

101.422-24/03 – including *Taq* polymerase, IFU-01 Visit <https://labproducts.caredx.com> for
101.422-24u/03u – without *Taq* polymerase, IFU-02 “Instructions for Use” (IFU)

Lot No.: **3F1**

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:	3F1
Expiry date:	2020-01-01
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. 3F1.

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 (1E3)

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

The format of the Worksheet has been changed.

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. 1E3**). The kit design is based on IMGT/HLA database 3.27.0.

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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
1	Exchanged	Modified	5'-primer exchanged and 3'-primer modified for increased yield.
4	-	Added	3'-primer added for the A*24:207:02 allele.
14	-	Modified	3'-primer modified for improved HLA-specific amplification.
17	-	Added	3'-primer added for the A*24:377 allele.
29	-	Added	3'-primer added for the A*24:359N allele.
35	Added	-	5'-primer added for the A*24:142:02 allele.
45	-	Added	3'-primer added for the A*24:370N allele.
54	-	Added	3'-primer added for the A*24:359N allele.
55	-	Added	3'-primer added for the A*24:302 allele.
61	Modified	-	5'-primer modified for decreased tendency of primer oligomer formation.
68	Added	Added	Primer pair added for the A*24:353 allele.
69	-	Added	3'-primer added for the A*24:370N allele.
70	Added	-	5'-primer added for the A*24:356 allele.
71	Added	-	5'-primer added for the A*24:280 allele.
72	Added	-	5'-primer added for the A*24:354 allele.
75	-	Added	3'-primer added for the A*24:345 allele.
77	-	Added	3'-primer added for the A*24:331 allele.
80	Added	-	5'-primer added for the A*24:142:02 allele.
81	-	Added	3'-primer added for the A*24:377 allele.
82	-	Added	3'-primer added for the A*24:302 allele.
84	-	Added	3'-primer added for the A*24:331 allele.
86	Added	-	5'-primer added for the A*24:356 allele.
88	Added	-	5'-primer added for the A*24:352 allele.
90	Modified	Added	5'-primer modified for decreased tendency of primer oligomer formation, 3'-primer added for the A*24:322 allele.
91	-	Added	3'-primer added for the A*24:357N allele.
92	Added	-	5'-primer added for the A*24:354 allele.
93	Added	-	5'-primer added for the A*24:280 allele.
94	Modified	Added	5'-primer modified for decreased tendency of primer oligomer formation, 3'-primers added for the A*24:322 and A*24:345 alleles.
95	Added	Added	Primer pair added for the A*24:324 allele.

Change in revision R01 compared to R00:

1. The B*07:64, B*15:12, 15:19, 15:270, 15:298 and 15:304N alleles are all amplified by primer mix 32 and weakly amplified by primer mix 45. This has been corrected in the Interpretation and Specificity Tables.

Change in revision R02 compared to R01:

1. Primer mix 29 does not amplify the A*02:453, 02:557 and 66:17 alleles. This has been corrected in the Specificity and Interpretation Tables.

Change in revision R04 compared to R02:

1. In primer mixes 3 and 5, the reactivity for A*24:52 was changed from negative to weak.

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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, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

HLA-specific PCR product sizes range from 75 to 200 base pairs.

The PCR product generated by the positive control primer pair is 430 base pairs.

Length of PCR product	105	200	105	80	75	80	85
5'-primer¹	164	340	440	45	45	43	36
	5'-CAC ^{3'}	5'-Agg ^{3'}	5'-TTA ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-Tgg ^{3'}	5'-TAC ^{3'}
							36
							5'-TAT ^{3'}
3'-primer²	231	2nd I	507	59	58	57	47
	5'-TgC ^{3'}	5'-AAA ^{3'}	5'-TTg ^{3'}	5'-CTC ^{3'}	5'-ggC ^{3'}	5'-CTC ^{3'}	5'-ACA ^{3'}
							48
							5'-gCA ^{3'}
							48
							5'-gCC ^{3'}
							52
							5'-TgT ^{3'}
A*	+	+	+				
B*	+	+	+				
C*	+	+	+				
DRB1				+	+		
DRB3				+	+		
DRB5				+			
DQB1					+		
DPB1						+	
DQA1							+

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*24:377 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 '3F1'.

Wells 1 to 95 – HLA-A*24 high resolution 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 some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-A*24 alleles, i.e. **A*24:02 to A*24:377**, recognized by the HLA Nomenclature Committee in January 2017^{1,2}, will be amplified by the primers in the HLA-A*24 subtyping kit³.

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.

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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 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*24:29, 24:271	29	A*24:84N, 24:218	73
A*24:37, 24:119	31	A*24:101, 24:111	83
A*24:47, 24:232N	36	A*24:102, 24:103	84
A*24:49, 24:126	38	A*24:104, 24:117	85
A*24:60N, 24:205	55	A*24:105, 24:121	86
A*24:72, 24:297	62	A*24:106, 24:136	87
A*24:76, 24:98	76	A*24:115, 24:234	90
A*24:79, 24:249	67	A*24:116, 24:352	88
A*24:80, 24:184	69	A*24:135:01-24:135:02, 24:238	91
A*24:81, 24:134	70	A*24:206, 24:322	90, 94
A*24:82, 24:128	71	A*24:225:01-24:225:02, 24:240N	69, 83

¹HLA-A alleles listed on the IMGT/HLA web page 2017-January-20, release 3.27.0, 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 24:373 from the A*33:19 alleles. These 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*24:02:42	Unconfirmed	A*24:02:92	Unconfirmed	A*24:35	Unconfirmed
A*24:02:01:02L	Confirmed	A*24:02:43	Unconfirmed	A*24:02:93	Unconfirmed	A*24:36N	Confirmed
A*24:02:01:03	Unconfirmed	A*24:02:44	Unconfirmed	A*24:02:94	Unconfirmed	A*24:37	Confirmed
A*24:02:01:04	Confirmed	A*24:02:45	Unconfirmed	A*24:02:95	Unconfirmed	A*24:38	Unconfirmed
A*24:02:01:05	Confirmed	A*24:02:46	Unconfirmed	A*24:02:96	Unconfirmed	A*24:39	Confirmed
A*24:02:01:06	Unconfirmed	A*24:02:47	Unconfirmed	A*24:02:97	Confirmed	A*24:40N	Unconfirmed
A*24:02:01:07	Unconfirmed	A*24:02:48	Unconfirmed	A*24:02:98	Confirmed	A*24:41	Unconfirmed
A*24:02:01:08	Unconfirmed	A*24:02:49	Confirmed	A*24:02:99	Unconfirmed	A*24:42	Unconfirmed
A*24:02:01:09	Unconfirmed	A*24:02:50	Unconfirmed	A*24:02:100	Unconfirmed	A*24:43	Confirmed
A*24:02:01:10	Unconfirmed	A*24:02:51	Unconfirmed	A*24:03:01:01	Confirmed	A*24:44	Unconfirmed
A*24:02:02	Confirmed	A*24:02:52	Unconfirmed	A*24:03:01:02	Confirmed	A*24:45N	Unconfirmed
A*24:02:03Q	Unconfirmed	A*24:02:53	Confirmed	A*24:03:02	Confirmed	A*24:46	Confirmed
A*24:02:04	Confirmed	A*24:02:54	Unconfirmed	A*24:03:03	Confirmed	A*24:47	Confirmed
A*24:02:05	Confirmed	A*24:02:55	Unconfirmed	A*24:03:04	Unconfirmed	A*24:48N	Unconfirmed
A*24:02:06	Confirmed	A*24:02:56	Unconfirmed	A*24:04	Confirmed	A*24:49	Unconfirmed
A*24:02:07	Unconfirmed	A*24:02:57	Unconfirmed	A*24:05:01	Confirmed	A*24:50	Confirmed
A*24:02:08	Unconfirmed	A*24:02:58	Confirmed	A*24:05:02	Unconfirmed	A*24:51	Unconfirmed
A*24:02:09	Unconfirmed	A*24:02:59	Confirmed	A*24:06	Unconfirmed	A*24:52	Confirmed
A*24:02:10	Unconfirmed	A*24:02:60	Unconfirmed	A*24:07:01	Confirmed	A*24:53	Confirmed
A*24:02:11	Unconfirmed	A*24:02:61	Confirmed	A*24:07:02	Unconfirmed	A*24:54	Unconfirmed
A*24:02:12	Unconfirmed	A*24:02:62	Confirmed	A*24:08	Confirmed	A*24:55	Unconfirmed
A*24:02:13	Confirmed	A*24:02:63	Unconfirmed	A*24:09N	Confirmed	A*24:56	Confirmed
A*24:02:14	Confirmed	A*24:02:64	Unconfirmed	A*24:10:01	Confirmed	A*24:57	Confirmed
A*24:02:15	Unconfirmed	A*24:02:65	Confirmed	A*24:10:02	Unconfirmed	A*24:58	Confirmed
A*24:02:16	Confirmed	A*24:02:66	Unconfirmed	A*24:11N	Confirmed	A*24:59	Confirmed
A*24:02:17	Unconfirmed	A*24:02:67	Unconfirmed	A*24:13:01	Unconfirmed	A*24:60N	Unconfirmed
A*24:02:18	Confirmed	A*24:02:68	Confirmed	A*24:13:02	Confirmed	A*24:61	Unconfirmed
A*24:02:19	Confirmed	A*24:02:69	Unconfirmed	A*24:14:01:01	Confirmed	A*24:62	Confirmed
A*24:02:20	Unconfirmed	A*24:02:70	Unconfirmed	A*24:14:01:02	Unconfirmed	A*24:63	Unconfirmed
A*24:02:21	Unconfirmed	A*24:02:71	Unconfirmed	A*24:15	Unconfirmed	A*24:64	Confirmed
A*24:02:22	Confirmed	A*24:02:72	Confirmed	A*24:17	Confirmed	A*24:66	Unconfirmed
A*24:02:23	Confirmed	A*24:02:73	Confirmed	A*24:18	Unconfirmed	A*24:67	Unconfirmed
A*24:02:24	Confirmed	A*24:02:74	Unconfirmed	A*24:19	Unconfirmed	A*24:68	Unconfirmed
A*24:02:25	Confirmed	A*24:02:75	Unconfirmed	A*24:20	Confirmed	A*24:69	Unconfirmed
A*24:02:26	Confirmed	A*24:02:76	Unconfirmed	A*24:21:01	Confirmed	A*24:70	Confirmed
A*24:02:27	Confirmed	A*24:02:77	Unconfirmed	A*24:21:02	Unconfirmed	A*24:71	Confirmed
A*24:02:28	Unconfirmed	A*24:02:78	Unconfirmed	A*24:21:03	Confirmed	A*24:72	Confirmed
A*24:02:29	Confirmed	A*24:02:79	Unconfirmed	A*24:22	Confirmed	A*24:73	Unconfirmed
A*24:02:30	Confirmed	A*24:02:80	Unconfirmed	A*24:23	Confirmed	A*24:74:01	Unconfirmed
A*24:02:31	Confirmed	A*24:02:81	Unconfirmed	A*24:24	Confirmed	A*24:74:02	Unconfirmed
A*24:02:32	Unconfirmed	A*24:02:82	Unconfirmed	A*24:25	Confirmed	A*24:75	Unconfirmed
A*24:02:33	Unconfirmed	A*24:02:83	Unconfirmed	A*24:26	Confirmed	A*24:76	Unconfirmed
A*24:02:34	Unconfirmed	A*24:02:84	Unconfirmed	A*24:27	Unconfirmed	A*24:77	Unconfirmed
A*24:02:35	Confirmed	A*24:02:85	Confirmed	A*24:28	Confirmed	A*24:78	Unconfirmed
A*24:02:36	Unconfirmed	A*24:02:86	Unconfirmed	A*24:29	Confirmed	A*24:79	Unconfirmed
A*24:02:37	Confirmed	A*24:02:87	Unconfirmed	A*24:30	Confirmed	A*24:80	Unconfirmed
A*24:02:38	Unconfirmed	A*24:02:88	Confirmed	A*24:31	Unconfirmed	A*24:81	Confirmed
A*24:02:39	Unconfirmed	A*24:02:89	Unconfirmed	A*24:32	Confirmed	A*24:82	Unconfirmed
A*24:02:40	Unconfirmed	A*24:02:90	Confirmed	A*24:33	Confirmed	A*24:83N	Unconfirmed
A*24:02:41	Unconfirmed	A*24:02:91	Unconfirmed	A*24:34	Unconfirmed	A*24:84N	Unconfirmed

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
A*24:85	Confirmed	A*24:134	Unconfirmed	A*24:181	Unconfirmed	A*24:229	Unconfirmed
A*24:86N	Unconfirmed	A*24:135:01	Confirmed	A*24:182	Confirmed	A*24:230	Unconfirmed
A*24:87	Confirmed	A*24:135:02	Unconfirmed	A*24:183N	Confirmed	A*24:231	Confirmed
A*24:88	Unconfirmed	A*24:136	Unconfirmed	A*24:184	Confirmed	A*24:232N	Unconfirmed
A*24:89	Unconfirmed	A*24:137	Confirmed	A*24:185N	Unconfirmed	A*24:233	Confirmed
A*24:90:01N	Confirmed	A*24:138	Confirmed	A*24:186	Unconfirmed	A*24:234	Confirmed
A*24:90:02N	Unconfirmed	A*24:139	Unconfirmed	A*24:187	Unconfirmed	A*24:235	Confirmed
A*24:91	Unconfirmed	A*24:140	Unconfirmed	A*24:188	Confirmed	A*24:236	Unconfirmed
A*24:92	Unconfirmed	A*24:141	Unconfirmed	A*24:189	Unconfirmed	A*24:237	Unconfirmed
A*24:93	Confirmed	A*24:142:01	Unconfirmed	A*24:190	Unconfirmed	A*24:238	Confirmed
A*24:94	Unconfirmed	A*24:142:02	Unconfirmed	A*24:191	Unconfirmed	A*24:239	Unconfirmed
A*24:95	Confirmed	A*24:143	Unconfirmed	A*24:192	Confirmed	A*24:240N	Unconfirmed
A*24:96	Unconfirmed	A*24:144	Unconfirmed	A*24:193	Unconfirmed	A*24:241	Unconfirmed
A*24:97	Confirmed	A*24:145	Confirmed	A*24:194	Confirmed	A*24:242	Unconfirmed
A*24:98	Unconfirmed	A*24:146	Confirmed	A*24:195	Unconfirmed	A*24:243	Unconfirmed
A*24:99	Unconfirmed	A*24:147	Unconfirmed	A*24:196	Confirmed	A*24:244	Unconfirmed
A*24:100	Unconfirmed	A*24:148	Unconfirmed	A*24:197	Confirmed	A*24:245	Unconfirmed
A*24:101	Unconfirmed	A*24:149	Unconfirmed	A*24:198	Unconfirmed	A*24:246	Unconfirmed
A*24:102	Unconfirmed	A*24:150	Unconfirmed	A*24:199	Unconfirmed	A*24:247	Unconfirmed
A*24:103	Confirmed	A*24:151	Unconfirmed	A*24:200	Unconfirmed	A*24:248	Confirmed
A*24:104	Unconfirmed	A*24:152	Unconfirmed	A*24:201	Unconfirmed	A*24:249	Unconfirmed
A*24:105	Confirmed	A*24:153	Unconfirmed	A*24:202	Unconfirmed	A*24:250	Unconfirmed
A*24:106	Confirmed	A*24:154	Unconfirmed	A*24:203	Unconfirmed	A*24:251	Unconfirmed
A*24:107	Confirmed	A*24:155N	Unconfirmed	A*24:204	Unconfirmed	A*24:252N	Confirmed
A*24:108	Confirmed	A*24:156	Unconfirmed	A*24:205	Confirmed	A*24:253	Unconfirmed
A*24:109	Unconfirmed	A*24:157	Confirmed	A*24:206	Confirmed	A*24:254	Unconfirmed
A*24:110	Confirmed	A*24:158N	Unconfirmed	A*24:207:01	Confirmed	A*24:255	Confirmed
A*24:111	Unconfirmed	A*24:159	Confirmed	A*24:207:02	Unconfirmed	A*24:256	Unconfirmed
A*24:112	Unconfirmed	A*24:160	Confirmed	A*24:208	Unconfirmed	A*24:257	Unconfirmed
A*24:113	Confirmed	A*24:161	Unconfirmed	A*24:209	Unconfirmed	A*24:258	Unconfirmed
A*24:114	Unconfirmed	A*24:162	Unconfirmed	A*24:210	Unconfirmed	A*24:259	Unconfirmed
A*24:115	Confirmed	A*24:163N	Unconfirmed	A*24:212	Unconfirmed	A*24:260	Unconfirmed
A*24:116	Unconfirmed	A*24:164	Confirmed	A*24:213	Confirmed	A*24:261	Unconfirmed
A*24:117	Confirmed	A*24:165	Unconfirmed	A*24:214	Unconfirmed	A*24:262	Unconfirmed
A*24:118	Confirmed	A*24:166	Unconfirmed	A*24:215	Confirmed	A*24:263	Unconfirmed
A*24:119	Unconfirmed	A*24:167	Confirmed	A*24:216	Unconfirmed	A*24:264	Unconfirmed
A*24:120	Unconfirmed	A*24:168	Confirmed	A*24:217	Unconfirmed	A*24:265	Unconfirmed
A*24:121	Confirmed	A*24:169	Confirmed	A*24:218	Unconfirmed	A*24:266	Unconfirmed
A*24:122	Confirmed	A*24:170	Unconfirmed	A*24:219	Unconfirmed	A*24:267	Unconfirmed
A*24:123	Confirmed	A*24:171	Unconfirmed	A*24:220	Confirmed	A*24:268	Unconfirmed
A*24:124	Unconfirmed	A*24:172:01	Unconfirmed	A*24:221	Unconfirmed	A*24:269	Unconfirmed
A*24:125	Unconfirmed	A*24:172:02	Unconfirmed	A*24:222N	Unconfirmed	A*24:270	Unconfirmed
A*24:126	Unconfirmed	A*24:173	Confirmed	A*24:223	Unconfirmed	A*24:271	Unconfirmed
A*24:127	Unconfirmed	A*24:174	Unconfirmed	A*24:224	Unconfirmed	A*24:272	Unconfirmed
A*24:128	Confirmed	A*24:175	Unconfirmed	A*24:225:01	Confirmed	A*24:273	Unconfirmed
A*24:129	Confirmed	A*24:176	Unconfirmed	A*24:225:02	Confirmed	A*24:274	Unconfirmed
A*24:130	Unconfirmed	A*24:177	Unconfirmed	A*24:226:01	Unconfirmed	A*24:275	Confirmed
A*24:131	Unconfirmed	A*24:178	Unconfirmed	A*24:226:02	Unconfirmed	A*24:276	Confirmed
A*24:132N	Confirmed	A*24:179	Unconfirmed	A*24:227	Unconfirmed	A*24:277	Unconfirmed
A*24:133	Unconfirmed	A*24:180	Confirmed	A*24:228	Confirmed	A*24:278N	Unconfirmed

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A*24:279	Unconfirmed	A*24:309	Unconfirmed	A*24:337	Unconfirmed	A*24:367	Unconfirmed
A*24:280	Confirmed	A*24:310:01	Unconfirmed	A*24:338	Unconfirmed	A*24:368	Unconfirmed
A*24:281	Unconfirmed	A*24:310:02	Unconfirmed	A*24:339	Confirmed	A*24:369	Unconfirmed
A*24:282	Unconfirmed	A*24:311	Unconfirmed	A*24:340	Unconfirmed	A*24:370N	Unconfirmed
A*24:283	Unconfirmed	A*24:312N	Unconfirmed	A*24:341	Unconfirmed	A*24:371	Unconfirmed
A*24:284	Unconfirmed	A*24:313:01	Unconfirmed	A*24:342	Unconfirmed	A*24:372	Unconfirmed
A*24:285	Unconfirmed	A*24:313:02	Unconfirmed	A*24:343	Unconfirmed	A*24:373	Unconfirmed
A*24:286	Unconfirmed	A*24:314	Confirmed	A*24:344	Unconfirmed	A*24:374	Unconfirmed
A*24:287	Confirmed	A*24:315	Unconfirmed	A*24:345	Confirmed	A*24:375	Unconfirmed
A*24:288	Unconfirmed	A*24:316	Unconfirmed	A*24:346	Unconfirmed	A*24:376	Unconfirmed
A*24:289	Unconfirmed	A*24:317	Unconfirmed	A*24:347	Unconfirmed	A*24:377	Confirmed
A*24:290	Confirmed	A*24:318	Unconfirmed	A*24:348	Unconfirmed		
A*24:291	Unconfirmed	A*24:319	Unconfirmed	A*24:349	Unconfirmed		
A*24:292	Unconfirmed	A*24:320	Unconfirmed	A*24:350	Unconfirmed		
A*24:293	Confirmed	A*24:321	Unconfirmed	A*24:351	Unconfirmed		
A*24:294Q	Unconfirmed	A*24:322	Confirmed	A*24:352	Unconfirmed		
A*24:295	Unconfirmed	A*24:323N	Unconfirmed	A*24:353	Confirmed		
A*24:296	Unconfirmed	A*24:324	Confirmed	A*24:354	Unconfirmed		
A*24:297	Confirmed	A*24:325	Unconfirmed	A*24:355	Unconfirmed		
A*24:298	Unconfirmed	A*24:326	Unconfirmed	A*24:356	Confirmed		
A*24:299	Unconfirmed	A*24:327	Unconfirmed	A*24:357N	Confirmed		
A*24:300	Unconfirmed	A*24:328	Unconfirmed	A*24:358	Unconfirmed		
A*24:301	Unconfirmed	A*24:329	Unconfirmed	A*24:359N	Unconfirmed		
A*24:302	Confirmed	A*24:330	Unconfirmed	A*24:360	Unconfirmed		
A*24:303N	Unconfirmed	A*24:331	Confirmed	A*24:361	Unconfirmed		
A*24:304	Unconfirmed	A*24:332	Unconfirmed	A*24:362	Unconfirmed		
A*24:305	Unconfirmed	A*24:333	Unconfirmed	A*24:363	Unconfirmed		
A*24:306	Unconfirmed	A*24:334	Unconfirmed	A*24:364	Unconfirmed		
A*24:307	Confirmed	A*24:335	Unconfirmed	A*24:365	Unconfirmed		
A*24:308	Unconfirmed	A*24:336	Unconfirmed	A*24:366	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2017-January-20, release 3.27.0, 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.

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.: **3F1**

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
1 ⁷	180 bp	800 bp	*24:02:01:01-24:02:09, 24:02:11-24:11N, 24:13:01-24:15, 24:17-24:32, 24:34-24:64, 24:66-24:210, 24:212-24:251, 24:254-24:377	*23:01:01:01-23:68, 23:70-23:81, 33:19
2	245 bp	1070 bp	*24:03:01:01-24:03:04, 24:10:01-24:10:02, 24:18, 24:22, 24:33, 24:94, 24:125, 24:138, 24:167, 24:204, 24:207:01-24:207:02, 24:210, 24:289, 24:299-24:300, 24:315, 24:339-24:340, 24:374	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 02:657, 11:139, 23:04, 29:07, 29:49, 31:29, B*18:27
3	210 bp	800 bp	*24:02:01:01-24:05:02, 24:07:01-24:11N, 24:17, 24:19-24:21:03, 24:23, 24:25-24:50, 24:52 ^w , 24:55-24:56, 24:58-24:63, 24:66-24:86N, 24:88-24:90:02N, 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, 24:223-24:226:02, 24:229-24:284, 24:286-24:288, 24:290, 24:292-24:295, 24:297-24:298, 24:300-24:303N, 24:305-24:314, 24:317-24:323N, 24:325-24:326, 24:328-24:338, 24:340-24:354, 24:356-24:377	*11:139, 33:19
4 ⁵	220 bp	1070 bp	*24:06, 24:13:01-24:13:02, 24:18, 24:22, 24:24, 24:94, 24:138, 24:167, 24:188, 24:204, 24:207:01-24:207:02, 24:213, 24:228, 24:315, 24:339, 24:355	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 02:657, 23:01:01:01-23:33, 23:35-23:68, 23:70-23:81, 29:07, 29:49, 31:29, B*18:27
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, 24:52 ^w , 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, 24:229-24:290, 24:292, 24:294Q-24:295, 24:297-24:303N, 24:305-24:315, 24:317-24:318, 24:320-24:323N, 24:325-24:341, 24:343, 24:345-24:377	*02:17:01 ^w -02:17:03 ^w , 11:139, 23:14:01-23:14:02, 33:19

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

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Lot No.: **3F1**

Lot-specific information

6⁵	175 bp	1070 bp	*24:05:01-24:05:02, 24:24, 24:199, 24:342	*23:01:01:01-23:13, 23:15-23:68, 23:70-23:73, 23:75-23:81, 29:07, 29:49, 31:29, B*18:27
7	335 bp	1070 bp	*24:02:01:01-24:03:04, 24:05:01-24:11N, 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, 24:90:01N-24:91, 24:93-24:108, 24:110-24:117, 24:119-24:128, 24:130-24:163N, 24:165-24:210, 24:212-24:254, 24:256-24:289, 24:292-24:295, 24:297-24:323N, 24:325-24:328, 24:330-24:372, 24:374-24:377	*23:01:01:01-23:26, 23:28-23:68, 23:70-23:74, 23:76-23:81
8⁴	75 bp	1070 bp	*24:04, 24:109	
9	225 bp	800 bp	*24:07:01-24:07:02, 24:19, 24:24, 24:112, 24:131, 24:288, 24:290, 24:294Q, 24:339, 24:347	*03:72, 11:88, 23:13, 29:37, 29:56, 30:01:01-30:01:11, 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, 30:81-30:83, 30:86-30:89, 30:91-30:98, 30:102, 30:104, 30:106, 30:109-30:113, 68:45, 68:117
10⁶	370 bp	800 bp	*24:02:01:01-24:02:04, 24:02:06-24:02:88, 24:02:90-24:02:99, 24:03:01:01-24:06, 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, 24:253-24:287, 24:289, 24:292-24:293, 24:295, 24:297-24:323N, 24:325-24:328, 24:330-24:338, 24:340-24:346, 24:349-24:377	*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, 02:604, 02:617, 02:628, 02:630, 02:657, 23:01:01:01-23:12, 23:14:01-23:21, 23:23-23:68, 23:70-23:74, 23:76-23:81, 31:29, 33:19
11⁷	200 bp	1070 bp	*24:08, 24:42, 24:89, 24:310:01-24:310:02, 24:342	*02:76:01-02:76:02, 02:319, 02:666, 23:80, 30:22
	240 bp		*24:61, 24:307	*23:38N
12	235 bp	1070 bp	*24:25, 24:308	*23:05
13	160 bp	1070 bp	*24:02:01:01-24:02:100, 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, 24:220-24:282, 24:284-24:288, 24:290-24:298, 24:301-24:314, 24:316-24:338, 24:341-24:348, 24:350-24:356, 24:358-24:373, 24:375-24:377	*01:88:02, 02:19, 02:36-02:37, 02:54, 02:255, 02:417, 02:468:01N, 11:209, 23:01:01:01-23:02, 23:05-23:42, 23:44-23:68, 23:71-23:78, 23:80-23:81, 33:19, 68:26, 68:65, 68:115, 68:131
14⁴	95 bp	1070 bp	*24:09N, 24:267	*23:18

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

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Lot No.: **3F1**

Lot-specific information

	165 bp		*24:251	
15⁴	105 bp 385 bp	800 bp	*24:19, 24:44, 24:100, 24:109, 24:260 *24:14:01:01-24:15, 24:51, 24:53, 24:57, 24:92, 24:291, 24:296, 24:324	*02:46, 02:48, 02:70, 02:129, 02:571, 03:30, 03:152, 03:273, 30:07, 31:08, 32:05, 32:79, 33:21, 33:53
16⁴	85 bp	1070 bp	*24:17, 24:41, 24:208	*11:139, 23:53, 23:70, 29:07, 29:49
17	230 bp	1070 bp	*24:10:01-24:10:02, 24:46, 24:210, 24:300, 24:340, 24:377	*11:139, 23:10
18	275 bp	1070 bp	*24:02:01:02L	
19⁷	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, 24:212-24:377	*23:01:01:01-23:68, 23:70-23:81, 33:19
20^{6,7}	470 bp	1070 bp	*24:11N	*01:04N, 03:21N, 11:21N, 23:07N
21	155 bp 215 bp	800 bp	*24:31 *24:294Q	
22⁴	125 bp 180 bp	800 bp	*24:27 *24:33	*02:01:01:01-02:01:14Q, 02:01:17-02:01:19, 02:01:21- 02:01:81, 02:01:83-02:06:12, 02:06:14-02:07:03, 02:07:05- 02:22:02, 02:24:01-02:64:02, 02:66-02:68, 02:70-02:97:02, 02:99, 02:101:01-02:131, 02:133- 02:134, 02:136-02:178, 02:180- 02:304, 02:306-02:454, 02:456- 02:468:02N, 02:469 ^w , 02:470- 02:613, 02:615-02:624, 02:626- 02:650, 02:652-02:669, 69:01:01:01-69:03
23	190 bp	800 bp	*24:28, 24:30, 24:42, 24:89, 24:309	*01:134, 01:229, 02:01:09, 02:05:05, 02:06:07, 02:50, 02:76:02, 02:122, 02:243:02, 02:528:02, 02:591:01, 03:09, 03:89:02, 03:108, 03:172, 03:198, 11:06, 11:18, 23:12, 25:11, 26:03:01, 26:06, 26:21, 26:30, 26:78, 26:92, 26:111, 29:19, 29:48, 32:08, 33:24, 68:05, 68:15, 68:20, 74:06, 74:21
24	215 bp	800 bp	*24:24, 24:67, 24:145, 24:156, 24:191, 24:290	*03:72, 11:88, 23:51, 26:16, 29:37, 29:56, 30:01:01-30:02:11, 30:02:13-30:04:02, 30:06, 30:09- 30:20, 30:23-30:30, 30:32-30:54, 30:56-30:59N, 30:61-30:78N, 30:80-30:113, 32:07, 33:119, 68:45, 68:117
	240 bp		*24:19, 24:28, 24:44, 24:89, 24:290	*02:76:01-02:76:02, 02:319, 02:666, 03:72, 11:88, 30:01:01- 30:01:11, 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,

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.: **3F1**

Lot-specific information

				30:58-30:60, 30:62-30:63, 30:65, 30:71-30:75, 30:78N, 30:81- 30:83, 30:86-30:87, 30:89, 30:91- 30:98, 30:102, 30:104, 30:106, 30:109-30:113, 33:119, 68:45, 68:117
25	205 bp	1070 bp	*24:13:01-24:13:02, 24:18, 24:24, 24:56, 24:94, 24:177, 24:188, 24:207:01-24:207:02, 24:228, 24:315, 24:355, 24:367	*02:17:01-02:17:03, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 02:657, 23:01:01:01- 23:01:20, 23:03:01-23:65, 23:67- 23:68, 23:70-23:81, 29:07, 29:49, 31:29, B*18:27
26⁴	230 bp 90 bp 220 bp	800 bp	*24:18, 24:204, 24:213 *24:96, 24:256 *24:22, 24:160, 24:299	
27^{4,7}	80 bp 370 bp	800 bp	*24:32 *24:14:01:01-24:14:01:02, 24:324	*23:36, 32:05, 32:79 *02:46, 02:48, 02:70, 02:129, 02:571
28^{4,6,7}	75 bp 125 bp 155 bp	800 bp	*24:155N *24:266 *24:35, 24:264	*11:193
29^{4,6}	75 bp 120 bp 200 bp	800 bp	*24:155N *24:265, 24:271 *24:08, 24:29, 24:42, 24:89, 24:309- 24:310:02, 24:342, 24:359N	*01:45, 03:78, 11:108 *02:76:01-02:76:02, 02:319, 02:666, 23:80, 30:22
30⁴	125 bp	800 bp	*24:21:01-24:21:02, 24:21:03, 24:208	*11:139, 23:03:01-23:03:02, 23:70, 29:07, 29:49, 31:29, B*18:27
31	200 bp 155 bp 235 bp	800 bp	*24:59, 24:190, 24:210, 24:229, 24:285 *24:37 *24:04, 24:109, 24:119, 24:129	*11:139 *01:02, 01:20, 01:188, 01:190, 26:16, 29:37, 29:56, 30:57, 30:90
32	225 bp	1070 bp	*24:15, 24:41, 24:51, 24:92, 24:235	*01:01:01:01-01:01:65, 01:01:67- 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, 01:140-01:153, 01:155-01:166, 01:168-01:199, 01:201-01:220, 01:222-01:234, 11:27, 11:38-11:39, 11:94, 11:209, 23:31, 23:45, 23:55, 25:36, 26:29, 26:49, 32:13, 66:10, B*07:64, B*15:12, B*15:19, B*15:270, B*15:298, B*15:304N
33⁴	100 bp	1070 bp	*24:02:03Q, 24:39, 24:139	*01:01:38L
34	195 bp	800 bp	*24:36N	
35	180 bp 205 bp	1070 bp	*24:142:01-24:142:02 *24:45N, 24:88	
36^{4,7}	115 bp 220 bp 245 bp	1070 bp	*24:47, 24:124 *24:192 *24:232N	*31:07, 31:10 B*49:27
37	210 bp	1070 bp	*24:48N, 24:54	

101.422-24/03 – including *Taq* polymerase, IFU-01
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Lot No.: **3F1**

Lot-specific information

38	145 bp 170 bp 230 bp	800 bp	*24:49 *24:137 *24:126	
39⁴	75 bp 210 bp	800 bp	*24:185N *24:50	*02:129
40	95 bp 225 bp	1070 bp	*24:02:03Q *24:08, 24:20, 24:88, 24:337, 24:342	*01:01:38L
41	200 bp 240 bp	1070 bp	*24:62, 24:26, 24:314 *24:118, 24:132N	*01:39, 01:145, 23:45, 26:29, 26:49, 31:05, 32:13, 33:10, 66:10
42⁴	95 bp 160 bp 190 bp	1070 bp	*24:312N *24:22, 24:160, 24:276, 24:299 *24:24, 24:67, 24:169, 24:290	*02:262, 02:547 *26:16, 33:119, 68:45, 68:117, C*04:81
43	160 bp	800 bp	*24:43, 24:159, 24:303N	*23:81
44	250 bp	800 bp	*24:51, 24:57, 24:92, 24:120	*01:01:01:01-01:01:01:65, 01:01:67- 01:04N, 01:06-01:19, 01:21- 01:33, 01:35-01:65, 01:67:01- 01:71, 01:74-01:101, 01:103- 01:129, 01:131-01:166, 01:168- 01:199, 01:201-01:234, 03:18, 03:97, 03:122, 03:135, 03:167, 11:27, 11:38-11:39, 11:94, 11:209, 25:36, 26:29, 26:49, 29:03, 29:33, 30:75, 31:05, 32:13, 33:10, 66:10, 68:26, 68:65, 68:115, 68:131, 80:01:01:01- 80:03
45	150 bp 200 bp 240 bp	1070 bp	*24:276 *24:113, 24:370N *24:14:01:01-24:14:01:02, 24:52, 24:132N, 24:233, 24:291, 24:324	*01:20, 01:66, 01:73, 01:130, 02:19, 02:36-02:37, 02:54, 02:255, 02:417, 25:36, 26:29, 26:49, 66:10, B*07:64^w, B*15:12^w, B*15:19^w, B*15:270^w, B*15:298^w, B*15:304N^w
46⁴	110 bp	1070 bp	*24:15, 24:41, 24:51, 24:92, 24:235	*01:88:02, 02:50, 02:73, 02:93:01- 02:93:02, 02:122, 02:156, 02:172, 02:279, 02:594, 02:631, 02:651, 11:119:01-11:119:02, 11:209, 23:31, 23:45, 23:55, 26:10, 32:28, 32:66, 68:02:01:01-68:02:12, 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, 68:110, 68:119:01-68:119:02, 68:124- 68:125, 68:128, 68:138, 68:147, 68:153, 68:160, 68:163, B*07:136:02, B*44:59:02, B*44:136, B*51:136, C*07:204:01, C*07:482, C*12:37

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

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Lot No.: **3F1**

Lot-specific information

47	195 bp	800 bp	*24:18, 24:56, 24:123, 24:177, 24:355, 24:367	
	410 bp		*24:26	*03:30, 03:152, 03:273, 30:07, 31:08, 32:05, 32:79, 33:53
48 ⁵	195 bp	1070 bp	*24:24, 24:71, 24:315	*23:01:01:01-23:23, 23:25-23:33, 23:35-23:56, 23:58-23:65, 23:67- 23:68, 23:70-23:81, 29:07, 29:49, 31:29, B*18:27
49	165 bp 250 bp	1070 bp	*24:159 *24:23, 24:220	B*18:27
50	165 bp 225 bp 260 bp	1070 bp	*24:251 *24:34, 24:252N, 24:270 *24:163N, 24:255	*23:27
51	165 bp 215 bp	800 bp	*24:140 *24:38, 24:337	
52 ^{4,7}	75 bp 210 bp 240 bp	800 bp	*24:293 *24:264 *24:40N	*11:193
53 ⁴	125 bp 160 bp 230 bp	1070 bp	*24:158N *24:303N *24:55, 24:315, 24:374	
54 ⁷	175 bp 285 bp	1070 bp	*24:58, 24:169, 24:359N *24:248	C*04:81 C*03:231, C*04:52, C*04:55, C*14:10, C*14:46:02
55 ⁴	80 bp 240 bp 275 bp	1070 bp	*24:205 *24:60N, 24:302, 24:307 *24:173	*23:40
56	270 bp	1070 bp	*24:63	*68:92
57	135 bp	1070 bp	*24:64	C*12:37
58	200 bp	1070 bp	*24:66, 24:96, 24:146, 24:308, 24:333	*23:46, 30:75
59	240 bp 280 bp	1070 bp	*24:68, 24:143 *24:127, 24:215, 24:288	*23:78
60	140 bp 210 bp 275 bp	800 bp	*24:250 *24:183N, 24:270 *24:69	
61 ^{4,6}	105 bp 165 bp 280 bp	800 bp	*24:70 *24:323N *24:127, 24:141, 24:288	
62 ⁴	120 bp 180 bp 280 bp	800 bp	*24:72, 24:91 *24:275 *24:297	*02:106, 02:145 *23:16, 68:107
63	135 bp	1070 bp	*24:73, 24:157	*03:170, B*18:38, B*40:197, B*57:68
64 ^{4,7}	115 bp	1070 bp	*24:124	*31:07, 31:10
65 ⁴	80 bp 155 bp 180 bp 235 bp	1070 bp	*24:75 *24:194 *24:275 *24:90:01N-24:90:02N	*02:88N, 02:622N, 02:643N [?]
66	155 bp	800 bp	*24:77	*11:01:76, 11:106, 23:28, 32:05
67 ⁴	90 bp 230 bp	1070 bp	*24:249, 24:267 *24:79	*23:18

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68	220 bp 280 bp	800 bp	*24:143, 24:353 *24:78, 24:141, 24:196	
69 ⁴	115 bp 200 bp 265 bp	1070 bp	*24:80, 24:225:01-24:225:02 *24:370N *24:184, 24:240N	C*14:14
70 ⁴	110 bp 200 bp 250 bp	1070 bp	*24:134 *24:96, 24:146 *24:81, 24:356	
71 ⁴	120 bp 205 bp 250 bp	800 bp	*24:128, 24:269 *24:183N, 24:199 *24:82, 24:280	*23:29 *29:13, 31:07-31:08, 31:10, 32:42, 32:97
72 ⁴	120 bp 150 bp	1070 bp	*24:83N, 24:265, 24:266 *24:354	
73 ⁴	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, 02:617, 02:657
74	155 bp 195 bp	1070 bp	*24:180, 24:323N *24:85, 24:197	
75	145 bp 190 bp 285 bp	1070 bp	*24:180 *24:345 *24:86N, 24:196, 24:215	*23:78
76 ⁷	175 bp 255 bp	1070 bp	*24:76, 24:263 *24:98, 24:220	B*18:27
77 ⁴	115 bp 145 bp 210 bp	800 bp	*24:331 *24:122 *24:06, 24:87, 24:138, 24:167, 24:285, 24:289, 24:339	*23:02, 23:66
78	140 bp	800 bp	*24:57, 24:92, 24:120	*01:88:02, 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, 11:209, 26:10, 30:61, 30:74, 31:67-31:68, 32:28, 32:66, 33:32:01, 68:01:01:01-68:01:21, 68:01:23-68:01:29, 68:01:31- 68:43:02, 68:45-68:82, 68:84- 68:90, 68:92-68:104:02, 68:106- 68:122, 68:124-68:139, 68:141- 68:144, 68:146-68:163
79	195 bp 250 bp	1070 bp	*24:182 *24:14:01:01-24:14:01:02, 24:93, 24:114, 24:233, 24:324	*23:76 *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, 24:142:01-24:142:02 *24:95	
81 ⁴	100 bp 215 bp	1070 bp	*24:139 *24:97, 24:133, 24:377	
82	185 bp 230 bp 285 bp	1070 bp	*24:99, 24:130 *24:125, 24:302 *24:248	*23:40 C*03:231, C*04:52, C*04:55, C*14:10, C*14:46:02
83 ⁴	125 bp 270 bp	800 bp	*24:111, 24:225:01-24:225:02 *24:101, 24:173, 24:240N	C*14:14

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84^{4,7}	105 bp 210 bp 290 bp	1070 bp	*24:103, 24:331 *24:107 *24:102, 24:287	
85	145 bp 210 bp	1070 bp	*24:117 *24:104	*03:30, 03:152, 03:273, 23:64, 32:05, 32:79
86	190 bp 255 bp	1070 bp	*24:121, 24:182 *24:105, 24:222N, 24:356	*23:76
87⁴	90 bp 120 bp 190 bp	1070 bp	*24:17, 24:41, 24:62, 24:106, 24:208, 24:330 *24:110 *24:136, 24:197	*11:139, 23:31, 23:45, 23:53, 23:70, 29:07, 29:49, 31:29
88⁴	75 bp 170 bp 420 bp	1070 bp	*24:185N *24:116, 24:137 *24:352	
89⁴	75 bp 220 bp 270 bp	1070 bp	*24:07:01-24:07:02, 24:108, 24:112, 24:131, 24:288, 24:339, 24:347 *24:192 *24:112	*23:13 B*49:27 B*51:129
90⁴	100 bp 180 bp 265 bp 290 bp	1070 bp	*24:115, 24:206 *24:168 *24:322 *24:234, 24:287, 24:339	*23:47
91⁴	80 bp 270 bp	1070 bp	*24:135:01-24:135:02, 24:357N *24:238	*23:45, 23:73
92	150 bp 185 bp	1070 bp	*24:354 *24:144, 24:263, 24:268	
93	170 bp 245 bp 270 bp	1070 bp	*24:74:01-24:74:02 *24:280 *24:112	B*13:90, B*44:63 *32:97 B*51:129
94⁴	105 bp 190 bp 220 bp 265 bp	800 bp	*24:206 *24:345 *24:278N *24:322	
95⁴	115 bp 145 bp 260 bp 355 bp	1070 bp	*24:269 *24:231, 24:250 *24:163N *24:14:01:01-24:14:01:02, 24:291	*02:81, 02:87, 02:112, 02:124, 02:129, 02:136, 02:571
96⁸	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 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,

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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.

⁴HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

⁵Primer mixes 4, 6 and 48 may give rise to a lower yield of HLA-specific PCR product than the other A*24 primer mixes.

⁶Primer mixes 10, 20, 28, 29 and 61 have a tendency to giving rise to primer oligomer formation.

⁷Primer mixes 1, 11, 19, 20, 27, 28, 36, 52, 54, 64, 76 and 84 may have tendencies of unspecific amplifications.

⁸Primer mix 96 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

‘w’, might be weakly amplified.

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

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PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	180	245	210	220	175	175	335	75	225	370	200	235
											240	
Length of int. pos. control ¹	800	1070	800	1070	1070	1070	1070	1070	800	800	1070	1070
5'-primer(s) ²	678 5'-AgA 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	368 5'-gTT 3'	312 5'-ATT 3'	265 5'-CAG 3'	98 5'-CTC 3'	282 5'-CAC 3'	98 5'-CTC 3'	28 5'-TCg 3'
							315 5'-gCC 3'			282 5'-CAT 3'		
							317 5'-gCT 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'
	819 5'-ggA 3'			538 5'-CCA 3'					282 5'-gAC 3'		293 5'-ggA 3'	
				538 5'-Cag 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	95	105	85	230	275	195	470	155	125	190	215
		165	385						215	180		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'									666 5'-gAA 3'		
3'-primer(s) ³	570 5'-CCg 3'	728 5'-CCT 3'	320 5'-AgA 3'	413 5'-gCC 3'	553 5'-CTg 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'	742 5'-CTA 3'	341 5'-CgT 3'		559 5'-CCg 3'				320 5'-AgC 3'	806 5'-CCg 3'	292 5'-gTg 3'	299 5'-CCA 3'
	573 5'-AgT 3'	800 5'-ACC 3'	368 5'-CAT 3'		559 5'-CCg 3'							
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

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Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	205	90	80	75	75	125	155	225	100	195	180	115
PCR product	230	220	370	125	120	200	235				205	220
				155	200							245
Length of int.	1070	800	800	800	800	800	800	1070	1070	800	1070	1070
pos. control ¹												
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'
				662 5'-CCg 3'	692 5'-ggC 3'				650 5'-CCC 3'		105 5'-Tgg 3'	140 5'-CAC 3'
				695 5'-CTC 3'	704 5'-TgT 3'						124 5'-gCC 3'	242 5'-gCT 3'
				741 5'-g.C 3'	741 5'-g.C 3'						124 5'-gCA 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'	247 5'-TC 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'	265 5'-CCg 3'	453 5'-TCA 3'	289 5'-AgC 3'		427 5'-gTT 3'			
	555 5'-CCA 3'				777 5'-gCA 3'	527 5'-CCg 3'	299 5'-TCg 3'		705 5'-TCT 3'			
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec.	210	145	75	95	200	95	160	250	150	110	195	195
PCR product		170	210	225	240	160			200		410	
		230				190			240			
Length of int.	1070	800	800	1070	1070	1070	800	800	1070	1070	800	1070
pos. control ¹												
5'-primer(s) ²	368 5'-gTT 3'	77 5'-CTT 3'	98 5'-CTA 3'	28 5'-TCg 3'	370 5'-TTA 3'	98 5'-CTC 3'	368 5'-gTT 3'	355 5'-CCA 3'	98 5'-CTC 3'	385 5'-ggC 3'	28 5'-TCC 3'	368 5'-gTT 3'
		134 5'-CCA 3'	232 5'-AgT 3'	650 5'-CCC 3'	375 5'-TgA 3'	418 5'-AgT 3'		363 5'-ATA 3'	360 5'-CAC 3'		115 5'-ggT 3'	
		160 5'-ACT 3'			404 5'-CCA 3'				362 5'-gAg 3'		368 5'-gTT 3'	
					414 5'-CAg 3'				362 5'-gAg 3'			
									375 5'-TgA 3'			
									410 5'-gTg 3'			
3'-primer(s) ³	532 5'-CTA 3'	265 5'-CCC 3'	265 5'-CCC 3'	81 5'-gAT 3'	570 5'-CCg 3'	153 5'-ACT 3'	485 5'-CA 3'	570 5'-CCg 3'	209 5'-gCC 3'	453 5'-TCT 3'	265 5'-CCC 3'	524 5'-CAC 3'
	544 5'-ggg 3'			705 5'-TCT 3'		209 5'-gCC 3'	488 5'-CCT 3'		256 5'-CTA 3'		527 5'-CCT 3'	524 5'-CAC 3'
						239 5'-gCT 3'	490 5'-AgT 3'		570 5'-CCg 3'			
						259 5'-gTT 3'						
						545 5'-AgA 3'						
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

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Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec. PCR product	165	165	165	75	125	175	80	270	135	200	240	140
		225	215	210	160	285	240				280	210
		260		240	230		275					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'	90 5'-AgC 3'	506 5'-gCA 3'	368 5'-gTT 3'	98 5'-CTC 3'	98 5'-CTC 3'	28 5'-TCg 3'	361 5'-AgT 3'	412 5'-ATA 3'	368 5'-gTT 3'	28 5'-TCg 3'
		678 5'-AgA 3'	142 5'-TCA 3'	630 5'-AAg 3'						414 5'-gAA 3'		678 5'-AgA 3'
				662 5'-CCg 3'								
3'-primer(s) ³	490 5'-AgT 3'	281 5'-A.T 3'	265 5'-CCC 3'	539 5'-TCT 3'	452 5'-.T 3'	221 5'-ACA 3'	137 5'-TgC 3'	127 5'-CTT 3'	453 5'-TCT 3'	570 5'-CCg 3'	559 5'-CAg 3'	131 5'-ggA 3'
	570 5'-CAg 3'	290 5'-CAA 3'		831 5'-TCC 3'	485 5'-.CA 3'	239 5'-gCT 3'	293 5'-ggA 3'				582 5'-TAg 3'	775 5'-AgT 3'
	583 5'-gTg 3'	316 5'-gAA 3'			559 5'-CTC 3'	247 5'-.TC 3'	295 5'-TCA 3'				605 5'-gCA 3'	843 5'-gTT 3'
		800 5'-ACC 3'				343 5'-.T 3'	299 5'-TCg 3'				614 5'-TgA 3'	852 5'-ACC 3'
		852 5'-ACC 3'					330 5'-TgT 3'					
		895 5'-A 3'										
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of spec. PCR product	105	120	135	115	80	155	90	220	115	110	120	120
	165	180			155		230	280	200	200	205	150
	280	280			180				265	255	250	
					235							
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'	379 5'-ACA 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'	349 5'-CTT 3'	98 5'-CAC 3'	667 5'-AgA 3'
		476 5'-CAA 3'			420 5'-TAA 3'			1021 5'-gAg 3'		359 5'-CCT 3'	113 5'-CCA 3'	692 5'-ggC 3'
		530 5'-ggT 3'			476 5'-CAA 3'					412 5'-ATA 3'	228 5'-ATg 3'	695 5'-CTC 3'
		542 5'-gAA 3'			504 5'-AAC 3'					499 5'-TCC 3'	678 5'-AgA 3'	699 5'-TAA 3'
					575 5'-gCg 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'
	493 5'-CTA 3'						728 5'-CCT 3'	605 5'-gCC 3'	178 5'-gAg 3'		753 5'-gTC 3'	
	605 5'-gCC 3'						866 5'-gAT 3'	610 5'-CTT 3'	180 5'-TCC 3'		842 5'-Tgg 3'	
	614 5'-TgA 3'							614 5'-TgT 3'	256 5'-CTA 3'		843 5'-gTT 3'	
								1047 5'-TT 3'	323 5'-AgC 3'			
									324 5'-TAC 3'			
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

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Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec.	100	155	145	175	115	140	195	170	100	185	125	105
PCR product	170	195	190	255	145		250	220	215	230	270	210
			285		210					285		290
Length of int.	1070	1070	1070	1070	800	800	1070	1070	1070	1070	800	1070
pos. control ¹												
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'	98 5'-CTC 3'	98 5'-CTC 3'	368 5'-gTT 3'
				640 5'-Tgg 3'			360 5'-CAC 3'	124 5'-gCC 3'		368 5'-gTT 3'		
				650 5'-CCT 3'			365 5'-gAC 3'	124 5'-gCA 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'	442 5'-gAg 3'	453 5'-TCT 3'	570 5'-CCg 3'	265 5'-CCC 3'	427 5'-gTT 3'	299 5'-TCg 3'	178 5'-gAg 3'	422 5'-AgC 3'
	497 5'-Tgg 3'	493 5'-CTA 3'	518 5'-CCT 3'	587 5'-CCC 3'	473 5'-CgC 3'				536 5'-gCC 3'	343 5'-T 3'	180 5'-TCC 3'	442 5'-gAg 3'
		518 5'-CCA 3'	605 5'-gCA 3'	777 5'-gCA 3'	539 5'-TCC 3'				542 5'-CTg 3'	505 5'-gCT 3'	190 5'-ggT 3'	538 5'-gTg 3'
		525 5'-ACT 3'	610 5'-CTT 3'						553 5'-CTg 3'	517 5'-CgT 3'	324 5'-TAC 3'	616 5'-CCT 3'
			616 5'-CgT 3'							553 5'-CTT 3'	330 5'-TgT 3'	617 5'-CCA 3'
											333 5'-CTg 3'	
Well No.	73	74	75	76	77	78	79	80	81	82	83	84

Well No.	85	86	87	88	89	90	91	92	93	94	95
Length of spec.	145	190	90	75	75	100	80	150	170	105	115
PCR product	210	255	120	170	220	180	270	185	245	190	145
			190	420	270	265			270	220	260
						290				265	355
Length of int.	1070	1070	1070	1070	1070	1070	1070	1070	1070	800	1070
pos. control ¹											
5'-primer(s) ²	98 5'-CTT 3'	349 5'-CTT 3'	368 5'-gTT 3'	17 5'-gCT 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'	317 5'-gCT 3'
	159 5'-gAA 3'	358 5'-TCg 3'		134 5'-CCA 3'	140 5'-CAC 3'			630 5'-AAT 3'	113 5'-CCA 3'		678 5'-AgA 3'
		359 5'-C.A 3'		141 5'-ATg 3'	282 5'-CAg 3'			640 5'-Tgg 3'	186 5'-Agg 3'		
		416 5'-CCg 3'		232 5'-AgT 3'				667 5'-AgA 3'	186 5'-AgA 3'		
		419 5'-gTC 3'									
3'-primer(s) ³	265 5'-CCC 3'	570 5'-CCg 3'	418 5'-gTC 3'	265 5'-CCC 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'	391 5'-CCA 3'
			448 5'-CAC 3'			430 5'-gCT 3'	399 5'-AgC 3'			518 5'-CCT 3'	753 5'-gTC 3'
			518 5'-CCA 3'			506 5'-TgA 3'	419 5'-gT 3'			549 5'-AgC 3'	775 5'-AgT 3'
			521 5'-ggA 3'			594 5'-CCT 3'	595 5'-CCA 3'			594 5'-CCT 3'	784 5'-ATg 3'
						616 5'-CCT 3'					895 5'-A 3'
						616 5'-CgC 3'					
Well No.	85	86	87	88	89	90	91	92	93	94	95

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Lot No.: **3F1**

Lot-specific information

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

Visit <https://labproducts.caredx.com> for
 “Instructions for Use” (IFU)

Lot No.: **3F1**

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	
				Prod. No.	201780901	201327702	201327703	201780904	201327705	201327706	201665707	201327708	201327709	201546810	201665711	201327712	201327713	201780914	201327715	201327716
	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		-	-	-	-	W	-	-	-	-	-	-	-	-	-	-	-	
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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 “Instructions for Use” (IFU)

Lot No.: **3F1**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*24 SSP subtyping kit ²																				
			Prod. No.	Well																
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	IHWC cell line ¹	A*	A*	201780917	201327718	201327719	201327720	201665721	201546822	201780923	201327724	201327725	201327726	201327727	201665728	201780929	201327730	201327731	201327732	
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.: **3F1**

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	
				Prod. No.	201670033	201327734	201780935	201327736	201327737	201327738	201327739	201670040	201327741	201665742	201665743	201327744	201780945	201327746	201327747	201327748
	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.: **3F1**

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	
				Prod. No.	201670049	201665750	201327751	201665752	201665753	201780954	201780955	201670056	201327757	201665758	201327759	201665760	201780961	201665762	201327763	201327764
	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

Visit <https://labproducts.caredx.com> for
“Instructions for Use” (IFU)

Lot No.: **3F1**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*24 SSP subtyping kit²																				
			Prod. No.	Well																
				65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
				201665765	201546866	201665767	201780968	201780969	201780970	201780971	201780972	201327773	201665774	201780975	201665776	201780977	201327778	201665779	201780980	
	IHWC cell line¹	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

Visit <https://labproducts.caredx.com> for
 “Instructions for Use” (IFU)

Lot No.: **3F1**

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	
				Prod. No.	201780981	201780982	201665783	201780984	201327785	201780986	201327787	201780988	201327789	201780990	201780991	201780992	201780993	201780994	201780995
	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 Visit <https://labproducts.caredx.com> for
 101.422-24u/03u – without *Taq* polymerase, IFU-02 “Instructions for Use” (IFU)

Lot No.: **3F1**

Lot-specific information

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.

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, 26 to 29, 35, 36, 38, 39, 41 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, 70, 71, 76, 77, 79, 80, 82, 84, 85, 88, 90, 91, 93 and 95 were tested by separately adding one, two or three additional 5'-primers, respectively one, two or three additional 3'-primers.

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

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

In primer solution 7, 10, 22, 28, 29, 36, 38, 39, 41, 45, 47, 51, 68, 70, 71, 76, 79, 80, 85, 88, 89 and 93 one or more 5'-primers were not possible to test, and in primer solutions 1, 4, 11, 13, 15, 17, 23, 28, 29, 31, 33, 37, 40, 42, 45, 49, 53, 54, 59, 68, 71, 73, 76, 77, 82, 84, 87, 90, 91 and 95 one or more 3'-primers were not possible to test.

Additional primers in primer solutions 4, 15, 22, 25, 30, 33, 40, 49 and 89 were tested by separately adding additional 5'-primers or 3'-primers.

101.422-24/03 – including *Taq* polymerase, IFU-01 Visit <https://labproducts.caredx.com> for
101.422-24u/03u – without *Taq* polymerase, IFU-02 “Instructions for Use” (IFU)

Lot No.: **3F1**

Lot-specific information

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Lot No.: **3F1**

Lot-specific information

101.422-24/03 – including *Taq* polymerase, IFU-01 Visit <https://labproducts.caredx.com> for
 101.422-24u/03u – without *Taq* polymerase, IFU-02 “Instructions for Use” (IFU)

Lot No.: **3F1**

Lot-specific information

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