

Olerup SSP® HLA-Cw*03

Product number:	101.611-12 – including <i>Taq</i> polymerase
Lot number:	54G
Expiry date:	2011-December-01
Number of tests:	12
Number of wells per test:	45
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. 54G.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP® HLA-Cw*03 LOT

The HLA-Cw*03 specificity and interpretation tables have been updated for the HLA-Cw alleles described since the previous *Olerup* SSP® HLA-Cw*03 lot was made (**Lot No. 39F**).

Thirteen well have been added to the HLA-Cw*03 kit,
wells **33 to 45**.

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 primer pair.
22	Added	-	Primer added for the Cw*0357 allele.
23	Modified	-	Increased specificity of primer pair.
25	-	Added	Increased yield of specific PCR product.
26	Modified	-	Increased specificity of primer pair.
27	-	Added	Primer added for the Cw*0360 allele.
29	Moved, added	Added	Primer moved to well 36, primer pair added for the Cw*0351 allele.
30	Modified, added	Added	Decreased primer dimer formation, primer pair added for the Cw*0361 allele.
31	Added	-	Primer added for the Cw*0359 allele.
32	Added	Added	Primer pair added for the Cw*0358 allele.

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33	New	New	Improved resolution of the Cw*0343 allele, new primer pair for the Cw*0362 allele.
34	New	New	New primer pairs for the Cw*0353 and Cw*0354 alleles.
35	New	New	New primer pairs for the Cw*0356 and Cw*0364 alleles.
36	New, added	New	Primer from well 29, new primer pair for the Cw*0372 allele.
37	New	New	New primer pair for the Cw*0355 allele.
38	New	New	New primer pairs for the Cw*0352 and Cw*0373 alleles.
39	New	New	New primer pair for the Cw*0363 allele.
40	New	New	New primer pair for the Cw*0366 allele.
41	New	New	New primer pair for the Cw*0368 allele.
42	New	New	New primer pair for the Cw*0370 allele.
43	New	New	New primer pair for the Cw*0374 allele.
44	New	New	New primer pair for the Cw*0375 allele.
45	New	New	New primer pair for the Cw*0376 allele.

PRODUCT DESCRIPTION

HLA-Cw*03 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the HLA-Cw*0302 to Cw*0376 alleles.

PLATE LAYOUT

Each test consists of 45 PCR reactions in a 48 well cut PCR plate. Wells 46 to 48 are empty.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	empty	empty	empty

The 48 well cut PCR plate is marked with 'HLA-Cw*03' in silver/gray ink.

Well No. 1 is marked with the Lot Number '54G'.

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 heat-sealed with a PCR-compatible foil.

Please note: When removing each 48 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-Cw*03 SSP subtypings will be influenced by the three Cw*01, the Cw*02, the Cw*04, the Cw*06, most Cw*07, three Cw*12, the Cw*14, the Cw*15, the Cw*17 and Cw*18 alleles when present on the other haplotype. In addition, the B*0793 and 5176 alleles are amplified by primer mix 7, the B*0839 allele is amplified by primer mix 7 and 29, the B*1596 allele is amplified by primer mixes 5, 6 and 26 and the B*5530 allele is amplified by primer mix 42.

UNIQUELY IDENTIFIED ALLELES

All the HLA-Cw*03 alleles, i.e. **Cw*0302 to Cw*0376**, recognized by the HLA Nomenclature Committee in October 2009¹ will give rise to unique amplification patterns by the primers in the HLA-Cw*03 subtyping kit.

The HLA-Cw*03 subtyping kit cannot distinguish the Cw*030201 to Cw*030205 alleles, the Cw*030301 to Cw*030311 alleles, the Cw*03040101 to Cw*030414 alleles or the Cw*033801 and Cw*033802 alleles.

¹HLA-Cw alleles listed on the IMGT/HLA web page 2009-October-19, release 2.27.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

The 75 HLA-Cw*03 alleles will give rise to 77 different amplification patterns that can be combined in 3003 homozygous and heterozygous combinations. 747 of these genotypes do not give rise to unique amplification patterns. The different sizes of the specific PCR products generated by the primers in vials 6, 7, 13, 19, 20, 22, 25 to 27, 29, 31 to 35 and 38 have not been considered in these calculations.

+++++--+	-----+-	-----	-----	+-----	-----	034301,0371 =
						034302,0371 = 0362,0371
+++++--+	-----+-	-----	-----	-----	-----	0303,0371 = 0322Q,0371
+++++--+	-----+-	-----	-----	+-----	-----	0305,034301 =
						0317,034301 =
						0317,034302
+++++--+	-----+-	-----	-----	-----	-----	0302,0321 = 0321,0340
+++++--+	-----+-	-----	-----	-----	-----	031102,0342 = 0322Q,0360
+++++--+	-----+-	-----	-----	+-----	-----	0309,034301 =
						0342,034301 =
						0342,034302 = 0342,0362
+++++--+	-----+-	-----	-----	-----	-----	0302,0322Q = 0303,0342 =
						0322Q,0340 = 0322Q,0342
+++++--+	+++++--+	-----+-	-----	+-----	-----	0315,034301 =
						0315,034302 = 0315,0362
+++++--+	+++++--+	-----+-	-----	-----	-----	0303,0315 = 031102,0315
+++++--+	-----+-	-----	-----	-----	-----	0302,0331 = 0331,0340
+++++--+	-----+-	-----	-----	-----	-----	0302,031101 =
						031101,0340 =
						031101,0360
+++++--+	-----+-	-----	-----	-----	-----	0302,0312 = 0312,0340
+++++--+	-----+-	-----	-----	-----	-----	0302,0320N = 0320N,0340
+++++--+	-----+-	-----	-----	+-----	-----	0324,034301 =
						0333,034301 =
						0333,034302 = 0333,0362
+++++--+	-----+-	-----	-----	-----	-----	0302,0369 = 0340,0369
+++++--+	-----+-	-----	-----	-----	-----	0302,0349 = 0340,0349
+++++--+	-----+-	-----	-----	-----	-----	0302,0330 = 0330,0340
+++++--+	-----+-	-----	-----	+-----	-----	0334,034301 =
						0336,034301 =
						0336,034302 = 0336,0362
+++++--+	-----+-	-----	-----	+-----	-----	0337,034301 =
						034301,0360 =
						034302,0360 = 0360,0362
+++++--+	-----+-	-----	-----	-----	-----	0302,031102 = 0303,0360
						= 031102,0340 =
						031102,0360
+++++--+	-----+-	-----	-----	+-----	-----	0316,034301 =
						0316,034302
+++++--+	-----+-	-----	-----	-----	-----	0302,0367 = 0340,0367
+++++--+	-----+-	-----	-----	-----	-----	0302,0361 = 0340,0361
+++++--+	-----+-	-----	-----	-----	-----	0302,0359 = 0340,0359
+++++--+	-----+-	-----	-----	+-----	-----	0302,034301 =
						0302,034302 = 0302,0362
						= 0304,034301 =
						0314,034301 =
						0340,034301 =
						0340,034302 = 0340,0362
+++++--+	-----+-	-----	-----	+-----	-----	0302,0353 = 0340,0353
+++++--+	-----+-	-----	-----	+-----	-----	0302,0356 = 0340,0356
+++++--+	-----+-	-----	-----	+-----	-----	0302,0350 = 0340,0350
+++++--+	-----+-	-----	-----	+-----	-----	0302,0355 = 0340,0355
+++++--+	-----+-	-----	-----	+-----	-----	0302,0352 = 0340,0352

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+++++--+	-----+-	-----	-----	-----+	-----	0302,0366 = 0340,0366
+++++--+	-----+-	-----	-----	-----	+-----	0302,0368 = 0340,0368
+++++--+	-----+-	-----	-----	-----	-----+	0302,0375 = 0340,0375
+++++--+	-----+-	-----	-----	-----	-----+	0302,0376 = 0340,0376
+++++--+	-----+-	-----	-----	-----	-----	0302,0303 = 0303,0340
+++++--+	-----+-	-----	-----	+-----	-----	0304,034302 =
						0314,034302 = 0314,0362
+++--+	-----+-	-----	-+-----	-----	-----	0302,0313 = 0313,0336
++--+	-----+-	-----	-----	-----	-----	0325,0342 = 0347,0371
++--+	-----+-	-----	-----	-----	-----	0327,0342 = 0357,0371
++--+	-----+-	-----	-+-----	-----	-----	0334,0371 = 0335,0342
++--+	-----+-	-----	-----	-----	-----	0304,0371 = 0305,0342 =
						0309,0371 = 0314,0371 =
						0317,0342 = 0340,0371 =
						0342,0371
+++++---	-----+-	-----	-----	-----	-----	0305,0340 = 0314,0317 =
						0317,0340
+++--+	-----+-	-----	-----	-----	-----	0302,0306 = 0306,0340
++--+	+++--+	-----	-+-----	-----	-----	0308,0315 = 0315,0329
++--+	+++--+	-----	-----	-----	-----	0302,0329 = 0329,0340
++--+	+++--+	-----	-----	-----	-----	0302,0308 = 0308,0340
++--+	+++--+	-----	-----	-----	-----	0302,0339 = 0339,0340
++--+	+++--+	-----	-----	-----	-----	0302,0318 = 0318,0340
++--+	+++--+	-----	-+-----	-----	-----	0309,0315 = 0315,0342
++--+	+++--+	-----	-----	-----	-----	0309,0333 = 0324,0342 =
						0333,0342
++--+	+++--+	-----	-+-----	-----	-----	0309,0336 = 0334,0342 =
						0336,0342
++--+	+++--+	-----	-+-----	-----	-----	0309,0360 = 0337,0342 =
						0342,0360
++--+	+++--+	-----	-----	-----	-----	0302,0309 = 0302,0342 =
						0304,0342 = 0309,0340 =
						0309,0342 = 0314,0342 =
						0340,0342 = 0342,0342
++--+	+++--+	-----	++-----	-----	-----	0315,0332 = 0315,0338 =
						0315,0345
++--+	+++--+	-----	-+-----	-----	-----	0304,0315 = 0307,0315 =
						0310,0315 = 0314,0315 =
						0315,0337 = 0315,0340 =
						0315,0357
++--+	+++--+	-----	++-----	-----	-----	0302,0345 = 0340,0345 =
						0345,0360
++--+	+++--+	-----	-----	-----	-----	0302,0307 = 0307,0340
++--+	+++--+	-----	-----	-----	-----	0302,0310 = 0310,0340
++--+	+++--+	-----	-----	-----	-----	0302,0319 = 0319,0340
++--+	+++--+	-----	-----	-----	-----	0302,0323 = 0323,0340
++--+	+++--+	-----	-+-----	-----	-----	0324,0336 = 0333,0334
++--+	+++--+	-----	-+-----	-----	-----	0324,0360 = 0333,0337
++--+	+++--+	-----	-+-----	-----	-----	0302,0324 = 0304,0333 =
						0314,0333 = 0324,0333 =
						0324,0340 = 0333,0340
++--+	+++--+	-----	-+-----	-----	-----	0302,0347 = 0340,0347
++--+	+++--+	-----	-+-----	-----	-----	0302,0326 = 0326,0340
++--+	+++--+	-----	++-----	-----	-----	0302,0338 = 0338,0340
++--+	+++--+	-----	-----	-----	-----	0302,0357 = 0340,0357
++--+	+++--+	-----	-----	-----	-----	0302,0328 = 0328,0340
++--+	+++--+	-----	-----	-----	-----	0302,0365 = 0340,0365
++--+	+++--+	-----	++-----	-----	-----	0302,0332 = 0332,0340 =
						0332,0360
++--+	+++--+	-----	-+-----	-----	-----	0334,0360 = 0336,0337

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+++-----	-----+-	-----	+------	-----	-----	0302,0334 = 0304,0336 =
						0314,0336 = 0334,0336 =
						0334,0340 = 0336,0340
+++-----	-----+-	-----	--+-----	-----	-----	0302,0337 = 0304,0360 =
						0314,0360 = 0337,0340 =
						0337,0360 = 0340,0360
+++-----	-----+-	-----	---+-----	-----	-----	0314,0316 = 0316,0340
+++-----	-----+-	-----	-----+---	-----	-----	0302,0351 = 0340,0351
+++-----	-----+-	-----	-----+---	-----	-----	0302,0346 = 0340,0346
+++-----	-----+-	-----	-----+---	-----	-----	0302,0344 = 0340,0344
+++-----	-----+-	-----	-----+---	-----	-----	0302,0348 = 0340,0348
+++-----	-----+-	-----	-----+---	-----	-----	0302,0354 = 0340,0354
+++-----	-----+-	-----	-----+---	-----	-----	0302,0364 = 0340,0364
+++-----	-----+-	-----	-----+---	-----	-----	0302,0372 = 0340,0372
+++-----	-----+-	-----	-----+---	-----	-----	0302,0373 = 0340,0373
+++-----	-----+-	-----	-----+---	-----	-----	0302,0363 = 0340,0363
+++-----	-----+-	-----	-----+---	-----	-----	0302,0370 = 0340,0370
+++-----	-----+-	-----	-----+---	-----	-----	0302,0374 = 0340,0374
+++-----	-----+-	-----	-----+---	-----	-----	0302,0304 = 0302,0314 =
						0302,0340 = 0304,0340 =
						0314,0340 = 0340,0340
+++-----	-----+-	-----	-----+---	-----	-----	0304,0314 = 0314,0314
+++-----	-----+-	-----	-----+---	-----	-----	0335,0371 = 0336,0371
+++-----	-----+-	-----	-----+---	-----	-----	0302,0371 = 0305,0371 =
						0317,0371 = 0371,0371
+++-----	+++-----	-----+-	--+-----	-----	-----	0305,0315 = 0315,0317 =
						0315,0327
+++-----	-----+-	-----	-----+---	-----	-----	0305,0333 = 0317,0333
+++-----	-----+-	-----	-----+---	-----	-----	0302,0335 = 0305,0336 =
						0317,0336 = 0335,0336
+++-----	-----+-	-----	-----+---	-----	-----	0305,0360 = 0317,0360
+++-----	-----+-	-----	-----+---	-----	-----	0302,0305 = 0302,0317
+++-----	+++-----	-----+-	--+-----	-----	-----	0302,0315 = 0315,0315 =
						0315,0360
+++-----	-----+-	-----	-----+---	-----	-----	0302,0333 = 0333,0333
+++-----	-----+-	-----	-----+---	-----	-----	0302,0336 = 0336,0336
+++-----	-----+-	-----	-----+---	-----	-----	0302,0360 = 0360,0360
+++++---	-----+-	-----	-----+---	-----	-----	0309,0313 = 0322Q,0335
+++++---	-----+-	-----	-----+---	-----	-----	0308,0313 = 0331,0335
+++++---	-----+-	-----	-----+---	-----	-----	0312,0335 = 0313,0319
+++++---	-----+-	-----	+++++---	-----	-----	0313,0338 = 0335,0369
+++++---	-----+-	-----	+++++---	-----	-----	0305,0369 = 0327,0369
+++++---	-----+-	-----	+++++---	-----	-----	0313,0328 = 0335,0349
+++++---	-----+-	-----	+++++---	-----	-----	0313,0365 = 0330,0335
+++++---	-----+-	-----	+++++---	-----	-----	031102,0335 = 0313,0337
+++++---	-----+-	-----	+++++---	-----	-----	0313,0351 = 0335,0367
+++++---	-----+-	-----	+++++---	-----	-----	0313,0346 = 0335,0361
+++++---	-----+-	-----	+++++---	-----	-----	0313,0344 = 0335,0359
+++++---	-----+-	-----	+++++---	-----	-----	0313,0354 = 0335,0353
+++++---	-----+-	-----	+++++---	-----	-----	0313,0364 = 0335,0356
+++++---	-----+-	-----	+++++---	-----	-----	0313,0372 = 0335,0350
+++++---	-----+-	-----	+++++---	-----	-----	0313,0373 = 0335,0352
+++++---	-----+-	-----	+++++---	-----	-----	0303,0335 = 0304,0313 =
						0313,0334
+++++---	-----+-	-----	-----+---	-----	-----	0304,0321 = 0306,0321 =
						0306,0355
+++++---	-----+-	-----	-----+---	-----	-----	0308,0322Q = 0309,0331
+++++---	-----+-	-----	-----+---	-----	-----	0309,0312 = 0319,0322Q
+++++---	-----+-	-----	+++++---	-----	-----	0309,0369 = 0322Q,0338
+++++---	-----+-	-----	-----+---	-----	-----	0309,0349 = 0322Q,0328
+++++---	-----+-	-----	-----+---	-----	-----	0309,0330 = 0322Q,0365
+++++---	-----+-	-----	--+-----	-----	-----	0309,031102 = 0322Q,0337

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+++---+	-----+	-----	---+---	-----	-----	0309,0367 = 0322Q,0351
+++---+	-----+	-----	---+---	-----	-----	0309,0361 = 0322Q,0346
+++---+	-----+	-----	---+---	-----	-----	0309,0359 = 0322Q,0344
+++---+	-----+	-----	---+---	-----	-----	0309,0358 = 0322Q,0348
+++---+	-----+	-----	---+---	-----	-----	0309,0353 = 0322Q,0354
+++---+	-----+	-----	---+---	-----	-----	0309,0356 = 0322Q,0364
+++---+	-----+	-----	---+---	-----	-----	0309,0350 = 0322Q,0372
+++---+	-----+	-----	---+---	-----	-----	0309,0352 = 0322Q,0373
+++---+	-----+	-----	---+---	-----	-----	0303,0309 = 0304,0322Q =
						0309,0322Q
+++---+	+++---+	-----	+++---+	-----	-----	0303,0345 = 031102,0345
+++---+	+++---+	-----	+++---+	-----	-----	0303,0329 = 0310,0331 =
						0329,0331
+++---+	+++---+	-----	+++---+	-----	-----	0308,0312 = 0319,0331
+++---+	+++---+	-----	+++---+	-----	-----	0308,0369 = 0331,0338
+++---+	+++---+	-----	+++---+	-----	-----	0308,0349 = 0328,0331
+++---+	+++---+	-----	+++---+	-----	-----	0308,0330 = 0331,0365
+++---+	+++---+	-----	+++---+	-----	-----	0308,031102 = 0331,0337
+++---+	+++---+	-----	+++---+	-----	-----	0308,0367 = 0331,0351
+++---+	+++---+	-----	+++---+	-----	-----	0308,0361 = 0331,0346
+++---+	+++---+	-----	+++---+	-----	-----	0308,0359 = 0331,0344
+++---+	+++---+	-----	+++---+	-----	-----	0308,0358 = 0331,0348
+++---+	+++---+	-----	+++---+	-----	-----	0308,0353 = 0331,0354
+++---+	+++---+	-----	+++---+	-----	-----	0308,0356 = 0331,0364
+++---+	+++---+	-----	+++---+	-----	-----	0308,0350 = 0331,0372
+++---+	+++---+	-----	+++---+	-----	-----	0308,0352 = 0331,0373
+++---+	+++---+	-----	+++---+	-----	-----	0303,0308 = 0304,0331 =
						0308,0331
+++---+	+++---+	-----	+++---+	-----	-----	0304,031101 =
031101,0337						
+++---+	+++---+	-----	+++---+	-----	-----	0303,0316 = 0316,0355
+++---+	+++---+	-----	+++---+	-----	-----	0312,0338 = 0319,0369
+++---+	+++---+	-----	+++---+	-----	-----	0312,0328 = 0319,0349
+++---+	+++---+	-----	+++---+	-----	-----	0312,0365 = 0319,0330
+++---+	+++---+	-----	+++---+	-----	-----	031102,0319 = 0312,0337
+++---+	+++---+	-----	+++---+	-----	-----	0312,0351 = 0319,0367
+++---+	+++---+	-----	+++---+	-----	-----	0312,0346 = 0319,0361
+++---+	+++---+	-----	+++---+	-----	-----	0312,0344 = 0319,0359
+++---+	+++---+	-----	+++---+	-----	-----	0312,0348 = 0319,0358
+++---+	+++---+	-----	+++---+	-----	-----	0312,0354 = 0319,0353
+++---+	+++---+	-----	+++---+	-----	-----	0312,0364 = 0319,0356
+++---+	+++---+	-----	+++---+	-----	-----	0312,0372 = 0319,0350
+++---+	+++---+	-----	+++---+	-----	-----	0312,0373 = 0319,0352
+++---+	+++---+	-----	+++---+	-----	-----	0303,0319 = 0304,0312 =
						0312,0319
+++---+	+++---+	-----	+++---+	-----	-----	0328,0369 = 0338,0349
+++---+	+++---+	-----	+++---+	-----	-----	0330,0338 = 0365,0369
+++---+	+++---+	-----	+++---+	-----	-----	031102,0338 = 0332,0369
						= 0337,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0367 = 0351,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0361 = 0346,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0359 = 0344,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0358 = 0348,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0353 = 0354,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0356 = 0364,0369
+++---+	+++---+	-----	+++---+	-----	-----	0338,0350 = 0369,0372
+++---+	+++---+	-----	+++---+	-----	-----	0338,0352 = 0369,0373
+++---+	+++---+	-----	+++---+	-----	-----	0303,0338 = 0304,0369 =
						0338,0369 = 0357,0369
+++---+	+++---+	-----	+++---+	-----	-----	0328,0330 = 0349,0365
+++---+	+++---+	-----	+++---+	-----	-----	031102,0328 = 0337,0349
+++---+	+++---+	-----	+++---+	-----	-----	0328,0367 = 0349,0351

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+++++--	-----+	-----+	-----+	-----	-----	0328,0361 = 0346,0349
+++++--	-----+	-----+	-----+	-----	-----	0328,0359 = 0344,0349
+++++--	-----+	-----+	-----+	-----	-----	0328,0358 = 0348,0349
+++++--	-----+	-----+	-----	---+-----	-----	0328,0353 = 0349,0354
+++++--	-----+	-----+	-----	---+-----	-----	0328,0356 = 0349,0364
+++++--	-----+	-----+	-----	---+-----	-----	0328,0350 = 0349,0372
+++++--	-----+	-----+	-----	-----+---	-----	0328,0352 = 0349,0373
+++++--	-----+	-----+	-----	-----	-----	0303,0328 = 0304,0349 = 0328,0349
+++++--	-----+	-----+	---+-----	-----	-----	031102,0365 = 0330,0337
+++++--	-----+	-----+	---+-----	-----	-----	0330,0351 = 0365,0367
+++++--	-----+	-----+	---+-----	-----	-----	0330,0346 = 0361,0365
+++++--	-----+	-----+	---+-----	-----	-----	0330,0344 = 0359,0365
+++++--	-----+	-----+	---+-----	-----	-----	0330,0348 = 0358,0365
+++++--	-----+	-----+	-----	---+-----	-----	0330,0354 = 0353,0365
+++++--	-----+	-----+	-----	---+-----	-----	0330,0364 = 0356,0365
+++++--	-----+	-----+	-----	---+-----	-----	0330,0372 = 0350,0365
+++++--	-----+	-----+	-----	-----+---	-----	0330,0373 = 0352,0365
+++++--	-----+	-----+	-----	-----	-----	0303,0365 = 0304,0330 = 0330,0365
+++++--	-----+	-----	++-----	-----	-----	0303,0332 = 031102,0332
+++++--	-----+	-----	---+-----	-----	-----	031102,0351 = 0337,0367
+++++--	-----+	-----	---+-----	-----	-----	031102,0346 = 0337,0361
+++++--	-----+	-----	---+-----	-----	-----	031102,0344 = 0337,0359
+++++--	-----+	-----	---+-----	-----	-----	031102,0348 = 0337,0358
+++++--	-----+	-----	---+-----	---+-----	-----	031102,0354 = 0337,0353
+++++--	-----+	-----	---+-----	---+-----	-----	031102,0364 = 0337,0356
+++++--	-----+	-----	---+-----	---+-----	-----	031102,0372 = 0337,0350
+++++--	-----+	-----	---+-----	-----+---	-----	031102,0373 = 0337,0352
+++++--	-----+	-----	---+-----	-----	-----	0303,0337 = 0304,031102 = 031102,0337
+++++--	-----+	-----	---+-----	-----	-----	0346,0367 = 0351,0361
+++++--	-----+	-----	---+-----	-----	-----	0344,0367 = 0351,0359
+++++--	-----+	-----	---+-----	-----	-----	0348,0367 = 0351,0358
+++++--	-----+	-----	---+-----	---+-----	-----	0351,0353 = 0354,0367
+++++--	-----+	-----	---+-----	---+-----	-----	0351,0356 = 0364,0367
+++++--	-----+	-----	---+-----	---+-----	-----	0350,0351 = 0367,0372
+++++--	-----+	-----	---+-----	-----+---	-----	0351,0352 = 0367,0373
+++++--	-----+	-----	---+-----	-----	-----	0303,0351 = 0304,0367 = 0351,0367
+++++--	-----+	-----	---+-----	-----	-----	0344,0361 = 0346,0359
+++++--	-----+	-----	---+-----	-----	-----	0346,0358 = 0348,0361
+++++--	-----+	-----	---+-----	---+-----	-----	0346,0353 = 0354,0361
+++++--	-----+	-----	---+-----	---+-----	-----	0346,0356 = 0361,0364
+++++--	-----+	-----	---+-----	---+-----	-----	0346,0350 = 0361,0372
+++++--	-----+	-----	---+-----	-----+---	-----	0346,0352 = 0361,0373
+++++--	-----+	-----	---+-----	-----	-----	0303,0346 = 0304,0361 = 0346,0361
+++++--	-----+	-----	-----++	-----	-----	0344,0358 = 0348,0359
+++++--	-----+	-----	-----+	---+-----	-----	0344,0353 = 0354,0359
+++++--	-----+	-----	-----+	---+-----	-----	0344,0356 = 0359,0364
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+++++--	-----+	-----	-----+	-----+---	-----	0344,0352 = 0359,0373
+++++--	-----+	-----	-----+	-----	-----	0303,0344 = 0304,0359 = 0344,0359
+++++--	-----+	-----	-----+	---+-----	-----	0348,0353 = 0354,0358
+++++--	-----+	-----	-----+	---+-----	-----	0348,0356 = 0358,0364
+++++--	-----+	-----	-----+	---+-----	-----	0348,0350 = 0358,0372
+++++--	-----+	-----	-----+	-----+---	-----	0348,0352 = 0358,0373
+++++--	-----+	-----	-----+	-----	-----	0303,0348 = 0304,0358 = 0348,0358
+++++--	-----+	-----	-----	---+-----	-----	0353,0364 = 0354,0356

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+--+---+-	-----+-	-----	-----	-+--+---	-----	0350,0354	=	0353,0372
+--+---+-	-----+-	-----	-----	-+--+---	-----	0352,0354	=	0353,0373
+--+---+-	-----+-	-----	-----	-+--+---	-----	0303,0354	=	0304,0353 =
						0353,0354		
+--+---+-	-----+-	-----	-----	-+--+---	-----	0350,0364	=	0356,0372
+--+---+-	-----+-	-----	-----	-+--+---	-----	0352,0364	=	0356,0373
+--+---+-	-----+-	-----	-----	-+--+---	-----	0303,0364	=	0304,0356 =
						0356,0364		
+--+---+-	-----+-	-----	-----	-+--+---	-----	0350,0373	=	0352,0372
+--+---+-	-----+-	-----	-----	-+--+---	-----	0303,0372	=	0304,0350 =
						0350,0372		
+--+---+-	-----+-	-----	-----	-+--+---	-----	0303,0373	=	0304,0352 =
						0352,0373		
+--+---+-	-----+-	-----	-+-----	-----	-----	0305,0313	=	0313,0335
+--+---+-	-----+-	-----	-----	-----	-----	0325,0357	=	0327,0347
+--+---+-	-----+-	-----	-+-----	-----	-----	0325,0334	=	0335,0347
+--+---+-	-----+-	-----	-----	-----	-----	0304,0325	=	0305,0347 =
						0325,0347		
+--+---+-	-----+-	-----	-+-----	-----	-----	0305,0338	=	0327,0338
+--+---+-	-----+-	-----	-+-----	-----	-----	0327,0334	=	0335,0357
+--+---+-	-----+-	-----	-----	-----	-----	0304,0327	=	0305,0357 =
						0327,0357		
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0335	=	0305,0334 =
						0334,0335		
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+--+---+-	+++-----	-----	-+-----	-----	-----	0308,0345	=	0329,0345
+--+---+-	+++-----	-----	-----	-----	-----	0307,0308	=	0307,0329
+--+---+-	-+-----	-----	-----	-----	-----	0304,0329	=	0308,0310 =
						0308,0329	=	0310,0329 =
						0329,0329		
+--+---+-	-+-----	-----	-----	-----	-----	0304,0308	=	0308,0308
+--+---+-	-+-----	-----	-+-----	-----	-----	0304,0339	=	0318,0351 =
						0339,0351		
+--+---+-	-----+-	-----	-----	-----	-----	0304,0309	=	0309,0309
+--+---+-	+++-----	-----	-+-----	-----	-----	0338,0345	=	0345,0357
+--+---+-	+++-----	-----	-+-----	-----	-----	0304,0345	=	0307,0332 =
						0307,0345	=	0310,0345 =
						0332,0345	=	0337,0345 =
						0345,0345		
+--+---+-	+++-----	-----	-----	-----	-----	0304,0307	=	0307,0307 =
						0307,0310		
+--+---+-	-+-----	-----	-----	-----	-----	0304,0310	=	0310,0310
+--+---+-	-----+-	-----	-----	-----	-----	0304,0319	=	0319,0319
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+--+---+-	-----+-	-+-----	-----	-----	-----	0304,0324	=	0324,0324
+--+---+-	-----+-	-+-----	-----	-----	-----	0304,0347	=	0347,0347
+--+---+-	-----+-	-+-----	-----	-----	-----	0304,0326	=	0326,0326
+--+---+-	-----+-	-+-----	-+-----	-----	-----	0332,0338	=	0332,0357 =
						0337,0338		
+--+---+-	-----+-	-+-----	-+-----	-----	-----	0304,0338	=	0338,0338 =
						0338,0357		
+--+---+-	-----+-	-+-----	-----	-----	-----	0304,0357	=	0357,0357
+--+---+-	-----+-	-+-----	-----	-----	-----	0304,0328	=	0328,0328
+--+---+-	-----+-	-+-----	-----	-----	-----	0304,0365	=	0365,0365
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0332	=	0332,0332 =
						0332,0337		
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0334	=	0334,0334
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0337	=	0337,0337
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0351	=	0351,0351
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0346	=	0346,0346
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0344	=	0344,0344
+--+---+-	-----+-	-----	-+-----	-----	-----	0304,0348	=	0348,0348

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+++-----	-----+-	-----	-----	-----	-----	0304,0354 = 0354,0354
+++-----	-----+-	-----	-----	-----	-----	0304,0364 = 0364,0364
+++-----	-----+-	-----	-----	-----	-----	0304,0372 = 0372,0372
+++-----	-----+-	-----	-----	-----	-----	0304,0373 = 0373,0373
+++-----	-----+-	-----	-----	-----	-----	0304,0363 = 0363,0363
+++-----	-----+-	-----	-----	-----	-----	0304,0370 = 0370,0370
+++-----	-----+-	-----	-----	-----	-----	0304,0374 = 0374,0374
+++-----	-----+-	-----	-----	-----	-----	0305,0316 = 0316,0317
+++-----	-----+-	-----	-----	-----	-----	0305,0317 = 0317,0317
+++-----	-----+-	-----	-----	-----	-----	0305,0325 = 0325,0325
+++-----	-----+-	-----	-----	-----	-----	0305,0327 = 0327,0327
+++-----	-----+-	-----	-----	-----	-----	0305,0335 = 0335,0335
+++-----	-----+-	-----	-----	-----	-----	0316,0316 = 0316,0341
+++-----	-----+-	-----	-----	-----	-----	0303,034301 =
						034301,034301 =
						034301,034302 =
						034301,0362
+++-----	-----+-	-----	-----	-----	-----	0303,034302 =
						034302,034302 =
						034302,0362
+++-----	-----+-	-----	-----	-----	-----	0303,0321 = 0321,0321 =
						0321,0355
+++-----	-----+-	-----	-----	-----	-----	0303,0322Q = 0322Q,0322Q
+++-----	-----+-	-----	-----	-----	-----	0303,0331 = 0331,0331
+++-----	-----+-	-----	-----	-----	-----	031101,0339 =
						031101,0367 =
						031102,0339
+++-----	-----+-	-----	-----	-----	-----	0303,031101 =
						031101,031101 =
						031101,031102 =
						031101,0318 =
						031102,0318
+++-----	-----+-	-----	-----	-----	-----	0303,0339 = 0318,0367 =
						0339,0367
+++-----	-----+-	-----	-----	-----	-----	0303,0312 = 0312,0312
+++-----	-----+-	-----	-----	-----	-----	0303,0320N = 0320N,0320N
+++-----	-----+-	-----	-----	-----	-----	0303,0369 = 0369,0369
+++-----	-----+-	-----	-----	-----	-----	0303,0349 = 0349,0349
+++-----	-----+-	-----	-----	-----	-----	0303,0330 = 0330,0330
+++-----	-----+-	-----	-----	-----	-----	0303,031102 =
						031102,031102
+++-----	-----+-	-----	-----	-----	-----	0303,0367 = 0367,0367
+++-----	-----+-	-----	-----	-----	-----	0303,0361 = 0361,0361
+++-----	-----+-	-----	-----	-----	-----	0303,0359 = 0359,0359
+++-----	-----+-	-----	-----	-----	-----	0303,0362 = 0362,0362
+++-----	-----+-	-----	-----	-----	-----	0303,0353 = 0353,0353
+++-----	-----+-	-----	-----	-----	-----	0303,0356 = 0356,0356
+++-----	-----+-	-----	-----	-----	-----	0303,0350 = 0350,0350
+++-----	-----+-	-----	-----	-----	-----	0303,0355 = 0355,0355
+++-----	-----+-	-----	-----	-----	-----	0303,0352 = 0352,0352
+++-----	-----+-	-----	-----	-----	-----	0303,0366 = 0366,0366
+++-----	-----+-	-----	-----	-----	-----	0303,0368 = 0368,0368
+++-----	-----+-	-----	-----	-----	-----	0303,0375 = 0375,0375
+++-----	-----+-	-----	-----	-----	-----	0303,0376 = 0376,0376
+++-----	-----+-	-----	-----	-----	-----	0318,0339 = 0339,0339

0302 = 030201-030205

0303 = 030301-030311

0304 = 03040101-030414

0338 = 033801-033802

SPECIFICITY TABLE

HLA-Cw*03 SSP subtyping

Specificities and sizes of the PCR products of the 45 primer mixes used for HLA-Cw*03 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-Cw*03 alleles ³	Other amplified HLA Class I alleles ⁴
1⁶	280 bp	800 bp	*030201-030205, 03040101-0310, 0314-0317, 0319, 0323-0329, 0332-033802, 0340-0342, 0344-0348, 0351, 0354, 0357, 0360, 0363-0365, 0370-0374	*020201-020203, 020205-0203, 0204 ^w , 0205-0213, 0214 ^w , 0215-0225Q, 0227-0231, 0403, 0406, 0416, 0603, 070210 ^w , 150201-1509, 151002, 1511, 1513, 1515-1522
2	210 bp	1070 bp	*030201-030205, 0314, 0315, 0333, 0336, 0340, 0342-034302, 0360, 0371	B*1596
3⁷	280 bp	800 bp	*030301-030311, 031101-0313, 0320N-0322Q, 0330, 0331, 034301, 034302, 0349, 0350, 0352, 0353, 0355, 0356, 0358, 0359, 0361, 0362, 0366, 0367 ^w , 0368, 0369, 0375, 0376	*1512
4	275 bp	1070 bp	*030301-030414, 0306-0312, 0314, 0318-0324, 0326, 0328-0332, 0334, 0337-0340, 0342-0357, 0359, 0361-0370, 0372-0376	
5	275 bp	1070 bp	*0305, 0313, 0317, 0325, 0327, 0335, 0371	B*1596
6^{5,9}	90 bp, 215 bp	800 bp	*0306, 0321	B*1596
7^{5,6,10}	110 bp,	1070 bp	*030301-030311,	*070101-070111,

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	185 bp		0308, 031101-0313, 0318, 0320N- 0322Q, 0329-0331, 0339, 034301, 034302, 0349, 0350, 0352, 0353, 0355, 0356, 0358, 0359, 0361, 0362, 0366-0369, 0375, 0376	0706, 0707, 0709, 0716, 0718-0720, 0722, 0724, 0726, 0728, 0730, 0735, 0736, 0740, 0744, 0752, 0753, 0755N, 075601, 0757-0760, 0765, 0770, 0771, 0773, 0777-0779, 0781-0783, 0786, 0789, 0791, B*0793, B*0839, B*5176
8	250 bp	1070 bp	*0309, 0322Q, 0342, 0371	
9	240 bp	1070 bp	*0307, 0315, 0345	*020201-020203, 020205-0203, 0204 ^w , 0205-0211, 0213, 0214 ^w , 0215-0225Q, 0228-0231, 0403, 0406, 0416, 0603, 150201-1506, 1508, 1509, 151002-1513, 1515-1520, 1522
10⁷	250 bp	800 bp	*0307, 0310, 0315, 0329, 0345	*020201 ^w , 020202, 020203, 020205-0203, 0204 ^w , 0205-0213, 0214 ^w , 0215-0225Q, 0228-0231, 0403, 0406, 0416, 0603, 150201-1506, 1508, 1509, 151002-1513, 1515-1522
11	415 bp	1070 bp	*0308, 0329, 0331	*1208
12	260 bp	1070 bp	*031101, 0318, 0339	*075601, 0760, 0779, 1512
13^{5,11}	80 bp, 140 bp	1070 bp	*030201-030205, 0315-0317, 0333, 0336, 0340, 0342, 034301, 0360, 0371	*0437, 140201, 140203-1414
14	210 bp	1070 bp	*0312, 0319	
15⁵	135 bp	1070 bp	*030201-0317, 0319-033802, 0340- 0366, 0367 ^w , 0368- 0376	*0603 ^w , 070210 ^w
16	150 bp	1070 bp	*0307, 0310, 0315, 0329, 0345	*0114, 06020101, 06020102, 060203- 0604, 0606-0610,

				0612-0628, 0707, 0709, 0776, 120401, 1412, 17010101-1705, 1801-1803
17 ⁵	90 bp	1070 bp	*0320N	
18	225 bp	1070 bp	*0323	
19 ^{5,7,12}	105 bp, 260 bp	800 bp	*0324, 0333	
20 ^{8,13}	165 bp, 255 bp	1070 bp	*0325, 0347	
21	210 bp	1070 bp	*0326	
22 ¹⁴	195 bp, 240 bp	800 bp	*0315, 0327, 033801, 033802, 0357, 0369	*0212, 0403, 0406, 0416, 0720, 1503, 1516
23 ⁵	90 bp	1070 bp	*0328, 0349	
24	200 bp	1070 bp	*0330, 0365	
25 ¹⁵	305 bp, 355 bp	1070 bp	*0332, 033801, 033802, 0345, 0369	*0614, 0710, 0743, 1503, 1516
26 ^{5,8,16}	70 bp, 105 bp, 265 bp	1070 bp	*0313, 0334-0336	B*1596
27 ^{5,17}	80 bp, 275 bp	1070 bp	*031101, 031102, 0315, 0332, 0337, 0345, 0360	*0403, 0406, 0416, 0603, 070210 ^w
28 ⁸	170 bp	1070 bp	*0316, 0341	*04010101-040104, 040106, 040108, 040110-040112, 0403, 040401, 0405-0420, 0423-0448, 140201, 140203-1414, 1801- 1803
29 ¹⁸	165 bp, 285 bp	1070 bp	*0339, 0351, 0367	*075601, *0760, *0779, B*0839
30	155 bp	1070 bp	*0346, 0361	
31 ^{5,19}	100 bp, 210 bp	800 bp	*0344, 0359	
32 ^{5,20}	90 bp, 180 bp	1070 bp	*0348, 0358	*0103, 0124, 0437
33 ^{5,21}	110 bp, 365 bp	1070 bp	*034301, 034302, 0362	*0760, 0779, 1410
34 ^{5,22}	125 bp, 240 bp	1070 bp	*0353, 0354	*1217
35 ^{5,23}	70 bp, 120 bp	1070 bp	*0356, 0364	*0208, 151002
36	240 bp	1070 bp	*0350, 0372	

37	140 bp	1070 bp	*0316, 0321, 0355	*04010101-040104, 040108, 040110- 040112, 0403, 040401, 0405-0407, 0409N- 0420, 0423-0431, 0433, 0435-0448, 140201, 140203-1414, 1801, 1802
38^{5,24}	100 bp, 265 bp	1070 bp	*0352, 0373	*0443
39	170 bp	1070 bp	*0363	
40⁸	260 bp	1070 bp	*0366	
41⁵	120 bp	1070 bp	*0368	
42	205 bp	1070 bp	*0370	B*5530
43⁷	225 bp	1070 bp	*0374	
44	160 bp	1070 bp	*0375	
45	295 bp	1070 bp	*0376	

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-Cw*03 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-Cw*03 subtyping.

In addition, wells number 3, 6, 10, 19, 22 and 31 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.

³For several HLA-Cw*03 alleles 1st, 4th, 5th, 6th and 7th 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 1st, 4th, 5th, 6th and 7th exons are conserved within allelic groups.

⁴Due to the sharing of sequence motifs between HLA-Cw alleles the primer pairs in wells 1, 3, 7, 9 to 13, 15, 16, 22, 25, 27 to 29, 32 to 35, 37 and 38 will amplify some non-HLA-Cw*03 alleles. In addition, the B*0793 and 5176 alleles are amplified by primer mix 7, the B*0839 allele is amplified by primer mix 7 and 29, the B*1596 allele is amplified by primer mixes 5, 6 and 26 and the B*5530 allele is amplified by primer mix 42.

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

⁶The primer pairs in well 1 and 7 may yield less specific PCR product than the other HLA-Cw*03 primer pairs.

⁷Primer mixes 3, 10, 19 and 43 may give rise to primer oligomer formation.

⁸Primer mixes 20, 26, 28 and 40 may give rise to nonspecific amplifications, most pronounced in primer mixes 20 and 28.

⁹Primer mix 6: Specific PCR fragment of 90 bp in the Cw*0321 and B*1596 alleles. Specific PCR fragment of 215 bp in the Cw*0306 alleles.

¹⁰Primer mix 7: Specific PCR fragment of 110 bp in the Cw*0308 and 0329 and the Cw*070101-070111, 0706, 0707, 0709, 0716, 0718-0720, 0722, 0724, 0726, 0728, 0730, 0735, 0736, 0740, 0744, 0752, 0753, 0755N, 0757-0759, 0765, 0770, 0771, 0773, 0777, 0778, 0781-0783, 0786, 0789 and 0791 alleles. Specific PCR fragment of 185 bp in the Cw*030301-030311, 031101-0313, 0318, 0320N-0322Q, 0330, 0339, 034301, 034302, 0349, 0350, 0352, 0353, 0355, 0356, 0358, 0359, 0361, 0362, 0366-0369, 0375 and 0376, in the Cw*075601 and 0779 and in the B*0793, B*0839 and B*5176 alleles. Specific PCR fragments of 110 and 185 bp in the Cw*0331 and Cw*0760 alleles.

¹¹Primer mix 13: Specific PCR fragment of 80 bp in the Cw*030201-030205, 0315, 0316, 0333, 0336, 0340, 0342, 034301 and 0360 and the Cw*1408 and 1409 alleles. Specific PCR fragment of 140 bp in the Cw*0317 and the Cw*0437 alleles. Specific PCR fragments of 80 and 140 bp in the Cw*0371 and in the Cw*140201, 140403 to 1407N and 1410 to 1414 alleles.

¹²Primer mix 19: Specific PCR fragment of 105 bp in the Cw*0324 allele. Specific PCR fragment of 260 bp in the Cw*0333 allele.

¹³Primer mix 20: Specific PCR fragment of 165 bp in the Cw*0325 allele. Specific PCR fragment of 255 bp in the Cw*0347 allele.

¹⁴Primer mix 22: Specific PCR fragment of 195 bp in the Cw*0315, 0327, 033801, 033802 and 0369 and the Cw*0212, 0403, 0406, 0416, 0720, 1503 and 1516 alleles. Specific PCR fragment of 240 bp in the Cw*0357 allele.

¹⁵Primer mix 25: Specific PCR fragment of 305 bp in the Cw*0332 and 0345 alleles. Specific PCR fragment of 355 bp in the Cw*033801-033802 and 0369 and the Cw*1503 and 1516 alleles. Specific PCR fragments of 305 and 355 bp in the Cw*0614, 0710 and 0743 alleles.

¹⁶Primer mix 26: Specific PCR fragment of 70 bp in the Cw*0334 allele. Specific PCR fragment of 105 bp in the Cw*0336 allele. Specific PCR fragment of 265 bp in the Cw*0313 and 0335 and the B*1596 alleles.

¹⁷Primer mix 27: Specific PCR fragment of 80 bp in the Cw*031101, 031102 and 0337 and the Cw* 0603 alleles. Specific PCR fragment of 275 bp in the Cw*0315, 0332, 0345 and 0360 and Cw*0403, 0406, 0416 and 0603 alleles. Specific PCR fragment of 80 and 275 bp in the Cw*070210^w allele.

¹⁸Primer mix 29: Specific PCR fragment of 165 bp in the Cw*0351 allele. Specific PCR fragment of 285 bp in the Cw*0339 and 0367, the Cw*075601, 0760 and 0779 and the B*0839 alleles.

¹⁹Primer mix 31: Specific PCR fragment of 100 bp in the Cw*0359 allele. Specific PCR fragment of 210 bp in the Cw*0344 allele.

²⁰Primer mix 32: Specific PCR fragment of 90 bp in the Cw*0358 and the Cw*0103, 0124 and 0437 alleles. Specific PCR fragment of 180 bp in the Cw*0348 allele.

²¹Primer mix 33: Specific PCR fragment of 110 bp in the Cw*0362 allele. Specific PCR fragment of 365 bp in the Cw *034301 and 034302 and the Cw*0760, 0779 and Cw*1410 alleles.

²²Primer mix 34: Specific PCR fragment of 125 bp in the Cw*0354 allele. Specific PCR fragment of 240 bp in the Cw* 0353 and the Cw*1217 alleles.

²³Primer mix 35: Specific PCR fragment of 70 bp in the Cw* 0364 and the Cw*0208 and 151002 alleles. Specific PCR fragment of 120 bp in the Cw*0356 allele.

²⁴Primer mix 38: Specific PCR fragment of 100 bp in the Cw* 0352 and the Cw*0443 alleles. Specific PCR fragment of 265 bp in the Cw*0373 allele.

^w, might be weakly amplified.

INTERPRETATION TABLE																								
HLA-Cw*03 SSP subtyping																								
Amplification patterns of the Cw*0302 to Cw*0376 alleles																								
	Well ⁵																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec.	280	210	280	275	275	90	110	250	240	250	415	260	80	210	135	150	90	225	105	165	210	195	90	200
PCR product						215	185						140						260	255		240		
Length of int. pos. control ¹	800	1070	800	1070	1070	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	800	1070	1070	800	1070	1070
5'-primer(s) ²	105	419	105	355	355	413	201	374	105	105	28	126	361	420	105	201	19	406	105	86	420	134	539	355
	5'-gCT 3'	5'-gTC 3'	5'-gCT 3'	5'-TCA 3'	5'-CCC 3'	5'-TgT 3'	5'-CCg 3'	5'-CTA 3'	5'-gCT 3'	5'-gCT 3'	5'-TCA 3'	5'-ggA 3'	5'-AgT 3'	5'-TTA 3'	5'-gCT 3'	5'-CCg 3'	5'-CCT 3'	5'-gCA 3'	5'-gCT 3'	5'-CAA 3'	5'-TTC 3'	5'-CCA 3'	5'-gCg 3'	5'-TCA 3'
						539		379					419							467		134		
						5'-gTg 3'		5'-ACC 3'					5'-gTC 3'							5'-CTT 3'		5'-CCA 3'		
																					5'-ACA 3'	391		
3'-primer(s) ³	343	589	343	589	589	589	270	589	302	312	270	343	459	589	201	312	70	589	167	302	589	289	589	514
	5'-C 3'	5'-CTT 3'	5'-T 3'	5'-CTT 3'	5'-CTT 3'	5'-CTT 3'	5'-TAG 3'	5'-CTT 3'	5'-ggT 3'	5'-AgT 3'	5'-TAG 3'	5'-T 3'	5'-AgA 3'	5'-CTT 3'	5'-CTC 3'	5'-AgT 3'	5'-ggC 3'	5'-CTT 3'	5'-ACC 3'	5'-ggC 3'	5'-CTT 3'	5'-AgC 3'	5'-CTT 3'	5'-CTT 3'
				589			343												5'-AgC 3'	589		589		
							5'-T 3'												5'-CTT 3'			5'-CTT 3'		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HLA-Cw* allele ⁴																								
*030201-030205	1	2											13		15									
*030301-030311			3	4			7								15									
*03040101-030414	1			4											15									
*0305	1				5										15									
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

INTERPRETATION TABLE																								
HLA-Cw*03 SSP subtyping																								
Amplification patterns of the Cw*0302 to Cw*0376 alleles																								
Well ⁵																								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45				
305	70	80	170	165	155	100	90	110	125	70	240	140	100	170	260	120	205	225	160	295	Length of spec.			
355	105	275		285		210	180	365	240	120			265								PCR product			
	265																							
1070	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	Length of int. pos. control ¹			
289	363	105	459	97	105	421	105	343	98	105	133	459	105	105	28	265	134	116	355	91	5'-primer(s) ²			
5' -Agg 3'	5' -Agg 3'	5' -gCT 3'	5' -gAT 3'	5' -TCg 3'	5' -gCT 3'	5' -ACC 3'	5' -gCT 3'	5' -CCA 3'	5' -CTA 3'	5' -gCT 3'	5' -CCT 3'	5' -gAT 3'	5' -gCT 3'	5' -gCT 3'	5' -TCA 3'	5' -CgA 3'	5' -CCA 3'	5' -gCT 3'	5' -TCA 3'	5' -ggC 3'				
341	527			459	459	530	368	3 ^d I	459	355	394		459											
5' -ggA 3'	5' -TgT 3'			5' -gAT 3'	5' -gAT 3'	5' -ggT 3'	5' -gTg 3'	5' -TgT 3'	5' -gAT 3'	5' -TCA 3'	5' -ggg 3'		5' -gAT 3'											
	560																							
	5' -CgA 3'																							
353	589	142	589	343	231	589	242	419	295	134	343	559	328	233	118	343	299	302	476	343	3'-primer(s) ³			
5' -TgA 3'	5' -CTT 3'	5' -TgA 3'	5' -CTC 3'	5' -T 3'	5' -..C 3'	5' -CTT 3'	5' -CCA 3'	5' -Cgg 3'	5' -TCC 3'	5' -AgC 3'	5' -T 3'	5' -CgT 3'	5' -gTC 3'	5' -CCA 3'	5' -gCA 3'	5' -T 3'	5' -TCT 3'	5' -ggC 3'	5' -CgA 3'	5' -T 3'				
		341		583	566		419	662	544	434	589		518											
		5' -CgT 3'		5' -gTg 3'	5' -CCT 3'		5' -CgA 3'	5' -CAG 3'	5' -ggg 3'	5' -CCA 3'	5' -CTT 3'	5' -CCA 3'												
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.			
																					HLA-Cw* allele ⁴			
																					*030201-030205			
																					*030301-030311			
																					*03040101-030414			
																					*0305			
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.			

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Length of spec.	280	210	280	275	275	90	110	250	240	250	415	260	80	210	135	150	90	225	105	165	210	195	90	200
PCR product						215	185						140						260	255		240		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*0306	1			4		6									15									
*0307	1			4					9	10					15	16								
*0308	1			4			7				11				15									
*0309	1			4				8							15									
*0310	1			4						10					15	16								
*031101			3	4			7					12			15									
*031102			3	4			7								15									
*0312			3	4			7							14	15									
*0313			3		5		7								15									
*0314	1	2		4											15									
*0315	1	2							9	10			13		15	16						22		
*0316	1												13		15									
*0317	1				5								13		15									
*0318				4			7					12												
*0319	1			4										14	15									
*0320N			3	4			7								15		17							
*0321			3	4		6	7								15									
*0322Q			3	4			7	8							15									
*0323	1			4											15		18							
*0324	1			4											15			19						
*0325	1				5										15				20					
*0326	1			4											15						21			
*0327	1				5										15							22		
*0328	1			4											15								23	
*0329	1			4			7			10	11				15	16								
*0330			3	4			7								15									24
*0331			3	4			7				11				15									
*0332	1			4											15									
*0333	1	2											13		15			19						
*0334	1			4											15									
*0335	1				5										15									
*0336	1	2											13		15									
*0337	1			4											15									
*033801, 033802	1			4											15							22		
*0339				4			7					12												
*0340	1	2		4									13		15									
*0341	1														15									
*0342	1	2		4				8					13		15									
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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305	70	80	170	165	155	100	90	110	125	70	240	140	100	170	260	120	205	225	160	295	Length of spec.
355	105	275		285		210	180	365	240	120			265								PCR product
	265																				
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.
																					*0306
																					*0307
																					*0308
																					*0309
																					*0310
		27																			*031101
		27																			*031102
																					*0312
	26																				*0313
																					*0314
		27																			*0315
			28									37									*0316
																					*0317
																					*0318
																					*0319
																					*0320N
												37									*0321
																					*0322Q
																					*0323
																					*0324
																					*0325
																					*0326
																					*0327
																					*0328
																					*0329
																					*0330
																					*0331
25		27																			*0332
																					*0333
	26																				*0334
	26																				*0335
	26																				*0336
		27																			*0337
25																					*033801, 033802
				29																	*0339
																					*0340
			28																		*0341
																					*0342
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.

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Length of spec.	280	210	280	275	275	90	110	250	240	250	415	260	80	210	135	150	90	225	105	165	210	195	90	200
PCR product						215	185						140						260	255		240		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*034301		2	3	4			7						13		15									
*034302		2	3	4			7								15									
*0344	1			4											15									
*0345	1			4					9	10					15	16								
*0346	1			4											15									
*0347	1			4											15				20					
*0348	1			4											15									
*0349			3	4			7								15								23	
*0350			3	4			7								15									
*0351	1			4											15									
*0352			3	4			7								15									
*0353			3	4			7								15									
*0354	1			4											15									
*0355			3	4			7								15									
*0356			3	4			7								15									
*0357	1			4											15							22		
*0358			3				7								15									
*0359			3	4			7								15									
*0360	1	2											13		15									
*0361			3	4			7								15									
*0362			3	4			7								15									
*0363	1			4											15									
*0364	1			4											15									
*0365	1			4											15								24	
*0366			3	4			7								15									
*0367			w	4			7								w									
*0368			3	4			7								15									
*0369			3	4			7								15							22		
*0370	1			4											15									
*0371	1	2			5			8					13		15									
*0372	1			4											15									
*0373	1			4											15									
*0374	1			4											15									
*0375			3	4			7								15									
*0376			3	4			7								15									
*0103, 0124																								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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305	70	80	170	165	155	100	90	110	125	70	240	140	100	170	260	120	205	225	160	295	Length of spec.
355	105	275		285		210	180	365	240	120			265								PCR product
	265																				
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.
								33													*034301
								33													*034302
						31															*0344
25		27																			*0345
				30																	*0346
																					*0347
						32															*0348
																					*0349
											36										*0350
				29																	*0351
													38								*0352
								34													*0353
								34													*0354
											37										*0355
										35											*0356
																					*0357
							32														*0358
						31															*0359
		27																			*0360
				30																	*0361
								33													*0362
														39							*0363
										35											*0364
																					*0365
															40						*0366
				29																	*0367
																41					*0368
25																					*0369
																	42				*0370
																					*0371
										36											*0372
												38									*0373
																	43				*0374
																		44			*0375
																			45		*0376
							32														*0103, 0124
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.

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Length of spec.	280	210	280	275	275	90	110	250	240	250	415	260	80	210	135	150	90	225	105	165	210	195	90	200
PCR product						215	185						140						260	255		240		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*0114, 06020101, 06020102, 060203- 060205, 0604, 0606- 0610, 0612, 0613, 0615-0628, 0776, 120401, 17010101- 1705																16								
*020201	1								9	w														
*020202, 020203, 020205-0203, 0205- 0207, 0209-0211, 0213, 0215-0225Q, 0228-0231, 150201- 150204, 1504-1506, 1508, 1509, 1511, 1513, 1515, 1517- 1520, 1522	1								9	10														
*0204, 0214	w								w	w														
*0208, 151002	1								9	10														
*0212	1									10												22		
*0227, 1507	1																							
*04010101-040104, 040108, 040110- 040112, 040401, 0405, 0407, 0409N- 041502, 0417-0420, 0423-0431, 0433, 0435, 0436, 0438- 0442, 0444-0448																								
*040106, 0408, 0432, 0434																								
*0403, 0406, 0416	1								9	10												22		
*0437													13											
*0443																								
*0603	1								9	10					w	16								
*0614																16								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Lot No.: **54G**

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305	70	80	170	165	155	100	90	110	125	70	240	140	100	170	260	120	205	225	160	295	Length of spec.
355	105	275		285		210	180	365	240	120			265								PCR product
	265																				
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.
																					*0114, 06020101, 06020102, 060203-060205, 0604, 0606-0610, 0612, 0613, 0615-0628, 0776, 120401, 17010101-1705
																					*020201
																					*020202, 020203, 020205-0203, 0205-0207, 0209-0211, 0213, 0215-0225Q, 0228-0231, 150201-150204, 1504-1506, 1508, 1509, 1511, 1513, 1515, 1517-1520, 1522
																					*0204, 0214
										35											*0208, 151002
																					*0212
																					*0227, 1507
			28									37									*04010101-040104, 040108, 040110-040112, 040401, 0405, 0407, 0409N-041502, 0417-0420, 0423-0431, 0433, 0435, 0436, 0438-0442, 0444-0448
		28																			*040106, 0408, 0432, 0434
	27	28										37									*0403, 0406, 0416
		28				32						37									*0437
		28										37	38								*0443
	27																				*0603
25																					*0614
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.

Lot No.: **54G**

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Length of spec.	280	210	280	275	275	90	110	250	240	250	415	260	80	210	135	150	90	225	105	165	210	195	90	200
PCR product						215	185						140						260	255		240		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
*070101-070111, 0706, 0716, 0718, 0719, 0722, 0724, 0726, 0728, 0730, 0735, 0736, 0740, 0744, 0752, 0753, 0755N, 0757-0759, 0765, 0770, 0771, 0773, 0777, 0778, 0781-0783, 0786, 0789, 0791, B*0793, B*5176							7																	
*070210	w														w									
*0707, 0709							7									16								
*0710, 0743																								
*0720							7															22		
*075601							7					12												
*0760, 0779							7					12												
*1208											11													
*1217																								
*140201, 140203- 1409, 1411, 1413, 1414													13											
*1410													13											
*1412													13		16									
*1503, 1516	1								9	10												22		
*1512			3						9	10		12												
*1521	1									10														
*1801, 1802																16								
*1803																16								
B*0839							7																	
B*1596		2				5	6																	
B*5530																								
HLA-Cw* allele ⁴																								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

Lot No.: **54G**

Lot-specific Information

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305	70	80	170	165	155	100	90	110	125	70	240	140	100	170	260	120	205	225	160	295	Length of spec.
355	105	275		285		210	180	365	240	120			265								PCR product
	265																				
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.
																					*070101-070111, 0706, 0716, 0718, 0719, 0722, 0724, 0726, 0728, 0730, 0735, 0736, 0740, 0744, 0752, 0753, 0755N, 0757-0759, 0765, 0770, 0771, 0773, 0777, 0778, 0781-0783, 0786, 0789, 0791, B*0793, B*5176
		w																			*070210
																					*0707, 0709
25																					*0710, 0743
																					*0720
				29																	*075601
				29				33													*0760, 0779
																					*1208
								34													*1217
			28									37									*140201, 140203- 1409, 1411, 1413, 1414
			28					33				37									*1410
			28									37									*1412
25																					*1503, 1516
																					*1512
																					*1521
			28									37									*1801, 1802
			28																		*1803
				29																	B*0839
	26																				B*1596
																42					B*5530
																					HLA-Cw* allele ⁴
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	Well No.

Lot No.: **54G**

Lot-specific Information

www.olerup.com

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-Cw*03 subtyping.

In addition, Wells number 3, 6, 10, 19, 22 and 31 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 1st, 2nd or 3rd exons or the 3rd intron, 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 1st, 2nd, 3rd or 4th exons, 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 nucleotide sequence of the HLA-Cw*0301 allele has been shown to be identical to Cw*0304.

⁵Primer mix 6: Specific PCR fragment of 90 bp in the Cw*0321 and B*1596 alleles. Specific PCR fragment of 215 bp in the Cw*0306 alleles.

Primer mix 7: Specific PCR fragment of 110 bp in the Cw*0308 and 0329 and the Cw*070101-070111, 0706, 0707, 0709, 0716, 0718-0720, 0722, 0724, 0726, 0728, 0730, 0735, 0736, 0740, 0744, 0752, 0753, 0755N, 0757-0759, 0765, 0770, 0771, 0773, 0777, 0778, 0781-0783, 0786, 0789 and 0791 alleles. Specific PCR fragment of 185 bp in the Cw*030301-030311, 031101-0313, 0318, 0320N-0322Q, 0330, 0339, 034301, 034302, 0349, 0350, 0352, 0353, 0355, 0356, 0358, 0359, 0361, 0362, 0366-0369, 0375 and 0376, in the Cw*075601 and 0779 and in the B*0793, B*0839 and B*5176 alleles. Specific PCR fragments of 110 and 185 bp in the Cw*0331 and Cw*0760 alleles.

Primer mix 13: Specific PCR fragment of 80 bp in the Cw*030201-030205, 0315, 0316, 0333, 0336, 0340, 0342, 034301 and 0360 and the Cw*1408 and 1409 alleles. Specific PCR fragment of 140 bp in the Cw*0317 and the Cw*0437 alleles. Specific PCR fragments of 80 and 140 bp in the Cw*0371 and in the Cw*140201, 140403 to 1407N and 1410 to 1414 alleles.

Primer mix 19: Specific PCR fragment of 105 bp in the Cw*0324 allele. Specific PCR fragment of 260 bp in the Cw*0333 allele.

Primer mix 20: Specific PCR fragment of 165 bp in the Cw*0325 allele. Specific PCR fragment of 255 bp in the Cw*0347 allele.

Primer mix 22: Specific PCR fragment of 195 bp in the Cw*0315, 0327, 033801, 033802 and 0369 and the Cw*0212, 0403, 0406, 0416, 0720, 1503 and 1516 alleles. Specific PCR fragment of 240 bp in the Cw*0357 allele.

Primer mix 25: Specific PCR fragment of 305 bp in the Cw*0332 and 0345 alleles. Specific PCR fragment of 355 bp in the Cw*033801-033802 and 0369 and the Cw*1503 and 1516 alleles. Specific PCR fragments of 305 and 355 bp in the Cw*0614, 0710 and 0743 alleles.

Primer mix 26: Specific PCR fragment of 70 bp in the Cw*0334 allele. Specific PCR fragment of 105 bp in the Cw*0336 allele. Specific PCR fragment of 265 bp in the Cw*0313 and 0335 and the B*1596 alleles.

Primer mix 27: Specific PCR fragment of 80 bp in the Cw*031101, 031102 and 0337 and the Cw*0603 alleles. Specific PCR fragment of 275 bp in the Cw*0315, 0332, 0345 and 0360 and Cw*0403, 0406, 0416 and 0603 alleles. Specific PCR fragment of 80 and 275 bp in the Cw*070210^w allele.

Primer mix 29: Specific PCR fragment of 165 bp in the Cw*0351 allele. Specific PCR fragment of 285 bp in the Cw*0339 and 0367, the Cw*075601, 0760 and 0779 and the B*0839 alleles.

Primer mix 31: Specific PCR fragment of 100 bp in the Cw*0359 allele. Specific PCR fragment of 210 bp in the Cw*0344 allele.

Primer mix 32: Specific PCR fragment of 90 bp in the Cw*0358 and the Cw*0103, 0124 and 0437 alleles. Specific PCR fragment of 180 bp in the Cw*0348 allele.

Primer mix 33: Specific PCR fragment of 110 bp in the Cw*0362 allele. Specific PCR fragment of 365 bp in the Cw*034301 and 034302 and the Cw*0760, 0779 and Cw*1410 alleles.

Primer mix 34: Specific PCR fragment of 125 bp in the Cw*0354 allele. Specific PCR fragment of 240 bp in the Cw*0353 and the Cw*1217 alleles.

Primer mix 35: Specific PCR fragment of 70 bp in the Cw*0364 and the Cw*0208 and 151002 alleles. Specific PCR fragment of 120 bp in the Cw*0356 allele.

Primer mix 38: Specific PCR fragment of 100 bp in the Cw*0352 and the Cw*0443 alleles. Specific PCR fragment of 265 bp in the Cw*0373 allele.

^w, might be weakly amplified.

CELL LINE VALIDATION SHEET																				
HLA-Cw*03 SSP subtyping kit																				
					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	200737001	200737002	200737003	200854204	200737005	200966206	200966207	200854208	200737009	200737010	200737011	200737012	200737013	200737014	200737015	200737016
	IHWC cell line		Cw*																	
1	9001	SA	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*0701	*1505	+	-	-	-	-	-	+	-	+	+	+	-	-	-	-	-
3	9011	E4181324	*1202		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*0304	*0401	+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
5	9009	KAS011	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
6	9353	SM	*0304	*0702	+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
7	9020	QBL	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*0401		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
13	9004	JESTHOM	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*0102	*0304	+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
15	9075	DKB	*0304		+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
16	9037	SWEIG007	*0202		+	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-
17	9282	CTM3953540	*0303	*0701	-	-	+	+	-	-	+	-	-	-	-	-	-	-	+	-
18	9257	32367	*0102	*0705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*0701		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*0304		+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
21	9064	AMALA	*0303		-	-	+	+	-	-	+	-	-	-	-	-	-	-	+	-
22	9056	KOSE	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*0102	*1502	+	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-
24	9035	JBUSH	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*0802		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*0701		-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*0704	*1505	+	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-
28	9320	BEL5GB	*0501	*1601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*1701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
31	9019	DUCAF	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*1701	*1703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
33	9098	MT14B	*0304		+	-	-	+	-	-	-	-	-	-	-	-	-	-	+	-
34	9104	DHIF	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*0303	*0401	-	-	+	+	-	-	+	-	-	-	-	-	-	-	+	-
37	9065	HHKB	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*0303		-	-	+	+	-	-	+	-	-	-	-	-	-	-	+	-
39	9315	CML	*0202	*0701	+	-	-	-	-	-	+	-	+	+	-	-	-	-	-	-
40	9134	WHONP199	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
41	9055	H0301	*0802		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*0102	*0801	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*0602	*1701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
46	9013	SCHU	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*0704	*1502	+	-	-	-	-	-	-	-	+	+	-	-	-	-	-	-
48	9303	TER-ND	*0401	*1601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET																																
HLA-Cw*03 SSP subtyping kit																																
					Well																											
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32												
				Prod. No.:	200737017	200737018	200854219	200854220	200854221	200966222	200966223	200737024	200966225	200966226	200966227	200966228	200966229	200966230	200966231	200966232												
	IHCW cell line		Cw*																													
1	9001	SA	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
2	9280	LK707	*0701	*1505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
3	9011	E4181324	*1202		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
4	9275	GU373	*0304	*0401	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-											
5	9009	KAS011	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
6	9353	SM	*0304	*0702	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
7	9020	QBL	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
8	9025	DEU	*0401		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-											
9	9026	YAR	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
10	9107	LKT3	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
11	9051	PITOUT	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
12	9052	DBB	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
13	9004	JESTHOM	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
14	9071	OLGA	*0102	*0304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
15	9075	DKB	*0304		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
16	9037	SWEIG007	*0202		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
17	9282	CTM3953540	*0303	*0701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
18	9257	32367	*0102	*0705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
19	9038	BM16	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
20	9059	SLE005	*0304		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
21	9064	AMALA	*0303		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
22	9056	KOSE	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
23	9124	IHL	*0102	*1502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
24	9035	JBUSH	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
25	9049	IBW9	*0802		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
26	9285	WT49	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
27	9191	CH1007	*0704	*1505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
28	9320	BEL5GB	*0501	*1601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
29	9050	MOU	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
30	9021	RSH	*1701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
31	9019	DUCAF	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
32	9297	HAG	*1701	*1703	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
33	9098	MT14B	*0304		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
34	9104	DHIF	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
35	9302	SSTO	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
36	9024	KT17	*0303	*0401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
37	9065	HHKB	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
38	9099	LZL	*0303		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
39	9315	CML	*0202	*0701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
40	9134	WHONP199	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
41	9055	H0301	*0802		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
42	9066	TAB089	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
43	9076	T7526	*0102	*0801	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
44	9057	TEM	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
45	9239	SHJO	*0602	*1701	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
46	9013	SCHU	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
47	9045	TUBO	*0704	*1502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-											
48	9303	TER-ND	*0401	*1601	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-											

CELL LINE VALIDATION SHEET																	
HLA-Cw*03 SSP subtyping kit																	
					Well												
					33	34	35	36	37	38	39	40	41	42	43	44	45
				Prod. No.:	200966233	200966234	200966235	200966236	200966237	200966238	200966239	200966240	200966241	200966242	200966243	200966244	200966245
	IHWC cell line		Cw*														
1	9001	SA	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*0701	*1505	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*1202		-	-	-	-		-	-	-	-	-	-	-	-
4	9275	GU373	*0304	*0401	-	-	-	-	+	-	-	-	-	-	-	-	-
5	9009	KAS011	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*0304	*0702	-	-	-	-		-	-	-	-	-	-	-	-
7	9020	QBL	*0501		-	-	-	-		-	-	-	-	-	-	-	-
8	9025	DEU	*0401		-	-	-	-	+	-	-	-	-	-	-	-	-
9	9026	YAR	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*0102	*0304	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*0304		-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*0202		-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*0303	*0701	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*0102	*0705	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*0304		-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*0303		-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*0102	*1502	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*0802		-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*0701		-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*0704	*1505	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*0501	*1601	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*1601		-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*1701		-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*1701	*1703	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*0304		-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*0501		-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*0303	*0401	-	-	-	-	+	-	-	-	-	-	-	-	-
37	9065	HHKB	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*0303		-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*0202	*0701	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*0602		-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*0802		-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*0102		-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*0102	*0801	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*1203		-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*0602	*1701	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*0702		-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*0704	*1502	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*0401	*1601	-	-	-	-	+	-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS**Olerup SSP® HLA-Cw*03 SSP****Product number:** 101.611-12 – including *Taq* polymerase**Lot number:** 54G**Expiry date:** 2011-December-01**Number of tests:** 12**Number of wells per test:** 45**Well specifications:**

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2007-370-01	17	2007-370-17	33	2009-662-33
2	2007-370-02	18	2007-370-18	34	2009-662-34
3	2007-370-03	19	2008-542-19	35	2009-662-35
4	2008-542-04	20	2008-542-20	36	2009-662-36
5	2007-370-05	21	2008-542-21	37	2009-662-37
6	2009-662-06	22	2009-662-22	38	2009-662-38
7	2009-662-07	23	2009-662-23	39	2009-662-39
8	2008-542-08	24	2007-370-24	40	2009-662-40
9	2007-370-09	25	2009-662-25	41	2009-662-41
10	2007-370-10	26	2009-662-26	42	2009-662-42
11	2007-370-11	27	2009-662-27	43	2009-662-43
12	2007-370-12	28	2009-662-28	44	2009-662-44
13	2007-370-13	29	2009-662-29	45	2009-662-45
14	2007-370-14	30	2009-662-30		
15	2007-370-15	31	2009-662-31		
16	2007-370-16	32	2009-662-32		

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

No DNAs carrying the alleles to be amplified by primer solutions 8, 11, 12, 14, 17 to 21, 23 to 26, 29, 31 to 36 or 38 to 45 were available. The specificities of the primers in primer solutions 8, 11, 14, 21, 23, 25, 26, 29, 32, 33, 35 and 42 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer solutions 12, 17, 18, 20, 31, 36, 41, 43 and 45 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solutions 19, 24, 34, 38 to 40 and 44 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 8 and 22 it was not possible to test one of the 5'-primers and in primer solutions 29, 30, 32, 33 and 35 one 3'-primer was not possible to test. Finally, additional primers in primer solutions 6, 22 and 30 were tested by separately adding an additional 5'- or 3'-primer.

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

Date of approval: 2009-December-14

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP® HLA-Cw*03
Product number: 101.611-12
Lot number: 54G

Intended use: HLA-Cw*03 high resolution histocompatibility testing

Manufacturer: *Olerup* SSP AB
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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 III, 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.

Saltsjöbaden, Sweden
2009- December-14

Olle Olerup
Managing Director

Lot No.: **54G**

Lot-specific Information

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