Olerup SSP™ HLA-B*52

Product number:	**101.562-06 – licensed for PCR** **101.562-06u – not licensed for PCR**
Lot number:	**Y31**
Expiry date:	**2009-August-01**
Number of tests:	**6**
Number of tubes per test:	**14**
Storage - pre-aliquoted primers:	**dark at -20°C**
- PCR Master Mix:	**-20°C**

This Product Description is only valid for Lot No. Y31.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP™ HLA-B*52 LOT.

The HLA-B*52 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup* SSP™ HLA-B*52 lot was made **(Lot No. X01)**.

One tube has been removed from the HLA-B*52 kit, well **15**.

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

Tube	5'-primer	3'-primer	rationale
2	-	Exchanged	More specific B*5209 primer pair.
3	Modified	-	Increased specificity of specific primer pair
4	Exchanged	Exchanged	B*5202-specific primer pair.
5	Exchanged	-	More specific primer pair.
6	Exchanged	-	More specific primer pair-
9	Exchanged	Exchanged	B*520601-specific primer pair.
10	-	-	Previously primer pair 15.
15	Moved	Moved	Moved to vial 10.

PRODUCT DESCRIPTION

HLA-B*52 SSP typing

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*5201 to B*5211 alleles.
The primer solutions are pre-aliquoted into 0.2 ml PCR tubes. Each tube in the set contains a dried primer solution consisting of a specific primer mix, i.e. allele- and group-specific primers as well as a ***control primer pair*** matching non-allelic sequences.
PCR Master Mix complete with Taq, *Taq* polymerase, nucleotides, buffer, glycerol and cresol red, as well as PCR lids are included in the licensed kit.
PCR Master Mix without Taq, nucleotides, buffer, glycerol and cresol red, as well as PCR lids are included in the unlicensed kit.
14 PCR reactions with a reaction volume of 10 µl are performed per HLA-B*52 subtyping.

Note: The pellets in the tubes may vary in form and colour. This does not affect the performance of the product.

PLATE LAYOUT

Each HLA-B*52 test consists of 14 PCR reactions in a 16 well cut PCR plate. Wells 15 and16 are empty.

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

The 16 well PCR plate is marked with 'B*52 Y31'.
Well No. 1 is marked with '1'.
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*52 SSP subtypings will be influenced by most other HLA-B alleles.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*52, i.e. **B*5201 to B*5211**, recognized by the HLA Nomenclature Committee in October 2007[1] will be amplified by the primers in the HLA-B*52 SSP kit.

The HLA-B*52 subtyping kit cannot distinguish the B*520101 to B*520104 alleles.

[1]***Nomenclature for factors of the HLA system, 1998***. *Tissue Antigens* 1999: **53**: 407-446.
HLA-B alleles listed on the IMGT/HLA web page 2007-October-05, release 2.19.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

The 11 HLA-B*52 alleles give rise to 12 amplification patterns, B*560501 and B*560502 yield different patterns, that can be combined in 78 homozygous and heterozygous combinations. Twelve of these genotypes do not give rise to unique amplification patterns.

++++----- ----++-	5201,5209 = 5209,5209
+-+---+- ----++-	5201,5205 = 5205,5205
+-+----+ ----++-	5201,5204 = 5204,5204
+-+----- -+-++-	5201,5208 = 5208,5208
--+-++-- ----++-	5203,5203 = 5203,5210 = 5203,5211 = 5210,5211

LICENSES

101.562-06 – licensed for PCR.

Notice to purchaser: Limited License.

The purchase price of this product includes limited, non-transferable rights under U.S. Patents 4,683,202, 4,683,195 and 4,965,188 and their foreign counterparts, owned by Roche Molecular Systems, Inc. and F. Hoffman-La Roche Ltd ("Roche"), to use only this amount of the product to practice the Polymerase Chain Reaction ("PCR") Process described in said patents solely for the HLA Typing applications of the purchaser solely for organ or tissue or bone marrow transplantation, and explicitly excludes analysis of forensic evidence or parentage determination. The rights to use this product to perform and to offer commercial service for HLA Typing for organ or tissue transplantation using PCR, including reporting the results of the purchaser's activities for a fee or other commercial consideration, is also hereby granted. Further information on purchasing licenses to practice PCR may be obtained by contacting in the United States, the Director of Licensing at Roche Molecular Systems, inc., 1145 Atlantic Avenue, Alameda, California 94501, and outside the United States, the PCR Licensing Manager, F. Hoffmann-La Roche Ltd, Grenzacherstr. 124, CH-4070 Basel, Switzerland.

101.562-06u – not licensed for PCR.

Notice to purchaser: Disclaimer of License.

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101.562-06 and 101.562-06u

These products use ARMS™ technology and is sold under license from Zeneca Limited. ARMS is the subject of European Patent No. 0332435, US Patent No. 5595890 and corresponding world-wide patents. ARMS is a trademark of Zeneca Limited.

GUARANTEE

Olerup SSP AB guarantees that the primers in the HLA-B*52 typing kit have the specificities given in the Specificity and Interpretation Tables of the product insert and in the GenoVision version of the HELMBERG-SCORE™ software.

When stored at –20°C, the dried primers are stable for 22 months from the date of manufacture.

When stored at –20°C, the PCR Master Mix complete with *Taq* and the PCR Master Mix without *Taq* are stable for 24 months from the date of manufacture.

The kit is shipped at ambient temperature.

PROTOCOL

DNA EXTRACTION

Extracted, highly pure DNA is needed for SSP typings. We recommend isolation of DNA using GenoPrep B200 or GenoPrep B350 cartridges on the GenoM™-6 robotic workstation (GenoVision Europe *Tel:* +43 1 710 15 00 or GenoVision Inc. USA *Tel:* +1 610 430 88 41; http://www.genovision.com). Using GenoM™-6-extracted DNA ACD, EDTA and heparinised blood can be used as starting material. Because of its high purity, GenoM™-6-extracted DNA can be diluted when used in combination with *Olerup* SSP™ products. The recommended DNA concentration is 15 ng/ul.
Alternatively – BUT DO NOT USE HEPARINISED BLOOD WITH THESE METHODS - the DNA can be extracted using trimethylammoniumbromide salts (DTAB/CTAB) or by salting out. Dissolve the extracted DNA in dH_2O.

IMPORTANT:
Optimal DNA concentration using: GenoM™-6-extracted DNA, 15 ng/□l.
DNA extracted by other methods, 30 ng/□l.

Concentration exceeding 50 ng/□l will increase the risk for nonspecific amplifications and weak extra bands, especially for HLA Class I high resolution SSP typings.

PCR AMPLIFICATION

101.562-06 – licensed for PCR

For one **HLA-B*52** SSP subtyping, add at room temperature in a 0.5 ml tube:

18 x 2 μl = 36 μl DNA (30 ng/μl)
18 x 3 μl = 54 μl PCR Master Mix complete with *Taq* – mix well before taking your aliquot
18 x 5 μl = 90 μl dH_2O

Mix well, dispense 10 μl of the DNA-PCR Master Mix-H_2O mixture into each of the 14 wells of an HLA-B*52 subtyping. ***Well No. 1 of the 16 well PCR plate is marked with '1'.*** Close the 16 well PCR plate with the provided lids.

101.562-06u – <u>not</u> licensed for PCR

For one **HLA-B*52** SSP subtyping, add at room temperature in a 0.5 ml tube:

18 x 2 μl = 36 μl DNA (30 ng/μl)
18 x 3 μl = 54 μl PCR Master Mix without *Taq* – mix well before taking your aliquot
1.4 μl *Taq* polymerase (5 units/μl)
18 x 5 μl – 1.4 μl = 88.6 μl dH_2O

Mix well, dispense 10 μl of the DNA-PCR Master Mix-*Taq*-H_2O mixture into each of the 14 wells of an HLA-B*52 subtyping. ***Well No. 1 of the 16 well PCR plate is marked with '1'.*** Close the 16 well PCR plate with the provided lids.

Use a 96 well thermal cycler with a heated lid. The temperature gradient across the heating block should be < 1°C.

PCR cycling parameters:

1. 1 cycle	94°C	2 min	denaturation
2. 10 cycles	94°C	10 sec.	Denaturation
	65°C	60 sec.	Annealing and extension
3. 20 cycles	94°C	10 sec.	Denaturation
	61°C	50 sec.	Annealing
	72°C	30 sec.	Extension

The same PCR cycling parameters are used for all the *Olerup* SSP kits.

AGAROSE GEL ELECTROPHORESIS

Prepare a 2% (w/v) agarose gel in 0.5 x TBE buffer. Dissolve the agarose by boiling in a microwave oven. Let the gel solution cool to 60°C. Stain the gel prior to casting with ethidium bromide (10 mg/ml), 5 µl per 100 ml gel solution. For maximal ease of handling use our ethidium bromide dropper bottles (Product No. 103.301-10), 1 drop of ethidium bromide solution per 50-75 ml of gel. **<u>Note:</u> Ethidium bromide is a powerful carcinogen.**
Load the PCR products, preferably using an 8-channel pipette. Load a DNA size marker (100 base pair ladder, Product No. 103.201-100) in one well per row.
Run the gel in 0.5 x TBE buffer, without re-circulation of the buffer, for 15-20 minutes at 8-10 V/cm.

DOCUMENTATION AND INTERPRETATION

Put the gel on a UV transilluminator and document by photography.
Record the presence and absence of specific PCR products. The relative lengths of the specific PCR products are helpful in the interpretation of the results.
Record the presence and relative lengths of the internal positive control bands. The differently sized control bands will help in the correct orientation of the typing as well as in kit identification.
Lanes without either control band or specific PCR products should be repeated.

Interpret the typings with the ***lot-specific Interpretation and Specificity Tables***.

INTERPRETATION SOFTWARE

The interpretation software (Product No. 110.101) can be helpful in the interpretation of the typings.

PCR MASTER MIXES

The PCR Master Mix complete with *Taq* contains:

Taq polymerase	0.4 unit per 10 µl SSP reaction
nucleotides	final concentration of each dNTP is 200 µM
PCR buffer	final concentrations: 50 mM KCl, 1.5 mM $MgCl_2$, 10 mM Tris-HCl pH 8.3, 0.001% w/v gelatin
glycerol	final concentration of glycerol is 5%
cresol red	final concentration of cresol red is 100 µg/ml

The same PCR Master Mix complete with *Taq* is used for all the licensed *Olerup* SSP kits.

The PCR Master Mix without *Taq* contains:

nucleotides	final concentration of each dNTP is 200 µM
PCR buffer	final concentrations: 50 mM KCl, 1.5 mM $MgCl_2$, 10 mM Tris-HCl pH 8.3, 0.001% w/v gelatin
glycerol	final concentration of glycerol is 5%
cresol red	final concentration of cresol red is 100 µg/ml

The same PCR Master Mix without *Taq* is used for all the unlicensed *Olerup* SSP kits.

The PCR Master Mix complete with *Taq* and the PCR Master Mix without *Taq* can be shipped at ambient temperature.
When stored at –20°C, the PCR Master Mix complete with *Taq* and the PCR Master Mix without *Taq* are stable for 24 months from the date of manufacture.
Vials with the PCR Master Mixes can be kept at +4°C for 4 weeks, but the PCR Master Mixes are then no longer stable for 24 months.

SPECIFICITY TABLE

HLA-B*52 SSP subtyping

Specificities and sizes of the PCR products of the 14 primer mixes used for HLA-B*52 SSP subtyping

Primer Mix	Approx. Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-B*52 alleles	Other amplified HLA Class I alleles[3]
1[4]	95 bp	**800 bp**	520101-5202, 5204-5209	1401-1407N, 1537, 1538, 1815, 1819, 3521, 4028, 4051, 510101-510108, 5103, 5104, 5106, 5107, 5111N-5114, 5116-5118, 5121, 5122, 5124, 5126-5130, 5132, 5133, 5135, 5137-5139, 5141N, 5143, 5145, 5146, 5148-5151, 5306, 560501-5606, 5621, 5808, 7801-7803, 7805
2[5]	235 bp	1070 bp	5209	1587, 5305
3[4]	95 bp	1070 bp	520101-520104, 5203-5211	1812, 3510, 3513, 3516, 3528, 3569, 370101-3705, 3707, 3709-3713, 4903
4[5,6]	110 bp	1070 bp	5202	
5	190 bp	1070 bp	5203, 5211	070503, 150102, 1509, 350402, 4026, 510201-510203, 5105, 5123, 5134, 5136, 5140, 7804
6[4]	135 bp	1070 bp	5203, 5210	350402, 5105, 510901-510902, 5119, 5131, 5140, 7804
7	225 bp	**800 bp**	5205	
8	320 bp	1070 bp	5204	
9[4]	100 bp	**800 bp**	520601	
10[4]	245 bp	1070 bp	5208	130201-130204, 1308Q, 1309, 1314-1316, 1318, 1319, 2714, 40060101-400602, 4044, 4053, 4070, 4075, 5110, 5116, 5131, 5134, 5509, 5522, 5524, 7301
11[4]	85 bp	1070 bp	520601-	0738, 0802, 0803, 2723,

			520602	3806, 3807, 4013, 4406, 510101-5106, 5108-5121, 5123, 5124, 5126-5146, 5148-5151, 530101-5308, 5310-5313, 5901, 5902
12[4]	85 bp	1070 bp	520101-5205, 5207-5211	1301-1304, 1306, 1308Q, 1310-1318, 1320, 1321, 1524, 1536, 1543, 1587, 2729, 370101-3704, 3706, 3707, 3709, 3710, 3712, 3713, 3803, 4019, 4047, 44020101-4405, 4407, 4408, 4410, 4411, 4413-4445, 4447-4457, 47010101-47010102, 4703-4705, 4818, 4901-4905
13[5,7]	165 bp	**800 bp**	520101-520602, 5208-5211	1520, 350101-3530, 3532-3542, 3544, 3545, 3547-3556, 3558, 3559, 3561-3572, 3574-3578, 3582, 3583, 4802, 510101-5124, 5126-5141N, 5143-5146, 5148-5151, 530101-5313, 5621, 5801, 5802, 5804-5810N, 5812-5815, 7801-7805, 8103
14[5,7,8]	165 bp	1070 bp	5207	070201-0760, 080101-0834, 1301-1304, 1306-1321, 1401-1407N, 15010101-150104, 150106-1519, 1521, 1523-1540, 1542-1558, 1560-1599, 9501, 9503-9529, 9531-9539, 180101-1815, 1817N-1827, 2701-270402, 270502-2721, 2723-2738, 3531, 3543, 3546, 3557, 3560, 3579, 370101-3713, 380101-3817, 39010101-39010102L, 390103-3920, 3922-3943, 400101-4016, 4018-4040, 4042-4078, 4101-4108, 4201, 4202, 4204-

	4209, 44020101-4457, 4501-4507, 460101-4612, 47010101-4705, 480101-480102, 480301-4819, 4901-4905, 5001, 5002, 5004, 5401-5413, 550101-5505, 5507-5528, 5601-5620, 570101-5714, 5811, 5901, 5902, 670101-6702, 8101, 8102, 8201, 8202, 8301

[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-B*52 SSP subtypings.
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 band may sometimes be observed. Such bands can be disregarded and do not influence the interpretation of the SSP typings.
[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 tubes, or a band of 800 base pairs, for some tubes.
Tube 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*52 SSP subtyping.
In addition, tubes number 7, 9 and 13 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

PLEASE NOTE: All the SSP kits, except the B*37, B*41, B*42, B*46, B*47, B*48, B*49, B*50, B*53, B*67, B*78, B*81 and B*82 kits and the Cw*01, Cw*02, Cw*08, Cw*12,Cw*14, Cw*15, Cw*16, Cw*17 and Cw*18 kits, from *Olerup* SSP AB can be uniquely identified by the number of tubes and the kit-specific pattern of the two differently sized control bands.

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-B alleles many non-HLA-B*52 alleles will be amplified by primer mixes 1 to 3, 5, 6 and 10 to 15
[4]Short specific PCR fragments are less intense and not as sharp as longer specific bands.
[5]Primer mixes 2, 4, 13 and 14 may give rise to nonspecific amplifications.
[6]Primer mix 4 will frequently give rise to a primer oligomer artifact.
[7]Primer mixes 13 and 14: For many HLA-B alleles fourth exon nucleotide sequences are not available. We assume that unknown sequences in the fourth exon are conserved within allelic groups.
[8]Primer mix 14 may give rise to a primer oligomer artefact.

INTERPRETATION TABLE

HLA-B*52 SSP subtyping

Amplification patterns of the B*5201 to B*5211 alleles

	Tube							
	1	2	3	4	5	6	7	8
Length of spec.	95	235	95	110	190	135	225	320
PCR product								
Length of int.	800	1070	1070	1070	1070	1070	800	1070
pos. control[1]								
5'-primer[2]	527	106	206	141	435	435	134	49
	5'-TgA3'	5'-CCA3'	5'-gAC3'	5'-ATT3'	5'-AAA3'	5'-AAA3'	5'-CCC3'	5'-CAg3'
3'-primer[3]	583	302	259	209	583	527	317	200
	5'-gTg3'	5'-ggC3'	5'-CTC3'	5'-gCg3'	5'-gTA3'	5'-CCA3'	5'-ggA3'	5'-TCT3'
Tube No.	1	2	3	4	5	6	7	8
HLA-B allele								
*520101-520104	+		+					
*5202	+			+				
*5203			+		+	+		
*5204	+		+					+
*5205	+		+				+	
*520601	+		+					
*520602	+		+					
*5207	+		+					
*5208	+		+					
*5209	+	+	+					
*5210			+			+		
*5211			+		+			
Tube No.	1	2	3	4	5	6	7	8

INTERPRETATION TABLE

HLA-B*52 SSP subtyping

Amplification patterns of the B*5201 to B*5211 alleles

Tube						
9	10	11	12	13	14	
100	245	85	85	165	165	Length of spec. PCR product
800	1070	1070	1070	800	1070	Length of int. pos. control[1]
213	357	272	272	652	652	5'-primer[2]
5'-CCg3'	5'-Tgg3'	5'-CTT3'	5'-CTC3'	5'-CCg3'	5'-CCA3'	
272	559	317	317	774	774	3'-primer[3]
5'-TgA3'	5'-CTC3'	5'-ggA3'	5'-ggA3'	5'-ggT3'	5'-ggT3'	
9	10	11	12	13	14	Tube No.
						HLA-B allele
			+	+		*520101-520104
			+	+		*5202
			+	+		*5203
			+	+		*5204
			+	+		*5205
+		+		+		*520601
		+		+		*520602
			+		+	*5207
	+		+	+		*5208
			+	+		*5209
			+	+		*5210
			+	+		*5211
9	10	11	12	13	14	Tube No.

Length of spec.	**95**	**235**	**95**	**110**	**190**	**135**	**225**	**320**
PCR product								
Tube No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
***070201-070502, 0706-0737, 0739-0760, 080101-080105, 0804-0834, 1307N, 15010101-15010102N, 150103-150104, 150106-1508, 1510-1519, 1521, 1523, 1525-1535, 1539, 1540, 1542, 1544-1558, 1560-1586, 1588-1599, 9501, 9503-9529, 9531-9539, 180101-1811, 1813, 1814, 1817N, 1818, 1820-1827, 2701-270402, 270502-2713, 2715-2721, 2724-2728, 2730-2738, 3531, 3543, 3546, 3557, 3560, 3579, 3708, 380101-380202, 3804, 3805, 3808-3817, 39010101-39010102L, 390103-3920, 3922-3943, 400101-4005, 4007-4012, 401401-4016, 4018, 4020-4025, 4027, 4029-4040, 4042, 4043, 4045, 4046, 4048-4050, 4052, 4054-4069, 4071-4074, 4076-4078, 4101-4108, 4201, 4202, 4204-4209, 4409, 4412, 4446, 4501-4507, 460101-4612, 4702, 480101-480102, 480301-4817, 4819, 5001, 5002, 5004, 5401-5413, 550101-5505, 5507, 5508, 5510-5521, 5523, 5525-5528, 5601-5604, 5607-5620, 570101-5714, 5811, 670101-6702, 8101, 8102, 8201, 8202, 8301**								
***070503, 150102, 1509, 4026**					**+**			
***0738, 0802, 0803, 2723, 3806, 3807, 4013, 4406, 5901, 5902**								
***1301, 1303, 1304, 1306, 1310-1313, 1317, 1320, 1321, 1524, 1536, 1543, 2729, 3706, 3803, 4019, 4047, 44020101-4405, 4407, 4408, 4410, 4411, 4413-4445, 4447-4457, 47010101-47010102, 4703-4705, 4818, 4901, 4902, 4904, 4905**								
***130201-130204, 1308Q, 1314-1316, 1318**								
Tube No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

100	245	85	85	165	165	Length of spec.
						PCR product
9	10	11	12	13	14	Tube No.
					+	*070201-070502, 0706-0737, 0739-0760, 080101-080105, 0804-0834, 1307N, 15010101-15010102N, 150103-150104, 150106-1508, 1510-1519, 1521, 1523, 1525-1535, 1539, 1540, 1542, 1544-1558, 1560-1586, 1588-1599, 9501, 9503-9529, 9531-9539, 180101-1811, 1813, 1814, 1817N, 1818, 1820-1827, 2701-270402, 270502-2713, 2715-2721, 2724-2728, 2730-2738, 3531, 3543, 3546, 3557, 3560, 3579, 3708, 380101-380202, 3804, 3805, 3808-3817, 39010101-39010102L, 390103-3920, 3922-3943, 400101-4005, 4007-4012, 401401-4016, 4018, 4020-4025, 4027, 4029-4040, 4042, 4043, 4045, 4046, 4048-4050, 4052, 4054-4069, 4071-4074, 4076-4078, 4101-4108, 4201, 4202, 4204-4209, 4409, 4412, 4446, 4501-4507, 460101-4612, 4702, 480101-480102, 480301-4817, 4819, 5001, 5002, 5004, 5401-5413, 550101-5505, 5507, 5508, 5510-5521, 5523, 5525-5528, 5601-5604, 5607-5620, 570101-5714, 5811, 670101-6702, 8101, 8102, 8201, 8202, 8301
					+	*070503, 150102, 1509, 4026
		+			+	*0738, 0802, 0803, 2723, 3806, 3807, 4013, 4406, 5901, 5902
			+		+	*1301, 1303, 1304, 1306, 1310-1313, 1317, 1320, 1321, 1524, 1536, 1543, 2729, 3706, 3803, 4019, 4047, 44020101-4405, 4407, 4408, 4410, 4411, 4413-4445, 4447-4457, 47010101-47010102, 4703-4705, 4818, 4901, 4902, 4904, 4905
	+		+		+	*130201-130204, 1308Q, 1314-1316, 1318
9	10	11	12	13	14	Tube No.

Length of spec.	95	235	95	110	190	135	225	320
PCR product								
Tube No.	1	2	3	4	5	6	7	8
*1309, 1319, 2714, 40060101-400602, 4044, 4053, 4070, 4075, 5509, 5522, 5524								
*1401-1407N, 1537, 1538, 1815, 1819, 4028, 4051, 560501-5606	+							
*1520, 350101-350401, 3505-350902, 3511, 3512, 351401-3515, 3517-352002, 3522-3527, 3529, 3530, 3532-3542, 3544, 3545, 3547-3556, 3558, 3559, 3561-3568, 3570-3578, 3582, 3583, 4802, 5309, 5801, 5802, 5804-5807, 5809, 5810N, 5812-5815, 8103								
*1587		+						
*1812, 3705, 3711			+					
*350402, 7804					+	+		
*3510, 3513, 3516, 3528, 3569			+					
*3521, 5107, 5122, 5621, 5808, 7801-7803, 7805	+							
*370101-3704, 3707, 3709, 3710, 3712, 3713, 4903			+					
*510101-510108, 5103, 5104, 5106, 5111N-5114, 5117, 5118, 5121, 5124, 5126-5130, 5132, 5133, 5135, 5137-5139, 5141N, 5143, 5145, 5146, 5148-5151, 5306	+							
*510201-510203, 5123, 5136					+			
*5105, 5140					+	+		
*5108, 5115, 5120, 5144N, 530101-5304, 5307, 5308, 5310-5313								
*510901-510902, 5119						+		
*5110								
*5116	+							
*5131						+		
*5134					+			
*5142								
*5305		+						
*7301								
HLA-B allele								
Tube No.	1	2	3	4	5	6	7	8

100	245	85	85	165	165	Length of spec.
						PCR product
9	10	11	12	13	14	Tube No.
	+				+	*1309, 1319, 2714, 40060101-400602, 4044, 4053, 4070, 4075, 5509, 5522, 5524
					+	*1401-1407N, 1537, 1538, 1815, 1819, 4028, 4051, 560501-5606
				+		*1520, 350101-350401, 3505-350902, 3511, 3512, 351401-3515, 3517-352002, 3522-3527, 3529, 3530, 3532-3542, 3544, 3545, 3547-3556, 3558, 3559, 3561-3568, 3570-3578, 3582, 3583, 4802, 5309, 5801, 5802, 5804-5807, 5809, 5810N, 5812-5815, 8103
			+		+	*1587
					+	*1812, 3705, 3711
				+		*350402, 7804
				+		*3510, 3513, 3516, 3528, 3569
				+		*3521, 5107, 5122, 5621, 5808, 7801-7803, 7805
			+		+	*370101-3704, 3707, 3709, 3710, 3712, 3713, 4903
		+		+		*510101-510108, 5103, 5104, 5106, 5111N-5114, 5117, 5118, 5121, 5124, 5126-5130, 5132, 5133, 5135, 5137-5139, 5141N, 5143, 5145, 5146, 5148-5151, 5306
		+		+		*510201-510203, 5123, 5136
		+		+		*5105, 5140
		+		+		*5108, 5115, 5120, 5144N, 530101-5304, 5307, 5308, 5310-5313
		+		+		*510901-510902, 5119
	+	+		+		*5110
	+	+		+		*5116
	+	+		+		*5131
	+	+		+		*5134
		+				*5142
		+		+		*5305
	+					*7301
						HLA-B allele
9	10	11	12	13	14	Tube 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 tubes, or a band of 800 base pairs, for some tubes.
Tube 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*52 SSP subtyping.
In addition, tubes number 7, 9 and 13 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

PLEASE NOTE: All the SSP kits, except the B*37, B*41, B*42, B*46, B*47, B*48, B*49, B*50, B*53, B*67, B*78, B*81 and B*82 kits and the Cw*01, Cw*02, Cw*08, Cw*12,Cw*14, Cw*15, Cw*16, Cw*17 and Cw*18 kits, from *Olerup* SSP AB can be uniquely identified by the number of tubes and the kit-specific pattern of the two differently sized control bands.

[2]The nucleotide position, in the 1st, 2nd, 3rd or 4th, exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as in *Tissue Antigens* 1998, **51:II**, 417-466. 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 in *Tissue Antigens* 1998, **51:II**, 417-466. The sequence of the 3 terminal nucleotides of the primer is given.

CELL LINE VALIDATION SHEET

HLA-B*52 SSP primer set

					Tube													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14
				Prod. No.:	200737101	200737102	200737103	200737104	200737105	200737106	200737107	200737108	200737109	200737110	200737111	200737112	200737113	200737114
	cell line		B*															
1	9001	SA	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	+
2	9280	LK707	*5201	*7301	+	-	+	-	-	-	-	-	-	+	-	+	+	+
3	9011	E4181324	*52011		+	-	+	-	-	-	-	-	-	-	-	+	+	-
4	927	GU373	*1510	*5301	-		-	-	-	-	-	-	-	-	+	-	+	+
5	9009	KAS011	*3701		-	-	+	-	-	-	-	-	-	-	-	+	-	+
6	9353	SM	*3901	*5101	+	-	-	-	-	-	-	-	-	-	+	-	+	+
7	9020	QBL	*1801		-	-	-	-	-	-	-	-	-	-	-	-	-	+
8	9007	DEM	*5701		-	-	-	-	-	-	-	-	-	-	-	-	-	+
9	9026	YAR	*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	+
10	9107	LKT3	*5401		-	-	-	-	-	-	-	-	-	-	-	-	-	+
11	9051	PITOUT	*44031		-	-	-	-	-	-	-	-	-	-	-	+	-	+
12	9052	DBB	*5701		-	-	-	-	-	-	-	-	-	-	-	-	-	+
13	9067	BTB	*27052		-	-	-	-	-	-	-	-	-	-	-	-	-	+
14	9071	OLGA	*1501	*1520	-	-	-	-	-	-	-	-	-	-	-	-	+	+
15	9075	DKB	*4001		-	-	-	-	-	-	-	-	-	-	-	-	-	+
16	9037	SWEIG007	*4002		-	-	-	-	-	-	-	-	-	-	-	-	-	+
17	9008	WILJON	*1801		-	-	-	-	-	-	-	-	-	-	-	-	-	+
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	*44031		-	-	-	-	-	-	-	-	-	-	-	+	-	+
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	WHONP	*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	*44	-	-	-	-	-	-	-	-	-	-	-	+	+	+

CERTIFICATE OF ANALYSIS

Olerup SSP™ HLA-B*52 SSP

Product number: **101.562-06 – licensed for PCR**
101.562-06u – not licensed for PCR
Lot number: **Y31**
Expiry date: **2009-August-01**
Number of tests: **6**
Number of tubes per test: **14**

Tube specifications:

Tube No.	Production No.	Tube No.	Production No.
1	2007-371-01	9	2007-371-09
2	2007-371-02	10	2007-371-10
3	2007-371-03	11	2007-371-11
4	2007-371-04	12	2007-371-12
5	2007-371-05	13	2007-371-13
6	2007-371-06	14	2007-371-14
7	2007-371-07		
8	2007-371-08		

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

No DNAs carrying the alleles to be amplified by primer solutions 2, 4, 6 to 9 were available. The specificities of the primers in primer solutions 2,4 and 6 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer mixes 7 and 9 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer mix 8 it was only possible to test the 5'-primer, the 3'-primer was not possible to test.

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

Date of approval: 2007-October-24

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP™ HLA-B*52
Product number: 101.562-06, 101.562-06u
Lot number: Y31

Intended use: HLA-B*52 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
2007-October-24

Olle Olerup
Managing Director

WARRANTY

Olerup SSP AB warrants its products to the original purchaser against defects in materials and workmanship under normal use and application. *Olerup* SSP AB's sole obligation under this warranty shall be to replace, at no charge, any product that does not meet the performance standards stated on the product specification sheet.

This warranty applies only to products that have been handled and stored in accordance with *Olerup* SSP AB's recommendations, and does not apply to products that have been the subject of alternation, misuse, or abuse.

All claims under this warranty must be directed to *Olerup* SSP AB in writing and must be accompanied by a copy of the purchaser's invoice. This warranty is in lieu of all other warranties, expressed or implied, including the warranties of merchantability and fitness for a particular purpose. In no case shall *Olerup* SSP AB be liable for incidental or consequential damages.

This product may not be reformulated, repacked or resold in any form without the written consent of *Olerup* SSP AB, Hasselstigen 1, SE-133 33 Saltsjöbaden, Sweden.

Handle all samples as if capable of transmitting disease. All work should be performed wearing gloves and appropriate protection.

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