101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

Visit https://labproducts.caredx.com for **"Instructions for Use" (IFU)**

Lot No.: 3L2

Lot-specific information

Olerup SSP® HLA-B*40

Product number:	**101.523-24/03 – including *Taq* pol.** **101.523-24u/03u – without *Taq* pol.**
Lot number:	**3L2**
Expiry date:	**2024-05-01**
Number of tests:	**24 tests – Product No. 101.523-24/24u** **3 tests – Product No. 101.523-03/03u**
Number of wells per test:	**95+1**
Storage - pre-aliquoted primers:	**dark at -20ºC**
- PCR Master Mix:	**-20ºC**
- Adhesive PCR seals	**RT**
- Product Insert	**RT**

This Product Description is only valid for Lot No. 3L2.

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-B*40 LOT (8H8)

- The product documentation has been updated for new alleles of IMGT 3.39.0
- The kit resolution focuses on common and well documented (CWD) alleles[1].

[1]As described in section Uniquely Identified Alleles.

The HLA-B*40 primer set, specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup* SSP® HLA-B*40 lot was made **(Lot No. 8H8)**.

The HLA-B*40 primer set is unchanged compared to the previous *Olerup* SSP® HLA-B*40 **(Lot No. 8H8)**.

[1]S. J. Mack, P. Cano, J. A. Hollenbach et al.
Common and well-documented HLA alleles: 2012 update to the CWD catalogue. Tissue Antigens, 2013, 81, 194–203

Changes in revision R01 compared to R00:
1. Primer mix 44 does not amplify the B*40:78 allele. The correction has been implemented in the Specificity and Interpretation tables.

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Lot No.: 3L2 **Lot-specific information**

Well **96** contains Negative Control primer pairs, that will amplify the majority 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 200 base pairs.

Length of PCR product	**105**	**200**	**105**	**80**	**75**	**80**	**85**
5'-primer[1]	**164**	**340**	**440**	**45**	**45**	**43**	**36**
	5'-CAC3'	5'-Agg3'	5'-TTA3'	5'-Tgg3'	5'-Tgg3'	5'-Tgg3'	5'-TAC3'
							36
							5'-TAT3'
3'-primer[2]	**231**	**2nd I**	**507**	**59**	**58**	**57**	**47**
	5'-TgC3'	5'-AAA3'	5'-TTg3'	5'-CTC3'	5'-ggC3'	5'-CTC3'	5'-ACA3'
							48
							5'-gCA3'
							48
							5'-gCC3'
							52
							5'-TgT3'
A*	+	+	+				
B*	+	+	+				
C*	+	+	+				
DRB1				+	+		
DRB3				+	+		
DRB5				+			
DQB1					+		
DPB1						+	
DQA1							+

[1]The 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 codonnumbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.
[2]The 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.

101.523-24/03 – including *Taq* pol., IFU-01
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Lot No.: 3L2 **Lot-specific information**

PRODUCT DESCRIPTION

HLA-B*40 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*40:01 to B*40:451 alleles.

PLATE LAYOUT

Each test consists of 96 PCR reactions in a 96 well cut PCR plate.

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48
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-B*40' in silver/gray ink.
Well No. 1 is marked with the Lot No. '3L2'.
Wells 1 to 95 – HLA-B*40 high resolution primers.
Well 96 – Negative Control (NC).
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 foil.

INTERPRETATION

Due to the sharing of sequence motifs between HLA-B alleles non-HLA-B*40 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*40 alleles, i.e. **B*40:01 to B*40:451**, recognized by the HLA Nomenclature Committee in January 2020[1,2] will be amplified by the primers in the HLA-B*40 subtyping kit.

Lot No.: 3L2 **Lot-specific information**

The HLA-B*40 kit enables separation of the confirmed HLA-B*40 alleles as listed in the IMGT/HLA database 3.28.0. 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-B*40 alleles is listed below.

The HLA-B*40 kit also enables identification of many null and alternatively expressed alleles.

The following HLA-B*40 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
B*40:69, 40:221	56

The HLA-B*40 primer set cannot separate the alleles below. These alleles can be distinguished by the HLA-B low resolution kit.

Alleles
B*40:378, 40:420, B*41:19

[1]HLA-B alleles listed on the IMGT/HLA web page 2020-January-20, release 3.39.0, www.ebi.ac.uk/imgt/hla.
[2]Alleles 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.

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Lot No.: 3L2

Lot-specific information

ALLELE CONFIRMATION STATUS

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
B*40:01:01	**Confirmed**	B*40:01:47	Unconfirmed	B*40:06:16	Unconfirmed	B*40:51	Unconfirmed
B*40:01:02:01	**Confirmed**	B*40:01:48	Unconfirmed	**B*40:07**	**Confirmed**	**B*40:52**	**Confirmed**
B*40:01:02:02	Unconfirmed	B*40:01:49	Unconfirmed	**B*40:08**	**Confirmed**	B*40:53	Unconfirmed
B*40:01:02:03	Unconfirmed	**B*40:02:01:01**	**Confirmed**	B*40:09	Unconfirmed	**B*40:54**	**Confirmed**
B*40:01:02:04	Unconfirmed	B*40:02:01:02	Unconfirmed	**B*40:10:01:01**	**Confirmed**	B*40:55	Unconfirmed
B*40:01:02:05	Unconfirmed	B*40:02:01:03	Unconfirmed	B*40:10:01:02	Unconfirmed	B*40:56	Unconfirmed
B*40:01:03	Unconfirmed	B*40:02:02	Unconfirmed	B*40:10:02	Unconfirmed	B*40:57	Unconfirmed
B*40:01:04	**Confirmed**	B*40:02:03	Unconfirmed	**B*40:11:01**	**Confirmed**	B*40:58	Unconfirmed
B*40:01:05	Unconfirmed	B*40:02:04	Unconfirmed	**B*40:11:02**	**Confirmed**	**B*40:59**	**Confirmed**
B*40:01:06	Unconfirmed	B*40:02:05	Unconfirmed	**B*40:12**	**Confirmed**	B*40:60	Unconfirmed
B*40:01:07	**Confirmed**	**B*40:02:06**	**Confirmed**	**B*40:13**	**Confirmed**	B*40:61	Unconfirmed
B*40:01:08	**Confirmed**	**B*40:02:07**	**Confirmed**	B*40:14:01	Unconfirmed	**B*40:62**	**Confirmed**
B*40:01:09	Unconfirmed	**B*40:02:08**	**Confirmed**	B*40:14:02	Unconfirmed	**B*40:63**	**Confirmed**
B*40:01:10	Unconfirmed	B*40:02:09	Unconfirmed	**B*40:14:03**	**Confirmed**	**B*40:64**	**Confirmed**
B*40:01:11	Unconfirmed	B*40:02:10	Unconfirmed	B*40:15	Unconfirmed	B*40:65	Unconfirmed
B*40:01:12	Unconfirmed	B*40:02:11	Unconfirmed	**B*40:16**	**Confirmed**	B*40:66	Unconfirmed
B*40:01:13	Unconfirmed	B*40:02:12	Unconfirmed	B*40:18	Unconfirmed	B*40:67	Unconfirmed
B*40:01:14	**Confirmed**	B*40:02:13	Unconfirmed	**B*40:19**	**Confirmed**	B*40:68	Unconfirmed
B*40:01:15	Unconfirmed	**B*40:02:14**	**Confirmed**	**B*40:20**	**Confirmed**	B*40:69	Unconfirmed
B*40:01:16	Unconfirmed	B*40:02:15	Unconfirmed	**B*40:21**	**Confirmed**	B*40:70:01	Unconfirmed
B*40:01:17	**Confirmed**	**B*40:02:16**	**Confirmed**	**B*40:22N**	**Confirmed**	B*40:70:02	Unconfirmed
B*40:01:18	**Confirmed**	B*40:02:17	Unconfirmed	**B*40:23**	**Confirmed**	B*40:71	Unconfirmed
B*40:01:19	Unconfirmed	B*40:02:18	Unconfirmed	B*40:24	Unconfirmed	B*40:72:01	Unconfirmed
B*40:01:20	Unconfirmed	B*40:02:19	Unconfirmed	B*40:25	Unconfirmed	**B*40:72:02**	**Confirmed**
B*40:01:21	**Confirmed**	B*40:02:20	Unconfirmed	**B*40:26**	**Confirmed**	B*40:73	Unconfirmed
B*40:01:22	Unconfirmed	B*40:02:21	Unconfirmed	**B*40:27:01**	**Confirmed**	B*40:74	Unconfirmed
B*40:01:23	Unconfirmed	B*40:02:22	Unconfirmed	B*40:27:02	Unconfirmed	**B*40:75**	**Confirmed**
B*40:01:24	Unconfirmed	**B*40:02:23**	**Confirmed**	B*40:28	Unconfirmed	**B*40:76**	**Confirmed**
B*40:01:25	**Confirmed**	B*40:02:24	Unconfirmed	**B*40:29**	**Confirmed**	B*40:77	Unconfirmed
B*40:01:26	Unconfirmed	B*40:02:25	Unconfirmed	**B*40:30**	**Confirmed**	**B*40:78**	**Confirmed**
B*40:01:27	Unconfirmed	**B*40:03**	**Confirmed**	B*40:31	Unconfirmed	B*40:79	Unconfirmed
B*40:01:28	Unconfirmed	**B*40:04**	**Confirmed**	**B*40:32**	**Confirmed**	**B*40:80**	**Confirmed**
B*40:01:29	Unconfirmed	**B*40:05:01:01**	**Confirmed**	B*40:33	Unconfirmed	**B*40:81**	**Confirmed**
B*40:01:30	Unconfirmed	B*40:05:01:02	Unconfirmed	B*40:34	Unconfirmed	B*40:82	Unconfirmed
B*40:01:31	Unconfirmed	**B*40:06:01:01**	**Confirmed**	B*40:35:01	Unconfirmed	B*40:83	Unconfirmed
B*40:01:32	Unconfirmed	**B*40:06:01:02**	**Confirmed**	B*40:35:02	Unconfirmed	B*40:84	Unconfirmed
B*40:01:33	Unconfirmed	B*40:06:02	Unconfirmed	B*40:36	Unconfirmed	B*40:85	Unconfirmed
B*40:01:34	Unconfirmed	B*40:06:03	Unconfirmed	**B*40:37**	**Confirmed**	**B*40:86**	**Confirmed**
B*40:01:35	**Confirmed**	B*40:06:04	Unconfirmed	**B*40:38**	**Confirmed**	**B*40:87:01**	**Confirmed**
B*40:01:36	Unconfirmed	B*40:06:05	Unconfirmed	B*40:39	Unconfirmed	B*40:87:02	Unconfirmed
B*40:01:37	Unconfirmed	**B*40:06:06**	**Confirmed**	**B*40:40**	**Confirmed**	B*40:88	Unconfirmed
B*40:01:38	Unconfirmed	**B*40:06:07**	**Confirmed**	**B*40:42**	**Confirmed**	B*40:89	Unconfirmed
B*40:01:39	Unconfirmed	B*40:06:08	Unconfirmed	**B*40:43**	**Confirmed**	**B*40:90**	**Confirmed**
B*40:01:40	**Confirmed**	B*40:06:09	Unconfirmed	**B*40:44**	**Confirmed**	B*40:91	Unconfirmed
B*40:01:41	Unconfirmed	B*40:06:10	Unconfirmed	B*40:45	Unconfirmed	B*40:92	Unconfirmed
B*40:01:42	Unconfirmed	B*40:06:11	Unconfirmed	B*40:46	Unconfirmed	B*40:93	Unconfirmed
B*40:01:43	Unconfirmed	**B*40:06:12**	**Confirmed**	B*40:47	Unconfirmed	**B*40:94**	**Confirmed**
B*40:01:44	Unconfirmed	B*40:06:13	Unconfirmed	**B*40:48**	**Confirmed**	**B*40:95**	**Confirmed**
B*40:01:45	Unconfirmed	B*40:06:14	Unconfirmed	**B*40:49**	**Confirmed**	B*40:96	Unconfirmed
B*40:01:46	Unconfirmed	B*40:06:15	Unconfirmed	**B*40:50**	**Confirmed**	**B*40:97**	**Confirmed**

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Lot No.: 3L2 **Lot-specific information**

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
B*40:98	Unconfirmed	**B*40:145**	**Confirmed**	B*40:192	Unconfirmed	B*40:242	Unconfirmed
B*40:99	**Confirmed**	B*40:146	Unconfirmed	B*40:193	Unconfirmed	B*40:243	Unconfirmed
B*40:100	Unconfirmed	B*40:147	Unconfirmed	B*40:194	Unconfirmed	B*40:244	Unconfirmed
B*40:101	Unconfirmed	**B*40:148**	**Confirmed**	B*40:195	Unconfirmed	B*40:245	Unconfirmed
B*40:102	**Confirmed**	B*40:149	Unconfirmed	B*40:196	Unconfirmed	B*40:246	Unconfirmed
B*40:103	**Confirmed**	**B*40:150**	**Confirmed**	**B*40:197**	**Confirmed**	B*40:247	Unconfirmed
B*40:104	Unconfirmed	B*40:151	Unconfirmed	B*40:198	Unconfirmed	B*40:248	Unconfirmed
B*40:105	**Confirmed**	B*40:152	Unconfirmed	B*40:199	Unconfirmed	**B*40:249**	**Confirmed**
B*40:106	Unconfirmed	B*40:153	Unconfirmed	B*40:200	Unconfirmed	B*40:250	Unconfirmed
B*40:107	**Confirmed**	B*40:154	Unconfirmed	**B*40:201**	**Confirmed**	B*40:251	Unconfirmed
B*40:108	Unconfirmed	**B*40:155:01N**	**Confirmed**	B*40:202	Unconfirmed	B*40:252	Unconfirmed
B*40:109	Unconfirmed	B*40:155:02N	Unconfirmed	B*40:203	Unconfirmed	B*40:253	Unconfirmed
B*40:110	**Confirmed**	B*40:156	Unconfirmed	B*40:204	Unconfirmed	B*40:254	Unconfirmed
B*40:111	**Confirmed**	**B*40:157**	**Confirmed**	B*40:205	Unconfirmed	**B*40:255**	**Confirmed**
B*40:112	Unconfirmed	B*40:158	Unconfirmed	B*40:206	Unconfirmed	B*40:256N	Unconfirmed
B*40:113	**Confirmed**	B*40:159	Unconfirmed	B*40:207	Unconfirmed	B*40:257	Unconfirmed
B*40:114:01	**Confirmed**	B*40:160:01	Unconfirmed	B*40:208	Unconfirmed	B*40:258	Unconfirmed
B*40:114:02	Unconfirmed	**B*40:160:02**	**Confirmed**	B*40:209	Unconfirmed	B*40:259	Unconfirmed
B*40:115	**Confirmed**	B*40:161	Unconfirmed	B*40:210	Unconfirmed	B*40:260	Unconfirmed
B*40:116	**Confirmed**	B*40:162	Unconfirmed	B*40:211	Unconfirmed	B*40:261	Unconfirmed
B*40:117	Unconfirmed	B*40:163	Unconfirmed	B*40:212	Unconfirmed	B*40:262	Unconfirmed
B*40:118N	Unconfirmed	B*40:164	Unconfirmed	B*40:213	Unconfirmed	B*40:263N	Unconfirmed
B*40:119	**Confirmed**	B*40:165	Unconfirmed	B*40:214	Unconfirmed	B*40:264	Unconfirmed
B*40:120	Unconfirmed	B*40:166	Unconfirmed	B*40:215	Unconfirmed	B*40:265N	Unconfirmed
B*40:121	Unconfirmed	B*40:167	Unconfirmed	B*40:216N	Unconfirmed	B*40:266	Unconfirmed
B*40:122	**Confirmed**	**B*40:168**	**Confirmed**	B*40:217	Unconfirmed	B*40:267	Unconfirmed
B*40:123	Unconfirmed	B*40:169	Unconfirmed	B*40:218	Unconfirmed	**B*40:268**	**Confirmed**
B*40:124:01	Unconfirmed	B*40:170	Unconfirmed	B*40:219	Unconfirmed	B*40:269	Unconfirmed
B*40:124:02	Unconfirmed	**B*40:171**	**Confirmed**	B*40:220	Unconfirmed	B*40:270	Unconfirmed
B*40:125	Unconfirmed	**B*40:172**	**Confirmed**	B*40:221	Unconfirmed	B*40:271	Unconfirmed
B*40:126	Unconfirmed	B*40:173	Unconfirmed	B*40:222	Unconfirmed	B*40:272	Unconfirmed
B*40:127	**Confirmed**	B*40:174	Unconfirmed	B*40:223	Unconfirmed	**B*40:273**	**Confirmed**
B*40:128	Unconfirmed	**B*40:175**	**Confirmed**	B*40:224	Unconfirmed	B*40:274	Unconfirmed
B*40:129	**Confirmed**	**B*40:176**	**Confirmed**	**B*40:225**	**Confirmed**	B*40:275	Unconfirmed
B*40:130:01	Unconfirmed	B*40:177	Unconfirmed	B*40:226	Unconfirmed	B*40:276	Unconfirmed
B*40:130:02	**Confirmed**	**B*40:178**	**Confirmed**	B*40:227	Unconfirmed	B*40:277	Unconfirmed
B*40:131	Unconfirmed	B*40:179	Unconfirmed	B*40:228	Unconfirmed	B*40:278	Unconfirmed
B*40:132	Unconfirmed	**B*40:180**	**Confirmed**	**B*40:229**	**Confirmed**	B*40:279	Unconfirmed
B*40:133Q	Unconfirmed	B*40:181	Unconfirmed	B*40:230	Unconfirmed	B*40:280	Unconfirmed
B*40:134	Unconfirmed	**B*40:182**	**Confirmed**	B*40:231	Unconfirmed	B*40:281	Unconfirmed
B*40:135	**Confirmed**	**B*40:183**	**Confirmed**	B*40:232	Unconfirmed	B*40:282	Unconfirmed
B*40:136	Unconfirmed	B*40:184	Unconfirmed	B*40:233	Unconfirmed	B*40:283	Unconfirmed
B*40:137	Unconfirmed	B*40:185	Unconfirmed	**B*40:234**	**Confirmed**	B*40:284	Unconfirmed
B*40:138	Unconfirmed	B*40:186:01	Unconfirmed	B*40:235	Unconfirmed	B*40:285	Unconfirmed
B*40:139	Unconfirmed	B*40:186:02	Unconfirmed	B*40:236	Unconfirmed	B*40:286N	Unconfirmed
B*40:140	Unconfirmed	B*40:187	Unconfirmed	**B*40:237**	**Confirmed**	B*40:287	Unconfirmed
B*40:141	Unconfirmed	B*40:188	Unconfirmed	B*40:238	Unconfirmed	B*40:288	Unconfirmed
B*40:142N	Unconfirmed	B*40:189	Unconfirmed	B*40:239	Unconfirmed	B*40:289	Unconfirmed
B*40:143	Unconfirmed	B*40:190	Unconfirmed	B*40:240	Unconfirmed	B*40:290	Unconfirmed
B*40:144N	Unconfirmed	B*40:191	Unconfirmed	B*40:241	Unconfirmed	B*40:291N	Unconfirmed

Lot No.: 3L2 **Lot-specific information**

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
B*40:292	**Confirmed**	B*40:312	Unconfirmed	B*40:332	Unconfirmed	B*40:352	Unconfirmed
B*40:293	Unconfirmed	B*40:313	Unconfirmed	B*40:333	Unconfirmed	B*40:353	Unconfirmed
B*40:294	**Confirmed**	B*40:314	Unconfirmed	**B*40:334**	**Confirmed**	B*40:354	Unconfirmed
B*40:295	**Confirmed**	B*40:315	Unconfirmed	**B*40:335**	**Confirmed**	**B*40:355**	**Confirmed**
B*40:296	Unconfirmed	B*40:316	Unconfirmed	B*40:336	Unconfirmed		
B*40:297	Unconfirmed	B*40:317	Unconfirmed	B*40:337N	Unconfirmed		
B*40:298	Unconfirmed	**B*40:318**	**Confirmed**	B*40:338N	Unconfirmed		
B*40:299	Unconfirmed	B*40:319	Unconfirmed	B*40:339	Unconfirmed		
B*40:300	Unconfirmed	**B*40:320**	**Confirmed**	B*40:340	Unconfirmed		
B*40:301	Unconfirmed	B*40:321	Unconfirmed	B*40:341	Unconfirmed		
B*40:302	Unconfirmed	B*40:322	Unconfirmed	B*40:342	Unconfirmed		
B*40:303	**Confirmed**	B*40:323	Unconfirmed	B*40:343	Unconfirmed		
B*40:304	Unconfirmed	B*40:324	Unconfirmed	B*40:344	Unconfirmed		
B*40:305	Unconfirmed	B*40:325	Unconfirmed	B*40:345N	Unconfirmed		
B*40:306	Unconfirmed	B*40:326	Unconfirmed	**B*40:346**	**Confirmed**		
B*40:307	Unconfirmed	B*40:327	Unconfirmed	B*40:347	Unconfirmed		
B*40:308	Unconfirmed	B*40:328	Unconfirmed	**B*40:348**	**Confirmed**		
B*40:309	**Confirmed**	B*40:329	Unconfirmed	B*40:349	Unconfirmed		
B*40:310	**Confirmed**	B*40:330	Unconfirmed	B*40:350	Unconfirmed		
B*40:311	**Confirmed**	**B*40:331**	**Confirmed**	B*40:351	Unconfirmed		

[1]Allele status "confirmed" or "unconfirmed" as listed on the IMGT/HLA web page 2017-April-13, release 3.28.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*40 homo- and heterozygotes is available upon request.

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2

Lot-specific information

SPECIFICITY TABLE

HLA-B*40 SSP subtyping

Specificities and sizes of the PCR products of the 95+1 primer mixes used for HLA-B*40 SSP subtyping

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-B*40 alleles[3]	Other amplified HLA class I alleles
1	175 bp	**800 bp**	*40:01:01-40:01:67, 40:07, 40:10:01:01-40:10:02, 40:12:01-40:12:02, 40:21-40:23, 40:25, 40:33, 40:36, 40:38, 40:42-40:43, 40:46-40:49, 40:51-40:52, 40:54-40:55, 40:60-40:63, 40:65-40:67, 40:69, 40:73-40:74, 40:76, 40:79, 40:81, 40:84, 40:87:01-40:88, 40:92, 40:100-40:102, 40:106, 40:108, 40:112-40:114:02, 40:116-40:118N, 40:123-40:126, 40:128, 40:130:01-40:130:02, 40:132, 40:134-40:135, 40:138-40:141, 40:146-40:147, 40:149-40:156, 40:163, 40:166, 40:168, 40:170-40:172, 40:175, 40:178-40:179, 40:182-40:183, 40:185-40:188, 40:191, 40:193-40:196, 40:198-40:199, 40:204, 40:207-40:208, 40:210, 40:212-40:213, 40:215-40:218, 40:221-40:223, 40:227-40:228, 40:231, 40:234-40:236, 40:238-40:242, 40:245, 40:247, 40:249-40:253, 40:257-40:265N, 40:272-40:273, 40:277-40:282, 40:285-40:286N, 40:288, 40:299-40:301, 40:308, 40:310, 40:312, 40:315, 40:319, 40:321, 40:323:01-40:329, 40:332-40:333, 40:336, 40:338N-40:339, 40:344, 40:346, 40:352-40:353:02, 40:355, 40:357-40:358, 40:360, 40:365, 40:367-40:368, 40:370, 40:372N, 40:377, 40:379, 40:381-40:383,	*15:116, 15:124, 15:352, 15:412, 15:507, 27:125, 38:63, 44:31, 46:06, 46:43, 48:03:01:01-48:03:02, 48:23, 48:40, **C*04:366, C*04:368, C*05:136, C*17:16:01-17:16:02**

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2	215 bp	**800 bp**	*40:01:01-40:06:22, 40:09, 40:11:01:01-40:11:02, 40:14:01-40:16:01:02, 40:18-40:20:01:02, 40:22N-40:27:01, 40:28-40:39, 40:42-40:48, 40:50:01:01-40:57, 40:59-40:60, 40:62-40:67, 40:69-40:74, 40:76-40:102, 40:104-40:105, 40:107-40:109, 40:111-40:128, 40:130:01-40:136, 40:138-40:161, 40:163, 40:165, 40:167-40:190, 40:192-40:199, 40:201-40:209, 40:211-40:218, 40:221-40:225:02, 40:227-40:228, 40:230-40:231, 40:233-40:251, 40:253-40:317, 40:319-40:321, 40:323:01-40:324, 40:326-40:327, 40:329-40:341, 40:343-40:364, 40:366-40:387, 40:389-40:398, 40:400-40:427, 40:429-40:448, 40:450-40:451	*13:23, 13:55, 15:01:55, 15:71, 15:175, 15:204, 15:210, 15:212, 15:225, 15:344, 15:381, 18:01:01:01-18:03:02, 18:05:01:01-18:06, 18:08-18:15, 18:17N-18:24, 18:26-18:28, 18:30-18:32, 18:34-18:42, 18:44:01-18:78, 18:80-18:106Q, 18:108-18:124, 18:126-18:135:01:02, 18:137-18:154N, 18:156:01:01-18:181, 18:183-18:189, 27:18, 27:29, 35:63, 35:317, 37:01:01:01-37:20, 37:22-37:25, 37:27-37:54, 37:56, 37:58-37:59, 37:61, 37:63-37:66, 37:68-37:78, 37:80-37:84, 37:86N-37:91, 39:101, 41:01:01:01-41:22, 41:24-41:32, 41:34-41:45N, 41:48-41:64, 44:15:01:01-44:15:01:02, 44:18, 44:27:03, 44:55, 44:103, 44:131, 44:188, 44:212, 45:01:01:01-45:05, 45:07-45:25, 48:22, 48:30, 49:01:01:01-49:09, 49:11-49:14, 49:16-49:23, 49:27-49:30, 49:32-49:66, 50:01:01:01-50:02:01:02, 50:04-50:12, 50:14-50:20, 50:31-50:42, 50:44-50:69, 52:51
3	130 bp	1070 bp	*40:02:01:01-40:06:22, 40:08-40:09, 40:11:01:01-40:11:02, 40:13, 40:18-40:20:01:02, 40:24, 40:26-40:29, 40:35:01-40:35:02, 40:37, 40:39, 40:40[w], 40:44, 40:50:01:01-40:50:01:02, 40:56-40:57, 40:64:01:01-40:64:02, 40:68, 40:70:01-40:71, 40:74-40:75, 40:78, 40:82, 40:85-40:86, 40:89-40:91, 40:94-40:99, 40:103-40:105, 40:107, 40:109, 40:111, 40:115, 40:119-40:120, 40:122, 40:127, 40:131, 40:133Q, 40:142N-40:145, 40:148-40:149, 40:157, 40:159, 40:161-40:162, 40:165, 40:167, 40:169, 40:173-40:174, 40:176, 40:180-40:181, 40:184, 40:189-40:190, 40:200-40:203, 40:205-40:206,	*18:48, 44:103, 44:131, 44:212, 44:224, 49:31, 50:43

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4[4]	95 bp	**800 bp**	*40:02:01:01-40:02:15, 40:02:17-40:02:30, 40:05:01:01-40:05:01:03, 40:08-40:09, 40:13, 40:15-40:16:01:02, 40:18-40:19, 40:24, 40:27:01-40:27:02, 40:29, 40:31-40:32, 40:35:01-40:35:02, 40:37, 40:39-40:40, 40:45, 40:50:01:01-40:50:01:02, 40:56-40:58, 40:78, 40:80, 40:82, 40:85, 40:89-40:91, 40:94, 40:97-40:98, 40:104, 40:107, 40:111, 40:115, 40:119, 40:122, 40:133Q, 40:142N-40:145, 40:157, 40:164, 40:169, 40:173-40:174, 40:176, 40:180-40:181, 40:189, 40:200-40:203, 40:205-40:206, 40:209, 40:211, 40:214, 40:219-40:220, 40:224, 40:226, 40:229, 40:232, 40:246, 40:248, 40:254-40:255, 40:266, 40:271, 40:274, 40:276, 40:283, 40:287, 40:289-40:293, 40:296-40:297, 40:302-40:305, 40:309, 40:320, 40:322, 40:331, 40:334-40:335, 40:337N, 40:345N, 40:347, 40:356,	*07:02:01:01-07:02:37, 07:02:40-07:02:73, 07:02:75-07:06:03, 07:08:01-07:08:02, 07:10, 07:13, 07:15-07:16, 07:19-07:76, 07:79-07:83, 07:85:01-07:114, 07:116-07:125, 07:127-07:136:02, 07:138-07:161N, 07:164-07:181N, 07:183-07:192, 07:194-07:195, 07:199-07:213, 07:215-07:224, 07:226, 07:228:01-07:234, 07:236, 07:238, 07:240-07:245, 07:247, 07:249-07:254, 07:256-07:286, 07:288-07:301, 07:303:01-07:326, 07:328-07:349, 07:351N-07:358, 07:360Q-07:399, 08:01:01:01-08:05, 08:07-08:08N, 08:10-08:11, 08:13-08:15, 08:17-08:27, 08:29-08:34, 08:36, 08:38:01-08:48, 08:50-08:59:02, 08:61-08:68, 08:70-08:83, 08:85-08:88, 08:90-08:106, 08:108-08:128, 08:130-08:180, 08:182-08:183, 08:185-08:199, 08:201-08:231, 08:233-08:251, 13:71, 13:108, 14:13, 14:53, 15:45, 15:324, 15:329, 27:07:01-27:07:06, 27:11, 27:24, 27:32-27:34, 27:43, 27:138, 27:164, 27:180, 27:187, 27:219, 35:22:01:01-35:22:01:02, 35:31, 35:87, 35:199, 37:07, 37:09, 39:14:01:01-39:14:01:03, 39:29, 41:02:01:01-41:02:09, 41:04, 41:10-41:11, 41:13, 41:15, 41:19, 41:23, 41:27, 41:31, 41:36, 41:38-41:43, 41:45N-41:47, 41:49, 41:52, 41:55, 41:58, 41:62, 42:01:01:01-42:02:02, 42:05:01-42:05:02, 42:07-42:08, 42:10-42:12, 42:14-42:19, 42:21-42:28, 44:54, 44:106, 44:135, 44:158, 44:166, 44:184, 44:213,

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5	190 bp	**800 bp**	*40:03:01:01-40:03:02, 40:18, 40:20:01:01-40:20:01:02, 40:24, 40:31-40:33, 40:44, 40:52, 40:59, 40:98, 40:120, 40:159, 40:267, 40:284, 40:352	*07:02:01:01-07:02:09, 07:02:11-07:02:17, 07:02:19-07:02:45, 07:02:47-07:04:02, 07:07:01-07:13, 07:15-07:16, 07:18:01-07:18:02, 07:21-07:23, 07:25-07:27, 07:29-07:30, 07:33:01-07:33:03, 07:35-07:39, 07:41-07:42, 07:44N-07:52, 07:54-07:59, 07:61-07:68:03, 07:70-07:73, 07:75:01:01-07:77, 07:79, 07:81-07:89, 07:91-07:95, 07:98-07:99, 07:101-07:104, 07:106-07:111N, 07:113-07:114, 07:116-07:122, 07:124-07:130, 07:132-07:136:02, 07:139:01-07:139:02, 07:141-07:153, 07:155-07:167N, 07:169-07:171, 07:173-07:175, 07:177-07:181N, 07:183-07:190, 07:192-07:196, 07:198-07:200, 07:202-07:205, 07:208, 07:211-07:212, 07:215-07:219, 07:221, 07:224, 07:226-07:234, 07:236-07:248, 07:250-07:257, 07:259, 07:261, 07:263, 07:265-07:268, 07:271-07:277, 07:279-07:282, 07:285N-07:286, 07:288-07:292, 07:294-07:303:02, 07:305-07:313, 07:315N-07:316N, 07:318N-07:323, 07:325N-07:326, 07:328-07:331, 07:334, 07:336-07:339, 07:341-07:348, 07:350-07:351N, 07:354-07:355, 07:361-07:367, 07:369-07:377, 07:379-07:385, 07:388, 07:390-07:394, 07:396-07:398, 08:156, 13:26:01-13:26:02, 13:35, 13:72, 15:40:01-15:40:02, 15:47:01-15:47:02, 15:49, 15:52, 15:114, 15:117, 15:124, 15:138, 15:238, 15:241, 15:389, 15:421, 15:519, 18:10, 18:21, 18:35, 18:50, 27:34, 27:41, 27:136, 35:15:01-35:15:02, 35:33, 35:66, 35:86, 35:341, 37:07, 46:06, 46:25, 46:30, 48:08, 48:23, 48:46, 53:56, 57:13, 57:25, 58:37, **C*02:06:01-02:06:02, C*02:23, C*02:36:01-02:36:02, C*15:42, C*15:111, C*15:201**
6[4]	95 bp	1070 bp	*40:03:01:01-40:03:02, 40:27:01-40:27:02, 40:105, 40:267, 40:284, 40:314	*07:09:01-07:09:02, 07:11, 07:17, 07:115, 07:237, 07:246, 07:287, 07:327, 08:28, 08:35, 08:37, 08:69, 08:200, 14:05, 15:07:01:01-15:07:03, 15:55, 15:68, 15:126, 15:197:02, 15:207, 15:331, 15:360, 15:383, 15:405, 15:421, 15:431, 15:450, 15:524, 18:14, 35:05:01:01-35:05:03, 35:51, 35:58, 35:66, 35:72, 35:89, 35:97, 35:114, 35:232, 35:368, 35:389, 35:416, 35:427N, 35:440, 35:459N, 38:19, 39:03:01:01-39:03:01:03, 39:24:01-39:24:02, 39:37, 39:76, 39:120, 39:144, 39:152, 41:18, 41:24, 41:51, 42:06,

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7[4,6]	110 bp	**800 bp**	*40:12:01-40:12:02, 40:46, 40:93, 40:265N, 40:430	*07:27, 07:50, 08:04:01-08:04:02, 08:17, 08:54:01-08:54:02, 08:110, 13:97, 14:73, 15:03:01:01-15:03:09, 15:47:01-15:47:02, 15:54, 15:61-15:62, 15:64:01-15:64:02, 15:68-15:69, 15:91, 15:98, 15:103, 15:123, 15:127, 15:131-15:132, 15:151, 15:156, 15:158, 15:173, 15:210, 15:220:01:01-15:220:02, 15:235, 15:242:01-15:242:02, 15:253, 15:259, 15:266, 15:274, 15:281-15:282, 15:369, 15:379, 15:389, 15:397, 15:444, 15:448, 15:475, 15:502, 15:511, 15:517, 15:527, 15:539, 18:37:01-18:37:02, 18:125, 27:18, 27:29, 35:361, 37:28, 38:03, 39:02:01-39:02:03, 39:08, 39:13:01-39:13:02, 39:23, 39:39:01-39:39:02, 39:49, 39:88, 39:101, 39:105, 39:110, 39:162, 42:11, 44:40, 44:44, 44:130, 44:156, 44:210:01-44:210:02, 48:01:01:01-48:05, 48:07-48:30, 48:32-48:40, 48:42-48:50, 52:16, 55:18, 56:44
8	235 bp	1070 bp	*40:05:01:01-40:05:01:03, 40:71, 40:174	*07:20, 07:24, 07:60, 07:100, 07:131, 07:220, 07:223, 07:358, 08:21, 08:25, 08:175, 15:07:01:01-15:07:03, 15:45, 15:55, 15:68, 15:126, 15:197:02, 15:207, 15:324, 15:329, 15:331, 15:360, 15:383, 15:405, 15:431, 15:450, 15:524, 35:05:01:01-35:05:03, 35:16-35:17:03, 35:22:01:01-35:22:01:02, 35:30:01:01-35:30:01:02, 35:51, 35:58, 35:72, 35:89, 35:97, 35:113-35:114, 35:125, 35:164, 35:199, 35:232, 35:242, 35:318, 35:346, 35:368, 35:389, 35:416, 35:427N, 35:440, 35:459N, 41:62, 44:54, 44:106, 44:110, 44:135, 44:158, 44:184, 44:211, 44:213, 46:12, 51:64, 51:148, 53:14, 55:51, 58:18, **C*03:05, C*03:25, C*03:27, C*03:143, C*03:167, C*03:296:01-C*03:296:02, C*03:335, C*03:346, C*03:407, C*03:482, C*03:494**
9	160 bp	1070 bp	*40:06:01:01-40:06:04:02, 40:06:06-40:06:22, 40:44, 40:53, 40:70:01-40:70:02, 40:75, 40:83, 40:86, 40:93, 40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 40:230, 40:244, 40:256N, 40:268-40:270, 40:275, 40:294-40:295, 40:298:01-40:298:02, 40:306-40:307, 40:311, 40:313, 40:317-40:318, 40:330,	*07:78, 07:84, 27:14, 27:81, 27:130, 49:01:14, 51:01:09, 51:01:21, 51:01:25, 51:10, 51:24:02-51:24:04, 51:197, 51:217, 51:279, 52:54, 54:11, 56:20:02, 73:01:01:01-73:02, **C*03:464, C*05:152, C*07:463, C*07:758**

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10	215 bp	1070 bp	*40:07-40:08, 40:13, 40:68, 40:106, 40:162, 40:220, 40:232	*08:62, 08:242, 18:07:01-18:07:02, 18:29, 18:79, 18:136, 27:23, 35:50, 35:84, 35:162, 35:217, 35:231, 35:280, 35:323, 35:441, 37:21, 37:67, 41:46, 42:26, 51:103, 51:116, 51:151
11[4]	80 bp	1070 bp	*40:77, 40:87:01-40:87:02, 40:222, 40:237, 40:368, 40:422	*15:124, 15:412, 15:507, 15:519, 18:88, 27:173, 38:43, 44:169, 44:247, 46:43, 48:14, 48:26, 48:29, 49:29, 51:181, 52:74, 54:22, 57:59, 58:05, **C*07:81, C*07:168, C*07:450**
12[4]	95 bp	1070 bp	*40:08, 40:25, 40:68, 40:106, 40:166[w], 40:232, 40:313	*07:133[w], 08:155, 15:143, 18:48, 18:107, 35:19, 35:47, 35:154, 35:217, 35:274, 35:450, 39:69, 44:12, 44:232, 44:263, 49:63, 50:15, 51:112, 53:30, 53:39
13[4]	90 bp	1070 bp	*40:03:01:01-40:03:02, 40:09, 40:18, 40:24, 40:31-40:32, 40:98, 40:267, 40:284, 40:414	*07:02:01:01-07:02:38, 07:02:40-07:04:02, 07:08:01-07:11, 07:13, 07:15-07:17, 07:19-07:31, 07:33:01-07:33:03, 07:35-07:39, 07:41-07:52, 07:54-07:68:03, 07:70-07:76, 07:79, 07:81-07:83, 07:85:01-07:89, 07:91-07:96:02, 07:98-07:104, 07:106-07:111N, 07:113-07:114, 07:116-07:122, 07:124-07:136:02, 07:139:01-07:139:02, 07:141-07:161N, 07:164-07:175, 07:177-07:181N, 07:183-07:192, 07:194-07:195, 07:199-07:200, 07:202-07:205, 07:208, 07:211-07:212, 07:215-07:221, 07:223-07:224, 07:226, 07:228:01-07:234, 07:236-07:238, 07:240-07:247, 07:250-07:254, 07:256-07:257, 07:259, 07:261, 07:263, 07:265-07:268, 07:271-07:277, 07:279-07:282, 07:285N-07:286, 07:288-07:292, 07:294-07:303:02, 07:305-07:316N, 07:318N-07:323, 07:325N-07:326, 07:328-07:331, 07:334-07:339, 07:341-07:348, 07:350-07:351N, 07:354-07:355, 07:360Q-07:367, 07:369-07:375, 07:377, 07:379-07:386N, 07:388, 07:390-07:394, 07:396-07:398, 08:07, 08:28, 08:37, 08:87, 08:111, 08:156, 15:07:01:01-15:07:03, 15:45, 15:55, 15:68, 15:197:02, 15:207, 15:331, 15:360, 15:383, 15:405, 15:421, 15:431, 15:450, 15:524, 18:14, 18:22, 27:34, 27:138, 35:05:01:01-35:05:03, 35:16-35:17:03, 35:30:01:01-35:30:01:02, 35:51, 35:58, 35:66, 35:72, 35:89, 35:97, 35:113-35:114, 35:125, 35:199, 35:232, 35:242, 35:318, 35:346, 35:368, 35:389, 35:416, 35:427N, 35:440, 35:459N, 37:07, 37:09, 39:29, 41:04, 41:18, 41:51, 42:09, 42:16, 44:54, 44:106, 44:110, 44:135, 44:158, 44:211, 46:12, 48:08, 48:46, 53:14,

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69[4,7]	75 bp	**800 bp**	*40:91, 40:94	*13:01:11, 13:21, 13:71, 27:98, **A*01:283, A*02:570:01-02:570:02, A*24:140, A*26:96, A*68:102, C*02:167, C*03:367, C*03:504, C*05:110, C*06:284, C*07:828**
70[7,8]	505 bp	1070 bp	*40:03:01:01-40:03:02, 40:09, 40:18, 40:20:01:01-40:20:01:02, 40:24, 40:31-40:33, 40:42, 40:44, 40:52, 40:59-40:60, 40:98, 40:120, 40:159, 40:267, 40:284, 40:352, 40:414, 40:422	*07:300, 13:04, 13:10, 13:26:01-13:26:02, 13:35, 13:72, 13:127, 15:46, 15:53, 15:106, 15:212, 15:336, 15:399, 18:48, 18:107, 18:129, 35:46-35:47, 35:63, 35:207, 35:217, 35:257, 35:278, 35:317, 35:450, 41:04, 41:18, 41:21, 41:51, 41:63, 44:02:01:01-44:02:40, 44:02:42-44:03:05, 44:03:07-44:05:04, 44:09, 44:11-44:13, 44:16-44:17, 44:19N-44:30, 44:32-44:37:02, 44:39-44:56N, 44:58N-44:61N, 44:63-44:76, 44:78-44:81, 44:84:01-44:132, 44:134-44:139, 44:141-44:155, 44:157-44:161, 44:163:01-44:165, 44:167-44:183, 44:185-44:193, 44:195N-44:197, 44:199-44:209, 44:211-44:212, 44:214-44:215, 44:218-44:224, 44:227-44:240, 44:242-44:245, 44:247-44:264, 44:266:01-44:281:02, 44:283-44:315, 44:317-44:338, 44:341N-44:346, 44:437-44:444, 44:446-44:458, 44:460-44:480Q, 44:482-44:483, 45:09, 49:04:01-49:05:02, 49:61, 50:33, 53:30, 57:45, 57:51, 57:69, 57:71, 57:88, 58:111, **C*07:69, C*16:85**
71[4]	120 bp	**800 bp**	*40:75, 40:322	*38:12, 44:263
72[5]	245 bp	1070 bp	*40:06:01:01-40:06:22, 40:44, 40:53, 40:70:01-40:70:02, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 40:230, 40:244, 40:256N, 40:268-40:270, 40:275, 40:294-40:295, 40:298:01-40:298:02, 40:306-40:307, 40:311, 40:313, 40:317-40:318, 40:330, 40:340-40:342, 40:348-40:350, 40:354, 40:361N-40:364, 40:366,	*07:78, 07:84, 13:02:01:01-13:02:32, 13:08-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:47, 13:49N, 13:54-13:56:02N, 13:58-13:59, 13:65-13:70, 13:72, 13:74-13:75, 13:81-13:82, 13:84-13:85, 13:88-13:89, 13:91, 13:93-13:94, 13:96-13:105, 13:111-13:119, 13:121, 13:123Q-13:128, 13:130, 13:132-13:134, 13:136-13:137N, 13:139N-13:140, 27:14, 27:81, 27:130, 39:50, 45:10, 49:07, 50:31, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 52:08, 52:67, 54:26, 55:09, 55:22, 55:24, 59:09, 73:01:01:01-73:02, 78:08

			40:373-40:374, 40:376, 40:387-40:389, 40:408, 40:411, 40:423, 40:425, 40:427, 40:434, 40:445, 40:449, 40:451	
73	220 bp 250 bp	1070 bp	*40:329 *40:176, 40:301	
74[5]	210 bp	1070 bp	*40:95, 40:148, 40:161[w]	*07:78[w], 07:84[w], 13:16, 13:48, 13:62, 13:128[w], 14:37, 15:16:01:01-15:16:04, 15:42, 15:67, 15:95, 15:254, 15:293, 15:310, 15:362, 15:408, 15:517, 15:550, 27:153, 44:459, 49:01:01:01-49:01:01:09, 49:01:03-49:10, 49:12-49:14, 49:16-49:40, 49:41[w], 49:42-49:44, 49:46, 49:48-49:60N, 49:62-49:66, 50:01:01:01-50:01:02, 50:01:03[w], 50:01:04-50:02:01:02, 50:04-50:11, 50:13-50:16, 50:18-50:20, 50:31, 50:32[w], 50:33-50:46, 50:48, 50:50, 50:52-50:65, 50:67-50:69, 51:01:01:01-51:01:46, 51:01:47[w], 51:01:48-51:03, 51:07:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:24:05, 51:26-51:28, 51:29[w], 51:30, 51:32-51:35, 51:37-51:39, 51:41N, 51:43, 51:48-51:53, 51:55[w], 51:57-51:58, 51:60, 51:63:01-51:63:02, 51:65-51:71, 51:74-51:80, 51:82[w], 51:83-51:86, 51:88-51:90, 51:92:01-51:92:02, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:121, 51:123-51:134, 51:136-51:138, 51:140, 51:142-51:147, 51:149N-51:152, 51:154-51:156, 51:158:01-51:180, 51:182-51:193, 51:195-51:196, 51:197[w], 51:198-51:210, 51:212, 51:214-51:216, 51:218-51:219, 51:221-51:226, 51:228-51:258, 51:260-51:262, 51:264N-51:273N, 51:277-51:278, 51:279[w], 51:282-51:292, 51:294-51:309, 52:01:01:01-52:01:25, 52:01:26[w], 52:01:27-52:02:02, 52:04-52:09:02, 52:11-52:18, 52:20, 52:22-52:23, 52:24[w], 52:25:01-52:43, 52:44[w], 52:45-52:60, 52:61[w], 52:62-52:70, 52:72-52:73, 52:75-52:87, 52:89N-52:95, 54:20[w], 55:01:01:01-55:01:06, 55:01:08-55:01:23, 55:03, 55:05, 55:09[w], 55:11, 55:15, 55:17, 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52[w], 55:53-55:55N, 55:58-55:60, 55:64, 55:66, 55:68, 55:73-55:76, 55:78-55:79, 55:84-55:85, 55:87, 55:90-55:95, 55:97N-55:106, 56:05:01-56:06, 56:21, 56:25, 56:37, 58:08:01-58:08:02, 78:01:01:01-78:03, 78:05-78:07, 78:09, **C*03:464, C*05:152[w], C*14:92[w]**
75	245 bp 270 bp	1070 bp	*40:171 *40:155:01N-40:155:02N	*15:193, 38:164, 39:53, **C*04:155, C*05:194, C*07:107, C*07:224**

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76	260 bp	1070 bp	*40:47, 40:96, 40:157, 40:168, 40:201	*13:23, 13:55, 18:09, 27:01, 27:142, 37:10, 44:15:01:01-44:15:01:02, 44:55, 44:103, 44:188, 44:212, 49:02
77	130 bp 170 bp 195 bp	**800 bp**	*40:295 *40:102 *40:142N	 *07:326
78[4]	115 bp 150 bp 250 bp	1070 bp	*40:111 *40:182, 40:205 *40:135	
79	180 bp 230 bp	1070 bp	*40:145, 40:268, 40:339 *40:109, 40:116, 40:292, 40:394	 *18:67, **C*07:705**
80[4]	115 bp 140 bp	1070 bp	*40:122, 40:151 *40:334	***07:344, **C*02:98**
81	225 bp 325 bp	1070 bp	*40:144N *40:141, 40:299	 *07:392, 08:163[?], 39:150Q, 41:57
82[4]	75 bp 120 bp 150 bp 180 bp	**800 bp**	*40:115 *40:311 *40:267, 40:346 *40:150, 40:427, 40:331	 *07:120, 14:61, 15:175, 15:214, 18:81, 35:250, 39:145, 39:158, 44:311, 48:45, 51:165, 57:29
83	155 bp 210 bp 240 bp	1070 bp	*40:179, 40:249 *40:104, 40:253, 40:348 *40:247	*13:110, 27:222, 51:72 *14:80
84	160 bp 205 bp	1070 bp	*40:249 *40:132, 40:178, 40:263N	*13:110, 51:72 *07:140, 35:309[w], 38:158, 44:10, 44:14, 44:31, 44:62, 44:77, 44:82, 44:184, 44:213, 44:339, 45:14, 51:23, 51:108, 52:15, 57:07, 82:01:01:01-82:03
85	355 bp	1070 bp	*40:337N	*15:26N
86	245 bp	**800 bp**	*40:06:01:01-40:06:22, 40:44, 40:53, 40:70:01-40:70:02, 40:75, 40:83, 40:86, 40:93, 40:95-40:96, 40:103, 40:109-40:110, 40:127, 40:131, 40:148, 40:159, 40:161-40:162, 40:165, 40:167, 40:177, 40:190, 40:230, 40:244, 40:256N, 40:268-40:270, 40:275, 40:294-40:295, 40:298:01-40:298:02, 40:306-40:307, 40:311, 40:313, 40:317-40:318, 40:330, 40:340-40:342, 40:348-40:350, 40:354, 40:361N-40:364, 40:366, 40:373-40:374, 40:376, 40:387-40:389, 40:408, 40:411, 40:423, 40:425, 40:427, 40:434, 40:445, 40:449, 40:451	*07:78, 07:84, 13:02:01:01-13:02:32, 13:08-13:09, 13:14-13:16, 13:18-13:19, 13:27, 13:30-13:35, 13:37-13:38, 13:40-13:42, 13:44-13:45, 13:47, 13:49N, 13:54-13:56:02N, 13:58-13:59, 13:65-13:70, 13:72, 13:74-13:75, 13:81-13:82, 13:84-13:85, 13:88-13:89, 13:91, 13:93-13:94, 13:96-13:105, 13:111-13:119, 13:121, 13:123Q-13:128, 13:130, 13:132-13:134, 13:136-13:137N, 13:139N-13:140, 27:14, 27:81, 27:130, 39:50, 45:10, 49:07, 50:31, 51:10, 51:16, 51:31, 51:34, 51:82, 51:93, 52:08, 52:67, 54:26, 55:09, 55:22, 55:24, 59:09, 73:01:01:01-73:02, 78:08
87[4]	100 bp 195 bp	1070 bp	*40:286N *40:210[?], 40:229, 40:399N	*15:272N *18:43, 27:37

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88[4]	105 bp	1070 bp	*40:185, 40:209, 40:308, 40:350	*13:58, 18:80, 18:102, 27:52, 35:84, 35:90, 35:150:01-35:150:02, 35:184, 35:201, 35:441, 44:134, 44:445, 45:22, 51:103, 51:119, 52:83
	200 bp		*40:109[w], 40:201, 40:292[w], 40:394[w]	*13:25, 44:15:01:01-44:15:01:02, 44:109, 44:176
89	175 bp	1070 bp	*40:236	*35:220
90	220 bp	1070 bp	*40:329	
	315 bp		*40:299	*07:392, 08:163[?], 39:150Q, 41:57
	415 bp		*40:278	*07:282
91[5]	130 bp	1070 bp	*40:338N	*35:456N
	335 bp		*40:303	
	395 bp		*40:256N	
92[8]	155 bp	1070 bp	*40:05:01:01-40:05:01:03, 40:15[w]-40:16:01:02[w], 40:23[w], 40:26, 40:28, 40:51, 40:95, 40:148, 40:158, 40:161[w], 40:174, 40:183, 40:198[w], 40:309, 40:355	*07:05:01:01[w]-07:06:03[w], 07:32[w], 07:34, 07:40[w], 07:53[w], 07:69[w], 07:78[w], 07:80, 07:90[w], 07:97[w], 07:105[w], 07:112[w], 07:123[w], 07:137[w]-07:138[w], 07:140[w], 07:176[w], 07:182N[w], 07:201N[w], 07:206[w]-07:207[w], 07:210[w], 07:213[w]-07:214[w], 07:222[w], 07:258[w], 07:262[w], 07:264[w], 07:269[w]-07:270[w], 07:278[w], 07:283[w], 07:287[w], 07:293[w], 07:304[w], 07:317[w], 07:324[w], 07:327[w], 07:333[w], 07:340[w], 07:352[w]-07:353[w], 07:356[w]-07:358[w], 07:368[w], 07:378[w], 07:387[w], 07:389[w], 07:395[w], 07:399[w], 08:20:01[w]-08:20:02[w], 08:79[w], 13:16, 13:20, 13:48, 13:62, 13:128[w], 14:13, 14:53, 15:09:01-15:09:02, 15:42, 15:229, 15:243, 15:252, 15:329, 15:361, 15:435, 15:460, 27:20, 27:24, 27:153, 27:168, 35:384, 38:10, 38:32, 39:35, 39:107, 42:19, 44:459, 48:05[w], 48:15, 51:01:01:01-51:01:30, 51:01:32-51:01:46, 51:01:47[w], 51:01:48-51:01:49, 51:01:50[w], 51:01:51-51:01:73, 51:01:75-51:02:02, 51:02:04-51:04:02, 51:06:01-51:07:02, 51:11N-51:14, 51:16, 51:21-51:24:05, 51:26-51:28, 51:29[w], 51:30, 51:32-51:35, 51:38-51:39, 51:41N, 51:43, 51:46, 51:48-51:53, 51:55[w], 51:56:01-51:60, 51:62-51:71, 51:74-51:80, 51:82[w], 51:83-51:84, 51:86, 51:88-51:89, 51:94[w], 51:95-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:121, 51:123-51:134, 51:136-51:138, 51:140, 51:142-51:145, 51:147, 51:149N-51:152, 51:154-51:156, 51:158:01-51:171, 51:173Q-51:180, 51:182-51:193, 51:195-51:196, 51:198-51:205, 51:208-51:210, 51:212-51:215, 51:218-51:219, 51:221-51:222, 51:224-51:226, 51:228-51:253, 51:255-51:258, 51:260, 51:262, 51:264N-51:273N, 51:277-51:278, 51:279[w], 51:282-51:297, 51:299-51:305, 51:307-51:310, 52:01:01:01-52:01:10, 52:01:11[w], 52:01:12-52:01:25, 52:01:26[w], 52:01:27-52:02:02, 52:04-52:09:02, 52:11, 52:13-52:18, 52:20, 52:22-52:23, 52:24[w], 52:25:01-

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				52:25:02, 52:27-52:40, 52:42-52:43, 52:44[w], 52:45-52:56, 52:58-52:60, 52:61[w], 52:62, 52:64-52:70, 52:72-52:73, 52:76-52:77, 52:79-52:87, 52:89N-52:95, 54:20[w], 55:01:01:01-55:01:14, 55:01:16-55:01:18, 55:01:20-55:01:23, 55:03, 55:05, 55:09[w], 55:11, 55:15, 55:17, 55:24-55:25, 55:28-55:29, 55:31, 55:33, 55:36, 55:38, 55:40, 55:44-55:45, 55:52[w], 55:53-55:55N, 55:59-55:60, 55:64, 55:66, 55:73-55:76, 55:78-55:79, 55:84-55:85, 55:87, 55:90-55:95, 55:97N-55:106, 56:05:01-56:06, 56:21, 56:25, 56:37, 56:66, 57:57, 57:63[w], 58:08:01-58:08:02, 78:01:01:01-78:03, 78:05-78:07, 78:09, **C*01:90[w], C*01:116[w], C*03:317, C*14:92[w], C*15:24, C*15:128**
93[4]	110 bp	1070 bp	*40:310	
94[4]	75 bp	1070 bp	*40:06:02[?], 40:06:04:01-40:06:04:02, 40:06:05[?], 40:06:09[?]-40:06:16[?], 40:09[?], 40:10:02[?], 40:14:01[?]-40:14:02[?], 40:15[?], 40:18[?]-40:19[?], 40:21[?]-40:22N[?], 40:24[?]-40:25[?], 40:27:02[?]-40:29[?], 40:33[?]-40:36[?], 40:38[?]-40:39[?], 40:44[?]-40:47[?], 40:49[?], 40:53[?], 40:55[?]-40:58[?], 40:61[?]-40:63[?], 40:65[?], 40:67[?]-40:69[?], 40:71[?], 40:75[?]-40:76[?], 40:78[?], 40:81[?]-40:88[?], 40:91[?]-40:93[?], 40:95[?]-40:96[?], 40:98[?], 40:100[?]-40:110[?], 40:112[?], 40:114:02[?]-40:116[?], 40:118N[?], 40:120[?]-40:121[?], 40:123[?], 40:124:02[?]-40:125:01[?], 40:126[?]-40:128[?], 40:130:01[?], 40:131[?]-40:137[?], 40:141[?], 40:145[?], 40:148[?]-40:149[?], 40:151[?], 40:154[?], 40:156[?]-40:169[?], 40:173[?]-40:182[?], 40:184[?]-40:185[?], 40:186:02[?]-40:201[?], 40:203[?]-40:213[?], 40:215[?]-40:225:01[?], 40:226[?]-40:228[?], 40:230[?]-40:236[?], 40:238[?]-40:244[?], 40:246[?]-40:248[?], 40:256N[?]-40:257[?], 40:274[?]-40:276[?], 40:279[?]-40:283[?], 40:287[?]-40:289[?], 40:291N[?]-40:295[?], 40:297[?]-40:300[?], 40:306[?]-40:308[?], 40:311[?]-40:313[?], 40:315[?], 40:317[?]-40:319[?], 40:322[?], 40:324[?]-40:330[?], 40:333[?], 40:335[?]-40:344[?], 40:348[?]-40:352[?], 40:353:01, 40:354[?], 40:357[?]-40:361N[?], 40:363[?]-40:364[?], 40:366[?], 40:373,	*41:61, 44:270:02, 49:62, 55:86, 55:107, 56:54, 57:01:01:01-57:129

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			40:374?, 40:376?, 40:388?, 40:396?, 40:400?, 40:451?	
95	250 bp	1070 bp	*40:213, 40:247	*07:329, 14:80, 15:227, 18:183, 27:69, 27:192, 37:23, 42:28, 44:338
96[9]	-	-	**Negative Control**	

[1]Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*40 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, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.
[2]The internal positive control primer pairs amplify segments of the human growth hormone gene. The 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.
[3]For 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.
[4]HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.
[5]Primer mixes 20, 21, 23, 34, 38, 39, 41, 45, 54, 72, 74 and 91 may have tendencies of unspecific amplifications.
[6]Primer mix 7 may faintly amplify the C*17 alleles.
[7]Primer mixes 14, 27, 35, 45, 55, 56, 65, 69 and 70 have a tendency to giving rise to primer oligomer formation.
[8]Primer mixes 46, 48 and 70 and 92 may give rise to a lower yield of HLA-specific PCR product than the other B*40 primer mixes.
[9]Primer mix 96 contains a negative control, which will amplify a majority 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 200 base pairs.

Abbreviations
'w', might be weakly amplified.
'?', nucleotide sequence information not available for the primer matching sequence.

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

Visit https://labproducts.caredx.com for **"Instructions for Use" (IFU)**

Lot No.: 3L2 **Lot-specific information**

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	175	215	130	95	190	95	110	235	160	215	80	95
PCR product												
Length of int.	800	800	1070	800	800	1070	800	1070	1070	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	363	93	106	363	412	363	198	363	357	97	463	206
	5' -Agg 3'	5' -TAC 3'	5' -CCg 3'	5' -AgC 3'	5' -ATg 3'	5' -AgC 3'	5' -.gT 3'	5' -AgC 3'	5' -Tgg 3'	5' -TCC 3'	5' -TgA 3'	5' -gAA 3'
	363	97					206	363				
	5' -AgA 3'	5' -TCC 3'					5' -AgA 3'	5' -AgC 3'				
3'-primer(s)[3]	499	272	193	419	559	418	272	559	477	272	499	259
	5' -ggA 3'	5' -Tgg 3'	5' -CgT 3'	5' -CgT 3'	5' -CTC 3'	5' -gTT 3'	5' -Tgg 3'	5' -CAg 3'	5' -gCg 3'	5' -TgA 3'	5' -ggA 3'	5' -gTT 3'
		272	193			419					512	
		5' -Tgg 3'	5' -TgT 3'			5' -Cgg 3'					5' -CCA 3'	
						419						
						5' -CgA 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.	90	90	150	75	120	105	320	135	145	235	95	155
PCR product				160		175		285			160	
											205	
Length of int.	1070	800	800	800	800	800	1070	1070	800	800	800	1070
pos. control[1]												
5'-primer(s)[2]	363	144	206	486	527	369	379	363	209	363	194	436
	5' -AgC 3'	5' -gCA 3'	5' -gAA 3'	5' -ACC 3'	5' -TgT 3'	5' -TAC 3'	5' -ACC 3'	5' -AgC 3'	5' -ggC 3'	5' -AgC 3'	5' -CAA 3'	5' -AgA 3'
	363			570				512			257	454
	5' -AgC 3'			5' -gAT 3'				5' -gTg 3'			5' -CCC 3'	5' -ACT 3'
											652	459
											5' -CCA 3'	5' -gAg 3'
												649
												5' -ACg 3'
3'-primer(s)[3]	412	193	317	605	605	435	3rd I	605	311	559	311	559
	5' -gTC 3'	5' -CgT 3'	5' -ggA 3'	5' -gCT 3'	5' -gCT 3'	5' -TCT 3'	5' -TAT 3'	5' -gCT 3'	5' -ggT 3'	5' -CTC 3'	5' -ggT 3'	5' -CTC 3'
						502					814	774
						5' -CTT 3'					5' -CAA 3'	5' -ggT 3'
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

Visit https://labproducts.caredx.com for **"Instructions for Use" (IFU)**

Lot No.: 3L2 **Lot-specific information**

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	125	120	180	335	235	190	225	255	245	190	140	90
PCR product										235		135
Length of int.	1070	1070	800	1070	800	1070	1070	1070	1070	1070	800	1070
pos. control[1]												
5'-primer(s)[2]	206	527	106	361	363	408	419	93	355	409	363	97
	5' -gAA 3'	5' -TgA 3'	5' -CCA 3'	5' -AgT 3'	5' -AgC 3'	5' -ggT 3'	5' -gTC 3'	5' -TAC 3'	5' -TCA 3'	5' -ggT 3'	5' -AgC 3'	5' -TCT 3'
				363		412	420	97		454		143
				5' -Agg 3'		5' -ATA 3'	5' -TTA 3'	5' -TCC 3'		5' -ACT 3'		5' -CAT 3'
				363		412						
				5' -Agg 3'		5' -ATA 3'						
				363		412						
				5' -AgA 3'		5' -ATA 3'						
3'-primer(s)[3]	292	605	243	3rd I	559	559	605	311	559	605	463	193
	5' -gTC 3'	5' -gCT 3'	5' -TAA 3'	5' -TAT 3'	5' -CgT 3'	5' -CTC 3'	5' -gCT 3'	5' -ggT 3'	5' -CTC 3'	5' -gCT 3'	5' -gCT 3'	5' -CgT 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.	125	120	330	120	205	95	185	110	175	545	145	215
PCR product	270			150				210	235			245
									260			
Length of int.	1070	1070	800	1070	1070	1070	1070	800	1070	1070	800	1070
pos. control[1]												
5'-primer(s)[2]	355	355	45	388	97	141	355	412	788	103	89	97
	5' -TCA 3'	5' -TCA 3'	5' -ggA 3'	5' -.gg 3'	5' -TCC 3'	5' -ATT 3'	5' -TCA 3'	5' -ATA 3'	5' -TAA 3'	5' -CCT 3'	5' -gAC 3'	5' -TCC 3'
	499			419		143			814		96	
	5' -TCT 3'			5' -gTC 3'		5' -CAT 3'			5' -TgA 3'		5' -TTg 3'	
									874			
									5' -Cgg 3'			
3'-primer(s)[3]	583	435	206	499	259	193	499	479	916	362	193	272
	5' -gTg 3'	5' -TCT 3'	5' -CCT 3'	5' -ggA 3'	5' -gTT 3'	5' -CgT 3'	5' -ggA 3'	5' -CCA 3'	5' -gAC 3'	5' -TCC 3'	5' -CgT 3'	5' -TgT 3'
								577				299
								5' -gCT 3'				5' -TCA 3'
								580				
								5' -TCA 3'				
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2 **Lot-specific information**

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec.	120	255	200	90	165	125	125	100	220	190	85	135
PCR product					245			165			115	240
								270			150	
											190	
Length of int. pos. control[1]	1070	1070	1070	1070	1070	800	800	1070	1070	1070	1070	800
5'-primer(s)[2]	419	97	490	512	363	206	523	206	142	363	124	350
	5'-gTT 3'	5'-TCC 3'	5'-CgA 3'	5'-gTT 3'	5'-Agg 3'	5'-gAA 3'	5'-CCg 3'	5'-gAA 3'	5'-TCA 3'	5'-AgC 3'	5'-gCC 3'	5'-TCg 3'
			507	512			691	636			151	363
			5'-CgC 3'	5'-gTT 3'			5'-TgA 3'	5'-CAC 3'			5'-gCC 3'	5'-AAC 3'
											173	466
											5'-CgC 3'	5'-gTC 3'
											198	
											5'-.gT 3'	
											228	
											5'-ATg 3'	
3'-primer(s)[3]	499	302	3rd I	559	488	283	605	263	310	512	272	559
	5'-ggA 3'	5'-ggT 3'	5'-TAT 3'	5'-CAg 3'	5'-CCA 3'	5'-TgC 3'	5'-gCT 3'	5'-gTA 3'	5'-gTg 3'	5'-CCA 3'	5'-Tgg 3'	5'-CTC 3'
		312			565	296	774	760	322			
		5'-AgT 3'			5'-CAT 3'	5'-CTT 3'	5'-ggT 3'	5'-AAA 3'	5'-gTg 3'			
		323						865				
		5'-AgC 3'						5'-CCT 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.	80	150	155	105	130	145	85	90	75	505	120	245
PCR product	135	195	180		170		130	130				
		245	240				255	225				
Length of int. pos. control[1]	1070	800	1070	1070	1070	1070	1070	1070	800	1070	800	1070
5'-primer(s)[2]	109	97	363	357	408	499	363	363	142	193	193	357
	5'-TgA 3'	5'-TCC 3'	5'-AgC 3'	5'-Tgg 3'	5'-ggT 3'	5'-TCA 3'	5'-AgC 3'	5'-AgC 3'	5'-TCA 3'	5'-CCA 3'	5'-CCA 3'	5'-Tgg 3'
	165				412				477			
	5'-ACC 3'				5'-ATA 3'				5'-gCC 3'			
					412							
					5'-ATA 3'							
3'-primer(s)[3]	203	208	475	419	499	605	409	412	175	412	272	559
	5'-TCC 3'	5'-CTT 3'	5'-ggg 3'	5'-CgA 3'	5'-ggT 3'	5'-gCT 3'	5'-ATA 3'	5'-gTg 3'	5'-CCg 3'	5'-gTC 3'	5'-TgC 3'	5'-CTC 3'
		251	500		539		453	453	506			
		5'-CCg 3'	5'-ggA 3'		5'-TCC 3'		5'-TCC 3'	5'-TCC 3'	5'-TgA 3'			
		300	562				578	547				
		5'-CTg 3'	5'-gCg 3'				5'-TgA 3'	5'-gTg 3'				
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2 **Lot-specific information**

Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec.	220	210	245	260	130	115	180	115	225	75	155	160
PCR product	250		270		170	150	230	140	325	120	210	205
					195	250				150	240	
										180		
Length of int. pos. control[1]	1070	1070	1070	1070	800	1070	1070	1070	1070	800	1070	1070
5'-primer(s)[2]	788	357	363	97	97	97	97	459	715	151	412	412
	5'-TAA 3'	5'-Tgg 3'	5'-Agg 3'	5'-TCC 3'	5'-TCC 3'	5'-TCC 3'	5'-TCC 3'	5'-gAg 3'	5'-CAg 3'	5'-gCC 3'	5'-ATA 3'	5'-ATA 3'
	806				428	363	363	493	736	173	652	
	5'-ggA 3'				5'-Cgg 3'	5'-AgC 3'	5'-Agg 3'	5'-CTg 3'	5'-gCA 3'	5'-CgC 3'	5'-CCA 3'	
	832							668	826	215		
	5'-AAA 3'							5'-ggC 3'	5'-CTT 3'	5'-gCA 3'		
										256		
										5'-ACT 3'		
										3rd I		
										5'-Agg 3'		
3'-primer(s)[3]	916	527	565	309	187	208	236	559	916	292	530	530
	5'-gAC 3'	5'-CCT 3'	5'-CAT 3'	5'-gTg 3'	5'-gTA 3'	5'-CTT 3'	5'-CCA 3'	5'-CTC 3'	5'-gAC 3'	5'-gTA 3'	5'-CCT 3'	5'-CCT 3'
			594	323	252	307	239	754		677	581	572
			5'-CCg 3'	5'-Agg 3'	5'-TC. 3'	5'-CCA 3'	5'-gCT 3'	5'-Agg 3'		5'-ACT 3'	5'-ATT 3'	5'-gCg 3'
					559	437	302			704	761	580
					5'-CTC 3'	5'-AAC 3'	5'-ggC 3'			5'-CCA 3'	5'-CAg 3'	5'-TCA 3'
							543				853	
							5'-gCg 3'				5'-TAT 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.	355	245	100	105	175	220	130	155	110	75	250
PCR product			195	200		315	335				
						415	395				
Length of int. pos. control[1]	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	1070
5'-primer(s)[2]	302	357	72	142	641	637	303	412	97	15	652
	5'-gAg 3'	5'-Tgg 3'	5'-gCT 3'	5'-TCA 3'	5'-gAT 3'	5'-ACA 3'	5'-..C 3'	5'-ATA 3'	5'-TCC 3'	5'-gCA 3'	5'-CCA 3'
			369			736	756				
			5'-TAC 3'			5'-gCA 3'	5'-ACT 3'				
						832					
						5'-AAA 3'					
3'-primer(s)[3]	369	559	97	206	774	916	412	527	164	49	853
	5'-CCT 3'	5'-CTC 3'	5'-gTA 3'	5'-CCg 3'	5'-ggT 3'	5'-gAC 3'	5'-gTT 3'	5'-CCT 3'	5'-gCA 3'	5'-CAC 3'	5'-TAT 3'
			426	302			843				872
			5'-TCC 3'	5'-ggC 3'			5'-gTT 3'				5'-TCA 3'
							959				
							5'-CAg 3'				
Well No.	85	86	87	88	89	90	91	92	93	94	95

Lot No.: 3L2 **Lot-specific information**

[1]The 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.

[2]The 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.

[3]The 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.

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*40 SSP subtyping kit[2]

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	201907001	201907002	201907003	201907004	201907005	201907006	201907007	201907008	201907009	201907010	201907011	201907012	201907013	201907014	201907015	201907016
	IHWC cell line[1]		B*																	
1	9001	SA	*07:02		-	-	-	+	+	-	-	-	-	-	-	-	+	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
30	9021	RSH	*42:01		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	+	+	-	-	-	-	-	-	-	+	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	+	+	-	-	-	-	-	-	-	+	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*40 SSP subtyping kit[2]

					Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:	201907017	201907018	201907019	201907020	201907021	201907022	201907023	201907024	201907025	201907026	201907027	201907028	201907029	201907030	201907031	201907032
	IHWC cell line[1]		B*																	
1	9001	SA	*07:02		-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
8	9025	DEU	*35:01		-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
10	9107	LKT3	*54:01		-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-
15	9075	DKB	*40:01		+	-	-	-	-	-	-	-	-	-	-	+	-	+	-	+
16	9037	SWEIG007	*40:02		-	-	-	-	-	+	-	-	-	-	-	-	-	+	-	+
17	9282	CTM3953540	*08:01	*55:01	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-
18	9257	32367	*14:01	*56:01	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
20	9059	SLE005	*40:01		+	-	-	-	-	-	-	-	-	-	-	+	-	+	-	+
21	9064	AMALA	*15:01		-	-	-	-	+	-	-	-	-	-	-	+	-	-	-	-
22	9056	KOSE	*35:03		-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	+	-	-	+	-	-	-	-	-	+	-	+	-	+
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
26	9285	WT49	*58:01		-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	+	-	+	-	-	-	+	-	-	-	+	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	+
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	+
33	9098	MT14B	*40:01		+	-	-	-	-	-	-	-	-	-	-	+	-	+	-	+
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	+	-	+	-	-	-	-	-	-	+	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	+	-	-	-	-	-	-	+	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	+	-	+	-	-	-	-	-	-	+	-	+	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	+	-	-	-	-	-	-	+	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	+	-	-	-	-	-	-	+	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	+
46	9013	SCHU	*07:02		-	-	-	+	-	+	-	-	-	+	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	+	-	-	-	-	-	-	-	-	+	-	-	-	-

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

Visit https://labproducts.caredx.com for **"Instructions for Use" (IFU)**

Lot No.: 3L2 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*40 SSP subtyping kit[2]

					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				Prod. No.:	201907033	201907034	201907035	201907036	201907037	201907038	201907039	201907040	201907041	201907042	201907043	201907044	201907045	201907046	201907047	201907048
	IHWC cell line[1]		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	w	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	+	-	-	-	-	+	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	+	-	-	-	-	+	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	+	-	-	-	-	+	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*40 SSP subtyping kit[2]

					Well															
					49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
				Prod. No.:	201907049	201907050	201907051	201907052	201907053	201907054	201907055	201907056	201907057	201907058	201907059	201907060	201907061	201907062	201907063	201907064
	IHWC cell line[1]		B*																	
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 3L2 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*40 SSP subtyping kit[2]

					Well															
					65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
				Prod. No.:	201907065	201907066	201907067	201907068	201907069	201907070	201907071	201907072	201907073	201907074	201907075	201907076	201907077	201907078	201907079	201907080
	IHWC cell line[1]		B*																	
1	9001	SA	*07:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	+	-	-	-	-	-	-	+	-	+	-	-	-	-	-	-
3	9011	E4181324	*52:01		+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
18	9257	32367	*14:01	*56:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	+	+	-	-	-	-	-	-	-	+	-	-	-	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		+	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-

101.523-24/03 – including *Taq* pol., IFU-01
101.523-24u/03u – without *Taq* pol., IFU-02

Visit https://labproducts.caredx.com for **"Instructions for Use" (IFU)**

Lot No.: 3L2 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*40 SSP subtyping kit[2]

					Well														
					81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
				Prod. No.:	201907081	201907082	201907083	201907084	201907085	201907086	201907087	201907088	201907089	201907090	201907091	201907092	201907093	201907094	201907095
	IHWC cell line[1]		B*																
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	+	-	-	-	-	-	+	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	-	-	-	-	-	+	-
13	9004	JESTHOM	*27:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*15:01	*15:20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*40:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*08:01	*55:01	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
18	9257	32367	*14:01	*56:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*35:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*07:05	*51:01	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
28	9320	BEL5GB	*44:02	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*44:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*42:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019	DUCAF	*18:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297	HAG	*41:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*40:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*44:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024	KT17	*15:01	*35:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*15:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*08:01	*27:05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*13:02	*46:01	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-
41	9055	H0301	*14:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	-	-	-	+	-	-	-
48	9303	TER-ND	*35:01	*44:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Lot No.: 3L2 **Lot-specific information**

[1]The 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.

[2]The 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 11, 16, 23 to 25, 27, 34, 38, 42 to 45, 47 to 57, 59 to 63, 67 to 69, 71, 73, 75 to 83, 85, 87 to 91, 93 and 95 were available.

The specificities of the primers in primer solutions 11, 16, 23, 25, 34, 38, 42, 43, 45, 48 to 50, 52, 54, 55, 61, 68, 69, 71, 76, 77, 79, 80, 82, 85, 87, 88 and 91 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers.

In primer solutions 27, 44, 53, 56, 57, 62, 63, 67, 75, 78, 83, and 95 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 24, 47, 51, 59, 60, 73, 81, 89 and 90 it was only possible to test the 3'-primers, the 5'-primers were not possible to test.

One, two or three of the 3'-primers in primer solutions 3, 6, 23, 50, 54, 68, 76, 77, 79, 80, 82, 84, 87, 88 and 91 and one to four of the 5'-primers in primer solutions 1, 2, 7, 16, 23, 28, 30, 32, 34, 36, 40, 42, 45, 55, 61, 65, 77, 80, 82 and 91 were not possible to test.

In addition, the primers in primer solutions 2, 6 18, 31 and 37 were tested by separately adding one 5'-primer or one or two 3'-primers.

Lot No.: 3L2 **Lot-specific information**

ADDRESSES:

Manufacturer:
CareDx AB, Franzengatan 5, SE-112 51 Stockholm, Sweden.
Tel: +46-8-508 939 00
Fax: +46-8-717 88 18
E-mail: orders-se@caredx.com
Web page: https://labproducts.caredx.com/

Distributed by:
CareDx GmbH, Löwengasse 47 / 6, AT-1030 Vienna, Austria.
Tel: +43-1-710 15 00
Fax: +43-1-710 15 00 10
E-mail: orders-at@caredx.com
Web page: https://labproducts.caredx.com/

CareDx Lab Solutions Inc., 901 S. Bolmar St., Suite R, West Chester, PA 19382
Tel: 1-877-653-78171
Fax: 610-344-7989
E-mail: orders-us@caredx.com
Web page: https://labproducts.caredx.com/

For information on CareDx distributors worldwide, contact **CareDx GmbH**.