Olerup SSP® HLA-A*33

Product number:	**101.432-12 – including *Taq* polymerase**
Lot number:	**32G**
Expiry date:	**2011-October-01**
Number of tests:	**12**
Number of wells per test:	**16**
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. 32G.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP® HLA-A*33 LOT

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. 80E)**.

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	Added	Primer pair added for the A*3320 allele.
7	Added	Added	Exchanged positive control primer pair, primer pair added for the A*3318 allele.
8	Added	Added	Primer pair added for the A*3324 allele.
9	Added	Added	Exchanged positive control primer pair, primer pair added for the A*3322 allele.
10	Added	Added	Exchanged positive control primer pair, primer pair added for the A*3322 allele.
11	Added	Added	Primer pair added for the A*3325 allele.
13	Added	Added	Primer pair added for the A*3325 allele.
14	Added	Added	Primer pair added for the A*3319 allele.
15	Added	Added	Primer pair added for the A*3323 allele.
16	-	Added	Primer added for the A*3321 allele.

PRODUCT DESCRIPTION

HLA-A*33 SSP subtyping

CONTENT
The primer set contains 5'- and 3'-primers for identifying the A*3301 to A*3325 alleles.

PLATE LAYOUT
Each test consists of 16 PCR reactions in a 16 well cut PCR plate.

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
9	**10**	**11**	**12**	**13**	**14**	**15**	**16**

The 16 well cut PCR plate is marked with 'HLA-A*33'.
Well No. 1 is marked with the Lot No. '32G'.
A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.
The PCR plates are covered with a PCR-compatible foil.
Please note: When removing each 16 well PCR plate, make sure that the remaining plates stay covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION
The interpretation of HLA-A*33 SSP subtypings will be influenced by the A*0120, several A*02, two A*03, the A*1143, the A*230301, seven A*24, the A*25, the A*26, the A*29, most A*31, the A*32, four A*34, the A*4301, most A*66, A*6829 and the A*74 alleles when present on the other haplotype.

UNIQUELY IDENTIFIED ALLELES
All the HLA-A*33 alleles, i.e. **A*3301 to A*3325 alleles**, recognized by the HLA Nomenclature Committee in July 2009[1] will give rise to unique amplification patterns by the primers in the HLA-A*33 subtyping kit[2].
The A*33 subtyping kit cannot distinguish the A*330301 to A*330303 alleles.

[1]HLA-A alleles listed on the IMGT/HLA web page 2009-July-17, release 2.26.0, www.ebi.ac.uk/imgt/hla.
[2]The A*3308, A*2622 and A*6609 give rise to identical amplification patterns with the HLA-A*33 subtyping kit. These three alleles can be distinguished by e.g. the HLA-A low resolution kit and/or the HLA-A*26 and HLA-A*66 subtyping kits.

RESOLUTION IN HOMO- AND HETEROZYGOTES
The 24 HLA-A*33 alleles can be combined in 300 homozygous and heterozygous combinations. 208 of these genotypes do not give rise to unique amplification patterns.
The different sizes of the specific PCR products generated by primer mixes 6 to 10, 13, 14 and 16 were not considered in this calculation.

```
++++-+-+ --------     3305,3324 = 3307,3320
++++-+-- ++-------     3305,3308 = 3305,3322
++++-+-- +--------     3305,3309 = 3305,3314
++++-+-- ------+-     3305,3323 = 3316,3320
++++-+-- -------+     3305,3317 = 3305,3321
++++-+-- --------     3301,3320 = 3303,3305 = 3305,3320
+++---+ ++-------     3307,3308 = 3307,3322
+++---+ +--------     3307,3309 = 3307,3314
+++---+ ------+-     3307,3323 = 3316,3324
+++---+ -------+     3307,3317 = 3307,3321
+++---+ --------     3301,3324 = 3303,3307 = 3307,3324
+++--- ++----+-     3308,3316 = 3316,3322
+++--- ++-------     3301,3308 = 3301,3322
+++--- +-----+-     3309,3316 = 3314,3316
+++--- +--------     3301,3309 = 3301,3314
+++--- ------++     3316,3317 = 3316,3321
+++--- ------+-     3301,3323 = 3303,3316 = 3316,3323
+++--- -------+     3301,3317 = 3301,3321
++--+-- --------     3301,3305 = 3305,3305
++---+ --------     3301,3307 = 3307,3307
++---- ------+-     3301,3316 = 3316,3316
++-+--- ++-------     3304,3308 = 3304,3322
++-+--- +--------     3304,3309 = 3304,3314
++-+--- -------+     3304,3317 = 3304,3321
+--+-++- --------     3306,3320 = 3318,3320
+--+-+-- ++-------     3308,3320 = 3320,3322
+--+-+-- +--------     3309,3320 = 3314,3320
+--+-+-- -----+--     3315,3320 = 3319,3320
+--+-+-- -------+     3317,3320 = 3320,3321
+--+-+-- --------     3303,3320 = 3320,3320
+--+--++ --------     3306,3324 = 3318,3324
+--+--+- ++-------     3306,3308 = 3306,3322 = 3308,3318 =
                      3318,3322
+--+--+- +--------     3306,3309 = 3306,3314 = 3309,3318 =
                      3314,3318
+--+--+- -+-------     3306,3313 = 3313,3318
+--+--+- --+-+---     3306,3325 = 3318,3325
+--+--+- --+-----     3306,3310 = 3310,3318
+--+--+- ---+----     3306,3311 = 3311,3318
+--+--+- ----+---     3306,3312 = 3312,3318
+--+--+- -----+--     3306,3315 = 3306,3319 = 3315,3318
+--+--+- ------+-     3306,3323 = 3318,3323
+--+--+- -------+     3306,3317 = 3306,3321 = 3317,3318 =
                      3318,3321
+--+--+- --------     3303,3306 = 3303,3318 = 3306,3306 =
                      3306,3318
+--+---+ ++-------     3308,3324 = 3322,3324
+--+---+ +--------     3309,3324 = 3314,3324
+--+---+ -----+--     3315,3324 = 3319,3324
+--+---+ -------+     3317,3324 = 3321,3324
+--+---+ --------     3303,3324 = 3324,3324
+--+---- +++-+---     3308,3325 = 3322,3325
```

```
+--+---- ++-----     3308,3310 = 3310,3322
+--+---- ++-+----     3308,3311 = 3311,3322
+--+---- ++--+---     3308,3312 = 3312,3322
+--+---- ++---+--     3308,3315 = 3308,3319 = 3315,3322 =
                      3319,3322
+--+---- ++----+-     3308,3323 = 3322,3323
+--+---- ++-----+     3308,3317 = 3317,3322 = 3321,3322
+--+---- ++------     3303,3308 = 3303,3322 = 3308,3313 =
                      3308,3314 = 3308,3322 = 3309,3313 =
                      3309,3322 = 3313,3314 = 3313,3322 =
                      3314,3322 = 3322,3322
+--+---- +-+-+---     3309,3325 = 3314,3325
+--+---- +-+-----     3309,3310 = 3310,3314
+--+---- +--+----     3309,3311 = 3311,3314
+--+---- +---+---     3309,3312 = 3312,3314
+--+---- +----+--     3309,3315 = 3309,3319 = 3314,3315 =
                      3314,3319
+--+---- +-----+-     3309,3323 = 3314,3323
+--+---- +------+     3309,3317 = 3314,3317 = 3314,3321
+--+---- +-------     3303,3309 = 3303,3314 = 3309,3314 =
                      3314,3314
+--+---- -+---+--     3313,3315 = 3313,3319
+--+---- -+-----+     3313,3317 = 3313,3321
+--+---- -+------     3303,3313 = 3313,3313
+--+---- --+-+--     3315,3325 = 3319,3325
+--+---- --+-+--+     3317,3325 = 3321,3325
+--+---- --+-+---     3303,3325 = 3310,3312 = 3310,3325 =
                      3312,3325 = 3325,3325
+--+---- --+--+--     3310,3315 = 3310,3319
+--+---- --+----+     3310,3317 = 3310,3321
+--+---- --+-----     3303,3310 = 3310,3310
+--+---- ---+-+--     3311,3315 = 3311,3319
+--+---- ---+---+     3311,3317 = 3311,3321
+--+---- ---+----     3303,3311 = 3311,3311
+--+---- ----+--     3312,3315 = 3312,3319
+--+---- ----+--+     3312,3317 = 3312,3321
+--+---- ----+---     3303,3312 = 3312,3312
+--+---- -----++-     3315,3323 = 3319,3323
+--+---- -----+-+     3315,3317 = 3315,3321 = 3317,3319 =
                      3319,3321
+--+---- -----+--     3303,3315 = 3303,3319 = 3315,3315 =
                      3315,3319
+--+---- ------++     3317,3323 = 3321,3323
+--+---- ------+-     3303,3323 = 3323,3323
+--+---- -------+     3303,3317 = 3303,3321 = 3317,3317 =
                      3317,3321
---+---- ++------     3308,3308 = 3308,3309

3301 = 330101
3303= 330301-330303
```

SPECIFICITY TABLE

HLA-A*33 SSP subtyping

Specificities and sizes of the PCR products of the 16 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	Other amplified HLA-A alleles[3]
1	205 bp	**800 bp**	*330101, 330301-3307, 3310-3320, 3322-3325	*6829
2	205 bp	**800 bp**	*330101, 3304, 3305, 3307, 3316	*6604
3	155 bp	1070 bp	*330101, 3305, 3307, 3316	*6604
4	210 bp	1070 bp	*330301-330303, 3306, 3308-3315, 3317, 3320-3325	*0241, 0265, 0280, 9217, 9235, 9252, 2462, 250101-2508, 260101-2638, 310102-3102, 3105, 3107-3125, 320101-3203, 3205-3219N, 340101, 340102, 3405, 3406, 4301, 6601-6603, 6605-6610, 7401-7414N
5[4]	90 bp	**800 bp**	*3304	
6[4,7]	105 bp, 175 bp	1070 bp	*3305, 3320	
7[4,6,8]	75 bp, 105 bp, 500 bp	**800 bp**	*3306, 3318	*29010101, 29010102N, 290201-2919, 3106
8[4,9]	125 bp, 235 bp	1070 bp	*3307, 3324	*2919
9[10]	150 bp, 185 bp	**800 bp**	*3308, 3309, 3314, 3322	*0120, 0224, 9237, 2622, 6609
10[11]	140 bp, 215 bp, 285 bp	**800 bp**	*3308, 3313, 3322	*0120, 0224, 9237, 1143, 2482, 2622, 3102, 3103, 3107, 3108, 6609
11[5]	165 bp	1070 bp	*3310, 3325	*230301, 2903, 3105, 3213

12	235 bp	1070 bp	*3311	*1143, 6829
13[4,5,12]	95 bp, 165 bp	1070 bp	*3312, 3325	
14[4,13]	115 bp, 335 bp	1070 bp	*3315, 3319	*0210, 021701, 021702, 0239, 9208, 9210, 9240, 9248, 0315, 0319, 2404, 2419, 2428, 2444, 2489, 2907
15	140 bp	1070 bp	*3316, 3323	
16[14]	210 bp, 245 bp	1070 bp	*3317, 3321	

[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 length of the specific PCR product(s) of the alleles amplified by these primer mixes are given.
Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.
PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.
PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.
Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an 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, 7, 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]Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A*33 alleles will be amplified by primer mixes 1 to 4, 7 to 12 and 14. The A*3308, A*2622 and A*6609 give rise to identical amplification patterns with the HLA-A*33 subtyping kit. These three alleles can be distinguished by e.g. the HLA-A low resolution kit and/or the HLA-A*26 and HLA-A*66 subtyping kits.
[4]Short specific PCR fragments are less intense and not as sharp as longer specific bands.
[5]Primer mixes 11 and 13 may give to non-specific amplifications.
[6]Primer mix 7 may have tendencies of giving rise to primer dimers.
[7]Primer mix 6: Specific PCR fragment of 105 bp in the A*3320 allele. Specific PCR fragment of 175 bp in the A*3305 allele.
[8]Primer mix 7: Specific PCR fragment of 75 bp in the A*3318 and A*29010101, 29010102N, 290201-2919 and 3106 alleles. Specific PCR fragments of 105 and 500 bp in the A*3306 allele.
[9]Primer mix 8: Specific PCR fragment of 125 bp in the A*3307 allele. Specific PCR fragment of 235 bp in the A*3324 and A* 2919 alleles.
[10]Primer mix 9: Specific PCR fragment of 150 bp in the A*3314, 3322 and A*0120, 0224, 9237, 2622 and 6609 alleles. Specific PCR fragment of 185 bp in the A*3308 and 3309 alleles.

[11]Primer mix 10: Specific PCR fragment of 140 bp in the A* 3322 and A*0120, 0224, 9237, 2622 and 6609 alleles. Specific PCR fragment of 215 bp in the A*3308 and A*2482, 3102, 3107 and 3108 alleles. Specific PCR fragment of 285 bp in the A*3313 and the A*1143 and 3103 alleles.
[12]Primer mix 13: Specific PCR fragment of 95 bp in the A*3312 allele. Specific PCR fragment of 165 bp in the A*3325 allele.
[13]Primer mix 14: Specific PCR fragment of 115 bp in the A*3315 and A*9240 alleles. Specific PCR fragment of 335 bp in the A*3319 and A*0210, 021701, 021702, 0239, 9208, 9210, 9248, 0315, 0319, 2404, 2419, 2428, 2444, 2489 and 2907 alleles.
[14]Primer mix 16: Specific PCR fragment of 210 bp in the A*3321 allele. Specific PCR fragment of 245 bp in the A*3317 allele.

INTERPRETATION TABLE

HLA-A*33 SSP subtyping

Amplification patterns of the A*3301 to A*3325 alleles

	Well[5]							
	1	2	3	4	5	6	7	8
Length of spec.	205	205	155	210	90	105	75	125
PCR product(s)						175	105	235
							500	
Length of int.	800	800	1070	1070	800	1070	800	1070
pos. control[1]								
5'-primer[2]	97	418	468	414	414	97	228	97
	5' -TCA 3'	5' -Agg 3'	5' -TCT 3'	5' -CAg 3'	5' -CAg 3'	5' -TCA 3'	5' -ATg 3'	5' -TCA 3'
						413	413	448
						5' -CCA 3'	5' -CCg 3'	5' -CCT 3'
3'-primer(s)[3]	259	583	583	583	463	233	290	292
	5' -gTT 3'	5' -gTg 3'	5' -gTg 3'	5' -gTA 3'	5' -gCT 3'	5' -CCC 3'	5' -CAA 3'	5' -gTg 3'
						475	448	530
						5' -Cgg 3'	5' -CAA 3'	5' -CCT 3'
Well No.	1	2	3	4	5	6	7	8
HLA-A allele[4]								
*330101	1	2	3					
*330301-330303	1			4				
*3304	1	2			5			
*3305	1	2	3			6		
*3306	1			4			7	
*3307	1	2	3					8
*3308. 2622. 6609[6]				4				
*3309				4				
*3310	1			4				
*3311	1			4				
*3312	1			4				
*3313	1			4				
*3314	1			4				
*3315	1			4				
*3316	1	2	3					
*3317	1			4				
*3318	1						7	
*3319	1							
*3320	1			4		6		
Well No.	1	2	3	4	5	6	7	8

INTERPRETATION TABLE

HLA-A*33 SSP subtyping

Amplification patterns of the A*3301 to A*3325 alleles

Well[5]								
9	10	11	12	13	14	15	16	
150	140	165	235	95	115	140	210	Length of spec.
185	215			165	335		245	PCR product(s)
	285							
800	800	1070	1070	1070	1070	1070	1070	Length of int.
								pos. control[1]
97	97	448	97	395	317	158	97	5'-primer[2]
5' -TCA 3'	5' -TCA 3'	5' -CCT 3'	5' -TCA 3'	5' -gCC 3'	5' -gCg 3'	5' -ggg 3'	5' -TCA 3'	
355	355	652		652	652	482		
5' -CCg 3'	5' -CCg 3'	5' -CTg 3'		5' -CTg 3'	5' -CTg 3'	5' -ggC 3'		
218	270	570	290	448	368	259	265	3'-primer(s)[3]
5' -gCC 3'	5' -ACT 3'	5' -CCg 3'	5' -CAg 3'	5' -CAA 3'	5' -CAA 3'	5' -gTT 3'	5' -CCC 3'	
240	341	778		778	727	583	299	
5' -ggA 3'	5' -CgT 3'	5' -TgT 3'		5' -TgT 3'	5' -CCA 3'	5' -gTg 3'	5' -CCg 3'	
453	453							
5' -TCg 3'	5' -TCg 3'							
9	10	11	12	13	14	15	16	Well No.
								HLA-A allele[4]
								*330101
								*330301-330303
								*3304
								*3305
								*3306
								*3307
9	10							*3308. 2622. 6609[6]
9								*3309
		11						*3310
			12					*3311
				13				*3312
	10							*3313
9								*3314
					14			*3315
						15		*3316
							16	*3317
								*3318
					14			*3319
								*3320
9	10	11	12	13	14	15	16	Well No.

Length of spec.	**205**	**205**	**155**	**210**	**90**	**105**	**75**	**125**
PCR product(s)						**175**	**105**	**235**
							500	
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
***3321**				**4**				
***3322**	**1**			**4**				
***3323**	**1**			**4**				
***3324**	**1**			**4**				**8**
***3325**	**1**			**4**				
***0120, 0224, 9237**								
***0210, 021701, 021702, 0239, 9208, 9210, 9240, 9248, 0315, 0319, 2404, 2419, 2428, 2444, 2489**								
***0241, 0265, 0280, 9217, 9235, 9252, 2462, 250101-2508, 260101-2621, 2623-2638, 310102, 310103, 3109-3125, 320101-3203, 3205-3212, 3214-3219N, 340101, 340102, 3405, 3406, 4301, 6601-6603, 6605-6608, 6610, 7401-7414N**				**4**				
***1143**								
***230301**								
***2482, 3103**								
***29010101, 29010102N, 290201-290203, 2904-2906, 2908N-2918, 3106**							**7**	
***2903**							**7**	
***2907**							**7**	
***2919**							**7**	**8**
***3102, 3107, 3108**				**4**				
***3105, 3213**				**4**				
***6604**		**2**	**3**					
***6829**	**1**							
HLA-A allele[4]								
Well No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

150	140	165	235	95	115	140	210	Length of spec.
185	215			165	335		245	PCR product(s)
	285							
9	10	11	12	13	14	15	16	Well No.
							16	*3321
9	10							*3322
						15		*3323
								*3324
		11		13				*3325
9	10							*0120, 0224, 9237
					14			*0210, 021701, 021702, 0239, 9208, 9210, 9240, 9248, 0315, 0319, 2404, 2419, 2428, 2444, 2489
								*0241, 0265, 0280, 9217, 9235, 9252, 2462, 250101-2508, 260101-2621, 2623-2638, 310102, 310103, 3109-3125, 320101-3203, 3205-3212, 3214-3219N, 340101, 340102, 3405, 3406, 4301, 6601-6603, 6605-6608, 6610, 7401-7414N
	10		12					*1143
		11						*230301
	10							*2482, 3103
								*29010101, 29010102N, 290201-290203, 2904-2906, 2908N-2918, 3106
		11						*2903
					14			*2907
								*2919
	10							*3102, 3107, 3108
		11						*3105, 3213
								*6604
			12					*6829
								HLA-A allele[4]
9	10	11	12	13	14	15	16	Well No.

[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, 7, 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*3303.
[5]Primer mix 6: Specific PCR fragment of 105 bp in the A*3320 allele. Specific PCR fragment of 175 bp in the A*3305 allele.
Primer mix 7: Specific PCR fragment of 75 bp in the A*3318 and A*29010101, 29010102N, 290201-2919 and 3106 alleles. Specific PCR fragment of 105 and 500 bp in the A*3306 allele.
Primer mix 8: Specific PCR fragment of 125 bp in the A*3307 allele. Specific PCR fragment of 235 bp in the A*3324 and A* 2919 alleles.
Primer mix 9: Specific PCR fragment of 150 bp in the A*3314, 3322 and A*0120, 0224, 9237, 2622 and 6609 alleles. Specific PCR fragment of 185 bp in the A*3308 and 3309 alleles.
Primer mix 10: Specific PCR fragment of 140 bp in the A* 3322 and A*0120, 0224, 9237, 2622 and 6609 alleles. Specific PCR fragment of 215 bp in the A*3308 and A*2482, 3102, 3107 and 3108 alleles. Specific PCR fragment of 285 bp in the A*3313 and the A*1143 and 3103 alleles.
Primer mix 13: Specific PCR fragment of 95 bp in the A*3312 allele. Specific PCR fragment of 165 bp in the A*3325 allele.
Primer mix 14: Specific PCR fragment of 115 bp in the A*3315 and A*9240 alleles. Specific PCR fragment of 335 bp in the A*3319 and A*0210, 021701, 021702, 0239, 9208, 9210, 9248, 0315, 0319, 2404, 2419, 2428, 2444, 2489 and 2907 alleles.
Primer mix 16: Specific PCR fragment of 210 bp in the A*3321 allele. Specific PCR fragment of 245 bp in the A*3317 allele.
[6]The A*3308, A*2622 and A*6609 give rise to identical amplification patterns with the HLA-A*33 subtyping kit. These three alleles can be distinguished by e.g. the HLA-A low resolution kit and/or the HLA-A*26 and HLA-A*66 subtyping kits.

CELL LINE VALIDATION SHEET

HLA-A*33 SSP subtyping kit

					Well														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Lot No.:	200964001	200964002	200964003	200964004	200964005	200964006	200964007	200964008	200964009	200964010	200964011	200964012	200964013	200964014	200964015	200964016
	IHWC cell line		A*	A*																
1	9001	SA	*2402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*0101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*3001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*0101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*0201	*2603	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*2601		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*3101		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*2601		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*2402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*2902		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
12	9052	DBB	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*3101		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*2402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*2902		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*0301	*8001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*3303	*7401	+	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*0217		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
22	9056	KOSE	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*0201	*3401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*3201		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*3301		+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*0205		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*2410	*2901	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*0201	*2902	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
29	9050	MOU	*2902		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
30	9021	RSH	*3001	*6802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*3002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*0201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*3101		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*3101		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*3201		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*0206	*1101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*0217		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
39	9315	CML	*0101	*0301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*0207	*3001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*0207		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*0207		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*6601		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*2301	*2402	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*0301		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*0216	*0301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*0201	*1101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-A*33 SSP

Product number: **101.432-12 – including *Taq* polymerase**
Lot number: **32G**
Expiry date: **2011-October-01**
Number of tests: **12**
Number of wells per test: **16**

Well specifications:

Well No.	Production No.	Well No.	Production No.
1	2009-640-01	9	2009-640-09
2	2009-640-02	10	2009-640-10
3	2009-640-03	11	2009-640-11
4	2009-640-04	12	2009-640-12
5	2009-640-05	13	2009-640-13
6	2009-640-06	14	2009-640-14
7	2009-640-07	15	2009-640-15
8	2009-640-08	16	2009-640-16

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

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

Date of approval: 2009-October-14

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP® HLA-A*33
Product number: 101.432-12
Lot number: 32G

Intended use: HLA-A*33 high resolution histocompatibility testing

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

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

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

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

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

Saltsjöbaden, Sweden
2009-October-14

Olle Olerup

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