

101.521-24/04 – including *Taq* polymerase, IFU-01
101.521-24u/04u – without *Taq* polymerase, IFU-02

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

Lot No.: **21X**

Lot-specific information

Olerup SSP® HLA-B*27

Product number:	101.521-24/04 – including <i>Taq</i> pol. 101.521-24u/04u – without <i>Taq</i> pol.
Lot number:	21X
Expiry date:	2017-February-01
Number of tests:	24 test – Product No. 101.521-24/24u 4 tests – Product No. 101.521-04/04u
Number of wells per test:	44+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. 21X.

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*27 Lot (77R)

The HLA-B*27 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.

Four wells have been added to HLA-B*27, wells **41 to 45**.

¹As described in section Uniquely Identified Alleles.

The HLA-B*27 primer set, specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP®* HLA-B*27 lot was made (**Lot No. 77R**). The kit design is based on IMGT/HLA database 3.16.0.

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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
16	Moved	Moved	Primer pair moved to well 43 for decreased tendency of oligomer formation.
27	Moved	Moved	Primer pair moved to well 44 for decreased tendency of oligomer formation.
41	New	New	New primer pair added for the B*27:91 allele.
42	New	New	New primer pair for the B*27:125 allele.
43	New	New	Primer pair added from well 16.
44	New	New	Primer pair added from well 27.
45	-	-	Negative Control.

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Well **45** 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*27 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*27:01 to B*27:125 alleles.

PLATE LAYOUT

Each test consists of 45 PCR reactions in a 48 well cut PCR plate. Wells 46 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	39	40
41	42	43	44	45	empty	empty	empty

The 48 well cut PCR plate is marked with ‘HLA-B*27’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘21X’.

Wells 1 to 44 – HLA-B*27 high resolution primers.

Well 45 – 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*27 alleles will be amplified by primer mixes 1, 2, 4 to 24, 22 to 24, 27, 28, 32, 33, 36, 38 to 40, 42 and 43. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 10, 11, 14, 22, 25, 31 and 32.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*27 alleles, i.e. **B*27:01 to B*27:125**, recognized by the HLA Nomenclature Committee in April 2014^{1,2} will be amplified by the primers in the HLA-B*27 subtyping kit.

The HLA-B*27 kit enables separation of the confirmed HLA-B*27 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*27 alleles is listed below.

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The HLA- B*27 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*27 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
B*27:37, 27:55, 27:101	22
B*27:67, 27:123	29

The HLA-B*27 subtyping kit cannot distinguish the following silent mutations: B*27:02:01-27:02:02, the B*27:04:01 and 27:04:04 alleles, the B*27:04:02-27:04:03, the B*27:05:02-27:05:03, B*27:05:05-27:05:19 and 27:05:21-27:05:28 alleles and the B*27:07:01-27:07:04.

¹HLA-B alleles listed on the IMGT/HLA web page 2014-April-14, release 3.16.0, 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>.

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ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
B*27:01	Confirmed	B*27:08	Confirmed	B*27:49	Confirmed	B*27:89	Unconfirmed
B*27:02:01	Confirmed	B*27:09	Confirmed	B*27:50	Confirmed	B*27:90:01	Unconfirmed
B*27:02:02	Unconfirmed	B*27:10	Confirmed	B*27:51	Confirmed	B*27:90:02	Unconfirmed
B*27:03	Confirmed	B*27:11	Unconfirmed	B*27:52	Unconfirmed	B*27:91	Confirmed
B*27:04:01	Confirmed	B*27:12	Confirmed	B*27:53	Confirmed	B*27:92	Unconfirmed
B*27:04:02	Unconfirmed	B*27:13	Unconfirmed	B*27:54	Unconfirmed	B*27:93	Unconfirmed
B*27:04:03	Confirmed	B*27:14	Confirmed	B*27:55	Confirmed	B*27:94N	Unconfirmed
B*27:04:04	Confirmed	B*27:15	Confirmed	B*27:56	Unconfirmed	B*27:95	Unconfirmed
B*27:05:02	Confirmed	B*27:16	Unconfirmed	B*27:57	Unconfirmed	B*27:96:01	Unconfirmed
B*27:05:03	Confirmed	B*27:17	Confirmed	B*27:58	Unconfirmed	B*27:96:02	Unconfirmed
B*27:05:04	Unconfirmed	B*27:18	Unconfirmed	B*27:59N	Confirmed	B*27:97	Confirmed
B*27:05:05	Confirmed	B*27:19	Unconfirmed	B*27:60	Confirmed	B*27:98	Unconfirmed
B*27:05:06	Unconfirmed	B*27:20	Confirmed	B*27:61	Confirmed	B*27:99	Unconfirmed
B*27:05:07	Confirmed	B*27:21	Unconfirmed	B*27:62	Unconfirmed	B*27:100	Unconfirmed
B*27:05:08	Unconfirmed	B*27:23	Confirmed	B*27:63	Unconfirmed	B*27:101	Unconfirmed
B*27:05:09	Confirmed	B*27:24	Confirmed	B*27:64N	Unconfirmed	B*27:102	Unconfirmed
B*27:05:10	Confirmed	B*27:25	Confirmed	B*27:65N	Unconfirmed	B*27:103	Unconfirmed
B*27:05:11	Unconfirmed	B*27:26	Unconfirmed	B*27:66N	Unconfirmed	B*27:104	Unconfirmed
B*27:05:12	Unconfirmed	B*27:27	Confirmed	B*27:67	Unconfirmed	B*27:105	Unconfirmed
B*27:05:13	Unconfirmed	B*27:28	Unconfirmed	B*27:68	Unconfirmed	B*27:106	Unconfirmed
B*27:05:14	Unconfirmed	B*27:29	Unconfirmed	B*27:69	Unconfirmed	B*27:107	Unconfirmed
B*27:05:15	Confirmed	B*27:30	Confirmed	B*27:70	Confirmed	B*27:108	Unconfirmed
B*27:05:16	Unconfirmed	B*27:31	Unconfirmed	B*27:71	Unconfirmed	B*27:109	Unconfirmed
B*27:05:17	Unconfirmed	B*27:32	Unconfirmed	B*27:72	Unconfirmed	B*27:110	Unconfirmed
B*27:05:18	Confirmed	B*27:33	Unconfirmed	B*27:73	Confirmed	B*27:111	Unconfirmed
B*27:05:19	Unconfirmed	B*27:34	Unconfirmed	B*27:74	Unconfirmed	B*27:112	Unconfirmed
B*27:05:20	Unconfirmed	B*27:35	Unconfirmed	B*27:75	Unconfirmed	B*27:113	Unconfirmed
B*27:05:21	Confirmed	B*27:36	Confirmed	B*27:76	Unconfirmed	B*27:114	Unconfirmed
B*27:05:22	Unconfirmed	B*27:37	Unconfirmed	B*27:77	Unconfirmed	B*27:115	Unconfirmed
B*27:05:23	Unconfirmed	B*27:38	Unconfirmed	B*27:78	Confirmed	B*27:116	Unconfirmed
B*27:05:24	Unconfirmed	B*27:39	Unconfirmed	B*27:79	Unconfirmed	B*27:117	Unconfirmed
B*27:05:25	Unconfirmed	B*27:40	Unconfirmed	B*27:80	Confirmed	B*27:118	Unconfirmed
B*27:05:26	Unconfirmed	B*27:41	Unconfirmed	B*27:81	Unconfirmed	B*27:119	Unconfirmed
B*27:05:27	Unconfirmed	B*27:42	Confirmed	B*27:82	Confirmed	B*27:120	Unconfirmed
B*27:05:28	Unconfirmed	B*27:43	Unconfirmed	B*27:83	Confirmed	B*27:121	Unconfirmed
B*27:06	Confirmed	B*27:44	Unconfirmed	B*27:84	Unconfirmed	B*27:122	Unconfirmed
B*27:07:01	Confirmed	B*27:45	Unconfirmed	B*27:85	Confirmed	B*27:123	Unconfirmed
B*27:07:02	Unconfirmed	B*27:46	Confirmed	B*27:86	Unconfirmed	B*27:124	Unconfirmed
B*27:07:03	Unconfirmed	B*27:47	Confirmed	B*27:87	Unconfirmed	B*27:125	Unconfirmed
B*27:07:04	Unconfirmed	B*27:48	Confirmed	B*27:88	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2014-April-14, release 3.16.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*27 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-B*27 SSP subtyping

Specificities and sizes of the PCR products of the 44+1 primer mixes used for HLA-B*27 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*27 alleles ³	Other amplified HLA Class I alleles ^{3,4}
1⁷	390 bp	800 bp	*27:01, 27:18, 27:23, 27:29, 27:44, 27:92	*18:01:01:01-18:01:01:02, 18:01:03-18:02, 18:04-18:15, 18:17N-18:24, 18:26-18:32, 18:34-18:93, 18:95-18:103, 35:01:23, 35:42:01-35:42:02, 37:01:01-37:33N, 37:35-37:36, 37:38-37:49, 40:02:01-40:06:10, 40:08, 40:09 [?] , 40:11:01 [?] -40:11:02 [?] , 40:14:01 [?] -40:15 [?] , 40:18 [?] , 40:20, 40:21 [?] -40:22N [?] , 40:24 [?] -40:38 [?] , 40:39, 40:42 [?] , 40:43, 40:44 [?] -40:49 [?] , 40:50, 40:52 [?] -40:58 [?] , 40:61 [?] -40:65 [?] , 40:67 [?] -40:69 [?] , 40:70:01-40:70:02, 40:71 [?] , 40:72:02 [?] , 40:74 [?] -40:76 [?] , 40:78 [?] , 40:80 [?] -40:88 [?] , 40:89, 40:90 [?] -40:93 [?] , 40:94, 40:95 [?] -40:96 [?] , 40:97, 40:98 [?] -40:116 [?] , 40:118N [?] -40:121 [?] , 40:122, 40:123 [?] , 40:124:02 [?] -40:137 [?] , 40:141 [?] , 40:142N-40:144N, 40:145 [?] , 40:148 [?] -40:149 [?] , 40:151 [?] , 40:154 [?] , 40:156 [?] -40:165 [?] , 40:167 [?] -40:171 [?] , 40:173 [?] -40:185 [?] , 40:187 [?] -40:213 [?] , 40:214, 40:216N [?] -40:228 [?] , 40:229, 40:231 [?] -40:240 [?] , 40:244 [?] -40:246 [?] , 40:254-40:255, 40:257 [?] , 40:266-40:271, 40:273 [?] -40:276 [?] , 40:279 [?] -40:283 [?] , 40:284, 44:139 [?] , 47:01:01:01-47:09
2	405 bp	800 bp	*27:02:01-27:02:02, 27:30, 27:53, 27:57, 27:62, 27:65N, 27:75, 27:77, 27:83, 27:95, 27:102, 27:119	*18:67, 37:34, 40:13, 40:19 [?] , 40:109 [?] , 40:117 [?]
3⁵	120 bp	1070 bp	*27:03, 27:111	
4	200 bp	1070 bp	*27:03, 27:05:02-27:05:28, 27:07:01-27:07:04, 27:09-27:10, 27:13-27:14, 27:16-27:17, 27:19, 27:27-27:29, 27:32, 27:34-27:35, 27:37-27:39, 27:41-27:43, 27:45-27:52, 27:54-27:56, 27:58-27:60, 27:64N, 27:67, 27:70-27:74, 27:76, 27:78, 27:80-27:82, 27:84-27:85, 27:87-27:88, 27:90:01-27:90:02, 27:92-27:94N, 27:96:01-27:99, 27:101,	*40:188, 47:01:01:01-47:01:02, 47:05-47:09

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5 ⁷	400 bp	1070 bp	27:104, 27:111, 27:116- 27:118, 27:121-27:124	
			*27:04:01-27:04:04, 27:06, 27:08, 27:11-27:12, 27:15, 27:18, 27:20-27:21, 27:23- 27:26, 27:31, 27:33, 27:36, 27:40, 27:44, 27:61, 27:63, 27:66N, 27:68-27:69, 27:79, 27:86, 27:91, 27:100, 27:103, 27:105-27:109, 27:112-27:115, 27:120, 27:125	*18:01:01:01-18:08, 18:10-18:15, 18:17N- 18:24, 18:26-18:32, 18:34-18:48, 18:50- 18:53, 18:55-18:66, 18:68-18:78, 18:80- 18:103, 35:01:23, 35:42:01-35:42:02, 37:11, 37:14, 37:29, 37:37, 40:02:01- 40:06:10, 40:08, 40:09 [?] , 40:11:01 [?] - 40:11:02 [?] , 40:14:01 [?] -40:15 [?] , 40:18 [?] , 40:20, 40:21 [?] -40:22N [?] , 40:24 [?] -40:36 [?] , 40:38 [?] , 40:39, 40:42 [?] -40:46 [?] , 40:48 [?] - 40:50 [?] , 40:52 [?] -40:58 [?] , 40:61 [?] -40:65 [?] , 40:67 [?] -40:69 [?] , 40:70:01-40:70:02, 40:71 [?] , 40:72:02 [?] , 40:74 [?] -40:76 [?] , 40:78 [?] , 40:80 [?] - 40:88 [?] , 40:89, 40:90 [?] -40:93 [?] , 40:94, 40:95 [?] , 40:97, 40:98 [?] -40:108 [?] , 40:111 [?] - 40:116 [?] , 40:118N [?] -40:121 [?] , 40:122, 40:123 [?] , 40:124:02 [?] -40:134 [?] , 40:136 [?] - 40:137 [?] , 40:141 [?] , 40:142N-40:144N, 40:145 [?] , 40:148 [?] -40:149 [?] , 40:151 [?] , 40:154 [?] , 40:156 [?] , 40:158 [?] -40:171 [?] , 40:173 [?] -40:185 [?] , 40:187 [?] , 40:189 [?] - 40:200 [?] , 40:202 [?] -40:213 [?] , 40:214, 40:215 [?] -40:228 [?] , 40:229, 40:230 [?] - 40:248 [?] , 40:254-40:255, 40:257 [?] , 40:266- 40:271, 40:273 [?] -40:276 [?] , 40:279 [?] - 40:283 [?] , 40:284, 47:02-47:03, 82:01- 82:03
6	415 bp	800 bp	*27:01-27:05:03, 27:05:05- 27:07:04, 27:09-27:11, 27:13-27:17, 27:19-27:21, 27:23-27:25, 27:27-27:32, 27:34-27:39, 27:41, 27:43, 27:45-27:88, 27:90:01- 27:115, 27:117-27:125	*18:09, 18:54, 18:67, 37:01:01-37:04:02, 37:06:01-37:10, 37:12-37:36, 37:38- 37:49, 40:13, 40:19 [?] , 40:47 [?] , 40:96 [?] , 40:109 [?] -40:110 [?] , 40:117 [?] , 40:157 [?] , 40:188 [?] , 40:201 [?] , 44:139 ^w , 47:01:01-01- 47:01:02, 47:03-47:09
7	410 bp	1070 bp	*27:08, 27:12, 27:18, 27:26, 27:33, 27:40, 27:42, 27:44, 27:89	*18:01:01:01-18:08, 18:10-18:15, 18:17N- 18:24, 18:26-18:32, 18:34-18:53, 18:55- 18:66, 18:68-18:103, 35:01:23, 35:42:01- 35:42:02, 37:05, 37:11, 37:37, 40:02:01- 40:06:10, 40:08, 40:09 [?] , 40:11:01 [?] - 40:11:02 [?] , 40:14:01 [?] -40:15 [?] , 40:18 [?] , 40:20, 40:21 [?] -40:22N [?] , 40:24 [?] -40:38 [?] , 40:39, 40:42 [?] -40:46 [?] , 40:48 [?] -40:50 [?] , 40:52 [?] -40:58 [?] , 40:61 [?] -40:65 [?] , 40:67 [?] - 40:69 [?] , 40:70:01-40:70:02, 40:71 [?] , 40:72:02 [?] , 40:74 [?] -40:75 [?] , 40:78 [?] , 40:80 [?] - 40:88 [?] , 40:89, 40:90 [?] -40:93 [?] , 40:94, 40:95 [?] , 40:97, 40:98 [?] -40:108 [?] , 40:111 [?] - 40:116 [?] , 40:118N [?] -40:121 [?] , 40:122, 40:123 [?] , 40:124:02 [?] -40:137 [?] , 40:141 [?] , 40:142N-40:144N, 40:145 [?] , 40:148 [?] - 40:149 [?] , 40:151 [?] , 40:154 [?] , 40:156 [?] , 40:158 [?] -40:171 [?] , 40:173 [?] -40:185 [?] , 40:187 [?] , 40:189 [?] -40:200 [?] , 40:202 [?] - 40:213 [?] , 40:214, 40:216N [?] -40:228 [?] , 40:229, 40:230 [?] -40:248 [?] , 40:254-40:255, 40:256N [?] -40:257 [?] , 40:266-40:271,

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				40:273'-40:276', 40:279'-40:283', 40:284, 47:02, 82:01-82:03
8⁵	95 bp	1070 bp	*27:01-27:05:28, 27:08, 27:10, 27:12-27:13, 27:15- 27:18, 27:23, 27:25-27:26, 27:28-27:29, 27:31, 27:36- 27:40, 27:42, 27:44-27:45, 27:47-27:69, 27:71-27:75, 27:77, 27:79-27:80, 27:82- 27:90:02, 27:92-27:101, 27:103-27:105, 27:108- 27:124	*07:197, 37:02, 47:04-47:05, 48:26
9	205 bp	1070 bp	*27:04:01-27:04:04, 27:06, 27:10, 27:15, 27:18, 27:20, 27:25 ^w , 27:40, 27:54, 27:63, 27:66N, 27:68-27:69, 27:79, 27:86, 27:91-27:92, 27:100, 27:103, 27:105-27:109, 27:112-27:114, 27:115 ^w , 27:120	*07:197, 15:129 ^w
10⁵	90 bp 185 bp	800 bp	*27:06, 27:35, 27:41, 27:78, 27:91, 27:106-27:107 *27:60	*15:129, 18:02, 38:22, C*07:05
11	190 bp	1070 bp	*27:07:01-27:07:04, 27:11, 27:20, 27:24, 27:27, 27:33, 27:43, 27:125	*07:05:01-07:06, 07:32, 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, 08:40, 08:79, 13:01:01-13:01:02, 13:01:04-13:02:16, 13:07N-13:09, 13:11, 13:13-13:23, 13:25, 13:27-13:33, 13:36- 13:45, 13:47, 13:49N-13:50, 13:52, 13:54- 13:61, 13:63N-13:71, 13:73-13:78, 35:31, 35:88, 35:230, 39:47, 39:50, 40:01:01- 40:01:25, 40:01:27, 40:01:28 ^w , 40:01:29- 40:01:31, 40:01:33-40:02:09, 40:02:11- 40:02:17, 40:02:19, 40:04, 40:06:01-01- 40:06:09, 40:07-40:08, 40:10:01-40:16, 40:19, 40:21-40:23, 40:25, 40:27:01- 40:27:02, 40:29-40:30, 40:34-40:38, 40:40, 40:43, 40:45-40:50, 40:53-40:58, 40:61-40:62, 40:64-40:70:02, 40:72:01- 40:88, 40:90-40:91, 40:93-40:97, 40:99- 40:119, 40:121-40:123, 40:125-40:130:02, 40:132, 40:134-40:158, 40:160:01-40:162, 40:164-40:171, 40:173, 40:175-40:179, 40:181-40:183, 40:185-40:186, 40:188- 40:198, 40:200-40:266, 40:268-40:279, 40:281-40:283, 40:285, 41:19, 44:31, 48:01:01-48:01:06, 48:03:01-48:07, 48:09-48:16, 48:18-48:22, 48:24, 48:27- 48:34, 51:10, 51:16, 51:31, 51:34, 51:81- 51:82, 51:93, 52:08, 54:26, 55:09, 55:22, 55:24, 58:27, 81:01-81:07, C*02:68

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12⁶	210 bp 310 bp	1070 bp	*27:74 *27:43	*08:100, 15:292, 35:113, 39:62, 40:202, 44:98, 46:27, 52:31:01-52:31:02
	425 bp		*27:13	
13	215 bp 370 bp	800 bp	*27:47 *27:12, 27:16, 27:92, 27:119	*40:75 [?]
	400 bp		*27:53	
14⁵	120 bp	800 bp	*27:34	*35:01:30, 40:02:07, 40:06:02, 57:01:16, 57:03:02, C*02:23, C*02:36, C*02:68
	345 bp		*27:17	
15⁵	105 bp	1070 bp	*27:18, 27:29	*07:27, 07:50, 08:04, 08:17, 08:54, 08:110, 15:03:01-15:03:04, 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, 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, 40:12, 40:46, 40:93, 42:11, 44:40, 44:44, 44:130, 44:156, 48:01:01-48:05, 48:07-48:30, 48:32-48:34, 52:16, 55:18
16⁵	100 bp	1070 bp	*27:19, 27:30	*57:32
17⁵	100 bp 310 bp	800 bp	*27:14, 27:81 *27:51	*44:20, 44:47, 44:100, 50:20, 51:85, 52:26
18	175 bp	800 bp	*27:24	*07:174, 07:202, 40:31, 40:45, 40:80, 48:01:01-48:01:06, 48:04, 48:06-48:07, 48:09, 48:11, 48:15-48:16, 48:18-48:20, 48:22, 48:24, 48:27-48:34, 81:01-81:07
	415 bp		*27:49	
19⁵	95 bp 240bp	800 bp	*27:35 *27:25, 27:38, 27:47, 27:50, 27:63, 27:76, 15:129	*38:22
20⁵	95 bp 175 bp 215 bp	800 bp	*27:09 *27:36 *27:25, 27:45, 27:108, 27:115	*48:21, 48:26 *07:197, 15:129
	345 bp		*27:69	*15:227, 37:23, 40:213, 51:32, 58:52
21⁵	110 bp	1070 bp	*27:04:01, 27:04:02 [?] - 27:04:03 [?] , 27:04:04, 27:06, 27:24-27:25, 27:66N, 27:68- 27:69, 27:100, 27:103, 27:105, 27:109, 27:112- 27:115	*37:47
	160 bp		*27:39	
22	165 bp 195 bp 235 bp 375 bp	800 bp	*27:55 *27:37 *27:15, 27:28, 27:62, 27:71 *27:26, 27:31, 27:101	*18:43, 40:210 [?] , 40:229 *18:02, C*07:05 *40:166 [?] , 82:01-82:03
23	235 bp	800 bp	*27:01-27:05:19, 27:05:21- 27:06, 27:08-27:10, 27:12- 27:13, 27:16-27:18, 27:20,	*07:197, 37:02, 47:04-47:05, 48:21, 48:26

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			27:23, 27:26-27:27, 27:29, 27:31, 27:35-27:37, 27:39- 27:42, 27:44-27:46, 27:48- 27:61, 27:64N-27:69, 27:72- 27:75, 27:77-27:80, 27:82- 27:124	
24⁸	375 bp	1070 bp	*27:18, 27:29	*15:129, 37:02, 47:04-47:05, 48:21, 48:26
25⁵	85 bp	1070 bp	*27:46, 27:78	A*23:23
26⁵	105 bp 145 bp 235 bp	1070 bp	*27:52 *27:64N *27:72	
27	320 bp	1070 bp	*27:57	*37:27
28⁶	145 bp 325 bp	1070 bp	*27:64N *27:48	*40:118N
29⁵	70 bp 105 bp 210 bp	1070 bp	*27:54, 27:123 *27:67 *27:74	
30^{6,9}	160 bp 240 bp	800 bp	*27:59N *27:72-27:73	
31^{5,6}	125 bp 160 bp	1070 bp	*27:65N *27:56	A*24:185N
32^{5,6}	90 bp	1070 bp	*27:32, 27:70	*07:28, 07:118, 08:14, 08:87, 15:17:01:01-15:17:02, 15:162, 15:168, 15:177, 15:196, 15:208, 15:216, 15:230, 15:233, 15:269, 15:273, 35:234, 40:124:02, 40:180, 40:240, 44:41:01, 44:54, 44:65, 44:106, 44:135, C*02:07
	370 bp		*27:85	
33	250 bp	1070 bp	*27:73, 27:80	*40:88
34	160 bp	1070 bp	*27:82	
35	280 bp	1070 bp	*27:83	
36	350 bp	1070 bp	*27:94N	*37:33N
37	180 bp	1070 bp	*27:97	
38	260 bp	1070 bp	*27:28, 27:62	*18:02
39⁶	345 bp	1070 bp	*27:19, 27:70	*15:43, 18:54, 37:12, 37:19, 37:44, 38:17, 40:188
40⁵	95 bp	1070 bp	*27:32	*07:28, 07:118, 08:14, 08:87, 40:180, 44:54, 44:106, 44:135
41	155 bp	1070 bp	*27:91	
42	140 bp	1070 bp	*27:125	*08:120, 35:230, 38:43, 40:01:01- 40:01:20, 40:01:22-40:01:25, 40:01:27, 40:01:29-40:01:31, 40:01:33-40:01:39, 40:07, 40:10:01-40:10:02, 40:12, 40:21- 40:22N, 40:25, 40:30, 40:34, 40:36, 40:38, 40:43, 40:46-40:49, 40:54-40:55, 40:61-40:63, 40:65-40:67, 40:69, 40:72:01-40:74, 40:76-40:77, 40:79- 40:81, 40:84, 40:87:01-40:88, 40:92, 40:100-40:102, 40:106, 40:108, 40:112- 40:113, 40:116-40:118N, 40:123, 40:125- 40:126, 40:128, 40:130:01-40:130:02,

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				40:132, 40:134-40:135, 40:137-40:141, 40:146-40:147, 40:149-40:156, 40:160:01-40:160:02, 40:163, 40:166, 40:168, 40:170-40:171, 40:175, 40:178- 40:179, 40:182-40:183, 40:185-40:186, 40:188, 40:191-40:199, 40:204, 40:207- 40:208, 40:210, 40:212-40:213, 40:215- 40:218, 40:221-40:223, 40:227-40:228, 40:233-40:242, 40:245, 40:247, 40:249- 40:253, 40:257-40:260, 40:262-40:265N, 40:272-40:273, 40:277-40:279, 40:281- 40:282, 40:285, 44:31, 48:01:01-48:01:06, 48:03:01-48:04, 48:06-48:07, 48:09, 48:11, 48:14-48:16, 48:18-48:22, 48:24, 48:28-48:34, 81:01-81:07
43⁷	155 bp	1070 bp	*27:68	*15:201
44	225 bp 290 bp	1070 bp	*27:66N *27:58	
45¹⁰	-	-	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*27 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*27 alleles will be amplified by primer mixes 1, 2, 4 to 24, 22 to 24, 27, 28, 32, 33, 36, 38 to 40, 42 and 43. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 10, 11, 14, 22, 25, 31 and 32.

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

⁶Primer mixes 12, 28, 30, 31, 32 and 39 may have tendencies of unspecific amplifications.

⁷Primer mixes 1, 5 and 43 have a tendency to giving rise to primer oligomer formation.

⁸Primer mix 24 may give rise to a lower yield of HLA-specific PCR product than the other B*27

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primer mixes.

⁹Primer mix 30 may give rise to a long unspecific amplification product. This band should be disregarded when interpreting the typing results.

¹⁰Primer mix 45 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the 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	390	405	120	200	400	415	410	95	205	90	190	210
										185		310
												425
Length of int. pos. control ¹	800	800	1070	1070	1070	800	1070	1070	1070	800	1070	1070
5'-primer(s) ²	72	72	167	141	72	72	72	363	363	363	412	14
	5'-gCT 3'	5'-gCT 3'	5'-gCT 3'	5'-ATT 3'	5'-gCT 3'	5'-gCT 3'	5'-gCT 3'	5'-AAT 3'	5'-AAT 3'	5'-AAT 3'	5'-ATA 3'	5'-ggA 3'
				142								104
				5'-TCA 3'								5'-CTT 3'
												385
												5'-ggT 3'
3'-primer(s) ³	292	309	247	301	301	317	311	418	527	409	559	272
	5'-gTA 3'	5'-ATC 3'	5'-ATg 3'	5'-gTC 3'	5'-gCT 3'	5'-ggA 3'	5'-ggT 3'	5'-gTC 3'	5'-CCT 3'	5'-ATA 3'	5'-CTC 3'	5'-TgC 3'
	292				302					419		3 rd I
	5'-gTA 3'				5'-ggC 3'					5'-Cgg 3'		5'-TAT 3'
										419		
										5'-CgA 3'		
										505		
										5'-gCC 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	215	120	105	100	100	175	95	95	110	165	235	375
	370	345			310	415	240	175	160	195		
	400							215		235		
								345		375		
Length of int. pos. control ¹	800	800	1070	1070	800	800	800	800	1070	800	800	1070
5'-primer(s) ²	72	72	206	355	72	72	363	363	167	72	363	272
	5'-gCT 3'	5'-gCT 3'	5'-AgA 3'	5'-TCA 3'	5'-gCT 3'	5'-gCT 3'	5'-AAT 3'	5'-AAT 3'	5'-gCT 3'	5'-gCT 3'	5'-AAT 3'	5'-CTC 3'
	363	409			357	363		3 rd I	704	363		
	5'-AAT 3'	5'-ggC 3'			5'-Tgg 3'	5'-AgC 3'		5'-Agg 3'	5'-Tgg 3'	5'-AAT 3'		
3'-primer(s) ³	272	248	272	412	212	316	419	418	287	97	559	362
	5'-TgC 3'	5'-AAA 3'	5'-Tgg 3'	5'-gTg 3'	5'-gCT 3'	5'-gAA 3'	5'-CgA 3'	5'-gTg 3'	5'-TCA 3'	5'-gTA 3'	5'-CTC 3'	5'-TAT 3'
	301	486			418	499	559	499	774	280		
	5'-gTC 3'	5'-gCT 3'			5'-gTC 3'	5'-ggA 3'	5'-CAG 3'	5'-ggA 3'	5'-ggT 3'	5'-CTg 3'		
	538						572	539		488		
	5'-gTC 3'						5'-gCg 3'	5'-TCC 3'		5'-CCA 3'		
								872		559		
							5'-TCA 3'			5'-CgT 3'		
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

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Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec. PCR product	85	105	320	145	70	160	125	90	250	160	280	350
		145		325	105	240	160	370				
		235			210							
Length of int. pos. control ¹	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	418	206	72	72	104	167	232	72	350	363	363	72
	5'-AgT 3'	5'-gAC 3'	5'-gCT 3'	5'-gCT 3'	5'-CTT 3'	5'-gCT 3'	5'-AgT 3'	5'-gCT 3'	5'-TCg 3'	5'-AAT 3'	5'-AAT 3'	5'-gCT 3'
		367		454	209	351	363	369	351			
		5'-TgA 3'		5'-ACT 3'	5'-ggC 3'	5'-CAA 3'	5'-AAT 3'	5'-TAC 3'	5'-CAA 3'			
		454			363	367						
		5'-ACT 3'			5'-AAT 3'	5'-TgA 3'						
3'-primer(s) ³	463	272	221	227	272	286	317	274	559	482	603	251
	5'-gCT 3'	5'-TgC 3'	5'-ACC 3'	5'-CTC 3'	5'-TgC 3'	5'-CTA 3'	5'-ggA 3'	5'-CTg 3'	5'-CTC 3'	5'-TgA 3'	5'-gTg 3'	5'-CCT 3'
		559		559	391	559	482	418				
		5'-CTC 3'		5'-CTC 3'	5'-CCg 3'	5'-CTC 3'	5'-TgC 3'	5'-gTC 3'				
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38	39	40	41	42	43	44
Length of spec. PCR product	180	260	345	95	155	140	155	225
								290
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	72	363	302	363	160	412	662	363
	5'-gCT 3'	5'-AAT 3'	5'-ggA 3'	5'-AgC 3'	5'-ACT 3'	5'-ATA 3'	5'-CCT 3'	5'-AAT 3'
3'-primer(s) ³	83	583	362	418	272	512	774	547
	5'-TgC 3'	5'-gTg 3'	5'-TCC 3'	5'-gTC 3'	5'-TgC 3'	5'-CCA 3'	5'-ggT 3'	5'-gTg 3'
								613
								5'-gCA 3'
Well No.	37	38	39	40	41	42	43	44

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.

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CELL LINE VALIDATION SHEET																					
HLA-B*27 SSP subtyping kit ²																					
					Well ³																
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:		201294501	201294502	201294503	201312304	201294505	201294506	201294507	201294508	201294509	201294510	201294511	201294512	201294513	201294514	201312315	201440416
	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	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

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Lot-specific information

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Lot-specific information

CELL LINE VALIDATION SHEET																	
HLA-B*27 SSP subtyping kit ²																	
					Prod. No.:	Well ³											
						33	34	35	36	37	38	39	40	41	42	43	44
						201312333	201312334	201312335	201312336	201312337	201312338	201312339	201312340	201440441	201440442	201440443	201440444
	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		-	-	-	-	-	-	-	-	-	-	-	-

101.521-24/04 – including *Taq* polymerase, IFU-01
101.521-24u/04u – without *Taq* polymerase, IFU-02

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Lot No.: **21X**

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.

³The C*07:05 allele is amplified by primer mixes 10 and 22 in the 9257/32367 cell line.

No DNAs carrying the alleles to be amplified by primer solutions 12, 16, 19, 25 to 31, 33 to 37, 39 to 41, 43 and 44 were available.

The specificities of the primers in primer solutions 12, 16, 19, 25, 26, 28 to 31, 35 and 39 to 40 were tested by separately adding additional 5'-primers, respectively additional 3'-primers.

In primer solution 27, 34, 36, 37 and 44 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 33, 41 and 43 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

In primer solutions 10, 13, 17, 18, 20 to 22 and 28 to 32 one of the 3'-primers was not possible to test.

In primer solutions 12, 26 and 28 to 31 one or two of the 5'-primers were not possible to test.

Additional primers in primer solutions 4, 10, 13 to 14, 17 to 18, 20 to 22 and 32 were tested by separately adding one additional 5'-primer and /or one additional 3'-primer.

101.521-24/04 – including *Taq* polymerase, IFU-01
101.521-24u/04u – without *Taq* polymerase, IFU-02

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

Lot No.: **21X**

Lot-specific information

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