

101.430-12 – including *Taq* polymerase, IFU-01
101.430-12u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **16S**

Lot-specific Information

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Olerup SSP[®] HLA-A*31

Product number:	101.430-12 – including <i>Taq</i> polymerase 101.430-12u – without <i>Taq</i> polymerase
Lot number:	16S
Expiry date:	2015-October-01
Number of tests:	12
Number of wells per test:	32
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. 16S.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*[®] HLA-A*31 Lot (89N)

The HLA-A*31 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup SSP*[®] HLA-A*31 lot was made (Lot No. 89N).

The HLA-A*31 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

The Lot-specific information for HLA-A*31 including and without *Taq* polymerase is now described in one common Product Insert.

¹As described in section Uniquely Identified Alleles.

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

Well	5'-primer	3'-primer	rationale
6	-	Added	3'-primer added for the A*31:54 allele.
14	Exchanged	Exchanged	Exchanged primer pair for the A*31:14N allele.
22	-	Added	3'-primer added for the A*31:71 allele.
23	-	Added	3'-primer added for the A*31:71 allele.
27	Removed	-	5'-primer removed for improved resolution.
29	-	Added	3'-primer added for the A*31:44 allele.
32	-	Added	3'-primer added for the A*31:54 allele.

Change in revision R01 compared to R00:

1. Primer mix 8 gives rise to a significantly lower yield of the A*31:09 specific PCR product than the other HLA-A*31 primer mixes. This has been changed in the foot notes to the Specificity Table.

Change in revision R02 compared to R01:

1. Primer mix 20 does not amplify the A*31:20 allele. This has been corrected in the Specificity and Interpretation Tables. Thus, this lot of the HLA-A*31 subtyping kit cannot distinguish the A*31:01:02-31:01:17 and the A*31:20 alleles.

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PRODUCT DESCRIPTION

HLA-A*31 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the A*31:01 to A*31:71 alleles.

PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32

The 32 well cut PCR plate is marked with ‘HLA-A*31’ in silver/gray ink.

Well No. 1 is marked with the Lot Number ‘16S’.

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

The interpretation of HLA-A*31 SSP subtypings will be influenced by two A*01, several A*02, ten A*03, seven A*11, most A*23, ten A*24, the A*25:19, two A*26, most A*29, four A*30, the A*32, the A*33, most A*34, the A*66:06, four A*68, the A*74 and the A*80 alleles when present on the other haplotype.

In addition, primer mix 1 will amplify the B*15:82, B*15:260 and B*40:186 alleles and primer mix 26 will amplify the C*02:02:15 allele.

UNIQUELY IDENTIFIED ALLELES

All the HLA-A*31 alleles, i.e. **A*31:01 to A*31:71 alleles**, recognized by the HLA Nomenclature Committee in January 2013¹ will be amplified by the primers in the HLA-A*31 subtyping kit².

The HLA-A*31 kit enables separation of the confirmed HLA- A*31alleles 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- A*31 alleles is listed below.

The HLA-A*31 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

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The HLA-A*31 subtyping kit cannot distinguish the silent mutations in the A*31:01:02-31:01:17 alleles.

The A*31:16 and A*31:46 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 16.

The A*31:29 and A*31:59 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 25

The A*31:36 and A*31:48 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 29.

The A*31:44 and A*33:15 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 29.

¹HLA-A alleles listed on the IMGT/HLA web page 2013-January-11, release 3.11.0, www.ebi.ac.uk/imgt/hla.

²This lot of the HLA-A*31 subtyping kit cannot distinguish the A*31:01:02-31:01:17 and the A*31:20 alleles.

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Lot-specific Information

www.olerup-ssp.com**ALLELE CONFIRMATION STATUS**

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
A*31:01:02	Confirmed	A*31:16	Confirmed	A*31:46	Unconfirmed
A*31:01:03	Unconfirmed	A*31:17	Confirmed	A*31:47	Unconfirmed
A*31:01:04	Confirmed	A*31:18	Confirmed	A*31:48	Confirmed
A*31:01:05	Unconfirmed	A*31:19	Confirmed	A*31:49	Unconfirmed
A*31:01:06	Unconfirmed	A*31:20	Confirmed	A*31:50	Unconfirmed
A*31:01:07	Unconfirmed	A*31:21	Unconfirmed	A*31:51	Unconfirmed
A*31:01:08	Unconfirmed	A*31:22	Unconfirmed	A*31:52	Unconfirmed
A*31:01:09	Unconfirmed	A*31:23	Unconfirmed	A*31:53	Unconfirmed
A*31:01:10	Unconfirmed	A*31:24	Confirmed	A*31:54	Confirmed
A*31:01:11	Unconfirmed	A*31:25	Unconfirmed	A*31:55	Unconfirmed
A*31:01:12	Unconfirmed	A*31:26	Confirmed	A*31:56	Unconfirmed
A*31:01:13	Unconfirmed	A*31:27	Confirmed	A*31:57	Unconfirmed
A*31:01:14	Unconfirmed	A*31:28	Confirmed	A*31:58	Unconfirmed
A*31:01:15	Unconfirmed	A*31:29	Unconfirmed	A*31:59	Unconfirmed
A*31:01:16	Unconfirmed	A*31:30	Unconfirmed	A*31:60N	Unconfirmed
A*31:01:17	Unconfirmed	A*31:31	Confirmed	A*31:61	Unconfirmed
A*31:02	Confirmed	A*31:32	Unconfirmed	A*31:62	Unconfirmed
A*31:03	Unconfirmed	A*31:33	Unconfirmed	A*31:63	Unconfirmed
A*31:04	Confirmed	A*31:34	Unconfirmed	A*31:64	Unconfirmed
A*31:05	Confirmed	A*31:35	Unconfirmed	A*31:65	Unconfirmed
A*31:06	Confirmed	A*31:36	Confirmed	A*31:66	Unconfirmed
A*31:07	Unconfirmed	A*31:37	Unconfirmed	A*31:67	Unconfirmed
A*31:08	Confirmed	A*31:38	Confirmed	A*31:68	Unconfirmed
A*31:09	Confirmed	A*31:39	Confirmed	A*31:69	Unconfirmed
A*31:10	Unconfirmed	A*31:40	Confirmed	A*31:70	Unconfirmed
A*31:11	Confirmed	A*31:41	Confirmed	A*31:71	Unconfirmed
A*31:12	Confirmed	A*31:42	Unconfirmed		
A*31:13	Unconfirmed	A*31:43	Unconfirmed		
A*31:14N	Unconfirmed	A*31:44	Confirmed		
A*31:15	Confirmed	A*31:45	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2013-January-11, release 3.11.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 86 alleles generate 47 amplification patterns that can be combined in 1128 homozygous and heterozygous combinations. 444 of these genotypes do not give rise to unique amplification patterns. The different lengths of the specific PCR products were not considered in these calculations.

+----- +---+----- -----	*31:01:02, *31:01:02 = *31:01:02, *31:62
+---+----- -----	*31:06, *31:06 = *31:06, *31:62
+----- +---+----- -----	*31:01:02, *31:37 = *31:37, *31:37 = *31:37, *31:62
+----- +---+----- -----	*31:01:02, *31:35 = *31:35, *31:35 = *31:35, *31:62
+----- +---+----- -----	*31:01:02, *31:33 = *31:01:02, *31:34 = *31:33, *31:34 = *31:33, *31:62 = *31:34, *31:34 = *31:34, *31:62
+----- +---+----- -----	*31:01:02, *31:36 = *31:01:02, *31:44 = *31:36, *31:36 = *31:36, *31:44 = *31:36, *31:62 = *31:44, *31:62
+----- +---+----- -----	*31:01:02, *31:32 = *31:32, *31:32 = *31:32, *31:62
+----- +---+----- -----	*31:01:02, *31:31 = *31:31, *31:31 = *31:31, *31:62
+----- +---+----- -----	*31:01:02, *31:30 = *31:30, *31:30 = *31:30, *31:62

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+-----+-----+-----+-----	*31:01:02, *31:29 = *31:29, *31:29 = *31:29, *31:62
+-----+-----+-----+-----	*31:01:02, *31:28 = *31:28, *31:28 = *31:28, *31:62
+-----+-----+-----+-----	*31:01:02, *31:23 = *31:23, *31:23 = *31:23, *31:62
+-----+-----+-----+-----	*31:01:02, *31:22 = *31:22, *31:22 = *31:22, *31:62
+-----+-----+-----+-----	*31:01:02, *31:21 = *31:21, *31:62
+-----+-----+-----+-----	*31:01:02, *31:20 = *31:20, *31:20 = *31:20, *31:62
+-----+-----+-----+-----	*31:01:02, *31:19 = *31:19, *31:19 = *31:19, *31:62
+-----+-----+-----+-----	*31:01:02, *31:18 = *31:18, *31:18 = *31:18, *31:62
+-----+-----+-----+-----	*31:01:02, *31:17 = *31:17, *31:17 = *31:17, *31:62
+-----+-----+-----+-----	*31:01:02, *31:16 = *31:16, *31:16 = *31:16, *31:62
+-----+-----+-----+-----	*31:01:02, *31:15 = *31:15, *31:15 = *31:15, *31:62
+-----+-----+-----+-----	*31:01:02, *31:14N = *31:14N, *31:14N = *31:14N, *31:62
+-----+-----+-----+-----	*31:01:02, *31:13 = *31:13, *31:13 = *31:13, *31:62
+-----+-----+-----+-----	*31:01:02, *31:12 = *31:12, *31:12 = *31:12, *31:62
+-----+-----+-----+-----	*31:01:02, *31:11 = *31:11, *31:11 = *31:11, *31:62
+-----+-----+-----+-----	*31:01:02, *31:09 = *31:09, *31:09 = *31:09, *31:62
+-----+-----+-----+-----	*31:01:02, *31:10 = *31:10, *31:62
+-----+-----+-----+-----	*31:01:02, *31:05 = *31:05, *31:05 = *31:05, *31:62
+-----+-----+-----+-----	*31:04, *31:04 = *31:04, *31:06 = *31:04, *31:62
+-----+-----+-----+-----	*31:01:02, *31:02 = *31:02, *31:02 = *31:02, *31:62
+-----+-----+-----+-----	*31:07, *31:07 = *31:07, *31:08 = *31:07, *31:10 = *31:08, *31:10
+-----+-----+-----+-----	*31:33, *31:37 = *31:34, *31:37
+-----+-----+-----+-----	*31:33, *31:35 = *31:34, *31:35
+-----+-----+-----+-----	*31:36, *31:37 = *31:37, *31:44
+-----+-----+-----+-----	*31:35, *31:36 = *31:35, *31:44
+-----+-----+-----+-----	*31:33, *31:36 = *31:33, *31:44 = *31:34, *31:36 = *31:34, *31:44
+-----+-----+-----+-----	*31:32, *31:33 = *31:32, *31:34
+-----+-----+-----+-----	*31:32, *31:36 = *31:32, *31:44
+-----+-----+-----+-----	*31:31, *31:33 = *31:31, *31:34
+-----+-----+-----+-----	*31:31, *31:36 = *31:31, *31:44
+-----+-----+-----+-----	*31:30, *31:33 = *31:30, *31:34
+-----+-----+-----+-----	*31:30, *31:36 = *31:30, *31:44
+-----+-----+-----+-----	*31:29, *31:33 = *31:29, *31:34
+-----+-----+-----+-----	*31:29, *31:36 = *31:29, *31:44
+-----+-----+-----+-----	*31:28, *31:33 = *31:28, *31:34
+-----+-----+-----+-----	*31:28, *31:36 = *31:28, *31:44
+-----+-----+-----+-----	*31:23, *31:33 = *31:23, *31:34
+-----+-----+-----+-----	*31:23, *31:36 = *31:23, *31:44
+-----+-----+-----+-----	*31:22, *31:33 = *31:22, *31:34
+-----+-----+-----+-----	*31:22, *31:36 = *31:22, *31:44
+-----+-----+-----+-----	*31:01:02, *31:55 = *31:22, *31:28 = *31:22, *31:55 = *31:28, *31:55 = *31:55, *31:55 = *31:55, *31:62
+-----+-----+-----+-----	*31:01:02, *31:71 = *31:22, *31:23 = *31:22, *31:71 = *31:23, *31:71 = *31:62, *31:71 = *31:71, *31:71
+-----+-----+-----+-----	*31:21, *31:36 = *31:21, *31:44
+-----+-----+-----+-----	*31:20, *31:33 = *31:20, *31:34
+-----+-----+-----+-----	*31:20, *31:36 = *31:20, *31:44
+-----+-----+-----+-----	*31:19, *31:33 = *31:19, *31:34
+-----+-----+-----+-----	*31:19, *31:36 = *31:19, *31:44
+-----+-----+-----+-----	*31:18, *31:33 = *31:18, *31:34
+-----+-----+-----+-----	*31:18, *31:36 = *31:18, *31:44
+-----+-----+-----+-----	*31:17, *31:33 = *31:17, *31:34
+-----+-----+-----+-----	*31:17, *31:36 = *31:17, *31:44
+-----+-----+-----+-----	*31:01:02, *31:40 = *31:17, *31:23 = *31:17, *31:40 = *31:23, *31:40 = *31:40, *31:40 = *31:40, *31:62
+-----+-----+-----+-----	*31:16, *31:33 = *31:16, *31:34
+-----+-----+-----+-----	*31:16, *31:36 = *31:16, *31:44
+-----+-----+-----+-----	*31:15, *31:33 = *31:15, *31:34
+-----+-----+-----+-----	*31:15, *31:36 = *31:15, *31:44
+-----+-----+-----+-----	*31:01:02, *31:25 = *31:15, *31:17 = *31:15, *31:25 = *31:17, *31:25 = *31:25, *31:25 = *31:25, *31:62
+-----+-----+-----+-----	*31:14N, *31:33 = *31:14N, *31:34
+-----+-----+-----+-----	*31:14N, *31:36 = *31:14N, *31:44



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+-----+ +---+-----	-----	-----+---	*31:13, *31:33 = *31:13, *31:34
+-----+ +---+-----	-----	-----+---	*31:13, *31:36 = *31:13, *31:44
+-----+ +---+-----	-----	-----+---	*31:12, *31:33 = *31:12, *31:34
+-----+ +---+-----	-----	-----+---	*31:12, *31:36 = *31:12, *31:44
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:60N = *31:12, *31:32 = *31:12, *31:60N = *31:32, *31:60N = *31:60N, *31:60N = *31:60N, *31:62
+-----+ ++---+-----	-----	-----+---	*31:01:02, *31:41 = *31:11, *31:37 = *31:11, *31:41 = *31:37, *31:41 = *31:41, *31:41 = *31:41, *31:62
+-----+ ++---+-----	-----	-----+---	*31:11, *31:33 = *31:11, *31:34
+-----+ ++---+-----	-----	-----+---	*31:11, *31:36 = *31:11, *31:44
+-----+ +---+-----	-----	-----+---	*31:09, *31:33 = *31:09, *31:34
+-----+ +---+-----	-----	-----+---	*31:09, *31:36 = *31:09, *31:44
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:27 = *31:09, *31:22 = *31:09, *31:27 = *31:22, *31:27 = *31:27, *31:27 = *31:27, *31:62
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:24 = *31:09, *31:14N = *31:09, *31:24 = *31:14N, *31:24 = *31:24, *31:24 = *31:24, *31:62
+-----+ +---+-----	-----	-----+---	*31:10, *31:36 = *31:10, *31:44
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:54 = *31:05, *31:37 = *31:05, *31:54 = *31:37, *31:54 = *31:54, *31:54 = *31:54, *31:62
+-----+ +---+-----	-----	-----+---	*31:05, *31:33 = *31:05, *31:34
+-----+ +---+-----	-----	-----+---	*31:05, *31:36 = *31:05, *31:44
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:39 = *31:05, *31:30 = *31:05, *31:39 = *31:30, *31:39 = *31:39, *31:39 = *31:39, *31:62
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:38 = *31:32, *31:38 = *31:38, *31:38 = *31:38, *31:62
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:26 = *31:12, *31:26 = *31:26, *31:26 = *31:26, *31:62
+-----+ +---+-----	-----	-----+---	*31:06, *31:33 = *31:06, *31:34
+-----+ +---+-----	-----	-----+---	*31:06, *31:36 = *31:06, *31:44
+-----+ +---+-----	-----	-----+---	*31:03, *31:03 = *31:03, *31:04 = *31:03, *31:06 = *31:03, *31:62
+-----+ +---+-----	-----	-----+---	*31:02, *31:33 = *31:02, *31:34
+-----+ +---+-----	-----	-----+---	*31:02, *31:36 = *31:02, *31:44
+-----+ +---+-----	-----	-----+---	*31:07, *31:33 = *31:08, *31:33
+-----+ +---+-----	-----	-----+---	*31:07, *31:21 = *31:08, *31:21
+-----+ +---+-----	-----	-----+---	*31:01:02, *31:07 = *31:01:02, *31:08 = *31:02, *31:07 = *31:02, *31:08 = *31:02, *31:10 = *31:07, *31:62 = *31:08, *31:62
+-----+ +---+-----	-----	-----+---	*31:33, *31:55 = *31:34, *31:55
+-----+ +---+-----	-----	-----+---	*31:36, *31:55 = *31:44, *31:55
+-----+ +---+-----	-----	-----+---	*31:33, *31:71 = *31:34, *31:71
+-----+ +---+-----	-----	-----+---	*31:36, *31:71 = *31:44, *31:71
+-----+ +---+-----	-----	-----+---	*31:23, *31:55 = *31:28, *31:71 = *31:55, *31:71
+-----+ +---+-----	-----	-----+---	*31:33, *31:40 = *31:34, *31:40
+-----+ +---+-----	-----	-----+---	*31:36, *31:40 = *31:40, *31:44
+-----+ +---+-----	-----	-----+---	*31:17, *31:71 = *31:22, *31:40 = *31:40, *31:71
+-----+ +---+-----	-----	-----+---	*31:25, *31:33 = *31:25, *31:34
+-----+ +---+-----	-----	-----+---	*31:25, *31:36 = *31:25, *31:44
+-----+ +---+-----	-----	-----+---	*31:15, *31:40 = *31:23, *31:25 = *31:25, *31:40
+-----+ +---+-----	-----	-----+---	*31:33, *31:60N = *31:34, *31:60N
+-----+ +---+-----	-----	-----+---	*31:36, *31:60N = *31:44, *31:60N
+-----+ +---+-----	-----	-----+---	*31:33, *31:41 = *31:34, *31:41
+-----+ +---+-----	-----	-----+---	*31:36, *31:41 = *31:41, *31:44
+-----+ +---+-----	-----	-----+---	*31:27, *31:33 = *31:27, *31:34
+-----+ +---+-----	-----	-----+---	*31:27, *31:36 = *31:27, *31:44
+-----+ +---+-----	-----	-----+---	*31:09, *31:55 = *31:27, *31:28 = *31:27, *31:55
+-----+ +---+-----	-----	-----+---	*31:09, *31:71 = *31:23, *31:27 = *31:27, *31:71
+-----+ +---+-----	-----	-----+---	*31:24, *31:33 = *31:24, *31:34
+-----+ +---+-----	-----	-----+---	*31:24, *31:36 = *31:24, *31:44
+-----+ +---+-----	-----	-----+---	*31:14N, *31:27 = *31:22, *31:24 = *31:24, *31:27
+-----+ +---+-----	-----	-----+---	*31:33, *31:54 = *31:34, *31:54
+-----+ +---+-----	-----	-----+---	*31:36, *31:54 = *31:44, *31:54
+-----+ +---+-----	-----	-----+---	*31:30, *31:54 = *31:37, *31:39 = *31:39, *31:54
+-----+ +---+-----	-----	-----+---	*31:33, *31:39 = *31:34, *31:39
+-----+ +---+-----	-----	-----+---	*31:36, *31:39 = *31:39, *31:44
+-----+ +---+-----	-----	-----+---	*31:05, *31:41 = *31:11, *31:54 = *31:41, *31:54
+-----+ +---+-----	-----	-----+---	*31:33, *31:38 = *31:34, *31:38

101.430-12 – including *Taq* polymerase, IFU-01
101.430-12u – without *Taq* polymerase, IFU-02

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+-----+ +-----+ ----- +-----+ +-----+	*31:36, *31:38 = *31:38, *31:44
+-----+ +-----+ ----- +-----+ +-----+	*31:26, *31:33 = *31:26, *31:34
+-----+ +-----+ ----- +-----+ +-----+	*31:26, *31:36 = *31:26, *31:44
+-----+ +-----+ ----- +-----+ +-----+	*31:12, *31:38 = *31:26, *31:32 = *31:26, *31:38 = *31:26, *31:60N = *31:38, *31:60N
+-----+ +-----+ ----- +-----+ +-----+	*31:04, *31:33 = *31:04, *31:34
+-----+ +-----+ ----- +-----+ +-----+	*31:04, *31:36 = *31:04, *31:44
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:37 = *31:08, *31:37
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:35 = *31:08, *31:35
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:34 = *31:08, *31:34
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:36 = *31:07, *31:44 = *31:08, *31:36
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:32 = *31:08, *31:32
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:31 = *31:08, *31:31
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:30 = *31:08, *31:30
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:29 = *31:08, *31:29
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:28 = *31:08, *31:28
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:23 = *31:08, *31:23
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:22 = *31:08, *31:22
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:20 = *31:08, *31:20
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:19 = *31:08, *31:19
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:18 = *31:08, *31:18
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:17 = *31:08, *31:17
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:16 = *31:08, *31:16
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:15 = *31:08, *31:15
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:14N = *31:08, *31:14N
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:13 = *31:08, *31:13
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:12 = *31:08, *31:12
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:11 = *31:08, *31:11
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:09 = *31:08, *31:09
+-----+ +-----+ ----- +-----+ +-----+	*31:05, *31:07 = *31:05, *31:08
+-----+ +-----+ ----- +-----+ +-----+	*31:06, *31:07 = *31:06, *31:08
+-----+ +-----+ ----- +-----+ +-----+	*31:03, *31:33 = *31:03, *31:34
+-----+ +-----+ ----- +-----+ +-----+	*31:03, *31:36 = *31:03, *31:44
+-----+ +-----+ ----- +-----+ +-----+	*31:03, *31:32 = *31:03, *31:38 = *31:04, *31:38
+-----+ +-----+ ----- +-----+ +-----+	*31:03, *31:12 = *31:03, *31:26 = *31:04, *31:26
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:55 = *31:08, *31:55
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:71 = *31:08, *31:71
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:40 = *31:08, *31:40
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:25 = *31:08, *31:25
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:60N = *31:08, *31:60N
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:41 = *31:08, *31:41
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:27 = *31:08, *31:27
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:24 = *31:08, *31:24
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:54 = *31:08, *31:54
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:39 = *31:08, *31:39
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:38 = *31:08, *31:38
+-----+ +-----+ ----- +-----+ +-----+	*31:07, *31:26 = *31:08, *31:26
+-----+ +-----+ ----- +-----+ +-----+	*31:04, *31:07 = *31:04, *31:08
+-----+ +-----+ ----- +-----+ +-----+	*31:03, *31:07 = *31:03, *31:08

- *31:01:02 = *31:01:02-31:01:17 and 31:42-31:43, 31:45, 31:47, 31:49-31:53, 31:57-31:58, 31:61, 31:63-31:66 and 31:70
- *31:16 = *31:16 and 31:46
- *31:20 = *31:20 and 31:56
- *31:29 = *31:29 and 31:59
- *31:36 = *31:36 and 31:48
- *31:62 = *31:62 and 31:67-31:69



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Lot-specific Information

www.olerup-ssp.com**SPECIFICITY TABLE****HLA-A*31 SSP subtyping**

Specificities and sizes of the PCR products of the 32 primer mixes used for
 HLA-A*31 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-A*31 alleles ³	Other amplified HLA-A alleles ⁴
1	155 bp	800 bp	*31:01:02-31:07, 31:09-31:43, 31:45-31:71	*01:07, 02:185, 23:21, 24:124, 26:19, 29:14, 30:12, 30:18, 30:55, 34:04, B*15:82 , B*15:260, B*40:186
2	215 bp	800 bp	*31:02, 31:07- 31:08	*02:243, 24:82, 29:48, 33:08, 33:53
3	155 bp	800 bp	*31:03-31:04	*02:309, 03:01:19, 25:19, 26:43:01, 34:02:01, 34:02:03-34:04, 34:06- 34:09, 66:06
4⁹	165 bp	1070 bp	*31:03-31:04, 31:06	*01:06, 02:114, 02:246, 02:279, 03:01:30, 03:05:01-03:05:02, 03:42, 03:98, 03:105, 03:122, 11:24:01-11:25, 11:31, 11:35, 23:53, 29:01:01:01-29:01:02, 29:01:04-29:04, 29:06- 29:23, 29:25-29:27, 29:29-29:31, 29:34- 29:50, 30:26, 32:30, 32:32, 33:18:01-33:18:02, 34:02:01-34:04, 34:07- 34:10N, 68:08:01- 68:08:02, 68:63, 80:01:01:01-80:02
5^{5,10}	110 bp, 135 bp, 285 bp	800 bp	*31:03, 31:26, 31:38	*11:43, 32:36, 33:13
6¹¹	130 bp, 165 bp	800 bp	*31:05, 31:39, 31:54	*23:03:01, 24:208, 29:03, 29:33, 32:13, 33:07, 33:10
7⁹	505 bp	1070 bp	*31:07-31:08, 31:10	*02:81, 02:87, 02:112, 02:124, 02:129, 03:152, 23:01:01-23:01:11, 23:03:01-23:13,

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				23:14:02-23:26, 23:28-23:33, 23:35-23:37:02, 23:39-23:56, 24:13:01, 24:18, 24:24, 24:94, 24:188, 24:207, 24:228, 25:19, 29:13, 32:01:01-32:01:05, 32:01:07-32:01:15, 32:03-32:09, 32:11Q-32:21, 32:23-32:57
8^{6,12}	155 bp, 220 bp	1070 bp	*31:09, 31:24, 31:27	*11:01:28, 33:61
9^{5,6}	75 bp	1070 bp	*31:01:02-31:02, 31:05, 31:07- 31:61, 31:63- 31:66, 31:70- 31:71	*02:24:02, 02:65, 02:152, 23:03:01, 29:32, 32:01:01-32:01:06, 32:01:08-32:01:11, 32:01:13-32:03, 32:05- 32:27N, 32:29, 32:31, 32:33:01, 32:34-32:47, 32:49-32:57, 33:01:01- 33:01:04, 33:01:06- 33:01:07, 33:03:01-33:17, 33:20-33:31, 33:33- 33:37, 33:39-33:67, 74:01-74:17
10^{5,8,13}	115 bp, 160 bp	1070 bp	*31:11, 31:41	*02:24:02, 24:208, 29:33, 32:02, 32:06
11¹⁴	135 bp, 210 bp	1070 bp	*31:12, 31:26, 31:60N	*32:36
12	245 bp	1070 bp	*31:01:02-31:06, 31:09, 31:11- 31:20, 31:22- 31:32, 31:34- 31:71	*02:243, 11:43, 29:19, 29:39, 29:48, 33:01:01- 33:01:07, 33:03:01-33:12, 33:14-33:16, 33:18:01- 33:37, 33:39-33:47, 33:49-33:50, 33:52- 33:67, 68:29
13⁵	85 bp	1070 bp	*31:13	*02:251
14^{6,15}	150 bp, 220 bp	800 bp	*31:14N, 31:24	*11:01:28, 33:61
15¹⁶	150 bp, 225 bp	1070 bp	*31:15, 31:25	*32:26
16^{5,17}	80 bp, 165 bp	1070 bp	*31:16, 31:46	*29:12, 33:58

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17¹⁸	155 bp, 235 bp	1070 bp	*31:17, 31:25, 31:40	*32:26
18	200 bp	1070 bp	*31:18	*23:43
19^{5,8}	110 bp	1070 bp	*31:19	*02:380, 03:52
20¹⁹	165 bp, 325 bp	1070 bp	*31:56	
21	180 bp	1070 bp	*31:21	*01:07, 02:185, 30:55
22^{5,20}	80 bp, 155 bp, 190 bp	1070 bp	*31:22, 31:27, 31:55, 31:71	*02:327
23^{5,21}	80 bp, 165 bp, 200 bp	1070 bp	*31:23, 31:40, 31:71	*02:327
24^{7,22}	150 bp, 220 bp	1070 bp	*31:28, 31:55	
25²³	135 bp, 245 bp	800 bp	*31:29, 31:59	*23:03:01, 24:208, 29:07
26	130 bp	1070 bp	*31:30, 31:39	*29:28, 32:10, C*02:02:15
27⁵	95 bp	800 bp	*31:31	
28^{5,24}	110 bp, 175 bp, 205 bp	1070 bp	*31:32, 31:38, 31:60N	
29^{5,25}	115 bp, 180 bp 275 bp	1070 bp	*31:36, 31:44, 31:48	*02:140, 33:15
30^{7,26}	160 bp, 245 bp	800 bp	*31:33-31:34	
31⁵	75 bp	1070 bp	*31:35	*01:07
32^{5,27}	75 bp, 120 bp	1070 bp	*31:37, 31:41, 31:54	*02:24:02, 24:208, 29:33, 32:02, 32:06, 33:07

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-A*31 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 respective lengths of the HLA-specific PCR product(s) are given for the alleles amplified by these primer mixes.

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

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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 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*31 subtyping.

In addition, wells number 2, 3, 5, 6, 14, 25, 27 and 30 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.

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. We assume that unknown sequences in these regions are conserved within allelic groups.

⁴Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A*31 alleles will be amplified by primer mixes 1 to 19, 21 to 23, 25, 26, 29, 31 and 32. In addition, primer mix 1 will amplify the B*15:82, B*15:260 and B*40:186 alleles and primer mix 26 will amplify the C*02:02:15 allele.

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

⁶Primer mixes 4, 8 and 9 may give rise to a lower yield of HLA-specific PCR product than the other HLA-A*31 primer mixes, most pronounced for the A*31:09 allele in primer mix 8.

⁷Primer mix 24 and 30 may have tendencies of unspecific amplifications.

⁸Primer mix 10 and 19 have a tendency to giving rise to primer oligomer formation.

⁹Primer mixes 4 and 7 may weakly amplify the A*34:01 allele.

¹⁰Primer mix 5: Specific PCR product of 110 bp in the A*31:38 allele. Specific PCR product of 135 bp in the A*31:26 and the A*32:36 alleles. Specific PCR product of 285 bp in the A*31:03 and in the A*11:43 and A*33:13 alleles.

¹¹Primer mix 6: Specific PCR product of 130 bp in the A*31:39 and *31:54 and the A*33:07 alleles. Specific PCR product of 165 bp in the A*31:05 and in the A*23:03:01, 24:208, 29:03, 29:33, 32:13 and 33:10 alleles.

¹²Primer mix 8: Specific PCR product of 155 bp in the A*31:24 and 31:27 and the A*11:01:28 and 33:61 alleles. Specific PCR product of 220 bp in the A*31:09 allele.

¹³Primer mix 10: Specific PCR product of 115 bp in the A*31:41 and the A*02:24:02, 24:208, 29:33, 32:02 and 32:06 alleles. Specific PCR product of 160 bp in the A*31:11 allele.

¹⁴Primer mix 11: Specific PCR product of 135 bp in the A*31:26 and the A*32:36 allele. Specific PCR product of 210 bp in the A*31:12 and 31:60N alleles.

¹⁵Primer mix 14: Specific PCR product of 150 bp in the A*31:24 and the A*11:01:28 and 33:61 alleles. : Specific PCR product of 220 bp in the A*31:14N allele.

¹⁶Primer mix 15: Specific PCR product of 150 bp in the A*31:25 and the A*32:26 alleles. Specific PCR product of 225 bp in the A*31:15 allele.

¹⁷Primer mix 16: Specific PCR product of 80 bp in the A*31:46 allele. Specific PCR product of 165 bp in the A*31:16 and the A*29:12 and 33:58 alleles.

¹⁸Primer mix 17: Specific PCR product of 155 bp in the A*31:25 and 31:40 and the A*32:26 allele. Specific PCR product of 235 bp in the A*31:17 allele.

¹⁹Primer mix 20: Specific PCR product of 165 bp in the A*31:56 allele. Specific PCR product of 325 bp in the A*31:20 allele.

²⁰Primer mix 22: Specific PCR product of 80 bp in the A*31:71 and the A*02:327 allele. Specific PCR product of 150 bp in the A*31:27 and 31:55 alleles. Specific PCR product of 190 bp in the A*31:22 allele.

²¹Primer mix 23: Specific PCR product of 80 bp in the A*31:71 and the A*02:327 allele. Specific PCR product of 165 bp in the A*31:40 allele. Specific PCR product of 200 bp in the A*31:23 allele.

²²Primer mix 24: Specific PCR product of 150 bp in the A*31:55 allele. Specific PCR product of 220 bp in the A*31:28 allele.

²³Primer mix 25: Specific PCR product of 135 bp in the A*31:29 and the A*23:03:01, 24:208 and 29:07 alleles. Specific PCR product of 245 bp in the A*31:59 allele.

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²⁴Primer mix 28: Specific PCR product of 110 bp in the A*31:38 allele. Specific PCR product of 175 bp in the A*31:32 allele. Specific PCR product of 205 bp in the A*31:60N allele.

²⁵Primer mix 29: Specific PCR product of 115 bp in the A*31:48 and the A*02:140 and 33:15 alleles. Specific PCR product of 180 bp in the A*31:44 allele. Specific PCR product of 275 bp in the A*31:36 allele.

²⁶Primer mix 30: Specific PCR product of 160 bp in the A*31:34 allele. Specific PCR product of 245 bp in the A*31:33 allele.

²⁷Primer mix 32: Specific PCR product of 75 bp in the A*31:37 allele. Specific PCR product of 115 bp in the A*31:41 and 31:54 and the A*02:24:02, 24:208, 29:33, 32:02, 32:06 and 32:07 alleles.

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INTERPRETATION TABLE																
HLA-A*31 SSP subtyping																
Amplification patterns of the A*31:01 to A*31:71 alleles																
	Well ¹¹															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Length of spec. PCR product(s)	155	215	155	165	110	130	505	155	75	115	135	245	85	150	150	80
					135	165		220		160	210			220	225	165
					285											
Length of int. pos. control ¹	800	800	800	1070	800	800	1070	1070	1070	1070	1070	1070	1070	800	1070	1070
5'-primer ²	127	97	423	413	97	448	317	97	413	448	362	97	413	448	98	98
	5'-ggg 3'	5'-TCA 3'	5'-gCT 3'	5'-CCg 3'	5'-TCA 3'	5'-CCT 3'	5'-gCT 3'	5'-TCA 3'	5'-CCA 3'	5'-CCT 3'	5'-gAA 3'	5'-TCA 3'	5'-CCA 3'	5'-CCT 3'	5'-CAC 3'	5'-CAC 3'
					445			448			375			629	448	769
					5'-TCC 3'			5'-CCT 3'			5'-TgA 3'			5'-CAA 3'	5'-CCT 3'	5'-Agg 3'
					467						445					
					5'-CTA 3'						5'-TCC 3'					
3'-primer ³	238	270	538	539	341	530	538	214	448	524	538	299	456	559	281	221
	5'-CCT 3'	5'-ACT 3'	5'-CAA 3'	5'-TCA 3'	5'-CgT 3'	5'-CCT 3'	5'-CAA 3'	5'-CCA 3'	5'-CAA 3'	5'-CAT 3'	5'-CAA 3'	5'-CCA 3'	5'-TCg 3'	5'-CCg 3'	5'-AgC 3'	5'-ACA 3'
	238				538	536		278		565				808	559	808
	5'-CCT 3'				5'-CAA 3'	5'-ACg 3'		5'-ggC 3'		5'-Cag 3'				5'-AgA 3'	5'-CCT 3'	5'-AgA 3'
	245					570		559								
	5'-ACg 3'					5'-CCg 3'		5'-CCg 3'								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
HLA-A allele ^{4,5}																

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INTERPRETATION TABLE																
HLA-A*31 SSP subtyping																
Amplification patterns of the A*31:01 to A*31:71 alleles																
Well ¹¹																
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
155	200	110	165	180	80	80	150	135	130	95	110	115	160	75	75	Length of spec. PCR product(s)
235			325		155	165	220	245			175	180	245		120	
					190	200					205	275				Length of int. pos. control ¹
1070	1070	1070	1070	1070	1070	1070	1070	800	1070	800	1070	1070	800	1070	1070	
98	413	488	302	98	97	98	97	355	448	235	375	97	97	203	448	5'-primer ²
5'-CAC 3'	5'-CCA 3'	5'-ggT 3'	5'-ggA 3'	5'-CTT 3'	5'-TCA 3'	5'-CAC 3'	5'-TCA 3'	5'-CCC 3'	5'-CCT 3'	5'-AgA 3'	5'-TgA 3'	5'-TCA 3'	5'-TCA 3'	5'-gAA 3'	5'-CCT 3'	
448			706		652	652	652	626			406	652	448			3'-primer ³
5'-CCT 3'			5'-CgA 3'		5'-CTg 3'	5'-CTg 3'	5'-CTg 3'	5'-CCT 3'			5'-gCT 3'	5'-CTg 3'	5'-CCT 3'			
											467					3'-primer ³
											5'-CTA 3'					
221	571	559	346	238	214	221	277	448	536	290	538	238	299	238	482	3'-primer ³
5'-ACC 3'	5'-CCT 3'	5'-CgT 3'	5'-AgC 3'	5'-CCT 3'	5'-CCA 3'	5'-ACC 3'	5'-ggT 3'	5'-CAA 3'	5'-ACg 3'	5'-CAA 3'	5'-CAA 3'	5'-CCC 3'	5'-CCC 3'	5'-CCT 3'	5'-TgC 3'	
292			831		245	691	763	831	539			331	568		524	3'-primer ³
5'-gTT 3'			5'-TCC 3'		5'-ACg 3'	5'-gCC 3'	5'-CAA 3'	5'-TCC 3'	5'-TCC 3'			5'-CTC 3'	5'-CTg 3'		5'-CAT 3'	
559					691	811						727			530	3'-primer ³
5'-CCT 3'					5'-gCC 3'	5'-CAT 3'						5'-CCA 3'			5'-CCT 3'	
					763											3'-primer ³
					5'-CAA 3'											
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No. HLA-A allele ^{4,5}

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	155	215	155	165	110	130	505	155	75	115	135	245	85	150	150	80
PCR product(s)					135	165		220		160	210			220	225	165
					285											
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*31:01:02-31:01:17, 31:20, 31:42-31:43, 31:45, 31:47, 31:49- 31:53, 31:57-31:58, 31:61, 31:63-31:66, 31:70 ¹²	1								9			12				
*31:02	1	2							9			12				
*31:03	1		3	4	5							12				
*31:04	1		3	4								12				
*31:05	1					6			9			12				
*31:06	1			4								12				
*31:07	1	2					7		9							
*31:08		2					7		9							
*31:09	1							8	9			12				
*31:10	1						7		9							
*31:11	1								9	10		12				
*31:12	1								9		11	12				
*31:13	1								9			12	13			
*31:14N	1								9			12		14		
*31:15	1								9			12			15	
*31:16, 31:46 ⁶	1								9			12				16
*31:17	1								9			12				
*31:18	1								9			12				
*31:19	1								9			12				
*31:21	1								9							
*31:22	1								9			12				
*31:23	1								9			12				
*31:24	1							8	9			12		14		
*31:25	1								9			12			15	
*31:26	1				5				9		11	12				
*31:27	1							8	9			12				
*31:28	1								9			12				
*31:29, 31:59 ⁸	1								9			12				
*31:30	1								9			12				
*31:31	1								9			12				
*31:32	1								9			12				
*31:33	1								9							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

155	200	110	165	180	80	80	150	135	130	95	110	115	160	75	75	Length of spec. PCR product(s)
235			325		155	165	220	245			175	180	245		120	
					190	200					205	275				
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
																*31:01:02-31:01:17, 31:20, 31:42-31:43, 31:45, 31:47, 31:49- 31:53, 31:57-31:58, 31:61, 31:63-31:66, 31:70 ¹²
																*31:02
																*31:03
																*31:04
																*31:05
																*31:06
																*31:07
																*31:08
																*31:09
																*31:10
																*31:11
																*31:12
																*31:13
																*31:14N
																*31:15
																*31:16, 31:46 ⁶
17																*31:17
	18															*31:18
		19														*31:19
				21												*31:21
					22											*31:22
						23										*31:23
																*31:24
17																*31:25
					22											*31:26
																*31:27
							24									*31:28
								25								*31:29, 31:59 ⁸
									26							*31:30
										27						*31:31
											28					*31:32
													30			*31:33
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	155	215	155	165	110	130	505	155	75	115	135	245	85	150	150	80
PCR product(s)					135	165		220		160	210			220	225	165
					285											
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*31:34	1								9			12				
*31:35	1								9			12				
*31:36, 31:48 ⁹	1								9			12				
*31:37	1								9			12				
*31:38	1				5				9			12				
*31:39	1					6			9			12				
*31:40	1								9			12				
*31:41	1								9	10		12				
*31:44, 33:15 ¹⁰									9			12				
*31:54	1					6			9			12				
*31:55	1								9			12				
*31:56	1								9			12				
*31:60N	1								9		11	12				
*31:62, 31:67-31:69	1											12				
*31:71	1								9			12				
*01:06, 02:114, 02:246, 02:279, 03:01:30, 03:05:01-03:05:02, 03:42, 03:98, 03:105, 03:122, 11:24:01-11:25, 11:31, 11:35, 29:01:01:01- 29:01:02, 29:01:04- 29:02:13, 29:04, 29:06, 29:08N-29:11, 29:15- 29:18, 29:20-29:23, 29:25- 29:27, 29:29-29:31, 29:34- 29:38, 29:40-29:47, 29:49- 29:50, 30:26, 34:02:02, 34:10N, 68:08:01- 68:08:02, 68:63, 80:01:01:01-80:02				4												
*01:07	1															
*02:24:02, 32:02									9	10						
*02:65, 02:152, 29:32, 32:01:06, 32:22, 33:17, 33:48, 33:51, 74:01-74:17									9							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

155	200	110	165	180	80	80	150	135	130	95	110	115	160	75	75	Length of spec. PCR product(s)
235			325		155	165	220	245			175	180	245		120	
					190	200					205	275				
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
													30			*31:34
														31		*31:35
												29				*31:36, 31:48 ⁹
															32	*31:37
											28					*31:38
									26							*31:39
17						23										*31:40
															32	*31:41
												29				*31:44, 33:15 ¹⁰
															32	*31:54
					22		24									*31:55
			20													*31:56
											28					*31:60N
																*31:62, 31:67-31:69
					22	23										*31:71
																*01:06, 02:114, 02:246, 02:279, 03:01:30, 03:05:01-03:05:02, 03:42, 03:98, 03:105, 03:122, 11:24:01-11:25, 11:31, 11:35, 29:01:01:01- 29:01:02, 29:01:04- 29:02:13, 29:04, 29:06, 29:08N-29:11, 29:15- 29:18, 29:20-29:23, 29:25- 29:27, 29:29-29:31, 29:34- 29:38, 29:40-29:47, 29:49- 29:50, 30:26, 34:02:02, 34:10N, 68:08:01- 68:08:02, 68:63, 80:01:01:01-80:02
				21										31		*01:07
															32	*02:24:02, 32:02
																*02:65, 02:152, 29:32, 32:01:06, 32:22, 33:17, 33:48, 33:51, 74:01-74:17
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	155	215	155	165	110	130	505	155	75	115	135	245	85	150	150	80
PCR product(s)					135	165		220		160	210			220	225	165
					285											
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*02:81, 02:87, 02:112, 02:124, 02:129, 03:152, 23:01:01-23:01:11, 23:03:02-23:13, 23:14:02- 23:20, 23:22-23:26, 23:28- 23:33, 23:35-23:37:02, 23:39-23:42, 23:44-23:52, 23:54-23:56, 24:13:01, 24:18, 24:24, 24:94, 24:188, 24:207, 24:228, 32:01:07, 32:01:12, 32:04, 32:28, 32:33:02, 32:48N							7									
*02:140																
*02:185, 30:55	1															
*02:243		2										12				
*02:251													13			
*02:309, 03:01:19, 26:43:01, 34:06, 66:06			3													
*02:327																
*02:380, 03:52																
*11:01:28								8						14		
*11:43					5							12				
*23:03:01						6	7		9							
*23:21	1						7									
*23:43							7									
*23:53, 29:13, 32:30, 32:32				4			7									
*24:82		2														
*24:124, 26:19, 30:12, 30:18, B*15:82, B*15:260, B*40:186	1															
*24:208						6				10						
*25:19			3				7									
*29:03				4		6										
*29:07				4												
*29:12				4												16
*29:14	1			4												
*29:19, 29:39, 33:18:01- 33:18:02				4								12				
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

Length of spec.	155	215	155	165	110	130	505	155	75	115	135	245	85	150	150	80
PCR product(s)					135	165		220		160	210			220	225	165
					285											
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
*29:28, C*02:02:15																
*29:33						6				10						
*29:48		2		4								12				
*32:01:01-32:01:05, 32:01:08-32:01:11, 32:01:13-32:01:15, 32:03, 32:05, 32:07-32:09, 32:11Q-32:12, 32:14- 32:21, 32:23-32:25, 32:27N, 32:29, 32:31, 32:33:01, 32:34-32:35, 32:37-32:47, 32:49-32:57							7		9							
*32:06							7		9	10						
*32:10									9							
*32:13						6	7		9							
*32:26								7	9						15	
*32:36					5		7		9		11					
*33:01:01-33:01:04, 33:01:06-33:01:07, 33:03:01-33:06, 33:09, 33:11-33:12, 33:14, 33:16, 33:20-33:31, 33:33- 33:37, 33:39-33:47, 33:49- 33:50, 33:52, 33:54- 33:57, 33:59-33:60, 33:62- 33:67									9			12				
*33:01:05, 33:19, 33:32:01-33:32:02, 68:29												12				
*33:07						6			9			12				
*33:08, 33:53		2							9			12				
*33:10						6			9			12				
*33:13					5				9							
*33:58									9			12				16
*33:61								8	9			12		14		
*34:02:01, 34:02:03- 34:03, 34:07-34:09			3	4												
*34:04	1		3	4												
HLA-A allele^{4,5}																
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

155	200	110	165	180	80	80	150	135	130	95	110	115	160	75	75	Length of spec. PCR product(s)
235			325		155	165	220	245			175	180	245		120	
					190	200					205	275				
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.
									26							*29:28, C*02:02:15
															32	*29:33
																*29:48
																*32:01:01-32:01:05, 32:01:08-32:01:11, 32:01:13-32:01:15, 32:03, 32:05, 32:07-32:09, 32:11Q-32:12, 32:14- 32:21, 32:23-32:25, 32:27N, 32:29, 32:31, 32:33:01, 32:34-32:35, 32:37-32:47, 32:49-32:57
															32	*32:06
									26							*32:10
																*32:13
17																*32:26
																*32:36
																*33:01:01-33:01:04, 33:01:06-33:01:07, 33:03:01-33:06, 33:09, 33:11-33:12, 33:14, 33:16, 33:20-33:31, 33:33- 33:37, 33:39-33:47, 33:49- 33:50, 33:52, 33:54- 33:57, 33:59-33:60, 33:62- 33:67
																*33:01:05, 33:19, 33:32:01-33:32:02, 68:29
															32	*33:07
																*33:08, 33:53
																*33:10
																*33:13
																*33:58
																*33:61
																*34:02:01, 34:02:03- 34:03, 34:07-34:09
																*34:04
																HLA-A allele^{4,5}
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	Well No.

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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

Lot No.: **16S**

Lot-specific Information

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¹The 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*31 subtyping.

In addition, wells number 2, 3, 5, 6, 14, 25, 27 and 30 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.

²The nucleotide position, in the 2nd, 3rd or 4th exons, 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, in the 2nd, 3rd or 4th 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 web site. The sequence of the 3 terminal nucleotides of the primer is given.

⁴The sequence of the A*31011 allele has been shown to be identical to A*31:01:02.

⁵HLA-A*31 alleles in bold lettering are listed as confirmed alleles on the on the IMGT/HLA web page www.ebi.ac.uk/imgt/hla, release 3.11.0, January 2013.

⁶The A*31:16 and A*31:46 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 16.

⁸The A*31:29 and A*31:59 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 25

⁹The A*31:36 and A*31:48 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 29.

¹⁰The A*31:44 and A*33:15 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 29.

¹¹Primer mix 5: Specific PCR product of 110 bp in the A*31:38 allele. Specific PCR product of 135 bp in the A*31:26 and the A*32:36 alleles. Specific PCR product of 285 bp in the A*31:03 and in the A*11:43 and A*33:13 alleles.

Primer mix 6: Specific PCR product of 130 bp in the A*31:39 and *31:54 and the A*33:07 alleles. Specific PCR product of 165 bp in the A*31:05 and in the A*23:03:01, 24:208, 29:03, 29:33, 32:13 and 33:10 alleles.

Primer mix 8: Specific PCR product of 155 bp in the A*31:24 and 31:27 and the A*11:01:28 and 33:61 alleles. Specific PCR product of 220 bp in the A*31:09 allele.

Primer mix 10: Specific PCR product of 115 bp in the A*31:41 and the A*02:24:02, 24:208, 29:33, 32:02 and 32:06 alleles. Specific PCR product of 160 bp in the A*31:11 allele.

Primer mix 11: Specific PCR product of 135 bp in the A*31:26 and the A*32:36 allele. Specific PCR product of 210 bp in the A*31:12 and 31:60N alleles.

Primer mix 14: Specific PCR product of 150 bp in the A*31:24 and the A*11:01:28 and 33:61 alleles. : Specific PCR product of 220 bp in the A*31:14N allele.

Primer mix 15: Specific PCR product of 150 bp in the A*31:25 and the A*32:26 alleles. Specific PCR product of 225 bp in the A*31:15 allele.

Primer mix 16: Specific PCR product of 80 bp in the A*31:46 allele. Specific PCR product of 165 bp in the A*31:16 and the A*29:12 and 33:58 alleles.

Primer mix 17: Specific PCR product of 155 bp in the A*31:25 and 31:40 and the A*32:26 allele. Specific PCR product of 235 bp in the A*31:17 allele.

Primer mix 20: Specific PCR product of 165 bp in the A*31:56 allele. Specific PCR product of 325 bp in the A*31:20 allele.

Primer mix 22: Specific PCR product of 80 bp in the A*31:71 and the A*02:327 allele. Specific PCR product of 150 bp in the A*31:27 and 31:55 alleles. Specific PCR product of 190 bp in the A*31:22 allele.

Primer mix 23: Specific PCR product of 80 bp in the A*31:71 and the A*02:327 allele. Specific PCR product of 165 bp in the A*31:40 allele. Specific PCR product of 200 bp in the A*31:23 allele.

Primer mix 24: Specific PCR product of 150 bp in the A*31:55 allele. Specific PCR product of 220 bp in the A*31:28 allele.

101.430-12 – including *Taq* polymerase, IFU-01
101.430-12u – without *Taq* polymerase, IFU-02

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Lot No.: 16S**Lot-specific Information****www.olerup-ssp.com**

Primer mix 25: Specific PCR product of 135 bp in the A*31:29 and the A*23:03:01, 24:208 and 29:07 alleles. Specific PCR product of 245 bp in the A*31:59 allele.

Primer mix 28: Specific PCR product of 110 bp in the A*31:38 allele. Specific PCR product of 175 bp in the A*31:32 allele. Specific PCR product of 205 bp in the A*31:60N allele.

Primer mix 29: Specific PCR product of 115 bp in the A*31:48 and the A*02:140 and 33:15 alleles. Specific PCR product of 180 bp in the A*31:44 allele. Specific PCR product of 275 bp in the A*31:36 allele.

Primer mix 30: Specific PCR product of 160 bp in the A*31:34 allele. Specific PCR product of 245 bp in the A*31:33 allele.

Primer mix 32: Specific PCR product of 75 bp in the A*31:37 allele. Specific PCR product of 115 bp in the A*31:41 and 31:54 and the A*02:24:02, 24:208, 29:33, 32:02, 32:06 and 32:07 alleles.

¹²This lot of the HLA-A*31 subtyping kit cannot distinguish the A*31:01:02-31:01:17 and the A*31:20 alleles.

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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 “Instructions for Use” (IFU)

Lot No.: **16S**

Lot-specific Information

www.olerup-ssp.com

CELL LINE VALIDATION SHEET																					
HLA-A*31 SSP subtyping kit																					
				Lot No.:	Well																
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
					201186101	201316702	200969703	201186104	201202905	201316706	200969707	201316708	200969709	201202910	201202911	200969712	200969713	201316714	200969715	201202916	
	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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Lot No.: 16S

Lot-specific Information

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CELL LINE VALIDATION SHEET																				
HLA-A*31 SSP subtyping kit																				
				Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
				Prod. No.:	201202917	200969718	200969719	201202920	200969721	201316722	201316723	201202924	201202925	201202926	201316727	201202928	201316729	201186130	201186131	201316732
	IHWC cell line		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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.430-12 – including *Taq* polymerase, IFU-01
 101.430-12u – without *Taq* polymerase, IFU-02

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Lot No.: **16S**

Lot-specific Information

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CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-A*31 SSP

Product number: 101.430-12 – including *Taq* polymerase
 101.430-12u – without *Taq* polymerase
 Lot number: 16S
 Expiry date: 2015-October-01
 Number of tests: 12
 Number of wells per test: 32

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2011-861-01	13	2009-697-13	25	2012-029-25
2	2013-167-02	14	2013-167-14	26	2012-029-26
3	2009-697-03	15	2009-697-15	27	2013-167-27
4	2011-861-04	16	2012-029-16	28	2012-029-28
5	2012-029-05	17	2012-029-17	29	2013-167-29
6	2013-167-06	18	2009-697-18	30	2011-861-30
7	2009-697-07	19	2009-697-19	31	2011-861-31
8	2013-167-08	20	2012-029-20	32	2013-167-32
9	2009-697-09	21	2009-697-21		
10	2012-029-10	22	2013-167-22		
11	2012-029-11	23	2013-167-23		
12	2009-697-12	24	2012-029-24		

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 2, 5, 6, 8, 10, 11, 13 and 15 to 32 were available.

The specificities of the primers in primer solutions 2, 5, 6, 8, 10, 16, 20, 21, 25, 26, 31 and 32 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer solutions 13, 15, 17, 18, 22 to 24, 29 and 30 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 11, 19, 27 and 28 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solution 5, 16, 20 and 25 one or two 5'-primers were not possible to test, and in primer solutions 1, 6, 8, 10, 16, 20, 26 and 32 one or two 3'-primers were not possible to test.

Additional primers in primer solution 14 were tested by separately adding 5'-primer respectively 3'-primer.

101.430-12 – including *Taq* polymerase, IFU-01
101.430-12u – without *Taq* polymerase, IFU-02

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Lot No.: **16S**

Lot-specific Information

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

2013-June-03

Approved by:

Production Quality Control

101.430-12 – including *Taq* polymerase, IFU-01
101.430-12u – without *Taq* polymerase, IFU-02

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Lot No.: **16S**

Lot-specific Information

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Declaration of Conformity

Product name: *Olerup* SSP® HLA-A*31
Product number: 101.430-12/12u
Lot number: 16S

Intended use: HLA-A*31 high resolution histocompatibility testing

Manufacturer: *Olerup* SSP AB
Franzengatan 5
SE-112 51 Stockholm, 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 13485:2012, 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, Franzengatan 5, SE-112 51 Stockholm, 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.)

Stockholm, Sweden
2013-June-03

Ann-Cathrin Jareman
Head of QA and Regulatory Affairs

101.430-12 – including *Taq* polymerase, IFU-01
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101.430-12 – including *Taq* polymerase, IFU-01
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Lot No.: **16S**

Lot-specific Information

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E-mail: info-ssp@olerup.com

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