

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

Visit www.olerup-ssp.com for
“Instructions for Use” (IFU)

Lot No.: **11V**

Lot-specific information

Olerup SSP® HLA-A*24

Product number:	101.422-24/03 – including <i>Taq</i> pol. 101.422-24u/03u – without <i>Taq</i> pol.
Lot number:	11V
Expiry date:	2016-August-01
Number of tests:	24 tests – Product No. 101.422-24/24u 3 tests – Product No. 101.422-03/03u
Number of wells per test:	95+1
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. 11V.

Complete product documentation consists of generic Instructions for Use (IFU), lot specific Product Insert, Worksheet and Certificate.

CHANGES COMPARED TO THE PREVIOUS OLERUP SSP® HLA-A*24 LOT (46R)

The HLA-A*24 kit is updated for new alleles to enable separation of:

- Confirmed¹ alleles as listed in the IMGT/HLA database
- Polymorphisms in exons outside of the region encoding the peptide binding domain
- Null and Alternatively expressed alleles

A well containing Negative Control primer pairs has been added.

The format of the Product Insert and Worksheet have been changed.

Three wells have been added to HLA-A*24, wells **94 to 96**.

¹As described in section Uniquely Identified Alleles.

The HLA-A*24 specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup SSP®* HLA-A*24 lot was made (**Lot No. 46R**).

As of lot series V, the Specificity Table is included in the lot-specific Product Insert, and the Interpretation Table is included in the Worksheet.

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

Well	5'-primer	3'-primer	Rationale
10	-	-	Exchanged positive control primer pair.
13	-	Added	3'-primer added for the A*24:02:70 allele.
14	-	Added	3'-primer added for the A*24:251 allele.
36	Added	-	5'-primers added for the A*24:192 and A*24:232N alleles.
42	-	Added	3'-primer added for the A*24:169 allele.
49	-	Added	3'-primer added for the A*24:220 allele.
50	-	Added	3'-primer added for the A*24:252N and A*24:251 alleles.
54	-	Added	3'-primer added for the A*24:169 allele.
55	-	Added	3'-primer added for the A*24:205 allele.
56	Moved	Moved	Primer pair moved to well 95, to decreased tendencies of primer oligomer formation.
59	-	Added	3'-primer added for the A*24:215 allele.
60	-	Added	3'-primer added for the A*24:250 allele.
64	Moved	-	5'-primer moved to well 93, to decreased tendencies of primer oligomer formation.
67	-	Added	3'-primer added for the A*24:249 allele.
68	-	Added	3'-primer added for the A*24:196 allele.
69	-	Added	3'-primer added for the A*24:240N allele.
71	-	Added	3'-primer added for the A*24:199 allele.
74	-	Added	3'-primer added for the A*24:197 allele.
75	-	Added	3'-primers added for the A*24:196 and 24:215 alleles.
76	-	Added	3'-primer added for the A*24:220 allele.
83	-	Added	3'-primer added for the A*24:240N allele.
86	Added	-	5'-primer added for the A*24:222N allele.
87	-	Added	3'-primer added for the A*24:197 allele.
89	Added	-	5'-primer added for the A*24:192 allele.
90	-	Added	3'-primers added for the A*24:206 and 24:234 alleles.
91	Exchanged	Exchanged, Added	Primer pair exchanged for improved specificity, 3'-primer added for the A*24:135:02 allele.
93	Added	-	5'-primer added from well 64, 5'-primer added for the A*02:74:02 allele.
94	New	New	New primer pair for the A*24:206 allele.
95	Added	Added	Primer pair added from well 56, 3'-primer added for the A*24:231 and A*24:250 allele.
96	New	New	Negative Control.

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Lot-specific information

Change in revision R01 compared to R00:

1. The A*24:14, 24:93 and the A*02:19, 02:36-02:37, 02:54, 02:255 and 02:417 alleles are weakly amplified in primer mix 70. This has been corrected in the Specificity and Interpretation Tables.

Change in revision R02 compared to R01:

1. Primer mix 14 does not amplify the A*24:09N allele. This has been corrected in the Interpretation and Specificity Tables. Thus, this lot of the HLA-A low subtyping kit cannot distinguish the A*24:02:01:01, 24:02:01:03-24:02:04, 24:02:06-24:02:09, 24:02:11-24:02:12, 24:02:14-24:02:64, 24:02:66-24:02:71, 24:146-24:154, 24:161-24:162, 24:165-24:166, 24:170-24:172, 24:174-24:176, 24:178-24:179, 24:181, 24:186-24:187, 24:189, 24:193, 24:195, 24:198, 24:200-24:203, 24:209, 24:212, 24:214, 24:216-24:217, 24:221, 24:223-24:226, 24:230, 24:233, 24:236-24:239, 24:241-24:248 alleles and the A*24:09N allele.

Change in revision R03 compared to R02:

1. Primer mix 14 weakly amplifies the A*24:09N allele. This has been corrected in the Interpretation and Specificity Tables.

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Lot-specific information

Well **96** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup SSP*® HLA Class I, DRB, DQB1 and DPB1 amplicons as well as amplicons generated by a control primer pair.

PCR product sizes range from 75 to 430 base pairs.
The PCR product generated by the control primer pair is 430 base pairs.

Length of PCR product	105	200	105	80	75	80
5'-primer¹	164	340	440	45	45	43
	5'-CAC ^{3'}	5'-Agg ^{3'}	5'-TTA ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}
3'-primer²	231	2nd I	507	59	58	57
	5'-TgC ^{3'}	5'-AAA ^{3'}	5'-TTg ^{3'}	5'-CTC ^{3'}	5'-ggC ^{3'}	5'-CTC ^{3'}
A*	+	+	+			
B*	+	+	+			
C*	+	+	+			
DRB1				+	+	
DRB3				+	+	
DRB5				+		
DQB1					+	
DPB1						+

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

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

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Lot-specific information

PRODUCT DESCRIPTION

HLA-A*24 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the HLA-A*24:02 to A*24:252N alleles.

PLATE LAYOUT

Each test consists of 96 PCR reactions in a 96 well 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
49	50	51	52	53	54	55	56
57	58	59	60	61	62	63	64
65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	NC

The 96 well PCR plate is marked with 'HLA-A*24' in silver/gray ink.

Well No. 1 is marked with '11V'.

Wells 1 to 95 – HLA-A*24 high resolution screening primers.

Well 96 – Negative Control.

A faint row of numbers is seen between wells 1 and 2 or wells 7 and 8 of the PCR trays. These stem from the manufacture of the trays, and should be disregarded.

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

INTERPRETATION

Due to the sharing of sequence motifs between HLA-A alleles some non-HLA-A*24 alleles will be amplified by primer mixes 1 to 7, 9 to 13, 15 to 17, 19, 20, 23 to 25, 27, 29 to 32, 36, 39, 41, 42, 44 to 48, 56, 58, 62 to 66, 71, 73, 77 to 79, 85, 87 and 89 to 91. In addition, a few HLA-B and HLA-C alleles will be amplified by primer mixes 2, 6, 25, 30, 32, 42, 45, 46, 48, 49, 54, 57, 63, 76, 89 and 93.

For further details see Specificity Table.

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UNIQUELY IDENTIFIED ALLELES

All the HLA-A*24 alleles, i.e. **A*24:02 to A*24:252N**, recognized by the HLA Nomenclature Committee in October 2013¹, will be amplified by the primers in the HLA-A*24 subtyping kit^{2,3}.

The HLA-A*24 kit enables separation of the confirmed HLA-A*24 alleles as listed in the IMGT/HLA database. An HLA allele is listed as confirmed by IMGT/HLA if it has been sequenced by more than a single laboratory or from multiple sources. Current allele confirmation status for HLA-A*24 alleles is listed below.

The HLA-A*24 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles

The HLA-A*24 subtyping kit cannot distinguish the silent mutations in the A*24:02:01:01, 24:02:01:03-24:02:04, 24:02:06-24:02:09, 24:02:11-24:02:12, 24:02:14-24:02:64 and 24:02:66-24:02:71 alleles, the A*24:02:10 and 24:02:65 alleles, the A*24:03:01-24:03:02 alleles, the A*24:10:01-24:10:02 alleles, the A*24:21:01-24:21:02 alleles, the A*24:74:01-24:74:02 alleles or the A*24:135:01-24:135:02 alleles.

The following HLA-A*24 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
A*24:37, 24:119	31	A*24:84N, 24:218	73
A*24:47, 24:232N	36	A*24:101, 24:111	83
A*24:49, 24:126	38	A*24:102, 24:103	84
A*24:60, 24:205	55	A*24:104, 24:117	85
A*24:79, 24:249	67	A*24:105, 24:121	86
A*24:81, 24:134	70	A*24:106, 24:136	87
A*24:82, 24:128	71	A*24:115, 24:234	90

¹HLA-A alleles listed on the IMGT/HLA web page 2013-October-11, release 3.14.0, www.ebi.ac.uk/imgt/hla.

²Alleles that have been deleted from or renamed in the official WHO HLA Nomenclature up to and including the last IMGT/HLA database release can be retrieved from web page <http://hla.alleles.org/alleles/deleted.html>.

³The A*24 primer set cannot separate the A*24:164 and A*33:19 alleles. These two alleles can be distinguished by the HLA-A low resolution and/or HLA-A*33 kits.

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ALLELE CONFIRMATION STATUS

Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
A*24:02:01:01	Confirmed	A*24:02:49	Confirmed	A*24:28	Confirmed	A*24:78	Unconfirmed
A*24:02:01:02L	Confirmed	A*24:02:50	Unconfirmed	A*24:29	Confirmed	A*24:79	Unconfirmed
A*24:02:01:03	Unconfirmed	A*24:02:51	Unconfirmed	A*24:30	Confirmed	A*24:80	Unconfirmed
A*24:02:02	Confirmed	A*24:02:52	Unconfirmed	A*24:31	Unconfirmed	A*24:81	Confirmed
A*24:02:03Q	Unconfirmed	A*24:02:53	Confirmed	A*24:32	Confirmed	A*24:82	Unconfirmed
A*24:02:04	Confirmed	A*24:02:54	Unconfirmed	A*24:33	Confirmed	A*24:83N	Unconfirmed
A*24:02:05	Confirmed	A*24:02:55	Unconfirmed	A*24:34	Unconfirmed	A*24:84N	Unconfirmed
A*24:02:06	Confirmed	A*24:02:56	Unconfirmed	A*24:35	Unconfirmed	A*24:85	Confirmed
A*24:02:07	Unconfirmed	A*24:02:57	Unconfirmed	A*24:36N	Confirmed	A*24:86N	Unconfirmed
A*24:02:08	Unconfirmed	A*24:02:58	Unconfirmed	A*24:37	Confirmed	A*24:87	Confirmed
A*24:02:09	Unconfirmed	A*24:02:59	Confirmed	A*24:38	Unconfirmed	A*24:88	Unconfirmed
A*24:02:10	Unconfirmed	A*24:02:60	Unconfirmed	A*24:39	Confirmed	A*24:89	Unconfirmed
A*24:02:11	Unconfirmed	A*24:02:61	Unconfirmed	A*24:40N	Unconfirmed	A*24:90N	Confirmed
A*24:02:12	Unconfirmed	A*24:02:62	Unconfirmed	A*24:41	Unconfirmed	A*24:91	Unconfirmed
A*24:02:13	Confirmed	A*24:02:63	Unconfirmed	A*24:42	Unconfirmed	A*24:92	Unconfirmed
A*24:02:14	Confirmed	A*24:02:64	Unconfirmed	A*24:43	Confirmed	A*24:93	Confirmed
A*24:02:15	Unconfirmed	A*24:02:65	Unconfirmed	A*24:44	Unconfirmed	A*24:94	Unconfirmed
A*24:02:16	Confirmed	A*24:02:66	Unconfirmed	A*24:45N	Unconfirmed	A*24:95	Confirmed
A*24:02:17	Unconfirmed	A*24:02:67	Unconfirmed	A*24:46	Confirmed	A*24:96	Unconfirmed
A*24:02:18	Confirmed	A*24:02:68	Unconfirmed	A*24:47	Confirmed	A*24:97	Confirmed
A*24:02:19	Confirmed	A*24:02:69	Unconfirmed	A*24:48N	Unconfirmed	A*24:98	Unconfirmed
A*24:02:20	Unconfirmed	A*24:02:70	Unconfirmed	A*24:49	Unconfirmed	A*24:99	Unconfirmed
A*24:02:21	Unconfirmed	A*24:02:71	Unconfirmed	A*24:50	Confirmed	A*24:100	Unconfirmed
A*24:02:22	Confirmed	A*24:03:01	Confirmed	A*24:51	Unconfirmed	A*24:101	Unconfirmed
A*24:02:23	Confirmed	A*24:03:02	Confirmed	A*24:52	Confirmed	A*24:102	Unconfirmed
A*24:02:24	Confirmed	A*24:04	Confirmed	A*24:53	Confirmed	A*24:103	Confirmed
A*24:02:25	Confirmed	A*24:05	Confirmed	A*24:54	Unconfirmed	A*24:104	Unconfirmed
A*24:02:26	Confirmed	A*24:06	Unconfirmed	A*24:55	Unconfirmed	A*24:105	Confirmed
A*24:02:27	Confirmed	A*24:07	Confirmed	A*24:56	Confirmed	A*24:106	Confirmed
A*24:02:28	Unconfirmed	A*24:08	Confirmed	A*24:57	Confirmed	A*24:107	Confirmed
A*24:02:29	Confirmed	A*24:09N	Confirmed	A*24:58	Confirmed	A*24:108	Confirmed
A*24:02:30	Confirmed	A*24:10:01	Confirmed	A*24:59	Confirmed	A*24:109	Unconfirmed
A*24:02:31	Confirmed	A*24:10:02	Unconfirmed	A*24:60N	Unconfirmed	A*24:110	Confirmed
A*24:02:32	Unconfirmed	A*24:11N	Confirmed	A*24:61	Unconfirmed	A*24:111	Unconfirmed
A*24:02:33	Unconfirmed	A*24:13:01	Unconfirmed	A*24:62	Confirmed	A*24:112	Unconfirmed
A*24:02:34	Unconfirmed	A*24:13:02	Confirmed	A*24:63	Unconfirmed	A*24:113	Confirmed
A*24:02:35	Confirmed	A*24:14	Confirmed	A*24:64	Confirmed	A*24:114	Unconfirmed
A*24:02:36	Unconfirmed	A*24:15	Unconfirmed	A*24:66	Unconfirmed	A*24:115	Confirmed
A*24:02:37	Confirmed	A*24:17	Confirmed	A*24:67	Unconfirmed	A*24:116	Unconfirmed
A*24:02:38	Unconfirmed	A*24:18	Unconfirmed	A*24:68	Unconfirmed	A*24:117	Confirmed
A*24:02:39	Unconfirmed	A*24:19	Unconfirmed	A*24:69	Unconfirmed	A*24:118	Confirmed
A*24:02:40	Unconfirmed	A*24:20	Confirmed	A*24:70	Confirmed	A*24:119	Unconfirmed
A*24:02:41	Unconfirmed	A*24:21:01	Confirmed	A*24:71	Confirmed	A*24:120	Unconfirmed
A*24:02:42	Unconfirmed	A*24:21:02	Unconfirmed	A*24:72	Confirmed	A*24:121	Confirmed
A*24:02:43	Unconfirmed	A*24:22	Confirmed	A*24:73	Unconfirmed	A*24:122	Confirmed
A*24:02:44	Unconfirmed	A*24:23	Confirmed	A*24:74:01	Unconfirmed	A*24:123	Confirmed
A*24:02:45	Unconfirmed	A*24:24	Confirmed	A*24:74:02	Unconfirmed	A*24:124	Unconfirmed
A*24:02:46	Unconfirmed	A*24:25	Confirmed	A*24:75	Unconfirmed	A*24:125	Unconfirmed
A*24:02:47	Unconfirmed	A*24:26	Confirmed	A*24:76	Unconfirmed	A*24:126	Unconfirmed
A*24:02:48	Unconfirmed	A*24:27	Unconfirmed	A*24:77	Unconfirmed	A*24:127	Unconfirmed

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
A*24:128	Confirmed	A*24:177	Unconfirmed	A*24:228	Confirmed
A*24:129	Confirmed	A*24:178	Unconfirmed	A*24:229	Unconfirmed
A*24:130	Unconfirmed	A*24:179	Unconfirmed	A*24:230	Unconfirmed
A*24:131	Unconfirmed	A*24:180	Confirmed	A*24:231	Unconfirmed
A*24:132N	Confirmed	A*24:181	Unconfirmed	A*24:232N	Unconfirmed
A*24:133	Unconfirmed	A*24:182	Confirmed	A*24:233	Unconfirmed
A*24:134	Unconfirmed	A*24:183N	Unconfirmed	A*24:234	Confirmed
A*24:135:01	Confirmed	A*24:184	Confirmed	A*24:235	Unconfirmed
A*24:135:02	Unconfirmed	A*24:185N	Unconfirmed	A*24:236	Unconfirmed
A*24:136	Unconfirmed	A*24:186	Unconfirmed	A*24:237	Unconfirmed
A*24:137	Confirmed	A*24:187	Unconfirmed	A*24:238	Unconfirmed
A*24:138	Confirmed	A*24:188	Confirmed	A*24:239	Unconfirmed
A*24:139	Unconfirmed	A*24:189	Unconfirmed	A*24:240N	Unconfirmed
A*24:140	Unconfirmed	A*24:190	Unconfirmed	A*24:241	Unconfirmed
A*24:141	Unconfirmed	A*24:191	Unconfirmed	A*24:242	Unconfirmed
A*24:142	Unconfirmed	A*24:192	Confirmed	A*24:243	Unconfirmed
A*24:143	Unconfirmed	A*24:193	Unconfirmed	A*24:244	Unconfirmed
A*24:144	Unconfirmed	A*24:194	Unconfirmed	A*24:245	Unconfirmed
A*24:145	Confirmed	A*24:195	Unconfirmed	A*24:246	Unconfirmed
A*24:146	Unconfirmed	A*24:196	Confirmed	A*24:247	Unconfirmed
A*24:147	Unconfirmed	A*24:197	Confirmed	A*24:248	Unconfirmed
A*24:148	Unconfirmed	A*24:198	Unconfirmed	A*24:249	Unconfirmed
A*24:149	Unconfirmed	A*24:199	Unconfirmed	A*24:250	Unconfirmed
A*24:150	Unconfirmed	A*24:200	Unconfirmed	A*24:251	Unconfirmed
A*24:151	Unconfirmed	A*24:201	Unconfirmed	A*24:252N	Unconfirmed
A*24:152	Unconfirmed	A*24:202	Unconfirmed		
A*24:153	Unconfirmed	A*24:203	Unconfirmed		
A*24:154	Unconfirmed	A*24:204	Unconfirmed		
A*24:155N	Unconfirmed	A*24:205	Confirmed		
A*24:156	Unconfirmed	A*24:206	Confirmed		
A*24:157	Confirmed	A*24:207	Confirmed		
A*24:158N	Unconfirmed	A*24:208	Unconfirmed		
A*24:159	Confirmed	A*24:209	Unconfirmed		
A*24:160	Confirmed	A*24:210	Unconfirmed		
A*24:161	Unconfirmed	A*24:212	Unconfirmed		
A*24:162	Unconfirmed	A*24:213	Unconfirmed		
A*24:163N	Unconfirmed	A*24:214	Unconfirmed		
A*24:164	Confirmed	A*24:215	Confirmed		
A*24:165	Unconfirmed	A*24:216	Unconfirmed		
A*24:166	Unconfirmed	A*24:217	Unconfirmed		
A*24:167	Confirmed	A*24:218	Unconfirmed		
A*24:168	Confirmed	A*24:219	Unconfirmed		
A*24:169	Confirmed	A*24:220	Confirmed		
A*24:170	Unconfirmed	A*24:221	Unconfirmed		
A*24:171	Unconfirmed	A*24:222N	Unconfirmed		
A*24:172	Unconfirmed	A*24:223	Unconfirmed		
A*24:173	Confirmed	A*24:224	Unconfirmed		
A*24:174	Unconfirmed	A*24:225:01	Unconfirmed		
A*24:175	Unconfirmed	A*24:226:01	Unconfirmed		
A*24:176	Unconfirmed	A*24:227	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2013-October-11, release 3.14.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-A*24 homo- and heterozygotes is available upon request.

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Lot-specific information
SPECIFICITY TABLE

HLA-A*24 SSP subtyping

Specificities and sizes of the PCR products of the 95+1 primer mixes used for HLA-A*24 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-A*24 alleles ³	Other amplified HLA Class I alleles ⁴
1⁸	210 bp	800 bp	*24:02:01:01-24:02:12, 24:02:13 ^w , 24:02:14-24:11N, 24:13:01-24:15, 24:17-24:32, 24:34-24:64, 24:66-24:75, 24:77-24:183N, 24:185N-24:210, 24:212-24:251	*23:01:01-23:60, 33:19, 80:01:01:01 ^w -80:02 ^w
2	245 bp	1070 bp	*24:03:01-24:03:02, 24:10:01-24:10:02, 24:18, 24:22, 24:33, 24:94, 24:125, 24:138, 24:167, 24:204, 24:207, 24:210	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 11:139, 23:04, 29:07, 29:49, 31:29, B*18:27
3	210 bp	800 bp	*24:02:01:01-24:05, 24:07-24:11N, 24:17, 24:19-24:21:02, 24:23, 24:25-24:50, 24:55-24:56, 24:58-24:63, 24:66-24:86N, 24:88-24:90N, 24:93, 24:95-24:106, 24:108-24:113, 24:115-24:132N, 24:134-24:137, 24:139-24:166, 24:168-24:187, 24:189-24:206, 24:208-24:210, 24:212-24:221, 24:223-24:226, 24:229-24:252N	*11:139, 33:19
4⁶	220 bp	1070 bp	*24:06, 24:13:01, 24:18, 24:22, 24:24, 24:94, 24:138, 24:167, 24:188, 24:204, 24:207, 24:213, 24:228	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 23:01:01-23:13, 23:14:02-23:33, 23:35-23:60, 29:07, 29:49, 31:29
5	175 bp	1070 bp	*24:02:01:01-24:04, 24:06-24:11N, 24:13:01-24:13:02, 24:17-24:23, 24:25-24:50, 24:54-24:56, 24:58-24:63, 24:66-24:91, 24:93, 24:95-24:113, 24:115-24:129, 24:131-24:137, 24:139-24:167, 24:169-24:187, 24:189-24:193, 24:195-24:198, 24:200-24:210, 24:212-24:221, 24:223-24:227, 24:229-24:252N	*02:17:01 ^w -02:17:03 ^w , 11:139, 23:14:01-23:14:02, 33:19
6⁶	175 bp	1070 bp	*24:05, 24:24, 24:199	*23:01:01-23:13, 23:15-23:60, 29:07, 29:49, 31:29, B*18:27
7	335 bp	1070 bp	*24:02:01:01-24:03:02, 24:05-24:11N, 24:13:01-24:13:02, 24:17-24:18, 24:20-24:27, 24:29-24:43, 24:45N-24:50, 24:52, 24:54-24:56, 24:58-24:64, 24:66-24:88, 24:90N-24:91, 24:93-24:108, 24:110-24:117, 24:119-24:128, 24:130-24:163N, 24:165-24:210, 24:212-24:252N	*23:01:01-23:26, 23:28-23:60
8⁵	75 bp	1070 bp	*24:04, 24:109	

101.422-24/03 – including *Taq* polymerase, IFU-01
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Lot-specific information

9	225 bp	800 bp	*24:07, 24:19, 24:24, 24:112, 24:131	*03:72, 11:88, 23:13, 29:37, 30:01:01-30:01:07, 30:11:01-30:11:02, 30:14L-30:20, 30:23-30:26, 30:30-30:31, 30:35-30:43, 30:48-30:49, 30:52-30:54, 30:56, 30:58-30:60, 30:62-30:63, 30:65, 30:72-30:75, 30:78N, 68:45
10	370 bp	800 bp	*24:02:01:01-24:02:04, 24:02:06-24:06, 24:08-24:11N, 24:13:01-24:13:02, 24:17-24:18, 24:20-24:23, 24:25-24:50, 24:52, 24:54-24:56, 24:58-24:64, 24:66-24:91, 24:93-24:107, 24:109-24:111, 24:113-24:117, 24:119-24:130, 24:132N-24:210, 24:212-24:251	*02:10, 02:17:01-02:17:03, 02:39, 02:108, 02:110, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 02:398, 02:453, 23:01:01-23:12, 23:14:01-23:21, 23:23-23:60, 31:29, 33:19
11^s	200 bp	1070 bp	*24:08, 24:42, 24:89	*02:76:01-02:76:02, 02:319, 30:22
	245 bp		*24:61	*23:38N
12	235 bp	1070 bp	*24:25	*23:05
13	160 bp	1070 bp	*24:02:01:01-24:02:71, 24:04-24:09N, 24:11N, 24:13:01-24:15, 24:17, 24:19-24:20, 24:23-24:32, 24:34-24:64, 24:66-24:74:02, 24:76-24:93, 24:95-24:109, 24:111-24:124, 24:126-24:137, 24:139-24:157, 24:159-24:166, 24:168-24:203, 24:205-24:206, 24:209, 24:212-24:218, 24:220-24:252N	*02:19, 02:36-02:37, 02:54, 02:255, 02:417, 23:01:01-23:02, 23:05-23:42, 23:44-23:60, 33:19, 68:26, 68:65
14^s	105 bp 165 bp	1070 bp	*24:09N ^w *24:251	
15^s	105 bp 385 bp	800 bp	*24:19, 24:44, 24:100, 24:109 *24:14-24:15, 24:51, 24:53, 24:57, 24:92	*02:46, 02:48, 02:70, 02:129, 03:30, 03:152, 30:07, 31:08, 32:05, 33:21, 33:53
16^s	85 bp	1070 bp	*24:17, 24:41, 24:208	*11:139, 23:53, 29:07, 29:49
17	230 bp	1070 bp	*24:10:01-24:10:02, 24:46, 24:210	*11:139, 23:10
18	275 bp	1070 bp	*24:02:01:02L	
19^s	195 bp	1070 bp	*24:02:01:01-24:02:09, 24:02:11-24:02:64, 24:02:66-24:11N, 24:13:01-24:15, 24:17-24:32, 24:34-24:64, 24:66-24:210, 24:212-24:252N	*23:01:01-23:60, 33:19
20^{7,8}	470 bp	1070 bp	*24:11N	*01:04N, 03:21N, 11:21N, 23:07N
21	155 bp	800 bp	*24:31	
22^s	125 bp	800 bp	*24:27	

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Lot-specific information

23	190 bp	800 bp	*24:28, 24:30, 24:42, 24:89	*01:134, 02:01:09, 02:05:05, 02:06:07, 02:50, 02:76:02, 02:122, 02:243:02, 03:09, 03:108, 03:172, 11:06, 11:18, 23:12, 25:11, 26:03:01-26:03:02, 26:06, 26:21, 26:30, 26:78, 26:92, 29:19, 29:48, 32:08, 33:24, 68:05, 68:15, 68:20, 74:06
24	215 bp	800 bp	*24:24, 24:67, 24:145, 24:156, 24:191	*03:72, 11:88, 23:51, 26:16, 29:37, 30:01:01-30:04:02, 30:06, 30:09-30:20, 30:23-30:30, 30:32-30:54, 30:56-30:59N, 30:61-30:78N, 32:07, 68:45
	240 bp		*24:19, 24:28, 24:44, 24:89	*02:76:01-02:76:02, 02:319, 03:72, 11:88, 30:01:01-30:01:07, 30:11:01-30:11:02, 30:13-30:20, 30:23-30:24, 30:26, 30:30-30:31, 30:35-30:44, 30:46, 30:48-30:49, 30:52-30:54, 30:56, 30:58-30:60, 30:62-30:63, 30:65, 30:71-30:75, 30:78N, 68:45
25	205 bp	1070 bp	*24:13:01-24:13:02, 24:18, 24:24, 24:56, 24:94, 24:177, 24:188, 24:207, 24:228	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 23:01:01-23:01:11, 23:03:01-23:06, 29:07, 29:49, 31:29, B*18:27
	230 bp		*24:18, 24:204, 24:213	
26⁵	90 bp	800 bp	*24:96	
	220 bp		*24:22, 24:160	
27^{5,8}	80 bp	800 bp	*24:32	*23:36, 32:05
	370 bp		*24:14	*02:46, 02:48, 02:70, 02:129
28^{5,7,8}	75 bp	800 bp	*24:155N	
	155 bp		*24:35	
29^{5,7}	75 bp	800 bp	*24:155N	
	210 bp		*24:08, 24:29, 24:42, 24:89	*02:76:01-02:76:02, 02:319, 30:22
30⁵	125 bp	800 bp	*24:21:01-24:21:02, 24:208	*11:139, 23:03:01-23:03:02, 29:07, 29:49, 31:29, B*18:27
	200 bp		*24:59, 24:190, 24:210, 24:229, 11:139	
31	155 bp	800 bp	*24:37	
	235 bp		*24:04, , 24:109, 24:119, 24:129	*01:02, 01:20, 26:16, 29:37, 30:57
32	225 bp	1070 bp	*24:15, 24:41, 24:51, 24:92, 24:235	*01:01:01:01-01:04N, 01:06-01:33, 01:35-01:37, 01:39-01:41, 01:43-01:71, 01:73-01:101, 01:103-01:127, 01:129-01:138, 01:140-01:142, 11:27, 11:38-11:39, 11:94, 23:31, 23:45, 23:55, 26:29, 26:49, 32:13, 66:10, B*07:64^w , B*15:12^w , B*15:19^w , B*15:270

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Lot-specific information

33⁵	100 bp	1070 bp	*24:39, 24:139	
34	195 bp	800 bp	*24:36N	
35	180 bp 205 bp	1070 bp	*24:142 *24:45N, 24:88	
36^{5,8}	115 bp 220 bp 245 bp	1070 bp	*24:47, 24:124 *24:192 *24:232N	*31:07, 31:10
37	210 bp	1070 bp	*24:48N, 24:54	
38	145 bp 170 bp 230 bp	800 bp	*24:49 *24:137 *24:126	
39⁵	75 bp 210 bp	800 bp	*24:185N *24:50	*02:129
40	225 bp	1070 bp	*24:08, 24:20, 24:88	
41⁷	200 bp 240 bp	1070 bp	*24:26, 24:62 *24:118, 24:132N	*01:39, 23:45, 26:29, 26:49, 31:05, 32:13, 33:10, 66:10
42	170 bp 200 bp	1070 bp	*24:22, 24:160, 24:169 *24:24, 24:67	*02:262, C*04:81 *26:16, 68:45
43	160 bp	800 bp	*24:43, 24:159	
44	255 bp	800 bp	*24:51, 24:57, 24:92, 24:120	*01:01:01:01-01:04N, 01:06- 01:19, 01:21-01:33, 01:35- 01:65, 01:67-01:71, 01:74- 01:101, 01:103-01:129, 01:131- 01:142, 03:18, 03:97, 03:122, 03:135, 03:167, 11:27, 11:38- 11:39, 11:94, 26:29, 26:49, 29:03, 29:33, 30:75, 31:05, 32:13, 33:10, 66:10, 68:26, 68:65, 80:01:01:01-80:03
45	200 bp 240 bp	1070 bp	*24:113 *24:14, 24:52, 24:132N	*01:20, 01:66, 01:73, 01:130, 02:19, 02:36-02:37, 02:54, 02:255, 02:417, 26:29, 26:49, 66:10, B*07:64, B*15:12, B*15:19, B*15:270
46⁵	110 bp	1070 bp	*24:15, 24:41, 24:51, 24:92, 24:235	*02:50, 02:73, 02:93, 02:122, 02:156, 02:172, 02:279, 11:119:01-11:119:02, 23:31, 23:45, 23:55, 26:10, 32:28, 68:02:01:01-68:02:05, 68:15, 68:18N, 68:25, 68:27:01-68:28, 68:31, 68:34, 68:40, 68:44, 68:48-68:49N, 68:51, 68:53- 68:54, 68:60-68:62, 68:64, 68:67, 68:74, 68:77-68:78, 68:80-68:82, 68:86, 68:92, 68:97, B*44:59:02, B*44:136, B*51:136, C*07:204, C*12:37
47	195 bp 410 bp	800 bp	*24:18, 24:56, 24:123 24:177 *24:26	*03:30, 03:152, 30:07, 31:08, 32:05, 33:53
48⁶	195 bp	1070 bp	*24:24, 24:71	*23:01:01-23:23, 23:25-23:33, 23:35-23:56, 23:58-23:60,

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Lot-specific information

29:07, 29:49, 31:29, **B*18:27**

49	165 bp 215 bp 250 bp	1070 bp	*24:159 *24:91 *24:23, 24:220	*B*18:27
50	165 bp 230 bp 260 bp	1070 bp	*24:251 *24:34, 24:252N *24:163N	
51	165 bp 215 bp	800 bp	*24:140 *24:38	
52⁸	240 bp	800 bp	*24:40N	
53⁵	125 bp 230 bp	1070 bp	*24:158N *24:55	
54⁸	170 bp	1070 bp	*24:58, 24:169	*C*04:81
55⁵	80 bp 240 bp 275 bp	1070 bp	*24:205 *24:60N *24:173	
56	270 bp	1070 bp	*24:63	*68:92
57	135 bp	1070 bp	*24:64	*C*12:37
58	195 bp	1070 bp	*24:66	*23:46, 30:75
59	230 bp 255 bp 280 bp	1070 bp	*24:143 *24:68 *24:127, 24:215	
60	140 bp 205 bp 275 bp	800 bp	*24:250 *24:183N *24:69	
61⁵	105 bp 280 bp	800 bp	*24:70 *24:127, 24:141	
62⁵	125 bp	800 bp	*24:72	*02:106, 02:145
63	135 bp	1070 bp	*24:73, 24:157	*03:170, B*18:38, B*40:197, B*57:68
64^{5,8}	115 bp	1070 bp	*24:124	*31:07, 31:10
65⁵	80 bp 235 bp	1070 bp	*24:75 *24:90N	*02:88N
66	155 bp	800 bp	*24:77	*11:106, 23:28, 32:05
67⁵	90 bp 230 bp	1070 bp	*24:249 *24:79	
68	230 bp 285 bp	800 bp	*24:143 *24:78, 24:141, 24:196	
69⁵	105 bp 265 bp	1070 bp	*24:80 *24:184, 24:240N	
70⁵	110 bp 250 bp	1070 bp	*24:134 *24:14 ^w , 24:93 ^w , 24:81	*02:19 ^w , 02:36-02:37 ^w , 02:54 ^w , 02:255 ^w , 02:417 ^w
71	130 bp 205 bp 260 bp	800 bp	*24:128 *24:183N, 24:199 *24:82	*23:29 *29:13, 31:07-31:08, 31:10, 32:42
72⁵	120 bp	1070 bp	*24:83N	

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Lot-specific information

73⁵	100 bp 170 bp	1070 bp	*24:84N *24:131, 24:138, 24:188, 24:218	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303
74	145 bp 195 bp	1070 bp	*24:180 *24:85, 24:197	
75⁷	145 bp 285 bp	1070 bp	*24:180 *24:86N, 24:196, 24:215	
76⁸	170 bp 260 bp	1070 bp	*24:76 *24:98, 24:220	*B*18:27
77	145 bp 210 bp	800 bp	*24:122 *24:06, 24:87, 24:138, 24:167	*23:02
78	140 bp	800 bp	*24:57, 24:92, 24:120	*02:50, 02:73, 02:122, 02:156, 02:245, 02:334, 02:338, 03:17:01, 03:171, 11:119:01- 11:119:02, 26:10, 30:61, 30:74, 31:67-31:68, 32:28, 33:32:01, 68:01:01:01-68:43, 68:45-68:55, 68:57-68:82, 68:84-68:90, 68:92-68:104, 68:106
79	195 bp 250 bp	1070 bp	*24:182 *24:14, 24:93, 24:114	*01:20, 01:66, 01:130, 02:19, 02:36-02:37, 02:54, 02:255, 02:417
80	170 bp 220 bp	1070 bp	*24:140, 24:142 *24:95	
81⁵	100 bp 215 bp	1070 bp	*24:139 *24:97, 24:133	
82	185 bp 225 bp	1070 bp	*24:99, 24:130 *24:125	
83	135 bp 270 bp	800 bp	*24:111 *24:101, 24:173, 24:240N	
84⁵	95 bp 210 bp 290 bp	1070 bp	*24:103 *24:107 *24:102	
85	145 bp 210 bp	1070 bp	*24:117 *24:104	*03:30, 03:152, 32:05
86	190 bp 255 bp	1070 bp	*24:121, 24:182 *24:105, 24:222N	
87⁵	90 bp 120 bp 195 bp	1070 bp	*24:17, 24:41, 24:62, 24:106, 24:208 *24:110 *24:136, 24:197	*11:139, 23:31, 23:45, 23:53, 29:07, 29:49, 31:29
88⁵	75 bp 170 bp	1070 bp	*24:185N *24:116, 24:137	
89⁵	75 bp 220 bp 270 bp	1070 bp	*24:07, 24:108, 24:112, 24:131 *24:192 *24:112	*23:13 *B*51:129
90⁵	100 bp 180 bp 290 bp	800 bp	*24:115, 24:206 *24:168 *24:234	*23:47
91⁵	70 bp	1070 bp	*24:135:01-24:135:02	*23:45
92	190 bp	1070 bp	*24:144	
93⁸	170 bp 270 bp	1070 bp	*24:74:01-24:74:02 *24:112	*B*44:63^w *B*51:129

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Lot-specific information

94⁵	105	800 bp	*24:206
95	140 bp 260 bp	1070 bp	*24:231, 24:250 *24:163N
96⁹	Negative Control		

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-A*24 SSP typings.

When the primers in a primer mix can give rise to HLA-specific PCR products of more than one length this is indicated if the size difference is more than 20 base pairs. Size differences of 20 base pairs or less are not given. For high resolution SSP kits, the alleles listed are specified according to amplicon length.

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 internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

³For several HLA Class I alleles 1st and/or 4th exon(s) and beyond, as well as intron nucleotide sequences, are not available. In these instances it is not known whether some of the primers of the SSP sets are completely matched with the target sequences or not. Assumption is made that unknown sequences in these regions are conserved within allelic groups.

⁴Due to the sharing of sequence motifs between HLA-A alleles some non-HLA-A*24 alleles will be amplified by primer mixes 1 to 7, 9 to 13, 15 to 17, 19, 20, 23 to 25, 27, 29 to 32, 36, 39, 41, 42, 44 to 48, 56, 58, 62 to 66, 71, 73, 77 to 79, 85, 87 and 89 to 91. In addition, a few HLA-B and HLA-C alleles will be amplified by primer mixes 2, 6, 25, 30, 32, 42, 45, 46, 48, 49, 54, 57, 63, 76, 89 and 93.

⁵HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁶Primer mixes 4, 6 and 48 may give rise to a lower yield of HLA-specific PCR product than the other A*24 primer mixes.

⁷Primer mixes 20, 28, 29 41 and 75 have a tendency to giving rise to primer oligomer formation.

⁸Primer mixes 1, 11, 19, 20, 27, 28, 36, 52, 54, 64, 76, 84 and 93 may have tendencies of unspecific amplifications.

⁹Primer mix 96 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by control primer pairs. PCR product sizes range from 75 to 200 base pairs. The PCR product generated by the control primer pair is 430 base pairs.

‘w’, might be weakly amplified.

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Lot-specific information

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	210	245	210	220	175	175	335	75	225	370	200	235
											245	
Length of int. pos. control ¹	800	1070	800	1070	1070	1070	1070	1070	800	800	1070	1070
5'-primer(s) ²	650 5'-CCC 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	317 5'-gCT 3'	265 5'-CAg 3'	98 5'-CTC 3'	282 5'-CAC 3'	98 5'-CTC 3'	28 5'-TCg 3'
										282 5'-CAT 3'		
3'-primer(s) ³	819 5'-ggT 3'	570 5'-CAC 3'	539 5'-TCT 3'	538 5'-CAA 3'	502 5'-CTT 3'	502 5'-CTg 3'	368 5'-CAA 3'	299 5'-TCg 3'	282 5'-gAC 3'	368 5'-CAA 3'	256 5'-CCC 3'	92 5'-AAC 3'
				538 5'-CCA 3'					282 5'-gAC 3'		303 5'-AgT 3'	
				555 5'-CCA 3'								
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec. PCR product	160	105	105	85	230	275	195	470	155	125	190	215
		165	385									240
Length of int. pos. control ¹	1070	1070	800	1070	1070	1070	1070	1070	800	800	800	800
5'-primer(s) ²	453 5'-AAA 3'	678 5'-AgA 3'	265 5'-CAg 3'	368 5'-gTT 3'	368 5'-gTT 3'	2 nd I 5'-CgA 3'	678 5'-AgA 3'	3 rd I 5'-ATA 3'	144 5'-gCC 3'	485 5'-CAg 3'	144 5'-gCC 3'	98 5'-CTC 3'
	453 5'-AAA 3'											
3'-primer(s) ³	570 5'-CCg 3'	742 5'-CTA 3'	320 5'-AgA 3'	413 5'-gCC 3'	559 5'-CCg 3'	570 5'-CCg 3'	831 5'-TCC 3'	621 5'-ggg 3'	259 5'-CTg 3'	570 5'-CCg 3'	292 5'-gTg 3'	270 5'-ACA 3'
	570 5'-CAg 3'	800 5'-ACC 3'	341 5'-CgT 3'		559 5'-CCg 3'						292 5'-gTg 3'	299 5'-CCA 3'
	573 5'-AgT 3'		368 5'-CAT 3'									
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec. PCR product	205	90	80	75	75	125	155	225	100	195	180	115
	230	220	370	155	210	200	235				205	220
												245
Length of int. pos. control ¹	1070	800	800	800	800	800	800	1070	1070	800	1070	1070
5'-primer(s) ²	368 5'-gTT 3'	368 5'-gTT 3'	265 5'-CAg 3'	98 5'-CTC 3'	98 5'-CTC 3'	368 5'-gTT 3'	98 5'-CTC 3'	385 5'-ggC 3'	368 5'-gTT 3'	98 5'-CTC 3'	98 5'-CTT 3'	114 5'-Cgg 3'
				741 5'-g.C 3'	741 5'-g.C 3'						105 5'-Tgg 3'	140 5'-CAC 3'
											124 5'-gCC 3'	242 5'-gCT 3'
												243 5'-CCT 3'
3'-primer(s) ³	527 5'-CCT 3'	419 5'-CgA 3'	302 5'-ggC 3'	214 5'-CCA 3'	265 5'-CCg 3'	453 5'-TCg 3'	212 5'-gCA 3'	570 5'-CCg 3'	427 5'-gTA 3'	250 5'-CA 3'	265 5'-CCC 3'	317 5'-ggA 3'
	539 5'-TCA 3'	545 5'-AgA 3'	355 5'-gAC 3'	777 5'-gCA 3'	777 5'-gCA 3'	453 5'-TCA 3'	289 5'-AgC 3'		427 5'-gTT 3'			
	555 5'-CCA 3'					527 5'-CCg 3'	299 5'-TCg 3'					
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

Visit www.olerup-ssp.com for
“Instructions for Use” (IFU)

Lot No.: **11V**

Lot-specific information

Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec. PCR product	210	145 170 230	75 210	225	200 240	175 200	160	255	200 240	110	195 410	195
Length of int. pos. control ¹	1070	800	800	1070	1070	1070	800	800	1070	1070	800	1070
5'-primer(s) ²	368 5'-gTT 3'	77 5'-CTT 3' 134 5'-CCA 3' 160 5'-ACT 3'	98 5'-CTA 3' 232 5'-AgT 3'	28 5'-TCg 3'	370 5'-TTA 3' 375 5'-TgA 3' 404 5'-CCA 3' 414 5'-CAg 3'	98 5'-CTC 3' 418 5'-AgT 3'	368 5'-gTT 3'	355 5'-CCA 3' 363 5'-ATA 3'	362 5'-gAg 3' 362 5'-gAg 3' 375 5'-TgA 3' 410 5'-gTg 3'	385 5'-ggC 3'	28 5'-TCC 3' 115 5'-ggT 3' 368 5'-gTT 3'	368 5'-gTT 3'
3'-primer(s) ³	532 5'-CTA 3' 544 5'-ggg 3'	265 5'-CCC 3'	265 5'-CCC 3'	81 5'-gAT 3'	570 5'-CCg 3'	239 5'-gCT 3' 259 5'-gTT 3' 545 5'-AgA 3'	488 5'-CCT 3'	570 5'-CCg 3'	570 5'-CCg 3'	453 5'-TCT 3'	265 5'-CCC 3' 527 5'-CCT 3'	524 5'-CAC 3' 524 5'-CAC 3'
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec. PCR product	165 215 250	165 230 260	165 215	240	125 230	170	80 240 275	270	135	195	230 255 280	140 205 275
Length of int. pos. control ¹	1070	1070	800	800	1070	1070	1070	1070	1070	1070	1070	800
5'-primer(s) ²	368 5'-gTT 3'	98 5'-CTC 3' 678 5'-AgA 3'	90 5'-AgC 3' 142 5'-TCA 3'	630 5'-AAg 3'	368 5'-gTT 3'	98 5'-CTC 3'	98 5'-CTC 3'	28 5'-TCg 3'	361 5'-AgT 3'	414 5'-gAA 3'	368 5'-gTT 3'	28 5'-TCg 3' 678 5'-AgA 3'
3'-primer(s) ³	490 5'-AgT 3' 542 5'-CTT 3' 570 5'-CAg 3' 583 5'-gTg 3'	281 5'-A.T 3' 290 5'-CAA 3' 800 5'-ACC 3' 895 5'-A 3'	265 5'-CCC 3'	831 5'-TCC 3'	452 5'-..T 3'	221 5'-ACA 3' 559 5'-CTC 3'	137 5'-TgC 3' 239 5'-gCT 3'	127 5'-CTT 3' 295 5'-TCA 3'	453 5'-TCT 3' 330 5'-TgT 3'	570 5'-CCg 3'	559 5'-CAg 3' 582 5'-TAg 3' 605 5'-gCA 3' 614 5'-TgA 3'	131 5'-ggA 3' 775 5'-AgT 3' 843 5'-gTT 3'
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of spec. PCR product	105	125	135	115	80	155	90	230	105	110	130	120
	280				235		230	285	265	250	205	260
Length of int. pos. control ¹	800	800	1070	1070	1070	800	1070	800	1070	1070	800	1070
5'-primer(s) ²	368 5'-gTT 3'	530 5'-ggT 3'	409 5'-ggC 3'	243 5'-CCT 3'	420 5'-TAg 3'	144 5'-gCC 3'	678 5'-AgA 3'	368 5'-gTT 3'	98 5'-CTC 3'	359 5'-CCT 3'	98 5'-CAC 3'	699 5'-TAA 3'
					575 5'-gCg 3'					499 5'-TCC 3'	228 5'-ATg 3'	678 5'-AgA 3'
3'-primer(s) ³	434 5'-CCC 3'	616 5'-CgT 3'	502 5'-CTT 3'	317 5'-ggA 3'	616 5'-CgT 3'	256 5'-CTg 3'	727 5'-CCA 3'	559 5'-CAg 3'	163 5'-Cgg 3'	570 5'-CCg 3'	317 5'-ggA 3'	777 5'-gCA 3'
	605 5'-gCC 3'						866 5'-gAT 3'	605 5'-gCC 3'	323 5'-AgC 3'		842 5'-Tgg 3'	
	614 5'-TgA 3'							610 5'-CTT 3'	324 5'-TAC 3'		843 5'-gTT 3'	
								614 5'-TgT 3'				
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec. PCR product	100	145	145	170	145	140	195	170	100	185	135	95
	170	195	285	260	210		250	220	215	225	270	210
Length of int. pos. control ¹	1070	1070	1070	1070	800	800	1070	1070	1070	1070	800	1070
5'-primer(s) ²	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	355 5'-CCA 3'	355 5'-CCg 3'	88 5'-Tgg 3'	368 5'-gTT 3'	368 5'-gTT 3'	98 5'-CTC 3'	368 5'-gTT 3'
				650 5'-CCT 3'			365 5'-gAC 3'	124 5'-gCC 3'				
							416 5'-CCg 3'	142 5'-TCA 3'				
3'-primer(s) ³	426 5'-TCT 3'	473 5'-CgA 3'	473 5'-CgA 3'	583 5'-gTg 3'	473 5'-CgC 3'	453 5'-TCT 3'	570 5'-CCg 3'	265 5'-CCC 3'	427 5'-gTT 3'	505 5'-gCT 3'	190 5'-ggT 3'	422 5'-AgC 3'
	497 5'-Tgg 3'	518 5'-CCA 3'	605 5'-gCA 3'	587 5'-CCC 3'	539 5'-TCC 3'				536 5'-gCC 3'	517 5'-CgT 3'	324 5'-TAC 3'	538 5'-gTg 3'
		525 5'-ACT 3'	610 5'-CTT 3'	777 5'-gCA 3'					542 5'-CTg 3'	553 5'-CTT 3'	330 5'-TgT 3'	617 5'-CCA 3'
			616 5'-CgT 3'								333 5'-CTg 3'	
Well No.	73	74	75	76	77	78	79	80	81	82	83	84

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

Well No.	85	86	87	88	89	90	91	92	93	94	95
Length of spec. PCR product	145	190	90	75	75	100	70	190	170	105	140
	210	255	120	170	220	180			270		260
			195		270	290					
Length of int. pos. control ¹	1070	1070	1070	1070	1070	800	1070	1070	1070	800	1070
5'-primer(s) ²	98 5'-CTT 3'	358 5'-TCg 3'	368 5'-gTT 3'	134 5'-CCA 3'	89 5'-gAA 3'	368 5'-gTT 3'	368 5'-gTT 3'	626 5'-CCA 3'	89 5'-gAA 3'	368 5'-gTT 3'	678 5'-AgA 3'
	159 5'-gAA 3'	359 5'-C.A 3'		141 5'-ATg 3'	140 5'-CAC 3'				186 5'-AgA 3'		
		416 5'-CCg 3'		232 5'-AgT 3'	282 5'-CAg 3'				186 5'-Agg 3'		
		419 5'-gTC 3'									
3'-primer(s) ³	265 5'-CCC 3'	570 5'-CCg 3'	418 5'-gTC 3'	265 5'-ATg 3'	317 5'-ggA 3'	421 5'-ggT 3'	397 5'-gAg 3'	777 5'-gCA 3'	317 5'-ggA 3'	430 5'-gCT 3'	775 5'-AgT 3'
			448 5'-CAC 3'			430 5'-gCT 3'	399 5'-AgC 3'				784 5'-ATg 3'
			518 5'-CCA 3'			506 5'-TgA 3'					895 5'-A 3'
			521 5'-ggA 3'			616 5'-CgC 3'					
Well No.	85	86	87	88	89	90	91	92	93	94	95

¹The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

²The nucleotide position 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 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.

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*24 SSP subtyping kit ²																				
					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					201327701	201327702	201327703	201327704	201327705	201327706	201327707	201327708	201327709	201327710	201327711	201327712	201327713	201327714	201327715	201327716
				Lot No.:																
	IHWC cell line ¹	A*	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			-	+	-	+	W	-	-	-	-	+	-	-	-	-	-	-
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			-	+	-	+	W	-	-	-	-	+	-	-	-	-	-	-
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		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*24 SSP subtyping kit ²																				
				Lot No.:	Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
					201327717	201327718	201327719	201327720	201327721	201327722	201327723	201327724	201327725	201327726	201327727	201327728	201327729	201327730	201327731	201327732
	IHWC cell line ¹	A*	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-		

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **11V**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*24 SSP subtyping kit ²																				
					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
					201327733	201327734	201327735	201327736	201327737	201327738	201327739	201327740	201327741	201327742	201327743	201327744	201327745	201327746	201327747	201327748
	IHCW cell line ¹		A*	A*	Lot No.:															
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

CELL LINE VALIDATION SHEET																			
HLA-A*24 SSP subtyping kit ²																			
				Well															
				49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
				201327749	201327750	201327751	201327752	201327753	201327754	201327755	201327756	201327757	201327758	201327759	201327760	201327761	201327762	201327763	201327764
	IHWC cell line ¹	A*	A*	Lot No.:															
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*24 SSP subtyping kit ²																				
				Lot No.:	Well															
					65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
					201327765	201327766	201327767	201327768	201327769	201327770	201327771	201327772	201327773	201327774	201327775	201327776	201327777	201327778	201327779	201327780
	IHWC cell line ¹	A*	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		-	-	-	-	-	-	-	-	-	-	-	-	-	-		

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

CELL LINE VALIDATION SHEET																		
HLA-A*24 SSP subtyping kit ²																		
				Well														
				81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
				201327781	201327782	201327783	201327784	201327785	201327786	201327787	201327788	201327789	201327790	201327791	201327792	201327793	201327794	201327795
			Lot No.:															
	IHWC cell line ¹	A*	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹The provided cell line HLA specificities are retrieved from the <http://www.ihwg.org/hla> web site. The specificity of an individual cell line may thus be subject to change.

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

Visit www.olerup-ssp.com for
“Instructions for Use” (IFU)

Lot No.: 11V

Lot-specific information

²The specificity of each primer solution in the kit has been tested against 48 well characterized cell line DNAs and where applicable, additional cell line DNAs.

No DNAs carrying the alleles to be amplified by primer solutions 8, 11, 14, 21, 22, 26 to 29, 33, 35, 36, 38 to 43, 45, 47, 50 to 72, 74 to 77, 79 to 86, 88 and 90 to 95 were available. The specificities of the primers in primer solutions 8, 11, 26 to 29, 36, 38, 39, 41, 42, 45, 47, 51, 53, 54, 56 to 59, 63, 64, 68, 71, 76, 77, 79, 80, 82, 84, 85, 88, 90, 91 and 93 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers.

In primer solutions 14, 21, 33, 40, 43, 50, 55, 60, 61, 66, 67, 69, 74, 75, 81, 83, 94 and 95 it was only possible to test the 5'primer, the 3'-primers were not possible to test.

In primer solutions 22, 35, 52, 62, 65, 70, 72, 86 and 92 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

In primer solution 10, 28, 29, 36, 38, 39, 41, 45, 47, 51, 71, 76, 79, 80, 85, 88 and 93 one or more 5'-primers were not possible to test, and in primer solutions 4, 11, 13, 15, 23, 28, 31, 37, 49, 53, 56, 59, 68, 71, 73, 76, 77, 82, 84, 87, 90 and 91 one or two 3'-primers were not possible to test.

Additional primers in primer solutions 4, 15, 25, 30, 49 and 89 were tested by separately adding additional 5'-primers or 3'-primers.

101.422-24/03 – including *Taq* polymerase, IFU-01
101.422-24u/03u – without *Taq* polymerase, IFU-02

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Lot No.: **11V**

Lot-specific information

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