

Lot No.: **96F**

Lot-specific information

Olerup SSP[®] HLA-B*42

Product number: 101.543-06u – without *Taq* polymerase
Lot number: 96F
Expiry date: 2011-June-01
Number of tests: 6
Number of wells per test: 11
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. 96F.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP[®]* HLA-B*42 LOT.

The HLA-B*42 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP[®]* HLA-B*42 lot was made (Lot No. 51E).

One well have been added to the HLA-B*42 kit,
well **11**.

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	Modified	-	Increased specificity of specific primer pair.
7	Modified	-	Increased specificity of specific primer pair.
10	-	Exchanged	Increased specificity of specific primer pair, and exchanged positive control primer pair.
11	New	New	New primer pair for the HLA-B*4210 allele

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PRODUCT DESCRIPTION

HLA-B*42 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*4201 to B*4210 alleles.

PLATE LAYOUT

Each HLA-B*42 test consists of 11 PCR reactions in a 16 well cut PCR plate. Wells 12 to 16 are empty.

1	2	3	4	5	6	7	8
9	10	11	empty	empty	empty	empty	empty

The 16 well PCR plate is marked with 'HLA-B*42' in silver/gray ink.

Well No. 1 is marked with the Lot No. '96F'.

The PCR plates are heat-sealed with a PCR-compatible foil.

Please note: When removing each 16 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

The interpretation of HLA-B*42 SSP subtypings will be influenced by most B*07, most B*08, the B*1314, four B*14, five B*15, the B*18, five B*27, five B*35, the B*37, the B*38, the B*39, several B*40, the B*41, many B*44, the B*45, the B*48, five B*51, most B*54, many B*55, many B*56, the B*5709, the B*6701, the B*81, the B*82 and the B*8301 alleles when present on the other haplotype.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*42, i.e. **B*4201 to B*4210**, recognized by the HLA Nomenclature Committee in May 2009¹ will be amplified by the primers in the HLA-B*42 SSP kit. The HLA-B42 subtyping kit cannot distinguish the B*420501 and 420502 alleles.

¹HLA-B alleles listed on the IMGT/HLA web page 2009-May-09, release 2.25.2, www.ebi.ac.uk/imgt/hla.

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RESOLUTION IN HOMO- AND HETEROZYGOTES

The nine HLA-B*42 alleles can be combined in 45 homozygous and heterozygous combinations. Twenty-four of these genotypes do not give rise to unique amplification patterns.

+++++--- +--	4202, 4204 = 4204, 4209
+++-+--- +--	4202, 4205 = 4205, 4209
+++--++- +--	4202, 4206 = 4206, 4209
+++--+-+ +-+	4202, 4208 = 4208, 4209
+++--+-+ +-+	4202, 4210 = 4209, 4210
+++--+-+ +--	4201, 4202 = 4201, 4209
+++--+-+ +--	4201, 4205 = 4205, 4205
+++--+-+ +--	4201, 4206 = 4206, 4206
+++--+-+ +-+	4201, 4208 = 4208, 4208
+++--+-+ +-+	4201, 4210 = 4210, 4210
-++-+-++ +--	4202, 4207 = 4207, 4209
-++-+-++ +--	4202, 4202 = 4202, 4209

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SPECIFICITY TABLE

HLA-B*42 SSP subtyping

Specificities and sizes of the PCR products of the 11 primer mixes used for HLA-B*42 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*42 alleles	Other amplified HLA-B alleles ³
1	215 bp	800 bp	4201, 4204-4206, 4208, 4210	070201-070207, 0704-0707, 0709, 0711, 0712, 0714, 0715, 0717-0726, 0728, 0730, 0731, 0733-0736, 0739-0749N, 0751-0768, 0770, 0772, 0775, 0776, 1576, 9501, 3576, 5401, 5403-5406, 5408N-5417, 550101-5505, 5507-5515, 5517, 5519-5524, 5526-5533, 5601-5607, 5609-5613, 5615, 5616, 5618-5622, 5624, 670101-670102, 8101-8104N, 8201, 8202, 8301
2	215 bp	1070 bp	4201, 4202, 420501-4210	0704, 0719, 0725, 080101-0805, 0807, 0808N, 0810, 0811, 0814, 0815, 0817-0819N, 0821-0824, 0826-0838, 3587, 3709, 4102, 4104
3⁴	215 bp	1070 bp	4202, 4209	4506, 5402, 5516
4	220 bp	1070 bp	4204	0809, 1583, 4101, 4105-4107, 4415, 4418, 4420, 4501-4509, 5108, 5120, 5136, 5144N, 5520, 5613
5⁵	105 bp	800 bp	420501-420502	0704, 0725, 4108
6	165 bp	1070 bp	4201, 4202, 4204-4208, 4210	080101-0805, 0808N-0812, 0815-0819N, 0821-0824, 0826, 0827, 0829-0836, 0838, 1583, 3587, 3712, 4101-410302, 4105-4108, 4414, 4462, 5108, 5120, 5136, 5144N, 5520, 5613, 5709, 8201, 8202
7	160 bp	1070 bp	4206	370101-370105, 3703N-

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				3706, 3708, 3710, 3711, 3713, 3714, 4415, 4418, 4501, 4502, 4504-4508, 5613, 8201, 8202, Cw*070401-070403 ^{weakly} , Cw*0711 ^{weakly} , Cw*0712 ^{weakly} , Cw*0745 ^{weakly} , Cw*0763 ^{weakly}
8	215 bp	1070 bp	4207	0703, 0708, 0716, 0727, 0732, 0738, 0750, 0769, 1314, 1401, 1407N, 1408, 1410, 1568, 1571, 180101-1803, 1805-1815, 1817N-1824, 1826-1833, 2712, 2716, 2718, 2723, 2729, 3550, 3584, 370101-3714, 380101- 3804, 3806-3819, 39010101-3903, 3905- 390602, 3907, 3908-3911, 391301-3920, 3922-3948, 400201-400602, 4008, 4009, 4011, 4013, 4018- 4020, 4024, 4026-4029, 4035, 4037, 4039, 4040, 4044, 4050, 4056, 4064, 4068, 4070, 4071, 4074, 4075, 4078, 4082, 4083, 4085, 4086, 4089-4091, 4093-4096, 480101-4819, 5157
9	170 bp	1070 bp	4201, 4202, 4204-4206, 4208-4210	070201-070207, 0704- 0707, 0709, 0711, 0712, 0714, 0715, 0717-0726, 0728-0731, 0733-0736, 0739-0749N, 0751-0755, 0757-0764, 0766-0768, 0770, 0771, 0775, 0776, 5510, 5616, 670101- 670102, 8101-8104N, 8201, 8202, 8301
10⁵	105 bp	800 bp	4208	0719, 1551, 1583, 3538, 370101-370105, 3703N- 3706, 3708-3714, 44020101-440205, 4405, 4406, 4408, 4409, 4411,

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				4412, 4414-4425, 4427, 4433, 4434, 4441, 4442, 4444, 4448, 4449, 4451- 4453, 4455, 4458N, 4459, 4462, 4463, 4466, 4467, 4501-4504, 4506-4509, 5108, 5120, 5136, 5144N, 5613, 5709, 8201, 8202, 8301, Cw*070401-070403, Cw*0711, Cw*0712, Cw*0745, Cw*0763, Cw*0768
11	180 bp	1070 bp	4210	5315

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*42 SSP typings.

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

Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.

PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

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-B*42 subtyping.

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

³Due to the sharing of sequence motifs between HLA-B alleles some non-HLA-B*42 alleles will be amplified by primer mixes 1 to 11. In addition, the Cw*070401 to 070403, Cw*0711, Cw*0712, Cw*0745 and Cw*0763 alleles will be weakly amplified by primer mix 7, and the Cw*070401 to 070403, Cw*0711, Cw*0712, Cw*0745, Cw*0763 and Cw*0768 alleles will be amplified by primer mix 10.

⁴Primer mix 3 may give rise to nonspecific amplifications.

⁵Specific PCR fragments shorter than 125 base pairs are less intense and not as sharp as longer specific bands.

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INTERPRETATION TABLE											
HLA-B*42 SSP subtyping											
Amplification patterns of the B*4201 to 4210 alleles											
	Well										
	1	2	3	4	5	6	7	8	9	10	11
Length of spec.	215	215	215	220	105	165	160	215	170	105	180
PCR product											
Length of int.	800	1070	1070	1070	800	1070	1070	1070	1070	800	1070
pos. control¹											
5'-primer²	97	363	97	357	540	412	419	103	142	540	463
	5'-TCT ^{3'}	5'-AgC ^{3'}	5'-TCC ^{3'}	5'-Tgg ^{3'}	5'-gAC ^{3'}	5'-ATA ^{3'}	5'-gTT ^{3'}	5'-CCT ^{3'}	5'-TCT ^{3'}	5'-gAC ^{3'}	5'-TgA ^{3'}
3'-primer³	272	538	272	538	605	538	538	277	272	603	603
	5'-TgT ^{3'}	5'-gTC ^{3'}	5'-TgT ^{3'}	5'-gTC ^{3'}	5'-gCT ^{3'}	5'-gTC ^{3'}	5'-gTC ^{3'}	5'-ggT ^{3'}	5'-TgT ^{3'}	5'-gTC ^{3'}	5'-gTg ^{3'}
Well No.	1	2	3	4	5	6	7	8	9	10	11
HLA-B allele⁴											
*4201	1	2				6			9		
*4202		2	3			6			9		
*4204	1			4		6			9		
*420501-420502	1	2			5	6			9		
*4206	1	2				6	7		9		
*4207		2				6		8			
*4208	1	2				6			9	10	
*4209		2	3						9		
*4210	1	2				6			9		11
*070201-070207, 070501-0707, 0709, 0711, 0712, 0714, 0715, 0717-071802, 0720-0724, 0726, 0728, 0730, 0731, 0733-0736, 0739-0749N, 0751-0755, 0757-0764, 0766-0768, 0770, 0775, 0776, 5510, 5616, 670101-670102, 8101-8104N	1								9		
Well No.	1	2	3	4	5	6	7	8	9	10	11

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Length of spec.	215	215	215	220	105	165	160	215	170	105	180
PCR product											
Well No.	1	2	3	4	5	6	7	8	9	10	11
*0703, 0708, 0716, 0727, 0732, 0738, 0750, 0769, 1314, 1401, 1407N, 1408, 1410, 1568, 1571, 180101-1803, 1805-1815, 1817N-1824, 1826-1833, 2712, 2716, 2718, 2723, 2729, 3550, 3584, 3702, 3707, 380101-3804, 3806-3819, 39010101-3903, 3905								8			
*0704, 0725	1	2			5				9		
*0719	1	2							9	10	
*0729, 0771									9		
*0756, 0765, 0772, 1576, 9501, 3576, 5401, 5403-5406, 5408N-5417, 550101-5505, 5507-5509, 5511-5515, 5517, 5519, 5521-5524, 5526-5533, 5601-5607, 5609-5612, 5615, 5618-5622, 5624	1										
*080101-0805, 0808N, 0810, 0811, 0815, 0817-0819N, 0821-0824, 0826, 0827, 0829-0836, 0838, 3587, 4102		2				6					
*0807, 0814, 0828, 0837, 4104		2									
*0809, 4101, 4105-4107				4		6					
*0812, 0816, 410301-410302						6					
Well No.	1	2	3	4	5	6	7	8	9	10	11

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Length of spec.	215	215	215	220	105	165	160	215	170	105	180
PCR product											
Well No.	1	2	3	4	5	6	7	8	9	10	11
*1551, 3538, 44020101-440205, 4405, 4406, 4408, 4409, 4411, 4412, 4416, 4417, 4419N, 4421-4425, 4427, 4433, 4434, 4441, 4442, 4444, 4448, 4449, 4451-4453, 4455, 4458N, 4459, 4463, 4466, 4467										10	
*1583, 5108, 5120, 5136, 5144N				4		6				10	
*370101-370105, 3703N-3706, 3708, 3710, 3711, 3713, 3714							7	8		10	
*3709		2						8		10	
*3712						6		8		10	
*4108					5	6					
*4414, 4462, 5709						6				10	
*4415, 4418, 4501, 4502, 4504, 4507, 4508				4			7			10	
*4420, 4503, 4509				4						10	
*4505				4			7				
*4506			3	4			7			10	
*5315											11
*5402, 5516			3								
*5520	1			4		6					
*5613	1			4		6	7			10	
*8201, 8202	1					6	7		9	10	
*8301	1								9	10	
Cw*070401-070403, Cw*0711, Cw*0712, Cw*0745, Cw*0763							w			10	
Cw*0768										10	
HLA-B allele ⁴											
Well No.	1	2	3	4	5	6	7	8	9	10	11

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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-B*42 SSP subtyping.

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

²The nucleotide position, in the 2nd or 3rd 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.

³The nucleotide position, in the 2nd or 3rd 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.

⁴The B*4203 allele was never assigned.

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CELL LINE VALIDATION SHEET															
HLA-B*42 SSP primer set															
				Well											
				1	2	3	4	5	6	7	8	9	10	11	
				Prod. No.:	200960601	200960602	200960603	200960604	200960605	200960606	200960607	200960608	200960609	200960610	200960611
IHC cell line			B*												
1	9001	SA	*0702	+	-	-	-	-	-	-	-	-	+	-	-
2	9280	LK707	*5201 *7301	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*52011	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*1510 *5301	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*3701	-	-	-	-	-	-	-	+	+	-	-	-
6	9353	SM	*3901 *5101	-	-	-	-	-	-	-	-	+	-	-	-
7	9020	QBL	*1801	-	-	-	-	-	-	-	-	+	-	-	-
8	9025	DEU	*3501	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*3801	-	-	-	-	-	-	-	-	+	-	-	-
10	9107	LKT3	*5401	+	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*4403	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*5701	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*2705	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*1501 *1520	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*4001	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*4002	-	-	-	-	-	-	-	-	+	-	-	-
17	9282	CTM3953540	*0801 *5501	+	+	-	-	-	+	-	-	-	-	-	-
18	9257	32367	*1401 *5601	+	-	-	-	-	-	-	-	+	-	-	-
19	9038	BM16	*1801	-	-	-	-	-	-	-	-	+	-	-	-
20	9059	SLE005	*4001	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*1501	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*3503	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*4002 *5602	+	-	-	-	-	-	-	-	+	-	-	-
24	9035	JBUSH	*3801	-	-	-	-	-	-	-	-	+	-	-	-
25	9049	IBW9	*1402	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*5801	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*0705 *5101	+	-	-	-	-	-	-	-	-	+	-	-
28	9320	BEL5GB	*4402 *4403	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*4403	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*4201	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*1801	-	-	-	-	-	-	-	-	+	-	-	-
32	9297	HAG	*4102	-	+	-	-	-	+	-	-	-	-	+	-
33	9098	MT14B	*4001	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*3801	-	-	-	-	-	-	-	-	+	-	-	-
35	9302	SSTO	*4402	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*1501 *3501	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*0702	+	-	-	-	-	-	-	-	-	+	-	-
38	9099	LZL	*1501	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*0801 *2705	-	+	-	-	-	+	-	-	-	-	-	-
40	9134	WHONP199	*1302 *4601	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*1402	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*4601	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*4601	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*3801	-	-	-	-	-	-	-	-	+	-	-	-
45	9239	SHJO	*4201 *5001	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*0702	-	+	-	-	-	-	-	-	-	+	-	-
47	9045	TUBO	*5101	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*3501 *4403	-	-	-	-	-	-	-	-	-	-	-	-

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CERTIFICATE OF ANALYSIS

Olerup SSP[®] HLA-B*42 SSP

Product number: 101.543-06u – without *Taq* polymerase
Lot number: 96F
Expiry date: 2011-June-01
Number of tests: 6
Number of wells per test: 11

Well specifications:

Well No.	Production No.	Well No.	Production No.
1	2009-606-01	9	2009-606-09
2	2009-606-02	10	2009-606-10
3	2009-606-03	11	2009-606-11
4	2009-606-04		
5	2009-606-05		
6	2009-606-06		
7	2009-606-07		
8	2009-606-08		

The specificity of each primer solution of the HLA-B*42 primer set has been tested against 48 well characterized IHWC cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solution 5 and 11 were available. The specificities of the primers in primer solution 5 and 11 were tested by separately adding one additional 3'-primer, respectively one additional 5'-primer.

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

Date of approval: 2009-June-30

Approved by:

Quality Control, Supervisor

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Declaration of Conformity

Product name: *Olerup* SSP® HLA-B*42
Product number: 101.543-06u
Lot number: 96F

Intended use: HLA-B*42 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 9001:2000 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-June-30

Olle Olerup
Managing Director

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ADDRESSES:

Manufacturer:

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