

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **53X**

Lot-specific information
Olerup SSP® HLA-B*40

Product number:	101.523-24/03 – including <i>Taq</i> pol. 101.523-24u/03u – without <i>Taq</i> pol.
Lot number:	53X
Expiry date:	2017-May-01
Number of tests:	24 tests – Product No. 101.523-24/24u 3 tests – Product No. 101.523-03/03u
Number of wells per test:	91+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. 53X.

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*40 Lot (27S)**

The HLA-B*40 kit is updated for new alleles to enable separation of:

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

A well containing Negative Control primer pairs has been added.

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

Six wells have been added to HLA-B*40, wells **87 to 92**.

¹As described in section Uniquely Identified Alleles.

The HLA-B*40 primer set, specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP®* HLA-B*40 lot was made (**Lot No. 27S**). The kit design is based on IMGT/HLA database 3.17.0.

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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
2	-	Added	3'-primer added for the B*40:01:39 allele.
7	Added	-	5'-primer added for the B*40:265N allele.
18	-	-	3'-primer added for the B*40:197 allele.
23	Added	Added	Primer pair added for the B*40:264 allele, 5'-primer added for the B*40:294 allele.
24	Added	Added	Primer pair added for the B*40:272, 5'-primer added for the B*40:291N alleles.
30	Added	-	5'-primers added for the B*40:01:32, B*40:02:18 and B*40:06:10 alleles.
44	-	Added	3'-primer added for the B*40:263N allele.
50	-	Added	3'-primer added for the B*40:175 allele.
53	-	Added	3'-primer added for the B*40:171 allele.
55	Added	Added	Primer pair added for the B*40:241 allele.
59	Added	-	5'-primer added for the B*40:265N allele.
60	Added	-	5'-primer added for the B*40:225 allele.
61	Added	-	5'-primer added for the B*40:234 allele.
62	-	Added	3'-primer added for the B*40:182 allele.
63	-	Added	3'-primer added for the B*40:255 allele.
65	Added	-	5'-primers added for the B*40:02:18 and B*40:06:10 alleles.
68	-	Added	3'-primer added for the B*40:180 allele.
70	-	Added	3'-primer added for improved yield of HLA-specific PCR product.
75	-	Added	3'-primer added for the B*40:171 allele.
77	-	Added	3'-primer added for the B*40:295 allele, exchanged positive control primer pair.
78	-	Added	3'-primer added for the B*40:182 allele.
79	-	Added	3'-primer added for the B*40:268 allele.
82	-	Added	3'-primer added for the B*40:267 allele.
83	Added	Added	Primer pair added for the B*40:249 allele, 3'-primer added for the B*40:247 allele.
84	-	Added	3'-primers added for the B*40:249 and B*40:263N alleles.
85	-	Added	3'-primer added for the B*40:247 allele.
87	New	New	New primer pairs added for the B*40:229 and B*40:286 N alleles.
88	New	New	New primer pair added for the B*40:201 allele.
89	New	New	New primer pair added for the B*40:236 allele.
90	New	New	New primer pair added for the B*40:278 allele.
91	New	New	New primer pair added for the B*40:256N allele.
92	-	-	Negative Control.

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Change in revision R01 compared to R00:

1. Primer mix 46 may give rise to a lower yield of HLA-specific PCR product than the other B*40 primer mixes. A foot note has been added in the Specificity Table.

Changes in revision R02 compared to R01:

1. Primer mix 57 does not amplify the B*40:79, 40:190 and 40:289 and the B*07:23 and 41:14 alleles. Thus, this lot of the B*40 kit cannot distinguish the B*40:79 and the B*40:01:01-40:01:05, 40:01:07-40:01:10, 40:01:12-40:01:27, 40:01:29-40:01:40, 40:100-40:101, 40:108, 40:112, 40:123, 40:126, 40:134, 40:138, 40:140, 40:146-40:147, 40:152, 40:154, 40:156, 40:170, 40:185-40:186, 40:193-40:196, 40:204, 40:207-40:208, 40:212, 40:215, 40:217-40:218, 40:223, 40:227-40:228, 40:235, 40:238, 40:240, 40:245, 40:250-40:251, 40:253, 40:257-40:261, 40:273, 40:277, 40:279, 40:281, 40:285 and 40:288 alleles, the B*40:190 and the B*40:06:01:01-40:06:04, 40:06:06-40:06:11, 40:70:02, 40:165, 40:167, 40:230, 40:244, 40:269-40:270 and 40:275 alleles or the B*40:289 and the B*40:02:01-40:02:03, 40:02:05-40:02:15, 40:02:17, 40:02:19-40:02:23, 40:104, 40:143, 40:169, 40:173, 40:181, 40:189, 40:202-40:203, 40:206, 40:211, 40:214, 40:224, 40:246, 40:254, 40:266, 40:271, 40:274, 40:276, 40:283 and 40:293 alleles. This has been corrected in the Specificity and Interpretation Tables.

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Lot-specific information

Well **92** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup SSP*® HLA Class I, DRB, DQB1, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

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

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

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

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

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Lot-specific information
PRODUCT DESCRIPTION

HLA-B*40 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*40:01 to B*40:295 alleles.

PLATE LAYOUT

Each test consists of 92 PCR reactions in a 96 well cut PCR plate. Wells 93 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	43	44	45	46	47	48
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	NC	empty	empty	empty	empty

The 96 well PCR plate is marked with 'HLA-B*40' in silver/gray ink.

Well No. 1 is marked with the Lot No. '53X'.

Wells 1 to 91 – HLA-B*40 high resolution primers.

Well 92 – 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.

INTERPRETATION

Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*40 alleles will be amplified by primer mixes 1 to 26, 28 to 43, 46, 48 to 50, 52 to 54, 57 to 61, 64 to 72, 74 to 76 and 82 to 89. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1, 4 to 6, 8, 11, 13, 16, 18, 20 to 23, 26, 29, 30, 31, 33, 34, 37, 39, 43, 50, 52, 53, 58, 65, 66, 69, 70 and 75.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*40 alleles, i.e. **B*40:01 to B*40:295**, recognized by the HLA Nomenclature Committee in July 2014^{1,2} will be amplified by the primers in the HLA-B*40 subtyping kit³.

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The HLA-B*40 kit enables separation of the confirmed HLA-B*40 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*40 alleles is listed below.

The HLA-B*40 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*40 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
B*40:69, 40:221	56

The HLA-B*40 subtyping kit cannot distinguish the silent mutations in the B*40:01:01-40:01:05, 40:01:07-40:01:10, 40:01:12-40:01:27 and 40:01:29-40:01:40 alleles, the B*40:02:01-40:02:03, 40:02:05-40:02:15, 40:02:17 and 40:02:19-40:02:23 alleles, the B*40:06:01:01-40:06:04 and 40:06:06-40:06:11 alleles, the B*40:14:02-40:14:03 alleles, the B*40:35:01-40:35:02 alleles, the B*40:87:01-40:87:02 alleles, the B*40:124:01-40:124:02 alleles, the B*40:130:01-40:130:02 alleles, the B*40:155:01N-40:155:02N alleles or the B*40:160:01-40:160:02.

¹HLA-B alleles listed on the IMGT/HLA web page 2014-July-25, release 3.17.0, 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 HLA-B*40 primer set cannot separate the B*40:209 and the B*41:19 alleles. These alleles can be distinguished by the HLA-B low resolution kit and/or the HLA-B*41 high resolution kit.

⁴This lot of the B*40 kit cannot distinguish the B*40:79 and the B*40:01:01-40:01:05, 40:01:07-40:01:10, 40:01:12-40:01:27, 40:01:29-40:01:40, 40:100-40:101, 40:108, 40:112, 40:123, 40:126, 40:134, 40:138, 40:140, 40:146-40:147, 40:152, 40:154, 40:156, 40:170, 40:185-40:186, 40:193-40:196, 40:204, 40:207-40:208, 40:212, 40:215, 40:217-40:218, 40:223, 40:227-40:228, 40:235, 40:238, 40:240, 40:245, 40:250-40:251, 40:253, 40:257-40:261, 40:273, 40:277, 40:279, 40:281, 40:285 and 40:288 alleles, the B*40:190 and the B*40:06:01:01-40:06:04, 40:06:06-40:06:11, 40:70:02, 40:165, 40:167, 40:230, 40:244, 40:269-40:270 and 40:275 alleles or the B*40:289 and the B*40:02:01-40:02:03, 40:02:05-40:02:15, 40:02:17, 40:02:19-40:02:23, 40:104, 40:143, 40:169, 40:173, 40:181, 40:189, 40:202-40:203, 40:206, 40:211, 40:214, 40:224, 40:246, 40:254, 40:266, 40:271, 40:274, 40:276, 40:283 and 40:293 alleles.

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ALLELE CONFIRMATION STATUS

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

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
B*40:122	Confirmed	B*40:168	Confirmed	B*40:218	Unconfirmed	B*40:268	Confirmed
B*40:123	Unconfirmed	B*40:169	Unconfirmed	B*40:219	Unconfirmed	B*40:269	Unconfirmed
B*40:124:01	Unconfirmed	B*40:170	Unconfirmed	B*40:220	Unconfirmed	B*40:270	Unconfirmed
B*40:124:02	Unconfirmed	B*40:171	Confirmed	B*40:221	Unconfirmed	B*40:271	Unconfirmed
B*40:125	Unconfirmed	B*40:172	Confirmed	B*40:222	Unconfirmed	B*40:272	Unconfirmed
B*40:126	Unconfirmed	B*40:173	Unconfirmed	B*40:223	Unconfirmed	B*40:273	Unconfirmed
B*40:127	Confirmed	B*40:174	Unconfirmed	B*40:224	Unconfirmed	B*40:274	Unconfirmed
B*40:128	Unconfirmed	B*40:175	Confirmed	B*40:225	Confirmed	B*40:275	Unconfirmed
B*40:129	Confirmed	B*40:176	Confirmed	B*40:226	Unconfirmed	B*40:276	Unconfirmed
B*40:130:01	Unconfirmed	B*40:177	Unconfirmed	B*40:227	Unconfirmed	B*40:277	Unconfirmed
B*40:130:02	Confirmed	B*40:178	Confirmed	B*40:228	Unconfirmed	B*40:278	Unconfirmed
B*40:131	Unconfirmed	B*40:179	Unconfirmed	B*40:229	Confirmed	B*40:279	Unconfirmed
B*40:132	Unconfirmed	B*40:180	Confirmed	B*40:230	Unconfirmed	B*40:280	Unconfirmed
B*40:133Q	Unconfirmed	B*40:181	Unconfirmed	B*40:231	Unconfirmed	B*40:281	Unconfirmed
B*40:134	Unconfirmed	B*40:182	Confirmed	B*40:232	Unconfirmed	B*40:282	Unconfirmed
B*40:135	Confirmed	B*40:183	Confirmed	B*40:233	Unconfirmed	B*40:283	Unconfirmed
B*40:136	Unconfirmed	B*40:184	Unconfirmed	B*40:234	Confirmed	B*40:284	Unconfirmed
B*40:137	Unconfirmed	B*40:185	Unconfirmed	B*40:235	Unconfirmed	B*40:285	Unconfirmed
B*40:138	Unconfirmed	B*40:186	Unconfirmed	B*40:236	Unconfirmed	B*40:286N	Unconfirmed
B*40:139	Unconfirmed	B*40:187	Unconfirmed	B*40:237	Confirmed	B*40:287	Unconfirmed
B*40:140	Unconfirmed	B*40:188	Unconfirmed	B*40:238	Unconfirmed	B*40:288	Unconfirmed
B*40:141	Unconfirmed	B*40:189	Unconfirmed	B*40:239	Unconfirmed	B*40:289	Unconfirmed
B*40:142N	Unconfirmed	B*40:190	Unconfirmed	B*40:240	Unconfirmed	B*40:290	Unconfirmed
B*40:143	Unconfirmed	B*40:191	Unconfirmed	B*40:241	Unconfirmed	B*40:291N	Unconfirmed
B*40:144N	Unconfirmed	B*40:192	Unconfirmed	B*40:242	Unconfirmed	B*40:292	Unconfirmed
B*40:145	Confirmed	B*40:193	Unconfirmed	B*40:243	Unconfirmed	B*40:293	Unconfirmed
B*40:146	Unconfirmed	B*40:194	Unconfirmed	B*40:244	Unconfirmed	B*40:294	Confirmed
B*40:147	Unconfirmed	B*40:195	Unconfirmed	B*40:245	Unconfirmed	B*40:295	Confirmed
B*40:148	Confirmed	B*40:196	Unconfirmed	B*40:246	Unconfirmed		
B*40:149	Unconfirmed	B*40:197	Confirmed	B*40:247	Unconfirmed		
B*40:150	Confirmed	B*40:198	Unconfirmed	B*40:248	Unconfirmed		
B*40:151	Unconfirmed	B*40:199	Unconfirmed	B*40:249	Confirmed		
B*40:152	Unconfirmed	B*40:200	Unconfirmed	B*40:250	Unconfirmed		
B*40:153	Unconfirmed	B*40:201	Confirmed	B*40:251	Unconfirmed		
B*40:154	Unconfirmed	B*40:202	Unconfirmed	B*40:252	Unconfirmed		
B*40:155:01N	Confirmed	B*40:203	Unconfirmed	B*40:253	Unconfirmed		
B*40:155:02N	Unconfirmed	B*40:204	Unconfirmed	B*40:254	Unconfirmed		
B*40:156	Unconfirmed	B*40:205	Unconfirmed	B*40:255	Confirmed		
B*40:157	Confirmed	B*40:206	Unconfirmed	B*40:256N	Unconfirmed		
B*40:158	Unconfirmed	B*40:207	Unconfirmed	B*40:257	Unconfirmed		
B*40:159	Unconfirmed	B*40:208	Unconfirmed	B*40:258	Unconfirmed		
B*40:160:01	Unconfirmed	B*40:209	Unconfirmed	B*40:259	Unconfirmed		
B*40:160:02	Confirmed	B*40:210	Unconfirmed	B*40:260	Unconfirmed		
B*40:161	Unconfirmed	B*40:211	Unconfirmed	B*40:261	Unconfirmed		
B*40:162	Unconfirmed	B*40:212	Unconfirmed	B*40:262	Unconfirmed		
B*40:163	Unconfirmed	B*40:213	Unconfirmed	B*40:263N	Unconfirmed		
B*40:164	Unconfirmed	B*40:214	Unconfirmed	B*40:264	Unconfirmed		
B*40:165	Unconfirmed	B*40:215	Unconfirmed	B*40:265N	Unconfirmed		
B*40:166	Unconfirmed	B*40:216N	Unconfirmed	B*40:266	Unconfirmed		
B*40:167	Unconfirmed	B*40:217	Unconfirmed	B*40:267	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2014-July-25, release 3.17.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*40 homo- and heterozygotes is available upon request.

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information
SPECIFICITY TABLE

HLA-B*40 SSP subtyping

Specificities and sizes of the PCR products of the 91+1 primer mixes used for HLA-B*40 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*40 alleles ³	Other amplified HLA class I alleles ⁴
1	175 bp	800 bp	*40:01:01-40:01:40, 40:07, 40:10:01-40:10:02, 40:12, 40:21-40:23, 40:25, 40:33, 40:36, 40:38, 40:42-40:43, 40:46-40:49, 40:51-40:52, 40:54-40:55, 40:60-40:63, 40:65-40:67, 40:69, 40:73-40:74, 40:76, 40:79, 40:81, 40:84, 40:87:01-40:88, 40:92, 40:100-40:102, 40:106, 40:108, 40:112-40:114, 40:116-40:118N, 40:123-40:126, 40:128, 40:130:01-40:130:02, 40:132, 40:134-40:135, 40:138-40:141, 40:146-40:147, 40:149-40:156, 40:163, 40:166, 40:168, 40:170-40:172, 40:175, 40:178-40:179, 40:182-40:183, 40:185-40:188, 40:191, 40:193-40:196, 40:198-40:199, 40:204, 40:207-40:208, 40:210, 40:212-40:213, 40:215-40:218, 40:221-40:223, 40:227-40:228, 40:231, 40:234-40:236, 40:238-40:242, 40:245, 40:247, 40:249-40:253, 40:257-40:265N, 40:272-40:273, 40:277-40:282, 40:285-40:286N, 40:288	*15:116, 15:124, 27:125, 44:31, 46:06, 46:43, 48:03:01-48:03:02, 48:23, C*17:16
2	215 bp	800 bp	*40:01:01-40:06:11, 40:09, 40:11:01-40:11:02, 40:14:01-40:16, 40:18-40:20, 40:22N-40:27:01, 40:28-40:39, 40:42-40:48, 40:50-40:57, 40:59-40:60, 40:62-40:67, 40:69-40:74, 40:76-40:102, 40:104-40:105, 40:107-40:109, 40:111-40:128, 40:130:01-40:136, 40:138-40:161, 40:163, 40:165, 40:167-40:190, 40:192-40:199,	*13:23, 13:55, 15:71, 15:175, 15:204, 15:210, 15:212, 15:225, 18:01:01:01-18:01:12, 18:01:14-18:03, 18:05-18:06, 18:08-18:15, 18:17N-18:24, 18:26-18:28, 18:30-18:32, 18:34-18:42, 18:44:01-18:78, 18:80-18:104, 27:18, 27:29, 35:63, 37:01:01-37:20, 37:22-37:25, 37:27-37:52, 41:01:01-41:22, 41:24-41:32, 44:15, 44:18, 44:55, 44:103, 44:131, 44:188, 45:01:01-45:05, 45:07-45:14, 48:22, 48:30, 49:01:01-49:09, 49:11-49:23, 49:27-49:30, 50:01:01-50:02, 50:04-50:12, 50:14-50:20, 50:31-50:39

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			40:201-40:209, 40:211-40:218, 40:221-40:225, 40:227-40:228, 40:230-40:231, 40:233-40:251, 40:253-40:295	
3	130 bp	1070 bp	*40:02:01-40:06:11, 40:08-40:09, 40:11:01-40:11:02, 40:13, 40:18-40:20, 40:24, 40:26-40:29, 40:35:01-40:35:02, 40:37, 40:39, 40:40 ^w , 40:44, 40:50, 40:56-40:57, 40:64, 40:68, 40:70:01-40:71, 40:74-40:75, 40:78, 40:82, 40:85-40:86, 40:89-40:91, 40:94-40:99, 40:103-40:105, 40:107, 40:109, 40:111, 40:115, 40:119-40:120, 40:122, 40:127, 40:131, 40:133Q, 40:142N-40:145, 40:148-40:149, 40:157, 40:159, 40:161-40:162, 40:165, 40:167, 40:169, 40:173-40:174, 40:176, 40:180-40:181, 40:184, 40:189-40:190, 40:200-40:203, 40:205-40:206, 40:210-40:211, 40:214, 40:220, 40:224-40:226, 40:229-40:230, 40:232, 40:243-40:244, 40:246, 40:248, 40:254-40:256N, 40:266-40:271, 40:274-40:276, 40:283-40:284, 40:287, 40:289-40:293, 40:295	*18:48, 44:103, 44:131, 49:31
4^s	95 bp	800 bp	*40:02:01-40:02:15, 40:02:17-40:02:23, 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, 40:35:01-40:35:02, 40:37, 40:39-40:40, 40:45, 40:50, 40:56-40:58, 40:78, 40:80, 40:82, 40:85, 40:89-40:91, 40:94, 40:97-40:98, 40:104, 40:107, 40:111, 40:115, 40:119, 40:122, 40:133Q, 40:142N-40:145, 40:157, 40:164, 40:169, 40:173-40:174, 40:176, 40:180-40:181, 40:189, 40:200-40:203, 40:205-40:206, 40:209, 40:211, 40:214, 40:219-40:220, 40:224, 40:226, 40:229, 40:232, 40:246, 40:248, 40:254-	*07:02:01-07:02:37, 07:02:40-07:06, 07:08, 07:10, 07:13, 07:15-07:16, 07:19-07:76, 07:79-07:83, 07:85-07:114, 07:116-07:125, 07:127-07:136, 07:138-07:161N, 07:164-07:181N, 07:183-07:192, 07:194-07:195, 07:199-07:213, 07:215-07:224, 07:226, 08:01:01-08:05, 08:07-08:08N, 08:10-08:11, 08:13-08:15, 08:17-08:27, 08:29-08:34, 08:36, 08:38-08:48, 08:50-08:59:02, 08:61-08:68, 08:70-08:83, 08:85-08:88, 08:90-08:106, 08:108-08:128, 08:130-08:134, 13:71, 14:13, 15:45, 15:324, 15:329, 27:07:01-27:07:04, 27:11, 27:24, 27:32-27:34, 27:43, 35:22, 35:31, 35:87, 35:199, 37:07, 37:09, 39:14, 39:29, 41:02:01-41:02:05, 41:04, 41:10-41:11, 41:13, 41:15, 41:19, 41:23, 41:27, 41:31, 42:01:01-42:02, 42:05:01-42:05:02, 42:07-42:08, 42:10-42:12, 42:14-42:19, 44:54, 44:106, 44:135, 44:158, 44:166, 44:184, 48:01:01-48:01:06, 48:04-48:06, 48:08-48:13, 48:15-48:16,

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101.523-24u/03u – without *Taq* pol., IFU-02

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		Lot-specific information		
			40:255, 40:266, 40:271, 40:274, 40:276, 40:283, 40:287, 40:289-40:293	48:18-48:20, 48:22, 48:24, 48:27-48:36, 51:64, 51:81, 51:148, 55:04, 55:49, 55:51, 58:27, 81:01-81:07, C*03:05, C*03:25, C*03:27, C*03:167
5	190 bp	800 bp	*40:03, 40:18, 40:20, 40:24, 40:31-40:33, 40:44, 40:52, 40:59, 40:98, 40:120, 40:159, 40:267, 40:284	*07:02:01-07:02:09, 07:02:11-07:02:17, 07:02:19-07:04, 07:07-07:13, 07:15-07:16, 07:18:01-07:18:02, 07:21-07:23, 07:25-07:27, 07:29-07:30, 07:33:01-07:33:03, 07:35-07:39, 07:41-07:42, 07:44-07:52, 07:54-07:59, 07:61-07:68:03, 07:70-07:73, 07:75-07:77, 07:79, 07:81-07:89, 07:91-07:95, 07:98-07:99, 07:101-07:104, 07:106-07:111N, 07:113-07:114, 07:116-07:122, 07:124-07:130, 07:132-07:136, 07:139, 07:141-07:153, 07:155-07:167N, 07:169-07:171, 07:173-07:175, 07:177-07:181N, 07:183-07:190, 07:192-07:196, 07:198-07:200, 07:202-07:205, 07:208, 07:211-07:212, 07:215-07:219, 07:221, 07:224, 07:226-07:227, 13:26:01-13:26:02, 13:35, 13:72, 15:40, 15:47:01-15:47:02, 15:49, 15:52, 15:114, 15:117, 15:124, 15:138, 15:238, 15:241, 18:10, 18:21, 18:35, 18:50, 27:34, 27:41, 35:15, 35:33, 35:66, 35:86, 37:07, 46:06, 46:25, 46:30, 48:08, 48:23, 57:13, 57:25, 58:37, C*02:06, C*02:23, C*02:36, C*15:42
6⁵	95 bp	1070 bp	*40:03, 40:27:01-40:27:02, 40:105, 40:267, 40:284	*07:09, 07:11, 07:17, 07:115, 08:28, 08:35, 08:37, 08:69, 14:05, 15:07:01-15:07:03, 15:55, 15:68, 15:126, 15:207, 18:14, 35:05:01-35:05:03, 35:51, 35:58, 35:66, 35:72, 35:89, 35:97, 35:114, 35:232, 38:19, 39:03, 39:24:01-39:24:02, 39:37, 39:76, 41:18, 41:24, 42:06, 42:09, 42:20, 46:12, 48:07, 48:14, 53:14, 58:18, C*02:60, C*07:294, C*08:08:01-08:08:02
7^{5,7}	110 bp	800 bp	*40:12, 40:46, 40:93, 40:265N	*07:27, 07:50, 08:04, 08:17, 08:54, 08:110, 15:03:01-15:03:05, 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, 15:253, 15:259, 15:266, 15:274, 15:281-15:282, 18:37, 27:18, 27:29, 37:28, 38:03, 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, 42:11, 44:40, 44:44, 44:130, 44:156, 48:01:01-48:05, 48:07-48:30, 48:32-48:36, 52:16, 55:18, 56:44
8	235 bp	1070 bp	*40:05, 40:71, 40:174	*07:20, 07:24, 07:60, 07:100, 07:131, 07:220, 07:223, 08:21, 08:25, 15:07:01-15:07:03, 15:45, 15:55, 15:68, 15:126, 15:207, 15:324, 15:329, 35:05:01-35:05:03, 35:16-35:17:02, 35:22, 35:30, 35:51, 35:58, 35:72, 35:89, 35:97, 35:113-35:114, 35:125, 35:164, 35:199, 35:232, 35:242, 44:54, 44:106,

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			44:110, 44:135, 44:158, 44:184, 46:12, 51:64, 51:148, 53:14, 55:51, 58:18, C*03:05, C*03:25, C*03:27, C*03:143, C*03:167	
9	160 bp	1070 bp	*40:06:01:01-40:06:04, 40:06:06-40:06:11, 40:44, 40:53, 40:70:01-40:70:02, 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, 40:230, 40:244, 40:256N, 40:268-40:270, 40:275, 40:294-40:295	*07:78, 07:84, 27:14, 27:81, 27:130, 51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 54:11, 56:20:02, 73:01- 73:02
10	215 bp	1070 bp	*40:07-40:08, 40:13, 40:68, 40:106, 40:162, 40:220, 40:232	*08:62, 18:07:01-18:07:02, 18:29, 18:79, 27:23, 35:50, 35:84, 35:162, 35:217, 35:231, 37:21, 51:103, 51:116, 51:151
11⁵	80 bp	1070 bp	*40:77, 40:87:01-40:87:02, 40:222, 40:237	*15:124, 18:88, 38:43, 44:169, 46:43, 48:14, 48:26, 48:29, 49:29, 54:22, 57:59, 58:05, C*07:81, C*07:168
12⁵	95 bp	1070 bp	*40:08, 40:25, 40:68, 40:106, 40:166 ^w , 40:232	*07:133 ^w , 15:143, 18:48, 35:19, 35:47, 35:154, 35:217, 39:69, 44:12, 50:15, 51:112, 53:30
13⁵	90 bp	1070 bp	*40:03, 40:09, 40:18, 40:24, 40:31-40:32, 40:98, 40:267, 40:284	*07:02:01-07:02:38, 07:02:40-07:04, 07:08- 07:11, 07:13, 07:15-07:17, 07:19-07:31, 07:33:01-07:33:03, 07:35-07:39, 07:41-07:52, 07:54-07:68:03, 07:70-07:76, 07:79, 07:81- 07:83, 07:85-07:89, 07:91-07:96:02, 07:98- 07:104, 07:106-07:111N, 07:113-07:114, 07:116-07:122, 07:124-07:136, 07:139, 07:141-07:161N, 07:164-07:175, 07:177- 07:181N, 07:183-07:192, 07:194-07:195, 07:199-07:200, 07:202-07:205, 07:208, 07:211-07:212, 07:215-07:221, 07:223- 07:224, 07:226, 08:07, 08:28, 08:37, 08:87, 08:111, 15:07:01-15:07:03, 15:45, 15:55, 15:68, 15:207, 18:14, 18:22, 27:34, 35:05:01- 35:05:03, 35:16-35:17:02, 35:30, 35:51, 35:58, 35:66, 35:72, 35:89, 35:97, 35:113- 35:114, 35:125, 35:199, 35:232, 35:242, 37:07, 37:09, 39:29, 41:04, 41:18, 42:09, 42:16, 44:54, 44:106, 44:110, 44:135, 44:158, 46:12, 48:08, 53:14, 58:18, C*02:60, C*03:05, C*03:25, C*03:27, C*03:143, C*03:167, C*07:294
14^{5,8}	90 bp	800 bp	*40:10:01-40:10:02, 40:248, 40:282	*15:46, 15:106, 35:47, 35:154, 41:12, 44:34:02, 53:30, 57:45
15	150 bp	800 bp	*40:13, 40:19, 40:47, 40:96, 40:109-40:110, 40:117, 40:157, 40:188, 40:201, 40:292	*37:06:01-37:06:02, 44:02:01:01-44:02:12, 44:02:14-44:05:04, 44:07, 44:10-44:39, 44:41:01-44:43:02, 44:45, 44:47-44:56N, 44:58N-44:59:02, 44:61N-44:74, 44:76- 44:82, 44:84:01-44:89, 44:91-44:126:02, 44:128, 44:132-44:133, 44:135-44:155, 44:157-44:200, 44:202-44:204, 47:01:01:01- 47:01:02, 47:03-47:09, 49:01:01-49:02,

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Lot-specific information

16^s	75 bp 160 bp	800 bp	*40:15 *40:14:01, 40:72:01, 40:77, 40:121, 40:136, 40:237	49:04-49:20, 49:22-49:25, 49:27-49:31, 51:112, 53:30, 57:45, 57:51, 57:69 *07:02:13, 07:02:35, 07:68:02, 07:151:02, 07:209, 18:35, 35:66, 42:05:01-42:05:02, 48:12, C*07:38:01-07:38:02
17^s	120 bp	800 bp	*40:01:01-40:01:40, 40:07, 40:10:01-40:10:02, 40:12, 40:14:01-40:14:03, 40:21- 40:22N, 40:25, 40:30-40:31, 40:33-40:34, 40:36, 40:38, 40:42-40:43, 40:45-40:49, 40:52, 40:54-40:55, 40:59- 40:63, 40:65-40:66, 40:69, 40:72:01-40:74, 40:76-40:77, 40:79-40:81, 40:84, 40:87:01- 40:88, 40:100-40:102, 40:106, 40:108, 40:112-40:114, 40:116-40:118N, 40:121, 40:123-40:126, 40:128, 40:132, 40:134-40:141, 40:146-40:147, 40:149- 40:152, 40:154-40:156, 40:160:01-40:160:02, 40:166, 40:168, 40:170-40:172, 40:175, 40:179, 40:182, 40:185-40:188, 40:191- 40:197, 40:199, 40:204, 40:207-40:208, 40:210, 40:212-40:213, 40:215- 40:218, 40:221-40:223, 40:227-40:228, 40:231, 40:233-40:238, 40:240- 40:242, 40:245, 40:247, 40:249-40:253, 40:257- 40:261, 40:263N-40:265N, 40:272-40:273, 40:277- 40:282, 40:285-40:286N, 40:288	*07:25, 07:48, 07:202, 07:209, 07:223, 18:35, 27:36, 27:125, 35:66, 41:08, 42:05:01- 42:05:02, 44:31, 46:06, 48:01:01-48:01:06, 48:03:01-48:03:02, 48:06-48:07, 48:09-48:12, 48:14, 48:16-48:23, 48:26-48:36, 81:01-81:07
18^s	105 bp	800 bp	*40:01:06, 40:26	*07:02:11, 07:05:03, 15:01:02, 15:09, 15:243, 15:252, 15:277-15:278, 35:251, 51:06:01, 51:59, 51:64, 51:135, C*02:02:23
19	175 bp 320 bp	1070 bp	*40:197 *40:04, 40:24, 40:28, 40:59- 40:60, 40:68, 40:70:01, 40:99, 40:120, 40:125, 40:129	*18:38 *07:12, 07:78, 07:84, 07:162, 07:193, 08:96, 08:107, 13:01:01-13:04, 13:06-13:09, 13:11- 13:20, 13:22:01-13:23, 13:25-13:34, 13:36- 13:61, 13:63N-13:64, 13:66-13:70, 13:72- 13:78, 13:80-13:81, 14:22, 14:37, 15:16:01- 15:16:03, 15:20, 15:34, 15:42, 15:62, 15:67, 15:85-15:86, 15:95, 15:137, 15:194, 15:222, 15:254, 15:303, 18:22, 18:52, 27:14, 27:107, 35:01:01:01-35:05:02, 35:06-35:11:03, 35:13- 35:15, 35:18-35:21, 35:23-35:30, 35:33- 35:38, 35:40N-35:42:02, 35:45-35:50, 35:52- 35:58, 35:60, 35:62-35:66, 35:68:01-35:72,

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40⁵	120 bp 150 bp	1070 bp	*40:38, 40:52, 40:59-40:60, 40:222 *40:216N	*15:116, 15:124, 46:06, 46:43, 48:23, 57:59
41⁶	205 bp	1070 bp	*40:08, 40:25, 40:68, 40:106, 40:166 ^w , 40:232	*07:143 ^w , 08:62, 18:01:01:01-18:01:12, 18:01:14-18:03, 18:05-18:11, 18:13-18:15, 18:17N-18:24, 18:26-18:42, 18:44:01-18:104, 27:23, 27:92, 35:50, 35:84, 35:162, 35:217, 35:231, 37:08, 39:31, 42:02 ^w , 42:09 ^w , 42:17 ^w -42:18 ^w , 49:26, 50:15, 51:103, 51:116, 51:151, 54:02 ^w , 55:16 ^w , 56:35 ^w , 73:01 ^w -73:02 ^w
42⁵	95 bp	1070 bp	*40:01:11, 40:58	*44:02:10, 44:34:01
43	185 bp	1070 bp	*40:30, 40:34, 40:59, 40:137, 40:160:01-40:160:02	*35:230, 44:169, 44:182, 48:17, 57:59, C*03:129, C*03:234, C*17:01:07
44⁵	110 bp 210 bp	800 bp	*40:78 *40:54, 40:242, 40:263N	
45^{6,8}	175 bp 235 bp	1070 bp	*40:56 *40:55	
46⁹	545 bp	1070 bp	*40:11:01, 40:20, 40:26, 40:74, 40:149, 40:184	*15:71, 15:175, 18:01:01:01-18:01:05, 18:01:07-18:01:12, 18:01:14-18:01:20, 18:03, 18:05-18:07:02, 18:09-18:13, 18:15, 18:17N, 18:19-18:21, 18:23N-18:24, 18:26, 18:28-18:42, 18:44:01, 18:45-18:51, 18:53-18:67, 18:69, 18:71-18:104, 27:19, 27:21, 27:30, 27:70, 27:125, 27:127, 37:12, 37:19, 37:44, 39:31, 44:103, 44:131
47	145 bp	800 bp	*40:57	
48^{6,9}	215 bp 245 bp	1070 bp	*40:61 *40:73	*18:06, 46:14
49⁵	120 bp	1070 bp	*40:36, 40:48	*48:07, 54:22
50	255 bp	1070 bp	*40:37, 40:76, 40:175	*18:49, 18:79, 18:84, 27:42, 27:89, 37:05, C*06:77
51	205 bp	1070 bp	*40:62	
52⁵	90 bp	1070 bp	*40:63, 40:92	*15:116, 46:43, 49:29, 57:59, C*03:162, C*03:220, C*07:186, C*07:212, C*07:265, C*17:07

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53	165 bp 245 bp	1070 bp	*40:65 *40:171	*15:193, 39:53, C*04:155, C*07:107, C*07:224
54^{5,6}	125 bp	800 bp	*40:66, 40:103, 40:166	*07:133, 44:90, 45:06
55^{5,8}	125 bp	800 bp	*40:67, 40:241	
56^{5,8}	100 bp 165 bp 270 bp	1070 bp	*40:69 *40:97 *40:221	
57	385 bp	1070 bp		
58	190 bp	1070 bp	*40:31, 40:80, 40:287	*07:147, 07:151:01-07:151:02, 07:202, 08:120, 48:01:01-48:01:06, 48:04, 48:06-48:07, 48:09, 48:11, 48:14-48:16, 48:18-48:20, 48:22, 48:24, 48:27-48:36, 81:01-81:07, C*07:294
59⁵	85 bp 115 bp 190 bp	1070 bp	*40:127 *40:265N *40:81	*44:143
60	135 bp 240 bp	800 bp	*40:82 *40:88, 40:225	*27:80, 07:196
61⁵	80 bp	1070 bp	*40:02:04, 40:10:02, 40:83, 40:248	*07:133, 15:46, 15:106, 15:143, 35:19, 35:47, 35:154, 37:06:01-37:06:02, 44:84:01, 44:194, 51:112, 57:45
62	135 bp 150 bp 195 bp 245 bp	800 bp	*40:234 *40:182, 40:205 *40:84 *40:119	
63	155 bp 180 bp 240 bp	1070 bp	*40:255 *40:85 *40:133Q	
64⁵	105 bp	1070 bp	*40:86	*13:46, 15:137, 35:235, 39:06:01-39:06:04, 39:33-39:34, 39:50, 39:57, 39:62, 39:64, 39:83, 39:90, 45:02, 50:09, 51:13:01-51:13:02, 51:92, 51:172, 52:14, 55:13, 55:58, 56:22, 59:03, 73:01-73:02
65⁸	130 bp	1070 bp	*40:02:01-40:02:17, 40:02:19-40:02:23, 40:04-40:06:11, 40:08, 40:11:01-40:11:02, 40:13-40:16, 40:19, 40:26-40:29, 40:35:01-40:35:02, 40:37, 40:39-40:40, 40:50, 40:53, 40:56-40:58, 40:64, 40:68, 40:70:01-40:71, 40:75, 40:78, 40:82-40:83, 40:86, 40:90, 40:93-40:97, 40:99, 40:103-40:105, 40:107, 40:109-40:111, 40:115, 40:119, 40:121-40:122, 40:127, 40:129, 40:133Q, 40:136, 40:142N-40:145, 40:148, 40:157-40:158, 40:161-40:162, 40:164-40:165, 40:167, 40:169, 40:173-40:174, 40:176-	*07:05:01-07:06, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:97, 07:105, 07:112, 07:123, 07:137-07:138, 07:140, 07:176, 07:182N, 07:206-07:207, 07:209-07:210, 07:213-07:214, 08:01:01-08:01:11, 08:01:13-08:05, 08:08N-08:12:01, 08:12:03-08:13, 08:15-08:27, 08:29-08:36, 08:38-08:48, 08:50-08:63, 08:65-08:73, 08:75-08:82N, 08:84 ^w , 08:85-08:86N, 08:88, 08:90-08:106, 08:108 ^w , 08:109-08:110, 08:112-08:134, 13:03, 13:22:01-13:22:02, 13:40 ^w , 13:45, 13:48, 13:62, 14:13, 15:09, 15:30, 15:42, 15:48, 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, 18:26, 18:61, 18:97, 27:07:01-27:07:04, 27:11, 27:20, 27:27, 27:33, 27:43, 27:130, 35:02:01 ^w -35:02:06 ^w , 35:04:01-35:04:03, 35:06, 35:09:01-35:09:03, 35:12:01-35:12:03, 35:18, 35:22, 35:31,

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66	145 bp	1070 bp	*40:14:01-40:16, 40:32, 40:72:01-40:72:02, 40:77, 40:98, 40:121, 40:136, 40:158, 40:237	*07:02:01-07:18:02, 07:20-07:22:01, 07:23- 07:32, 07:34-07:39, 07:41-07:52, 07:54- 07:59, 07:61-07:99, 07:101-07:121, 07:123- 07:138, 07:140-07:158, 07:160-07:164, 07:166-07:172, 07:175-07:201N, 07:203- 07:221, 07:223-07:227, 08:79, 15:138, 15:230, 15:241, 15:297, 18:35, 35:66, 37:07, 41:08, 42:05:01-42:05:02, 44:150, 48:05, 48:08, 48:10, 48:12, 48:14, C*02:23, C*03:260, C*04:77, C*07:38:01-07:38:02
67^{5,6}	85 bp 255 bp	1070 bp	*40:89 *40:107	*08:74
68⁵	90 bp 225 bp	1070 bp	*40:180 *40:90	*08:14, 27:32
69^{5,8}	75 bp	800 bp	*40:91, 40:94	*13:21, 13:71, 27:98, A*24:140, A*26:96, A*68:102
70^{8,9}	505 bp	1070 bp	*40:03, 40:09, 40:18, 40:20, 40:24, 40:31-40:33, 40:42, 40:44, 40:52, 40:59-40:60, 40:98, 40:120, 40:159, 40:267, 40:284	*13:04, 13:10, 13:26:01-13:26:02, 13:35, 13:72, 15:46, 15:53, 15:106, 15:212, 18:48, 35:46-35:47, 35:63, 35:207, 35:217, 35:257, 41:04, 41:18, 41:21, 44:02:01:01-44:03:05, 44:03:07-44:05:04, 44:09, 44:11-44:13, 44:16-44:17, 44:19N-44:30, 44:32-44:37:02, 44:39-44:56N, 44:58N-44:61N, 44:63-44:76, 44:78-44:81, 44:84:01-44:132, 44:134- 44:139, 44:141-44:155, 44:157-44:161, 44:163-44:165, 44:167-44:183, 44:185- 44:193, 44:195N-44:197, 44:199-44:204, 45:09, 49:04-49:05, 50:33, 53:30, 57:45, 57:51, 57:69, 57:71, C*07:69
71⁵	120 bp	800 bp	*40:75	*38:12
72⁶	245 bp	1070 bp	*40:06:01:01-40:06:11, 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	*07:78, 07:84, 13:02:01-13:02:16, 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, 13:44-13:45, 13:47, 13:49N, 13:54- 13:56:02N, 13:58-13:59, 13:65-13:70, 13:72, 13:74-13:75, 13:81, 27:14, 27:81, 27:130, 39:50, 45:10, 49:07, 50:31, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 52:08, 54:26, 55:09, 55:22, 55:24, 73:01-73:02
73	245 bp	1070 bp	*40:176	
74⁶	210 bp	1070 bp	*40:95, 40:148, 40:161 ^w	*07:78 ^w , 07:84 ^w , 13:16, 13:48, 13:62, 14:37, 15:16:01-15:16:03, 15:42, 15:67, 15:95, 15:254, 15:293, 15:310, 49:01:01, 49:01:03- 49:10, 49:12-49:31, 50:01:01-50:01:02, 50:01:03 ^w , 50:01:04-50:02, 50:04-50:11, 50:13-50:16, 50:18-50:20, 50:31, 50:32 ^w , 50:33-50:39, 51:01:01-51:01:46, 51:01:47 ^w , 51:01:48-51:03, 51:07:01-51:07:02, 51:11N- 51:14, 51:16-51:18, 51:21-51:24:05, 51:26- 51:28, 51:29 ^w , 51:30, 51:32-51:35, 51:37- 51:39, 51:41N, 51:43, 51:48-51:53, 51:55 ^w , 51:57-51:58, 51:60, 51:63, 51:65-51:71,

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75	245 bp	1070 bp	*40:171	*15:193, 39:53, C*04:155, C*07:107, C*07:224
	270 bp		*40:155:01N-40:155:02N	
76	260 bp	1070 bp	*40:47, 40:96, 40:157, 40:168, 40:201	*13:23, 13:55, 18:09, 27:01, 37:10, 44:15, 44:55, 44:103, 44:188, 49:02
77	130 bp 170 bp 195 bp	1070 bp	*40:295 *40:102 *40:142N	
78⁵	115 bp 150 bp 250 bp	1070 bp	*40:111 *40:182, 40:205 *40:135	
79	180 bp 220 bp	1070 bp	*40:145, 40:268 *40:116	
80⁵	115 bp	1070 bp	*40:122, 40:151	
81	225 bp 335 bp	1070 bp	*40:144N *40:141	
82⁵	75 bp 150 bp 175 bp	800 bp	*40:115 *40:267 *40:150	*07:120, 15:214, 18:81, 35:250, 51:165, 57:29
83	155 bp 240 bp	1070 bp	*40:179, 40:249 *40:247	*51:72
84	160 bp 205 bp	1070 bp	*40:249 *40:132, 40:178, 40:263N	*51:72 *07:140, 44:10, 44:14, 44:31, 44:62, 44:77, 44:82, 44:184, 45:14, 51:23, 51:108, 52:15, 57:07, 82:01-82:03
85	250 bp	1070 bp	*40:213, 40:247	*15:227, 27:69, 37:23
86	245 bp	800 bp	*40:06:01:01-40:06:11, 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	*07:78, 07:84, 13:02:01-13:02:16, 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, 13:44-13:45, 13:47, 13:49N, 13:54-13:56:02N, 13:58-13:59, 13:65-13:70, 13:72, 13:74-13:75, 13:81, 27:14, 27:81, 27:130, 39:50, 45:10, 49:07, 50:31, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 52:08, 54:26, 55:09, 55:22, 55:24, 73:01-73:02

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87⁵	100 bp 195 bp	1070 bp	*40:286N, *40:210 [?] , 40:229	*15:272N *18:43, 27:37
88	200 bp	1070 bp	*40:201	*13:25, 44:15, 44:109, 44:176
89	175 bp	1070 bp	*40:236	*35:220
90	180 bp	1070 bp	*40:278	
91	395 bp	1070 bp	*40:256N	
92¹⁰	-	-	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*40 SSP typings.

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

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

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

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

²The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 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*40 alleles will be amplified by primer mixes 1 to 26, 28 to 43, 46, 48 to 50, 52 to 54, 57 to 61, 64 to 72, 74 to 76 and 82 to 89. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1, 4 to 6, 8, 11, 13, 16, 18, 20 to 23, 26, 29, 30, 31, 33, 34, 37, 39, 43, 50, 52, 53, 58, 65, 66, 69, 70 and 75.

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

⁶Primer mixes 21, 23, 31, 34, 38, 39, 41, 45, 48, 54, 67, 72 and 74 may have tendencies of unspecific amplifications.

⁷Primer mix 7 may faintly amplify the C*17 alleles.

⁸Primer mixes 14, 27, 35, 45, 55, 56, 65, 69 and 70 have a tendency to giving rise to primer oligomer formation.

⁹Primer mixes 46, 48 and 70 may give rise to a lower yield of HLA-specific PCR product than the other B*40 primer mixes.

¹⁰Primer mix 92 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.

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	175	215	130	95	190	95	110	235	160	215	80	95
PCR product												
Length of int. pos. control ¹	800	800	1070	800	800	1070	800	1070	1070	1070	1070	1070
5'-primer(s) ²	363 5'-Agg 3'	97 5'-TCC 3'	106 5'-CCg 3'	363 5'-AgC 3'	412 5'-ATg 3'	363 5'-AgC 3'	198 5'-gT 3'	363 5'-AgC 3'	357 5'-Tgg 3'	97 5'-TCC 3'	463 5'-TgA 3'	206 5'-gAA 3'
	363 5'-AgA 3'						206 5'-AgA 3'	363 5'-AgC 3'				
3'-primer(s) ³	499 5'-ggA 3'	272 5'-Tgg 3'	193 5'-CgT 3'	419 5'-CgT 3'	559 5'-CTC 3'	418 5'-gTT 3'	272 5'-Tgg 3'	559 5'-CAg 3'	477 5'-gCg 3'	272 5'-TgA 3'	499 5'-ggA 3'	259 5'-gTT 3'
		272 5'-Tgg 3'	193 5'-TgT 3'			419 5'-Cgg 3'					512 5'-CCA 3'	
						419 5'-CgA 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.	90	90	150	75	120	105	320	135	145	235	95	155
PCR product				160		175		285			160	
											205	
Length of int. pos. control ¹	1070	800	800	800	800	800	1070	1070	800	800	800	1070
5'-primer(s) ²	363 5'-AgC 3'	144 5'-gCA 3'	206 5'-gAA 3'	486 5'-ACC 3'	527 5'-TgT 3'	369 5'-TAC 3'	379 5'-ACC 3'	363 5'-AgC 3'	209 5'-ggC 3'	363 5'-AgC 3'	194 5'-CAA 3'	436 5'-AgA 3'
	363 5'-AgC 3'			570 5'-gAT 3'				512 5'-gTg 3'			257 5'-CCC 3'	454 5'-ACT 3'
											652 5'-CCA 3'	649 5'-ACg 3'
3'-primer(s) ³	412 5'-gTC 3'	193 5'-CgT 3'	317 5'-ggA 3'	605 5'-gCT 3'	605 5'-gCT 3'	435 5'-TCT 3'	3rd I 5'-TAT 3'	605 5'-gCT 3'	311 5'-ggT 3'	559 5'-CTC 3'	311 5'-ggT 3'	559 5'-CTC 3'
						502 5'-CTT 3'					814 5'-CAA 3'	774 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 spec.	125	120	180	335	235	190	225	255	245	190	140	135
PCR product										235		
Length of int. pos. control ¹	1070	1070	800	1070	800	1070	1070	1070	1070	1070	800	1070
5'-primer(s) ²	206 5'-gAA 3'	527 5'-TgA 3'	106 5'-CCA 3'	361 5'-AgT 3'	363 5'-AgC 3'	408 5'-ggT 3'	419 5'-gTC 3'	97 5'-TCC 3'	355 5'-TCA 3'	409 5'-ggT 3'	363 5'-AgC 3'	97 5'-TCT 3'
				363 5'-Agg 3'		412 5'-ATA 3'	420 5'-TTA 3'			454 5'-ACT 3'		
				363 5'-Agg 3'		412 5'-ATA 3'						
				363 5'-AgA 3'		412 5'-ATA 3'						
3'-primer(s) ³	292 5'-gTC 3'	605 5'-gCT 3'	243 5'-TAA 3'	3 rd I 5'-TAT 3'	559 5'-CgT 3'	559 5'-CTC 3'	605 5'-gCT 3'	311 5'-ggT 3'	559 5'-CTC 3'	605 5'-gCT 3'	463 5'-gCT 3'	193 5'-CgT 3'
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec.	125	120	330	120	205	95	185	110	175	545	145	215
PCR product	270			150				210	235			245
Length of int. pos. control ¹	1070	1070	800	1070	1070	1070	1070	800	1070	1070	800	1070
5'-primer(s) ²	355 5'-TCA 3'	355 5'-TCA 3'	45 5'-ggA 3'	388 5'-gg 3'	97 5'-TCC 3'	141 5'-ATT 3'	355 5'-TCA 3'	412 5'-ATA 3'	814 5'-TgA 3'	103 5'-CCT 3'	89 5'-gAC 3'	97 5'-TCC 3'
	499 5'-TCT 3'			419 5'-gTC 3'					874 5'-Cgg 3'			
3'-primer(s) ³	583 5'-gTg 3'	435 5'-TCT 3'	206 5'-CCT 3'	499 5'-ggA 3'	259 5'-gTT 3'	193 5'-CgT 3'	499 5'-ggA 3'	479 5'-CCA 3'	916 5'-gAC 3'	362 5'-TCC 3'	193 5'-CgT 3'	272 5'-TgT 3'
								577 5'-gCT 3'				299 5'-TCA 3'
								580 5'-TCA 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 spec.	120	255	205	90	165	125	125	100	385	190	85	135
PCR product					245			165			115	240
								270			190	
Length of int. pos. control ¹	1070	1070	1070	1070	1070	800	800	1070	1070	1070	1070	800
5'-primer(s) ²	419 5'-gTT 3'	97 5'-TCC 3'	490 5'-CgA 3'	512 5'-gTT 3'	363 5'-Agg 3'	206 5'-gAA 3'	523 5'-CCg 3'	206 5'-gAA 3'	322 5'-gCC 3'	363 5'-AgC 3'	124 5'-gCC 3'	350 5'-TCg 3'
				512 5'-gTT 3'			691 5'-TgA 3'	636 5'-CAC 3'			198 5'-gT 3'	363 5'-AAC 3'
											228 5'-ATg 3'	466 5'-gTC 3'
3'-primer(s) ³	499 5'-ggA 3'	302 5'-ggT 3'	3 rd I 5'-TAT 3'	559 5'-CAg 3'	488 5'-CCA 3'	283 5'-TgC 3'	605 5'-gCT 3'	263 5'-gTA 3'	419 5'-CgT 3'	512 5'-CCA 3'	272 5'-Tgg 3'	559 5'-CTC 3'
		312 5'-AgT 3'			565 5'-CAT 3'	296 5'-CTT 3'	774 5'-ggT 3'	760 5'-AAA 3'				
		323 5'-AgC 3'						865 5'-CCT 3'				
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of spec.	80	150	155	105	130	145	85	90	75	505	120	245
PCR product	135	195	180		170		255	225				
		245	240									
Length of int. pos. control ¹	1070	800	1070	1070	1070	1070	1070	1070	800	1070	800	1070
5'-primer(s) ²	109	97	363	357	408	499	363	363	142	193	193	357
	5'-TgA 3'	5'-TCC 3'	5'-AgC 3'	5'-Tgg 3'	5'-ggT 3'	5'-TCA 3'	5'-AgC 3'	5'-AgC 3'	5'-TCA 3'	5'-CCA 3'	5'-CCA 3'	5'-Tgg 3'
	165				412				477			
	5'-ACC 3'				5'-ATA 3'				5'-gCC 3'			
					412							
					5'-ATA 3'							
3'-primer(s) ³	203	208	475	419	499	605	409	412	175	412	272	559
	5'-TCC 3'	5'-CTT 3'	5'-ggg 3'	5'-CgA 3'	5'-ggT 3'	5'-gCT 3'	5'-ATA 3'	5'-gTg 3'	5'-CCg 3'	5'-gTC 3'	5'-TgC 3'	5'-CTC 3'
		251	500		539		578	547	506			
		5'-CCg 3'	5'-ggA 3'		5'-TCC 3'		5'-TgA 3'	5'-gTg 3'	5'-TgA 3'			
		300	562									
		5'-CTg 3'	5'-gCg 3'									
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec.	245	210	245	260	130	115	180	115	225	75	155	160
PCR product			270		170	150	220		335	150	240	205
					195	250				175		
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	1070	1070	1070	800	1070	1070
5'-primer(s) ²	806	357	363	97	97	97	97	493	715	256	412	412
	5'-ggA 3'	5'-Tgg 3'	5'-Agg 3'	5'-TCC 3'	5'-TCC 3'	5'-TCC 3'	5'-TCC 3'	5'-CTg 3'	5'-CAg 3'	5'-ACT 3'	5'-ATA 3'	5'-ATA 3'
					428	363	363	668	826	3 rd	652	
					5'-Cgg 3'	5'-AgC 3'	5'-Agg 3'	5'-ggC 3'	5'-CTT 3'	5'-Agg 3'	5'-CCA 3'	
3'-primer(s) ³	916	527	565	309	187	208	236	559	916	292	530	530
	5'-gAC 3'	5'-CCT 3'	5'-CAT 3'	5'-gTg 3'	5'-gTA 3'	5'-CTT 3'	5'-CCA 3'	5'-CTC 3'	5'-gAC 3'	5'-gTA 3'	5'-CCT 3'	5'-CCT 3'
			594	323	252	307	239	754		677	761	572
			5'-CCg 3'	5'-Agg 3'	5'-TC. 3'	5'-CCA 3'	5'-gCT 3'	5'-Agg 3'		5'-ACT 3'	5'-CAg 3'	5'-gCg 3'
					559	437	543			704	853	580
					5'-CTC 3'	5'-AAC 3'	5'-gCg 3'			5'-CCA 3'	5'-TAT 3'	5'-TCA 3'
Well No.	73	74	75	76	77	78	79	80	81	82	83	84

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

Well No.	85	86	87	88	89	90	91
Length of spec.	250	245	100	200	175	180	395
PCR product			195				
Length of int. pos. control ¹	1070	800	1070	1070	1070	1070	1070
5'-primer(s) ²	652	357	72	142	641	637	303
	5' -CCA 3'	5' -Tgg 3'	5' -gCT 3'	5' -TCA 3'	5' -gAT 3'	5' -ACA 3'	5' -..C 3'
			369				
			5' -TAC 3'				
3'-primer(s) ³	853	559	97	302	774	774	412
	5' -TAT 3'	5' -CTC 3'	5' -gTA 3'	5' -ggC 3'	5' -ggT 3'	5' -ggT 3'	5' -gTT 3'
	872		426				
	5' -TCA 3'		5' -TCC 3'				
Well No.	85	86	87	88	89	90	91

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.

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

CELL LINE VALIDATION SHEET					Well															
HLA-B*40 SSP subtyping kit ²																				
				Prod. No.:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					201317801	201443702	201317803	201317804	201317805	201317806	201443707	201317808	201317809	201317810	201317811	201317812	201317813	201317814	201317815	201317816
	IHC cell line ¹		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-B*40 SSP subtyping kit ²																				
				Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
				Prod. No.:	201443717	201443718	201317819	201317820	201317821	201317822	201443723	201443724	201317825	201317826	201317827	201317828	201317829	201443730	201317831	201317832
IHC cell line ¹			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	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **53X**

Lot-specific information

CELL LINE VALIDATION SHEET					Well																
HLA-B*40 SSP subtyping kit ²																					
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
					Prod. No.:	201443733	201317834	201317835	201317836	201317837	201317838	201443739	201317840	201317841	201317842	201317843	201443744	201443745	201317846	201317847	201443748
IHC cell line ¹			B*																		
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	w	-	-	-	-	-	-	-	
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	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **53X**

Lot-specific information

CELL LINE VALIDATION SHEET					Well															
HLA-B*40 SSP subtyping kit ²																				
				Prod. No.:	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
					201317849	201443750	201317851	201317852	201443753	201443754	201443755	201317856	201317857	201317858	201443759	201443760	201443761	201443762	201443763	201317864
	IHC cell line ¹		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

CELL LINE VALIDATION SHEET					Well															
HLA-B*40 SSP subtyping kit ²					65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
				Prod. No.:	201443765	201317866	201317867	201443768	201317869	201443770	201317871	201443772	201443773	201443774	201443775	201443776	201443777	201443778	201443779	201443780
	IHWC cell line ¹		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	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **53X**

Lot-specific information

CELL LINE VALIDATION SHEET															
HLA-B*40 SSP subtyping kit ²															
				Well											
				81	82	83	84	85	86	87	88	89	90	91	
				Prod. No.:	201443781	201443782	201443783	201443784	201443785	201443786	201443787	201443788	201443789	201443790	201443791
IHWC cell line ¹		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	-	-	-	-	-	-	-	-	-	-	-	

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **53X**

Lot-specific information

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

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

No DNAs carrying the alleles to be amplified by primer solutions 11, 16, 23 to 25, 27, 34, 38, 42 to 45, 47 to 57, 59 to 63, 67 to 69, 71, 73, 75 to 83, 85 and 87 to 91 were available.

The specificities of the primers in primer solutions 11, 16, 23, 25, 34, 38, 42, 43, 45, 48 to 50, 52, 54, 55, 61, 68, 69, 71, 76, 77, 80, 82 and 87 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers.

In primer solutions 27, 44, 53, 56, 62, 63, 67, 75, 78, 79, 83, 85 and 88 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 24, 47, 51, 57, 59, 60, 73, 81 and 89 to 91 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

One or two of the 3'-primers in primer solutions 3, 6, 23, 50, 54, 68, 76, 77, 80, 82, 84, 87 and one to four of the 5'-primers in primer solutions 1, 7, 16, 23, 28, 30, 34, 40, 45, 55, 61, 65, 77, 80 and 82 were not possible to test.

Additional primers in primer solutions 2, 6, 18, 31 and 37 were tested by separately adding one additional 5'-primer respectively one or two additional 3'-primers.

101.523-24/03– including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **53X**

Lot-specific information

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