

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

Olerup SSP® HLA-B*14

Product number:	101.524-12 – including <i>Taq</i> polymerase 101.524-12u – without <i>Taq</i> polymerase
Lot number:	4D1
Expiry date:	2018-07-01
Number of tests:	12
Number of wells per test:	21+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. 4D1.

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*14 LOT (61X)

The HLA-B*14 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.

Three wells have been added to HLA-B*14, wells **20 to 22**.

¹As described in section Uniquely Identified Alleles.

The HLA-B*14 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP®* HLA-B*14 lot was made (**Lot No. 61X**). The kit design is based on IMGT/HLA database 3.22.0.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

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	-	5'-primer added for the B*14:01:06 allele.
8	Added	-	5'-primer added for the B*14:01:06 allele.
19	Added	Added	Negative control moved to well 22, primer pair added for the B*14:41N allele.
20	Added	Added	New primer pair added for the B*14:33 allele.
21	Added	Added	New primer pair added for the B*14:46 allele.
22	-	-	Negative control added from well 19.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

Well **22** 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.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

PRODUCT DESCRIPTION

HLA-B*14 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the HLA-B*14:01 to B*14:50 alleles.

PLATE LAYOUT

Each test consists of 22 PCR reactions in a 24 well PCR plate. Wells 23 and 24 are empty.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	NC	empty	empty

The 24 well cut PCR plate is marked with ‘HLA-B*14’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘4D1’.

Wells 1 to 21 – HLA-B*14 high resolution primers.

Well 22 – 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 24 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 some non-HLA-B*14 alleles will be amplified by primer mixes 1 to 18 and 20 to 21. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1, 4, 6 to 9, 12, 14 to 17 and 20 to 21.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*14 alleles, i.e. **B*14:01 to B*14:50**, recognized by the HLA Nomenclature Committee in October 2015^{1,2} will be amplified by the primers in the HLA-B*14 subtyping kit³.

The HLA-B*14 kit enables separation of the confirmed HLA-B*14 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*14 alleles is listed below.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

The HLA-B*14 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*14 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
B*14:16, 14:23	16

The HLA-B*14 primer set cannot distinguish the following silent mutations: the B*14:01:01-14:01:06, the B*14:02:01-14:02:13, the B*14:06:01-14:06:02 alleles or the B*14:08:01-14:08:02 alleles.

¹HLA-B alleles listed on the IMGT/HLA web page 2015-October-10, release 3.22.0, www.ebi.ac.uk/imgt/hla.

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

³The B*14:08:01-14:08:02 and the B*39:43 alleles will give rise to identical amplification patterns with the HLA-B*14 subtyping kit. These alleles can be distinguished by the HLA-B low resolution kit and/or the HLA-B*39 subtyping kit.

ALLELE CONFIRMATION STATUS

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

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

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*14 homo- and heterozygotes is available upon request.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

SPECIFICITY TABLE

HLA-B*14 SSP subtyping

Specificities and sizes of the PCR products of the 21+1 primer mixes used for HLA-B*14 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*14 alleles ³	Other amplified HLA Class I alleles ⁴
1	265 bp	800 bp	*14:01:01-14:04, 14:07N, 14:09, 14:11-14:12, 14:14-14:19, 14:21-14:36, 14:38-14:45, 14:47-14:50	*18:44:01-18:44:02, C*01:30, C*12:87
2⁶	185 bp	1070 bp	*14:01:01-14:01:06, 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	*07:02:32, 27:07:04, 38:01:01-38:01:07, 38:01:09-38:02:02, 38:02:04-38:03, 38:07-38:24, 38:26-38:32, 38:34N-38:58, 39:01:01:01-39:01:01:04, 39:01:03-39:01:08, 39:01:10-39:02:01, 39:03, 39:05:01-39:06:02, 39:06:04-39:09:03, 39:11, 39:14-39:15, 39:18, 39:19:02, 39:22, 39:24:01-39:39:01, 39:40:01N-39:44, 39:46-39:48, 39:50-39:62, 39:64-39:71, 39:73-39:75, 39:77, 39:79-39:82, 39:84-39:88, 39:90-39:91, 39:93-39:95N, 39:97N-39:98, 39:100, 39:102-39:104, 39:106-39:107, 67:01:01, 67:03-67:04
3	210 bp	800 bp	*14:02:01:01-14:03, 14:04 ^w , 14:05-14:06:02, 14:09, 14:11, 14:13, 14:15-14:18, 14:20, 14:22-14:25, 14:27, 14:29-14:31, 14:33-14:39, 14:41N, 14:43-14:45, 14:48, 14:50	*15:09-15:10:04, 15:18:01-15:18:06, 15:21, 15:23, 15:37, 15:44, 15:51-15:52, 15:66, 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, 15:189, 15:197-15:198, 15:200, 15:221, 15:226N, 15:229, 15:238, 15:243, 15:252, 15:263, 15:275:01-15:275:02, 15:290, 15:292-15:294N, 15:306-15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 35:26, 35:82, 35:85, 35:135, 35:294, 38:05, 38:33, 39:04, 51:22, 56:33, 59:08, 78:03
4^{5,7}	85 bp	1070 bp	*14:03	*07:218, 07:220, 18:13, 18:30, 51:29, 51:82, 52:24, C*01:30, C*08:51, C*08:114
5	270 bp 135 bp 220 bp	1070 bp	*14:20 *14:07N *14:04	*39:40:01N-39:40:02N
6⁵	100 bp	1070 bp	*14:05, 14:29	*07:115, 07:246, 08:69, 38:19, 39:03, 39:24:01-39:24:02, 39:37, 39:76, 40:314, 41:18, 42:06, 42:20, 48:07, C*08:08:01-08:08:02

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

	175 bp		*14:17	
	530 bp		*14:29	
7	260 bp	1070 bp	*14:06:01-14:06:02, 14:08:01-14:08:02	*15:37-15:38:02, 15:185, 15:323, 15:335, 15:364, 15:368, 18:01:01:01-18:01:15, 18:01:17-18:01:23, 18:03-18:09, 18:12:01-18:13, 18:15, 18:17N-18:20, 18:23N-18:26, 18:28-18:34, 18:36-18:38, 18:40-18:43, 18:45-18:55, 18:57, 18:59- 18:68, 18:70-18:100, 18:102-18:104, 18:106-18:109, 18:111-18:116, 39:32, 39:43, 39:48, 40:51, 40:113, 40:163, 51:06:01-51:06:03, 51:45, 51:62, 51:135, 51:194, 56:31, C*08:51, C*08:114
8	250 bp	1070 bp	*14:01:01-14:01:06, 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	*07:02:01-07:02:15, 07:02:17-07:05:04, 07:05:06-07:26, 07:28, 07:30-07:35, 07:37, 07:39-07:64, 07:66-07:69, 07:73- 07:78, 07:80, 07:82-07:85, 07:87-07:110, 07:112-07:148, 07:150-07:178, 07:181N- 07:183, 07:185, 07:186 ^w , 07:187-07:191, 07:193-07:194, 07:196-07:203, 07:205- 07:209, 07:212-07:218, 07:220-07:235, 07:237-07:243, 07:245-07:256, 08:94, 15:68, 15:71, 15:175, 18:01:01:01- 18:01:12, 18:01:14-18:03, 18:05-18:08, 18:10-18:15, 18:17N-18:24, 18:26-18:53, 18:55-18:66, 18:69, 18:71-18:83, 18:85- 18:94N, 18:96-18:106, 18:108-18:116, 27:08, 27:12, 27:18, 27:26, 27:33, 27:40, 27:42, 27:44, 27:89, 35:03:21, 35:50, 35:84, 35:162, 35:197, 35:231, 35:267, 35:269, 37:05, 37:11, 37:37, 39:01:01:01- 39:01:01:04, 39:01:03-39:01:14, 39:01:16- 39:03, 39:05:01-39:11, 39:13:01-39:20, 39:22-39:62, 39:64-39:71, 39:73-39:75, 39:77-39:98, 39:99 ^w , 39:100-39:103, 39:105-39:107, 40:02:01-40:02:14, 40:02:16-40:06:14, 40:08-40:09, 40:11:01-40:11:02, 40:18, 40:20, 40:24, 40:26-40:29, 40:35:01-40:35:02, 40:37, 40:39-40:40, 40:44, 40:50, 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, 40:93-40:95, 40:97-40:99, 40:103- 40:105, 40:107, 40:111, 40:115, 40:119- 40:120, 40:122, 40:127, 40:131, 40:133Q, 40:142N-40:145, 40:148-40:149, 40:159, 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, 40:200, 40:202- 40:203, 40:205-40:206, 40:209-40:211, 40:214, 40:220, 40:224-40:226, 40:229- 40:230, 40:232, 40:243-40:244, 40:248, 40:254-40:256N, 40:266-40:271, 40:274- 40:276, 40:283-40:284, 40:287, 40:290- 40:291N, 40:293-40:297, 40:302-40:307, 40:309, 40:311, 40:313-40:314, 40:317, 42:01:01-42:02:01:02, 42:04-42:21,

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

				44:131, 48:01:01-48:17, 48:19-48:21, 48:23-48:37, 50:43, 54:02, 55:10, 56:35, 67:01:01-67:05, 73:01-73:02, 81:01-81:08, C*03:137, C*03:182, C*07:102^w, C*07:351, C*12:82
9	160 bp 280 bp	1070 bp	*14:09 *14:32	C*05:16, C*05:85, C*05:107, C*06:129, C*07:364, C*08:12
10^{5,6}	110 bp 180 bp	1070 bp	*14:29 *14:11, 14:28	*08:01:24, 15:189, 35:03:17, 35:26, 38:33, 39:04, 49:26
11	135 bp	1070 bp	*14:01:01-14:18, 14:20-14:26, 14:28- 14:43, 14:45, 14:47- 14:50	*07:19, 07:31, 07:34, 07:43, 08:01:01-08:05, 08:07-08:10, 08:12:01-08:20, 08:22-08:24, 08:26:01-08:39, 08:41-08:78, 08:80-08:124, 08:126-08:155, 13:06, 13:46, 13:53, 15:42, 15:44, 15:50, 15:69, 15:83, 15:86, 15:93, 15:121, 15:186, 15:188, 15:199, 15:218Q, 15:224, 15:252, 15:265, 15:323, 15:348, 15:368, 18:01:01:01-18:09, 18:11-18:15, 18:17N-18:20, 18:22-18:34, 18:37-18:49, 18:51-18:55, 18:59-18:85, 18:87-18:100, 18:102-18:116, 27:15, 27:28, 27:62, 27:71, 35:35, 35:60, 35:87, 35:93, 35:96, 35:157, 35:188, 35:190, 35:213, 35:262, 35:276-35:277, 37:01:01-37:01:04, 37:01:06-37:01:11, 37:03N-37:06:02, 37:08-37:25, 37:27-37:38, 37:40-37:47, 37:49-37:57, 38:01:01-38:07, 38:09-38:21, 38:23-38:29, 38:31-38:58, 39:01:01:01-39:01:01:04, 39:01:03-39:20, 39:22-39:31, 39:34-39:46, 39:48-39:49, 39:51-39:73, 39:75-39:79, 39:81-39:101, 39:103-39:107, 40:39, 40:51, 40:163, 40:184, 40:199, 41:01:01-41:16, 41:18, 41:20-41:41, 42:01:01-42:02:01:02, 42:04-42:21, 44:04, 44:56N, 44:132, 44:163, 44:166, 44:190, 45:08, 46:03, 46:18, 46:21:01-46:21:02, 46:29, 47:08, 48:37, 51:21, 51:36, 51:101, 51:143, 51:153, 51:157, 52:37, 54:01:01-54:02, 54:04-54:05N, 54:07-54:25, 54:27-54:32, 54:34, 55:01:01-55:05, 55:07, 55:10-55:21, 55:23, 55:25-55:50, 55:52-55:76, 56:10, 56:12, 56:18, 56:23, 56:31-56:32, 57:26, 58:05, 58:20, 58:35, 59:01:01:01-59:03, 59:05-59:08, 67:01:01-67:05, 78:07
12	230 bp	1070 bp	*14:12, 14:19, 14:27	*57:11, 58:02, 58:06-58:07, 58:25, 58:38, 58:43, 58:46, 58:60, C*01:35, C*01:107, C*03:17, C*03:71, C*03:249, C*03:271, C*03:302, C*06:96, C*12:122, C*14:20
13⁷	210 bp	1070 bp	*14:13	*08:118, 13:15, 13:62, 18:26, 18:61, 18:97, 35:233, 39:32, 39:48, 40:28, 40:51, 40:113, 40:163, 40:174, 51:01:01:01-51:01:18, 51:01:20-51:01:30, 51:01:32-51:01:49, 51:01:51-51:01:53, 51:03-51:04,

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

				51:06:01-51:09:03, 51:11N-51:14, 51:16, 51:19-51:22, 51:24:01-51:24:05, 51:26-51:33, 51:35, 51:38-51:39, 51:41N, 51:43-51:44N, 51:46, 51:48-51:53, 51:55-51:58, 51:60-51:80, 51:82-51:84, 51:86-51:89, 51:91, 51:95-51:107, 51:109-51:134, 51:136-51:142, 51:145, 51:147, 51:149N-51:156, 51:158:01-51:161, 51:163-51:171, 51:173Q-51:174, 51:176-51:179, 51:181-51:195, 52:01:01:01-52:01:10, 52:01:12-52:02:02, 52:04-52:10:03, 52:13-52:25, 52:27-52:56, 56:05:01-56:06, 56:21, 56:34, 58:08:01-58:08:02, 78:01:01-78:03, 78:05-78:09
14⁷	190 bp	1070 bp	*14:14, 14:18	*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, 15:03:01:01-15:03:05, 15:09-15:10:04, 15:18:01-15:18:06, 15:23, 15:29, 15:37, 15:47:01-15:47:02, 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, 15:197-15:198, 15:200, 15:210, 15:220-15:221, 15:226N, 15:229, 15:235, 15:238, 15:242-15:243, 15:251-15:253, 15:263, 15:266, 15:274-15:275:02, 15:281-15:282, 15:290, 15:292-15:293, 15:306-15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 15:369, 18:01:01:01-18:01:01:02, 18:01:03-18:01:22, 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, 18:108-18:116, 35:25, 35:124-35:125, 35:142, 35:162, 35:267, 37:01:01-37:21, 37:23-37:36, 37:38-37:57, 38:01:01-38:02:07, 38:04-38:12, 38:15, 38:17-38:25, 38:27, 38:29-38:40, 38:42-38:45, 38:47-38:58, 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, 40:12, 40:149, 41:22, 42:11, 44:130, 44:156, 44:221, 44:224, 48:01:01-48:02:01, 48:02:03-48:37, 49:25, 51:116, 51:176, 51:179, 52:16, 52:27, 57:58, 57:80, 58:12, 81:08, C*06:147
15⁵	100 bp 270 bp	800 bp	*14:15 *14:10	*18:22, 18:69, 18:105, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 35:233, 35:287, 37:04:01-37:04:02, 40:28, 44:190, 44:203, 51:04, 51:46, 51:56:01-51:56:03, 51:139, 53:02,

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

				53:06, 53:28, 57:14:01-57:14:02, 58:09, C*15:39
16⁵	90 bp 175 bp 280 bp	1070 bp	*14:23 *14:16 *14:32	*07:239, C*01:101, C*01:113, C*15:55 C*05:16, C*05:85, C*05:107, C*06:129, C*07:364, C*08:12
17	245 bp	1070 bp	*14:22, 14:37	*13:15, 18:22, 18:52, 18:105, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 35:287, 40:28, 49:09, 51:56:01-51:56:03, 51:158:02, 53:02, 53:06, 53:28, 56:34, 58:09, A*33:40, C*01:30, C*08:51, C*08:114, C*12:87, C*15:39
18	165 bp	1070 bp	*14:34	*46:48
19	200	1070 bp	*14:41N	
20⁵	115	1070 bp	*14:33	*35:16-35:17:02, 35:32:01, 35:61:02, 35:98, 35:125, 44:140, 46:01:07, 50:04, 58:59, C*03:102, C*03:263
21	240	1070 bp	*14:46	*07:239, 40:243, C*01:10, C*02:05:01- C*02:05:03, C*02:17, C*06:08, C*12:119, C*14:25, C*16:29, C*16:50, C*17:21
22⁸	-	-	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*14 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 some non-HLA-B*14 alleles will be amplified by primer mixes 1 to 18 and 20 to 21. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1, 4, 6 to 9, 12, 14 to 17 and 20 to 21.

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

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: 4D1

Lot-specific information

⁶Primer mixes 2 and 10 may give rise to a lower yield of HLA-specific PCR product than the other B*14 primer mixes.

⁷Primer mix 4, 13 and 14 may have tendencies of unspecific amplifications.

⁸Primer mix 22 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.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: 4D1

Lot-specific information

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	265	185	210	85	135	100	260	250	160	110	135	230
				270	220	175			280	180		
						530						
Length of int. pos. control ¹	800	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s) ²	361	102	103	353	91	113	363	102	361	106	560	361
	5'-AgT ^{3'}	5'-ACT ^{3'}	5'-CCg ^{3'}	5'-CAA ^{3'}	5'-ggC ^{3'}	5'-CCA ^{3'}	5'-Agg ^{3'}	5'-ACT ^{3'}	5'-AgT ^{3'}	5'-CCA ^{3'}	5'-CAC ^{3'}	5'-AgT ^{3'}
	361	103		539	564	176		103		176		
	5'-AgT ^{3'}	5'-CCT ^{3'}		5'-gCg ^{3'}	5'-TgA ^{3'}	5'-gAT ^{3'}		5'-CCT ^{3'}		5'-gAT ^{3'}		
		103				363		103				
		5'-CCT ^{3'}				5'-AgC ^{3'}		5'-CCT ^{3'}				
3'-primer(s) ³	583	246	272	583	269	246	583	310	479	246	3 rd I	541
	5'-gTg ^{3'}	5'-TAT ^{3'}	5'-TgC ^{3'}	5'-gTg ^{3'}	5'-AgT ^{3'}	5'-TAT ^{3'}	5'-gTg ^{3'}	5'-gTT ^{3'}	5'-CCC ^{3'}	5'-TAT ^{3'}	5'-TAT ^{3'}	5'-TCC ^{3'}
		246			3 rd I	419			601			559
		5'-TAT ^{3'}			5'-TAT ^{3'}	5'-CgA ^{3'}			5'-CTT ^{3'}			5'-CAg ^{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
	210	190	100	90	245	165	200	115	240
			270	175					
				280					
	1070	1070	800	1070	1070	1070	1070	1070	1070
pos. control ¹									
5'-primer(s) ²	412	142	103	361	379	103	361	387	361
	5'-ATA ^{3'}	5'-TCT ^{3'}	5'-CCg ^{3'}	5'-AgT ^{3'}	5'-ACC ^{3'}	5'-CCg ^{3'}	5'-AgT ^{3'}	5'-CCC ^{3'}	5'-AgT ^{3'}
			355						
			5'-TCA ^{3'}						
3'-primer(s) ³	583	292	164	409	583	227	522	463	559
	5'-gTg ^{3'}	5'-gTA ^{3'}	5'-gCA ^{3'}	5'-ATg ^{3'}	5'-gTg ^{3'}	5'-CTg ^{3'}	5'-C.g ^{3'}	5'-gCT ^{3'}	5'-CTC ^{3'}
		292	583	494					
		5'-gTA ^{3'}	5'-gTg ^{3'}	5'-TCC ^{3'}					
		292		601					
		5'-gTA ^{3'}		5'-CTT ^{3'}					
Well No.	13	14	15	16	17	18	19	20	21

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.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: 4D1

Lot-specific information

CELL LINE VALIDATION SHEET																	
HLA-B*14 SSP subtyping kit ²																	
		Well															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
		201561801	201561802	201561803	201561804	201561805	201561806	201561807	201561808	201561809	201561810	201561811	201561812	201561813	201561814	201561815	201561816
	IHWC cell line ¹	B*	Prod. No.:														
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

Lot-specific information

CELL LINE VALIDATION SHEET									
HLA-B*14 SSP subtyping kit ²									
				Prod. No.:	Well				
					17	18	19	20	21
				201561817	201561818	201561819	201561820	201561821	
	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		-	-	-	-	-

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

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 solution 4 to 6, 9, 15 to 19 and 21 were available. The specificities of the primers in primer solution 4 to 6, 9, 15 to 17 and 21 were tested by separately adding additional 5'-primers respectively 3'-primers. In primer solution 18 and 19 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 1, 4 to 6 and 10 one 5'-primer was not possible to test, and in primer solutions 5, 9, 12, 15 and 16 one 3'-primer was not possible to test. Additional primers in primer solutions 2 and 8 were tested by separately adding one 3'-primer.

101.524-12 – including *Taq* polymerase, IFU-01
101.524-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **4D1**

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: info-ssp@olerup.com

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

Distributed by:

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

Tel: +43-1-710 15 00

Fax: +43-1-710 15 00 10

E-mail: support-at@olerup.com

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

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

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: info.us@olerup.com

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

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