

## **Olerup SSP<sup>®</sup> HLA-A\*74**

Product number:	101.433-06u – without <i>Taq</i> polymerase
Lot number:	87K
Expiry date:	2013-July-01
Number of tests:	6
Number of wells per test:	15
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. 87K.**

### **CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*<sup>®</sup> HLA-A\*74 LOT**

The HLA-A\*74 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup SSP*<sup>®</sup> HLA-A\*74 lot was made (**Lot No. 26G**).

The HLA-A\*74 primer set is unchanged compared to the previous lot.

## PRODUCT DESCRIPTION

### HLA-A\*74 SSP subtyping

#### CONTENT

The primer set contains 5'- and 3'-primers for identifying the A\*74:01 to A\*74:14N alleles.

#### PLATE LAYOUT

Each test consists of 15 PCR reactions in a 16 well cut PCR plate. Well 16 is empty.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	empty

The 16 well cut PCR plate is marked with 'HLA-A\*74' in silver/gray ink.

Well No. 1 is marked with the Lot No. '87K'.

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 16 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

The interpretation of HLA-A\*74 SSP subtypings will be influenced by four A\*02, two A\*03, A\*26:07:02, the A\*29, the A\*32, three A\*33 and the A\*68:30 alleles when present on the other haplotype.

#### UNIQUELY IDENTIFIED ALLELES

All the HLA-A\*74 alleles, i.e. **A\*74:01 to A\*74:14N alleles**, recognized by the HLA Nomenclature Committee in October 2010<sup>1</sup> will give rise to unique amplification patterns by the primers in the HLA-A\*74 subtyping kit.

The HLA-A\*74 subtyping kit cannot distinguish the A\*74:02:01:01-74:02:01:02 alleles.

<sup>1</sup>HLA-A alleles listed on the IMGT/HLA web page 2010-October-15, release 3.2.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

### RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 15 alleles generate 14 amplification patterns that can be combined in 105 homozygous and heterozygous combinations. 8 of these genotypes do not give rise to unique amplification patterns.

++----- +-----+ \*74:01, \*74:14N = \*74:03, \*74:14N  
++----- +----- \*74:01, \*74:03 = \*74:03, \*74:03  
++----- -----+ \*74:01, \*74:13 = \*74:13, \*74:13  
+-+-----+ ----- \*74:02:01:01, \*74:07 = \*74:07, \*74:07

\*74:02:01:01 = \*74:02:01:01-74:02:01:02

## SPECIFICITY TABLE

### HLA-A\*74 SSP subtyping

Specificities and sizes of the PCR products of the 15 primer mixes used for HLA-A\*74 SSP subtyping

Primer Mix	Size of spec. PCR product <sup>1</sup>	Size of control band <sup>2</sup>	Amplified HLA-A*74 alleles	Other amplified HLA-A alleles <sup>3</sup>
<b>1</b>	160 bp	<b>800 bp</b>	*74:01-74:09, 74:11-74:14N	*29:19
<b>2</b>	285 bp	1070 bp	*74:01, 74:03, 74:04 <sup>?</sup> -74:06 <sup>?</sup> , 74:08 <sup>?</sup> -74:12N <sup>?</sup> , 74:13, 74:14N <sup>?</sup>	
<b>3</b>	285 bp	1070 bp	*74:02:01:01- 74:02:01:02, 74:04 <sup>?</sup> -74:06 <sup>?</sup> , 74:07, 74:08 <sup>?</sup> - 74:12N <sup>?</sup> , 74:14N <sup>?</sup>	*29:01:01:01-29:03, 29:04 <sup>?</sup> -29:10 <sup>?</sup> , 29:11, 29:12 <sup>?</sup> - 29:27 <sup>?</sup> , 32:01:01- 32:02, 32:03 <sup>?</sup> , 32:05, 32:06 <sup>?</sup> - 32:16 <sup>?</sup> , 32:17, 32:18 <sup>?</sup> , 32:19N, 32:20 <sup>?</sup> -32:30 <sup>?</sup>
<b>4<sup>4</sup></b>	135 bp	1070 bp	*74:04	*02:01:09, 02:06:07, 02:11:02, 02:35:03, 03:01:03 <sup>w</sup> , 03:23, 26:07:02, 33:01:02, 33:08-33:09, 68:30
<b>5</b>	230 bp	1070 bp	*74:05	
<b>6</b>	155 bp	1070 bp	*74:06	*29:19
<b>7</b>	150 bp	<b>800 bp</b>	*74:07	
<b>8<sup>4</sup></b>	115 bp	1070 bp	*74:08	
<b>9</b>	170 bp	<b>800 bp</b>	*74:03, 74:14N	
<b>10</b>	225 bp	1070 bp	*74:09	
<b>11</b>	200 bp	<b>800 bp</b>	*74:10	
<b>12<sup>4</sup></b>	130 bp	1070 bp	*74:11	
<b>13</b>	215 bp	1070 bp	*74:12N	
<b>14</b>	145 bp	1070 bp	*74:13	
<b>15<sup>4</sup></b>	85 bp	1070 bp	*74:14N	

Lot No.: **87K**

Lot-specific Information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

<sup>1</sup>Alleles 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-A\*74 SSP typings.

When the primers in a primer mix can give rise to specific PCR products of more than one length this is indicated if the size difference is 20 base pairs or more. Size differences shorter than 20 base pairs are not given. For high resolution SSP kits the respective lengths of the specific PCR product(s) of the alleles amplified by these primer mixes are given.

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.

<sup>2</sup>The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-A\*74 subtyping.

In addition, wells number 7, 9 and 11 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

In the presence of a specific amplification the intensity of the control band often decreases.

<sup>3</sup>Due to the sharing of sequence motifs between HLA-A alleles a few non-HLA-A\*74 alleles will be amplified by primer mixes 1, 3, 4 and 6.

<sup>4</sup>Short specific PCR fragments are less intense and not as sharp as longer specific bands.

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

‘w’ , may be weakly amplified.

## INTERPRETATION TABLE

### HLA-A\*74 SSP subtyping

Amplification patterns of the A\*74:01 to 74:14N alleles

	Well							
	1	2	3	4	5	6	7	8
Length of spec.	160	285	285	135	230	155	150	115
PCR product								
Length of int.	800	1070	1070	1070	1070	1070	800	1070
pos. control <sup>1</sup>								
5'-primer <sup>2</sup>	180	67	67	144	98	180	180	448
	5' -TTT 3'	5' -CCA 3'	5' -CCT 3'	5' -gCC 3'	5' -CTT 3'	5' -TTT 3'	5' -TTT 3'	5' -CCT 3'
3'-primer(s) <sup>3</sup>	299	180	180	240	289	292	290	523
	5' -CCA 3'	5' -TCA 3'	5' -TCA 3'	5' -ggA 3'	5' -AgC 3'	5' -gTg 3'	5' -CAA 3'	5' -ACT 3'
	299							
	5' -CCA 3'							
Well No.	1	2	3	4	5	6	7	8
HLA-A allele								
*74:01	1	2						
*74:02:01:01-74:02:01:02	1		3					
*74:03	1	2						
*74:04	1	?	?	4				
*74:05	1	?	?		5			
*74:06	1	?	?			6		
*74:07	1		3				7	
*74:08	1	?	?					8
*74:09	1	?	?					
*74:10		?	?					
*74:11	1	?	?					
*74:12N	1	?	?					
*74:13	1	2						
*74:14N	1	?	?					
*02:01:09, 02:06:07, 02:11:02, 02:35:03, 03:23, 26:07:02, 33:01:02, 33:08-33:09, 68:30				4				
*03:01:03				w				
*29:01:01:01-29:03, 29:11, 32:01:01- 32:02, 32:05, 32:17, 32:19N			3					
*29:04-29:10, 29:12-29:18, 29:20- 29:27, 32:03, 32:06-32:16, 32:18, 32:20-32:30			?					
*29:19	1		?			6		
HLA-A allele								
Well No.	1	2	3	4	5	6	7	8

INTERPRETATION TABLE							
HLA-A*74 SSP subtyping							
Amplification patterns of the A*74:01 to 74:14N alleles							
Well							
9	10	11	12	13	14	15	
170	225	200	130	215	145	85	Length of spec. PCR product
800	1070	800	1070	1070	1070	1070	Length of int. pos. control <sup>1</sup>
180	113	180	211	364	180	180	5'-primer <sup>2</sup>
5'-TTT 3'	5'-CCC 3'	5'-TTT 3'	5'-AgT 3'	5'-gA 3'	5'-TTT 3'	5'-TTT 3'	
308	299	341	299	538	282	225	3'-primer(s) <sup>3</sup>
5'-TCg 3'	5'-CCA 3'	5'-CgT 3'	5'-CCA 3'	5'-CAA 3'	5'-gAC 3'	5'-ATT 3'	
9	10	11	12	13	14	15	Well No. HLA-A allele
							*74:01
							*74:02:01:01-74:02:01:02
9							*74:03
							*74:04
							*74:05
							*74:06
							*74:07
							*74:08
	10						*74:09
		11					*74:10
			12				*74:11
				13			*74:12N
					14		*74:13
9						15	*74:14N
							*02:01:09, 02:06:07, 02:11:02, 02:35:03, 03:23, 26:07:02, 33:01:02, 33:08-33:09, 68:30
							*03:01:03
							*29:01:01:01-29:03, 29:11, 32:01:01-32:02, 32:05, 32:17, 32:19N
							*29:04-29:10, 29:12-29:18, 29:20-29:27, 32:03, 32:06-32:16, 32:18, 32:20-32:30
							*29:19
9	10	11	12	13	14	15	HLA-A allele Well No.

Lot No.: **87K**

Lot-specific Information

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<sup>1</sup>The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-A\*74 subtyping. .

In addition, wells number 7, 9 and 11 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

<sup>2</sup>The nucleotide position, in the 1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup> exons, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>3</sup>The nucleotide position, in the 2<sup>nd</sup> or 3<sup>rd</sup> exons, 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](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

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



CELL LINE VALIDATION SHEET																					
HLA-A*74 SSP subtyping kit																					
					Lot No.:	Well															
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
						200963601	200963602	200963603	200963604	200963605	200963606	200963607	200963608	200963609	200963610	200963611	200963612	200963613	200963614	200963615	
	IHWC cell line	A*	A*																		
1	9001 SA	*24:02				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*01:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*30:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*01:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*02:01	*26:03			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL	*26:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU	*31:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*26:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*24:02				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*29:02				-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*31:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*24:02				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*29:02				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*03:01	*80:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367	*33:03	*74:01			+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA	*02:17				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*02:01	*34:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH	*32:01				-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*33:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*02:05				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*24:10	*29:01			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*02:01	*29:02			-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*29:02				-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*30:01	*68:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*30:02				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*02:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B	*31:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*31:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*32:01				-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*02:06	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*03:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*02:17				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML	*01:01	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*02:07	*30:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301	*03:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*02:07				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526	*02:06	*02:07			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*66:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*23:01	*24:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*03:01				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*02:16	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*02:01	*11:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

## CERTIFICATE OF ANALYSIS

### Olerup SSP® HLA-A\*74 SSP

Product number: 101.433-06u – without *Taq* polymerase  
Lot number: 87K  
Expiry date: 2013-July-01  
Number of tests: 6  
Number of wells per test: 15

#### Well specifications:

Well No.	Production No.	Well No.	Production No.
1	2009-636-01	9	2009-636-09
2	2009-636-02	10	2009-636-10
3	2009-636-03	11	2009-636-11
4	2009-636-04	12	2009-636-12
5	2009-636-05	13	2009-636-13
6	2009-636-06	14	2009-636-14
7	2009-636-07	15	2009-636-15
8	2009-636-08		

The specificity of each primer solution of the kit has been tested against 48 well characterized IHWC cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 4 to 8, 10 to 13 and 15 were available. The specificities of the primers in primer solutions 4, 6, 7 and 11 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer solutions 5, 8 and 15 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 10, 12 and 13 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solution 1, one 3'-primer was not possible to test.

**Results:** No false positive or false negative amplifications were obtained.

**Date of approval:** 2011-January-31

**Approved by:**

Quality Control, Supervisor

## Declaration of Conformity

**Product name:** *Olerup* SSP® HLA-A\*74  
**Product number:** 101.433-06u  
**Lot number:** 87K

**Intended use:** HLA-A\*74 high resolution histocompatibility testing

**Manufacturer:** *Olerup* SSP AB  
Hasselstigen 1  
SE-133 33 Saltsjöbaden, Sweden  
**Phone:** +46-8-717 88 27  
**Fax:** +46-8-717 88 18

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

The Technical Documentation File is maintained at *Olerup* SSP AB, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.

The Authorized Representative located within the Community is: *Olerup* SSP AB.

Notified Body: Lloyd's Register Quality Assurance Limited, Hiramford, Middlemarch Office Village, Siskin Drive, Coventry CV3 4FJ, United Kingdom. (Notified Body number: 0088.)

Saltsjöbaden, Sweden  
2011-January-31

Olle Olerup  
Managing Director

Lot No.: **87K**

Lot-specific Information

[www.olerup-ssp.com](http://www.olerup-ssp.com)

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