

Olerup SSP[®] HLA-B*44

Product number:	101.563-24/03 – including <i>Taq</i> pol.
Lot number:	73F
Expiry date:	2011-March-01
Number of tests:	24 tests – Product No. 101.563-24 3 tests – Product No. 101.563-03
Number of wells per test:	48
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. 73F.

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP[®]
HLA-B*44 LOT.**

The HLA-B*44 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP[®]* HLA-B*44 lot was made (**Lot No. 34E**).

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

Well	5'-primer	3'-primer	rationale
10	Moved	Moved	Primer pair moved to well 27.
27	Added	Added	Primer pair from well 10.
35	Added	Added	Primer pair for the B*4463 allele.
46	Added	Added	Primer pair for the B*4465 allele.
48	Exchanged, added	Added	Decrease formation of primer dimers, new primer pair for the B*4461N allele.

PRODUCT DESCRIPTION

HLA-B*44 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*4402 to B*4465 alleles.

PLATE LAYOUT

Each test consists of 48 PCR reactions in a 48 well cut PCR plate.

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	46	47	48

The 48 well cut PCR plate is marked with 'HLA-B*44' in silver/gray ink.

Well No. 1 is marked with the Lot No. '73F'.

The PCR plates are covered with a PCR-compatible foil.

Please note: When removing each 48 well PCR plate, make sure that the remaining plates stay covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

The interpretation of HLA-B*44 SSP subtypings will be influenced many other HLA-B alleles when present on the other haplotype. In addition, the Cw*070401-070403, 0711, 0712, 0745 and 0763 alleles will be amplified by primer mix 39 and the Cw*1610 allele will be amplified by primer mixes 33, 35 and 44.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*44 alleles, i.e. **B*4402 to B*4465**, recognized by the HLA Nomenclature Committee in January 2009¹ will give rise to unique amplification patterns by the primers in the HLA-B*44 subtyping kit.

The HLA-B*44 subtyping kit cannot distinguish the B*44020101, B*440202 to B*440205 alleles, the B*440301 to B*440303 alleles or the B*442801 and B*442802 alleles.

¹HLA-B alleles listed on the IMGT/HLA web page 2009-January-16, release 2.24.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

The 64 phenotypically different HLA-B*44 alleles give rise to 66 amplification patterns that can be combined in 2 211 homozygous and heterozygous combinations. 692 of these genotypes do not give rise to unique amplification patterns. (The differently sized specific PCR fragments generated by primer mixes 6 to 9, 18 to 21, 27, 35, 46 and 48 were not considered in these calculations.)

Lot No.: **73F**

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++++-+-+ --+---+ +-----+ +-----+ ----+--- ----- 4407, 4417 = 4417, 4438 =
4417, 4457
++++-+-+ --+---+ +-----+ +-----+ ----+--- -+----- 4407, 4462 = 4438, 4462 =
4457, 4462
++++-+-+ --+---+ +-----+ +-----+ ----- ----- 4407, 4425 = 4425, 4438 =
4425, 4457
++++-+-+ --+---+ +-----+ +-----+ ----- -+----- 4407, 4458N = 4438, 4458N =
4457, 4458N
++++-+-+ --+---+ +-----+ -----+ ----- ----- 4405, 4407 = 4405, 4457
++++-+-+ --+---+ +-----+ -----+ ----- ----- 4405, 4446 = 4409, 4439
++++-+-+ --+---+ +-----+ +-----+ ----+--- ----- 4403, 4417 = 4417, 4439 =
4417, 4460
++++-+-+ --+---+ +-----+ +-----+ ----+--- -+----- 4403, 4462 = 4414, 4439 =
4439, 4462 = 4460, 4462
++++-+-+ --+---+ -----+ +-----+ +---+--- ----- 4417, 446401 = 4417, 446402
++++-+-+ --+---+ -----+ +-----+ +---+--- -+----- 4462, 446401 = 4462, 446402
++++-+-+ --+---+ +-----+ +-----+ ----- ----- 4403, 4425 = 4405, 4450 =
4425, 4439 = 4425, 4450 =
4425, 4460
++++-+-+ --+---+ -----+ +-----+ +----- ----- 4425, 446401 = 4425, 446402
++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4405, 4430 = 4411, 4439
++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4405, 4436 = 4422, 4439
++++-+-+ --+---+ +---+---+ +-----+ ----- -+----- 4403, 4458N = 4439, 4458N =
4458N, 4460
++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4405, 4460 = 4427, 4439
++++-+-+ --+---+ +---+---+ -----+ ----- ----- 4405, 4461N = 4439, 4459
++++-+-+ --+---+ +---+---+ -----+ ----- ----- 4402, 4439 = 4403, 4405 =
4405, 4439
++++-+-+ --+---+ -----+ +-----+ +----- -+----- 4458N, 446401 =
4458N, 446402
++++-+-+ --+---+ +---+---+ +-----+ +----- ----- 4406, 446401 = 4406, 446402
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4424, 4457
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4412, 4457
++++-+-+ --+---+ +---+---+ +-----+ ----+--- -+----- 4407, 4414 = 4414, 4438 =
4414, 4457
++++-+-+ --+---+ +---+---+ -----+ ----+--- ----- 4407, 4451 = 4451, 4457
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++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4407, 4411 = 4408, 4430 =
4411, 4438 = 4411, 4457
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4422, 4438 = 4422, 4457
++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4408, 4432 = 4421, 4438
++++-+-+ --+---+ +---+---+ -----+ +-----+ ----- 4407, 4416 = 4416, 4457
++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4407, 4421 = 4421, 4457
++++-+-+ --+---+ +-----+ +-----+ ----- ----- 44020102S, 4407 =
44020102S, 4457
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4433, 4457
++++-+-+ --+---+ +---+---+ +---+---+ ----- ----- 4408, 4447 = 4434, 4438
++++-+-+ --+---+ +---+---+ +---+---+ ----- ----- 4407, 4455 = 4438, 4455 =
4455, 4457
++++-+-+ --+---+ +---+---+ +-----+ --+---+ ----- 4407, 4463 = 4438, 4463 =
4457, 4463
++++-+-+ --+---+ +---+---+ +-----+ -----+ ----- 4407, 4442 = 4438, 4442 =
4442, 4457
++++-+-+ --+---+ +---+---+ +-----+ -----+ ----- 4407, 4448 = 4438, 4448 =
4448, 4457
++++-+-+ --+---+ +---+---+ +-----+ ----- ----- 4402, 4438 = 4407, 4427 =
4408, 4438 = 4427, 4438 =
4427, 4457
++++-+-+ --+---+ +---+---+ -----+ ----- -+----- 4407, 4449 = 4449, 4457
++++-+-+ --+---+ +---+---+ -----+ ----- -+----- 4407, 4452N = 4452N, 4457

Lot No.: **73F**

Lot-specific Information

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+++++---+ --+----- +-----+ -----+ ----- ---+----- 4407, 4459 = 4408, 4461N =
4457, 4459
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4407 = 4402, 4457 =
4403, 4408
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4408, 4446 = 4409, 4457
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4424, 446401 = 4424, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4424 = 4424, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4409, 4430 = 4411, 4446
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4409, 4436 = 4422, 4446
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4409, 4447 = 4434, 4446
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4409, 4461N = 4446, 4459
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4446 = 4403, 4409
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4412, 446401 = 4412, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4412 = 4412, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4414 = 4414, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4414, 446401 = 4414, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4450 = 4427, 4450
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4411, 4436 = 4422, 4430
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4411, 446401 = 4411, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4411, 4432 = 4421, 4430
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4411, 4447 = 4430, 4434
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4411, 4440 = 4430, 4444
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4411, 4461N = 4430, 4459
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4430 = 4403, 4411 =
4411, 4430 = 4411, 4460 =
4427, 4430
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4422, 446401 = 4422, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4421, 4436 = 4422, 4432
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4422, 4447 = 4434, 4436
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4422, 4440 = 4436, 4444
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4422, 4461N = 4436, 4459
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4436 = 4403, 4422 =
4422, 4436 = 4422, 4460 =
4427, 4436
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4433, 446401 = 4433, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4434, 446401 = 4434, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4421, 4447 = 4432, 4434
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4455, 446401 = 4455, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4463, 446401 = 4463, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4444, 446401 = 4444, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4416, 4432 = 4416, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4448, 446401 = 4448, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 446401 = 4421, 4437 =
4421, 446401 = 4427, 446401
= 4427, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4421, 4440 = 4432, 4444
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4432 = 4421, 4432 =
4421, 4460 = 4427, 4432
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 446402 = 4421, 446402
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4426 = 4426, 4427
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4433 = 4433, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4434, 4461N = 4447, 4459
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4447 = 4403, 4434 =
4427, 4447 = 4434, 4447
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4455 = 4455, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4437 = 4427, 4437
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4463 = 4460, 4463
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4440, 4459 = 4444, 4461N
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4440 = 4403, 4444 =
4427, 4440
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4442 = 4442, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4403, 4448 = 4448, 4460
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4402, 4454 = 4427, 4454
+++++---+ --+----- +-----+ -----+ ----- ---+----- 4427, 4461N = 4459, 4460

Lot No.: **73F**

Lot-specific Information

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+++-+-----	--+-----	+-----+	+-----+	--+-----	-----	4427, 4456N = 4456N, 4463
+++-+-----	--+-----	+-----+	+-----+	--+-----	-----	4404, 4427 = 4404, 4463 = 4428, 4463
+++-+-----	--+-----	+-----+	+-----+	-----	-----	4402, 4428 = 4427, 4428
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4406, 4417 = 4417, 4429
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4406, 4462 = 4429, 4462
+++-++-	--+-----	+-----+	+-----+	-----	-----	4406, 4425 = 4425, 4429
+++-++-	--+-----	+-----+	+-----+	-----	-----	4406, 4458N = 4429, 4458N
+++-++-	--+-----	+-----+	+-----+	-----	-----	4405, 4406 = 4405, 4429
+++-++-	+-----+	-----+	+-----+	+-----+	-----	4414, 4418 = 4418, 4462
+++-++-	+-----+	-----+	+-----+	+-----+	-----	4414, 4415 = 4415, 4462
+++-++-	+-----+	-----+	+-----+	+-----+	-----	4410, 4414 = 4410, 4462
+++-++-	+-----+	+-----+	+-----+	+-----+	-----	4402, 4418 = 4418, 4423N = 4418, 4427 = 4418, 4434 = 4418, 4448
+++-++-	+-----+	-----+	+-----+	+-----+	-----	4405, 4418 = 4418, 4425
+++-++-	+-----+	+-----+	+-----+	+-----+	-----	4402, 4415 = 4415, 4423N = 4415, 4427 = 4415, 4434 = 4415, 4448 = 4415, 4455
+++-++-	+-----+	+-----+	+-----+	-----+	-----	4402, 4410 = 4410, 4423N = 4410, 4427 = 4410, 4448
+++-++-	--+-----	-----+	+-----+	---+-----	-----	4414, 4425 = 4425, 4462
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4417, 4420 = 4417, 4434
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4420, 4462 = 4434, 4462
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4402, 4417 = 4417, 4427
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4402, 4462 = 4427, 4462
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4414, 4431 = 4431, 4462
+++-++-	--+-----	-----+	+-----+	---+-----	-----	4414, 4417 = 4414, 4443 = 4417, 4462 = 4443, 4462
+++-++-	--+-----	-----+	+-----+	---+-----	-----	4405, 4417 = 4417, 4447 = 4417, 4443 = 4417, 4445 = 4417, 4451 = 4443, 4451
+++-++-	--+-----	-----+	+-----+	---+-----	-----	4414, 4458N = 4458N, 4462
+++-++-	--+-----	-----+	+-----+	---+-----	-----	4405, 4414 = 4405, 4462 = 4414, 4462 = 4445, 4462 = 4451, 4462 = 4462, 4462
+++-++-	--+-----	+-----+	+-----+	-----	-----	4420, 4425 = 4425, 4434
+++-++-	--+-----	+-----+	+-----+	-----	-----	4402, 4425 = 4425, 4427
+++-++-	--+-----	-----+	+-----+	-----	-----	4405, 4425 = 4425, 4425
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4402, 4431 = 4419N, 4431
+++-++-	--+-----	+-----+	+-----+	-----	-----	4420, 4458N = 4434, 4458N
+++-++-	--+-----	+-----+	+-----+	-----	-----	4405, 4420 = 4405, 4434
+++-++-	--+-----	+-----+	+-----+	---+-----	-----	4402, 4443 = 4427, 4443
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+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4423N = 4423N, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4424 = 4424, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4412 = 4412, 4429
+++-++-	+-----+	+-----+	+-----+	---+-----	-----	4406, 4414 = 4414, 4429
+++-++-	+-----+	+-----+	+-----+	---+-----	-----	4406, 4451 = 4429, 4451
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4419N = 4419N, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4411 = 4411, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4422 = 4422, 4429
+++-++-	+-----+	+-----+	+-----+	+-----+	-----	4406, 4416 = 4416, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4421 = 4421, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	44020102S, 4406 = 44020102S, 4429
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4433 = 4429, 4433
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4420 = 4429, 4434
+++-++-	+-----+	+-----+	+-----+	-----	-----	4406, 4455 = 4429, 4455

Lot No.: **73F**

Lot-specific Information

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+++---+-	--+-----	+-----+	+-----+	-----+	-----	4406, 4442 = 4429, 4442
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+++---+-	--+-----	+-----+	+-----+	-----	+-----	4406, 4449 = 4429, 4449
+++---+-	--+-----	+-----+	+-----+	-----	--+-----	4406, 4452N = 4429, 4452N
+++---+-	--+-----	+-----+	+-----+	-----	---+-----	4406, 4453 = 4429, 4453
+++---+-	--+-----	+-----+	+-----+	-----	-----+	4406, 4459 = 4429, 4459
+++---+-	--+-----	+-----+	+-----+	-----	-----	4402, 4406 = 4402, 4429 =
						4406, 4427 = 4406, 4429 =
						4427, 4429
+++-----	+--+-----	+-----+	+--+-----	-----	-----	4420, 4423N = 4423N, 4434
+++-----	+--+-----	+-----+	-----+	-----	-----	4402, 4423N = 4423N, 4423N
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						4424, 4427
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+++-----	--++-----	+-----+	+--+-----	-----	-----	4412, 4420 = 4412, 4434
+++-----	--++-----	+-----+	+-----+	-----	-----	4402, 4412 = 4412, 4412 =
						4412, 4427
+++-----	--+-----+	+-----+	+--+-----	---+---	+-----	4414, 4420 = 4414, 4434
+++-----	--+-----+	+-----+	+--+-----	---+---	-----	4420, 4451 = 4434, 4451
+++-----	--+-----+	+-----+	+-----+	---+---	+-----	4402, 4414 = 4414, 4427
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						4414, 4451
+++-----	--+-----	++-----+	+--+-----	-----	-----	4419N, 4420 = 4419N, 4434
+++-----	--+-----	++-----+	-----+	-----	-----	4402, 4419N = 4419N, 4419N
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+++-----	--+-----	+--+-----	+-----+	-----	-----	4402, 4422 = 4422, 4422 =
						4422, 4427
+++-----	--+-----	+--+-----	+--+-----	-----	-----	4420, 4421 = 4421, 4434
+++-----	--+-----	+--+-----	-----+	+-----+	-----	4402, 4416 = 4416, 4421
+++-----	--+-----	+--+-----	-----+	-----	-----	4402, 4421 = 4421, 4421
+++-----	--+-----	+-----+	+--+-----	-----	-----	44020102S, 4420 =
						44020102S, 4434
+++-----	--+-----	+-----+	-----+	-----	-----	4402, 44020102S =
						44020102S, 44020102S
+++-----	--+-----	+-----+	+++-----	-----	-----	4420, 4433 = 4433, 4434
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+++-----	--+-----	+-----+	+--+-----	-----	-----	4420, 4455 = 4434, 4455
+++-----	--+-----	+-----+	+--+-----	--+-----	-----	4420, 4463 = 4434, 4463
+++-----	--+-----	+-----+	+--+-----	-----+	-----	4420, 4448 = 4434, 4448
+++-----	--+-----	+-----+	+--+-----	-----	+-----	4420, 4449 = 4434, 4449
+++-----	--+-----	+-----+	+--+-----	-----	--+-----	4420, 4452N = 4434, 4452N
+++-----	--+-----	+-----+	+--+-----	-----	---+-----	4420, 4453 = 4434, 4453
+++-----	--+-----	+-----+	+--+-----	-----	-----+	4420, 4459 = 4434, 4459
+++-----	--+-----	+-----+	+--+-----	-----	-----	4402, 4420 = 4402, 4434 =
						4420, 4427 = 4420, 4434 =
						4427, 4434
+++-----	--+-----	+-----+	+--+-----	-----	-----	4402, 4435 = 4427, 4435
+++-----	--+-----	+-----+	+--+-----	-----	-----	4402, 4455 = 4427, 4455 =
						4455, 4455
+++-----	--+-----	+-----+	+-----+	--+-----	-----	4402, 4463 = 4427, 4463 =
						4463, 4463
+++-----	--+-----	+-----+	+-----+	---+-----	-----	4402, 4444 = 4427, 4444
+++-----	--+-----	+-----+	+-----+	---+-----	-----	4402, 4445 = 4427, 4445
+++-----	--+-----	+-----+	+-----+	-----+	-----	4402, 4441 = 4427, 4441
+++-----	--+-----	+-----+	+-----+	-----+	-----	4402, 4442 = 4427, 4442
+++-----	--+-----	+-----+	+-----+	-----+	-----	4402, 4448 = 4427, 4448 =
						4448, 4448
+++-----	--+-----	+-----+	-----+	-----	+-----	4402, 4449 = 4449, 4449
+++-----	--+-----	+-----+	-----+	-----	--+-----	4402, 4452N = 4452N, 4452N

Lot No.: **73F**

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+++-----	--+-----	+-----+	-----+	-----	---+-----	4402, 4453 = 4453, 4453
+++-----	--+-----	+-----+	-----+	-----	-----+	4402, 4459 = 4459, 4459
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4428 = 4428, 4438 = 4428, 4457
++-++-+	--+-----	+-----+	-----	--+-----	-----+	4407, 4456N = 4456N, 4457
++-++-+	--+-----	+-----+	-----	--+-----	-----	4404, 4407 = 4404, 4457
++-++-+	--+-----	+-----+	+-----	+-----	-----	4428, 446401 = 4428, 446402
++-++-+	--+-----	+-----+	+-----	+-----	-----	4404, 4454 = 4454, 4456N
++-++-+	--+-----	+-----+	+-----	-----	-----	4403, 4428 = 4428, 4460
++-++-+	--+-----	+-----+	-----	--+-----	-----+	4403, 4456N = 4404, 4465 = 4456N, 4465
++-++-+	+-----+	+-----+	+-----+	+-----+	-----	4407, 4418 = 4418, 4438 = 4418, 4457
++-++-+	+-----+	+-----+	+-----+	+-----+	-----	4407, 4415 = 4415, 4438 = 4415, 4457
++-++-+	+-----+	+-----+	+-----+	-----+	-----	4407, 4410 = 4410, 4438 = 4410, 4457
++-++-+	--+-----	+-----+	+-----	-----+	-----+	4407, 4431 = 4431, 4438 = 4431, 4457
++-++-+	--+-----	+-----+	+-----+	-----+	-----	4407, 4443 = 4438, 4443 = 4443, 4457
++-++-+	+-----+	+-----+	+-----+	+-----+	-----	4403, 4418 = 4418, 4439 = 4418, 4450 = 4418, 4460
++-++-+	+-----+	+-----+	+-----+	+-----+	-----	4403, 4415 = 4415, 4439 = 4415, 4460
++-++-+	+-----+	+-----+	+-----+	-----+	-----	4403, 4410 = 4410, 4439 = 4410, 4460
++-++-+	+-----+	-----+	+-----+	+-----+	-----	4410, 446401 = 4410, 446402
++-++-+	--+-----	+-----+	+-----	-----+	-----+	4403, 4431 = 4431, 4439 = 4431, 4460
++-++-+	--+-----	+-----+	+-----+	-----+	-----	4403, 4443 = 4439, 4443 = 4443, 4460
++-++-+	--+-----	-----+	+-----+	+-----+	-----	4443, 446401 = 4443, 446402
++-++-++	--+-----	+-----+	+-----	-----	-----	4407, 4429 = 4429, 4438 = 4429, 4457
++-++-+	--+-----	+-----+	+-----	+-----	-----	4429, 446401 = 4429, 446402
++-++-+	--+-----	+-----+	+-----	-----	-----	4403, 4429 = 4429, 4460
++-++-+	--+-----	+-----+	-----	-----	-----	4407, 4413 = 4413, 4457
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4450 = 4438, 4450 = 4450, 4457
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4430 = 4430, 4438 = 4430, 4457
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4436 = 4436, 4438 = 4436, 4457
++-++-+	--+-----	+-----+	+-----	+-----	-----	4407, 446401 = 4438, 446401 = 4438, 446402 = 4457, 446401
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4432 = 4432, 4438 = 4432, 4457
++-++-+	--+-----	+-----+	-----	+-----	-----	4407, 446402 = 4457, 446402
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4426 = 4426, 4438 = 4426, 4457
++-++-+	--+-----	+-----+	+-----+	-----	-----	4407, 4420 = 4420, 4438 = 4420, 4457
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4447 = 4438, 4447 = 4447, 4457
++-++-+	--+-----	+-----+	+-----	-----	-----	4407, 4435 = 4435, 4438 = 4435, 4457
++-++-+	--+-----	+-----+	+-----+	-----+	-----+	4407, 4441 = 4438, 4441 = 4441, 4457
++-++-+	--+-----	+-----+	+-----	+-----	-----	4407, 4437 = 4437, 4438 = 4437, 4457
++-++-+	--+-----	+-----+	+-----	-----+	-----	4407, 4445 = 4438, 4445 = 4445, 4457

Lot No.: **73F**

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++-+---+ -+----- +-----+ +----- -+----- 4407, 4454 = 4438, 4454 =
4454, 4457

++-+---+ -+----- +-----+ +----- -+----- 4403, 4438 = 4407, 4438 =
4438, 4438 = 4438, 4457 =
4438, 4460

++-+---+ -+----- +-----+ +----- -+----- 4407, 4465 = 4457, 4465

++-+---+ -+----- +-----+ +----- -+----- 4407, 4461N = 4457, 4461N

++-+---+ -+----- +-----+ +----- -+----- 4403, 4407 = 4403, 4457

++-+---+ -+----- +-----+ +----- -+----- 4403, 4413 = 4413, 4413

++-+---+ -+----- +-----+ +----- -+----- 4450, 446401 = 4450, 446402

++-+---+ -+----- +-----+ +----- -+----- 4403, 4450 = 4450, 4450 =
4450, 4460

++-+---+ -+----- +-----+ +----- -+----- 4430, 446401 = 4430, 446402

++-+---+ -+----- +-----+ +----- -+----- 4403, 4430 = 4430, 4430 =
4430, 4460

++-+---+ -+----- +-----+ +----- -+----- 4436, 446401 = 4436, 446402

++-+---+ -+----- +-----+ +----- -+----- 4403, 4436 = 4436, 4436 =
4436, 4460

++-+---+ -+----- +-----+ +----- -+----- 4426, 446401 = 4426, 446402

++-+---+ -+----- +-----+ +----- -+----- 4435, 446401 = 4435, 446402

++-+---+ -+----- +-----+ +----- -+----- 4440, 446401 = 4440, 446402

++-+---+ -+----- +-----+ +----- -+----- 4403, 446401 = 4432, 4437 =
4432, 446401 = 4432, 446402
= 4460, 446401 =
4460, 446402

++-+---+ -+----- +-----+ +----- -+----- 4403, 4432 = 4432, 4432 =
4432, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4426 = 4426, 4426 =
4426, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4420 = 4420, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4447 = 4447, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4435 = 4435, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4441 = 4441, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4437 = 4437, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4445 = 4445, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4454 = 4454, 4460

++-+---+ -+----- +-----+ +----- -+----- 4403, 4461N = 4461N, 4461N

++-+---+ -+----- +-----+ +----- -+----- 4445, 446401 = 4445, 446402

++-+---+ -+----- +-----+ +----- -+----- 4404, 4431 = 4431, 4456N

++-+---+ -+----- +-----+ +----- -+----- 4404, 4441 = 4441, 4456N

++-+---+ -+----- +-----+ +----- -+----- 4404, 4456N = 4456N, 4456N

++-+---+ -+----- +-----+ +----- -+----- 4410, 4418 = 4418, 4445

++-+---+ -+----- +-----+ +----- -+----- 4410, 4415 = 4415, 4445

++-+---+ -+----- +-----+ +----- -+----- 4410, 4410 = 4410, 4445

++-+---+ -+----- +-----+ +----- -+----- 4443, 4443 = 4443, 4445

++-+---+ -+----- +-----+ +----- -+----- 4407, 4434 = 4434, 4457

++-+---+ -+----- +-----+ +----- -+----- 4408, 4440 = 4444, 4457

++-+---+ -+----- +-----+ +----- -+----- 4440, 4444 = 4444, 4460

++-+---+ -+----- +-----+ +----- -+----- 4407, 4439 = 4439, 4457

++-+---+ -+----- +-----+ +----- -+----- 4407, 4407 = 4407, 4457

++-+---+ -+----- +-----+ +----- -+----- 4440, 4440 = 4440, 4460

++-+---+ -+----- +-----+ +----- -+----- 4416, 4437 = 4416, 446401 =
4442, 446401 = 4442, 446402

++-+---+ -+----- +-----+ +----- -+----- 4418, 446401 = 4418, 446402

++-+---+ -+----- +-----+ +----- -+----- 4415, 446401 = 4415, 446402

++-+---+ -+----- +-----+ +----- -+----- 4431, 446401 = 4431, 446402

++-+---+ -+----- +-----+ +----- -+----- 4420, 446401 = 4420, 446402

++-+---+ -+----- +-----+ +----- -+----- 4447, 446401 = 4447, 446402

++-+---+ -+----- +-----+ +----- -+----- 4441, 446401 = 4441, 446402

++-+---+ -+----- +-----+ +----- -+----- 4454, 446401 = 4454, 446402

++-+---+ -+----- +-----+ +----- -+----- 4454, 4454 = 4454, 4465

++-+---+ -+----- +-----+ +----- -+----- 4437, 446401 = 4437, 446402
= 446401, 446401 =
446401, 446402

(4402=44020101, 440202-440205, 4403=440301-440303, 4428=442802-442802)

SPECIFICITY TABLE

HLA-B*44 SSP subtyping

Specificities and sizes of the PCR products of the 48 primer mixes used for HLA-B*44 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*44 alleles ³	Other amplified HLA Class I alleles ⁴
1	260 bp	800 bp	44020101-4414, 4417, 4419N, 4421-4430, 4432-4436, 4438-4440, 4443-4446, 4448-4453, 4455-4463	3545, 3571, 5142, 5707, 8301
2⁵	90 bp	800 bp	44020101-4405, 4409-4433, 4435-4438, 4441-4443, 4445-4456N, 4458N, 4459, 4461N-4465	1553, 3563, 400101-4009, 4011, 4013-4016, 4018-4020, 4022N-4040, 4042-4045, 4047-4057, 4059-4082, 4084-4092, 4094, 4101-4108, 4501-4509, 47010101-4705, 490101- 4902, 4904, 4905, 5001, 5002, 5004
3	225 bp	800 bp	44020101-440205, 4405, 4406, 4408, 4409, 4411, 4412, 4414, 4416, 4417, 4419N, 4421-4425, 4427, 4433, 4434, 4442, 4444, 4448, 4449, 4451-4453, 4455, 4458N, 4459, 4462, 4463	3538, 370101-370104, 3703N-3706, 3708, 3710-3714, 5709, 8301
4	160 bp	1070 bp	440301-440303, 4407, 4413, 4426, 4430, 4432, 4436-4440, 4446, 4447, 4450,	5142

			4454, 4457, 4460, 4461N, 446401-4465	
5⁵	75 bp	1070 bp	4404, 442801- 442802, 4456N	0720, 3545
6⁸	170, 195 bp	1070 bp	4405, 4410, 4415, 4417, 4418, 4425, 4431, 4439, 4443, 4458N, 4462	0720, 1514, 1591, 9531, 3545, 3571, 4501, 4502, 4505-4507, 4509, 4617, 5002, 5123, 5707, 5807, 8201, 8202
7^{5,9}	145, 165 bp	1070 bp	4406, 4429	3806, 3807, 4903, 510101- 512402, 5126-5146, 5148,5149, 5151-5153, 5155- 5163, 520101-520104, 5203- 5214, 530101-5302, 5304- 5308, 5310, 5314-5316, 580101-5802, 5804-5816, 5818-5820
8^{5,10}	90, 115 bp	1070 bp	4407, 4408, 4438, 4457	4083, 4610
9^{5,11}	120, 195 bp	1070 bp	4410, 4415, 4418, 4423N	4501, 4505-4507, 5002, 8201, 8202
10	350 bp	800 bp	4424	5139
11	150 bp	800 bp	44020101-4405, 4407, 4410- 4439, 4441- 4443, 4445, 4447-4456N, 4458N, 4459, 4461N-4465	3706, 4013, 4019, 4047, 47010101-47010102, 4703- 4705, 490101-4902, 4904, 4905
12⁶	145 bp	1070 bp	4409, 4446	1546, 1553, 9506, 9543, 3519, 3547, 3563, 400101-4011, 401401-4016, 4018, 4020, 4022N-4040, 4042-4045, 4048- 4075, 4077-4092, 4094, 4101- 4104, 4106-4108, 4501-4509, 4702, 5001, 5002, 5004
13⁵	90 bp	1070 bp	4413	
14⁵	95 bp	800 bp	4412	9543, 3519, 3547, 4008, 4025, 4068
15	170 bp	1070 bp	4414, 4417, 4451, 4462	0704, 0719, 0725, 080101- 0805, 0807-0812, 0815-0819N, 0821-0824, 0826, 0827, 0829- 0838, 1551, 1583, 3538, 3587, 3709, 3712, 4101-4108, 4201, 4202, 4204-4209, 4509, 5108,

				5120, 5136, 5144N, 5520, 5613, 5709, 8201, 8202
16⁵	145 bp	800 bp	4418, 4425, 4450	4013, 4019, 490101-490102, 4904, 4905
17	195 bp	1070 bp	44020101-4404, 4406-4409, 4411-4413, 4419N-4424, 4426-4430, 4432-4436, 4438-4441, 4444, 4446- 4450, 4452N- 4457, 4459- 4461N, 4463, 4465	5142, 8301
18^{5,12}	115, 270 bp	1070 bp	4419N, 4431	
19¹³	150, 190 bp	1070 bp	4411, 4430	
20^{5,14}	130, 220 bp	1070 bp	4422, 4436	
21^{5,15}	100, 180 bp	800 bp	4416, 4421, 4432, 446401- 446402	0728
22	295 bp	800 bp	4426	
23^{5,16}	145 bp	800 bp	44020101-4405, 4406 [?] , 4407- 4409, 4410- 4412 [?] , 4413, 4414 [?] , 4415 [?] , 4416, 4417 [?] , 4418 [?] , 4419N, 4420 [?] , 4421, 4422 [?] , 4423N, 4424-4426 [?] , 442801-4430 [?] , 4432-4438 [?] , 4439, 4440- 4445 [?] , 4446, 4447 [?] , 4448 [?] , 4449, 4450 [?] , 4451-4453, 4454 [?] , 4455 [?] , 4456N, 4457, 4458N [?] , 4459, 4460 [?] , 4461N,	5142

			4462 [?] -446401 [?] , 446402, 4465	
24⁵	135 bp	1070 bp	44020102S	
25^{5,16}	145 bp	1070 bp	4406 [?] , 4410- 4412 [?] , 4414 [?] , 4415 [?] , 4417 [?] , 4418 [?] , 4420 [?] , 4422 [?] , 4424- 4426 [?] , 4427, 442801-4430 [?] , 4431, 4432- 4438 [?] , 4440- 4445 [?] , 4447 [?] , 4448 [?] , 4450 [?] , 4454 [?] , 4455 [?] , 4458N [?] , 4460 [?] , 4462-446401 [?]	070201-0768, 080101-0838, 1301-1304, 1306-1323, 1401- 1409 ^{faintly} , 15010101-150104, 150106-1519, 1520 ^{faintly} , 1521, 1523-1540, 1542-1558, 1560- 1599, 9501, 9503-9529, 9531- 9551, 180101-1815, 1817N- 1832, 2701-270402, 270502- 2721, 2723-2745, 350101- 3530 ^{faintly} , 3531, 3532-3542 ^{faintly} , 3543, 3544 ^{faintly} , 3545 ^{faintly} , 3546, 3547-3556 ^{faintly} , 3557, 3558 ^{faintly} , 3559 ^{faintly} , 3560, 3561-3572 ^{faintly} , 3574-3578 ^{faintly} , 3579, 3580-3586 ^{faintly} , 3587, 3588-3594 ^{faintly} , 370101- 3714, 380101-3817 ^{faintly} , 39010101-39010102L ^{faintly} , 390103-3920 ^{faintly} , 3922-3942 ^{faintly} , 3943, 3944-3946 ^{faintly} , 400101-4016, 4018-4040, 4042-4094, 4101-4108, 4201, 4202, 4204-4209, 4501-4506, 4507 ^{faintly} , 4508, 4509, 460101- 4618, 47010101-4705, 480101- 480102, 4802 ^{faintly} , 480301- 4819, 490101-4905, 5001, 5002, 5004, 510101- 512402 ^{faintly} , 5126-5141N ^{faintly} , 5143-5146 ^{faintly} , 5148-5150 ^{faintly} , 5152-5163 ^{faintly} , 520101- 5214 ^{faintly} , 530101-5316 ^{faintly} , 5401-5417, 550101-550102, 550104-5505, 5507-5534, 5601-5604, 560501-560502 ^{faintly} , 5606-5620, 5621 ^{faintly} , 5622-5624, 570101-5719, 580101-5802 ^{faintly} , 5804-5810N ^{faintly} , 5811, 5812-5820 ^{faintly} , 5901-5904, 670101-6702 ^{faintly} , 7801-7806 ^{faintly} , 8101, 8102, 8103 ^{faintly} , 8104N, 8201, 8202, 8301
26⁵	135 bp	800 bp	4433	

27¹⁷	160, 255 bp	800 bp	4415, 4418, 4420, 4434, 4447	4058, 4501-4503, 4505-4507, 4509, 4903, 5002, 5123, 520102, 520104-5203, 520601-520602, 5209
28	165 bp	1070 bp	4435	
29	255 bp	800 bp	4415, 4455	1323, 1809, 2701, 3710, 4047, 4902
30	195 bp	800 bp	4410, 4415, 4418	4501, 4505-4507, 5002, 8201, 8202
31	195 bp	1070 bp	4417, 4443	1514, 1591, 9531, 3545, 3571, 4509, 4617, 5807
32	155 bp	1070 bp	44020101-440205, 4405, 4406, 4408, 4409, 4411, 4412, 4414-4425, 4427, 4433, 4434, 4441, 4442, 4444, 4448, 4449, 4451-4453, 4455, 4458N, 4459, 4462, 4463	0704, 0719, 0725, 080101-0805, 0807-0812, 0814-0819N, 0821-0824, 0826-0838, 1551, 1583, 3538, 3587, 370101-370104, 3703N-3706, 3708-3714, 4101-4108, 4201, 4202, 4204-4209, 4501-4509, 5108, 5120, 5136, 5144N, 5520, 5613, 5709, 8201, 8202, 8301
33	195 bp	1070 bp	4416, 4437, 446401-446402	0728, 1577, 5704, Cw*1610
34	160 bp	800 bp	4415, 4418	4501, 4504-4508, 5613, 8201, 8202
35^{5,18}	85, 180 bp	800 bp	4404, 4456N, 4463	Cw*1610
36⁵	145 bp	800 bp	4440, 4444	0802, 9515, 2701, 380201-3804, 3808, 3815, 5607
37	205 bp	1070 bp	4410, 4414, 4417, 4431, 4443, 4445, 4451, 4462	0720, 1514, 1591, 9531, 3545, 3571, 4509, 4617, 5123, 5707, 5807, 8201, 8202
38	225 bp	800 bp	4441	0704, 0719, 0725, 080101-0805, 0807, 0808N, 0810-0812, 0814-0819N, 0821-0824, 0826, 0828-0838, 1551, 3587, 3709, 4102-4104, 4108, 4201, 4202, 420501-4209, 8201, 8202
39^{5,6}	75 bp	800 bp	4416, 4442	0704, 0719, 0725, 080101-0805, 0807-0812, 0814-0819N, 0821-0824, 0826-0838, 1551, 1583, 3538, 3587, 370101-370104, 3703N-3706, 3708-

				3714, 4101-4108, 4201, 4202, 4204-4209, 4504, 4508, 5108, 5120, 5136, 5144N, 5520, 5613, 5709 Cw*070401-Cw*070403, Cw*0711, Cw*0712, Cw*0745, Cw*0763
40	235 bp	1070 bp	4410, 4415, 4418, 4448	3545, 3571, 4501-4503, 4505-4507, 4509, 5002, 5807, 8201, 8202
41	255 bp	1070 bp	4449	0802
42⁷	165 bp	1070 bp	4414, 4462	080101-0805, 0808N-0812, 0815-0819N, 0821-0824, 0826, 0827, 0829-0836, 0838, 1583, 3587, 3712, 4101-410302, 4105-4108, 4201, 4202, 4204-4208, 5108, 5120, 5136, 5144N, 5520, 5613, 5709, 8201, 8202
43⁵	110 bp	800 bp	4452N	
44⁵	85 bp	800 bp	4453	0728, Cw*1610
45	250 bp	800 bp	4454	0720
46¹⁹	260, 445 bp	800 bp	4431, 4441, 4454, 4456N, 4465	0720, 1514, 1591, 9531, 4617, 5807, 8201, 8202
47	195 bp	1070 bp	4458N	
48^{5,20}	105, 140 bp	1070 bp	4459, 4461N	

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*44 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.

Wells number 1, 2, 3, 10, 11, 14, 16, 21, 22, 23, 26, 27, 29, 30, 34, 35, 36, 38, 39, 43, 44, 45 and 46 contain 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*44 subtyping and in order to allow kit identification.

In the presence of a specific amplification the intensity of the control band often decreases.

³For several HLA-B alleles 1st exon and 4th 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 and 4th exon are conserved within allelic groups.

⁴Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*44 alleles will be amplified by primer mixes 1 to 12, 14 to 17, 21, 23, 25, 27, 28 to 34, 36 to 42, 44 and 45. In addition, the Cw*070401-070403, 0711, 0712, 0745 and 0763 alleles will be amplified by primer mix 39 and the Cw*1610 allele will be amplified by primer mixes 33, 35 and 44.

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

⁶Primer mix 39 may give rise to less specific PCR product than the other HLA-B*44 primer mixes.

⁷Primer mixes 42 may have a tendency of giving rise to nonspecific amplifications.

⁸Primer mix 6: Specific PCR fragment of 170 bp in the B*4439 allele. Specific PCR fragment of 195 bp in the B*4405, B*4410, B*4415, B*4417, B*4418, B*4425, B*4431, B*4443, B*4458N, B*4462 and B*0720, B*1514, B*1591, B*9531, B*3545, B*3571, B*4501, B*4502, B*4505-4507, B*4509, B*4617, B*5002, B*5123, B*5707, B*5807, B*8201 and B*8202 alleles.

⁹Primer mix 7: Specific PCR fragment of 145 bp in the B*4406 and B*3806, B*3807, B*4903, B*510101-512402, B*5126-5149, B*5151-5153, B*5155-5163, B*520101-520104, B*5203-5214, B*530101-5302, B*5304-5308, B*5310, B*5314-5316, B*580101-5802, B*5804-5816 and B*5818-5820 alleles. Specific PCR fragment of 165 bp in the B*4429 allele.

¹⁰Primer mix 8: Specific PCR fragment of 90 bp in the B*4407, B*4408, B*4457 and B*4083 and B*4610 allele. Specific PCR fragment of 115 bp in the B*4438 allele.

¹¹Primer mix 9: Specific PCR fragment of 120 bp in the B*4423N allele. Specific PCR fragment of 195 bp in the B*4410, B*4415, B*4418 and B*4501, B*4505-4507, B*5002, B*8201 and B*8202 alleles.

¹²Primer mix 18: Specific PCR fragment of 115 bp in the B*4431 allele. Specific PCR fragment of 270 bp in the B*4419N allele.

¹³Primer mix 19: Specific PCR fragment of 150 bp in the B*4411 allele. Specific PCR fragment of 190 bp in the B*4430 allele.

¹⁴Primer mix 20: Specific PCR fragment of 130 bp in the B*4422 allele. Specific PCR fragment of 220 bp in the B*4436 allele.

¹⁵Primer mix 21: Specific PCR fragment of 100 bp in the B*4432 allele. Specific PCR fragment of 180 bp in B*4416, B*4421 and B*446401-446402 and in the B*0728 alleles.

¹⁶We assume that the fourth exon nucleotide sequences of are conserved within allelic groups. Primer mix 25 amplifies the B*4427 and B*4431 alleles. The purpose of primer mixes 23 and 25 is to e.g. distinguish the B*4402,4402 and B*4402,4427 genotypes.

¹⁷Primer mix 27: Specific PCR fragment of 160 bp in the B*4434 and in the 4058, B*4903, B*520102, B*520104-B*5203, B*520601-520602 and B*5209 alleles. Specific PCR fragment of 255 bp in B*4415, B*4418, B*4420, B*4447 and in the B*4501-4503, B*4505-4507, B*4509, B*5002 and B*5123 alleles.

¹⁸Primer mix 35: Specific PCR fragment of 85 bp in the B*4463 allele. Specific PCR fragment of 180 bp in B*4404, B*4456N and Cw*1610 alleles.

¹⁹Primer mix 46: Specific PCR fragment of 260 bp in the B*4431, B*4441, B*4454, B*4465 and in the B*0720, B*1514, B*1591, B*9531, B*4617, B*5807, B*8201 and B*8202 alleles. Specific PCR fragment of 445 bp in the B*4456N allele.

²⁰Primer mix 48: Specific PCR fragment of 105 bp in the B*4461N allele. Specific PCR fragment of 140 bp in B*4459 allele.

‘?’, nucleotide sequence information not available for the primer matching sequence.

Amplification patterns of the B*4402 to B*4465 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.	260	90	225	160	75	170	145	90	120	350	150	145	90	95	170	145	195	115	150	130	100	295	145	135
PCR product(s)						195	165	115	195									270	190	220	180			
Length of int. pos control ¹	800	800	800	1070	1070	1070	1070	1070	1070	800	800	1070	1070	800	1070	800	1070	1070	1070	1070	800	800	800	1070
5'-primer(s) ²	355	142	355	418	539	142	206	142	420	49	206	206	206	206	409	206	418	6	206	106	257	49	668	4 th
	5'-TCA ^{3'}	5'-TCA ^{3'}	5'-TCA ^{3'}	5'-Agg ^{3'}	5'-gCg ^{3'}	5'-TCC ^{3'}	5'-gAC ^{3'}	5'-TCA ^{3'}	5'-TTA ^{3'}	5'-CAg ^{3'}	5'-gAA ^{3'}	5'-gAA ^{3'}	5'-gAA ^{3'}	5'-gAA ^{3'}	5'-ggC ^{3'}	5'-gAA ^{3'}	5'-Agg ^{3'}	5'-gCg ^{3'}	5'-gAA ^{3'}	5'-CCg ^{3'}	5'-CCC ^{3'}	5'-CAg ^{3'}	5'-ggT ^{3'}	5'-CCg ^{3'}
						418	418	355	493									499	418	395	418			
						5'-AgT ^{3'}	5'-Agg ^{3'}	5'-TCA ^{3'}	5'-CTT ^{3'}									5'-TCT ^{3'}	5'-Agg ^{3'}	5'-gCT ^{3'}	5'-Agg ^{3'}			
3'-primer(s) ³	572	193	538	539	572	272	309	193	572	226	317	311	255	259	538	309	572	106	313	193	317	171	774	5 th
	5'-gCg ^{3'}	5'-CgT ^{3'}	5'-gTC ^{3'}	5'-TCA ^{3'}	5'-gCg ^{3'}	5'-Tgg ^{3'}	5'-ATC ^{3'}	5'-CgC ^{3'}	5'-gCg ^{3'}	5'-CAC ^{3'}	5'-ggA ^{3'}	5'-ggT ^{3'}	5'-CgC ^{3'}	5'-gTT ^{3'}	5'-gTC ^{3'}	5'-ATC ^{3'}	5'-gCg ^{3'}	5'-CAT ^{3'}	5'-Cgg ^{3'}	5'-CgT ^{3'}	5'-ggA ^{3'}	5'-ACC ^{3'}	5'-ggT ^{3'}	5'-TCA ^{3'}
						572	544	430										572	566	572	559			
						5'-gCg ^{3'}	5'-ggT ^{3'}	5'-gC ^{3'}										5'-gCg ^{3'}	5'-CCg ^{3'}	5'-gCg ^{3'}	5'-CTC ^{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-B allele ⁴																								
*44020101, 440202-440205	1	2	3								11						17						23	
*44020102S	1	2	3								11						17						23	24
*440301-440303	1	2		4							11						17						23	
*4404	1	2			5						11						17						23	
*4405	1	2	3			6					11												23	
*4406	1		3				7										17						?	
*4407	1			4				8			11						17						23	
*4408	1		3					8									17						23	
*4409	1	2	3								12						17						23	
*4410	1	2				6			9		11												?	
*4411	1	2	3								11						17		19				?	
*4412	1	2	3								11			14			17						?	
*4413	1	2		4							11		13				17						23	
*4414	1	2	3								11				15								?	
*4415		2				6			9		11												?	
*4416		2	3								11										21		23	
*4417	1	2	3			6					11				15								?	
*4418		2				6			9		11					16							?	
*4419N	1	2	3								11						17	18					23	
*4420		2									11						17						?	
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-B*44 SSP subtyping****Amplification patterns of the B*4402 to B*4465 alleles**

Well ⁵																								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
145	135	160	165	255	195	195	155	195	160	85	145	205	225	75	235	255	165	110	85	250	260	195	105	Length of spec. PCR product(s) Length of int. pos control ¹
		255								180											445		140	
1070	800	800	1070	800	800	1070	1070	1070	800	800	800	1070	800	800	1070	1070	1070	800	800	800	800	1070	1070	5'-primer(s) ²
668	445	141	418	97	420	419	540	418	420	142	206	409	355	540	379	97	412	418	418	363	206	142	142	
5'-ggC ^{3'}	5'-TCA ^{3'}	5'-ATT ^{3'}	5'-Agg ^{3'}	5'-TCC ^{3'}	5'-TTA ^{3'}	5'-gTC ^{3'}	5'-gAC ^{3'}	5'-Agg ^{3'}	5'-TTA ^{3'}	5'-TCA ^{3'}	5'-AgA ^{3'}	5'-ggC ^{3'}	5'-CCC ^{3'}	5'-gAC ^{3'}	5'-ACC ^{3'}	5'-TCg ^{3'}	5'-ATA ^{3'}	5'-Agg ^{3'}	5'-Agg ^{3'}	5'-AgC ^{3'}	5'-gAA ^{3'}	5'-TCA ^{3'}	5'-TCA ^{3'}	3'-primer(s) ³
		357								418											355		355	
		5'-Tgg ^{3'}								5'-Agg ^{3'}											5'-CCC ^{3'}		5'-TCA ^{3'}	
774	538	259	540	309	572	572	3 rd	572	538	186	309	572	538	572	572	309	538	489	463	572	369	295	208	
5'-ggT ^{3'}	5'-gTC ^{3'}	5'-CTC ^{3'}	5'-CTT ^{3'}	5'-gTg ^{3'}	5'-gCg ^{3'}	5'-gCg ^{3'}	5'-TAT ^{3'}	5'-gCC ^{3'}	5'-gTC ^{3'}	5'-TCC ^{3'}	5'-gTg ^{3'}	5'-gCg ^{3'}	5'-gTC ^{3'}	5'-gCC ^{3'}	5'-gCg ^{3'}	5'-gTg ^{3'}	5'-gTC ^{3'}	5'-gCg ^{3'}	5'-gCg ^{3'}	5'-gCg ^{3'}	5'-CCT ^{3'}	5'-TCA ^{3'}	5'-CTA ^{3'}	
		572								559											572		453	
		5'-gCg ^{3'}								5'-CgT ^{3'}											5'-gCg ^{3'}		5'-TCC ^{3'}	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
																								HLA-B allele ⁴
							32																	*44020101, 440202-440205
							32																	*44020102S
																								*440301-440303
										35														*4404
							32																	*4405
?							32																	*4406
																								*4407
							32																	*4408
							32																	*4409
?				30								37		40										*4410
?							32																	*4411
?							32																	*4412
							32																	*4413
?							32					37					42							*4414
?	27		29 30		32		34							40										*4415
					32	33								39										*4416
?				31 32								37												*4417
?	27		30		32		34							40										*4418
					32																			*4419N
?	27				32																			*4420
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

Lot No.: **73F**

Lot-specific Information

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Length of spec.	260	90	225	160	75	170	145	90	120	350	150	145	90	95	170	145	195	115	150	130	100	295	145	135
PCR product(s)						195	165	115	195									270	190	220	180			
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
*4421	1	2	3								11						17				21		23	
*4422	1	2	3								11						17			20			?	
*4423N	1	2	3						9		11						17						23	
*4424	1	2	3							10	11						17						?	
*4425	1	2	3			6					11					16							?	
*4426	1	2		4							11						17					22	?	
*4427	1	2	3								11						17							
*442801-442802	1	2			5						11						17						?	
*4429	1	2				7					11						17						?	
*4430	1	2		4							11						17		19				?	
*4431		2				6					11							18						
*4432	1	2		4							11						17				21		?	
*4433	1	2	3								11						17						?	
*4434	1		3								11						17						?	
*4435	1	2									11						17						?	
*4436	1	2		4							11						17			20			?	
*4437		2		4							11												?	
*4438	1	2		4				8			11						17						?	
*4439	1			4		6					11						17						23	
*4440	1			4													17						?	
*4441		2									11						17						?	
*4442		2	3								11												?	
*4443	1	2				6					11												?	
*4444	1		3														17						?	
*4445	1	2									11												?	
*4446	1	2		4								12					17						23	
*4447		2		4							11						17						?	
*4448	1	2	3								11						17						?	
*4449	1	2	3								11						17						23	
*4450	1	2		4							11					16	17						?	
*4451	1	2	3								11				15								23	
*4452N	1	2	3								11						17						23	
*4453	1	2	3								11						17						23	
*4454		2		4							11						17						?	
*4455	1	2	3								11						17						?	
*4456N	1	2			5						11						17						23	
*4457	1			4				8									17						23	
*4458N	1	2	3			6					11												?	
*4459	1	2	3								11						17						23	
*4460	1			4													17						?	
*4461N	1	2		4							11						17						23	
*4462	1	2	3			6					11				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

145	135	160	165	255	195	195	155	195	160	85	145	205	225	75	235	255	165	110	85	250	260	195	105	Length of spec.	
		255								180											445		140	PCR product(s)	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	
							32																	*4421	
?							32																	*4422	
							32																	*4423N	
?							32																	*4424	
?							32																	*4425	
?																								*4426	
25							32																	*4427	
?																								*442801-442802	
?																								*4429	
?																								*4430	
25												37									46			*4431	
?																								*4432	
?	26						32																	*4433	
?		27					32																	*4434	
?			28																					*4435	
?																								*4436	
?								33																*4437	
?																								*4438	
																								*4439	
?											36													*4440	
?							32						38								46			*4441	
?							32							39										*4442	
?						31						37												*4443	
?							32				36													*4444	
?												37												*4445	
																								*4446	
?		27																						*4447	
?							32							40										*4448	
							32									41								*4449	
?																								*4450	
							32					37												*4451	
							32										43							*4452N	
							32											44						*4453	
?																				45	46			*4454	
?				29			32																	*4455	
										35											46			*4456N	
																								*4457	
?							32															47		*4458N	
							32																48	*4459	
?																								*4460	
																						48		*4461N	
?							32					37					42							*4462	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	

Lot No.: **73F**

Lot-specific Information

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Length of spec.	260	90	225	160	75	170	145	90	120	350	150	145	90	95	170	145	195	115	150	130	100	295	145	135
PCR product(s)						195	165	115	195									270	190	220	180			
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
*4463	1	2	3								11						17						?	
*446401		2		4							11										21		?	
*446402		2		4							11										21		23	
*4465		2		4							11						17						23	
*070201-0703, 070501-071802, 0721-0724, 0726, 0727, 0729-0768, 0806, 0813, 0820, 0825, 1301-1304, 1306-1322, 15010101-150104, 150106-1513, 1515-1519, 1521, 1523-1540, 1542-1545, 1547-1550, 1552, 1554-1558, 1560-1576, 1578-1582, 1584-1590, 1592-1599, 9501, 9503-9505, 9507-9514, 9516-9529, 9532-9542, 9544-9551, 180101-1808, 1810-1815, 1817N-1832, 2702-270402, 270502-2721, 2723-2745, 3531, 3543, 3546, 3557, 3560, 3579, 3702, 3707, 3943, 4012, 4021, 4046, 4093, 460101-4609, 4611-4616, 4618, 480101-480102, 480301-4819, 5401-5417, 550101-550102, 550104-5505, 5507-5519, 5521-5534, 5601-5604, 5606, 5608-5612, 5614-5620, 5622-5624, 570101-570302, 5705, 5706, 5708, 5710-5719, 5901-5904, 8101, 8102, 8104N																								
*0704, 0719, 0725, 0807, 0837, 1551, 3709, 4209																15								
*0720					5	6																		
*0728																					21			
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

145	135	160	165	255	195	195	155	195	160	85	145	205	225	75	235	255	165	110	85	250	260	195	105	Length of spec.	
		255								180											445		140	PCR product(s)	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	
?							32			35														*4463	
?								33																*446401	
								33																*446402	
																					46			*4465	
25																								*070201-0703, 070501-071802, 0721-0724, 0726, 0727, 0729-0768, 0806, 0813, 0820, 0825, 1301-1304, 1306-1322, 15010101-150104, 150106 1513, 1515-1519, 1521, 1523-1540, 1542-1545, 1547-1550, 1552, 1554-1558, 1560-1576, 1578-1582, 1584-1590, 1592-1599, 9501, 9503-9505, 9507-9514, 9516-9529, 9532-9542, 9544-9551, 180101-1808, 1810-1815, 1817N-1832, 2702-270402, 270502-2721, 2723-2745, 3531, 3543,	
																								3546, 3557, 3560, 3579, 3702, 3707, 3943, 4012, 4021, 4046, 4093, 460101-4609, 4611-4616, 4618, 480101-480102, 480301-4819, 5401-5417, 550101-550102, 550104-5505, 5507-5519, 5521-5534, 5601-5604, 5606, 5608-5612, 5614-5620, 5622-5624, 570101-570302, 5705, 5706, 5708, 5710-5719, 5901-5904, 8101, 8102, 8104N	
25							32					38	39											*0704, 0719, 0725, 0807, 0837, 1551, 3709, 4209	
25												37									45	46		*0720	
25								33											44					*0728	
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.	

Length of spec.	260	90	225	160	75	170	145	90	120	350	150	145	90	95	170	145	195	115	150	130	100	295	145	135
PCR product(s)						195	165	115	195									270	190	220	180			
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
*080101-080106, 0803-0805, 0808N, 0810-0812, 0815-0819N, 0821-0824, 0826, 0829-0836, 0838, 3587, 4201, 4202, 420501-4208															15									
*0802															15									
*0809, 0827, 1583, 4204, 5520															15									
*0814, 0828																								
*1323, 1809																								
*1401-1409, 1520, 350101-3518, 352001-3530, 3532-3534, 3536, 3537, 3539-3542, 3544, 3548-3556, 3558, 3559, 3561, 3562, 3564-3570, 3572, 3574-3578, 3580-3586, 3588-3594, 380101-380102, 3805, 3809-3814, 3816, 3817, 39010101-39010102L, 390103-3920, 3922-3942, 3944-3946, 4802, 5150, 5154, 5303, 5309, 5311-5313, 560501-560502, 5621, 5817N, 670101-6702, 7801-7806, 8103																								
*1514, 1591, 9531, 4617						6																		
*1546, 9506, 4010												12												
*1553, 400101-4007, 4009, 4011, 401401-4016, 4018, 4020, 4022N-4024, 4026-4040, 4042-4045, 4048-4057, 4059-4067, 4069-4075, 4077-4082, 4084-4092, 4094, 4702, 5001, 5004		2										12												
*1577, 5704																								
*9543												12		14										
*9515, 5607																								
*2701																								
*3519, 3547												12		14										
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.: **73F**

Lot-specific Information

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145	135	160	165	255	195	195	155	195	160	85	145	205	225	75	235	255	165	110	85	250	260	195	105	Length of spec.
		255								180											445		140	PCR product(s)
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25							32						38	39			42							*080101-080106, 0803-0805, 0808N, 0810-0812, 0815-0819N, 0821-0824, 0826, 0829-0836, 0838, 3587, 4201, 4202, 420501-4208
25							32				36		38	39		41	42							*0802
25							32							39			42							*0809, 0827, 1583, 4204, 5520
25							32						38	39										*0814, 0828
25				29																				*1323, 1809
f																								*1401-1409, 1520, 350101-3518, 352001-3530, 3532-3534, 3536, 3537, 3539-3542, 3544, 3548-3556, 3558, 3559, 3561, 3562, 3564-3570, 3572, 3574-3578, 3580-3586, 3588-3594, 380101-380102, 3805, 3809-3814, 3816, 3817, 39010101-39010102L, 390103-3920, 3922-3942, 3944-3946, 4802, 5150, 5154, 5303, 5309, 5311-5313, 560501-560502, 5621, 5817N, 670101-6702, 7801-7806, 8103
25						31						37									46			*1514, 1591, 9531, 4617
25																								*1546, 9506, 4010
25																								*1553, 400101-4007, 4009, 4011, 401401-4016, 4018, 4020, 4022N-4024, 4026-4040, 4042-4045, 4048-4057, 4059-4067, 4069-4075, 4077-4082, 4084-4092, 4094, 4702, 5001, 5004
25								33																*1577, 5704
25																								*9543
25											36													*9515, 5607
25				29							36													*2701
f																								*3519, 3547
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

Lot No.: **73F**

Lot-specific Information

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Length of spec.	260	90	225	160	75	170	145	90	120	350	150	145	90	95	170	145	195	115	150	130	100	295	145	135
PCR product(s)						195	165	115	195									270	190	220	180			
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
*3538			3												15									
*3545	1				5	6																		
*3563		2										12												
*3571	1				6																			
*370101-370104, 3703N-3705, 3708, 3711, 3713, 3714			3																					
*3706			3								11													
*3710			3																					
*3712, 5709			3												15									
*380201-3804, 3808, 3815																								
*3806, 3807, 510101-5107, 510901-5119, 5121, 5122, 512401-512402, 5126-5135, 5137, 5138, 5140, 5141N, 5143, 5145, 5146, 5148, 5149, 5152, 5153, 5155-5163, 520101, 520103, 5204, 5205, 5207, 5208, 5210-5214, 530101-5302, 5304-5308, 5310, 5314-5316, 580101-5802, 5804-5806, 5808-5810N, 5812-5816, 5818-5820							7																	
*4008, 4025, 4068		2										12		14										
*4013, 4019, 490101-490102, 4904, 4905		2									11				16									
*4047, 4902		2									11													
*4058											12													
*4076		2																						
*4083							8				12													
*4101, 4106, 4107		2									12			15										
*4102-410302, 4108		2									12			15										
*4104		2									12			15										
*4105		2												15										
*4501, 4505, 4506		2				6			9		12													
*4502		2				6					12													
*4503		2									12													
*4504, 4508		2									12													
*4507		2				6			9		12													
*4509		2				6					12			15										
*4610								8																
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

145	135	160	165	255	195	195	155	195	160	85	145	205	225	75	235	255	165	110	85	250	260	195	105	Length of spec.
		255								180											445		140	PCR product(s)
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
f							32							39										*3538
f					31							37			40									*3545
f																								*3563
f					31							37			40									*3571
25							32							39										*370101-370104, 3703N-3705, 3708, 3711, 3713, 3714
25							32							39										*3706
25				29			32							39										*3710
25							32							39		42								*3712, 5709
f											36													*380201-3804, 3808, 3815
																								*3806, 3807, 510101-5107, 510901-5119, 5121, 5122, 512401-512402, 5126-5135, 5137, 5138, 5140, 5141N, 5143, 5145, 5146, 5148, 5149, 5152, 5153, 5155-5163, 520101, 520103, 5204, 5205, 5207, 5208, 5210-5214, 530101-5302, 5304-5308, 5310, 5314-5316, 580101-5802, 5804-5806, 5808-5810N, 5812-5816, 5818-5820
25																								*4008, 4025, 4068
25																								*4013, 4019, 490101-490102, 4904, 4905
25				29																				*4047, 4902
25	27																							*4058
25																								*4076
25																								*4083
25							32							39		42								*4101, 4106, 4107
25							32						38	39		42								*4102-410302, 4108
25							32						38	39										*4104
25							32							39		42								*4105
25	27			30			32		34						40									*4501, 4505, 4506
25	27						32								40									*4502
25	27						32								40									*4503
25							32		34					39										*4504, 4508
f	27			30			32		34						40									*4507
25	27				31	32						37			40									*4509
25																								*4610
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

Length of spec.	260	90	225	160	75	170	145	90	120	350	150	145	90	95	170	145	195	115	150	130	100	295	145	135
PCR product(s)						195	165	115	195									270	190	220	180			
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
*47010101-47010102, 4703-4705		2								11														
*4903							7																	
*5002		2				6			9		12													
*5108, 5120, 5136, 5144N							7								15									
*5123						6	7																	
*5139							7			10														
*5142	1			4			7										17					23		
*5151							7																	
*520102, 520104, 5203, 520601-520602, 5209						7																		
*5202																								
*5613															15									
*5707	1					6																		
*5807						6	7																	
*5811							7																	
*8201, 8202						6			9						15									
*8301	1		3														17							
HLA-B 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
Cw*070401-070403, 0711, 0712, 0745, 0763																								
Cw*1610																								
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

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*44 subtyping.

In addition, wells number 1, 2, 3, 10, 11, 14, 16, 21, 22, 23, 26, 27, 29, 30, 34, 35, 36, 38, 39, 43, 44, 45 and 46 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, 3rd or 4th exon or 4th 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 2nd, 3rd, 4th or 5th exon or 3rd intron, 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 sequence of B*4401 has been shown to be identical to B*4402.

⁵Primer mix 6: Specific PCR fragment of 170 bp in the B*4439 allele. Specific PCR fragment of 195 bp in the B*4405, B*4410, B*4415, B*4417, B*4418, B*4425, B*4431, B*4443, B*4458N, B*4462 and B*0720, B*1514, B*1591, B*9531, B*3545, B*3571, B*4501, B*4502, B*4505-4507, B*4509, B*4617, B*5002, B*5123, B*5707, B*5807, B*8201 and B*8202 alleles.

Primer mix 7: Specific PCR fragment of 145 bp in the B*4406 and B*3806, B*3807, B*4903, B*510101-512402, B*5126-5149, B*5151-5153, B*5155-5163, B*520101-520104, B*5203-5214, B*530101-5302, B*5304-5308, B*5310, B*5314-5316, B*580101-5802, B*5804-5816 and B*5818-5820 alleles. Specific PCR fragment of 165 bp in the B*4429 allele.

145	135	160	165	255	195	195	155	195	160	85	145	205	225	75	235	255	165	110	85	250	260	195	105	Length of spec.
		255								180											445		140	PCR product(s)
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
25																								*47010101-47010102, 4703-4705
25		27																						*4903
25		27			30										40									*5002
f							32							39			42							*5108, 5120, 5136, 5144N
f		27										37												*5123
f																								*5139
																								*5142
																								*5151
f		27																						*520102, 520104, 5203, 520601-520602, 5209
f		27																						*5202
25							32		34					39			42							*5613
25												37												*5707
f						31						37			40					46				*5807
25																								*5811
25					30		32		34			37	38		40		42				46			*8201, 8202
25							32																	*8301
																								HLA-B allele ⁴
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.
														39										Cw*070401-070403, 0711, 0712, 0745, 0763
								33		35								44						Cw*1610
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Well No.

Primer mix 8: Specific PCR fragment of 90 bp in the B*4407, B*4408, B*4457 and B*4083 and B*4610 allele. Specific PCR fragment of 115 bp in the B*4438 allele.

Primer mix 9: Specific PCR fragment of 120 bp in the B*4423N allele. Specific PCR fragment of 195 bp in the B*4410, B*4415, B*4418 and B*4501, B*4505-4507, B*5002, B*8201 and B*8202 alleles.

Primer mix 18: Specific PCR fragment of 115 bp in the B*4431 allele. Specific PCR fragment of 270 bp in the B*4419N allele.

Primer mix 19: Specific PCR fragment of 150 bp in the B*4411 allele. Specific PCR fragment of 190 bp in the B*4430 allele.

Primer mix 20: Specific PCR fragment of 130 bp in the B*4422 allele. Specific PCR fragment of 220 bp in the B*4436 allele.

Primer mix 21: Specific PCR fragment of 100 bp in the B*4432 allele. Specific PCR fragment of 180 bp in B*4416, B*4421 and B*446401-446402 and in the B*0728 alleles.

Primer mix 27: Specific PCR fragment of 160 bp in the B*4434 and in the 4058, B*4903, B*520102, B*520104-B*5203, B*520601-520602 and B*5209 alleles. Specific PCR fragment of 255 bp in B*4415, B*4418, B*4420, B*4447 and in the B*4501-4503, B*4505-4507, B*4509, B*5002 and B*5123 alleles.

Primer mix 35: Specific PCR fragment of 85 bp in the B*4463 allele. Specific PCR fragment of 180 bp in B*4404, B*4456N and Cw*1610 alleles.

Primer mix 46: Specific PCR fragment of 260 bp in the B*4431, B*4441, B*4454, B*4465 and in the B*0720, B*1514, B*1591, B*9531, B*4617, B*5807, B*8201 and B*8202 alleles. Specific PCR fragment of 445 bp in the B*4456N allele.

Primer mix 48: Specific PCR fragment of 105 bp in the B*4461N allele. Specific PCR fragment of 140 bp in B*4459 allele.

‘f’, might be faintly amplified.

‘?’, nucleotide sequence information not available for the primer matching sequence.

CELL LINE VALIDATION SHEET																		
HLA-B*44 SSP subtyping kit																		
						Well												
						1	2	3	4	5	6	7	8	9	10	11	12	
					Prod. No.:	200729901	200729902	200729903	200729904	200729905	200729906	200729907	200729908	200729909	200958010	200729911	200729912	200729913
						200729914	200729915	200729916	200729917	200729918	200729919	200729920	200729921	200729922	200729923	200729924	200729925	200729926
IHC cell line						B*												
1	9001	SA	*0702			-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*5201	*7301		-	-	-	-	-	-	+	-	-	-	-	-	-
3	9011	E4181324	*52011			-	-	-	-	-	-	+	-	-	-	-	-	-
4	9275	GU373	*1510	*5301		-	-	-	-	-	-	+	-	-	-	-	-	-
5	9009	KAS011	*3701			-	-	+	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*3901	*5101		-	-	-	-	-	-	+	-	-	-	-	-	-
7	9020	QBL	*1801			-	-	-	-	-	-	-	-	-	-	-	-	-
8	9007	DEM	*5701			-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*3801			-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*5401			-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*4403			+	+	-	+	-	-	-	-	-	-	+	-	-
12	9052	DBB	*5701			-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*2705			-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*1501	*1520		-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*4001			-	+	-	-	-	-	-	-	-	-	+	-	-
16	9037	SWEIG007	*4002			-	+	-	-	-	-	-	-	-	-	+	-	-
17	9282	CTM3953540	*0801	*5501		-	-	-	-	-	-	-	-	-	-	-	-	+
18	9257	32367	*1401	*5601		-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*1801			-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*4001			-	+	-	-	-	-	-	-	-	-	+	-	-
21	9064	AMALA	*1501			-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*3503			-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*4002	*5602		-	+	-	-	-	-	-	-	-	-	+	-	-
24	9035	JBUSH	*3801			-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*1402			-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*5801			-	-	-	-	-	-	+	-	-	-	-	-	-
27	9191	CH1007	*0705	*5101		-	-	-	-	-	-	+	-	-	-	-	-	-
28	9320	BEL5GB	*4402	*4403		+	+	+	+	-	-	-	-	-	-	+	-	-
29	9050	MOU	*4403			+	+	-	+	-	-	-	-	-	-	+	-	-
30	9021	RSH	*4201			-	-	-	-	-	-	-	-	-	-	-	-	+
31	9019	DUCAF	*1801			-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*4102			-	+	-	-	-	-	-	-	-	-	+	-	+
33	9098	MT14B	*4001			-	+	-	-	-	-	-	-	-	-	+	-	-
34	9104	DHIF	*3801			-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*4402			+	+	+	-	-	-	-	-	-	-	+	-	-
36	9024	KT17	*1501	*3501		-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*0702			-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*1501			-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*0801	*2705		-	-	-	-	-	-	-	-	-	-	-	-	+
40	9134	WHONP199	*1302	*4601		-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*1402			-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*4601			-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*4601			-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*3801			-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*4201	*5001		-	+	-	-	-	-	-	-	-	-	+	-	+
46	9013	SCHU	*0702			-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*5101			-	-	-	-	-	-	+	-	-	-	-	-	-
48	9303	TER-ND	*3501	*4403		+	+	-	+	-	-	-	-	-	-	+	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-B*44 SSP

Product number: 101.563-24/03 – including *Taq* pol.

Lot number: 73F

Expiry date: 2011-March-01

Number of tests: 24 tests – Product No. 101.563-24

3 tests – Product No. 101.563-03

Number of wells per test: 48

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2007-299-01	17	2007-299-17	33	2007-299-33
2	2007-299-02	18	2007-299-18	34	2007-299-34
3	2007-299-03	19	2007-299-19	35	2009-580-35
4	2007-299-04	20	2007-299-20	36	2009-580-36
5	2007-299-05	21	2009-580-21	37	2007-299-37
6	2007-299-06	22	2007-299-22	38	2007-299-38
7	2007-299-07	23	2007-299-23	39	2007-299-39
8	2007-299-08	24	2007-299-24	40	2007-299-40
9	2007-299-09	25	2007-299-25	41	2007-299-41
10	2009-580-10	26	2007-299-26	42	2009-580-42
11	2007-299-11	27	2009-580-27	43	2008-439-43
12	2007-299-12	28	2007-299-28	44	2008-439-44
13	2007-299-13	29	2007-299-29	45	2008-439-45
14	2007-299-14	30	2007-299-30	46	2009-580-46
15	2007-299-15	31	2007-299-31	47	2009-580-47
16	2007-299-16	32	2007-299-32	48	2009-580-48

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

No DNAs carrying the alleles to be amplified by primer solutions 5, 10, 13, 18, 19, 21, 22, 24, 26, 28, 29, 33, 35, 43 to 45, 47 and 48 were available. The specificities of the primers in primer solutions 5, 10, 18, 21, 29, 33, 35, 44 and 45 were tested by separately adding one or two additional 5'-primer(s), respectively one or two additional 3'-primer(s). In primer solutions 13, 19, 22, 28, 43, 47 and 48 it was only possible to test the 5'-primer, the 3'-primer was not possible to test. In primer solutions 26 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solution 6, 18, 20 and 21 one of the 5'-primers was not possible to test. In primer solution 7, 8 and 35 one or two of the 3'-primers was not possible to test. In primer solution 24 neither the 5'-primer nor the 3'-primer was possible to test. Additional primers in primer solutions 7, 8, 20, 27 and 46 were tested by separately adding one 5'-primer or one 3'-primer.

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

Date of approval: 2009-May-27

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP® HLA-B*44

Product number: 101.563-24/03

Lot number: 73F

Intended use: HLA-B*44 high resolution histocompatibility testing

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

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2000 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex II List B, conformity assessed using Annex IV, as transposed into the national laws of the Member States of the European Union.

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

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

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

Saltsjöbaden, Sweden
2009-May-27

Olle Olerup
Managing Director

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