

Olerup SSP® HLA-B*18

Product number:	101.519-12 – including <i>Taq</i> polymerase
Lot number:	87F
Expiry date:	2011-June-01
Number of tests:	12
Number of wells per test:	24
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. 87F.

CHANGES COMPARED TO THE PREVIOUS *OLERUP SSP*® HLA-B*18 LOT

The HLA-B*18 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP*® HLA-B*18 lot was made (Lot No. 47E).

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

Well	5'-primer	3'-primer	rationale
5	Added	-	Primer from well 23.
10	Moved	Moved	Primer pair moved to well 11.
11	Modified	Added	Improved specificity, added primer from well 10.
15	Added	-	New primer for the B*1831 allele.
16	Added	Added	Improved allele resolution.
17	Added	-	New primer for the B*1831 allele.
18	Added	Added	New primers for the B*1829 and B*1832 alleles.
22	Modified, added	Modified, added	Improved specificity, new primer for B*1833 allele.
23	Moved	Moved	Primer pair moved to well 5.

Change in revision R01 compared to R00:

1. Primer mix 10 may give rise to primer oligomer formation.

PRODUCT DESCRIPTION

HLA-B*18 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*1801 to B*1833 alleles.

PLATE LAYOUT

Each test consists of 24 PCR reactions in a 24 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

The 24 well cut PCR plate is marked with ‘HLA-B*18’ in silver/gray ink.

Well No. 1 is marked with the Lot No. ‘87F’.

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

Please note: When removing each 24 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

The interpretation of HLA-B*18 SSP subtypings will be influenced by most B*07, most B*08, three B*13, the B*14, several B*15, most B*27, several B*35, the B*37, most B*38, most B*39, several B*40, the B*41, the B*42, most B*44, the B*45, five B*46, the B*47, two B*48, the B*49, the B*50, most B*51, most B*52, four B*53, most B*54, most B*55, several B*56, four B*57, five B*58, the B*59, the B*67, most B*78 and the B*8301 alleles when present on the other haplotype. In addition, the A*6604 allele might be weakly amplified by primer mix 13, the Cw*0206 and Cw*0223 will be amplified by primer mix 8, Cw*0109 and Cw*0722 will be amplified by primer mix 16 and Cw*1509, Cw*1519 and Cw*1520 alleles will be amplified by primer mixes 18 and 23.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*18 alleles, i.e. **B*1801 to B*1833**, recognized by the HLA Nomenclature Committee in April 2009¹ will give rise to unique amplification patterns by the primers in the HLA-B*18 subtyping kit.

The HLA-B*18 kit cannot distinguish the B*180101 to B*180103 alleles.

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

RESOLUTION IN HOMO- AND HETEROZYGOTES

The 32 HLA-B*18 alleles can be combined in 528 homozygous and heterozygous combinations. 331 of these genotypes do not give rise to unique amplification patterns. The different lengths of the specific PCR products generated by primer mixes 11, 14, 16 to 18 and 22 were not considered in these calculations.

++++-----	-----	----+---	1802,1803 = 1802,1828
+++-----	-----	-+---+---	1802,1829 = 1802,1832
+++++-----	-----+--	----+---	1803,1804 = 1804,1828
+++++-----	-----	----+---	1803,1824 = 1824,1828
+++++-----	-----	----+---	1803,1805 = 1805,1828
+++++-----	-----	----+---	1803,1807 = 1807,1828
+++++-----	-----	----+---	1803,1821 = 1821,1828
+++++-----	-----	----+---	1803,1810 = 1810,1828
+++++-----	-----	----+---	1803,1808 = 1803,1827 = 1808,1828 = 1827,1828
+++++-----	-----	----+---	1803,1823N = 1823N,1828
+++++-----	-----	----+---	1803,1811 = 1809,1828 = 1811,1828
+++++-----	-----	----+---	1803,1812 = 1812,1828
+++++-----	-----	----+---	1803,1819 = 1819,1828
+++++-----	-----	----+---	1803,1830 = 1828,1830
+++++-----	-----	----+---	1803,1813 = 1813,1828
+++++-----	-----	----+---	1803,1814 = 1803,1825 = 1814,1828 = 1825,1828
+++++-----	-----	----+---	1803,1831 = 1828,1831
+++++-----	-----	----+---	1803,1815 = 1815,1828
+++++-----	-----	----+---	1803,1817N = 1817N,1828
+++++-----	-----	----+---	1803,1818 = 1818,1828
+++++-----	-----	----+---	1803,1832 = 1828,1829 = 1828,1832
+++++-----	-----	----+---	1803,1806 = 1806,1828
+++++-----	-----	----+---	1803,1820 = 1820,1828
+++++-----	-----	----+---	1803,1822 = 1803,1833 = 1822,1828 = 1828,1833
+++++-----	-----	----+---	1803,1826 = 1826,1828
+++++-----	-----	----+---	1801,1803 = 1801,1828 = 1803,1828 = 1828,1828
+++++-----	-----	----+---	1804,1808 = 1804,1827
+++++-----	-----	----+---	1808,1824 = 1824,1827
+++++-----	-----	----+---	1804,1809 = 1804,1811
+++++-----	-----	----+---	1809,1824 = 1811,1824
+++++-----	-----	----+---	1804,1829 = 1804,1832
+++++-----	-----	----+---	1804,1822 = 1804,1833
+++++-----	-----	----+---	1801,1804 = 1804,1804 = 1804,1814 = 1804,1824 = 1804,1825 = 1814,1824 = 1824,1825
+++++-----	-----	----+---	1824,1829 = 1824,1832
+++++-----	-----	----+---	1822,1824 = 1824,1833
+++++-----	-----	----+---	1801,1824 = 1824,1824
+++++-----	-----	----+---	1805,1808 = 1805,1827
+++++-----	-----	----+---	1805,1809 = 1805,1811
+++++-----	-----	----+---	1805,1814 = 1805,1825
+++++-----	-----	----+---	1805,1829 = 1805,1832
+++++-----	-----	----+---	1805,1822 = 1805,1833
+++++-----	-----	----+---	1801,1805 = 1805,1805
+++++-----	-----	----+---	1807,1808 = 1807,1827
+++++-----	-----	----+---	1807,1809 = 1807,1811
+++++-----	-----	----+---	1807,1814 = 1807,1825

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++-----+ - - - - - - - - +---+---	1807,1829 = 1807,1832
++-----+ - - - - - - - - ----++---	1807,1822 = 1807,1833
++-----+ - - - - - - - - ----+---	1801,1807 = 1807,1807
++++---+ - - + - - - - - +---+---	1801,1821 = 1809,1821 = 1821,1829 = 1821,1832
++++---+ - - + - - - - - +---+---	1810,1829 = 1810,1832
++++---+ - - + - - - - - ----+---	1801,1810 = 1809,1810
++++---+ ++ - - - - - - ----+---	1808,1823N = 1823N,1827
++++---+ +- + - - - - - ----+---	1808,1809 = 1808,1811 = 1809,1827
++++---+ + - - + - - - - ----+---	1808,1812 = 1812,1827
++++---+ + - - + - - + + - - ----+---	1808,1819 = 1819,1827
++++---+ + - - + - - + - - - + - - - -	1808,1830 = 1827,1830
++++---+ + - - + - - - - - - - - - -	1808,1813 = 1813,1827
++++---+ + - - + - - - - - + - - - -	1808,1814 = 1808,1825 = 1825,1827
++++---+ + - - + - - + - - + - - - -	1808,1831 = 1827,1831
++++---+ + - - + - - + - - + - - - -	1808,1815 = 1815,1827
++++---+ + - - + - - + - - - + - - - -	1808,1817N = 1817N,1827
++++---+ + - - + - - - - - + - - - -	1808,1818 = 1818,1827
++++---+ + - - + - - - - - + - - - -	1808,1829 = 1808,1832 = 1827,1829 = 1827,1832
++++---+ + - - + - - - - - + - - - -	1806,1808 = 1806,1827
++++---+ + - - + - - - - - ++ - - - -	1808,1820 = 1820,1827
++++---+ + - - + - - - - - ++ - - - -	1808,1822 = 1808,1833 = 1827,1833
++++---+ + - - + - - - - - + - - - +	1808,1826 = 1826,1827
++++---+ + - - + - - - - - + - - - -	1801,1808 = 1801,1827 = 1808,1808 = 1808,1827
++++---+ - + - - - - - - - - + - - - -	1809,1823N = 1811,1823N
++++---+ - + - - - + - - - - + - - - -	1814,1823N = 1823N,1825
++++---+ - + - - - - - - + - - - - -	1823N,1829 = 1823N,1832
++++---+ - + - - - - - - + - - - - -	1822,1823N = 1823N,1833
++++---+ - + - - - - - - + - - - - -	1801,1823N = 1823N,1823N
++++---+ - - + - - - - - - - + - - - -	1809,1812 = 1811,1812
++++---+ - - + - - + - - - - - - + - - -	1809,1819 = 1811,1819
++++---+ - - + - - + - - - - + - - - -	1809,1830 = 1811,1830
++++---+ - - + - - + - - - - - - + - - -	1809,1813 = 1811,1813
++++---+ - - + - - + - - - - - - + - - -	1809,1814 = 1809,1825 = 1811,1825
++++---+ - - + - - + - - + - - - + - - -	1809,1831 = 1811,1831
++++---+ - - + - - + - - - - - - + - - -	1809,1815 = 1811,1815
++++---+ - - + - - + - - - - - - + - - -	1809,1817N = 1811,1817N
++++---+ - - + - - + - - + - - - + - - -	1809,1818 = 1811,1818
++++---+ - - + - - + - - - - - - + - - -	1809,1832 = 1811,1829 = 1811,1832
++++---+ - - + - - + - - - - - - + - - -	1806,1809 = 1806,1811
++++---+ - - + - - + - - - - - - + - - -	1809,1822 = 1809,1833 = 1811,1833
++++---+ - - + - - + - - - - - - + - - -	1809,1826 = 1811,1826
++++---+ - - + - - + - - - - - - + - - -	1801,1809 = 1801,1811 = 1809,1811
++++---+ - - - + - - - - - - - - + - - -	1812,1814 = 1812,1825
++++---+ - - - + - - - - - - - - + - - -	1812,1829 = 1812,1832
++++---+ - - - + - - - - - - - - + - - -	1812,1822 = 1812,1833
++++---+ - - - + - - - - - - - - + - - -	1801,1812 = 1812,1812
++++---+ - - - + - - - - - - + - - - -	1814,1819 = 1819,1825
++++---+ - - - + - - - - - - + - - - -	1814,1830 = 1825,1830
++++---+ - - - + - - - - - - - - + - - -	1813,1814 = 1813,1825
++++---+ - - - + - - - - - - + - - - -	1818,1819 = 1819,1831
++++---+ - - - + - - - - - - + - - - -	1815,1819 = 1817N,1830 = 1819,1829 = 1819,1830 = 1819,1832
++++---+ - - - + - - - - - - + - - - -	1819,1822 = 1819,1833
++++---+ - - - + - - - - - - + - - - -	1801,1819 = 1813,1819 = 1817N,1819 = 1819,1819
++++---+ - - - + - - - - - - + - - - -	1818,1830 = 1830,1831

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++-----	-----+--+	-+---+---	1822,1830 = 1830,1833
++-----	-----+--+	-+---+---	1801,1830 = 1813,1815 = 1813,1830 =
			1815,1830 = 1829,1830 = 1830,1830 =
			1830,1832
++-----	-----+---	-+---+---	1813,1829 = 1813,1832
++-----	-----+---	-----+---	1813,1822 = 1813,1833
++-----	-----+---	-----+---	1801,1813 = 1813,1813
++-----	-----+--+	+---+---	1814,1831 = 1825,1831
++-----	-----+--+	-+---+---	1814,1815 = 1815,1825
++-----	-----+--+	-----+---	1814,1817N = 1817N,1825
++-----	-----+---	+---+---	1814,1818 = 1818,1825
++-----	-----+---	-+---+---	1814,1829 = 1814,1832 = 1825,1829 =
			1825,1832
++-----	-----+---	---+---+---	1806,1814 = 1806,1825
++-----	-----+---	---+---+---	1814,1820 = 1820,1825
++-----	-----+---	---+---+---	1814,1833 = 1822,1825 = 1825,1833
++-----	-----+---	---+---+---	1814,1826 = 1825,1826
++-----	-----+---	---+---+---	1801,1814 = 1801,1825 = 1814,1825 =
			1825,1825
++-----	-----+---	+---+---	1815,1818 = 1815,1831 = 1829,1831 =
			1831,1832
++-----	-----+---	+---+---+	1822,1831 = 1831,1833
++-----	-----+---	+---+---	1801,1831 = 1818,1831 = 1831,1831
++-----	-----+---	-+---+---	1815,1822 = 1815,1833
++-----	-----+---	-+---+---	1801,1815 = 1815,1815 = 1815,1829 =
			1815,1832
++-----	-----+---	-+---+---	1817N,1829 = 1817N,1832
++-----	-----+---	-----+---	1817N,1822 = 1817N,1833
++-----	-----+---	-----+---	1801,1817N = 1817N,1817N
++-----	-----+---	+---+---	1818,1829 = 1818,1832
++-----	-----+---	+---+---	1818,1822 = 1818,1833
++-----	-----+---	+---+---	1801,1818 = 1818,1818
++-----	-----+---	-+---+---	1806,1829 = 1806,1832
++-----	-----+---	-+---+---	1820,1829 = 1820,1832
++-----	-----+---	-+---+---	1822,1829 = 1822,1832 = 1829,1833 =
			1832,1833
++-----	-----+---	-+---+---+	1826,1829 = 1826,1832
++-----	-----+---	-+---+---	1801,1829 = 1801,1832 = 1829,1832 =
			1832,1832
++-----	-----+---	---+---+---	1806,1822 = 1806,1833
++-----	-----+---	---+---+---	1801,1806 = 1806,1806
++-----	-----+---	---+---+---	1820,1822 = 1820,1833
++-----	-----+---	---+---+---	1822,1826 = 1826,1833
++-----	-----+---	---+---+---	1801,1822 = 1801,1833 = 1822,1833 =
			1833,1833
++-----	-----+---	---+---+---	1801,1826 = 1826,1826
++-----	-----+---	-+---+---	1810,1821 = 1811,1821 = 1821,1821
++-----	-----+---	-----+---	1810,1810 = 1810,1811

1801 = 180101-180103

SPECIFICITY TABLE

HLA-B*18 SSP subtyping

Specificities and sizes of the PCR products of the 24 primer mixes used for HLA-B*18 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*18 alleles	Other amplified HLA Class I alleles ³
1	170 bp	800 bp	180101-1802, 1804-1808, 1810-1815, 1817N-1828, 1830-1833	
2⁴	260 bp	800 bp	180101-180103, 1803-1809, 1812, 1813, 1815, 1817N- 1820, 1823N- 1826, 1828-1833	140601-140602, 1408, 1537, 1538, 3932, 3943, 3948, 4051, 5106, 5145, 5162
3	260 bp	800 bp	1802	2728
4^{5,7}	100 bp	800 bp	1803, 1828	
5⁷	140 bp	1070 bp	1804, 1824	
6⁷	130 bp	1070 bp	1805	
7	150 bp	1070 bp	1807	
8	190 bp	1070 bp	1810, 1821	070201-0704, 0707-0713, 0715, 0716, 071801- 071802, 0721-0723, 0725-0727, 0729, 0730, 0733, 0735-0739, 0741, 0742, 0744-0752, 0754- 0759, 0761-0768, 0770- 0772, 0775, 0776, 1540, 1547, 1549, 1552, 9514, 9517, 9524, 9538, 2734, 2741, 3515, 3533, 3566, 3586, 3707, 4003, 4018, 4020, 4024, 4031-4033, 4044, 4052, 4059, 4606, 4808, 5713, Cw*0206, Cw*0223
9⁵	255 bp	1070 bp	1808, 1827	
10^{6,7}	85 bp	800 bp	1823N	
11^{5,7,8}	125, 630 bp	1070 bp	1809-1811, 1821	350202, 352002

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12⁷	140 bp	1070 bp	1812	
13⁷	85 bp	1070 bp	1813, 1819, 1830	1403, 1538, 5129, 5161, A*6604^{weakly}
14⁹	170, 260 bp	1070 bp	1804, 1814, 1825	1405, 350202, 352002, 5164
15⁷	100 bp	1070 bp	1815, 1819, 1830, 1831	1401-1410, 1537, 1538, 3521, 4028, 4051, 510101-510109, 5103, 5104, 5106, 5107, 5111N- 5114, 5116-5118, 5121, 5122, 512401-512402, 5126-5130, 5132, 5133, 5135, 5137-5139, 5141N, 5143, 5145, 5146, 5148- 5152, 5155-5158, 5160- 5165, 520101-5202, 5204-5209, 5212-5214, 5306, 560501-5606, 5621, 5808, 7801-7803, 7805, 7806
16^{7,10}	95, 365 bp	1070 bp	1817N, 1819	152703, 351401, 3562, 3936, 5521, Cw*0109, Cw*0722
17^{7,11}	100, 255 bp	1070 bp	1818, 1831	
18^{6,7,12}	85, 125, 150 bp	1070 bp	1815, 1821 ^{weakly} , 1829, 1830 ^{weakly} , 1832	0709 ^{weakly} , 0711 ^{weakly} , 1503, 1516, 1518, 1523, 1529, 1539, 1540, 1547 ^{weakly} , 1549 ^{weakly} , 1561, 1562, 1564, 1565 ^{weakly} , 1567, 1569, 1571, 1572, 1574, 1580, 1593, 1595, 1598, 9503, 9508, 9515, 9519, 9527, 9531, 9532, 9534, 9538, 9553, 9558, 3511, 3521, 3550, 3558, 3591, 3599 ^{weakly} , 4603 ^{weakly} , 4608, 4614, 4903, 4904, 5137, 5145, 5306, 5308, 5402, 5514, 5516, 5713 ^{weakly} , 5806, 5819 Cw*1509, Cw*1519, Cw*1520
19⁷	105 bp	1070 bp	1806	
20⁵	290 bp	1070 bp	1820	0714, 0717, 0728, 0814, 0828, 1310, 1401-1410,

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				1502, 1506, 1513, 15170101-151702, 1521, 1525, 1531, 1536, 1544, 1555, 1577, 1588, 1589, 9506, 9512, 9521, 9528, 9537, 9539, 9544, 9556, 2701-270402, 270502- 2706, 2708-2710, 2712- 2719, 2721, 2723, 2725, 2726, 2728-2732, 2735- 2740, 2742, 2744-2746, 2750, 370101-3706, 3708, 3710, 3711, 3713, 3714, 3917, 4009, 4042, 4060, 4089, 44020101- 4409, 4411-4413, 4415, 4416, 4418-4430, 4432- 4442, 4444, 4446-4450, 4452N-4461N, 4463- 4467, 4469, 4501-4508, 47010101-4705, 4817, 490101-4903, 4905, 5001, 5002, 5004, 5142, 5307, 5415, 5704, 5705, 8301
21	215 bp	1070 bp	180101-1809, 1812-1815, 1817N-1819, 1822-1833	1315, 1537, 1538, 3521, 3524, 3581, 3932, 3943, 3948, 4028, 4051, 510101-510109, 5103, 5104, 5106-510902, 5111N-5114, 5116, 5119- 5122, 512401-512402, 5126-5133, 5135, 5137- 5139, 5141N, 5143-5146, 5148-5153, 5155-5158, 5160-5165, 520101-5202, 5204-5210, 5212-5214, 5302, 5306, 560501- 5606, 5621, 5714, 5808, 5809, 7801-7803, 7805, 7806
22¹³	150, 270 bp	800 bp	1822, 1833	1410, 3521, 3524, 3581, 4028, 5104, 5146, 5156, 5302, 5306, 5714, 5809
23⁷	100 bp	800 bp	1821	0709, 0711, 1533, 9507, 9516, 9541, 2741, 3564, 4003, 4020, 4052, 4059, 4606, 5713,

				Cw*1509, Cw*1519, Cw*1520
24	190 bp	1070 bp	1826	0734, 080101-0806, 0808N-0810, 0812, 0813, 0815-0820, 0822-0824, 0826, 0827, 0829-0836, 0838, 1306, 1542, 1583, 1586, 3560, 3587, 3712, 380101-3807, 3809-3819, 39010101-39010102L, 390103-390602, 3908- 3914, 3916, 3918-3920, 3922-3924, 3926-3928, 3930, 3931, 3934-3937, 3939, 3941, 3942, 3944- 3946, 3948, 4039, 4051, 4101-410302, 4105-4108, 4201, 4202, 4204-4208, 4210, 4618, 5121, 5136, 5401, 5402, 5404, 5405N, 5407, 5408N, 5410-5413, 5417, 550101-5505, 5507, 5510-5513, 5515- 5521, 5525, 5526, 5528- 5534, 5610, 5612, 5623, 5820, 5901-5903, 670101-6702

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*18 SSP typings.

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

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

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

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

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

²The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most wells, or a band of 800 base pairs, for some wells.

Well number 1 contains the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to help in the correct orientation of the HLA-B*18 subtyping.

In addition, wells number 2, 3, 4, 10, 22 and 23 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.

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

³Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*18 alleles will be amplified by primer mixes 2, 3, 8, 11, 13 to 16, 18 and 20 to 24. In addition, the A*6604 allele might be weakly amplified by primer mix 13, the Cw*0206 and Cw*0223 will be amplified by primer mix 8, Cw*0109 and Cw*0722 will be amplified by primer mix 16 and Cw*1509, Cw*1519 and Cw*1520 alleles will be amplified by primer mixes 18 and 23.

⁴The B*1401 to 1404, 1407N and 1409 alleles might be faintly amplified by primer mix 2.

⁵Primer mixes 4, 9, 11 and 20 have a tendency of giving rise to non-specific amplifications.

⁶Primer mix 10 and 18 may give rise to primer oligomer formation.

⁷Short specific PCR fragments are less intense and not as sharp as longer specific bands.

⁸Primer mix 11: Specific PCR fragment of 125 bp in the B*1809 allele. Specific PCR fragment of 630 bp in the B*1810, 1811, 1821 and the B*350202 and 352002 alleles.

⁹Primer mix 14: Specific PCR fragment of 170 bp in the B*1804, B*1825 and the B*350202 and 352002 alleles. Specific PCR fragment of 260 bp in the B*1814 and the B*1405 and 5164 alleles.

¹⁰Primer mix 16: Specific PCR fragment of 95 bp in the B*1819 and the B*152703, 351401, 3562, 3936, 5521, Cw*0109 and Cw*0722 alleles. Specific PCR fragment of 365 bp in the B*1817N allele.

¹¹Primer mix 17: Specific PCR fragment of 100 bp in the B*1831 allele. Specific PCR fragment of 255 bp in the B*1818 allele.

¹²Primer mix 18: Specific PCR fragment of 85 bp in the B*1829 and B*1571, 3550, 4614, 4903, 5402 and 5516 alleles. Specific PCR fragment of 125 bp in the B*1832 and B*3591 alleles. Specific PCR fragment of 150 bp in the B*1815, 1821^{weakly}, 1830^{weakly} and the B*0709^{weakly}, 0711^{weakly}, 1503, 1516, 1518, 1523, 1529, 1539, 1540, 1547^{weakly}, 1549^{weakly}, 1561, 1562, 1564, 1565^{weakly}, 1567, 1569, 1572, 1574, 1580, 1593, 1595, 1598, 9503, 9508, 9515, 9519, 9527, 9531, 9532, 9534, 9538, 9553, 9558, 3511, 3521, 3558, 3599^{weakly}, 4603^{weakly}, 4608, 4904, 5137, 5145, 5306, 5308, 5514, 5713^{weakly}, 5806, 5819, Cw*1509, Cw*1519 and Cw*1520 alleles.

¹³Primer mix 22: Specific PCR fragment of 150 bp in the B*1833 allele. Specific PCR fragment of 270 bp in the B*1822 and in B*1410, 3521, 3524, 2581, 4028, 5104, 5146, 5156, 5302, 5306, 5714 and 5809 alleles.

INTERPRETATION TABLE												
HLA-B*18 SSP subtyping												
Amplification patterns of the B*1801 to B*1833 alleles												
	Well⁵											
	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	170	260	260	100	140	130	150	190	255	85	125	140
PCR product(s)											630	
Length of int.	800	800	800	800	1070	1070	1070	1070	1070	800	1070	1070
pos. control¹												
5'-primer(s)²	161	363	363	234	130	363	161	412	368	610	234	161
	5'-Cgg3'	5'-Agg3'	5'-AAT3'	5'-CAA3'	5'-AgT3'	5'-Agg3'	5'-Cgg3'	5'-ATg3'	5'-gTg3'	5'-TgT3'	5'-CAA3'	5'-Cgg3'
				523	141				368			
				5'-CCA3'	5'-ATT3'				5'-gTT3'			
3'-primer(s)³	292	583	583	292	234	453	272	559	583	3 rd I	317	259
	5'-gTA3'	5'-gTg3'	5'-gTg3'	5'-gTC3'	5'-TCT3'	5'-TCC3'	5'-TgA3'	5'-CTC3'	5'-gTg3'	5'-TAT3'	5'-ggA3'	5'-CTC3'
	292			583							583	
	5'-gTA3'			5'-gTg3'							5'-gTA3'	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
HLA-B allele⁴												
*180101-180103	1	2										
*1802	1		3									
*1803		2		4								
*1804	1	2			5							
*1805	1	2				6						
*1806	1	2										
*1807	1	2					7					
*1808	1	2							9			
*1809		2									11	
*1810	1							8			11	
*1811	1										11	
*1812	1	2										12
*1813	1	2										
*1814	1											
*1815	1	2										
*1817N	1	2										
*1818	1	2										
*1819	1	2										
*1820	1	2										
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

INTERPRETATION TABLE												
HLA-B*18 SSP subtyping												
Amplification patterns of the B*1801 to B*1833 alleles												
Well⁵												
13	14	15	16	17	18	19	20	21	22	23	24	
85	170	100	95	100	85	105	290	215	150	100	190	Length of spec.
	260		365	255	125				270			PCR product(s)
				150								
1070	1070	1070	1070	1070	1070	1070	1070	1070	800	800	1070	Length of int.
												pos. control ¹
539	106	523	41	368	97	234	409	409	161	419	412	5'-primer(s) ²
5'-gCg ^{3'}	5'-CCA ^{3'}	5'-CCg ^{3'}	5'-CTA ^{3'}	5'-gTC ^{3'}	5'-TCC ^{3'}	5'-CAA ^{3'}	5'-ggT ^{3'}	5'-ggC ^{3'}	5'-Cgg ^{3'}	5'-gTC ^{3'}	5'-ATA ^{3'}	
539	363	527	486	523	419				355			
5'-gTg ^{3'}	5'-AgC ^{3'}	5'-TgA ^{3'}	5'-ACC ^{3'}	5'-CCg ^{3'}	5'-gTC ^{3'}				5'-TCA ^{3'}			
583	234	583	234	583	142	299	3 rd I	583	272	477	559	3'-primer(s) ³
5'-gTA ^{3'}	5'-TCT ^{3'}	5'-gTg ^{3'}	5'-TCT ^{3'}	5'-gTg ^{3'}	5'-TgC ^{3'}	5'-TCA ^{3'}	5'-TAT ^{3'}	5'-gTg ^{3'}	5'-TgC ^{3'}	5'-gCg ^{3'}	5'-CgT ^{3'}	
	583		538		505				583			
	5'-gTg ^{3'}		5'-CCA ^{3'}		5'-gCT ^{3'}				5'-gTg ^{3'}			
					527							
					5'-CCT ^{3'}							
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												HLA-B allele ⁴
								21				*180101-180103
								21				*1802
								21				*1803
	14							21				*1804
								21				*1805
						19		21				*1806
								21				*1807
								21				*1808
								21				*1809
												*1810
												*1811
								21				*1812
13								21				*1813
	14							21				*1814
		15			18			21				*1815
			16					21				*1817N
				17				21				*1818
13		15	16					21				*1819
							20					*1820
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **87F**

Lot-specific information

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Length of spec.	170	260	260	100	140	130	150	190	255	85	125	140
PCR product(s)											630	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*1821	1				8				11			
*1822	1											
*1823N	1	2							10			
*1824	1	2			5							
*1825	1	2										
*1826	1	2										
*1827	1								9			
*1828	1	2			4							
*1829	2											
*1830	1	2										
*1831	1	2										
*1832	1	2										
*1833	1	2										
*070201-0704, 0707, 0708, 0710, 0712, 0713, 0715, 0716, 071801-071802, 0721- 0723, 0725-0727, 0729, 0730, 0733, 0735-0739, 0741, 0742, 0744-0752, 0754-0759, 0761-0768, 0770-0772, 0775, 0776, 1552, 9514, 9517, 9524, 2734, 3515, 3533, 3566, 3586, 3707, 4018, 4024, 4031-4033, 4044, 4808								8				
*0709, 0711, 5713					8							
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **87F**

Lot-specific information

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85	170	100	95	100	85	105	290	215	150	100	190	Length of spec. PCR product(s)	
	260		365	255	125				270				
					150								
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	
				w					23				*1821
								21	22			*1822	
								21				*1823N	
								21				*1824	
14								21				*1825	
								21			24	*1826	
								21				*1827	
								21				*1828	
				18				21				*1829	
13		15			w			21				*1830	
		15		17				21				*1831	
					18			21				*1832	
								21	22			*1833	
												*070201-0704, 0707, 0708, 0710, 0712, 0713, 0715, 0716, 071801-071802, 0721- 0723, 0725-0727, 0729, 0730, 0733, 0735-0739, 0741, 0742, 0744-0752, 0754-0759, 0761-0768, 0770-0772, 0775, 0776, 1552, 9514, 9517, 9524, 2734, 3515, 3533, 3566, 3586, 3707, 4018, 4024, 4031-4033, 4044, 4808	
				w					23				*0709, 0711, 5713
13	14	15	16	17	18	19	20	21	22	23	24	Well No.	

Lot No.: **87F**

Lot-specific information

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Length of spec.	170	260	260	100	140	130	150	190	255	85	125	140
PCR product(s)											630	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*0714, 0717, 0728, 0814, 0828, 1310, 1502, 1506, 1513, 15170101-151702, 1521, 1525, 1531, 1536, 1544, 1555, 1577, 1588, 1589, 9506, 9512, 9521, 9528, 9537, 9539, 9544, 9556, 2701-270402, 270502-2706, 2708-2710, 2712-2719, 2721, 2723, 2725, 2726, 2729-2732, 2735-2740, 2742, 2744-2746, 2750, 370101-3706, 3708, 3710, 3711, 3713, 3714, 3917, 4009, 4042, 4060, 4089, 44020101-4409, 4411-4413, 4415, 4416, 4418-4430, 4432-4442, 4444, 4446-4450, 4452N-4461N, 4463-4467, 4469, 4501-4508, 47010101-4705, 4817, 490101-4902, 4905, 5001, 5002, 5004, 5142, 5307, 5415, 5704, 5705, 8301												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **87F**

Lot-specific information

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85	170	100	95	100	85	105	290	215	150	100	190	Length of spec. PCR product(s)
	260		365	255	125				270			
					150							
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
				20								*0714, 0717, 0728, 0814, 0828, 1310, 1502, 1506, 1513, 15170101-151702, 1521, 1525, 1531, 1536, 1544, 1555, 1577, 1588, 1589, 9506, 9512, 9521, 9528, 9537, 9539, 9544, 9556, 2701-270402, 270502- 2706, 2708-2710, 2712- 2719, 2721, 2723, 2725, 2726, 2729-2732, 2735- 2740, 2742, 2744-2746, 2750, 370101-3706, 3708, 3710, 3711, 3713, 3714, 3917, 4009, 4042, 4060, 4089, 44020101-4409, 4411- 4413, 4415, 4416, 4418- 4430, 4432-4442, 4444, 4446-4450, 4452N-4461N, 4463-4467, 4469, 4501- 4508, 47010101-4705, 4817, 490101-4902, 4905, 5001, 5002, 5004, 5142, 5307, 5415, 5704, 5705, 8301
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **87F**

Lot-specific information

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Length of spec.	170	260	260	100	140	130	150	190	255	85	125	140
PCR product(s)											630	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*0734, 080101-0806, 0808N-0810, 0812, 0813, 0815-0820, 0822-0824, 0826, 0827, 0829-0836, 0838, 1306, 1542, 1583, 1586, 3560, 3587, 3712, 380101-3807, 3809-3819, 39010101-39010102L, 390103-390602, 3908-3914, 3916, 3918-3920, 3922-3924, 3926-3928, 3930, 3931, 3934, 3935, 3937, 3939, 3941, 3942, 3944-3946, 4039, 4101-410302, 4105-4108, 4201, 4202, 4204-4208, 4210, 4618, 5136, 5401, 5404, 5405N, 5407, 5408N, 5410-5413, 5417, 550101-5505, 5507, 5510-5513, 5515, 5517-5520, 5525, 5526, 5528-5534, 5610, 5612, 5623, 5820, 5901-5903, 670101-6702												
*1315, 5108-510902, 5119, 5120, 5131, 5144N, 5153, 5210												
*1401-140202, 1404, 1407N, 1409												
*1403												
*1405												
*140601-140602, 1408		2										
*1410												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **87F**

Lot-specific information

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85	170	100	95	100	85	105	290	215	150	100	190	Length of spec. PCR product(s)
	260		365	255	125				270			
					150							
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
												*0734, 080101-0806, 0808N, 0810, 0812, 0813, 0815-0820, 0822-0824, 0826, 0827, 0829-0836, 0838, 1306, 1542, 1583, 1586, 3560, 3587, 3712, 380101-3807, 3809-3819, 39010101-39010102L, 390103-390602, 3908-3914, 3916, 3918-3920, 3922-3924, 3926-3928, 3930, 3931, 3934, 3935, 3937, 3939, 3941, 3942, 3944-3946, 4039, 4101-410302, 4105-4108, 4201, 4202, 4204-4208, 4210, 4618, 5136, 5401, 5404, 5405N, 5407, 5408N, 5410-5413, 5417, 550101-5505, 5507, 5510-5513, 5515, 5517-5520, 5525, 5526, 5528-5534, 5610, 5612, 5623, 5820, 5901-5903, 670101-6702
								21				*1315, 5108-510902, 5119, 5120, 5131, 5144N, 5153, 5210
15			20								*1401-140202, 1404, 1407N, 1409	
13		15					20					*1403
14		15	20								*1405	
		15					20					*140601-140602, 1408
15			20				22				*1410	
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **87F**

Lot-specific information

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Length of spec.	170	260	260	100	140	130	150	190	255	85	125	140
PCR product(s)											630	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*1503, 1516, 1518, 1523, 1529, 1539, 1561, 1562, 1564, 1567, 1569, 1571, 1572, 1574, 1580, 1593, 1595, 1598, 9503, 9508, 9515, 9519, 9527, 9531, 9532, 9534, 9553, 9558, 3511, 3550, 3558, 3591, 4608, 4614, 4904, 5308, 5514, 5806, 5819												
*152703, 351401, 3562												
*1533, 9507, 9516, 9541, 3564												
*1537, 5106, 5162		2										
*1538		2										
*1540, 9538								8				
*1547, 1549								8				
*1565, 3599, 4603												
*2728			3									
* 2741, 4003, 4020, 4052, 4059, 4606								8				
*350202, 352002											11	
*3521, 5306												
*3524, 3581, 5302, 5714, 5809												
*3932, 3943		2										
*3936, 5521												
*3948		2										
*4028, 5104, 5146, 5156												
*4051		2										
*4903												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **87F**

Lot-specific information

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85	170	100	95	100	85	105	290	215	150	100	190	Length of spec. PCR product(s)
	260		365	255	125				270			
					150							
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
					18							*1503, 1516, 1518, 1523, 1529, 1539, 1561, 1562, 1564, 1567, 1569, 1571, 1572, 1574, 1580, 1593, 1595, 1598, 9503, 9508, 9515, 9519, 9527, 9531, 9532, 9534, 9553, 9558, 3511, 3550, 3558, 3591, 4608, 4614, 4904, 5308, 5514, 5806, 5819
			16									*152703, 351401, 3562
										23		*1533, 9507, 9516, 9541, 3564
		15						21				*1537, 5106, 5162
13		15						21				*1538
					18							*1540, 9538
					w							*1547, 1549
					w							*1565, 3599, 4603
							20					*2728
										23		* 2741, 4003, 4020, 4052, 4059, 4606
	14											*350202, 352002
		15			18			21	22			*3521, 5306
								21	22			*3524, 3581, 5302, 5714, 5809
								21				*3932, 3943
			16								24	*3936, 5521
								21			24	*3948
		15						21	22			*4028, 5104, 5146, 5156
		15						21			24	*4051
					18		20					*4903
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

Lot No.: **87F**

Lot-specific information

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Length of spec.	170	260	260	100	140	130	150	190	255	85	125	140
PCR product(s)											630	
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
*510101-510109, 5103, 5107, 5111N-5114, 5116, 5122, 512401-512402, 5126- 5128, 5130, 5132, 5133, 5135, 5138, 5139, 5141N, 5143, 5148-5152, 5155, 5157, 5158, 5160, 5163, 5165, 520101-5202, 5204- 5209, 5212-5214, 560501- 5606, 5621, 5808, 7801- 7803, 7805, 7806												
*5117, 5118												
*5121												
*5129, 5161												
*5137												
*5145		2										
*5164												
*5402, 5516												
HLA-B allele ⁴												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12
A*6604												
Cw*0109, Cw*0722												
Cw*0206, Cw*0223								8				
Cw*1509, Cw*1519, Cw*1520												
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Lot No.: **87F**

Lot-specific information

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85	170	100	95	100	85	105	290	215	150	100	190	Length of spec. PCR product(s)
	260		365	255	125				270			
					150							
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
15								21				*510101-510109, 5103, 5107, 5111N-5114, 5116, 5122, 512401-512402, 5126 5128, 5130, 5132, 5133, 5135, 5138, 5139, 5141N, 5143, 5148-5152, 5155, 5157, 5158, 5160, 5163, 5165, 520101-5202, 5204- 5209, 5212-5214, 560501- 5606, 5621, 5808, 7801- 7803, 7805, 7806
		15										*5117, 5118
		15						21			24	*5121
13		15						21				*5129, 5161
		15			18			21				*5137
		15			18			21				*5145
	14	15						21				*5164
					18						24	*5402, 5516
HLA-B allele ⁴												
13	14	15	16	17	18	19	20	21	22	23	24	Well No.
w												A*6604
			16									Cw*0109, Cw*0722
												Cw*0206, Cw*0223
					18					23		Cw*1509, Cw*1519, Cw*1520
13	14	15	16	17	18	19	20	21	22	23	24	Well No.

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*18 subtyping.

In addition, wells number 2, 3, 4, 10, 22 and 23 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 exon, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

³The nucleotide position, in 2nd or 3rd 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 the B*1816 allele has been found to be identical to B*1814.

⁵Primer mix 11: Specific PCR fragment of 125 bp in the B*1809 allele. Specific PCR fragment of 630 bp in the B*1810, 1811, 1821 and the B*350202 and 352002 alleles.

Primer mix 14: Specific PCR fragment of 170 bp in the B*1804, B*1825 and the B*350202 and 352002 alleles. Specific PCR fragment of 260 bp in the B*1814 and the B*1405 and 5164 alleles.

Primer mix 16: Specific PCR fragment of 95 bp in the B*1819 and the B*152703, 351401, 3562, 3936, 5521, Cw*0109 and Cw*0722 alleles. Specific PCR fragment of 365 bp in the B*1817N allele.

Primer mix 17: Specific PCR fragment of 100 bp in the B*1831 allele. Specific PCR fragment of 255 bp in the B*1818 allele.

Primer mix 18: Specific PCR fragment of 85 bp in the B*1829 and B*1571, 3550, 4614, 4903, 5402 and 5516 alleles. Specific PCR fragment of 125 bp in the B*1832 and B*3591 alleles. Specific PCR fragment of 150 bp in the B*1815, 1821^{weakly}, 1830^{weakly} and the B*0709^{weakly}, 0711^{weakly}, 1503, 1516, 1518, 1523, 1529, 1539, 1540, 1547^{weakly}, 1549^{weakly}, 1561, 1562, 1564, 1565^{weakly}, 1567, 1569, 1572, 1574, 1580, 1593, 1595, 1598, 9503, 9508, 9515, 9519, 9527, 9531, 9532, 9534, 9538, 9553, 9558, 3511, 3521, 3558, 3599^{weakly}, 4603^{weakly}, 4608, 4904, 5137, 5145, 5306, 5308, 5514, 5713^{weakly}, 5806, 5819, Cw*1509, Cw*1519 and Cw*1520 alleles.

Primer mix 22: Specific PCR fragment of 150 bp in the B*1833 allele. Specific PCR fragment of 270 bp in the B*1822 and in B*1410, 3521, 3524, 2581, 4028, 5104, 5146, 5156, 5302, 5306, 5714 and 5809 alleles.

'w', might be weakly amplified.

CELL LINE VALIDATION SHEET																					
HLA-B*18 SSP subtyping kit																					
				Prod. No.:	Well																
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
					200733901	200733902	200733903	200959704	200959705	200733906	200733907	200733908	200959709	200959710	200959711	200733912	200733913	200733914	200959715	200959716	
	IHWC cell line		B*																		
1	9001 SA		*0702		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
2	9280 LK707		*5201	*7301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
3	9011 E4181324		*52011		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
4	9275 GU373		*1510	*5301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011		*3701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM		*3901	*5101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
7	9020 QBL		*1801		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU		*3501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3		*5401		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT		*4403		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB		*5701		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM		*2705		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA		*1501	*1520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB		*4001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007		*4002		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540		*0801	*5501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367		*1401	*5601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
19	9038 BM16		*1801		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005		*4001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA		*1501		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
22	9056 KOSE		*3503		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL		*4002	*5602	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9		*1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
26	9285 WT49		*5801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007		*0705	*5101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
28	9320 BEL5GB		*4402	*4403	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU		*4403		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH		*4201		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF		*1801		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG		*4102		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B		*4001		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO		*4402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17		*1501	*3501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB		*0702		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
38	9099 LZL		*1501		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML		*0801	*2705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199		*1302	*4601	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301		*1402		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
42	9066 TAB089		*4601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526		*4601		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM		*3801		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO		*4201	*5001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU		*0702		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
47	9045 TUBO		*5101		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-
48	9303 TER-ND		*3501	*4403	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET														
HLA-B*18 SSP subtyping kit														
				Prod. No.:	Well									
					17	18	19	20	21	22	23	24		
					200959717	200959718	200733919	200733920	200733921	200959722	200959723	200733924		
	IHWC cell line		B*											
1	9001 SA		*0702		-	-	-	-	-	-	-	-	-	-
2	9280 LK707		*5201	*7301	-	-	-	-	+	-	-	-	-	-
3	9011 E4181324		*52011		-	-	-	-	+	-	-	-	-	-
4	9275 GU373		*1510	*5301	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011		*3701		-	-	-	+	-	-	-	-	-	-
6	9353 SM		*3901	*5101	-	-	-	-	+	-	-	-	-	+
7	9020 QBL		*1801		-	-	-	-	+	-	-	-	-	-
8	9025 DEU		*3501		-	-	-	-	-	-	-	-	-	-
9	9026 YAR		*3801		-	-	-	-	-	-	-	-	-	+
10	9107 LKT3		*5401		-	-	-	-	-	-	-	-	-	+
11	9051 PITOUT		*4403		-	-	-	+	-	-	-	-	-	-
12	9052 DBB		*5701		-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM		*2705		-	-	-	+	-	-	-	-	-	-
14	9071 OLGA		*1501	*1520	-	-	-	-	-	-	-	-	-	-
15	9075 DKB		*4001		-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007		*4002		-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540		*0801	*5501	-	-	-	-	-	-	-	-	-	+
18	9257 32367		*1401	*5601	-	-	-	+	-	-	-	-	-	-
19	9038 BM16		*1801		-	-	-	-	+	-	-	-	-	-
20	9059 SLE005		*4001		-	-	-	-	-	-	-	-	-	-
21	9064 AMALA		*1501		-	-	-	-	-	-	-	-	-	-
22	9056 KOSE		*3503		-	-	-	-	-	-	-	-	-	-
23	9124 IHL		*4002	*5602	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH		*3801		-	-	-	-	-	-	-	-	-	+
25	9049 IBW9		*1402		-	-	-	+	-	-	-	-	-	-
26	9285 WT49		*5801		-	-	-	-	-	-	-	-	-	-
27	9191 CH1007		*0705	*5101	-	-	-	-	+	-	-	-	-	-
28	9320 BEL5GB		*4402	*4403	-	-	-	+	-	-	-	-	-	-
29	9050 MOU		*4403		-	-	-	+	-	-	-	-	-	-
30	9021 RSH		*4201		-	-	-	-	-	-	-	-	-	+
31	9019 DUCAF		*1801		-	-	-	-	+	-	-	-	-	-
32	9297 HAG		*4102		-	-	-	-	-	-	-	-	-	+
33	9098 MT14B		*4001		-	-	-	-	-	-	-	-	-	-
34	9104 DHIF		*3801		-	-	-	-	-	-	-	-	-	+
35	9302 SSTO		*4402		-	-	-	+	-	-	-	-	-	-
36	9024 KT17		*1501	*3501	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB		*0702		-	-	-	-	-	-	-	-	-	-
38	9099 LZL		*1501		-	-	-	-	-	-	-	-	-	-
39	9315 CML		*0801	*2705	-	-	-	+	-	-	-	-	-	+
40	9134 WHONP199		*1302	*4601	-	-	-	-	-	-	-	-	-	-
41	9055 H0301		*1402		-	-	-	+	-	-	-	-	-	-
42	9066 TAB089		*4601		-	-	-	-	-	-	-	-	-	-
43	9076 T7526		*4601		-	-	-	-	-	-	-	-	-	-
44	9057 TEM		*3801		-	-	-	-	-	-	-	-	-	+
45	9239 SHJO		*4201	*5001	-	-	-	+	-	-	-	-	-	+
46	9013 SCHU		*0702		-	-	-	-	-	-	-	-	-	-
47	9045 TUBO		*5101		-	-	-	-	+	-	-	-	-	-
48	9303 TER-ND		*3501	*4403	-	-	-	+	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP[®] HLA-B*18 SSP

Product number: 101.519-12 – including *Taq* polymerase
Lot number: 87F
Expiry date: 2011-June-01
Number of tests: 12
Number of wells per test: 24

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2007-339-01	9	2009-597-09	17	2009-597-17
2	2007-339-02	10	2009-597-10	18	2009-597-18
3	2007-339-03	11	2009-597-11	19	2007-339-19
4	2009-597-04	12	2007-339-12	20	2007-339-20
5	2009-597-05	13	2007-339-13	21	2007-339-21
6	2007-339-06	14	2007-339-14	22	2009-597-22
7	2007-339-07	15	2009-597-15	23	2009-597-23
8	2007-339-08	16	2009-597-16	24	2007-339-24

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 to 7, 9 to 14, 16, 17, 19, 22 and 23 were available. The specificities of the primers in primer solutions 5, 7, 9, 11-14, 16, 17 to 19, 22 and 23 were tested by separately adding one additional 5'-primer, respectively one or two additional 3'-primer. In primer solution 6 only the 5'-primer was possible to test, the 3'-primer was not possible to test. In primer solution 10 only the 3'-primer was possible to test, the 5'-primer was not possible to test. In primer solutions 4, 5, 9, 10 and 15 to 17 one 5'-primer was not possible to test, and in primer solutions 1 and 18 one 3'-primer was not possible to test.

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

Date of approval: 2010-July-11

Approved by:

Quality Control, Supervisor

Lot No.: **87F**

Lot-specific information

www.olerup-ssp.com

Declaration of Conformity

Product name: *Olerup* SSP® HLA-B*18
Product number: 101.519-12
Lot number: 87F

Intended use: HLA-B*18 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, 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
2010-July-11

Olle Olerup
Managing Director

Lot No.: **87F**

Lot-specific information

www.olerup-ssp.com

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Fax: +43-1-710 15 00 10

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Web page: <http://www.olerup.com>

Olerup Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382

Tel: 1-877-OLERUP1

Fax: 610-344-7989

E-mail: info.us@olerup.com

Web page: <http://www.olerup.com>

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