

**Lot No.: 6E3**

**Lot-specific information**

**www.olerup.com**

## **Olerup SSP® HLA - Negative Control SSP**

<b>Product number:</b>	102.102-01 – including <i>Taq</i> polymerase 102.102-01u – without <i>Taq</i> polymerase
<b>Lot number:</b>	6E3
<b>Expiry date:</b>	2019-06-01
<b>Number of tests:</b>	96
<b>Number of wells per test:</b>	1
<b>Storage - pre-aliquoted primers:</b>	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. 6E3.**

The HLA-Wipe test and the HLA-Negative Control contain the same primer mix.

The 8 well cut PCR plate is marked with ‘WT’ in silver/gray ink.

The inner box is labelled with HLA - Wipetest – Negative Control SSP.

### **GENERAL DESCRIPTION**

The *Olerup* SSP® HLA – Negative Control is intended to be used as a negative control in *Olerup* SSP® typing kits.

As of lot series V, the Negative Control is included in most *Olerup* SSP® typing kits.

The primer set contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup* SSP® HLA Class I, DRB, DQB1, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

The *Olerup* SSP® HLA – Negative Control has the sensitivity to detect approximately 50 copies of DNA template.

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## PRODUCT DESCRIPTION

### HLA - Negative Control SSP

#### CONTENT

The primer set contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup* SSP<sup>®</sup> HLA Class I, DRB, DQB1, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

HLA-specific PCR product sizes range from 75 to 200 base pairs.  
The PCR product generated by the positive control primer pair is 430 base pairs.

Length of PCR product	105	200	105	80	75	80	85
<b>5'-primer<sup>1</sup></b>	<b>164</b>	<b>340</b>	<b>440</b>	<b>45</b>	<b>45</b>	<b>43</b>	<b>36</b>
	5'-CAC <sup>3'</sup>	5'-Agg <sup>3'</sup>	5'-TTA <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-Tgg <sup>3'</sup>	5'-TAC <sup>3'</sup>
							<b>36</b>
							5'-TAT <sup>3'</sup>
<b>3'-primer<sup>2</sup></b>	<b>231</b>	<b>2<sup>nd</sup> I</b>	<b>507</b>	<b>59</b>	<b>58</b>	<b>57</b>	<b>47</b>
	5'-TgC <sup>3'</sup>	5'-AAA <sup>3'</sup>	5'-TTg <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ggC <sup>3'</sup>	5'-CTC <sup>3'</sup>	5'-ACA <sup>3'</sup>
							<b>48</b>
							5'-gCA <sup>3'</sup>
							<b>48</b>
							5'-gCC <sup>3'</sup>
							<b>52</b>
							5'-TgT <sup>3'</sup>
<b>A*</b>	+	+	+				
<b>B*</b>	+	+	+				
<b>C*</b>	+	+	+				
<b>DRB1</b>				+	+		
<b>DRB3</b>				+	+		
<b>DRB5</b>				+			
<b>DQB1</b>					+		
<b>DPB1</b>						+	
<b>DQA1</b>							+

<sup>1</sup>The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2<sup>nd</sup> or 3<sup>rd</sup> exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide and codon numbering as on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

<sup>2</sup>The nucleotide position for HLA class I genes and the codon for HLA class II genes, in the 2<sup>nd</sup> or 3<sup>rd</sup> exon or the 2<sup>nd</sup> intron, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide and codon numbering as on the [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) web site. The sequence of the 3 terminal nucleotides of the primer is given.

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The primer solution is pre-aliquoted into 0.2 ml PCR wells. Each well contains the same dried primer solution.

**PCR Master Mix complete with *Taq***, *Taq* polymerase, nucleotides, buffer, glycerol and cresol red, as well as adhesive PCR seals are included in the kit including *Taq* polymerase.

**PCR Master Mix without *Taq***, nucleotides, buffer, glycerol and cresol red, as well as adhesive PCR seals are included in the kit without *Taq* polymerase.

1 PCR reaction with a reaction volume of 10 µl is performed per test.

## PLATE LAYOUT

Each test consists of 1 PCR reaction. Each well of the 8 well PCR plates contains the same primer mix.

1	1	1	1	1	1	1	1
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The 8 well cut PCR plate is marked with ‘WT’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘6E3’.

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 PCR well, make sure that the remaining plates/wells stay covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates/wells.

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## PROTOCOL

### PCR AMPLIFICATION

#### ***For users of Olerup SSP® kits including *Taq* polymerase***

Cut off one well from the 8 well PCR plate.

Add 2 µl dH<sub>2</sub>O to the negative control well.

Add 8 µl of the PCR Master Mix complete with *Taq*-H<sub>2</sub>O mixture to the negative control well, i.e. before the sample DNA is added to the PCR Master Mix complete with *Taq*-H<sub>2</sub>O mixture.

Add the sample DNA to the PCR Master Mix complete with *Taq*-H<sub>2</sub>O mixture, mix well and dispense 10 µl of the DNA-PCR Master Mix complete with *Taq*-H<sub>2</sub>O mixture into each of the wells of the SSP typing, but not into the negative control well.

The same PCR Master Mix Complete with *Taq* and the same dH<sub>2</sub>O that is used for the typings should be used in the negative control well. (The PCR Master Mix complete with *Taq* supplied with the Negative Control kit is intended to replace the PCR Master Mix used from the typing kits including *Taq* polymerase.)

As of lot series V, the Negative Control is included in most Olerup SSP® typings.

#### ***For users of Olerup SSP® kits without *Taq* polymerase***

Cut off one well from the 8 well PCR plate.

Add 2 µl dH<sub>2</sub>O to the negative control well.

Add 8 µl of the PCR Master Mix-*Taq*-H<sub>2</sub>O mixture to the negative control well, i.e. before the sample DNA is added to the PCR Master Mix-*Taq*-H<sub>2</sub>O mixture.

Add the sample DNA to the PCR Master Mix-*Taq*-H<sub>2</sub>O mixture, mix well and dispense 10 µl of the DNA-PCR Master Mix-*Taq*-H<sub>2</sub>O mixture into each of the wells of the SSP typing, but not into the negative control well.

The same PCR Master Mix without *Taq*, *Taq* polymerase and dH<sub>2</sub>O that is used for the typings should be used in the negative control well. (The PCR Master Mix without *Taq* supplied with the Negative Control kit is intended to replace the PCR Master Mix used from the typing kits without *Taq* polymerase.)

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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
4.	End - hold	RT		if less than 8 hours
		4°C		if longer than 8 hours

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, or our GelRed<sup>™</sup> dropper bottle (Product No. 103.302-05) 4 drops per 100-120 ml of gel solution. **Note: Ethidium bromide is a powerful carcinogen. Handle with appropriate personal protective equipment.**

Load the PCR products, preferably using an 8-channel pipette. Load a DNA size marker (100 base pair ladder, DNA Size Marker Product No. 103.202-100 or DNA Size Marker for short gel runs 103.203-100) 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 PCR products.

In the negative control well no PCR product should be seen. The presence of PCR product(s) 75 to 430 bp in size indicates contamination. Primer oligomer artifacts, approximately 40 to 50 bp in size, may be seen. This does not represent contamination.

If contamination is detected, wipe test and testing of all reagents should be performed in order to detect the source of contamination.

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