	+	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	+	+	-	-	+	+	-	-	-	-	-	-	-	-	+
19	9038	BM16	*18:01		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	+	+	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	+	-	-	+	-	-	-	-	+	-	-	-	-	-
41	9055	H0301	*14:02		-	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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HLA-B*51 SSP subtyping kit

					Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:	201073117	201073118	201073119	201073120	201073121	201073122	201073123	201073124	201073125	201073126	201204627	201073128	201204629	201204630	201073131	201073132
	IHWC cell line		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	+	-	-	-	-	-	-	+	-	-	+	-	+	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	+	-	+	-	-	-	-	+	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	+	-	+	-	-	-	-	+	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	+	-	+	-	-	-	-	+	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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HLA-B*51 SSP subtyping kit

					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				Prod. No.:	201073133	201073134	201073135	201073136	201204637	201073138	201204639	201073140	201073141	201073142	201204643	201073144	201073145	201204646	201073147	201073148
	IHWC cell line		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit

					Well															
					49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
				Prod. No.:	201073149	201073150	201073151	201073152	201073153	201204654	201073155	201073156	201073157	201073158	201073159	201204660	201073161	201073162	201204663	201204664
	IHWC cell line		B*																	
1	9001	SA	*07:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	+	-	-	-	-	-	+	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	+	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

Visit www.olerup-ssp.com for **"Instructions for Use" (IFU)**

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit

					Well							
					65	66	67	68	69	70	71	72
				Prod. No.:	201204665	201204666	201204667	201204668	201204669	201204670	201204671	201204672
	IHWC cell line		B*									
1	9001	SA	*07:02		-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-B*51 SSP

Product number: **101.561-24/03 – including *Taq* pol.**
101.561-24u/03u – without *Taq* pol.
Lot number: **05R**
Expiry date: **2015-February-01**
Number of tests: **24 tests – Product No. 101.561-24/24u**
3 tests – Product No. 101.561-03/03u
Number of wells per test: **72**

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2010-731-01	25	2010-731-25	49	2010-731-49
2	2012-046-02	26	2010-731-26	50	2010-731-50
3	2010-731-03	27	2012-046-27	51	2010-731-51
4	2010-731-04	28	2010-731-28	52	2010-731-52
5	2010-731-05	29	2012-046-29	53	2010-731-53
6	2012-046-06	30	2012-046-30	54	2012-046-54
7	2010-731-07	31	2010-731-31	55	2010-731-55
8	2012-046-08	32	2010-731-32	56	2010-731-56
9	2010-731-09	33	2010-731-33	57	2010-731-57
10	2010-731-10	34	2010-731-34	58	2010-731-58
11	2010-731-11	35	2010-731-35	59	2010-731-59
12	2010-731-12	36	2010-731-36	60	2012-046-60
13	2010-731-13	37	2012-046-37	61	2010-731-61
14	2010-731-14	38	2010-731-38	62	2010-731-62
15	2010-731-15	39	2012-046-39	63	2012-046-63
16	2010-731-16	40	2010-731-40	64	2012-046-64
17	2010-731-17	41	2010-731-41	65	2012-046-65
18	2010-731-18	42	2010-731-42	66	2012-046-66
19	2010-731-19	43	2012-046-43	67	2012-046-67
20	2010-731-20	44	2010-731-44	68	2012-046-68
21	2010-731-21	45	2010-731-45	69	2012-046-69
22	2010-731-22	46	2012-046-46	70	2012-046-70
23	2010-731-23	47	2010-731-47	71	2012-046-71
24	2010-731-24	48	2010-731-48	72	2012-046-72

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 5, 13, 17, 20, 21, 25, 27, 32, 33, 36, 39, 42 to 46, 51 to 53, 55, 57 to 64 and 66 to 72 were available.
The specificities of the primers in primer solutions 5, 17, 27, 32, 39, 42, 44, 46, 51, 57, 61 and 67 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer.

In primer solutions 13, 20, 21, 25, 33, 43, 45, 53, 55, 59, 60, 62, 66, 69 and 71 it was only possible to test the 5'-primer, the 3'-primer was not possible to test.
In primer solutions 36, 52, 58, 63, 64, 68, 70 and 72 it was only possible to test the 3'-primer, the 5'-primer was not possible to test.
In primer solutions 9, 16, 25, 39, 41, 42, 44, 54 and 65 one or two of the 5'-primers were not possible to test.
In primer solution 15, 18, 26 to 28, 42, 46, 51, 57, 61 and 67 one or two of the 3'-primers were not possible to test.
Additional primers in primer solutions 18, 26, 28 to 31, 37, 41, 47, 48 and 54 were tested by separately adding one 5'-primer or one 3'-primer.

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

Date of approval: 2012-September-14

Approved by:

Production Quality Control

Declaration of Conformity

Product name: *Olerup* SSP® HLA-B*51
Product number: 101.561-24/24u, -03/03u
Lot number: 05R

Intended use: HLA-B*51 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 13485:2003, 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
2012-September-14

Ann-Cathrin Jareman
Head of QA and Regulatory Affairs

Lot No.: 05R **Lot-specific information** **www.olerup-ssp.com**

ADDRESSES:

Manufacturer:
Olerup SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.
Tel: +46-8-717 88 27
Fax: +46-8-717 88 18
E-mail: info-ssp@olerup.com
Web page: http://www.olerup-ssp.com

Distributed by:
Olerup GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.
Tel: +43-1-710 15 00
Fax: +43-1-710 15 00 10
E-mail: support-at@olerup.com
Web page: http://www.olerup.com

Olerup Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382
Tel: 1-877-OLERUP1
Fax: 610-344-7989
E-mail: info.us@olerup.com
Web page: http://www.olerup.com

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