

101.566-12/04 – including *Taq* polymerase, IFU-01
101.566-12u/04u – without *Taq* polymerase, IFU-02

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

Lot No.: **6D6**

Lot-specific information

Olerup SSP® HLA-B*39

Product number:	101.566-12/04 – including <i>Taq</i> pol. 101.566-12u/04u – without <i>Taq</i> pol.
Lot number:	6D6
Expiry date:	2018-09-01
Number of tests:	12 tests – Product No. 101.566-12/12u 4 tests – Product No. 101.566-04/04u
Number of wells per test:	38+1
Storage - pre-aliquoted primers:	dark at -20°C
- PCR Master Mix:	-20°C
- Adhesive PCR seals	RT
- Product Insert	RT

This Product Description is only valid for Lot No. 6D6.

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

CHANGES COMPARED TO THE PREVIOUS OLERUP SSP® HLA-B*39 LOT (82X)

The HLA-B*39 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

A well containing Negative Control primer pairs has been added.

The format of the Product Insert and Worksheet have been changed.

Seven wells have been added to HLA-B*39, wells **33 to 39**.

¹As described in section Uniquely Identified Alleles.

The HLA-B*39 primer set, specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP®* HLA-B*39 lot was made (Lot No. 82X). The kit design is based on IMGT/HLA database 3.22.0.

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

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

Well	5'-primer	3'-primer	rationale
1	Added	-	5'-primer added for the B*39:01:21 allele.
4	-	Removed	3'-primer removed for improved HLA-specific amplification.
12	-	Added	3'-primer added for the B*39:99 allele.
22	Exchanged	Exchanged	Primer pair exchanged for decreased tendency of primer oligomer formation.
32	Added	Added	Updated negative control moved to well 39, primer pairs added for the B*39:79 and B*39:89 alleles.
33	New	New	New primer pairs added for the B*39:87N and B*39:93 alleles.
34	New	New	New primer pair added for the B*39:86 allele.
35	New	New	New primer pair added for the B*39:92 allele.
36	New	New	New primer pair added for the B*39:102 allele.
37	New	New	New primer pair added for the B*39:95N allele.
38	New	New	New primer pair added for the B*39:97N allele.
39	-	-	Updated negative control added from well 32.

Change in revision R01 compared to R00:

1. In primer mix 7 the C*15:51 alleles gives rise to PCR products of 120 and 165 bp. This has been corrected in the Specificity Table and in the footnotes to the Interpretation Tables.

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Well **39** contains Negative Control primer pairs, that will amplify more than 95% of the Olerup SSP® HLA Class I, DRB, DQB1, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

HLA-specific PCR product sizes range from 75 to 200 base pairs.
The PCR product generated by the positive control primer pair is 430 base pairs.

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

¹The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide and codon numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

²The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2nd or 3rd exon or the 2nd intron, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide and codon numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

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PRODUCT DESCRIPTION

HLA-B*39 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*39:01 to B*39:107 alleles.

PLATE LAYOUT

Each test consists of 39 PCR reactions in a 48 well cut PCR plate. Wells 40 to 48 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	NC	empty
empty	empty	empty	empty	empty	empty	empty	empty

The 48 well cut PCR plate is marked with 'HLA-B*39' in silver/gray ink.

Well No. 1 is marked with the Lot Number '6D6'.

Wells 1 to 38 – HLA-B*39 high resolution primers.

Well 39 – Negative Control (NC).

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

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

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

INTERPRETATION

Due to the sharing of sequence motifs between HLA-B alleles, non-HLA-B*39 alleles will be amplified by primer mixes 1 to 16, 18, 19, 21 to 24, 26 to 31 and 33 to 35.

In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1, 3, 7, 9 to 13, 16, 21 to 23, 25 to 28 and 30 to 33.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*39 alleles, i.e. **B*39:01 to B*39:107**, recognized by the HLA Nomenclature Committee in October 2015^{1,2} will be amplified by the primers in the HLA-B*39 subtyping kit³.

The HLA-B*39 kit enables separation of the confirmed HLA-B*39 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*39 alleles is listed below.

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The HLA-B*39 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 following HLA-B*39 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
B*39:01:01:02L, 39:60	25	B*39:35, 39:75	30
B*39:01:05, 39:59	9	B*39:41, 39:77	13
B*39:25N, 39:44	17	B*39:62, 39:64	30
B*39:26, 39:51	4	B*39:87N, 39:93	33

The HLA-B*39 subtyping kit cannot distinguish the silent mutations in the B*39:01:01:01, 39:01:01:03-39:01:01:04, 39:01:03, 39:01:06-39:01:08 and 39:01:10-39:01:22 alleles, the B*39:05:01-39:05:02 alleles, the B*39:06:01-39:06:02 and 39:06:04-39:06:05 alleles, the B*39:13:01-39:13:02 alleles, the B*39:24:01-39:24:02 alleles or the B*39:40:01N-39:40:02N alleles.

¹HLA-B alleles listed on the IMGT/HLA web page 2016-October-10, release 3.22.0, www.ebi.ac.uk/imgt/hla.

²Alleles that have been deleted from or renamed in the official WHO HLA Nomenclature up to and including the last IMGT/HLA database release can be retrieved from web page <http://hla.alleles.org/alleles/deleted.html>.

³The B*39:10:01 and 39:96 and the 67:01:02-67:01:03 and 67:05 alleles will give rise to identical amplification patterns with the HLA-B*39 subtyping kit. These two alleles can be distinguished by the HLA-B low resolution and/or HLA-B*67 kits.

The B*39:47 and the B*14:46 alleles will give rise to identical amplification patterns with the HLA-B*39 subtyping kit. These two alleles can be distinguished by the HLA-B low resolution kit.

The B*39:104 and the B*38:41 alleles will give rise to identical amplification patterns with the HLA-B*39 subtyping kit. These two alleles can be distinguished by the HLA-B low resolution and/or HLA-B*38 kits.

The B*39:106 and the B*14:08:01-14:08:02 and 14:10 alleles will give rise to identical amplification patterns with the HLA-B*39 subtyping kit. These two alleles can be distinguished by the HLA-B low resolution and/or HLA-B*14 kits.

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ALLELE CONFIRMATION STATUS

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

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2015-October-10, release 3.22.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*39 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-B*39 SSP subtyping

Specificities and sizes of the PCR products of the 38+1 primer mixes used for HLA-B*39 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*39 alleles ³	Other amplified HLA-Class I alleles ⁴
1	230 bp	800 bp	*39:01:01:01-39:01:01:04, 39:01:03-39:05:02, 39:07- 39:20, 39:22-39:29, 39:31, 39:35, 39:37- 39:41, 39:44-39:46, 39:48-39:49, 39:51-39:56, 39:58-39:61, 39:63, 39:65-39:72, 39:75-39:81, 39:84-39:89, 39:91- 39:101, 39:103-39:105	*08:55, 15:69, 15:186, 38:01:01-38:07, 38:09, 38:11-38:14, 38:16-38:19, 38:21- 38:22, 38:24-38:29, 38:31-38:35, 38:38- 38:44, 38:46-38:49, 38:51, 38:53-38:58, 40:184, 58:20, 67:01:01-67:05, C*04:188, C*05:70, C*06:40, C*07:137:01-07:137:02, C*14:63
2	170 bp	1070 bp	*39:01:01:01-39:01:01:04, 39:01:03-39:01:22, 39:03- 39:07, 39:09:01-39:09:03, 39:11-39:12, 39:14-39:15, 39:18-39:19:02, 39:22, 39:24:01-39:38Q, 39:40:01N-39:48, 39:50- 39:51, 39:53, 39:55- 39:57, 39:59-39:62, 39:64-39:82, 39:84- 39:87N, 39:90-39:95N, 39:97N-39:98, 39:100, 39:102-39:104, 39:106- 39:107	*07:69, 07:85, 07:180, 08:65, 14:01:01- 14:20, 14:22-14:35, 14:37-14:41N, 14:43- 14:47, 14:50, 15:09-15:10:04, 15:18:01- 15:18:06, 15:23, 15:37, 15:51-15:52, 15:72, 15:80, 15:90, 15:93, 15:99, 15:108, 15:114- 15:115, 15:119, 15:124, 15:133-15:134, 15:153, 15:161, 15:176, 15:186, 15:197- 15:198, 15:200, 15:221, 15:226N, 15:229, 15:238, 15:243, 15:252, 15:263, 15:275:01- 15:275:02, 15:290, 15:292-15:294N, 15:306- 15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 18:33, 37:57, 38:01:01-38:02:07, 38:04- 38:05, 38:08-38:15, 38:17-38:25, 38:27, 38:29-38:45, 38:47-38:53, 38:55Q-38:58
3^{6,7}	200 bp	800 bp	*39:05:01-39:05:02, 39:07-39:08, 39:11, 39:13:01-39:13:02, 39:20, 39:37, 39:43, 39:49, 39:55-39:56	*07:16, 07:27, 07:37-07:38, 07:50, 07:75, 07:91, 07:180, 07:207, 07:219, 07:228, 08:03, 08:23, 08:54, 08:110, 08:133, 08:139, 14:14, 14:18, 15:03:01:01-15:03:05, 15:09- 15:10:04, 15:18:01-15:18:06, 15:23, 15:29, 15:37-15:38:02, 15:47:01-15:47:02, 15:49, 15:51-15:52, 15:54, 15:62, 15:64:01- 15:64:02, 15:68-15:69, 15:72, 15:74, 15:80, 15:90-15:91, 15:93, 15:98-15:99, 15:103, 15:108, 15:114-15:115, 15:119, 15:123- 15:124, 15:127, 15:131-15:134, 15:151, 15:153, 15:156, 15:158, 15:161, 15:173, 15:176, 15:185-15:186, 15:197-15:198, 15:200, 15:210, 15:220-15:221, 15:226N, 15:229, 15:235, 15:238, 15:242-15:243, 15:251-15:253, 15:263, 15:266, 15:274- 15:275:02, 15:281-15:282, 15:290, 15:292- 15:293, 15:306-15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 15:364, 15:368-15:369,

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				18:01:01-18:15, 18:17N-18:116, 35:21, 35:24:01-35:25, 35:124-35:125, 35:142, 35:162, 35:188, 35:190, 35:267, 35:287, 37:01:01-37:21, 37:23-37:36, 37:38-37:57, 38:01:01-38:02:07, 38:04-38:12, 38:15, 38:17-38:25, 38:27, 38:29-38:40, 38:42-38:45, 38:47-38:58, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224, 48:01:01-48:02:01, 48:02:03-48:37, 49:25, 51:37, 51:45, 51:63, 51:97, 51:116, 51:176, 51:179, 52:16, 52:27, 52:39, 53:02, 53:06, 53:28, 56:31, 57:14:01-57:14:02, 57:58, 57:80, 58:09, 58:12, 81:08, C*06:147, C*12:87
4⁵	65 bp 145 bp 385 bp	1070 bp	*39:58 *39:26 *39:51	*08:01:24, 35:03:17
5⁵	105 bp	800 bp	*39:01:01-39:01:01:04, 39:01:03-39:01:08, 39:01:10-39:02:01, 39:03-39:06:02, 39:06:04-39:09:03, 39:11-39:12, 39:14-39:15, 39:18, 39:19:02, 39:22, 39:24:01-39:39:01, 39:40:01N-39:48, 39:50-39:62, 39:64-39:82, 39:84-39:88, 39:90-39:95N, 39:97N-39:98, 39:100, 39:102-39:103, 39:106-39:107	*07:02:32, 08:01:24, 14:01:01-14:02:02, 14:02:04, 14:02:07-14:20, 14:22-14:41N, 14:43-14:50, 15:189, 35:03:17, 35:26, 67:01:01, 67:03-67:04
6	170 bp	800 bp	*39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:39:01-39:39:02, 39:49, 39:88, 39:101, 39:105	*07:27, 07:50, 08:04, 08:17, 08:54, 08:110, 15:03:01:01-15:03:05, 15:47:01-15:47:02, 15:54, 15:61-15:62, 15:64:01-15:64:02, 15:68-15:69, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:156, 15:158, 15:173, 15:210, 15:220, 15:235, 15:242, 15:251, 15:253, 15:266, 15:274, 15:281-15:282, 15:369, 18:01:01:01-18:03, 18:05-18:06, 18:08-18:15, 18:17N-18:28, 18:30-18:32, 18:34-18:78, 18:81-18:97, 18:99-18:101, 18:103-18:106, 18:108-18:116, 37:01:01-37:20, 37:23-37:25, 37:27-37:56, 38:03, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224, 48:01:01-48:02:01, 48:02:03-48:05, 48:07-48:30, 48:32-48:37, 49:25, 52:16, 52:27
7^{5,7}	120 bp 165 bp 220 bp	1070 bp	*39:68 *39:17 *39:03, 39:14, 39:24:01-39:24:02, 39:29, 39:37, 39:76	*08:55, 67:03, A*02:403, A*30:63, A*68:108, C*05:70, C*06:40, C*07:137:01-07:137:02, C*15:51 C*15:51 *08:55, 38:19

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8⁷	180 bp	1070 bp	*39:04, 39:47, 39:50,	*07:214, 08:01:24, 14:28, 14:46, 15:189, 35:03:17, 35:26, 38:33, 40:36, 40:77, 40:86, 40:314, 48:07, 49:26
	405 bp		*39:46	
9⁵	100 bp	800 bp	*39:01:05, 39:18	*15:69, 15:186, 15:265, 38:01:03, C*04:188, C*06:40, C*14:63, C*15:51
	230 bp		*39:06:01-39:06:05, 39:57, 39:62, 39:64, 39:83, 39:90	*35:276, 51:101
	310 bp		*39:59	
10⁵	105 bp	800 bp	*39:19:01-39:19:02	*18:33, 35:82, 35:85, 35:135, 35:294, 37:57, 51:22, 78:03
	165 bp		*39:07, 39:91	*15:69, 15:186, 15:265, 35:35, C*14:63
	210 bp		*39:09:01-39:09:03, 39:43, 39:88	*15:38:01-15:38:02, 15:185, 15:335, 15:364, 15:368, 18:01:01:01-18:09, 18:12:01-18:15, 18:17N-18:20, 18:22-18:25, 18:27-18:34, 18:36-18:40, 18:42-18:55, 18:57, 18:59- 18:60, 18:62-18:100, 18:102-18:109, 18:111- 18:116, 35:21, 35:24:01-35:24:02, 35:188, 35:190, 35:287, 51:37, 51:45, 51:63, 51:97, 52:39, 53:02, 53:06, 53:28, 56:31, 57:14:01- 57:14:02, 58:09, C*12:87
	255 bp			*18:18
11⁷	160 bp	1070 bp	*39:08, 39:11, 39:18, 39:33, 39:36	*07:78, 07:214, 07:246, 13:18, 13:31, 13:41, 13:73, 15:58, 15:73, 15:303, 46:61, 54:10, 54:20, 54:33, 55:09, 55:21, 55:37, 55:52, 56:43, C*06:34:02, C*07:447
	185 bp		*39:40:01N-39:40:02N, 39:53, 39:57	*56:19N
12⁷	175 bp	800 bp	*39:07, 39:15, 39:29, 39:49, 39:55, 39:91	*15:69, 15:186, 35:35, 38:29, C*15:51
	205 bp		*39:61, 39:99	*40:283?
13⁵	80 bp	800 bp	*39:77	
	230 bp		*39:24:01-39:24:02, 39:28, 39:41-39:42, 39:76	*15:265, 35:35, 37:40, 38:20, C*15:51
14⁵	85 bp	1070 bp	*39:10:01-39:10:02, 39:16-39:17, 39:20, 39:63, 39:89, 39:96, 39:99	*07:02:01-07:07, 07:09, 07:11-07:12, 07:14- 07:26, 07:28-07:31, 07:33:01-07:35, 07:37, 07:39-07:49N, 07:51-07:68:03, 07:70-07:80, 07:82, 07:84, 07:86-07:131, 07:133-07:148, 07:150-07:179, 07:181N-07:182N, 07:184- 07:191, 07:193-07:206, 07:208-07:218, 07:220-07:227, 07:229-07:235, 07:237- 07:256, 08:123, 08:132, 08:146, 14:21, 15:11:01-15:11:07, 15:76, 15:101, 15:143, 15:148, 15:152, 15:209N, 15:215, 15:255, 15:284, 15:303, 15:305, 15:350, 15:367, 35:02:06, 35:76, 40:61, 40:166, 42:01:01- 42:02:01:02, 42:04-42:10, 42:12-42:21, 44:90, 45:06, 54:01:01-54:11, 54:13-54:23, 54:25-54:34, 55:01:01-55:05, 55:07-55:17, 55:19-55:33, 55:35-55:46, 55:48-55:76, 56:01:01:01-56:06, 56:09-56:13, 56:15- 56:20:02, 56:22-56:32, 56:34-56:43, 56:45, 56:47-56:49, 67:01:01-67:01:03, 67:03- 67:05, 81:01-81:04N, 81:06-81:08, 82:01- 82:03, 83:01

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15⁷	145 bp 190 bp	800 bp	*39:54 *39:12, 39:31, 39:38Q, 39:54	*08:01:24, 14:28, 49:26
16⁷	165 bp 220 bp	800 bp	*39:14, 39:29, 39:70 *39:09:01-39:09:03, 39:16, 39:88	*08:55, 51:101 C*07:137:01-07:137:02
17⁵	80 bp 180 bp 205 bp	800 bp	*39:23, 39:44 *39:25N *39:61	
18	155 bp	800 bp	*39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:22-39:23, 39:45, 39:49, 39:101, 39:105	*08:17, 08:38, 08:54, 08:101, 15:03:01:01- 15:03:04, 15:47:01-15:47:02, 15:49, 15:54, 15:61-15:62, 15:68-15:69, 15:74, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131- 15:132, 15:151, 15:156, 15:158, 15:173, 15:210, 15:220, 15:235, 15:242-15:243, 15:251, 15:253, 15:266, 15:274, 15:281- 15:282, 15:369, 18:12:01-18:12:02, 37:01:01-37:07, 37:09-37:21, 37:23-37:57, 38:03-38:04, 38:25, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224, 48:01:01-48:02:01, 48:02:03-48:05, 48:07- 48:15, 48:17-48:37, 49:25, 52:16, 52:27
19	385 bp	1070 bp	*39:01:01:01-39:01:01:04, 39:01:03-39:01:22, 39:03- 39:07, 39:09:01-39:10:01, 39:11-39:12, 39:14-39:20, 39:24:01-39:48, 39:50- 39:77, 39:79-39:100, 39:102-39:104, 39:106- 39:107	*07:02:01-07:12, 07:14-07:53, 07:55-07:64, 07:66-07:122, 07:124-07:131, 07:133- 07:180, 07:182N, 07:183 ^w , 07:184-07:218, 07:220-07:256, 08:01:01-08:05, 08:07-08:09, 08:11-08:16, 08:18-08:37, 08:39-08:53:02, 08:55-08:100, 08:102-08:146, 08:149- 08:156, 14:01:01-14:03, 14:05-14:48, 14:50, 38:01:01-38:02:07, 38:05-38:24, 38:26- 38:55Q, 38:57-38:58, 40:25 [?] , 40:68 [?] , 40:106 [?] , 40:166 [?] , 40:232 [?] , 40:313 [?] , 42:01:01-42:02:01:02, 42:04-42:10, 42:12- 42:21, 48:06, 49:26, 50:15, 67:01:01- 67:01:03, 67:03-67:05, 73:01-73:02, 81:02
20^{5,7}	95 bp	800 bp	*39:27	
21	220 bp	800 bp	*39:01:01:01-39:01:01:04, 39:01:03-39:02:02, 39:04- 39:05:02, 39:07-39:13:02, 39:15, 39:17-39:20, 39:22-39:23, 39:25N- 39:27, 39:31, 39:35, 39:38Q-39:41, 39:42 ^w , 39:44-39:46, 39:48-39:49, 39:51-39:56, 39:58-39:61, 39:63, 39:65-39:72, 39:75, 39:77-39:78, 39:80-39:81, 39:84-39:89, 39:91-39:101, 39:103- 39:105	*15:69, 15:186, 38:01:01-38:07, 38:08 ^w , 38:09, 38:11-38:18, 38:21, 38:24-38:29, 38:31-38:35, 38:38-38:44, 38:46-38:49, 38:51, 38:53-38:58, 40:184, 58:20, 67:01:01- 67:05, C*04:188, C*05:70, C*07:137:01- 07:137:02
22⁶	300 bp	1070 bp	*39:73	*38:23, 40:233, A*02:84, C*02:57, C*03:97, C*05:104, C*07:181, C*07:328
23^{5,6}	85 bp	800 bp	*39:01:01:01-39:01:01:04, 39:01:03, 39:01:05- 39:01:08,	*07:02:32, 08:01:24, 14:01:01-14:02:02, 14:02:04-14:02:05, 14:02:07-14:13, 14:15- 14:17, 14:19-14:20, 14:22-14:41N,

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24^{7,9}	185 bp	1070 bp	*39:01:01:01-39:01:01:04, 39:01:03-39:01:08, 39:01:10-39:02:01, 39:03, 39:05:01-39:06:02, 39:06:04-39:09:03, 39:11, 39:14-39:15, 39:18, 39:19:02, 39:22, 39:24:01-39:39:01, 39:40:01N-39:44, 39:46-39:48, 39:50-39:62, 39:64-39:71, 39:73-39:75, 39:77, 39:79-39:82, 39:84-39:88, 39:90-39:91, 39:93-39:95N, 39:97N-39:98, 39:100, 39:102-39:104, 39:106-39:107	*07:02:32, 14:01:01-14:01:05, 14:07N-14:08:02, 14:10, 14:12, 14:14, 14:19, 14:26, 14:32, 14:40, 14:46-14:47, 14:49, 27:07:04, 38:01:01-38:01:07, 38:01:09-38:02:02, 38:02:04-38:03, 38:07-38:24, 38:26-38:32, 38:34N-38:58, 67:01:01, 67:03-67:04
25⁸	150 bp 235 bp	1070 bp	*39:60, 39:82 *39:01:01:02L	C*08:83, C*15:31
26⁷	265 bp	800 bp		*14:01:01-14:02:08, 14:02:10-14:04, 14:07N, 14:09, 14:11-14:12, 14:14-14:36, 14:38-14:45, 14:47-14:50, 18:44:01-18:44:02, C*01:30, C*12:87
27	180 bp 205 bp	800 bp	*39:38Q, 39:63 *39:32, 39:48	*13:15, 35:96, 35:109, 51:13:01-51:13:02, 51:62, 51:92:01-51:92:02, 51:106, 52:14, 52:25, 56:34, C*15:39
28⁸	140 bp 180 bp	1070 bp	*39:56 *39:32-39:33, 39:40:01N-39:40:02N, 39:74	*13:03, 13:48, 15:58, 15:73, 15:133, 15:229, 15:253, 15:303, 35:03:01-35:03:05, 35:03:07-35:03:21, 35:06, 35:13, 35:36, 35:38, 35:55-35:56, 35:59:01-35:59:02, 35:70, 35:74-35:75, 35:84-35:85, 35:98, 35:106, 35:109, 35:127-35:128, 35:136, 35:150:01-35:153, 35:155-35:156, 35:160, 35:163, 35:167, 35:169, 35:179, 35:181, 35:193, 35:195, 35:198, 35:204-35:205, 35:221, 35:223, 35:231, 35:235-35:237, 35:242-35:243, 35:246, 35:256-35:257, 35:267, 35:274, 35:278-35:279, 35:281-35:282, 35:290-35:291, 35:296, 35:298, 38:30, 40:71, 44:10, 44:226, 45:14, 46:11, 46:61, 50:39-50:40, 51:13:01-51:13:02,

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29	245 bp	800 bp	*39:06:01-39:06:05, 39:34, 39:50, 39:57, 39:62, 39:64, 39:83, 39:90	*07:78, 07:84, 08:09, 08:84, 13:02:01-13:02:18, 13:08-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:44-13:47, 13:49N, 13:53-13:56:02N, 13:58-13:59, 13:65-13:70, 13:72, 13:74-13:75, 13:81-13:82, 13:84-13:85, 14:37, 15:42, 15:83, 27:14, 27:81, 27:130, 35:60, 35:276, 40:06:01:01-40:06:14, 40:44, 40:53, 40:70:01-40:70:02, 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, 40:230, 40:244, 40:256N, 40:268-40:270, 40:275, 40:294-40:295, 40:298, 40:306-40:307, 40:311, 40:313, 40:317, 41:01:01-41:01:04, 41:05-41:07, 41:09, 41:12, 41:14, 41:16, 41:20-41:22, 41:25-41:26, 41:28-41:30, 41:32-41:35, 41:37, 42:04, 45:08, 45:10, 46:18, 49:07, 50:31, 51:10, 51:16, 51:21, 51:31, 51:34, 51:36, 51:82, 51:93, 51:101, 51:143, 51:153, 51:157, 52:08, 52:37, 54:01:01-54:02, 54:04-54:05N, 54:07-54:08N, 54:10-54:32, 54:34, 55:01:01-55:01:06, 55:01:08-55:03, 55:05, 55:07, 55:09-55:13, 55:15-55:48, 55:50, 55:52-55:76, 56:23, 59:01:01:01-59:03, 59:05-59:09, 73:01-73:02, 78:07-78:08
30^{5,7}	65 bp	800 bp	*39:18, 39:35, 39:64	*15:69, 15:265, 38:32, 51:101, C*04:188, C*05:70, C*06:40, C*14:63, C*15:51 C*07:175
	135 bp		*39:75	*38:54, A*02:403, A*30:63, A*68:108
	190 bp		*39:52, 39:62	
31	175 bp	800 bp	*39:30, 39:33-39:34, 39:36, 39:82, 39:107	*07:05:01-07:06, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 07:137-07:138, 07:140, 07:176, 07:182N, 07:201N, 07:206-07:207, 07:209-07:210, 07:213-07:214, 07:222, 07:249, 08:01:01-08:01:22, 08:01:24-08:05, 08:08N-08:13, 08:15-08:27, 08:29-08:36, 08:38-08:48, 08:50-08:54, 08:56:01-08:73, 08:75-08:86N, 08:88, 08:90-08:106, 08:108 ^w , 08:109-08:110, 08:112-08:155, 13:01:01-13:01:02, 13:01:04-13:02:16, 13:02:18-13:03, 13:06-13:07N, 13:09, 13:11-13:23, 13:25, 13:27-13:33, 13:36-13:45, 13:47-13:50, 13:52-13:71, 13:73-13:78, 13:80-13:85, 14:13, 15:09, 15:30, 15:42, 15:58, 15:73, 15:83, 15:86, 15:150, 15:188, 15:224, 15:229, 15:243, 15:252, 15:303, 15:324, 15:329, 15:361, 18:26, 18:61, 18:97, 27:07:01-27:07:04, 27:11, 27:20, 27:24,

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32	190 bp 225 bp	1070 bp	*39:89 *39:79	C*06:40, C*14:63

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33	120 bp 230 bp	1070 bp	*39:93 *39:87N	*38:58 *15:226N, C*01:56N
34	105 bp	1070 bp	*39:86	*15:320
35	85 bp	1070 bp	*39:92	*08:119, 14:24, 35:226, 57:12, 58:64
36	245 bp	1070 bp	*39:102	
37	90 bp	1070 bp	*39:95N	
38	90 bp	1070 bp	*39:97N	
39¹⁰	-	-	Negative Control	

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*39 SSP subtypings.

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

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

PCR fragments 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.

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

²The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

³For several HLA Class I alleles 1st and/or 4th exon(s) and beyond, as well as intron nucleotide sequences, are not available. In these instances it is not known whether some of the primers of the SSP sets are completely matched with the target sequences or not. Assumption is made that unknown sequences in these regions are conserved within allelic groups.

⁴Due to the sharing of sequence motifs between HLA-B alleles, non-HLA-B*39 alleles will be amplified by primer mixes 1 to 16, 18, 19, 21 to 24, 26 to 31 and 33 to 35.

In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1, 3, 7, 9 to 13, 16, 21 to 23, 25 to 28 and 30 to 33.

⁵HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁶Primer mixes 3, 22 and 23 have a tendency to giving rise to primer oligomer formation.

⁷Primer mixes 3, 7, 8, 11, 12, 15, 16, 20, 24, 26 and 30 may have tendencies of unspecific amplifications.

⁸Primer mixes 25 and 28 may give rise to a long unspecific amplification product of approximately 600 bp. This should be disregarded when interpreting the B*39 typings.

⁹Primer mix 24 may give rise to a lower yield of HLA-specific PCR product than the other B*39 primer mixes.

¹⁰Primer mix 39 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

‘w’, might be weakly amplified.

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

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PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	230	170	200	65	105	170	120	180	100	105	160	175
				145			165	405	230	165	185	205
				385			220		310	210		
										255		
Length of int. pos. control ¹	800	1070	800	1070	800	800	1070	1070	800	800	1070	800
5'-primer(s) ²	351	142	142	246	246	142	363	106	357	206	419	44
	5'-CAT 3'	5'-TCT 3'	5'-TCT 3'	5'-gAA 3'	5'-gAA 3'	5'-TCT 3'	5'-AgC 3'	5'-CCA 3'	5'-Tgg 3'	5'-gAC 3'	5'-gTT 3'	5'-ggC 3'
	355		419	419	246		420	420	486	368		412
	5'-CTC 3'		5'-gTC 3'	5'-gTT 3'	5'-gAA 3'		5'-TTA 3'	5'-TTC 3'	5'-ACg 3'	5'-gTC 3'		5'-ATg 3'
	355						463	646	3 ^d I	419		
	5'-CCC 3'						5'-TgC 3'	5'-ACg 3'	5'-Agg 3'	5'-gTC 3'		
3'-primer(s) ³	544	272	292	272	311	272	544	246	544	272	539	79
	5'-ggT 3'	5'-TgC 3'	5'-gTA 3'	5'-TgA 3'	5'-ggT 3'	5'-Tgg 3'	5'-ggT 3'	5'-TAT 3'	5'-ggT 3'	5'-TgC 3'	5'-TCC 3'	5'-gTA 3'
			292	344	311			559	839	544	539	85
			5'-gTA 3'	5'-ACg 3'	5'-ggT 3'			5'-CTC 3'	5'-ATA 3'	5'-ggT 3'	5'-TCC 3'	5'-CAA 3'
			292	524				916		583	564	544
			5'-gTA 3'	5'-CAA 3'				5'-gAC 3'		5'-gTg 3'	5'-ACT 3'	5'-ggT 3'
			583								565	
			5'-gTg 3'								5'-CAT 3'	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec. PCR product	80	85	145	165	80	155	385	95	220	300	85	185
	230		190	220	180							
					205							
Length of int. pos. control ¹	800	1070	800	800	800	800	1070	800	800	1070	800	1070
5'-primer(s) ²	112	264	97	360	44	142	44	246	363	341	246	103
	5'-CCT 3'	5'-ACg 3'	5'-TCg 3'	5'-CAC 3'	5'-ggC 3'	5'-TCT 3'	5'-ggC 3'	5'-gAA 3'	5'-Agg 3'	5'-ggC 3'	5'-gAA 3'	5'-CCT 3'
	355	272	97	368	407							103
	5'-TCA 3'	5'-CTA 3'	5'-TCC 3'	5'-gTC 3'	5'-gg 3'							5'-CCT 3'
	362		141	419	503							
	5'-gAC 3'		5'-ATg 3'	5'-gTA 3'	5'-CCg 3'							
	365		419									
	5'-CAC 3'		5'-gTT 3'									
	733											
	5'-ATA 3'											
3'-primer(s) ³	311	311	246	544	79	250	259	299	544	355	292	246
	5'-ggT 3'	5'-ggT 3'	5'-TAT 3'	5'-ggT 3'	5'-gTA 3'	5'-CCg 3'	5'-gTT 3'	5'-TCA 3'	5'-ggT 3'	5'-gAA 3'	5'-gTC 3'	5'-TAT 3'
	544		563		544	259	259				292	246
	5'-ggT 3'		5'-CgA 3'		5'-ggT 3'	5'-CTC 3'	5'-gTT 3'				5'-gTC 3'	5'-TAT 3'
	774											
	5'-ggT 3'											
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.566-12/04 – including *Taq* polymerase, IFU-01
101.566-12u/04u – without *Taq* polymerase, IFU-02

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Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	150	265	180	140	245	65	175	190	120	105	85	245
PCR product	235		205	180		135		225	230			
						190						
Length of int.	1070	800	800	1070	800	800	800	1070	1070	1070	1070	1070
pos. control ¹												
5'-primer(s) ²	-149	361	141	419	357	142	412	361	142	709	256	357
	5'-ggg 3'	5'-AgT 3'	5'-ATT 3'	5'-gTT 3'	5'-Tgg 3'	5'-TCT 3'	5'-ATA 3'	5'-AgT 3'	5'-TCT 3'	5'-AgT 3'	5'-ACg 3'	5'-Tgg 3'
	419		419			385		394				
	5'-gTT 3'		5'-gTT 3'			5'-ggT 3'		5'-ggg 3'				
						527						
						5'-TgA 3'						
3'-primer(s) ³	44	583	272	518	559	172	544	544	221	774	302	559
	5'-CCg 3'	5'-gTg 3'	5'-TgT 3'	5'-CCC 3'	5'-CgT 3'	5'-CAT 3'	5'-ggC 3'	5'-ggT 3'	5'-ACA 3'	5'-ggT 3'	5'-ggC 3'	5'-CAT 3'
	527		563	559	559	236			331			
	5'-CCg 3'		5'-CgA 3'	5'-CAg 3'	5'-CTC 3'	5'-CCA 3'			5'-CTA 3'			
			583	564		280						
			5'-gTg 3'	5'-ACT 3'		5'-gTC 3'						
						544						
						5'-ggT 3'						
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38
Length of spec.	90	90
PCR product		
Length of int.	1070	1070
pos. control ¹		
5'-primer(s) ²	493	607
	5'-CTT 3'	5'-CgC 3'
3'-primer(s) ³	544	3 rd I
	5'-ggT 3'	5'-TAT 3'
Well No.	37	38

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

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

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

101.566-12/04 – including *Taq* polymerase, IFU-01
101.566-12u/04u – without *Taq* polymerase, IFU-02

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Lot-specific information

[illegible]

101.566-12/04 – including *Taq* polymerase, IFU-01
101.566-12u/04u – without *Taq* polymerase, IFU-02

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Lot-specific information

CELL LINE VALIDATION SHEET										
HLA-B*39 SSP subtyping kit²										
					Well					
					33	34	35	36	37	38
					Prod. No.:	201665133	201665134	201665135	201665136	201665137
						201665138				
IHWC cell line¹				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	9025	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	-	-	-	-	-

¹The provided cell line HLA specificities are retrieved from the <http://www.ihwg.org/hla> web site. The specificity of an individual cell line may thus be subject to change.

101.566-12/04 – including *Taq* polymerase, IFU-01
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Lot-specific information

²The specificity of each primer solution in the kit has been tested against 48 well characterized cell line DNAs and where applicable, additional cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 4, 7, 13, 15, 20, 22, 25, 27, 30, 32 to 38 were available.

The specificities of the primers in primer solutions 4, 7, 13, 15, 20, 22, 25, 27, 30, 32 and 35 were tested by separately adding one, two or three additional 5'-primers, respectively one, two or three additional 3'-primers. In primer solutions 33 and 36 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 34, 37 and 38 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

One to four 5'-primers in primer solutions 1, 5, 8, 13 to 17, 25 and 32 were not possible to test.

One, two or three 3'-primers in primer solutions 4, 9, 11, 12, 15, 17, 18, 23, 27, 28 and 30 were not possible to test.

Additional primers in primer solutions 8, 9, 10, 12, 16 and 17 were tested by separately adding either 5'- or 3'-primers.

101.566-12/04 – including *Taq* polymerase, IFU-01
101.566-12u/04u – without *Taq* polymerase, IFU-02

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Lot No.: **6D6**

Lot-specific information

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