

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information
Olerup SSP® HLA-B*38

Product number:	101.565-12 – including <i>Taq</i> polymerase 101.565-12u – without <i>Taq</i> polymerase
Lot number:	5E3
Expiry date:	2019-06-01
Number of tests:	12
Number of wells per test:	26+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. 5E3.

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*38 LOT (57X)**

The HLA-B*38 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

Three wells have been added to HLA-B*38, wells **25 to 27**.

¹As described in section Uniquely Identified Alleles.

The HLA-B*38 primer set, specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP*® HLA-B*38 lot was made (**Lot No. 57X**). The kit design is based on IMGT/HLA database 3.25.0.

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.

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

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

Well	5'-primer	3'-primer	rationale
5	-	Added	3'-primer added for the B*38:02:07 allele.
6	-	Added	3'-primer added for the B*38:35 allele.
13	Added	-	5'-primers added for the B*38:01:02 and B*38:02:06 alleles.
22	Added	-	5'-primer added for the B*38:55Q allele.
23	Moved	Moved	Primer pair moved to well 25 for decreased tendency of primer oligomer formation.
24	Added	Added	Updated negative control moved to well 27, primer pair added for the B*38:17 allele.
25	Added	Added, modified	Primer pair added from well 23 for the B*38:31 allele, 3'-primer modified for decreased tendency of primer oligomer formation.
26	New	New	New primer pair added for the allelic resolution of the B*38:06 and B*38:07 alleles.
27	-	-	Updated negative control added from well 24.

Change in revision R01 compared to R00:

1. Primer mixes 6 and 7 weakly amplifies the B*38:34N allele. This has been corrected in the Specificity and Interpretation Tables.

101.565-12 – including *Taq* pol., IFU-01
 101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: 5E3

Lot-specific information

Well **27** 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.

101.565-12 – including *Taq pol.*, IFU-01
101.565-12u – without *Taq pol.*, IFU-02

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

Lot No.: **5E3**

Lot-specific information

PRODUCT DESCRIPTION

HLA-B*38 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*38:01 to B*38:63 alleles.

PLATE LAYOUT

Each test consists of 27 PCR reactions in a 32 well cut PCR plate. Wells 28 to 32 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	NC	empty	empty	empty	empty	empty

The 32 well cut PCR plate is marked with 'HLA-B*38' in silver/gray ink.

Well No. 1 is marked with the Lot No. '5E3'.

Wells 1 to 26 – HLA-B*38 high resolution primers.

Well 27 – 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 32 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*38 alleles will be amplified by primer mixes 1 to 17, 19 to 24 and 26. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 2, 4, 8, 12, 19, 22, 23 and 26.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*38 alleles, i.e. **B*38:01 to B*38:63**, recognized by the HLA Nomenclature Committee in July 2016^{1,2} are amplified by the primers in the HLA-B*38 subtyping kit.

The HLA-B*38 kit enables separation of the confirmed HLA-B*38 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*38 alleles is listed below.

101.565-12 – including **Taq pol.**, IFU-01
101.565-12u – without **Taq pol.**, IFU-02

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

Lot No.: 5E3

Lot-specific information

The HLA-B*38 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

The HLA-B*38 subtyping kit cannot distinguish the silent mutations in the B*38:01:01-38:01:07 and 38:01:09-38:01:12 or the B*38:02:01-38:02:02 and 38:02:04-38:02:07 alleles.

The following HLA-B*38 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
B*38:11, 38:19	16

¹HLA-B alleles listed on the IMGT/HLA web page 2016-July-14, release 3.25.0, 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>.

ALLELES CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
B*38:01:01	Confirmed	B*38:04	Unconfirmed	B*38:24	Confirmed	B*38:44	Unconfirmed
B*38:01:02	Unconfirmed	B*38:05	Unconfirmed	B*38:25	Unconfirmed	B*38:45	Unconfirmed
B*38:01:03	Unconfirmed	B*38:06	Confirmed	B*38:26	Unconfirmed	B*38:46	Unconfirmed
B*38:01:04	Confirmed	B*38:07	Unconfirmed	B*38:27	Confirmed	B*38:47	Unconfirmed
B*38:01:05	Confirmed	B*38:08	Unconfirmed	B*38:28	Confirmed	B*38:48	Unconfirmed
B*38:01:06	Confirmed	B*38:09	Confirmed	B*38:29	Confirmed	B*38:49	Unconfirmed
B*38:01:07	Unconfirmed	B*38:10	Unconfirmed	B*38:30	Unconfirmed	B*38:50	Unconfirmed
B*38:01:08	Confirmed	B*38:11	Confirmed	B*38:31	Confirmed	B*38:51	Unconfirmed
B*38:01:09	Unconfirmed	B*38:12	Confirmed	B*38:32	Confirmed	B*38:52	Unconfirmed
B*38:01:10	Unconfirmed	B*38:13	Confirmed	B*38:33	Confirmed	B*38:53	Unconfirmed
B*38:01:11	Unconfirmed	B*38:14	Unconfirmed	B*38:34N	Unconfirmed	B*38:54	Unconfirmed
B*38:01:12	Unconfirmed	B*38:15	Confirmed	B*38:35	Confirmed	B*38:55Q	Unconfirmed
B*38:02:01	Confirmed	B*38:16	Unconfirmed	B*38:36	Confirmed	B*38:56	Unconfirmed
B*38:02:02	Confirmed	B*38:17	Unconfirmed	B*38:37	Confirmed	B*38:57	Unconfirmed
B*38:02:03	Unconfirmed	B*38:18	Unconfirmed	B*38:38	Unconfirmed	B*38:58	Unconfirmed
B*38:02:04	Unconfirmed	B*38:19	Unconfirmed	B*38:39	Unconfirmed	B*38:59	Unconfirmed
B*38:02:05	Confirmed	B*38:20	Confirmed	B*38:40	Unconfirmed	B*38:60	Unconfirmed
B*38:02:06	Unconfirmed	B*38:21	Unconfirmed	B*38:41	Unconfirmed	B*38:61	Unconfirmed
B*38:02:07	Unconfirmed	B*38:22	Unconfirmed	B*38:42	Unconfirmed	B*38:62	Unconfirmed
B*38:03	Unconfirmed	B*38:23	Unconfirmed	B*38:43	Unconfirmed	B*38:63	Unconfirmed

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2016-July-14, release 3.25.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*38 homo- and heterozygotes is available upon request.

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information
SPECIFICITY TABLE

HLA-B*38 SSP subtyping

Specificities and sizes of the PCR products of the 26+1 primer mixes used for
HLA-B*38 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*38 alleles ³	Other amplified HLA-B alleles ⁴
1	185 bp	800 bp	*38:01:01-38:01:07, 38:01:09-38:02:02, 38:02:04-38:03, 38:07-38:24, 38:26-38:32, 38:34N-38:63	*07:02:32, 14:01:01-14:01:05, 14:07N-14:08:02, 14:10, 14:12, 14:14, 14:19, 14:26, 14:32, 14:40, 14:46-14:47, 14:49, 14:53-14:54, 27:07:04 ^w , 39:01:01:01-39:01:01:04, 39:01:03-39:01:08, 39:01:10-39:02:01, 39:03, 39:05:01-39:06:02, 39:06:04-39:09:03, 39:11, 39:14-39:15, 39:18, 39:19:02, 39:22, 39:24:01-39:30, 39:31 ^w , 39:32-39:39:01, 39:40:01N-39:44, 39:46-39:48, 39:50-39:62, 39:64-39:71, 39:73-39:75, 39:77, 39:79-39:82, 39:84-39:88, 39:90-39:91, 39:93-39:95N, 39:97N-39:98, 39:100, 39:102-39:104, 39:106-39:109, 39:111-39:117, 67:01:01, 67:03-67:04, 67:06-67:07
2	190 bp	800 bp	*38:01:01-38:02:07, 38:04-38:12, 38:15, 38:17-38:25, 38:27, 38:29-38:40, 38:42-38:45, 38:47-38:63	*07:16, 07:27, 07:37-07:38, 07:50, 07:75, 07:91, 07:180, 07:207, 07:219, 07:228, 08:03, 08:23, 08:54, 08:110, 08:133, 08:139, 14:14, 14:18, 15:03:01:01-15:03:06, 15:09-15:10:04, 15:18:01:01-15:18:06, 15:23, 15:29, 15:37, 15:47:01-15:47:02, 15:49, 15:51-15:52, 15:54, 15:62, 15:64:01-15:64:02, 15:68-15:69, 15:72, 15:74, 15:80, 15:90-15:91, 15:93, 15:98-15:99, 15:103, 15:108, 15:114-15:115, 15:119, 15:123-15:124, 15:127, 15:131-15:134, 15:151, 15:153, 15:156, 15:158, 15:161, 15:173, 15:176, 15:186, 15:197:01-15:198, 15:200, 15:210, 15:220-15:221, 15:226N, 15:229, 15:235, 15:238, 15:242:01-15:243, 15:251-15:253, 15:263, 15:266, 15:274-15:275:02, 15:281-15:282, 15:290, 15:292-15:293, 15:306-15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 15:369, 15:376, 15:379-15:380N, 15:382, 15:388-15:389, 18:01:01:01-18:01:01:04, 18:01:03-18:01:22, 18:01:24-18:02, 18:05-18:15, 18:17N-18:28, 18:30-18:79, 18:81-18:93, 18:95-18:97, 18:99-18:101, 18:103-18:106, 18:108-18:123, 18:126-18:127, 35:25, 35:124-35:125, 35:142, 35:162, 35:267, 35:320, 37:01:01-37:21, 37:23-37:36, 37:38-37:59, 39:05:01-39:05:02, 39:07-39:08, 39:11, 39:13:01-39:13:02, 39:20, 39:37, 39:49, 39:55-39:56, 39:113, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224, 48:01:01-48:02:01, 48:02:03-48:40, 49:25, 51:116, 51:176, 51:179, 52:16, 52:27, 53:43, 57:58, 57:80, 58:12, 81:08, C*06:147

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

	170 bp	800 bp	Lot-specific information	
3	170 bp	800 bp	*38:01:01-38:02:07, 38:04-38:05, 38:08-38:15, 38:17-38:25, 38:27, 38:29-38:45, 38:47-38:53, 38:55Q-38:63	*07:69, 07:85, 07:180, 08:65, 14:01:01-14:20, 14:22-14:35, 14:37-14:41N, 14:43-14:47, 14:50-14:53, 15:09-15:10:04, 15:18:01:01-15:18:06, 15:23, 15:37, 15:51-15:52, 15:72, 15:80, 15:90, 15:93, 15:99, 15:108, 15:114-15:115, 15:119, 15:124, 15:133-15:134, 15:153, 15:161, 15:176, 15:186, 15:197:01-15:198, 15:200, 15:221, 15:226N, 15:229, 15:238, 15:243, 15:252, 15:263, 15:275:01-15:275:02, 15:290, 15:292-15:294N, 15:306-15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 15:376, 15:380N, 15:382, 15:388, 18:33, 37:57, 39:01:01:01-39:01:01:04, 39:01:03-39:01:23, 39:03-39:07, 39:09:01-39:09:03, 39:11-39:12, 39:14-39:15, 39:18-39:19:02, 39:22, 39:24:01-39:38Q, 39:40:01N-39:48, 39:50-39:51, 39:53, 39:55-39:57, 39:59-39:62, 39:64-39:82, 39:84-39:87N, 39:90-39:95N, 39:97N-39:98, 39:100, 39:102-39:104, 39:106-39:109, 39:111-39:117
4⁵	105 bp	1070 bp	*38:01:01-38:01:07, 38:01:09-38:01:12, 38:05, 38:09-38:14, 38:16, 38:19-38:22, 38:24, 38:26-38:28, 38:30-38:34N, 38:36-38:42, 38:51-38:61, 38:63	*49:26, 52:01:10, A*23:01:18, A*25:01:08
5	210 bp	1070 bp	*38:02:01-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 38:43-38:45, 38:47-38:50, 38:62	*07:149, 08:02, 08:117, 15:115, 18:09, 37:01:02, 37:10, 44:130, 44:156, 44:221, 44:224
6⁶	140 bp 175 bp	800 bp	*38:35 *38:03, 38:34N ^w	*07:27, 07:50, 08:04, 08:17, 08:54, 08:110, 15:03:01:01-15:03:06, 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, 15:242:01-15:242:02, 15:251, 15:253, 15:266, 15:274, 15:281-15:282, 15:369, 15:379, 15:389, 15:397, 18:01:01:01-18:03, 18:05-18:06, 18:08-18:15, 18:17N-18:28, 18:30-18:32, 18:34-18:78, 18:81-18:97, 18:99-18:101, 18:103-18:106, 18:108-18:123, 18:126-18:127, 37:01:01-37:20, 37:23-37:25, 37:27-37:56, 37:58-37:59, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:23, 39:39:01-39:39:02, 39:49, 39:88, 39:101, 39:105, 39:110, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224,

101.565-12 – including *Taq pol.*, IFU-01
101.565-12u – without *Taq pol.*, IFU-02

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

Lot No.: **5E3**

Lot-specific information

Lot No.	Product	Product	Product	Product
7 ⁶	160 bp	800 bp	*38:03-38:04, 38:25	48:01:01-48:02:01, 48:02:03-48:05, 48:07-48:30, 48:32-48:40, 49:25, 52:16, 52:27 *08:17, 08:38, 08:54, 08:101, 15:03:01:01- 15:03:04, 15:03:06, 15:47:01-15:47:02, 15:49, 15:54, 15:61-15:62, 15:68-15:69, 15:74, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:156, 15:158, 15:173, 15:210, 15:220, 15:235, 15:242:01-15:243, 15:251, 15:253, 15:266, 15:274, 15:281-15:282, 15:369, 15:376, 15:379, 15:389, 15:397, 18:12:01-18:12:02, 37:01:01-37:07, 37:09-37:21, 37:23-37:59, 39:02:01-39:02:02, 39:08, 39:13:01-39:13:02, 39:22-39:23, 39:49, 39:101, 39:105, 39:110, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224, 48:01:01-48:02:01, 48:02:03- 48:05, 48:07-48:15, 48:17-48:38, 48:40, 49:25, 52:16, 52:27
	195 bp 185 bp	800 bp	*38:21, 38:34N ^w *38:05, 38:33	*14:02:01:01-14:02:02, 14:02:04-14:02:05, 14:02:07-14:03, 14:04 ^w , 14:05-14:06:02, 14:09, 14:11, 14:13, 14:15-14:18, 14:20, 14:22-14:23, 14:25, 14:27, 14:29-14:31, 14:33-14:39, 14:41N, 14:43-14:45, 14:48, 14:50-14:52, 15:189, 35:03:17, 35:26, 39:04, C*02:02:07, C*05:01:06 *15:265, 35:35, 37:40, 39:42, C*15:51
9	230 bp		*38:15, 38:20, 38:22	
	145 bp	1070 bp	*38:06-38:07	*18:67, 37:34, 44:06, 49:03, 51:01:01:01- 51:01:39, 51:01:41-51:24:05, 51:26-51:46, 51:48- 51:53, 51:55-51:77, 51:79-51:103, 51:105-51:111, 51:113-51:146, 51:148-51:208, 52:01:01:01- 52:01:28, 52:03-52:15, 52:17-52:19, 52:21- 52:31:02, 52:33-52:61, 53:01:01-53:02, 53:04- 53:08:02, 53:10, 53:14-53:29, 53:32-53:35, 53:37, 53:40-53:43, 58:01:01:01-58:02:02, 58:04- 58:16:02, 58:18-58:29, 58:31N-58:35, 58:37- 58:43, 58:45:01-58:63, 58:65-58:81
10 ⁵	205 bp 85 bp 145 bp 180 bp	1070 bp	*38:21 *38:07, 38:12 *38:16, 38:46 *38:33	*35:03:17, 39:19:02 *14:48, 49:26 *08:01:24, 14:11, 14:28, 15:189, 35:03:17, 35:26, 39:04, 49:26
	90 bp 145 bp	1070 bp	*38:13 *38:08, 38:18, 38:27	*18:86, 39:102
12 ⁵	90 bp	800 bp	*38:09, 38:14, 38:26, 38:41	*07:02:32, 08:01:24, 14:01:01-14:01:04, 14:01:05 ^w , 14:01:06-14:02:02, 14:02:04-14:02:05, 14:02:07, 14:02:08 ^w , 14:02:09-14:13, 14:15-14:17, 14:19-14:20, 14:22-14:41N, 14:43-14:54, 15:189, 39:01:01:01-39:01:01:04, 39:01:03, 39:01:05- 39:01:08, 39:01:10-39:02:01, 39:03-39:04, 39:06:01-39:06:02, 39:06:04-39:06:05, 39:09:01- 39:09:03, 39:12, 39:14-39:15, 39:18, 39:19:02, 39:22, 39:24:01, 39:24:02 ^w , 39:25N-39:26, 39:27 ^w , 39:28-39:36, 39:38Q-39:39:01, 39:40:01N-39:48, 39:50-39:54, 39:57-39:62, 39:64-39:82,

101.565-12 – including Taq pol., IFU-01
101.565-12u – without Taq pol., IFU-02

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

Lot No.: 5E3

Lot-specific information

Lot No.: 5E3			Lot-specific information	
				39:84-39:88, 39:90-39:95N, 39:97N-39:98, 39:100, 39:102-39:104, 39:106-39:109, 39:111-39:112, 39:114-39:117, 67:01:01, 67:03-67:04, 67:06-67:07, A*23:01:18, A*25:01:08
13	175 bp	800 bp	*38:01:01-38:07, 38:09, 38:11-38:21, 38:23-38:28, 38:31-38:35, 38:38-38:44, 38:46-38:49, 38:51, 38:53-38:62	*08:55, 35:276, 39:01:01:01-39:01:01:04, 39:01:03-39:06:05, 39:08-39:14, 39:16, 39:18-39:20, 39:22-39:24:02, 39:26-39:28, 39:31, 39:35, 39:37-39:42, 39:44-39:46, 39:48, 39:51-39:54, 39:56-39:73, 39:75-39:81, 39:83-39:90, 39:92-39:95N, 39:97N, 39:98 ^w , 39:99-39:101, 39:103-39:106, 39:108, 39:109 ^w , 39:110-39:111, 39:113-39:117, 40:184, 51:101, 58:20, 67:01:01-67:07
14⁶	170 bp	1070 bp	*38:10, 38:32	*07:02:01-07:24, 07:26-07:47, 07:49N-07:50, 07:52-07:154, 07:156-07:163, 07:165-07:201N, 07:203-07:208, 07:210-07:219, 07:221-07:222, 07:224-07:225, 07:227-07:234, 07:236-07:260, 07:262-07:270, 07:272N-07:275, 08:20, 08:53:01-08:53:02, 08:79, 08:156, 13:16, 13:20, 13:31, 13:48, 13:62, 14:01:01-14:40, 14:42, 14:44-14:54, 15:01:01:01-15:01:04, 15:01:06-15:04:04, 15:06-15:17:04, 15:18:01:01-15:19, 15:21, 15:23-15:30, 15:32:01-15:40:02, 15:42-15:47:02, 15:49-15:50, 15:53-15:54, 15:56-15:58, 15:60-15:74, 15:76-15:82, 15:85, 15:87, 15:89-15:90, 15:92-15:99, 15:101-15:104, 15:106, 15:108-15:110, 15:112-15:113, 15:115-15:122, 15:125-15:129, 15:131-15:135, 15:137-15:144, 15:146-15:150, 15:152-15:154, 15:156-15:161, 15:163-15:175, 15:177-15:178, 15:180-15:184, 15:187, 15:189-15:199, 15:201-15:217, 15:219-15:221, 15:223, 15:225-15:234, 15:236, 15:238-15:249, 15:251-15:274, 15:276-15:282, 15:284-15:311, 15:313-15:331, 15:333-15:347, 15:349-15:382, 15:384-15:392, 15:394-15:395, 15:397-15:398, 18:15, 18:19, 18:21, 18:30, 18:57, 18:101, 27:04:01-27:04:05, 27:06, 27:10, 27:15, 27:18, 27:20-27:21, 27:24-27:25, 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, 27:112-27:115, 27:120, 27:138, 27:149, 27:153, 35:11:01-35:11:03, 35:14:01-35:14:02, 35:21, 35:43:01-35:44, 35:58, 35:67, 35:79, 35:86, 35:96, 35:99, 35:102, 35:117-35:118, 35:135, 35:167, 35:185, 35:188, 35:213, 35:232, 35:265, 35:277, 37:07, 37:13, 39:18, 39:35-39:36, 39:107, 40:05, 40:15-40:16, 40:23, 40:26, 40:28, 40:32, 40:51, 40:95, 40:98, 40:148, 40:158, 40:161, 40:174, 40:183, 40:198, 40:309, 42:19, 44:76, 44:79:01-44:79:02, 44:146, 44:150, 46:01:01-46:05, 46:07N-46:08, 46:10, 46:12, 46:14-46:17, 46:20, 46:22-46:24, 46:26-46:32, 46:34-46:42, 46:44-46:68, 47:10, 48:05, 48:08, 48:15, 48:25, 49:01:01-49:10, 49:12-49:14, 49:16-49:43, 50:01:01-50:02, 50:04-50:20, 50:31-50:47, 51:01:01:01-51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:24:05, 51:26-51:30, 51:32-51:39, 51:41N, 51:43, 51:45-51:46,

101.565-12 – including *Taq pol.*, IFU-01
101.565-12u – without *Taq pol.*, IFU-02

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

Lot No.: **5E3**

Lot-specific information

Lot No.: 5E3			Lot-specific information	
				51:48-51:52, 51:55-51:72, 51:74-51:80, 51:82-51:92:02, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:119, 51:121, 51:123-51:138, 51:140, 51:142-51:147, 51:149N-51:152, 51:154-51:156, 51:158:01-51:180, 51:182-51:193, 51:195-51:208, 52:01:01:01-52:02:02, 52:04-52:09, 52:11-52:18, 52:20-52:27, 52:30-52:61, 53:06, 53:08:01-53:08:02, 53:28, 54:06, 54:20, 54:33, 55:01:01-55:01:16, 55:03, 55:05, 55:09, 55:11, 55:14-55:15, 55:17, 55:21, 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52-55:53, 55:55N-55:56, 55:58-55:60, 55:64, 55:66, 55:68, 55:73-55:76, 55:78, 56:03, 56:05:01-56:06, 56:21, 56:25, 56:32, 56:37, 57:09, 57:13, 57:22, 57:57, 57:63, 58:06, 58:08:01-58:08:02, 58:19, 58:46, 58:78, 78:01:01-78:03, 78:05-78:07, 78:09
15	230 bp	1070 bp	*38:01:01-38:02:07, 38:04, 38:06-38:12, 38:15-38:25, 38:27-38:32, 38:34N-38:40, 38:42-38:63	*07:16, 07:27, 07:37-07:38, 07:50, 07:75, 07:91, 07:180, 07:207, 07:219, 07:228, 13:14, 13:83, 14:14, 15:68, 15:71, 15:175, 15:381, 18:01:01:01-18:01:01:04, 18:01:03-18:01:12, 18:01:14-18:01:22, 18:01:24-18:02, 18:05-18:15, 18:17N-18:24, 18:26-18:67, 18:69, 18:71-18:93, 18:95-18:106, 18:108-18:123, 18:126-18:127, 27:01, 27:18, 27:23, 27:29, 27:44, 27:92, 27:119, 27:131, 35:50, 35:84, 35:162, 35:197, 35:231, 35:267, 35:269, 37:01:01-37:36, 37:38-37:54, 37:56-37:59, 39:05:01-39:05:02, 39:07-39:08, 39:11, 39:13:01-39:13:02, 39:20, 39:37, 39:49, 39:55-39:56, 39:113, 40:02:01-40:06:14, 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, 40:44, 40:56, 40:64, 40:68, 40:70:01-40:71, 40:74-40:75, 40:78, 40:82-40:83, 40:85-40:86, 40:89-40:91, 40:93-40:99, 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, 40:176-40:177, 40:180-40:181, 40:184, 40:189-40:190, 40:200-40:203, 40:205-40:206, 40:209-40:211, 40:214, 40:220, 40:224-40:226, 40:229, 40:232, 40:243-40:244, 40:246, 40:248, 40:254-40:255, 40:266-40:271, 40:274-40:276, 40:283-40:284, 40:287, 40:289-40:297, 40:302-40:307, 40:309, 40:311, 40:313-40:314, 40:317, 40:320, 40:322, 40:330-40:331, 40:334-40:335, 40:337N, 42:11, 44:103, 44:130-44:131, 44:212, 44:224, 48:01:01-48:21, 48:23-48:40, 49:31, 50:43, 51:57, 51:103, 51:116, 53:21, 57:10, 81:08
16	220 bp	1070 bp	*38:19	*08:55, 39:03, 39:14, 39:24:01-39:24:02, 39:29, 39:37, 39:76
	350 bp		*38:11	*07:13, 07:110, 08:101, 48:36, 67:02
	425 bp		*38:17	*07:27, 07:236, 07:240, 08:126, 08:131, 08:139, 40:188?

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: 5E3

Lot-specific information

17	150 bp	800 bp	*38:23	*39:73
18	160 bp	1070 bp	*38:24, 38:37	
19	175 bp	1070 bp	*38:10, 38:30, 38:36, 38:50, 38:63	*07:05:01:01-07:06:02, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 07:137-07:138, 07:140, 07:176, 07:182N, 07:201N, 07:206-07:207, 07:209- 07:210, 07:213-07:214, 07:222, 07:249, 07:258, 07:262, 07:264, 07:270, 08:01:01:01-08:01:22, 08:01:24-08:05, 08:08N-08:13, 08:15-08:27, 08:29-08:36, 08:38-08:48, 08:50-08:54, 08:56:01- 08:73, 08:75-08:86N, 08:88, 08:90-08:106, 08:108 ^w , 08:109-08:110, 08:112-08:155, 08:157- 08:165, 13:01:01-13:01:02, 13:01:04-13:02:16, 13:02:18-13:03, 13:06-13:07N, 13:09, 13:11- 13:23, 13:25, 13:27-13:33, 13:36-13:45, 13:47- 13:50, 13:52-13:71, 13:73-13:78, 13:80-13:85, 13:86 ^w , 13:87-13:88, 13:90-13:93, 14:13, 14:53, 15:09, 15:30, 15:42, 15:58, 15:73, 15:83, 15:86, 15:150, 15:188, 15:224, 15:229, 15:243, 15:252, 15:303, 15:324, 15:329, 15:361, 18:26, 18:61, 18:97, 27:07:01-27:07:05, 27:11, 27:20, 27:24, 27:27, 27:33, 27:43, 27:125, 27:130, 27:153, 35:02:01 ^w -35:02:08 ^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, 35:44, 35:59:01-35:60, 35:81 ^w , 35:83 ^w , 35:87-35:88, 35:95 ^w , 35:129N ^w , 35:149, 35:154 ^w , 35:157 ^w , 35:162 ^w , 35:172 ^w , 35:182 ^w - 35:184 ^w , 35:201, 35:211 ^w , 35:220 ^w , 35:230, 35:233, 35:251, 35:258 ^w , 35:266, 35:270 ^w , 35:273 ^w , 35:285 ^w , 35:292, 35:309 ^w , 35:311 ^w , 35:316, 35:321, 37:12, 39:30, 39:33-39:34, 39:36, 39:82, 39:107, 39:112, 40:01:01-40:01:07, 40:01:09-40:01:25, 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, 40:02:19-40:02:25, 40:04-40:06:09, 40:06:11- 40:08, 40:10:01:01-40:16, 40:19, 40:21-40:23, 40:25-40:30, 40:34-40:40, 40:43, 40:45-40:51, 40:53-40:58, 40:61-40:88, 40:91-40:97, 40:99- 40:119, 40:121-40:123, 40:125-40:130:02, 40:132-40:158, 40:160:01-40:171, 40:173-40:179, 40:181-40:183, 40:185-40:186:02, 40:188-40:266, 40:268-40:279, 40:281-40:283, 40:285-40:304, 40:305 ^w , 40:306, 40:308-40:314, 40:316-40:329, 40:331-40:338N, 41:01:01-41:03:02, 41:05-41:09, 41:11-41:17, 41:19-41:20, 41:22-41:46, 42:01:01- 42:02:01:02, 42:04-42:08, 42:10-42:15, 42:17- 42:19, 42:21-42:23, 44:10, 44:14, 44:31, 44:62, 44:77, 44:82, 44:166, 44:184, 44:213, 45:14, 46:11, 46:18, 46:61, 48:01:01-48:01:06, 48:03:01- 48:07, 48:09-48:16, 48:18-48:22, 48:24, 48:27- 48:40, 51:01:01:01-51:01:18, 51:01:19 ^w , 51:01:20- 51:01:30, 51:01:32-51:01:38, 51:01:40-51:01:49, 51:01:51-51:02:02, 51:02:04-51:16, 51:20- 51:24:05, 51:26-51:36, 51:38-51:41N, 51:43- 51:44N, 51:46, 51:48-51:84, 51:86-51:89, 51:91, 51:93, 51:95-51:100, 51:102-51:134,

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

Lot No.: 5E3				Lot-specific information
				51:136-51:145, 51:147-51:171, 51:173Q-51:196, 51:198-51:203, 51:205, 51:206 ^w , 51:207-51:208, 52:01:01:01-52:01:10, 52:01:12-52:11, 52:13-52:25:02, 52:27-52:56, 52:57 ^w , 52:58-52:61, 53:19 ^w , 53:36 ^w , 54:01:01-54:05N, 54:07-54:08N, 54:10-54:13, 54:17-54:35, 55:01:01-55:05, 55:07-55:13, 55:15-55:22, 55:24-55:26, 55:28-55:40, 55:42-55:45, 55:47-55:54, 55:56-55:57, 55:59-55:67, 55:69-55:78, 56:01:01:01-56:02:02, 56:04-56:08, 56:10, 56:12-56:17, 56:19N-56:30, 56:33-56:49, 56:51, 57:02:01-57:03:02, 57:07, 57:09, 57:12, 57:17, 57:28N, 57:39, 57:42, 57:46, 57:57, 57:63, 57:66, 57:70, 57:80, 57:82, 58:08:01-58:08:02, 58:27-58:28:02, 58:65 ^w , 58:73, 59:01:01:01-59:09, 78:01:01-78:09, 81:01-81:08, 82:01-82:03, C*01:90, C*01:116, C*02:68, C*03:317, C*15:24, C*15:128
20	265 bp	1070 bp	*38:28	*07:56:01-07:56:02, 07:72, 07:206, 08:26:01-08:26:03, 08:56:01-08:56:02, 14:54, 39:63, 40:21 [?] , 40:58 [?] , 40:137 [?] , 40:248 [?] , 40:282 [?] , 40:325 [?] , 41:12, 41:36, 42:21, 49:03
21⁵	115 bp	1070 bp	*38:30	*08:49, 08:71, 13:46, 15:51, 15:83, 15:179:01-15:179:02, 15:199, 15:218Q, 18:56, 18:113, 27:47, 27:127, 35:38, 35:115, 35:169, 37:01:01-37:01:11, 37:03N-37:06:02, 37:08, 37:10-37:11, 37:13-37:38, 37:41-37:59, 41:24, 42:10, 42:17, 44:02:01:01-44:02:40, 44:05:01-44:06, 44:08-44:09, 44:11-44:12, 44:14-44:25, 44:27:01-44:27:02, 44:33-44:34:02, 44:41:01-44:42, 44:44, 44:48-44:49, 44:51-44:52N, 44:55, 44:58N-44:59:02, 44:62-44:63, 44:66-44:68, 44:70-44:73, 44:75, 44:78, 44:80, 44:83-44:84:02, 44:86-44:91, 44:93, 44:95, 44:97, 44:99-44:102, 44:104, 44:106, 44:112-44:113, 44:116-44:119, 44:123, 44:126:01-44:127, 44:131-44:134, 44:136-44:140, 44:142, 44:145, 44:148-44:149N, 44:151-44:152, 44:158, 44:162, 44:168-44:173, 44:176-44:177, 44:179, 44:185, 44:187, 44:190-44:191, 44:195N-44:196, 44:200-44:201, 44:206, 44:208, 44:211-44:214, 44:216-44:221, 44:225-44:226, 44:229-44:230, 44:235-44:236, 44:238, 44:240-44:244, 44:249, 45:01:01-45:19, 51:08:01-51:08:02, 51:20, 51:36, 51:44N, 51:97, 51:141, 51:153, 52:19, 53:22, 55:56, 56:13, 57:09, 57:24, 82:01-82:03, 83:01
22	175 bp	1070 bp	*38:29	*15:69, 15:186, 35:35, 39:07, 39:15, 39:29, 39:49, 39:55, 39:91, C*15:51
	210 bp		*38:55Q	
23	155 bp	1070 bp	*38:10, 38:32	*07:05:01:01-07:06:02, 07:32, 07:34, 07:40, 07:53, 07:69, 07:78, 07:80, 07:90, 07:97, 07:105, 07:112, 07:123, 07:137-07:138, 07:140, 07:176, 07:182N, 07:201N, 07:206-07:207, 07:210, 07:213-07:214, 07:222, 07:249, 07:258, 07:262, 07:264, 07:269-07:270, 08:20, 08:79, 13:16, 13:20, 13:31 ^w , 13:48, 13:62, 14:13, 14:53, 15:09, 15:30 ^w , 15:42, 15:58 ^w , 15:73 ^w , 15:150 ^w , 15:229,

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

				15:243, 15:252, 15:303 ^w , 15:324 ^w , 15:329, 15:361, 27:20, 27:24, 27:153, 35:44 ^w , 39:35, 39:36 ^w , 39:107, 40:05, 40:15-40:16, 40:23, 40:26, 40:28, 40:51, 40:95, 40:148, 40:158, 40:161, 40:174, 40:183, 40:198, 40:309, 42:19, 46:61 ^w , 48:05, 48:15, 51:01:01:01-51:01:18, 51:01:19 ^w , 51:01:20-51:01:30, 51:01:32-51:01:49, 51:01:51-51:02:02, 51:02:04-51:04, 51:06:01-51:07:02, 51:11N-51:14, 51:16, 51:21-51:24:05, 51:26-51:30, 51:32-51:35, 51:38-51:39, 51:41N, 51:43, 51:46, 51:48-51:53, 51:55-51:60, 51:61:01 ^w -51:61:02 ^w , 51:62-51:71, 51:74-51:80, 51:82-51:84, 51:86, 51:88-51:89, 51:95-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:121, 51:123-51:134, 51:136-51:138, 51:140, 51:142-51:145, 51:147, 51:149N-51:152, 51:154-51:156, 51:158:01-51:171, 51:173Q-51:180, 51:182-51:193, 51:195-51:196, 51:198-51:205, 51:206 ^w , 51:207-51:208, 52:01:01:01-52:01:10, 52:01:12-52:02:02, 52:04-52:09, 52:11, 52:13-52:18, 52:20, 52:21 ^w , 52:22-52:25:02, 52:27-52:43, 52:44 ^w , 52:45-52:56, 52:57 ^w , 52:58-52:61, 54:20, 54:33 ^w , 55:01:01-55:01:16, 55:03, 55:05, 55:09, 55:11, 55:15, 55:17, 55:21 ^w , 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52-55:55N, 55:59-55:60, 55:64, 55:66, 55:73-55:76, 55:78, 56:05:01-56:06, 56:21, 56:25, 56:37, 57:57, 57:63, 58:08:01-58:08:02, 78:01:01-78:03, 78:05-78:07, 78:09, C*01:90, C*01:116, C*02:68^w, C*03:317, C*15:24, C*15:128
24⁵	95 bp	1070 bp	*38:17	*27:07:04
25	210 bp	1070 bp	*38:31	
26⁵	80 bp	1070 bp	*38:06-38:07	*08:32, 15:376, 18:72:02, 39:19:01, 51:01:53, 56:45, A*03:67, C*07:209
27⁷	-	-		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*38 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

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

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*38 alleles will be amplified by primer mixes 1 to 17, 19 to 24 and 26. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 2, 4, 8, 12, 19, 22, 23 and 26.

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

⁶Primer mixes 6, 7 and 14 may have tendencies of primer oligomer formation.

⁷Primer mix 27 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.

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information
PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	185	190	170	105	210	140	160	185	145	85	90	90
						175	195	230	205	145	145	
										180		
Length of int. pos. control ¹	800	800	800	1070	1070	800	800	800	1070	1070	1070	800
5'-primer(s) ²	103	142	142	246	142	142	142	103	206	106	246	246
	5'-CCT 3'	5'-TCT 3'	5'-TCT 3'	5'-gAA 3'	5'-TCT 3'	5'-TCT 3'	5'-TCT 3'	5'-CCg 3'	5'-gAC 3'	5'-CCA 3'	5'-gAA 3'	5'-gAA 3'
							382	346	382	142	463	483
							5'-TgC 3'	5'-ggC 3'	5'-TgC 3'	5'-TCA 3'	5'-TgA 3'	5'-gAg 3'
								355		193	660	
								5'-TCA 3'		5'-CCA 3'	5'-gAA 3'	
								363		206		
								5'-AAT 3'		5'-gAC 3'		
3'-primer(s) ³	246	292	272	309	309	242	259	246	309	246	296	292
	5'-TAT 3'	5'-gTA 3'	5'-TgC 3'	5'-ATC 3'	5'-gTg 3'	5'-CCC 3'	5'-CTC 3'	5'-TAT 3'	5'-ATC 3'	5'-TAT 3'	5'-CTA 3'	5'-gTC 3'
	246	292			315	272	286	544	544		343	292
	5'-TAT 3'	5'-gTA 3'			5'-AgT 3'	5'-Tgg 3'	5'-CTA 3'	5'-ggT 3'	5'-ggT 3'		5'-T 3'	5'-gTC 3'
		292				286	544				559	544
		5'-gTA 3'				5'-CTA 3'	5'-ggT 3'				5'-CAT 3'	5'-ggT 3'
											774	
											5'-ggT 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	175	170	230	220	150	160	175	265	115	175	155	95
				350						210		
				425								
Length of int. pos. control ¹	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	405	527	103	44	355	533	412	44	463	373	412	246
	5'-CgT 3'	5'-TgA 3'	5'-CCT 3'	5'-ggC 3'	5'-CCT 3'	5'-ggg 3'	5'-ATA 3'	5'-ggC 3'	5'-TgA 3'	5'-gCC 3'	5'-ATA 3'	5'-gAA 3'
	411		103	363		547				412		
	5'-CAC 3'		5'-CCT 3'	5'-AgC 3'		5'-CCC 3'				5'-ATg 3'		
	412											
	5'-ATA 3'											
3'-primer(s) ³	544	3 rd I	292	226	463	3 rd I	544	142	538	544	527	301
	5'-ggT 3'	5'-TAT 3'	5'-gTA 3'	5'-CAC 3'	5'-gCT 3'	5'-TAT 3'	5'-ggC 3'	5'-TgC 3'	5'-gTC 3'	5'-ggT 3'	5'-CCT 3'	5'-gTC 3'
			292	301								
			5'-gTA 3'	5'-gTC 3'								
			292	544								
			5'-gTA 3'	5'-ggT 3'								
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

Well No.	25	26
Length of spec. PCR product	210	80
Length of int. pos. control ¹	1070	1070
5'-primer(s) ²	412	167
	5' -ATA 3'	5' -gCA 3'
3'-primer(s) ³	581	206
	5' -ATg 3'	5' -CCg 3'
Well No.	25	26

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.

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-B*38 SSP subtyping kit ²																				
				Well																
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				Prod. No.:	201444001	201444002	201444003	201444004	201673805	201673806	201444007	201444008	201444009	201444010	201444011	201444012	201673813	201444014	201444015	201444016
IHCW 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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.565-12 – including **Taq pol.**, IFU-01
101.565-12u – without **Taq pol.**, IFU-02

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

Lot No.: **5E3**

Lot-specific information

CELL LINE VALIDATION SHEET														
HLA-B*38 SSP subtyping kit²														
				Well										
				17	18	19	20	21	22	23	24	25	26	
				Prod. No.:	201444017	201444018	201673819	201444020	201444021	201673822	201673823	201673827	201673825	201673826
	IHWC cell line¹			B*										
1	9001	SA		*07:02		-	-	-	-	-	-	-	-	-
2	9280	LK707		*52:01	*73:01	-	-	+	-	-	-	+	-	-
3	9011	E4181324		*52:01		-	-	+	-	-	-	+	-	-
4	9275	GU373		*15:10	*53:01	-	-	-	-	-	-	-	-	-
5	9009	KAS011		*37:01		-	-	-	-	+	-	-	-	-
6	9353	SM		*39:01	*51:01	-	-	+	-	-	-	+	-	-
7	9020	QBL		*18:01		-	-	-	-	-	-	-	-	-
8	9025	DEU		*35:01		-	-	-	-	-	-	-	-	-
9	9026	YAR		*38:01		-	-	-	-	-	-	-	-	-
10	9107	LKT3		*54:01		-	-	+	-	-	-	-	-	-
11	9051	PITOUT		*44:03		-	-	-	-	-	-	-	-	-
12	9052	DBB		*57:01		-	-	-	-	-	-	-	-	-
13	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	-	-	-	-	-	-	-	-	-

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: 5E3

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 10, 11, 16 to 18, 20 and 24 to 26 were available. The specificities of the primers in primer solutions 10, 11, 16, 17, 20, 24 and 26 were tested by separately adding one or more additional 5'-primers, respectively one or more additional 3'-primers. In primer solution 18 it was only possible to test the 3'-primer, the 5'-primers were not possible to test. In primer solution 25 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 7, 8, 9, 11, 13 and 22 one or two of the 5'-primers were not possible to test, and in primer solutions 5, 6, 7 and 11 one or two of the 3'-primers were not possible to test. Additional primers in primer solutions 8 and 9 were tested by separately adding one or two 5'-primers or 3'-primers.

101.565-12 – including *Taq* pol., IFU-01
101.565-12u – without *Taq* pol., IFU-02

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

Lot No.: **5E3**

Lot-specific information

ADDRESSES:

Manufacturer:

Olerup SSP AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.

Tel: +46-8-717 88 27

Fax: +46-8-717 88 18

E-mail: olerup-se@caredx.com

Web page: <http://www.olerup.com>

Distributed by:

Olerup GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.

Tel: +43-1-710 15 00

Fax: +43-1-710 15 00 10

E-mail: olerup-at@caredx.com

Web page: <http://www.olerup.com>

Olerup Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: olerup-us@caredx.com

Web page: <http://www.olerup.com>

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