101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   Lot-specific information

Olerup SSP® HLA-A*33

Product number: **101.432-12 – including *Taq* polymerase**
     101.432-12u – without *Taq* polymerase
Lot number: **42N**
Expiry date: **2014-September-01**
Number of tests: **12**
Number of wells per test: **24**
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. 42N.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP® HLA-A*33 LOT (81K)

The HLA-A*33 kit is updated for new alleles to enable separation of:

- Confirmed[1] 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*33 including and without *Taq* polymerase is now described in one common Product Insert.

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[1]As described in section Uniquely Identified Alleles.

The HLA-A*33 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup* SSP® HLA-A*33 lot was made **(Lot No. 81K)**.

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101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

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

Well	5'-primer	3'-primer	rationale
7	Added	-	5'-primer added for the A*33:51 allele.
12	Added	Added	Added primer pair for the A*33:36 allele.
16	Added	Added	Added primer pair for the A*33:36 allele.
20	Added	Added	Added primer pair for the A*33:39 allele.
22	-	Added	3'-primer added for the A*33:38 and A*33:44 alleles.
24	-	Added	3'-primer added for the A*33:54 alleles.

101.432-12 – including *Taq* **polymerase,** IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* **polymerase,** IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

PRODUCT DESCRIPTION

HLA-A*33 SSP subtyping

CONTENT
The primer set contains 5'- and 3'-primers for identifying the A*33:01 to A*33:54 alleles.

PLATE LAYOUT
Each test consists of 24 PCR reactions in a 24 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

The 24 well cut PCR plate is marked with 'HLA-A*33' in silver/gray ink.
Well No. 1 is marked with the Lot No. '42N'.
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
The interpretation of HLA-A*33 SSP subtypings will be influenced by two A*01, several A*02, seven A*03, three A*11, two A*23, nine A*24, the A*25, the A*26, the A*29, most A*31, the A*32, four A*34, the A*43:01, the A*66, two A*68 and the A*74 alleles when present on the other haplotype. In addition, the C*02:02:15 allele will be amplified by primer mix 19.

UNIQUELY IDENTIFIED ALLELES
All the HLA-A*33 alleles, i.e. **A*33:01 to A*33:54 alleles**, recognized by the HLA Nomenclature Committee in January 2012[1] will be amplified by the primers in the HLA-A*33 SSP kit[2].

The HLA-A*33 kit enables separation of the confirmed HLA-A*33 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-A*33 alleles is listed below.

The HLA-A*33 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

The HLA-A*33 subtyping kit cannot distinguish the following silent mutations: the A*33:01:01-33:01:06 or the A*33:03:01-33:03:09 alleles.

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101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

[1]HLA-A alleles listed on the IMGT/HLA web page 2012-January-12, release 3.7.0, www.ebi.ac.uk/imgt/hla.
[2]The A*33:08 and the A*02:309, 26:22 and 66:09 alleles and the A*33:51 and A*66:15 alleles give rise to identical amplification patterns with the HLA-A*33 subtyping kit. These alleles can be distinguished by e.g. the HLA-A low resolution kit and/or the HLA-A*02, HLA-A*26 and HLA-A*66 subtyping kits.

ALLELE CONFIRMATION STATUS

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

[1]Allele status "confirmed" or "unconfirmed" as listed on the IMGT/HLA web page 2012-January-12, release 3.7.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 66 alleles generate 39 amplification patterns that can be combined in 780 homozygous and heterozygous combinations. 527 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.

```
---+---- ++------ --------    *33:08, *33:08 = *33:08, *33:09 = *33:08, *33:53 = *33:09, *33:53
+--+---- -------- -------+    *33:03:01, *33:54 = *33:54, *33:54
+--+---- -------- -----+--    *33:03:01, *33:31 = *33:31, *33:31
+--+---- -------- ----+---    *33:03:01, *33:30 = *33:30, *33:30
+--+---- -------- ---+----    *33:03:01, *33:29 = *33:29, *33:29
+--+---- -------- --+-----    *33:03:01, *33:28 = *33:28, *33:28
+--+---- -------- +-------    *33:03:01, *33:18 = *33:03:01, *33:26 = *33:18, *33:26 = *33:26, *33:26
+--+---- -------+ --------    *33:03:01, *33:17 = *33:03:01, *33:21 = *33:17, *33:17 = *33:17, *33:21
+--+---- ------+- --------    *33:03:01, *33:23 = *33:23, *33:23
+--+---- -----+-- --------    *33:03:01, *33:15 = *33:03:01, *33:19 = *33:15, *33:15 = *33:15, *33:19
+--+---- ----+--- --------    *33:03:01, *33:12 = *33:12, *33:12
```

101.432-12 – including _Taq_ polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without _Taq_ polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

```
+--+---- ---+---- -------   *33:03:01, *33:11 = *33:11, *33:11
+--+---- --+----- -------   *33:03:01, *33:10 = *33:10, *33:10
+--+---- -+----- -------    *33:03:01, *33:13 = *33:03:01, *33:53 = *33:13, *33:13 = *33:13, *33:53
+--+---- +------ -------    *33:03:01, *33:09 = *33:03:01, *33:14 = *33:09, *33:14 = *33:14, *33:14
+--+---+ ------- -------    *33:03:01, *33:24 = *33:24, *33:24
+--+--+- ------- -------    *33:03:01, *33:06 = *33:03:01, *33:51 = *33:06, *33:06 = *33:06, *33:51
+--+-+-- ------- -------    *33:03:01, *33:20 = *33:20, *33:20
+--++--- ------- -------    *33:03:01, *33:33 = *33:33, *33:33
+--+---- ------- +------+   *33:18, *33:54 = *33:26, *33:54
+--+---- ------- +-----+--  *33:18, *33:31 = *33:26, *33:31
+--+---- ------- +---+---   *33:18, *33:30 = *33:26, *33:30
+--+---- ------- +--+----   *33:18, *33:29 = *33:26, *33:29
+--+---- ------- +-+-----   *33:18, *33:28 = *33:26, *33:28
+--+---- ------+ -------+   *33:17, *33:54 = *33:21, *33:54
+--+---- ------+ -----+--   *33:17, *33:31 = *33:21, *33:31
+--+---- ------+ ----+---   *33:17, *33:30 = *33:21, *33:30
+--+---- ------+ ---+----   *33:17, *33:29 = *33:21, *33:29
+--+---- ------+ --+-----   *33:17, *33:28 = *33:21, *33:28
+--+---- ------+ +-------   *33:17, *33:18 = *33:17, *33:26 = *33:18, *33:21 = *33:21, *33:26
+--+---- ------+- +-------  *33:18, *33:23 = *33:23, *33:26
+--+---- ------++ -------   *33:17, *33:23 = *33:21, *33:23
+--+---- -----+-- -------+  *33:15, *33:54 = *33:19, *33:54
+--+---- -----+-- -----+--  *33:15, *33:31 = *33:19, *33:31
+--+---- -----+-- ----+---  *33:15, *33:30 = *33:19, *33:30
+--+---- -----+-- ---+----  *33:15, *33:29 = *33:19, *33:29
+--+---- -----+-- --+-----  *33:15, *33:28 = *33:19, *33:28
+--+---- -----+-- +-------  *33:15, *33:18 = *33:15, *33:26 = *33:19, *33:26
+--+---- -----+-+ -------   *33:15, *33:17 = *33:15, *33:21 = *33:17, *33:19 = *33:19, *33:21
+--+---- -----++- -------   *33:15, *33:23 = *33:19, *33:23
+--+---- ----+--- +-------  *33:12, *33:18 = *33:12, *33:26
+--+---- ----+--+ -------   *33:12, *33:17 = *33:12, *33:21
+--+---- ----++-- -------   *33:12, *33:15 = *33:12, *33:19
+--+---- ---+---- +-------  *33:11, *33:18 = *33:11, *33:26
+--+---- ---+---+ -------   *33:03:01, *33:36 = *33:11, *33:17 = *33:11, *33:21 = *33:11, *33:36 =
                            *33:17, *33:36 = *33:21, *33:36 = *33:36, *33:36
+--+---- ---+-+-- -------   *33:11, *33:15 = *33:11, *33:19
+--+---- --+---- +-------   *33:10, *33:18 = *33:10, *33:26
+--+---- --+----+ -------   *33:10, *33:17 = *33:10, *33:21
+--+---- --+-+-- -------    *33:10, *33:15 = *33:10, *33:19
+--+---- --+-+-- -------    *33:03:01, *33:25 = *33:10, *33:12 = *33:10, *33:25 = *33:12, *33:25 =
                            *33:25, *33:25
+--+---- -+------ -------+  *33:13, *33:54 = *33:53, *33:54
+--+---- -+------ -----+--  *33:13, *33:31 = *33:31, *33:53
+--+---- -+------ ----+---  *33:13, *33:30 = *33:30, *33:53
+--+---- -+------ ---+----  *33:13, *33:29 = *33:29, *33:53
+--+---- -+------ --+-----  *33:13, *33:28 = *33:28, *33:53
+--+---- -+------ +-------  *33:13, *33:18 = *33:13, *33:26 = *33:18, *33:53 = *33:26, *33:53
+--+---- -+----+ -------    *33:13, *33:17 = *33:13, *33:21 = *33:17, *33:53
+--+---- -+---+- -------    *33:13, *33:23 = *33:23, *33:53
+--+---- -+--+-- -------    *33:13, *33:15 = *33:13, *33:19 = *33:15, *33:53 = *33:19, *33:53
+--+---- -+-+--- -------    *33:12, *33:13 = *33:12, *33:53
+--+---- -+-+---- -------   *33:11, *33:13 = *33:11, *33:53
+--+---- -++---- -------    *33:10, *33:13 = *33:10, *33:53
+--+---- +------ -------+   *33:09, *33:54 = *33:14, *33:54
+--+---- +------ -----+--   *33:09, *33:31 = *33:14, *33:31
+--+---- +------ ----+---   *33:09, *33:30 = *33:14, *33:30
+--+---- +------ ---+----   *33:09, *33:29 = *33:14, *33:29
```

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For _In Vitro_ Diagnostic Use.

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

```
+--+---- +------- --+-----   *33:09, *33:28 = *33:14, *33:28
+--+---- +------- +-------   *33:09, *33:18 = *33:09, *33:26 = *33:14, *33:18 = *33:14, *33:26
+--+---- +------+ -------    *33:09, *33:17 = *33:14, *33:17 = *33:14, *33:21
+--+---- +-----+- -------    *33:09, *33:23 = *33:14, *33:23
+--+---- +----+-- -------    *33:09, *33:15 = *33:09, *33:19 = *33:14, *33:15 = *33:14, *33:19
+--+---- +---+--- -------    *33:09, *33:12 = *33:12, *33:14
+--+---- +--+---- -------    *33:09, *33:11 = *33:11, *33:14
+--+---- +-+----- -------    *33:09, *33:10 = *33:10, *33:14
+--+---- ++------ -------    *33:03:01, *33:08 = *33:03:01, *33:22 = *33:08, *33:13 = *33:08, *33:14 =
                             *33:08, *33:22 = *33:09, *33:13 = *33:09, *33:22 = *33:13, *33:14 = *33:13,
                             *33:22 = *33:14, *33:22 = *33:14, *33:53 = *33:22, *33:22 = *33:22, *33:53
+--+---+ ------- +-------    *33:18, *33:24 = *33:24, *33:26
+--+---+ -------+ -------    *33:17, *33:24 = *33:21, *33:24
+--+---+ -----+-- -------    *33:15, *33:24 = *33:19, *33:24
+--+---+ -+------ -------    *33:13, *33:24 = *33:24, *33:53
+--+---+ +------- -------    *33:09, *33:24 = *33:14, *33:24
+--+--+- -------- -------+   *33:06, *33:54 = *33:51, *33:54
+--+--+- -------- -----+--   *33:06, *33:31 = *33:31, *33:51
+--+--+- -------- ----+---   *33:06, *33:30 = *33:30, *33:51
+--+--+- -------- ---+----   *33:06, *33:29 = *33:29, *33:51
+--+--+- -------- --+-----   *33:06, *33:28 = *33:28, *33:51
+--+--+- -------- +-------   *33:06, *33:18 = *33:06, *33:26 = *33:18, *33:51 = *33:26, *33:51
+--+--+- -------+ -------    *33:06, *33:17 = *33:06, *33:21 = *33:17, *33:51
+--+--+- -----+-- -------    *33:06, *33:23 = *33:23, *33:51
+--+--+- -----+-- -------    *33:06, *33:15 = *33:06, *33:19 = *33:15, *33:51 = *33:19, *33:51
+--+--+- ----+--- -------    *33:06, *33:12 = *33:12, *33:51
+--+--+- ---+---- -------    *33:06, *33:11 = *33:11, *33:51
+--+--+- --+----- -------    *33:06, *33:10 = *33:10, *33:51
+--+--+- -+------ -------    *33:06, *33:13 = *33:06, *33:53 = *33:13, *33:51
+--+--+- +------- -------    *33:06, *33:09 = *33:06, *33:14 = *33:14, *33:51
+--+--++ -------- -------    *33:06, *33:24 = *33:24, *33:51
+--+-+-- -------- +-------   *33:18, *33:20 = *33:20, *33:26
+--+-+-- -------+ -------    *33:17, *33:20 = *33:20, *33:21
+--+-+-- -----+-- -------    *33:15, *33:20 = *33:19, *33:20
+--+-+-- -+------ -------    *33:13, *33:20 = *33:20, *33:53
+--+-+-- +------- -------    *33:09, *33:20 = *33:14, *33:20
+--+-++- -------- -------    *33:06, *33:20 = *33:20, *33:51
+--++--- ------- +-------    *33:18, *33:33 = *33:26, *33:33
+--++--- -------+ -------    *33:17, *33:33 = *33:21, *33:33
+--++--- -----+-- -------    *33:15, *33:33 = *33:19, *33:33
+--++--- -+------ -------    *33:13, *33:33 = *33:33, *33:53
+--++--- +------- -------    *33:09, *33:33 = *33:14, *33:33
+--++-+- -------- -------    *33:06, *33:33 = *33:33, *33:51
++-++--- ------- -------     *33:03:01, *33:04 = *33:04, *33:33
+++----- -------- -------+   *33:01:01, *33:34 = *33:34, *33:34
+++----- -------- ------+-   *33:01:01, *33:32 = *33:32, *33:32
+++----- -------- -----+--   *33:01:01, *33:38 = *33:38, *33:38
+++----- -------- -+------   *33:01:01, *33:27 = *33:27, *33:27
+++----- ------+- -------    *33:01:01, *33:16 = *33:16, *33:16
+++---+ -------- -------     *33:01:01, *33:07 = *33:07, *33:07
++++--+-- ------- -------    *33:01:01, *33:05 = *33:05, *33:05
++++---- -------- -------    *33:01:01, *33:03:01 = *33:01:01, *33:40 = *33:03:01, *33:40 = *33:40,
                             *33:40
+--+---- ---+--+ +-------    *33:18, *33:36 = *33:26, *33:36
+--+---- ---+-+-+ -------    *33:15, *33:36 = *33:19, *33:36
+--+---- --+-+--- +-------   *33:18, *33:25 = *33:25, *33:26
+--+---- --+-+--+ -------    *33:17, *33:25 = *33:21, *33:25
```

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101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: **42N**	Lot-specific information
+--+---- --+-++-- --------	*33:15, *33:25 = *33:19, *33:25
+--+---- -+-+---+ --------	*33:13, *33:36 = *33:36, *33:53
+--+---- -+++-+-- --------	*33:13, *33:25 = *33:25, *33:53
+--+---- +--+---+ --------	*33:09, *33:36 = *33:14, *33:36
+--+---- +-+-+--- --------	*33:09, *33:25 = *33:14, *33:25
+--+---- ++------ -------+	*33:08, *33:54 = *33:22, *33:54
+--+---- ++------ -----+--	*33:08, *33:31 = *33:22, *33:31
+--+---- ++------ ----+---	*33:08, *33:30 = *33:22, *33:30
+--+---- ++------ ---+----	*33:08, *33:29 = *33:22, *33:29
+--+---- ++------ --+-----	*33:08, *33:28 = *33:22, *33:28
+--+---- ++------ +-------	*33:08, *33:18 = *33:08, *33:26 = *33:18, *33:22 = *33:22, *33:26
+--+---- ++-----+ --------	*33:08, *33:17 = *33:17, *33:22 = *33:21, *33:22
+--+---- ++----+- --------	*33:08, *33:23 = *33:22, *33:23
+--+---- ++---+-- --------	*33:08, *33:15 = *33:08, *33:19 = *33:15, *33:22 = *33:19, *33:22
+--+---- ++-+---- --------	*33:08, *33:12 = *33:12, *33:22
+--+---- ++-+---- --------	*33:08, *33:11 = *33:11, *33:22
+--+---- +++----- --------	*33:08, *33:10 = *33:10, *33:22
+--+---+ ++------ --------	*33:08, *33:24 = *33:22, *33:24
+--+--+- ---+--+ --------	*33:06, *33:36 = *33:36, *33:51
+--+--+- --+-+-- --------	*33:06, *33:25 = *33:25, *33:51
+--+--+- ++------ --------	*33:06, *33:08 = *33:06, *33:22 = *33:22, *33:51
+--+-+-- ++------ --------	*33:08, *33:20 = *33:20, *33:22
+--++--- ++------ --------	*33:08, *33:33 = *33:22, *33:33
++-++--- -------+ --------	*33:04, *33:17 = *33:04, *33:21
++-++--- -+------ --------	*33:04, *33:13 = *33:04, *33:53
++-++--- +------- --------	*33:04, *33:09 = *33:04, *33:14
++-++-+- -------- --------	*33:04, *33:06 = *33:04, *33:51
++++---- -------- -------+	*33:01:01, *33:54 = *33:03:01, *33:34 = *33:34, *33:40 = *33:34, *33:54 = *33:40, *33:54
++++---- -------- ------+-	*33:03:01, *33:32 = *33:32, *33:40
++++---- -------- -----+--	*33:01:01, *33:31 = *33:03:01, *33:38 = *33:31, *33:38 = *33:31, *33:40 = *33:38, *33:40
++++---- -------- ----+---	*33:01:01, *33:30 = *33:30, *33:40
++++---- -------- ---+----	*33:01:01, *33:29 = *33:29, *33:40
++++---- -------- --+-----	*33:01:01, *33:28 = *33:28, *33:40
++++---- -------- -+------	*33:03:01, *33:27 = *33:27, *33:40
++++---- -------- +-------	*33:01:01, *33:26 = *33:18, *33:40 = *33:26, *33:40
++++---- -------+ --------	*33:01:01, *33:17 = *33:01:01, *33:21 = *33:17, *33:40 = *33:21, *33:40
++++---- ------+- --------	*33:01:01, *33:23 = *33:03:01, *33:16 = *33:16, *33:23 = *33:16, *33:40 = *33:23, *33:40
++++---- -----+-- --------	*33:01:01, *33:15 = *33:15, *33:40 = *33:19, *33:40
++++---- ----+--- --------	*33:01:01, *33:12 = *33:12, *33:40
++++---- ---+---- --------	*33:01:01, *33:11 = *33:11, *33:40
++++---- --+----- --------	*33:01:01, *33:10 = *33:10, *33:40
++++---- -+------ --------	*33:01:01, *33:13 = *33:01:01, *33:53 = *33:13, *33:40 = *33:40, *33:53
++++---- +------- --------	*33:01:01, *33:09 = *33:01:01, *33:14 = *33:09, *33:40 = *33:14, *33:40
++++---+ -------- --------	*33:01:01, *33:24 = *33:03:01, *33:07 = *33:07, *33:24 = *33:07, *33:40 = *33:24, *33:40
++++--+- -------- --------	*33:01:01, *33:06 = *33:01:01, *33:51 = *33:06, *33:40 = *33:40, *33:51
++++-+-- -------- --------	*33:01:01, *33:20 = *33:03:01, *33:05 = *33:05, *33:20 = *33:05, *33:40 = *33:20, *33:40
+++++--- -------- --------	*33:01:01, *33:33 = *33:04, *33:40 = *33:33, *33:40
+--+---- ++-+---+ --------	*33:08, *33:36 = *33:22, *33:36
+--+---- +++-+-- --------	*33:08, *33:25 = *33:22, *33:25
++-++--- ++------ --------	*33:04, *33:08 = *33:04, *33:22
++++---- -------- -----+-+	*33:31, *33:34 = *33:38, *33:54
++++---- -------+ -------+	*33:17, *33:34 = *33:21, *33:34

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Lot No.: **42N**	Lot-specific information
++++---- ------+ ------+-	*33:17, *33:32 = *33:21, *33:32
++++---- ------+ -----+--	*33:17, *33:38 = *33:21, *33:38
++++---- ------+ -+-----	*33:17, *33:27 = *33:21, *33:27
++++---- -----+- -------+	*33:16, *33:54 = *33:23, *33:34
++++---- -----+- -----+--	*33:16, *33:31 = *33:23, *33:38
++++---- -----++ --------	*33:16, *33:17 = *33:16, *33:21
++++---- ---+---+ --------	*33:01:01, *33:36 = *33:36, *33:40
++++---- --+-+--- --------	*33:01:01, *33:25 = *33:25, *33:40
++++---- -+------ -------+	*33:13, *33:34 = *33:34, *33:53
++++---- -+------ ------+-	*33:13, *33:32 = *33:32, *33:53
++++---- -+------ -----+--	*33:13, *33:38 = *33:38, *33:53
++++---- -+------ -+-----	*33:13, *33:27 = *33:27, *33:53
++++---- -+---+- --------	*33:13, *33:16 = *33:16, *33:53
++++---- +------- -------+	*33:09, *33:34 = *33:14, *33:34
++++---- +------- ------+-	*33:09, *33:32 = *33:14, *33:32
++++---- +------- -----+--	*33:09, *33:38 = *33:14, *33:38
++++---- +------- -+-----	*33:09, *33:27 = *33:14, *33:27
++++---- +-----+- --------	*33:09, *33:16 = *33:14, *33:16
++++---- ++------ --------	*33:01:01, *33:08 = *33:01:01, *33:22 = *33:08, *33:40 = *33:22, *33:40
++++---+ -------- -------+	*33:07, *33:54 = *33:24, *33:34
++++---+ -------- -----+--	*33:07, *33:31 = *33:24, *33:38
++++---+ ------+ --------	*33:07, *33:17 = *33:07, *33:21
++++---+ -----+- --------	*33:07, *33:23 = *33:16, *33:24
++++---+ -+------ --------	*33:07, *33:13 = *33:07, *33:53
++++---+ +------- --------	*33:07, *33:09 = *33:07, *33:14
++++--+- -------- -------+	*33:06, *33:34 = *33:34, *33:51
++++--+- -------- ------+-	*33:06, *33:32 = *33:32, *33:51
++++--+- -------- -----+--	*33:06, *33:38 = *33:38, *33:51
++++--+- -------- -+-----	*33:06, *33:27 = *33:27, *33:51
++++--+- -----+- --------	*33:06, *33:16 = *33:16, *33:51
++++--++ -------- --------	*33:06, *33:07 = *33:07, *33:51
++++-+-- -------- -------+	*33:05, *33:54 = *33:20, *33:34
++++-+-- -------- -----+--	*33:05, *33:31 = *33:20, *33:38
++++-+-- ------+ --------	*33:05, *33:17 = *33:05, *33:21
++++-+-- -----+- --------	*33:05, *33:23 = *33:16, *33:20
++++-+-- -+------ --------	*33:05, *33:13 = *33:05, *33:53
++++-+-- +------- --------	*33:05, *33:09 = *33:05, *33:14
++++-+-+ ------- --------	*33:05, *33:24 = *33:07, *33:20
++++-++- ------- --------	*33:05, *33:06 = *33:05, *33:51
++++---- ++------ -------+	*33:08, *33:34 = *33:22, *33:34
++++---- ++------ ------+-	*33:08, *33:32 = *33:22, *33:32
++++---- ++------ -----+--	*33:08, *33:38 = *33:22, *33:38
++++---- ++------ -+-----	*33:08, *33:27 = *33:22, *33:27
++++---- ++---+- --------	*33:08, *33:16 = *33:16, *33:22
++++---+ ++------ --------	*33:07, *33:08 = *33:07, *33:22
++++-+-- ++------ --------	*33:05, *33:08 = *33:05, *33:22

*33:01:01 = *33:01:01-33:01:06 and 33:49-33:50
*33:03:01= *33:03:01-33:03:09 and 33:35, 33:37, 33:41-33:43, 33:45-33:48, 33:52
*33:29 = *33:29 and 33:39
*33:31 = *33:31 and 33:44

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Lot No.: **42N**   Lot-specific information
SPECIFICITY TABLE

HLA-A*33 SSP subtyping

Specificities and sizes of the PCR products of the 24 primer mixes used for HLA-A*33 SSP subtyping

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-A*33 alleles[3]	Other amplified HLA-A alleles[4]
1	205 bp	**800 bp**	*33:01:01-33:01:06, 33:03:01-33:07, 33:10-33:20, 33:22-33:50, 33:52, 33:54	*68:29
2	205 bp	**800 bp**	*33:01:01-33:01:06, 33:04-33:05, 33:07, 33:16, 33:27, 33:32, 33:34, 33:38, 33:40, 33:49-33:50	*03:104, 66:04
3	155 bp	1070 bp	*33:01:01-33:01:06, 33:05, 33:07, 33:16, 33:27, 33:32, 33:34, 33:38, 33:40, 33:49-33:50	*02:332, 03:104, 66:04
4	210 bp	1070 bp	*33:03:01-33:03:09, 33:06, 33:08-33:15, 33:17, 33:20-33:26, 33:28-33:31, 33:33, 33:35-33:37, 33:39-33:48, 33:51-33:54	*02:41, 02:65, 02:80, 02:117, 02:135, 02:152, 02:289, 02:304, 02:309, 03:103, 23:45, 24:62, 25:01:01-25:16, 26:01:01-26:39, 26:41-26:43:02, 26:45-26:72, 29:32, 31:01:02-31:02, 31:05, 31:07-31:56, 31:58-31:59, 32:01:01-32:03, 32:05-32:29, 32:31, 32:33-32:37, 34:01:01-34:01:02, 34:05-34:06, 43:01, 66:01-66:03, 66:05-66:16, 74:01-74:15
5[5]	90 bp	**800 bp**	*33:04, 33:33	*26:68
6[5,8]	105 bp, 175 bp	1070 bp	*33:05, 33:20	
7[5,9]	105 bp, 230 bp	1070 bp	*33:06, 33:51	*11:98, 66:15, 68:04
8[5,7,10]	125 bp, 235 bp	1070 bp	*33:07, 33:24	*02:243, 29:19, 31:54
9[11]	150 bp, 185 bp	**800 bp**	*33:08-33:09, 33:14, 33:22	*01:20, 01:66, 02:24:01-02:24:02, 02:137, 02:243, 02:309, 03:95, 26:22, 66:09

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10[12]	140 bp, 215 bp, 285 bp	**800 bp**	*33:08, 33:13, 33:22, 33:53	*01:20, 01:66, 02:24:01-02:24:02, 02:137, 02:243, 02:309, 03:95, 11:43, 24:82, 26:22, 66:09
11[6]	165 bp	1070 bp	*33:10, 33:25	*23:03:01, 29:03, 31:05, 32:13
12[5,13]	95 bp, 235 bp	1070 bp	*33:11, 33:36	*11:43, 68:29
13[5,6,14]	95 bp, 165 bp	1070 bp	*33:12, 33:25	
14[5,15]	115 bp, 335 bp	1070 bp	*33:15, 33:19	*02:10, 02:17:01-02:17:02, 02:39, 02:108, 02:110, 02:140, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 03:15, 03:19, 24:04, 24:19, 24:28, 24:44, 24:89, 24:109, 24:129, 29:07, 31:29, 31:48
15[7]	140 bp	1070 bp	*33:16, 33:23	
16[5,16]	95 bp, 210 bp, 245 bp	1070 bp	*33:17, 33:21, 33:36	
17[5,17]	75 bp, 140 bp	1070 bp	*33:18, 33:26	*03:01:18, 03:22:02, 11:01:28, 29:01:01:01-29:01:01:02N, 29:01:03-29:31, 31:06, 32:30, 32:32
18[5]	100 bp	1070 bp	*33:27	
19[5]	120 bp	1070 bp	*33:28	*03:01:18, 03:22:02, 32:10, **C*02:02:15**
20[5,18]	90 bp, 225 bp	1070 bp	*33:29, 33:39	
21[5]	115 bp	1070 bp	*33:30	
22[5,19]	115 bp, 255 bp	1070 bp	*33:31, 33:38, 33:44	*02:241, 26:24
23	170 bp	1070 bp	*33:32	*02:332
24[5,20]	95 bp, 205 bp	1070 bp	*33:34, 33:54	*03:01:18, 11:01:28, 29:09, 31:24, 32:33

[1]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*33 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.

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Lot No.: 42N   **Lot-specific information**

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherit 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.

[2]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*33 subtyping. In addition, wells number 2, 5, 9 and 10 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.

[3]For several HLA-A alleles 4th exon 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 the 4th exon are conserved within allelic groups.

[4]Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A*33 alleles will be amplified by primer mixes 1 to 5, 7 to 12, 14, 17, 19 and 22 to 24. In addition, the C*02:02:15 allele will be amplified by primer mix 19.

[5]Short specific PCR fragments are less intense and not as sharp as longer specific bands.

[6]Primer mixes 11 and 13 may give to non-specific amplifications.

[7]Primer mixes 8 and 15 may have tendencies of giving rise to primer dimers.

[8]Primer mix 6: Specific PCR fragment of 105 bp in the A*33:20 allele. Specific PCR fragment of 175 bp in the A*33:05 allele.

[9]Primer mix 7: Specific PCR fragment of 105 bp in the A*33:06 allele. Specific PCR fragment of 230 bp in the A*33:51 and the A*11:98, 66:15 and 68:04 alleles.

[10]Primer mix 8: Specific PCR fragment of 125 bp in the A*33:07 and the A*31:54 alleles. Specific PCR fragment of 235 bp in the A*33:24 and the A*02:243 and 29:19 alleles.

[11]Primer mix 9: Specific PCR fragment of 150 bp in the A*33:14 and 33:22 and the A*01:20, 01:66, 02:24:01-02:24:02, 02:137, 02:309, 03:95, 26:22 and 66:09 alleles. Specific PCR fragment of 185 bp in the A*33:08 and 33:09 and the A*02:243 alleles.

[12]Primer mix 10: Specific PCR fragment of 140 bp in the A*33:22 and A*01:20, 01:66, 02:24:01-02:24:02, 02:137, 02:309, 03:95, 26:22 and 66:09 alleles. Specific PCR fragment of 215 bp in the A*33:08 and 33:53 and the A*02:243 and 24:82 alleles. Specific PCR fragment of 285 bp in the A*33:13 and the A*11:43 alleles.

[13]Primer mix 12: Specific PCR fragment of 95 bp in the A*33:36 allele. Specific PCR fragment of 235 bp in the A*33:11 and the A*11:43 and 68:29 alleles.

[14]Primer mix 13: Specific PCR fragment of 95 bp in the A*33:12 allele. Specific PCR fragment of 165 bp in the A*33:25 allele.

[15]Primer mix 14: Specific PCR fragment of 115 bp in the A*33:15 and the A*02:140 and 31:48 alleles. Specific PCR fragment of 335 bp in the A*33:19 and the A*02:10, 02:17:01-02:17:02, 02:39, 02:108, 02:110, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 03:15, 03:19, 24:04, 24:19, 24:28, 24:44, 24:89, 24:109, 24:129, 29:07 and 31:29 alleles.

[16]Primer mix 16: Specific PCR fragment of 95 bp in the A*33:36 allele. Specific PCR fragment of 210 bp in the A*33:21 allele. Specific PCR fragment of 245 bp in the A*33:17 allele.

[17]Primer mix 17: Specific PCR fragment of 75 bp in the A*33:18 and the A*03:01:18, 03:22:02, 11:01:28, 29:01:01:01-29:01:01:02N, 29:01:03-29:31, 31:06, 32:30 and 32:32 alleles. Specific PCR fragment of 140 bp in the A*33:26 allele.

[18]Primer mix 20: Specific PCR fragment of 90 bp in the A *33:29 allele. Specific PCR fragment of 225 bp in the A*33:39 allele.

[19]Primer mix 22: Specific PCR fragment of 115 bp in the A*33:31 and the A*02:241 and 26:24 alleles. Specific PCR fragment of 255 bp in the A*33:38 and 33:44 alleles.

[20]Primer mix 24: Specific PCR fragment of 95 bp in the A*33:34 and the A*03:01:18, 11:01:28, 29:09, 31:24 and 32:33 alleles. Specific PCR fragment of 205 bp in the A*33:54 allele.

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INTERPRETATION TABLE
HLA-A*33 SSP subtyping
Amplification patterns of the A*33:01 to A*33:54 alleles

	Well[8]											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Length of spec. PCR product(s)	205	205	155	210	90	105	105	125	150	140	165	95
						175	230	235	185	215		235
										285		
Length of int. pos. control[1]	800	800	1070	1070	800	1070	1070	1070	800	800	1070	1070
5'-primer[2]	97	418	468	414	414	97	103	97	97	97	448	97
	5'-TCA 3'	-Agg 3'	-TCT 3'	-CAg 3'	-CAg 3'	-TCA 3'	-CCT 3'	-TCA 3'	-TCA 3'	-TCA 3'	-CCT 3'	-TCA 3'
						413	228	448	355	355	652	355
						5'-CCA 3'	-ATg 3'	-CCT 3'	-CCg 3'	-CCg 3'	-CTg 3'	-CCA 3'
3'-primer(s)[3]	259	583	583	583	463	233	290	292	218	270	570	290
	5'-gTT 3'	-gTg 3'	-gTg 3'	-gTA 3'	-gCT 3'	-CCC 3'	-CAA 3'	-gTg 3'	-gCC 3'	-ACT 3'	-CCg 3'	-CAg 3'
						475		530	240	341	778	407
						5'-Cgg 3'		5'-CCT 3'	5'-ggA 3'	-CgT 3'	-TgT 3'	-ACT 3'
									453	453		
									5'-TCg 3'	5'-TCg 3'		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
HLA-A allele[4,5]												
*33:01:01-33:01:06, 33:49-33:50	1	2	3									
*33:03:01-33:03:09, 33:35, 33:37, 33:41-33:43, 33:45-33:48, 33:52	1			4								
*33:04	1	2			5							
*33:05	1	2	3			6						
*33:06	1			4			7					
*33:07	1	2	3					8				
*33:08, 02:309, 26:22, 66:09[6]				4					9	10		
*33:09				4					9			
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

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Lot No.: 42N **Lot-specific information**

INTERPRETATION TABLE
HLA-A*33 SSP subtyping
Amplification patterns of the A*33:01 to A*33:54 alleles

Well[8]												
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	
95	115	140	95	75	100	120	90	115	115	170	95	**Length of spec.**
165	335		210	140			225		255		205	**PCR product(s)**
			245									
1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	**Length of int. pos. control[1]**
395	317	158	97	161	390	448	397	463	652	453	448	**5'-primer[2]**
5'-gCC 3'	5'-gCg 3'	5'-ggg 3'	5'-TCA 3'	5'-CgC 3'	5'-gAg 3'	5'-CCT 3'	5'-gCg 3'	5'-TgT 3'	5'-CTg 3'	5'-AAA 3'	5'-CCT 3'	
652	652	482	355	413			649					
5'-CTg 3'	5'-CTg 3'	5'-ggC 3'	5'-CCA 3'	5'-CCg 3'			5'-ACA 3'					
448	368	259	265	259	448	527	448	538	728	583	502	**3'-primer(s)[3]**
5'-CAA 3'	5'-CAA 3'	5'-gTT 3'	5'-CCC 3'	5'-gTT 3'	5'-CAA 3'	5'-CCT 3'	5'-CAA 3'	5'-CAA 3'	5'-CCT 3'	5'-gTg 3'	5'-CTT 3'	
778	727	583	299	448			831		866		614	
5'-TgT 3'	5'-CCA 3'	5'-gTg 3'	5'-CCg 3'	5'-CAA 3'			5'-TCC 3'		5'-gAT 3'		5'-TgA 3'	
			407									
			5'-ACT 3'									
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Well No.**
												HLA-A allele[4,5]
												*33:01:01-33:01:06, 33:49-33:50
												*33:03:01-33:03:09, 33:35, 33:37, 33:41-33:43, 33:45-33:48, 33:52
												*33:04
												*33:05
												*33:06
												*33:07
												*33:08, 02:309, 26:22, 66:09[6]
												*33:09
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Well No.**

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Lot No.: **42N**   Lot-specific information

Length of spec.	205	205	155	210	90	105	105	125	150	140	165	95
PCR product(s)						175	230	235	185	215		235
										285		
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
*33:10	1			4							11	
***33:11**	1			4								12
*33:12	1			4								
*33:13	1			4						10		
*33:14	1			4					9			
*33:15	1			4								
***33:16**	1	2	3									
*33:17	1			4								
*33:18	1											
*33:19	1											
*33:20	1			4		6						
*33:21				4								
*33:22	1			4					9	10		
***33:23**	1			4								
*33:24	1			4				8				
***33:25**	1			4							11	
***33:26**	1			4								
***33:27**	1	2	3									
*33:28	1			4								
*33:29, 33:39	1			4								
*33:30	1			4								
*33:31, 33:44	1			4								
*33:32	1	2	3									
***33:33**	1			4	5							
***33:34**	1	2	3									
***33:36**	1			4								12
*33:38	1	2	3									
*33:40	1	2	3	4								
*33:51, 66:15[7]				4			7					
*33:53				4						10		
***33:54**	1			4								
*01:20, 01:66, 02:24:01-02:24:02, 02:137, 03:95									9	10		
*02:10, 02:17:01-02:17:02, 02:39, 02:108, 02:110, 02:140, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 03:15, 03:19, 24:04, 24:19, 24:28, 24:44, 24:89, 24:109, 24:129												
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: **42N**   **Lot-specific information**

13	14	15	16	17	18	19	20	21	22	23	24	
95	115	140	95	75	100	120	90	115	115	170	95	**Length of spec.**
165	335		210	140			225		255		205	**PCR product(s)**
			245									
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Well No.**
												*33:10
												***33:11**
13												*33:12
												*33:13
												*33:14
	14											*33:15
		15										***33:16**
			16									*33:17
				17								*33:18
	14											*33:19
												*33:20
			16									*33:21
												*33:22
		15										***33:23**
												*33:24
13												***33:25**
				17								***33:26**
					18							***33:27**
						19						*33:28
							20					*33:29, 33:39
								21				*33:30
									22			*33:31, 33:44
										23		*33:32
												***33:33**
											24	***33:34**
			16									***33:36**
									22			*33:38
												*33:40
												*33:51, 66:15[7]
												*33:53
											24	***33:54**
												*01:20, 01:66, 02:24:01-02:24:02, 02:137, 03:95
	14											*02:10, 02:17:01-02:17:02, 02:39, 02:108, 02:110, 02:140, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 03:15, 03:19, 24:04, 24:19, 24:28, 24:44, 24:89, 24:109, 24:129
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Well No.**

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

Length of spec.	205	205	155	210	90	105	105	125	150	140	165	95
PCR product(s)						175	230	235	185	215		235
										285		
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
*02:41, 02:65, 02:80, 02:117, 02:135, 02:152, 02:289, 02:304, 03:103, 23:45, 24:62, 25:01:01-25:16, 26:01:01-26:21, 26:23, 26:25N-26:39, 26:41-26:43:02, 26:45-26:67, 26:69-26:72, 29:32, 31:01:02-31:02, 31:07-31:23, 31:25-31:28, 31:30-31:47, 31:49-31:53, 31:55-31:56, 31:58-31:59, 32:01:01-32:03, 32:05-32:09, 32:11Q-32:12, 32:14-32:29, 32:31, 32:34-32:37, 34:01:01-34:01:02, 34:05-34:06, 43:01, 66:01-66:03, 66:05-66:08, 66:10-66:14, 66:16, 74:01-74:15				**4**								
*02:241												
*02:243								**8**	**9**	**10**		
*02:332			**3**									
*03:01:18												
*03:22:02												
*03:104, 66:04		**2**	**3**									
*11:01:28, 29:09												
*11:43										**10**		**12**
*11:98, 68:04							**7**					
*23:03:01											**11**	
*24:82										**10**		
*26:24				**4**								
*26:68				**4**	**5**							
*29:01:01:01-29:01:01:02N, 29:01:03-29:02:09, 29:04-29:06, 29:08N, 29:10-29:18, 29:20-29:31, 31:06, 32:30, 32:32												
*29:03											**11**	
*29:07												
*29:19								**8**				
*31:05, 32:13				**4**							**11**	
*31:24, 32:33				**4**								
*31:29, 31:48				**4**								
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

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For *In Vitro* Diagnostic Use.

101.432-12 – including *Taq* **polymerase,** IFU-01 Rev. No. 03 Visit www.olerup-ssp.com for
101.432-12u – without *Taq* **polymerase,** IFU-02 Rev. No. 03 **"Instructions for Use" (IFU)**

Lot No.: **42N** **Lot-specific information**

13	14	15	16	17	18	19	20	21	22	23	24	
95	115	140	95	75	100	120	90	115	115	170	95	**Length of spec.**
165	335		210	140			225		255		205	**PCR product(s)**
			245									
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Well No.**
												*02:41, 02:65, 02:80, 02:117, 02:135, 02:152, 02:289, 02:304, 03:103, 23:45, 24:62, 25:01:01-25:16, 26:01:01-26:21, 26:23, 26:25N-26:39, 26:41-26:43:02, 26:45-26:67, 26:69-26:72, 29:32, 31:01:02-31:02, 31:07-31:23, 31:25-31:28, 31:30-31:47, 31:49-31:53, 31:55-31:56, 31:58-31:59, 32:01:01-32:03, 32:05-32:09, 32:11Q-32:12, 32:14-32:29, 32:31, 32:34-32:37, 34:01:01-34:01:02, 34:05-34:06, 43:01, 66:01-66:03, 66:05-66:08, 66:10-66:14, 66:16, 74:01-74:15
									22			*02:241
												*02:243
										23		*02:332
				17		**19**					**24**	*03:01:18
				17		**19**						*03:22:02
												*03:104, 66:04
				17							**24**	*11:01:28, 29:09
												*11:43
												*11:98, 68:04
												*23:03:01
												*24:82
									22			*26:24
												*26:68
				17								*29:01:01:01-29:01:01:02N, 29:01:03-29:02:09, 29:04-29:06, 29:08N, 29:10-29:18, 29:20-29:31, 31:06, 32:30, 32:32
				17								*29:03
	14			**17**								*29:07
				17								*29:19
												*31:05, 32:13
											24	*31:24, 32:33
	14											*31:29, 31:48
13	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**Well No.**

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101.432-12 – including *Taq* **polymerase,** IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* **polymerase,** IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

Length of spec.	205	205	155	210	90	105	105	125	150	140	165	95
PCR product(s)						175	230	235	185	215		235
										285		
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
*31:54				4				8				
*32:10				4								
*68:29	1											12
C*02:02:15												
HLA-A allele[4,5]												
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**

[1]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*33 subtyping. .

In addition, wells number 2, 5, 9 and 10 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

[2]The nucleotide position, in the 2nd, 3rd or 4th exon, 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.

[3]The nucleotide position, in the 2nd, 3rd or 4th exon, 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.

[4]The sequence of the A*3302 allele has been shown to be identical to A*33:03:01.

[5]HLA-A*33 alleles in bold lettering are listed as confirmed alleles on the on the IMGT/HLA web page www.ebi.ac.uk/imgt/hla, release 3.7.0, January 2012.

[6]The A*33:08 and the A*02:309, 26:22 and 66:09 give rise to identical amplification patterns with the HLA-A*33 subtyping kit. These alleles can be distinguished by e.g. the HLA-A low resolution kit and/or the HLA-A*02, HLA-A*26 and HLA-A*66 subtyping kits.

[7]The A*33:51 and A*66:15 alleles give rise to identical amplification patterns with the HLA-A*33 subtyping kit. These alleles can be distinguished by e.g. the HLA-A low resolution kit and/or the HLA-A*66 subtyping kit.

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03 Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03 **"Instructions for Use" (IFU)**

Lot No.: 42N **Lot-specific information**

95	115	140	95	75	100	120	90	115	115	170	95	Length of spec.
165	335		210	140			225		255		205	PCR product(s)
			245									
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*31:54
						19						*32:10
												*68:29
						19						C*02:02:15
												HLA-A allele[4,5]
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

[8]Primer mix 6: Specific PCR fragment of 105 bp in the A*33:20 allele. Specific PCR fragment of 175 bp in the A*33:05 allele.

Primer mix 7: Specific PCR fragment of 105 bp in the A*33:06 allele. Specific PCR fragment of 230 bp in the A*33:51 and the A*11:98, 66:15 and 68:04 alleles.

Primer mix 8: Specific PCR fragment of 125 bp in the A*33:07 and the A*31:54 alleles. Specific PCR fragment of 235 bp in the A*33:24 and the A*02:243 and 29:19 alleles.

Primer mix 9: Specific PCR fragment of 150 bp in the A*33:14 and 33:22 and the A*01:20, 01:66, 02:24:01-02:24:02, 02:137, 02:309, 03:95, 26:22 and 66:09 alleles. Specific PCR fragment of 185 bp in the A*33:08 and 33:09 and the A*02:243 alleles.

Primer mix 10: Specific PCR fragment of 140 bp in the A*33:22 and A*01:20, 01:66, 02:24:01-02:24:02, 02:137, 02:309, 03:95, 26:22 and 66:09 alleles. Specific PCR fragment of 215 bp in the A*33:08 and 33:53 and the A*02:243 and 24:82 alleles. Specific PCR fragment of 285 bp in the A*33:13 and the A*11:43 alleles.

Primer mix 12: Specific PCR fragment of 95 bp in the A*33:36 allele. Specific PCR fragment of 235 bp in the A*33:11 and the A*11:43 and 68:29 alleles.

Primer mix 13: Specific PCR fragment of 95 bp in the A*33:12 allele. Specific PCR fragment of 165 bp in the A*33:25 allele.

Primer mix 14: Specific PCR fragment of 115 bp in the A*33:15 and the A*02:140 and 31:48 alleles. Specific PCR fragment of 335 bp in the A*33:19 and the A*02:10, 02:17:01-02:17:02, 02:39, 02:108, 02:110, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 03:15, 03:19, 24:04, 24:19, 24:28, 24:44, 24:89, 24:109, 24:129, 29:07 and 31:29 alleles.

Primer mix 16: Specific PCR fragment of 95 bp in the A*33:36 allele. Specific PCR fragment of 210 bp in the A*33:21 allele. Specific PCR fragment of 245 bp in the A*33:17 allele.

Primer mix 17: Specific PCR fragment of 75 bp in the A*33:18 and the A*03:01:18, 03:22:02, 11:01:28, 29:01:01:01-29:01:01:02N, 29:01:03-29:31, 31:06, 32:30 and 32:32 alleles. Specific PCR fragment of 140 bp in the A*33:26 allele.

Primer mix 20: Specific PCR fragment of 90 bp in the A *33:29 allele. Specific PCR fragment of 225 bp in the A*33:39 allele.

Primer mix 22: Specific PCR fragment of 115 bp in the A*33:31 and the A*02:241 and 26:24 alleles. Specific PCR fragment of 255 bp in the A*33:38 and 33:44 alleles.

Primer mix 24: Specific PCR fragment of 95 bp in the A*33:34 and the A*03:01:18, 11:01:28, 29:09, 31:24 and 32:33 alleles. Specific PCR fragment of 205 bp in the A*33:54 allele.

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101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

CELL LINE VALIDATION SHEET
HLA-A*33 SSP subtyping kit

	IHWC cell line	A*	A*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
			Lot No.:	201298301	201298302	201298303	200964004	201298305	200964006	201298307	200964008	200964009	200964010	201298311	201298312	200964013	201298314	200964015	201298316
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

					Well							
					17	18	19	20	21	22	23	24
				Lot No.:	201298317	201080418	201298319	201298320	201298321	201298322	201080423	201298324
	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		-	-	-	-	-	-	-	-

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April 2012   For *In Vitro* Diagnostic Use.
Rev. No.: 00

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**
CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-A*33 SSP
Product number: **101.432-12 – including *Taq* polymerase**
                                 101.432-12u – without *Taq* polymerase
Lot number: **42N**
Expiry date: **2014-September-01**
Number of tests: **12**
Number of wells per test: **24**

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2012-983-01	9	2009-640-09	17	2012-983-17
2	2012-983-02	10	2009-640-10	18	2010-804-18
3	2012-983-03	11	2012-983-11	19	2012-983-19
4	2009-640-04	12	2012-983-12	20	2012-983-20
5	2012-983-05	13	2009-640-13	21	2012-983-21
6	2009-640-06	14	2012-983-14	22	2012-983-22
7	2012-983-07	15	2009-640-15	23	2010-804-23
8	2009-640-08	16	2012-983-16	24	2012-983-24

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 5, 7 to 13, 15, 16 and 18 to 24 were available. The specificities of the primers in primer solutions 5, 7 to 13, 19, 23 and 24 were tested by separately adding additional 5'-primers respectively 3'-primers. In primer solutions 16 and 22 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solution 15, 18, 20 and 21 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 7, 13 and 17, one 5'-primer was not possible to test, and in primer solutions 6, 8, 9, 11 to 14 and 24 one 3'-primer was not possible to test. Additional primers in primer solutions 6, 14 and 17 were tested by separately adding one additional 5'-primer and/or one additional 3'-primer.

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

Date of approval: 2012-April-05

Approved by:

Production Quality Control

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   Lot-specific information
Declaration of Conformity

Product name: *Olerup* SSP® HLA-A*33
Product number: 101.432-12/12u
Lot number: 42N

Intended use: HLA-A*33 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 13485:2003, 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, Franzengatan 5, SE-112 51 Stockholm, Sweden.

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
2012-April-05

Ann-Cathrin Jareman
Head of QA and Regulatory Affairs

101.432-12 – including *Taq* polymerase, IFU-01 Rev. No. 03   Visit www.olerup-ssp.com for
101.432-12u – without *Taq* polymerase, IFU-02 Rev. No. 03   **"Instructions for Use" (IFU)**

Lot No.: 42N   **Lot-specific information**

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