Olerup SSP® HLA-A*01

Product number:	**101.411-24u/06u– without *Taq* pol.**
Lot number:	**67K**
Expiry date:	**2013-May-01**
Number of tests:	**24 test – Product No. 101.411-24u**
	6 tests – Product No. 101.411-06u
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. 67K.

CHANGES COMPARED TO THE PREVIOUS *OLERUP* SSP® HLA-A*01 LOT

The HLA-A*01 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup* SSP® HLA-A*01 lot was made **(Lot No. 21G)**.

Eighteen wells have been added to the HLA-A*01 kit, wells **31 to 48**.
The amplification patterns for some rare HLA-A*01 alleles only differ by the length of the specific PCR products.

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

Well	5'-primer	3'-primer	rationale
6	Added	-	Primer added for the A*01:60 allele.
14	-	Added	Primer added for the A*01:59 allele.
21	Added	-	Primer added for the A*01:44 allele.
25	-	Added	Primers added for the A*01:51 and A*01:59 alleles.
31	New	New	New primer pairs for the A*01:38 and A*01:63 alleles.
32	New	New	New primer pairs for the A*01:43 and A*01:57 alleles.

33	New	New	New primer pair for the A*01:61 allele.
34	New	New	New primer pairs for the A*01:58 and A*01:60 alleles.
35	New	New	New primer pairs for the A*01:47 and A*01:49 alleles.
36	New	New	New primer pairs for the A*01:53 and A*01:54 alleles.
37	New	New	New primer pair for the A*01:65 allele.
38	New	New	New primer pairs for the A*01:50 and A*01:62 alleles.
39	New	New	New primer pair for the A*01:39 allele.
40	New	New	New primer pair for the A*01:36 allele.
41	New	New	New primer pair for the A*01:48 allele.
42	New	New	New primer pair for the A*01:64 allele.
43	New	New	New primer pair for the A*01:56 allele.
44	New	New	New primer pair for the A*01:46 allele.
45	New	New	New primer pair for the A*01:52 allele.
46	New	New	New primer pair for the A*01:40 allele.
47	New	New	New primer pairs for the A*01:41 and A*01:42 alleles.
48	New	New	New primer pair for the A*01:55 allele.

PRODUCT DESCRIPTION

HLA-A*01 SSP subtyping

CONTENT
The primer set contains 5'- and 3'-primers for identifying the A*01:01 to A*01:66 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-A*01' in silver/gray ink.
Well No. 1 is marked with the Lot No. '67K'.
A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.
The PCR plates are heat-sealed with a PCR-compatible foil.
Please note: When removing each 48 well PCR plate, make sure that the remaining plates stay sealed. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION
The interpretation of HLA-A*01 SSP subtypings will be influenced by seven A*02 alleles, the A*03, the A*11, the A*23:07N, seven A*24, two A*26, most A*30, three A*31, the A*32:04 allele, the A*33:13 allele, five A*34, the A*36, the A*74:10 and the A*80 alleles when present on the other haplotype.

UNIQUELY IDENTIFIED ALLELES
All the HLA-A*01 alleles, i.e. **A*01:01 to A*01:66**[1], recognized by the HLA Nomenclature Committee in July 2010[2] will give rise to unique amplification patterns by the primers in the HLA-A*01 subtyping kit.
The A*01:45 allele cannot be separated from the A*01:01:01:01, 01:01:02-01:01:19 alleles with HLA-A*01/67K. The HLA-A*01:45 allele specific polymorphism is located at position 704 in exon 4.
The HLA-A*01 subtyping kit cannot distinguish the A*01:01:01:01, 01:01:02-01:01:19 alleles.
The A*01:47 and 01:49 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 35.
The A*01:50 and 01:62 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 38.
The A*01:53N and 01:54 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 36.

[1]The A*01:45 allele cannot be separated from the A*01:01:01:01, 01:01:02-01:01:19 alleles with HLA-A*01/67K. The HLA-A*01:45 allele specific polymorphism is located at position 704 in exon 4.
[2]HLA-A alleles listed on the IMGT/HLA web page 2010-July-16, release 3.1.0,, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

A total of 106 alleles generate 62 amplification patterns that can be combined in 1953 homozygous and heterozygous combinations. 842 of these genotypes do not give rise to unique amplification patterns. The different lengths of the specific PCR products were not considered in these calculations.

++++----+ -------- -+--+--- -------- -------- --------	*01:07, *01:20 = *01:20, *01:23
++++----+ -------- -+------ -------- -------- --------	*01:02, *01:07 = *01:02, *01:23
++++----- +------- -+------ -------- -------- --------	*01:02, *01:08 = *01:02, *01:27N
++++----- --+----- -+--+--- -------- -------- --------	*01:11N, *01:20 = *01:20, *01:28
++++----- --+----- -+------ -------- -------- --------	*01:02, *01:11N = *01:02, *01:28
++++----- -------- -+--+--- -------- -------- --------	*01:01:01:01, *01:20 = *01:02, *01:44 = *01:02, *01:66 = *01:20, *01:44
++++----- -------- -+------ ------+- -------- --------	*01:02, *01:38 = *01:02, *01:63
++++----- -------- -+------ -------- -------- ------+-	*01:02, *01:41 = *01:02, *01:42
++-+---+ -------- -+------ -------- -------- --------	*01:03, *01:07 = *01:03, *01:23
++-+---- --+----- -+------ -------- -------- --------	*01:03, *01:11N = *01:03, *01:28
++-+---- -------- -+------ -------+ -------- --------	*01:03, *01:43 = *01:03, *01:57N
++--+--+ -------- -+------ -------- -------- --------	*01:04N, *01:07 = *01:04N, *01:23
++--+--- +------- -+------ -------- -------- --------	*01:04N, *01:08 = *01:04N, *01:27N
++--+--- --+----- -+------ -------- -------- --------	*01:04N, *01:11N = *01:04N, *01:28
++--+--- -------- -+--+--- -------- -------- --------	*01:04N, *01:44 = *01:04N, *01:66
++--+--- -------- -+------ ------+- -------- --------	*01:04N, *01:38 = *01:04N, *01:63
++--+--- -------- -+------ -------+ -------- --------	*01:04N, *01:43 = *01:04N, *01:57N
++--+--- -------- -+------ -------- -------- ------+-	*01:04N, *01:41 = *01:04N, *01:42
++--+--- -------- -+------ -------- -------- --------	*01:01:01:01, *01:04N = *01:04N, *01:04N
++---+-+ -------- -+------ -------- -+------ --------	*01:07, *01:60 = *01:23, *01:60
++---+-+ -------- -+------ -------- -------- --------	*01:07, *01:09 = *01:09, *01:23
++---+-- +------- -+------ -------- -+------ --------	*01:08, *01:60 = *01:27N, *01:60
++---+-- +------- -+------ -------- -------- --------	*01:08, *01:09 = *01:09, *01:27N
++---+-- --+----- -+------ -------- -+------ --------	*01:11N, *01:60 = *01:28, *01:60
++---+-- --+----- -+------ -------- -------- --------	*01:09, *01:11N = *01:09, *01:28
++---+-- -------- -+--+--- -------- -+------ --------	*01:44, *01:60 = *01:60, *01:66
++---+-- -------- -+--+--- -------- -------- --------	*01:09, *01:44 = *01:09, *01:66
++---+-- -------- -+------ ------+- -+------ --------	*01:38, *01:60 = *01:60, *01:63
++---+-- -------- -+------ ------+- -------- --------	*01:09, *01:38 = *01:09, *01:63
++---+-- -------- -+------ -------+ -+------ --------	*01:43, *01:60 = *01:57N, *01:60
++---+-- -------- -+------ -------+ -------- --------	*01:09, *01:43 = *01:09, *01:57N
++---+-- -------- -+------ -------- -+------ ------+-	*01:41, *01:60 = *01:42, *01:60
++---+-- -------- -+------ -------- -+------ --------	*01:01:01:01, *01:60 = *01:09, *01:58 = *01:09, *01:60 = *01:58, *01:60 = *01:60, *01:60
++---+-- -------- -+------ -------- -------- ------+-	*01:09, *01:41 = *01:09, *01:42
++---+-- -------- -+------ -------- -------- --------	*01:01:01:01, *01:09 = *01:09, *01:09
++----++ -------- -+------ -------- -------- --------	*01:06, *01:07 = *01:06, *01:23
++----+- +------- -+------ -------- -------- --------	*01:06, *01:08 = *01:06, *01:27N
++----+- --+----- -+------ -------- -------- --------	*01:06, *01:11N = *01:06, *01:28
++----+- -------- -+--+--- -------- -------- --------	*01:06, *01:44 = *01:06, *01:66
++----+- -------- -+------ ------+- -------- --------	*01:06, *01:38 = *01:06, *01:63
++----+- -------- -+------ -------+ -------- --------	*01:06, *01:43 = *01:06, *01:57N
++----+- -------- -+------ -------- -------- ------+-	*01:06, *01:41 = *01:06, *01:42
++----+- -------- -+------ -------- -------- --------	*01:01:01:01, *01:06 = *01:06, *01:06
++-----+ +------+ -+------ -------- -------- --------	*01:01:01:02N, *01:08 = *01:01:01:02N, *01:27N
++-----+ +------- -+------ +------- -------- --------	*01:08, *01:51 = *01:27N, *01:51
++-----+ +------- -+------ -------- -------- --------	*01:07, *01:08 = *01:07, *01:27N = *01:08, *01:23 = *01:23, *01:27N
++-----+ -+------ -+-+---- -------- -------- --------	*01:07, *01:10 = *01:10, *01:23

++------+ -+------ -+------ -------- -------- --------	*01:07, *01:29 = *01:23, *01:29
++------+ --+-----+ -+------ -------- -------- --------	*01:01:01:02N, *01:11N = *01:01:01:02N, *01:28
++------+ --+----- -+------ +------- -------- --------	*01:11N, *01:51 = *01:28, *01:51
++------+ --+----- -+------ -------- -------- --------	*01:07, *01:11N = *01:11N, *01:23 = *01:23, *01:28
++------+ ----+-+- -+-+---+ -------- -------- --------	*01:07, *01:19 = *01:19, *01:23
++------+ ----+-+- -+-----+ -------- -------- --------	*01:07, *01:12 = *01:12, *01:23
++------+ ----+--- -+-+---- -------- -------- --------	*01:07, *01:21 = *01:21, *01:23
++------+ -----+-- -+------ +------- -------- --------	*01:07, *01:59 = *01:17, *01:51 = *01:23, *01:59 = *01:51, *01:59
++------+ -----+-- -+------ -------- -------- --------	*01:07, *01:17 = *01:17, *01:23
++------+ ------+- -+------ -------- -------- --------	*01:07, *01:14 = *01:14, *01:23
++------+ -------+ -+--+--- -------- -------- --------	*01:01:01:02N, *01:44 = *01:01:01:02N, *01:66
++------+ -------+ -+------ +------- -------- --------	*01:01:01:02N, *01:31N = *01:01:01:02N, *01:51 = *01:15N, *01:51
++------+ -------+ -+------ ------+- -------- --------	*01:01:01:02N, *01:38 = *01:01:01:02N, *01:63
++------+ -------+ -+------ -------+ -------- --------	*01:01:01:02N, *01:43 = *01:01:01:02N, *01:57N
++------+ -------+ -+------ -------- -------- ------+-	*01:01:01:02N, *01:41 = *01:01:01:02N, *01:42
++------+ -------+ -+------ -------- -------- --------	*01:01:01:01, *01:01:01:02N = *01:01:01:02N, *01:01:01:02N = *01:01:01:02N, *01:07 = *01:01:01:02N, *01:15N = *01:01:01:02N, *01:23 = *01:07, *01:15N = *01:15N, *01:23
++------+ -------- ++------ -------- -------- --------	*01:07, *01:16N = *01:16N, *01:23
++------+ -------- -++----+- -------- -------- --------	*01:07, *01:30 = *01:23, *01:30
++------+ -------- -++----- -------- -------- --------	*01:07, *01:18N = *01:18N, *01:23
++------+ -------- -+-+---- -------- -------- --------	*01:07, *01:26 = *01:23, *01:26
++------+ -------- -+--+--- +------- -------- --------	*01:44, *01:51 = *01:51, *01:66
++------+ -------- -+--+--- -------- -------- --------	*01:07, *01:44 = *01:07, *01:66 = *01:23, *01:44 = *01:23, *01:66
++------+ -------- -+---+-- -------- -------- --------	*01:07, *01:22N = *01:22N, *01:23
++------+ -------- -+----+- -------- -------- --------	*01:07, *01:24 = *01:23, *01:24
++------+ -------- -+-----+ -------- -------- --------	*01:07, *01:25 = *01:23, *01:25
++------+ -------- -+------ +-----+- -------- --------	*01:38, *01:51 = *01:51, *01:63
++------+ -------- -+------ +------+ -------- --------	*01:43, *01:51 = *01:51, *01:57N
++------+ -------- -+------ +------- -------- ------+-	*01:41, *01:51 = *01:42, *01:51
++------+ -------- -+------ +------- -------- --------	*01:01:01:01, *01:51 = *01:07, *01:31N = *01:07, *01:51 = *01:23, *01:31N = *01:23, *01:51 = *01:31N, *01:51 = *01:51, *01:51
++------+ -------- -+------ -+------ -------- --------	*01:07, *01:32 = *01:23, *01:32
++------+ -------- -+------ --+----- -------- --------	*01:07, *01:33 = *01:23, *01:33
++------+ -------- -+------ ---+---- -------- --------	*01:07, *01:34N = *01:23, *01:34N
++------+ -------- -+------ ----+--- -------- --------	*01:07, *01:35 = *01:23, *01:35
++------+ -------- -+------ -----+-- -------- --------	*01:07, *01:37 = *01:23, *01:37
++------+ -------- -+------ ------+- -------- --------	*01:07, *01:38 = *01:07, *01:63 = *01:23, *01:38 = *01:23, *01:63
++------+ -------- -+------ -------+ -------- --------	*01:07, *01:43 = *01:07, *01:57N = *01:23, *01:43 = *01:23, *01:57N
++------+ -------- -+------ -------- +------- --------	*01:07, *01:61 = *01:23, *01:61
++------+ -------- -+------ -------- -+------ --------	*01:07, *01:58 = *01:23, *01:58
++------+ -------- -+------ -------- --+----- --------	*01:07, *01:47 = *01:23, *01:47
++------+ -------- -+------ -------- ---+---- --------	*01:07, *01:53N = *01:23, *01:53N
++------+ -------- -+------ -------- ----+--- --------	*01:07, *01:65 = *01:23, *01:65
++------+ -------- -+------ -------- -----+-- --------	*01:07, *01:50 = *01:23, *01:50
++------+ -------- -+------ -------- ------+- --------	*01:07, *01:39 = *01:23, *01:39
++------+ -------- -+------ -------- -------+ --------	*01:07, *01:36 = *01:23, *01:36
++------+ -------- -+------ -------- -------- +-------	*01:07, *01:48 = *01:23, *01:48
++------+ -------- -+------ -------- -------- -+------	*01:07, *01:64 = *01:23, *01:64
++------+ -------- -+------ -------- -------- --+-----	*01:07, *01:56N = *01:23, *01:56N
++------+ -------- -+------ -------- -------- ---+----	*01:07, *01:46 = *01:23, *01:46
++------+ -------- -+------ -------- -------- ----+---	*01:07, *01:52N = *01:23, *01:52N
++------+ -------- -+------ -------- -------- -----+--	*01:07, *01:40 = *01:23, *01:40
++------+ -------- -+------ -------- -------- ------+-	*01:07, *01:41 = *01:07, *01:42 = *01:23, *01:41 = *01:23, *01:42
++------+ -------- -+------ -------- -------- -------+	*01:07, *01:55 = *01:23, *01:55

++------+	--------	-+------	--------	--------	--------	*01:01:01:01, *01:07 = *01:01:01:01, *01:23 = *01:07, *01:23 = *01:23, *01:23
++------	++------	-+-+----	--------	--------	--------	*01:08, *01:10 = *01:10, *01:27N
++------	++------	-+------	--------	--------	--------	*01:08, *01:29 = *01:27N, *01:29
++------	+-+--+--	-+------	--------	--------	--------	*01:08, *01:13 = *01:13, *01:27N
++------	+-+-----	-+------	--------	--------	--------	*01:08, *01:11N = *01:08, *01:28 = *01:11N, *01:27N = *01:27N, *01:28
++------	+---+---	-+-+----	--------	--------	--------	*01:08, *01:21 = *01:21, *01:27N
++------	+----+--	-+------	+-------	--------	--------	*01:08, *01:59 = *01:27N, *01:59
++------	+----+--	-+------	--------	--------	--------	*01:08, *01:17 = *01:17, *01:27N
++------	+------+	-+------	--------	--------	--------	*01:08, *01:15N = *01:15N, *01:27N
++------	+-------	++------	--------	--------	--------	*01:08, *01:16N = *01:16N, *01:27N
++------	+-------	-++---+-	--------	--------	--------	*01:08, *01:30 = *01:27N, *01:30
++------	+-------	-++-----	--------	--------	--------	*01:08, *01:18N = *01:18N, *01:27N
++------	+-------	-+-+----	--------	--------	--------	*01:08, *01:26 = *01:26, *01:27N
++------	+-------	-+--+---	--------	--------	--------	*01:08, *01:44 = *01:27N, *01:44 = *01:27N, *01:66
++------	+-------	-+---+--	--------	--------	--------	*01:08, *01:22N = *01:22N, *01:27N
++------	+-------	-+----+-	--------	--------	--------	*01:08, *01:24 = *01:24, *01:27N
++------	+-------	-+-----+	--------	--------	--------	*01:08, *01:25 = *01:25, *01:27N
++------	+-------	-+------	+-------	--------	--------	*01:08, *01:31N = *01:27N, *01:31N
++------	+-------	-+------	-+------	--------	--------	*01:08, *01:32 = *01:27N, *01:32
++------	+-------	-+------	--+-----	--------	--------	*01:08, *01:33 = *01:27N, *01:33
++------	+-------	-+------	---+----	--------	--------	*01:08, *01:34N = *01:27N, *01:34N
++------	+-------	-+------	----+---	--------	--------	*01:08, *01:35 = *01:27N, *01:35
++------	+-------	-+------	-----+--	--------	--------	*01:08, *01:37 = *01:27N, *01:37
++------	+-------	-+------	------+-	--------	--------	*01:08, *01:38 = *01:27N, *01:38 = *01:27N, *01:63
++------	+-------	-+------	-------+	--------	--------	*01:08, *01:43 = *01:08, *01:57N = *01:27N, *01:43 = *01:27N, *01:57N
++------	+-------	-+------	--------	+-------	--------	*01:08, *01:61 = *01:27N, *01:61
++------	+-------	-+------	--------	-+------	--------	*01:08, *01:58 = *01:27N, *01:58
++------	+-------	-+------	--------	--+-----	--------	*01:08, *01:47 = *01:27N, *01:47
++------	+-------	-+------	--------	---+----	--------	*01:08, *01:53N = *01:27N, *01:53N
++------	+-------	-+------	--------	----+---	--------	*01:08, *01:65 = *01:27N, *01:65
++------	+-------	-+------	--------	-----+--	--------	*01:08, *01:50 = *01:27N, *01:50
++------	+-------	-+------	--------	------+-	--------	*01:08, *01:39 = *01:27N, *01:39
++------	+-------	-+------	--------	-------+	--------	*01:08, *01:36 = *01:27N, *01:36
++------	+-------	-+------	--------	--------	+-------	*01:08, *01:48 = *01:27N, *01:48
++------	+-------	-+------	--------	--------	-+------	*01:08, *01:64 = *01:27N, *01:64
++------	+-------	-+------	--------	--------	--+-----	*01:08, *01:56N = *01:27N, *01:56N
++------	+-------	-+------	--------	--------	---+----	*01:08, *01:46 = *01:27N, *01:46
++------	+-------	-+------	--------	--------	----+---	*01:08, *01:52N = *01:27N, *01:52N
++------	+-------	-+------	--------	--------	-----+--	*01:08, *01:40 = *01:27N, *01:40
++------	+-------	-+------	--------	--------	------+-	*01:08, *01:42 = *01:27N, *01:41 = *01:27N, *01:42
++------	+-------	-+------	--------	--------	-------+	*01:08, *01:55 = *01:27N, *01:55
++------	+-------	-+------	--------	--------	--------	*01:01:01:01, *01:08 = *01:01:01:01, *01:27N = *01:08, *01:27N = *01:27N, *01:27N
++------	-++-----	-+-+----	--------	--------	--------	*01:10, *01:11N = *01:10, *01:28
++------	-++-----	-+------	--------	--------	--------	*01:11N, *01:29 = *01:28, *01:29
++------	-+--+-+-	-+-+---+	--------	--------	--------	*01:10, *01:12 = *01:10, *01:19 = *01:19, *01:29
++------	-+--+---	-+-+----	--------	--------	--------	*01:10, *01:21 = *01:21, *01:29
++------	-+------	-+-++---	--------	--------	--------	*01:10, *01:44 = *01:10, *01:66
++------	-+------	-+-+----	------+-	--------	--------	*01:10, *01:38 = *01:10, *01:63
++------	-+------	-+-+----	-------+	--------	--------	*01:10, *01:43 = *01:10, *01:57N
++------	-+------	-+-+----	--------	--------	------+-	*01:10, *01:41 = *01:10, *01:42
++------	-+------	-+-+----	--------	--------	--------	*01:01:01:01, *01:10 = *01:10, *01:10 = *01:10, *01:26 = *01:10, *01:29 = *01:26, *01:29
++------	-+------	-+--+---	--------	--------	--------	*01:29, *01:44 = *01:29, *01:66
++------	-+------	-+------	------+-	--------	--------	*01:29, *01:38 = *01:29, *01:63
++------	-+------	-+------	-------+	--------	--------	*01:29, *01:43 = *01:29, *01:57N
++------	-+------	-+------	--------	--------	------+-	*01:29, *01:41 = *01:29, *01:42
++------	-+------	-+------	--------	--------	--------	*01:01:01:01, *01:29 = *01:29, *01:29

++------ --+-+-+- -+-+---+ -------- -------- --------	*01:11N, *01:19 = *01:19, *01:28
++------ --+-+-+- -+-----+ -------- -------- --------	*01:11N, *01:12 = *01:12, *01:28
++------ --+-+--- -+-+---- -------- -------- --------	*01:11N, *01:21 = *01:21, *01:28
++------ --+--+-- -+--+--- -------- -------- --------	*01:13, *01:44 = *01:13, *01:66
++------ --+--+-- -+------ +------- -------- --------	*01:11N, *01:59 = *01:13, *01:31N = *01:13, *01:59 = *01:28, *01:59
++------ --+--+-- -+------ ------+- -------- --------	*01:13, *01:38 = *01:13, *01:63
++------ --+--+-- -+------ -------+ -------- --------	*01:13, *01:43 = *01:13, *01:57N
++------ --+--+-- -+------ -------- -------- ------+-	*01:13, *01:41 = *01:13, *01:42
++------ --+--+-- -+------ -------- -------- --------	*01:01:01:01, *01:13 = *01:11N, *01:13 = *01:11N, *01:17 = *01:13, *01:17 = *01:17, *01:28
++------ --+--+-- -------- -------- -------- --------	*01:13, *01:13 = *01:13, *01:28
++------ --+---+- -+------ -------- -------- --------	*01:11N, *01:14 = *01:14, *01:28
++------ --+----+ -+------ -------- -------- --------	*01:11N, *01:15N = *01:15N, *01:28
++------ --+----- ++------ -------- -------- --------	*01:11N, *01:16N = *01:16N, *01:28
++------ --+----- -++---+- -------- -------- --------	*01:11N, *01:30 = *01:28, *01:30
++------ --+----- -++----- -------- -------- --------	*01:11N, *01:18N = *01:18N, *01:28
++------ --+----- -+-+---- -------- -------- --------	*01:11N, *01:26 = *01:26, *01:28
++------ --+----- -+--+--- -------- -------- --------	*01:11N, *01:44 = *01:11N, *01:66 = *01:28, *01:44 = *01:28, *01:66
++------ --+----- -+---+-- -------- -------- --------	*01:11N, *01:22N = *01:22N, *01:28
++------ --+----- -+----+- -------- -------- --------	*01:11N, *01:24 = *01:24, *01:28
++------ --+----- -+-----+ -------- -------- --------	*01:11N, *01:25 = *01:25, *01:28
++------ --+----- -+------ +------- -------- --------	*01:11N, *01:31N = *01:28, *01:31N
++------ --+----- -+------ -+------ -------- --------	*01:11N, *01:32 = *01:28, *01:32
++------ --+----- -+------ --+----- -------- --------	*01:11N, *01:33 = *01:28, *01:33
++------ --+----- -+------ ---+---- -------- --------	*01:11N, *01:34N = *01:28, *01:34N
++------ --+----- -+------ ----+--- -------- --------	*01:11N, *01:35 = *01:28, *01:35
++------ --+----- -+------ -----+-- -------- --------	*01:11N, *01:37 = *01:28, *01:37
++------ --+----- -+------ ------+- -------- --------	*01:11N, *01:38 = *01:11N, *01:63 = *01:28, *01:38 = *01:28, *01:63
++------ --+----- -+------ -------+ -------- --------	*01:11N, *01:43 = *01:11N, *01:57N = *01:28, *01:43 = *01:28, *01:57N
++------ --+----- -+------ -------- +------- --------	*01:11N, *01:61 = *01:28, *01:61
++------ --+----- -+------ -------- -+------ --------	*01:11N, *01:58 = *01:28, *01:58
++------ --+----- -+------ -------- --+----- --------	*01:11N, *01:47 = *01:28, *01:47
++------ --+----- -+------ -------- ---+---- --------	*01:11N, *01:53N = *01:28, *01:53N
++------ --+----- -+------ -------- ----+--- --------	*01:11N, *01:65 = *01:28, *01:65
++------ --+----- -+------ -------- -----+-- --------	*01:11N, *01:50 = *01:28, *01:50
++------ --+----- -+------ -------- ------+- --------	*01:11N, *01:39 = *01:28, *01:39
++------ --+----- -+------ -------- -------+ --------	*01:11N, *01:36 = *01:28, *01:36
++------ --+----- -+------ -------- -------- +-------	*01:11N, *01:48 = *01:28, *01:48
++------ --+----- -+------ -------- -------- -+------	*01:11N, *01:64 = *01:28, *01:64
++------ --+----- -+------ -------- -------- --+-----	*01:11N, *01:56N = *01:28, *01:56N
++------ --+----- -+------ -------- -------- ---+----	*01:11N, *01:46 = *01:28, *01:46
++------ --+----- -+------ -------- -------- ----+---	*01:11N, *01:52N = *01:28, *01:52N
++------ --+----- -+------ -------- -------- -----+--	*01:11N, *01:40 = *01:28, *01:40
++------ --+----- -+------ -------- -------- ------+-	*01:11N, *01:41 = *01:11N, *01:42 = *01:28, *01:41 = *01:28, *01:42
++------ --+----- -+------ -------- -------- -------+	*01:11N, *01:55 = *01:28, *01:55
++------ --+----- -+------ -------- -------- --------	*01:01:01:01, *01:11N = *01:01:01:01, *01:28 = *01:11N, *01:11N = *01:11N, *01:28
++------ ----+-+- -+-+---+ -------+ -------- --------	*01:19, *01:43 = *01:19, *01:57N
++------ ----+-+- -+-+---+ -------- -------- --------	*01:01:01:01, *01:19 = *01:12, *01:21 = *01:12, *01:26 = *01:19, *01:21 = *01:19, *01:25 = *01:19, *01:26
++------ ----+-+- -+-----+ -------+ -------- --------	*01:12, *01:43 = *01:12, *01:57N
++------ ----+-+- -+-----+ -------- -------- --------	*01:01:01:01, *01:12 = *01:12, *01:25
++------ ----+--- -+-++--- -------- -------- --------	*01:21, *01:44 = *01:21, *01:66
++------ ----+--- -+-+---- ------+- -------- --------	*01:21, *01:38 = *01:21, *01:63
++------ ----+--- -+-+---- -------+ -------- --------	*01:21, *01:43 = *01:21, *01:57N
++------ ----+--- -+-+---- -------- -------- ------+-	*01:21, *01:41 = *01:21, *01:42
++------ ----+--- -+-+---- -------- -------- --------	*01:01:01:01, *01:21 = *01:21, *01:21 = *01:21,

						*01:26
++------	-----+--	-+--+---	+-------	--------	--------	*01:44, *01:59 = *01:59, *01:66
++------	-----+--	-+--+---	--------	--------	--------	*01:17, *01:44 = *01:17, *01:66
++------	-----+--	-+------	+-----+-	--------	--------	*01:38, *01:59 = *01:59, *01:63
++------	-----+--	-+------	+------+	--------	--------	*01:43, *01:59 = *01:57N, *01:59
++------	-----+--	-+------	+-------	--------	------+-	*01:41, *01:59 = *01:42, *01:59
++------	-----+--	-+------	+-------	--------	--------	*01:01:01:01, *01:59 = *01:17, *01:31N = *01:17, *01:59 = *01:31N, *01:59 = *01:59, *01:59
++------	-----+--	-+------	------+-	--------	--------	*01:17, *01:38 = *01:17, *01:63
++------	-----+--	-+------	-------+	--------	--------	*01:17, *01:43 = *01:17, *01:57N
++------	-----+--	-+------	--------	--------	------+-	*01:17, *01:41 = *01:17, *01:42
++------	-----+--	-+------	--------	--------	--------	*01:01:01:01, *01:17 = *01:17, *01:17
++------	------+-	-+------	-------+	--------	--------	*01:14, *01:43 = *01:14, *01:57N
++------	-------+	-+--+---	--------	--------	--------	*01:15N, *01:44 = *01:15N, *01:66
++------	-------+	-+------	------+-	--------	--------	*01:15N, *01:38 = *01:15N, *01:63
++------	-------+	-+------	-------+	--------	--------	*01:15N, *01:43 = *01:15N, *01:57N
++------	-------+	-+------	--------	--------	------+-	*01:15N, *01:41 = *01:15N, *01:42
++------	-------+	-+------	--------	--------	--------	*01:01:01:01, *01:15N = *01:15N, *01:15N
++------	--------	++--+---	--------	--------	--------	*01:16N, *01:44 = *01:16N, *01:66
++------	--------	++------	------+-	--------	--------	*01:16N, *01:38 = *01:16N, *01:63
++------	--------	++------	-------+	--------	--------	*01:16N, *01:43 = *01:16N, *01:57N
++------	--------	++------	--------	--------	------+-	*01:16N, *01:41 = *01:16N, *01:42
++------	--------	++------	--------	--------	--------	*01:01:01:01, *01:16N = *01:16N, *01:16N
++------	--------	-++-+-+-	--------	--------	--------	*01:30, *01:44 = *01:30, *01:66
++------	--------	-++-+---	--------	--------	--------	*01:18N, *01:44 = *01:18N, *01:66
++------	--------	-++---+-	------+-	--------	--------	*01:30, *01:38 = *01:30, *01:63
++------	--------	-++---+-	-------+	--------	--------	*01:30, *01:43 = *01:30, *01:57N
++------	--------	-++---+-	--------	--------	------+-	*01:30, *01:41 = *01:30, *01:42
++------	--------	-++---+-	--------	--------	--------	*01:01:01:01, *01:30 = *01:18N, *01:24 = *01:18N, *01:30 = *01:24, *01:30 = *01:30, *01:30
++------	--------	-++-----	------+-	--------	--------	*01:18N, *01:38 = *01:18N, *01:63
++------	--------	-++-----	-------+	--------	--------	*01:18N, *01:43 = *01:18N, *01:57N
++------	--------	-++-----	--------	--------	------+-	*01:18N, *01:41 = *01:18N, *01:42
++------	--------	-++-----	--------	--------	--------	*01:01:01:01, *01:18N = *01:18N, *01:18N
++------	--------	-+-++---	--------	--------	--------	*01:26, *01:44 = *01:26, *01:66
++------	--------	-+-+----	------+-	--------	--------	*01:26, *01:38 = *01:26, *01:63
++------	--------	-+-+----	-------+	--------	--------	*01:26, *01:43 = *01:26, *01:57N
++------	--------	-+-+----	--------	--------	------+-	*01:26, *01:41 = *01:26, *01:42
++------	--------	-+-+----	--------	--------	--------	*01:01:01:01, *01:26 = *01:26, *01:26
++------	--------	-+--++--	--------	--------	--------	*01:22N, *01:44 = *01:22N, *01:66
++------	--------	-+--+-+-	--------	--------	--------	*01:24, *01:44 = *01:24, *01:66
++------	--------	-+--+--+	--------	--------	--------	*01:25, *01:44 = *01:25, *01:66
++------	--------	-+--+---	+-------	--------	--------	*01:31N, *01:44 = *01:31N, *01:66
++------	--------	-+--+---	-+------	--------	--------	*01:32, *01:44 = *01:32, *01:66
++------	--------	-+--+---	--+-----	--------	--------	*01:33, *01:44 = *01:33, *01:66
++------	--------	-+--+---	---+----	--------	--------	*01:34N, *01:44 = *01:34N, *01:66
++------	--------	-+--+---	----+---	--------	--------	*01:35, *01:44 = *01:35, *01:66
++------	--------	-+--+---	-----+--	--------	--------	*01:37, *01:44 = *01:37, *01:66
++------	--------	-+--+---	------+-	--------	--------	*01:38, *01:44 = *01:38, *01:66 = *01:44, *01:63
++------	--------	-+--+---	-------+	--------	--------	*01:43, *01:44 = *01:43, *01:66 = *01:44, *01:57N = *01:57N, *01:66
++------	--------	-+--+---	--------	+-------	--------	*01:44, *01:61 = *01:61, *01:66
++------	--------	-+--+---	--------	-+------	--------	*01:44, *01:58 = *01:58, *01:66
++------	--------	-+--+---	--------	--+-----	--------	*01:44, *01:47 = *01:47, *01:66
++------	--------	-+--+---	--------	---+----	--------	*01:44, *01:53N = *01:53N, *01:66
++------	--------	-+--+---	--------	----+---	--------	*01:44, *01:65 = *01:65, *01:66
++------	--------	-+--+---	--------	-----+--	--------	*01:44, *01:50 = *01:50, *01:66
++------	--------	-+--+---	--------	------+-	--------	*01:39, *01:44 = *01:39, *01:66
++------	--------	-+--+---	--------	-------+	--------	*01:36, *01:44 = *01:36, *01:66
++------	--------	-+--+---	--------	--------	+-------	*01:44, *01:48 = *01:48, *01:66
++------	--------	-+--+---	--------	--------	-+------	*01:44, *01:64 = *01:64, *01:66
++------	--------	-+--+---	--------	--------	--+-----	*01:44, *01:56N = *01:56N, *01:66

++------ -------- -+--+--- -------- -------- ---+----	*01:44, *01:46 = *01:46, *01:66
++------ -------- -+--+--- -------- -------- ----+---	*01:44, *01:52N = *01:52N, *01:66
++------ -------- -+--+--- -------- -------- -----+--	*01:40, *01:44 = *01:40, *01:66
++------ -------- -+--+--- -------- -------- ------+-	*01:41, *01:44 = *01:42, *01:44 = *01:42, *01:66
++------ -------- -+--+--- -------- -------- -------+	*01:44, *01:55 = *01:55, *01:66
++------ -------- -+--+--- -------- -------- --------	*01:01:01:01, *01:44 = *01:01:01:01, *01:66 = *01:44, *01:44 = *01:44, *01:66
++------ -------- -+---+-- ------+- -------- --------	*01:22N, *01:38 = *01:22N, *01:63
++------ -------- -+---+-- -------+ -------- --------	*01:22N, *01:43 = *01:22N, *01:57N
++------ -------- -+---+-- -------- -------- ------+-	*01:22N, *01:41 = *01:22N, *01:42
++------ -------- -+---+-- -------- -------- --------	*01:01:01:01, *01:22N = *01:22N, *01:22N
++------ -------- -+----+- ------+- -------- --------	*01:24, *01:38 = *01:24, *01:63
++------ -------- -+----+- -------+ -------- --------	*01:24, *01:43 = *01:24, *01:57N
++------ -------- -+----+- -------- -------- ------+-	*01:24, *01:41 = *01:24, *01:42
++------ -------- -+----+- -------- -------- --------	*01:01:01:01, *01:24 = *01:24, *01:24
++------ -------- -+-----+ ------+- -------- --------	*01:25, *01:38 = *01:25, *01:63
++------ -------- -+-----+ -------+ -------- --------	*01:25, *01:43 = *01:25, *01:57N
++------ -------- -+-----+ -------- -------- ------+-	*01:25, *01:41 = *01:25, *01:42
++------ -------- -+-----+ -------- -------- --------	*01:01:01:01, *01:25 = *01:25, *01:25
++------ -------- -+------ +-----+- -------- --------	*01:31N, *01:38 = *01:31N, *01:63
++------ -------- -+------ +------+ -------- --------	*01:31N, *01:43 = *01:31N, *01:57N
++------ -------- -+------ +------- -------- ------+-	*01:31N, *01:41 = *01:31N, *01:42
++------ -------- -+------ +------- -------- --------	*01:01:01:01, *01:31N = *01:31N, *01:31N
++------ -------- -+------ -+----+- -------- --------	*01:32, *01:38 = *01:32, *01:63
++------ -------- -+------ -+-----+ -------- --------	*01:32, *01:43 = *01:32, *01:57N
++------ -------- -+------ -+------ -------- ------+-	*01:32, *01:41 = *01:32, *01:42
++------ -------- -+------ -+------ -------- --------	*01:01:01:01, *01:32 = *01:32, *01:32
++------ -------- -+------ --+---+- -------- --------	*01:33, *01:38 = *01:33, *01:63
++------ -------- -+------ --+----+ -------- --------	*01:33, *01:43 = *01:33, *01:57N
++------ -------- -+------ --+----- -------- ------+-	*01:33, *01:41 = *01:33, *01:42
++------ -------- -+------ --+----- -------- --------	*01:01:01:01, *01:33 = *01:33, *01:33
++------ -------- -+------ ---+--+- -------- --------	*01:34N, *01:38 = *01:34N, *01:63
++------ -------- -+------ ---+---+ -------- --------	*01:34N, *01:43 = *01:34N, *01:57N
++------ -------- -+------ ---+---- -------- ------+-	*01:34N, *01:41 = *01:34N, *01:42
++------ -------- -+------ ---+---- -------- --------	*01:01:01:01, *01:34N = *01:34N, *01:34N
++------ -------- -+------ ----+-+- -------- --------	*01:35, *01:38 = *01:35, *01:63
++------ -------- -+------ ----+--+ -------- --------	*01:35, *01:43 = *01:35, *01:57N
++------ -------- -+------ ----+--- -------- ------+-	*01:35, *01:41 = *01:35, *01:42
++------ -------- -+------ ----+--- -------- --------	*01:01:01:01, *01:35 = *01:35, *01:35
++------ -------- -+------ -----++- -------- --------	*01:37, *01:38 = *01:37, *01:63
++------ -------- -+------ -----+-+ -------- --------	*01:37, *01:43 = *01:37, *01:57N
++------ -------- -+------ -----+-- -------- ------+-	*01:37, *01:41 = *01:37, *01:42
++------ -------- -+------ -----+-- -------- --------	*01:01:01:01, *01:37 = *01:37, *01:37
++------ -------- -+------ ------++ -------- --------	*01:38, *01:43 = *01:38, *01:57N = *01:43, *01:63 = *01:57N, *01:63
++------ -------- -+------ ------+- +------- --------	*01:38, *01:61 = *01:61, *01:63
++------ -------- -+------ ------+- -+------ --------	*01:38, *01:58 = *01:58, *01:63
++------ -------- -+------ ------+- --+----- --------	*01:38, *01:47 = *01:47, *01:63
++------ -------- -+------ ------+- ---+---- --------	*01:38, *01:53N = *01:53N, *01:63
++------ -------- -+------ ------+- ----+--- --------	*01:38, *01:65 = *01:63, *01:65
++------ -------- -+------ ------+- -----+-- --------	*01:38, *01:50 = *01:50, *01:63
++------ -------- -+------ ------+- ------+- --------	*01:38, *01:39 = *01:39, *01:63
++------ -------- -+------ ------+- -------+ --------	*01:36, *01:38 = *01:36, *01:63
++------ -------- -+------ ------+- -------- +-------	*01:38, *01:48 = *01:48, *01:63
++------ -------- -+------ ------+- -------- -+------	*01:38, *01:64 = *01:63, *01:64
++------ -------- -+------ ------+- -------- --+-----	*01:38, *01:56N = *01:56N, *01:63
++------ -------- -+------ ------+- -------- ---+----	*01:38, *01:46 = *01:46, *01:63
++------ -------- -+------ ------+- -------- ----+---	*01:38, *01:52N = *01:52N, *01:63
++------ -------- -+------ ------+- -------- -----+--	*01:38, *01:40 = *01:40, *01:63
++------ -------- -+------ ------+- -------- ------+-	*01:38, *01:41 = *01:38, *01:42 = *01:42, *01:63
++------ -------- -+------ ------+- -------- -------+	*01:38, *01:55 = *01:55, *01:63
++------ -------- -+------ ------+- -------- --------	*01:01:01:01, *01:38 = *01:01:01:01, *01:63 = *01:38, *01:38 = *01:38, *01:63
++------ -------- -+------ -------+ +------- --------	*01:43, *01:61 = *01:57N, *01:61

++------ -------- -+------ -------+ -+------ --------	*01:43, *01:58 = *01:57N, *01:58
++------ -------- -+------ -------+ --+----- --------	*01:43, *01:47 = *01:47, *01:57N
++------ -------- -+------ -------+ ---+---- --------	*01:43, *01:53N = *01:53N, *01:57N
++------ -------- -+------ -------+ ----+--- --------	*01:43, *01:65 = *01:57N, *01:65
++------ -------- -+------ -------+ -----+-- --------	*01:43, *01:50 = *01:50, *01:57N
++------ -------- -+------ -------+ ------+- --------	*01:39, *01:43 = *01:39, *01:57N
++------ -------- -+------ -------+ -------+ --------	*01:36, *01:43 = *01:36, *01:57N
++------ -------- -+------ -------+ -------- +-------	*01:43, *01:48 = *01:48, *01:57N
++------ -------- -+------ -------+ -------- -+------	*01:43, *01:64 = *01:57N, *01:64
++------ -------- -+------ -------+ -------- --+-----	*01:43, *01:56N = *01:56N, *01:57N
++------ -------- -+------ -------+ -------- ---+----	*01:43, *01:46 = *01:46, *01:57N
++------ -------- -+------ -------+ -------- ----+---	*01:43, *01:52N = *01:52N, *01:57N
++------ -------- -+------ -------+ -------- -----+--	*01:40, *01:43 = *01:40, *01:57N
++------ -------- -+------ -------+ -------- ------+-	*01:41, *01:43 = *01:41, *01:57N = *01:42, *01:43 = *01:42, *01:57N
++------ -------- -+------ -------+ -------- -------+	*01:43, *01:55 = *01:55, *01:57N
++------ -------- -+------ -------+ -------- --------	*01:01:01:01, *01:43 = *01:01:01:01, *01:57N = *01:43, *01:57N = *01:57N, *01:57N
++------ -------- -+------ -------- +------- ------+-	*01:41, *01:61 = *01:42, *01:61
++------ -------- -+------ -------- +------- --------	*01:01:01:01, *01:61 = *01:61, *01:61
++------ -------- -+------ -------- -+------ ------+-	*01:41, *01:58 = *01:42, *01:58
++------ -------- -+------ -------- -+------ --------	*01:01:01:01, *01:58 = *01:58, *01:58
++------ -------- -+------ -------- --+----- ------+-	*01:41, *01:47 = *01:42, *01:47
++------ -------- -+------ -------- --+----- --------	*01:01:01:01, *01:47 = *01:47, *01:47
++------ -------- -+------ -------- ---+---- ------+-	*01:41, *01:53N = *01:42, *01:53N
++------ -------- -+------ -------- ---+---- --------	*01:01:01:01, *01:53N = *01:53N, *01:53N
++------ -------- -+------ -------- ----+--- ------+-	*01:41, *01:65 = *01:42, *01:65
++------ -------- -+------ -------- ----+--- --------	*01:01:01:01, *01:65 = *01:65, *01:65
++------ -------- -+------ -------- -----+-- ------+-	*01:41, *01:50 = *01:42, *01:50
++------ -------- -+------ -------- -----+-- --------	*01:01:01:01, *01:50 = *01:50, *01:50
++------ -------- -+------ -------- ------+- ------+-	*01:39, *01:41 = *01:39, *01:42
++------ -------- -+------ -------- ------+- --------	*01:01:01:01, *01:39 = *01:39, *01:39
++------ -------- -+------ -------- -------+ ------+-	*01:36, *01:41 = *01:36, *01:42
++------ -------- -+------ -------- -------+ --------	*01:01:01:01, *01:36 = *01:36, *01:36
++------ -------- -+------ -------- -------- +-----+-	*01:41, *01:48 = *01:42, *01:48
++------ -------- -+------ -------- -------- +-------	*01:01:01:01, *01:48 = *01:48, *01:48
++------ -------- -+------ -------- -------- -+----+-	*01:41, *01:64 = *01:42, *01:64
++------ -------- -+------ -------- -------- -+------	*01:01:01:01, *01:64 = *01:64, *01:64
++------ -------- -+------ -------- -------- --+---+-	*01:41, *01:56N = *01:42, *01:56N
++------ -------- -+------ -------- -------- --+-----	*01:01:01:01, *01:56N = *01:56N, *01:56N
++------ -------- -+------ -------- -------- ---+--+-	*01:41, *01:46 = *01:42, *01:46
++------ -------- -+------ -------- -------- ---+----	*01:01:01:01, *01:46 = *01:46, *01:46
++------ -------- -+------ -------- -------- ----+-+-	*01:41, *01:52N = *01:42, *01:52N
++------ -------- -+------ -------- -------- ----+---	*01:01:01:01, *01:52N = *01:52N, *01:52N
++------ -------- -+------ -------- -------- -----++-	*01:40, *01:41 = *01:40, *01:42
++------ -------- -+------ -------- -------- -----+--	*01:01:01:01, *01:40 = *01:40, *01:40
++------ -------- -+------ -------- -------- ------++	*01:41, *01:55 = *01:42, *01:55
++------ -------- -+------ -------- -------- ------+-	*01:01:01:01, *01:41 = *01:01:01:01, *01:42 = *01:41, *01:42 = *01:42, *01:42
++------ -------- -+------ -------- -------- -------+	*01:01:01:01, *01:55 = *01:55, *01:55
-+------ ----+-+- -+-+---+ -------- -------- --------	*01:12, *01:19 = *01:14, *01:19 = *01:19, *01:19
-+------ ----+-+- -+-----+ -------- -------- --------	*01:12, *01:12 = *01:12, *01:14

*01:01:01:01 = *01:01:01:01, 01:01:02-01:01:19 and *01:45
*01:47 = *01:47 and 01:49
*01:50 = *01:50 and 01:62
*01:53N = *01:53N and 01:54

SPECIFICITY TABLE

HLA-A*01 SSP subtyping

Specificities and sizes of the PCR products of the 48 primer mixes used for HLA-A*01 SSP subtyping

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-A*01 alleles[3,4]	Other amplified HLA-A alleles[5]
1	235 bp	**800 bp**	*01:01:01:01-01:02, 01:04N, 01:06-01:07, 01:09-01:11N, 01:13, 01:15N-01:18N, 01:21-01:40, 01:42-01:62, 01:64-01:65	*03:18, 11:01:01-11:01:20, 11:01:22-11:03, 11:05-11:25, 11:29-11:34, 11:36-11:47, 11:49, 11:51-11:64, 36:04
2[6]	145 bp	1070 bp	*01:01:01:01-01:01:19, 01:03-01:04N, 01:06-01:17, 01:18N[W], 01:19, 01:21-01:23, 01:24[W], 01:25-01:42, 01:44-01:66	*36:01-36:05
3[6]	120 bp	**800 bp**	*01:02, 01:20	
4	305 bp	1070 bp	*01:03	*11:26, 26:32, 33:13, 36:03, 74:10
5	470 bp	1070 bp	*01:04N	*03:21N, 11:21N, 23:07N, 24:11N
6[6,10]	125 bp, 210 bp	1070 bp	*01:09, 01:60	*26:31
7	215 bp	**800 bp**	*01:06	*02:156, 03:05, 03:42, 11:24:01-11:25, 11:31, 11:35, 30:01:01-30:03, 30:07-30:16, 30:18-30:20, 30:22-30:27N, 30:30-30:41, 31:03-31:04, 34:02-34:04, 34:07-34:08, 80:01-80:02
8[6,8,11]	110 bp, 180 bp	1070 bp	*01:01:01:02N, 01:07, 01:23, 01:51	*31:35
9	235 bp	1070 bp	*01:08, 01:27N	
10[12]	155 bp, 270 bp	**800 bp**	*01:10, 01:29	*11:14[W], 11:50Q, 30:26, 80:01[W]-80:02[W]
11[6,13]	135 bp, 275 bp	**800 bp**	*01:11N, 01:13, 01:28	*31:35

12[6,9]	85 bp	**800 bp**		*36:01-36:05
13	205 bp	1070 bp	*01:12, 01:19, 01:21	*02:156[W], 03:02, 03:07[W], 03:10, 03:31-03:32, 03:42[W], 03:73, 03:76, 03:82, 11:31[W], 11:35[W], 11:60, 24:92, 30:04:01[W], 30:06[W], 30:09, 30:17[W], 30:29[W], 31:03[W]-31:04[W]
14[6,14]	75 bp, 120 bp	1070 bp	*01:13, 01:17, 01:59	
15	235 bp	1070 bp	*01:12, 01:14, 01:19	*02:156, 03:01:01:01-03:01:05, 03:01:07-03:17, 03:19-03:39, 03:41-03:74, 03:76-03:82, 11:04, 11:27, 11:35, 24:92, 30:01:01-30:04:01, 30:06-30:13, 30:15-30:20, 30:22-30:27N, 30:29-30:41, 31:03-31:04, 32:04, 34:02-34:04, 34:07-34:08, 36:01-36:02, 36:05
16[15]	180 bp, 235 bp	1070 bp	*01:01:01:02N, 01:15N	
17	210 bp	1070 bp	*01:16N	
18[6]	135 bp	1070 bp	*01:01:01:01-01:04N, 01:06, 01:08-01:12, 01:14-01:27N, 01:29-01:66	*36:01-36:05
19[7]	170 bp	1070 bp	*01:18N, 01:30	*02:262, 24:22
20[6,16]	65 bp, 425 bp	**800 bp**	*01:10, 01:19, 01:21, 01:26	
21[6,17]	125 bp, 255 bp	1070 bp	*01:20, 01:44, 01:66	*02:19, 02:36-02:37, 02:54, 02:255, 24:14, 24:93
22	590 bp	1070 bp	*01:22N	
23[7]	160 bp	1070 bp	*01:24, 01:30	*02:262, 24:22
24	215 bp	1070 bp	*01:12, 01:19, 01:25	*03:02, 03:10, 03:31-03:32, 03:65, 03:69N, 03:73, 03:76, 03:82, 11:01:01-11:01:03, 11:01:05-11:07, 11:09-11:22, 11:27,

				11:29-11:30, 11:32-11:34, 11:36-11:43, 11:45-11:47, 11:49, 11:51-11:64, 24:92
25[6]	85 bp	1070 bp	*01:31N, 01:51, 01:59	
26	450 bp	1070 bp	*01:32	
27	160 bp	1070 bp	*01:33	
28[6,7]	95 bp	1070 bp	*01:34N	*24:02:03
29	155 bp	**800 bp**	*01:35	*03:77
30[6]	145 bp	1070 bp	*01:37	
31	240 bp	1070 bp	*01:38, 01:63	
32[6,18]	110 bp, 140 bp	1070 bp	*01:43, 01:57N	
33	180 bp	**800 bp**	*01:61	*03:22, 03:42, 11:33:01, 30:01:01-30:04:01, 30:06-30:20, 30:22-30:27N, 30:29-30:34, 30:36-30:41, 31:03-31:04, 34:02-34:04, 34:07-34:08
34[6,19]	125 bp, 215 bp	**800 bp**	*01:58, 01:60	*26:31
35[6,20]	105 bp, 185 bp	**800 bp**	*01:47, 01:49	
36[6,21]	90 bp, 175 bp	1070 bp	*01:53N-01:54	
37[6]	65 bp	1070 bp	*01:65	
38[6,22]	100 bp, 180 bp,	1070 bp	*01:50, 01:62	
39	205 bp	**800 bp**	*01:39	*24:26
40	160 bp	1070 bp	*01:36	
41[6]	140 bp	1070 bp	*01:48	
42	190 bp	1070 bp	*01:64	
43	560 bp	1070 bp	*01:56N	
44[6]	90 bp	1070 bp	*01:46	
45[6]	140 bp	1070 bp	*01:52N	
46	155 bp	**800 bp**	*01:40	
47[23]	295 bp, 325 bp	1070 bp	*01:41-01:42	*11:48
48[6]	105 bp	1070 bp	*01:55	

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-A*01 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 inherit 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.
[2]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most 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-A*01 subtyping.
In addition, wells number 3, 7, 10 to 12, 20, 29, 33 to 35, 39 and 46 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
In the presence of a specific amplification the intensity of the control band often decreases.
[3]The A*01:47 and 01:49 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 35.
The A*01:50 and 01:62 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 38.
The A*01:53N and 01:54 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 36.
[4]The A*01:45 allele cannot be separated from the A*01:01:01:01, 01:01:02-01:01:19 alleles with HLA-A*01/67K. The HLA-A*01:45 allele specific polymorphism is located at position 704 in exon 4.
[5]Due to the sharing of sequence motifs between HLA-A alleles a few non-HLA-A*01 alleles will be amplified by primer mixes 1, 2, 4 to 8, 10 to 13, 15, 18, 19, 21, 23, 24, 28, 29, 33, 34, 39 and 47.
[6]Short specific PCR fragments are less intense and not as sharp as longer specific bands.
[7]Primer mixes 19, 23 and 28 may give rise to non-specific amplifications.
[8]Primer mix 8 may give rise to primer oligomer formation.
[9]Primer mix 12 might faintly amplify the A*02:27, 11:01:01-11:02:03, 11:04-11:07, 11:09-11:13, 11:15:01-11:19, 11:21N-11:24:02, 11:26, 11.29, 11:30, 11:32-11.34, 11:36-11:37, 11:40-11:44, 31:24 and C*07:25 alleles.
[10]Primer mix 6: Specific PCR fragment of 125 bp in the A*01:60 and A*26:31 alleles. Specific PCR fragment of 210 bp in the A*01:09 allele.
[11]Primer mix 8: Specific PCR fragment of 110 bp in the A*01:07, 01:23 and 01:51 and the A*31:35 alleles. Specific PCR fragment of 180 bp in the A*01:01:01:02N allele.
[12]Primer mix 10: Specific PCR fragment of 155 bp in the A*01:10 and in the A*11:14^{W}, 11:50Q, 30:26 and 80:01^{W}-80:02^{W} alleles. Specific PCR fragment of 270 bp in the A*0129 allele.
[13]Primer mix 11: Specific PCR fragment of 135 bp in the A*01:13 and 01:28 and in the A*31:35 alleles. Specific PCR fragment of 275 bp in the A*01:11N allele.
[14]Primer mix 14: Specific PCR fragment of 75 bp in the A*01:59 allele. Specific PCR fragment of 120 bp in the A*01:13 and 01:17 alleles.
[15]Primer mix 16: Specific PCR fragment of 180 bp in the A*01:01:01:02N allele. Specific PCR fragment of 235 bp in the A*01:15N allele.
[16]Primer mix 20: Specific PCR fragment of 65 bp in the A*01:10, A*01:21 and A*01:26 alleles. Specific PCR fragment of 425 bp in the A*01:19 allele.

[17]Primer mix 21: Specific PCR fragment of 125 bp in the A*01:44 allele. Specific PCR fragment of 255 bp in the A*01:20 and 01:66 and in the A*02:19, 02:36-02:37, 02:54, 02:255, 24:14 and 24:93 alleles.
[18]Primer mix 32: Specific PCR fragment of 110 bp in the A*01:57N allele. Specific PCR fragment of 140 bp in the A*01:43 allele.
[19]Primer mix 34: Specific PCR fragment of 125 bp in the A*01:60 and A*26:31 alleles. Specific PCR fragment of 215 bp in the A*01:58 allele.
[20]Primer mix 35: Specific PCR fragment of 105 bp in the A*01:47 allele. Specific PCR fragment of 185 bp in the A*01:49 allele.
[21]Primer mix 36: Specific PCR fragment of 90 bp in the A*01:54 allele. Specific PCR fragment of 175 bp in the A*01:53N allele.
[22]Primer mix 38: Specific PCR fragment of 100 bp in the A*01:50 allele. Specific PCR fragment of 180 bp in the A*01:62 allele.
[23]Primer mix 47: Specific PCR fragment of 295 bp in the A*01:41 and A*11:48 alleles. Specific PCR fragment of 325 bp in the A*01:42 allele.
'w', might be weakly amplified.

INTERPRETATION TABLE

HLA-A*01 SSP subtyping

Amplification patterns of the A*01:01 to 01:66 alleles

	Well[9]																							
	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.	235	145	120	305	470	125	215	110	235	155	135	85	205	75	235	180	210	135	170	65	125	590	160	215
PCR product(s)						210		180		270	275			120		235				425	255			
Length of int. pos. control[1]	800	1070	800	1070	1070	1070	800	1070	1070	800	800	800	1070	1070	1070	1070	1070	1070	1070	800	1070	1070	1070	1070
5'-primer(s)[2]	363	98	123	341	3rd I	171	363	203	363	113	203	527	363	203	363	203	363	203	215	203	355	3rd I	89	363
	5'-ATA 3'	5'-CTT 3'	5'-AgT 3'	5'-ggA 3'	5'-ATA 3'	5'-TTA 3'	5'-ATA 3'	5'-gAA 3'	5'-ATA 3'	5'-CCC 3'	5'-gAA 3'	5'-TgC 3'	5'-ATA 3'	5'-gAA 3'	5'-ATA 3'	5'-gAA 3'	5'-ATA 3'	5'-gAA 3'	5'-gCC 3'	5'-gAA 3'	5'-CCg 3'	5'-ATA 3'	5'-gAA 3'	5'-ATA 3'
						257				413	363					363			413	521	484		413	
						5'-CCC 3'				5'-CCg 3'	5'-ATA 3'					5'-ATA 3'			5'-CCA 3'	5'-ggC 3'	5'-ACT 3'		5'-CCA 3'	
3'-primer(s)[3]	559	203	203	362	621	341	539	270	553	341	299	570	527	237	559	341	531	299	341	346	570	750	203	539
	5'-CCg 3'	5'-TCT 3'	5'-TCT 3'	5'-TCA 3'	5'-ggg 3'	5'-CgT 3'	5'-TCA 3'	5'-ACA 3'	5'-CTA 3'	5'-CgT 3'	5'-CCA 3'	5'-CAC 3'	5'-CCA 3'	5'-CCg 3'	5'-CgT 3'	5'-CgT 3'	5'-TCC 3'	5'-TCg 3'	5'-CgT 3'	5'-AgC 3'	5'-CCg 3'	5'-T.g 3'	5'-TCT 3'	5'-TCT 3'
	559							341	559	527	597			282	559	557			545	545			545	
	5'-CCg 3'							5'-CgT 3'	5'-CCA 3'	5'-CCC 3'	5'-TTA 3'			5'-gAC 3'	5'-CgT 3'	5'-.gC 3'			5'-AgA 3'	5'-AgA 3'			5'-AgA 3'	
														282					545				545	
														5'-gAC 3'					5'-AgA 3'				5'-AgA 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-A allele[4]																								
***01:01:01:01, 01:01:02-01:01:19, 01:45[5]**	1	2																18						
***01:01:01:02N**	1	2						8								16		18						
***01:02**	1		3															18						
***01:03**		2		4														18						
***01:04N**	1	2			5													18						
***01:06**	1	2					7											18						
***01:07**	1	2						8																
***01:08**		2							9									18						
***01:09**	1	2				6												18						
***01:10**	1	2								10								18		20				
***01:11N**	1	2									11							18						
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-A*01 SSP subtyping

Amplification patterns of the A*01:01 to 01:66 alleles

Well[9]																								
25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	
85	450	160	95	155	145	240	110	180	125	105	90	65	100	205	160	140	190	560	90	140	155	295	105	Length of spec.
							140		215	185	175		180									325		PCR product(s)
1070	1070	1070	1070	800	1070	1070	1070	800	800	800	1070	1070	1070	800	1070	1070	1070	1070	1070	1070	800	1070	1070	Length of int. pos. control[1]
203	3rd I	98	650	363	650	360	102	363	168	203	413	548	102	404	428	413	102	3rd I	364	470	363	341	349	5'-primer(s)[2]
5'-gAA 3'	5'-ATA 3'	5'-CTT 3'	5'-CCC 3'	5'-ATA 3'	5'-CCC 3'	5'-CAC 3'	5'-ACC 3'	5'-ATA 3'	5'-CAT 3'	5'-gAA 3'	5'-CCg 3'	5'-CTg 3'	5'-ACA 3'	5'-CCA 3'	5'-Cgg 3'	5'-CCg 3'	5'-ACA 3'	5'-ATA 3'	5'-TAg 3'	5'-TTA 3'	5'-ATA 3'	5'-ggA 3'	5'-CTg 3'	
						383	385		257	413			363											
						5'-ggA 3'	5'-ggC 3'		5'-CCC 3'	5'-CCg 3'			5'-ATA 3'											
237	622	218	705	476	755	570	203	502	341	265	461	570	241	570	545	510	250	723	413	570	479	353	413	3'-primer(s)[3]
5'-CCg 3'	5'-ggT 3'	5'-gCT 3'	5'-TCT 3'	5'-CCA 3'	5'-CCA 3'	5'-CCg 3'	5'-TCT 3'	5'-CTg 3'	5'-CgT 3'	5'-CCA 3'	5'-gCC 3'	5'-CCg 3'	5'-CgA 3'	5'-CCg 3'	5'-AgA 3'	5'-CAg 3'	5'-CCg 3'	5'-TgT 3'	5'-gCC 3'	5'-CCg 3'	5'-CCA 3'	5'-TgA 3'	5'-gCC 3'	
251							454			556	549		420									382		
5'-CCT 3'							5'-CTA 3'			5'-gCT 3'	5'-AgT 3'		5'-gCT 3'									5'-CCA 3'		
259																								
5'-gTT 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-A allele[4]
																								*01:01:01:01, 01:01:02, 01:01:19, 01:45[5]
																								*01:01:01:02N
																								*01:02
																								*01:03
																								*01:04N
																								*01:06
																								*01:07
																								*01:08
																								*01:09
																								*01:10
																								*01:11N
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.	235	145	120	305	470	125	215	110	235	155	135	85	205	75	235	180	210	135	170	65	125	590	160	215
PCR product(s)						210		180		270	275			120		235				425	255			
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
***01:12**		2											13		15			18						24
***01:13**	1	2									11			14										
***01:14**		2													15			18						
***01:15N**	1	2														16		18						
***01:16N**	1	2															17	18						
***01:17**	1	2												14				18						
***01:18N**	1	w																18	19					
***01:19**		2											13		15			18		20				24
***01:20**			3															18			21			
***01:21**	1	2											13					18		20				
***01:22N**	1	2																18				22		
***01:23**	1	2						8										18						
***01:24**	1	w																18					23	
***01:25**	1	2																18						24
***01:26**	1	2																18		20				
***01:27N**	1	2							9									18						
***01:28**	1	2									11													
***01:29**	1	2								10								18						
***01:30**	1	2																18	19				23	
***01:31N**	1	2																18						
***01:32**	1	2																18						
***01:33**	1	2																18						
***01:34N**	1	2																18						
***01:35**	1	2																18						
***01:36**	1	2																18						
***01:37**	1	2																18						
***01:38**	1	2																18						
***01:39**	1	2																18						
***01:40**	1	2																18						
***01:41**		2																18						
***01:42**	1	2																18						
***01:43**	1																	18						
***01:44**	1	2																18			21			
***01:46**	1	2																18						
***01:47, 01:49**[6]	1	2																18						
***01:48**	1	2																18						
***01:50, 01:62**[7]	1	2																18						
***01:51**	1	2						8										18						
***01:52N**	1	2																18						
***01:53N, 01:54**[8]	1	2																18						
***01:55**	1	2																18						
***01:56N**	1	2																18						
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

85	450	160	95	155	145	240	110	180	125	105	90	65	100	205	160	140	190	560	90	140	155	295	105	**Length of spec.**
							140		215	185	175		180									325		**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.**
																								***01:12**
																								***01:13**
																								***01:14**
																								***01:15N**
																								***01:16N**
																								***01:17**
																								***01:18N**
																								***01:19**
																								***01:20**
																								***01:21**
																								***01:22N**
																								***01:23**
																								***01:24**
																								***01:25**
																								***01:26**
																								***01:27N**
																								***01:28**
																								***01:29**
																								***01:30**
25																								***01:31N**
	26																							***01:32**
		27																						***01:33**
			28																					***01:34N**
				29																				***01:35**
															40									***01:36**
					30																			***01:37**
						31																		***01:38**
														39										***01:39**
																					46			***01:40**
																						47		***01:41**
																						47		***01:42**
							32																	***01:43**
																								***01:44**
																			44					***01:46**
										35														***01:47, 01:49**[6]
																41								***01:48**
													38											***01:50, 01:62**[7]
25																								***01:51**
																				45				***01:52N**
											36													***01:53N, 01:54**[8]
																							48	***01:55**
																		43						***01:56N**
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.	235	145	120	305	470	125	215	110	235	155	135	85	205	75	235	180	210	135	170	65	125	590	160	215
PCR product(s)						210		180		270	275			120		235				425	255			
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
***01:57N**	1	2																18						
***01:58**	1	2																18						
***01:59**	1	2												14				18						
***01:60**	1	2				6												18						
***01:61**	1	2																18						
***01:63**		2																18						
***01:64**	1	2																18						
***01:65**	1	2																18						
***01:66**		2																18			21			
***02:19, 02:36-02:37, 02:54, 02:255, 24:14, 24:93**																					21			
***02:156, 11:35**							7						w		15									
***02:262, 24:22**																			19				23	
***03:01:01:01-03:01:05, 03:01:07-03:01:19, 03:03N-03:04, 03:06, 03:08-03:09, 03:11N-03:17, 03:19-03:20, 03:23-03:30, 03:33-03:39, 03:41, 03:43-03:64, 03:66-03:68N, 03:70-03:72, 03:74, 03:78-03:81, 32:04**															15									
***03:02, 03:10, 03:31-03:32, 03:73, 03:76, 03:82, 24:92**													13		15									24
***03:05, 30:35**							7								15									
***03:07**													w		15									
***03:18, 11:01:04, 11:08, 11:23, 11:44**	1																							
***03:21N**					5										15									
***03:22**															15									
***03:42, 31:03-31:04**							7						w		15									
***03:65, 03:69N, 11:04, 11:27**															15									24
***03:77**															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

85	450	160	95	155	145	240	110	180	125	105	90	65	100	205	160	140	190	560	90	140	155	295	105	**Length of spec.**
							140		215	185	175		180									325		**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																	***01:57N**
									34															***01:58**
25																								***01:59**
									34															***01:60**
								33																***01:61**
						31																		***01:63**
																	42							***01:64**
												37												***01:65**
																								***01:66**
																								***02:19, 02:36-02:37, 02:54, 02:255, 24:14, 24:93**
																								***02:156, 11:35**
																								***02:262, 24:22**
																								***03:01:01:01-03:01:05, 03:01:07-03:01:19, 03:03N-03:04, 03:06, 03:08-03:09, 03:11N-03:17, 03:19-03:20, 03:23-03:30, 03:33-03:39, 03:41, 03:43-03:64, 03:66-03:68N, 03:70-03:72, 03:74, 03:78-03:81, 32:04**
																								***03:02, 03:10, 03:31-03:32, 03:73, 03:76, 03:82, 24:92**
																								***03:05, 30:35**
																								***03:07**
																								***03:18, 11:01:04, 11:08, 11:23, 11:44**
																								***03:21N**
								33																***03:22**
								33																***03:42, 31:03-31:04**
																								***03:65, 03:69N, 11:04, 11:27**
				29																				***03:77**
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.	235	145	120	305	470	125	215	110	235	155	135	85	205	75	235	180	210	135	170	65	125	590	160	215
PCR product(s)						210		180		270	275			120		235				425	255			
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
***11:01:01-11:01:03, 11:01:05-11:01:20, 11:01:22-11:03, 11:05-11:07, 11:09-11:13, 11:15:01-11:20, 11:22, 11:29-11:30, 11:32, 11:34, 11:36-11:43, 11:45-11:47, 11:49, 11:51-11:59, 11:61-11:64**	1																							24
***11:01:21**																								24
***11:14**	1									w														24
***11:21N**	1				5																			24
***11:24:01-11:25**	1						7																	
***11:26, 26:32, 33:13, 74:10**				4																				
***11:31**	1						7						w											
***11:33:01**	1																							24
***11:48**																								
***11:50Q**										10														
***11:60**	1												13											24
***23:07N, 24:11N**					5																			
***24:02:03**																								
***24:26**																								
***26:31**						6																		
***30:01:01-30:03, 30:07-30:08, 30:10-30:13, 30:15-30:16, 30:18-30:20, 30:22-30:25, 30:27N, 30:30-30:34, 30:36-30:41, 34:02-34:04, 34:07-34:08**							7								15									
***30:04:01, 30:06, 30:17, 30:29**													w		15									
***30:09**							7						13		15									
***30:14L**							7																	
***30:26**							7			10					15									
***31:35**								8			11													
***36:01-36:02, 36:05**		2										12			15			18						
***36:03**		2		4								12						18						
***36:04**	1	2										12						18						
***80:01-80:02**							7			w														
HLA-A 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

85	450	160	95	155	145	240	110	180	125	105	90	65	100	205	160	140	190	560	90	140	155	295	105	**Length of spec.**
							140		215	185	175		180									325		**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.**
																								***11:01:01-11:01:03, 11:01:05-11:01:20, 11:01:22-11:03, 11:05-11:07, 11:09-11:13, 11:15:01-11:20, 11:22, 11:29-11:30, 11:32, 11:34, 11:36-11:43, 11:45-11:47, 11:49, 11:51-11:59, 11:61-11:64**
																								***11:01:21**
																								***11:14**
																								***11:21N**
																								***11:24:01-11:25**
																								***11:26, 26:32, 33:13, 74:10**
																								***11:31**
								33																***11:33:01**
																						47		***11:48**
																								***11:50Q**
																								***11:60**
																								***23:07N, 24:11N**
			28																					***24:02:03**
														39										***24:26**
									34															***26:31**
								33																***30:01:01-30:03, 30:07-30:08, 30:10-30:13, 30:15-30:16, 30:18-30:20, 30:22-30:25, 30:27N, 30:30-30:34, 30:36-30:41, 34:02-34:04, 34:07-34:08**
								33																***30:04:01, 30:06, 30:17, 30:29**
								33																***30:09**
								33																***30:14L**
								33																***30:26**
																								***31:35**
																								***36:01-36:02, 36:05**
																								***36:03**
																								***36:04**
																								***80:01-80:02**
																								HLA-A 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.**

[1]The internal positive control primer pairs amplify segments of the human growth hormone gene. The two different control primer pairs give rise to either an internal positive control band of 1070 base pairs, for most 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-A*01 subtyping.
In addition, wells number 3, 7, 10 to 12, 20, 29, 33 to 35, 39 and 46 contain the primer pair giving rise to the shorter, 800 bp, internal positive control band in order to allow kit identification.
In the presence of a specific amplification the intensity of the control band often decreases.
[2]The nucleotide position, in the 1st, 2nd or 3rd exon or the 3rd intron, matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[3]The nucleotide position, in the 2nd, 3rd or 4th exon, matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[4]The nucleotide sequence of the A*0105N allele has been shown to be identical to A*01:04N.
[5]The A*01:45 allele cannot be separated from the A*01:01:01:01, 01:01:02-01:01:19 alleles with HLA-A*01/67K. The HLA-A*01:45 allele specific polymorphism is located at position 704 in exon 4.
[6]The A*01:47 and 01:49 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 35.
[7]The A*01:50 and 01:62 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 38.
[8]The A*01:53N and 01:54 alleles can be distinguished by the different sizes of the specific PCR products generated by primer mix 36.
[9]Primer mix 6: Specific PCR fragment of 125 bp in the A*01:60 and A*26:31 alleles. Specific PCR fragment of 210 bp in the A*01:09 allele.
Primer mix 8: Specific PCR fragment of 110 bp in the A*01:07, 01:23 and 01:51 and the A*31:35 alleles. Specific PCR fragment of 180 bp in the A*01:01:01:02N allele.
Primer mix 10: Specific PCR fragment of 155 bp in the A*01:10 and in the A*11:14w, 11:50Q, 30:26 and 80:01w-80:02w alleles. Specific PCR fragment of 270 bp in the A*0129 allele.
Primer mix 11: Specific PCR fragment of 135 bp in the A*01:13 and 01:28 and in the A*31:35 alleles. Specific PCR fragment of 275 bp in the A*01:11N allele.
Primer mix 14: Specific PCR fragment of 75 bp in the A*01:59 allele. Specific PCR fragment of 120 bp in the A*01:13 and 01:17 alleles.
Primer mix 16: Specific PCR fragment of 180 bp in the A*01:01:01:02N allele. Specific PCR fragment of 235 bp in the A*01:15N allele.
Primer mix 20: Specific PCR fragment of 65 bp in the A*01:10, A*01:21 and A*01:26 alleles. Specific PCR fragment of 425 bp in the A*01:19 allele.
Primer mix 21: Specific PCR fragment of 125 bp in the A*01:44 allele. Specific PCR fragment of 255 bp in the A*01:20 and 01:66 and in the A*02:19, 02:36-02:37, 02:54, 02:255, 24:14 and 24:93 alleles.
Primer mix 32: Specific PCR fragment of 110 bp in the A*01:57N allele. Specific PCR fragment of 140 bp in the A*01:43 allele.
Primer mix 34: Specific PCR fragment of 125 bp in the A*01:60 and A*26:31 alleles. Specific PCR fragment of 215 bp in the A*01:58 allele.
Primer mix 35: Specific PCR fragment of 105 bp in the A*01:47 allele. Specific PCR fragment of 185 bp in the A*01:49 allele.
Primer mix 36: Specific PCR fragment of 90 bp in the A*01:54 allele. Specific PCR fragment of 175 bp in the A*01:53N allele.
Primer mix 38: Specific PCR fragment of 100 bp in the A*01:50 allele. Specific PCR fragment of 180 bp in the A*01:62 allele.
Primer mix 47: Specific PCR fragment of 295 bp in the A*01:41 and A*11:48 alleles. Specific PCR fragment of 325 bp in the A*01:42 allele.
'w', might be weakly amplified.

CELL LINE VALIDATION SHEET

HLA-A*01 SSP subtyping kit

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	200962901	200962902	200962903	200962904	200962905	201079206	200962907	200962908	200962909	200962910	200962911	200962912	200962913	201079214	200962915	201079216
	IHWC cell line		A*																	
1	9001	SA	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-
5	9009	KAS011	*01:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	-	-	-	-	+	-	-	W	-	-	-	-	+	-
18	9257	32367	*33:03	*74:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*32:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*02:01	*29:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-
32	9297	HAG	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*32:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
38	9099	LZL	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	+	+	-	-	-	-	-	-	-	-	-	-	-	-	+	-
40	9134	WHONP199	*02:07	*30:01	-	-	-	-	-	-	+	-	-	-	-	-	-	-	+	-
41	9055	H0301	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
42	9066	TAB089	*02:07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
47	9045	TUBO	*02:16	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
48	9303	TER-ND	*02:01	*11:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET

HLA-A*01 SSP subtyping kit

					Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:	200962917	200962918	200962919	200962920	201079221	200962922	200962923	200962924	201079225	200962926	200962927	200962928	201079229	200962930	201079231	201079232
	IHWC cell line		A*																	
1	9001	SA	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
5	9009	KAS011	*01:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*33:03	*74:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*32:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*02:01	*29:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*32:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*02:07	*30:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*02:07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*02:16	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-

CELL LINE VALIDATION SHEET

HLA-A*01 SSP subtyping kit

					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				Prod. No.:	201079233	201079234	201079235	201079236	201079237	201079238	201079239	201079240	201079241	201079242	201079243	201079244	201079245	201079246	201079247	201079248
	IHWC cell line		A*																	
1	9001	SA	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*01:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:01	*80:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*33:03	*74:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*32:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*02:01	*29:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*30:01	*68:02	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*30:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*32:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*02:07	*30:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*02:07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*02:16	*03:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

CERTIFICATE OF ANALYSIS

Olerup SSP® HLA-A*01 SSP

Product number: **101.411-24u/06u – without *Taq* pol.**
Lot number: **67K**
Expiry date: **2013-May-01**
Number of tests: **24 test – Product No. 101.411-24u**
6 tests – Product No. 101.411-06u
Number of wells per test: **48**

Well specifications:

Well No.	Production No.	Well No.	Production No.	Well No.	Production No.
1	2009-629-01	17	2009-629-17	33	2010-792-33
2	2009-629-02	18	2009-629-18	34	2010-792-34
3	2009-629-03	19	2009-629-19	35	2010-792-35
4	2009-629-04	20	2009-629-20	36	2010-792-36
5	2009-629-05	21	2010-792-21	37	2010-792-37
6	2010-792-06	22	2009-629-22	38	2010-792-38
7	2009-629-07	23	2009-629-23	39	2010-792-39
8	2009-629-08	24	2009-629-24	40	2010-792-40
9	2009-629-09	25	2010-792-25	41	2010-792-41
10	2009-629-10	26	2009-629-26	42	2010-792-42
11	2009-629-11	27	2009-629-27	43	2010-792-43
12	2009-629-12	28	2009-629-28	44	2010-792-44
13	2009-629-13	29	2010-792-29	45	2010-792-45
14	2010-792-14	30	2009-629-30	46	2010-792-46
15	2009-629-15	31	2010-792-31	47	2010-792-47
16	2010-792-16	32	2010-792-32	48	2010-792-48

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 6, 8 to 11, 14, 19 to 23, 25 to 32 and 34 to 48 were available. The specificities of primers in primer solutions 8, 10, 11, 14, 19 to 21, 23, 25, 32 and 38 were tested by separately adding one additional 5'-primer, respectively one additional 3'-primer. In primer solution 6, 31, 34, 37, 39, 40, 44, 45 and 48 it was only possible to test the 3'-primer, the 5'-primer was not possible to test. In primer solutions 9, 22, 26 to 30, 35, 36, 41 to 43, 46 and 47 it was only possible to test the 5'-primers, the 3'-primers were not possible to test. In primer solutions 8, 10, 11, 14, 16, 20, 25, 32 and 38 one or two of the 3'-primers was not possible to test, and in primer solutions 10 and 21 one of the 5'-primers was not possible to test. Additional primers in primer solutions 15 and 16 were tested by separately adding one 5'-primer respectively one 3'-primer.

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

Date of approval: 2010-November-26

Approved by:

Quality Control, Supervisor

Declaration of Conformity

Product name: *Olerup* SSP® HLA-A*01
Product number: 101.411-24u/06u
Lot number: 67K

Intended use: HLA-A*01 high resolution histocompatibility testing

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

We, *Olerup* SSP AB, hereby declare that this product, to which this Declaration of Conformity relates is in conformity with the following Standard(s) and other normative document(s) ISO 9001:2008 and ISO 13485:2003, following the provisions of the 98/79/EC Directive on *in vitro* diagnostic medical devices, Annex 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-November-26

Olle Olerup
Managing Director

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