101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: 2L8 **Lot-specific information**

Olerup SSP® HLA-B*51

Product number:	**101.561-24/03 – including *Taq* pol.** **101.561-24u/03u – without *Taq* pol.**
Lot number:	**2L8**
Expiry date:	**2024-11-01**
Number of tests:	**24 tests – Product No. 101.561-24/24u** **3 tests – Product No. 101.561-03/03u**
Number of wells per test:	**84+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. 2L8.

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*51 LOT (3K5)

- The product documentation has been updated for new alleles of IMGT 3.41.0
- The kit resolution focuses on common and well documented (CWD) alleles[1].

[1]As described in section Uniquely Identified Alleles.

The HLA-B*51 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup* SSP® HLA-B*51 lot was made **(Lot No. 3K5)**.

The primers of the wells detailed below have been exchanged, added or modified compared to the previous lot **(Lot No. 3K5)**.

Well	5'-primer	3'-primer	rationale
63	-	-	Positive control primer pair exchanged for improved HLA-specific amplification.

[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

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Lot No.: 2L8 **Lot-specific information**

Well **85** 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 products 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.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

PRODUCT DESCRIPTION

HLA-B*51 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*51:01 to B*51:321 alleles.

PLATE LAYOUT

Each test consists of 85 PCR reactions in a 96 well PCR plate. Wells 86 to 96 are empty.

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	42	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	NC	empty	empty	empty
empty	empty	empty	empty	empty	empty	empty	empty

The 96 well cut PCR plate is marked with 'HLA-B*51' in silver/gray ink.
Well No. 1 is marked with the Lot No. '2L8'.
Wells 1 to 84 – HLA-B*51 high resolution primers.
Well 85 – 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*51 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*51 alleles, i.e. **B*51:01 to B*51:321**, recognized by the HLA Nomenclature Committee in July 2020[1,2] will be amplified by the primers in the HLA-B*51 subtyping kit[3].

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Lot No.: 2L8 **Lot-specific information**

The HLA-B*51 kit enables separation of the confirmed HLA-B*51 alleles as listed in the IMGT/HLA database 3.25.0. 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*51 alleles is listed below.

The HLA-B*51 kit also enables identification of many null and alternatively expressed alleles.

The following HLA-B*51 alleles can be distinguished by the different sizes of the specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
B*51:26, 51:185	20	B*51:70, 51:71	53
B*51:30, 51:142	25	B*51:74, 51:124	54
B*51:51, 51:76	44	B*51:75, 51:77	55
B*51:55, 51:245N	37	B*51:83, 51:88	59
B*51:57, 51:123	46	B*51:84, 51:94	60
B*51:66, 51:67	64	B*51:86, 51:95	62
B*51:68, 51:72	51	B*51:127, 51:149N	73

[1]HLA-B alleles listed on the IMGT/HLA web page 2020-July-13, release 3.41.0, 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.
[3]The following alleles will give rise to identical amplification patterns. These alleles can e.g. be distinguished by the HLA-B low resolution kit and/or the respective high-resolution kits.

Alleles
B*51:119, 51:176, 51:179, 51:218, 51:226, B*52:06:03
B*51:220, B*53:01:13

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Lot No.: 2L8 **Lot-specific information**

ALLELE CONFIRMATION STATUS

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
B*51:01:01:01	**Confirmed**	B*51:01:50	Unconfirmed	**B*51:34**	**Confirmed**	B*51:81	Unconfirmed
B*51:01:01:02	Unconfirmed	B*51:01:51	Unconfirmed	B*51:35	Unconfirmed	**B*51:82**	**Confirmed**
B*51:01:02	**Confirmed**	B*51:01:52	Unconfirmed	**B*51:36**	**Confirmed**	**B*51:83**	**Confirmed**
B*51:01:03	Unconfirmed	B*51:01:53	Unconfirmed	**B*51:37**	**Confirmed**	B*51:84	Unconfirmed
B*51:01:04	**Confirmed**	**B*51:02:01**	**Confirmed**	**B*51:38**	**Confirmed**	**B*51:85**	**Confirmed**
B*51:01:05	Unconfirmed	**B*51:02:02**	**Confirmed**	B*51:39	Unconfirmed	B*51:86	Unconfirmed
B*51:01:06	Unconfirmed	B*51:02:03	Unconfirmed	**B*51:40**	**Confirmed**	B*51:87	Unconfirmed
B*51:01:07	Unconfirmed	B*51:02:04	Unconfirmed	B*51:41N	Unconfirmed	B*51:88	Unconfirmed
B*51:01:08	Unconfirmed	**B*51:02:05**	**Confirmed**	B*51:42	Unconfirmed	B*51:89	Unconfirmed
B*51:01:09	**Confirmed**	B*51:03	Unconfirmed	**B*51:43**	**Confirmed**	**B*51:90**	**Confirmed**
B*51:01:10	**Confirmed**	B*51:04	Unconfirmed	B*51:44N	Unconfirmed	B*51:91	Unconfirmed
B*51:01:11	Unconfirmed	**B*51:05**	**Confirmed**	B*51:45	Unconfirmed	B*51:92:01	Unconfirmed
B*51:01:12	Unconfirmed	**B*51:06:01**	**Confirmed**	B*51:46	Unconfirmed	B*51:92:02	Unconfirmed
B*51:01:13	Unconfirmed	**B*51:06:02**	**Confirmed**	B*51:48	Unconfirmed	B*51:93	Unconfirmed
B*51:01:14	Unconfirmed	B*51:06:03	Unconfirmed	B*51:49	Unconfirmed	**B*51:94**	**Confirmed**
B*51:01:15	Unconfirmed	**B*51:07:01**	**Confirmed**	**B*51:50**	**Confirmed**	B*51:95	Unconfirmed
B*51:01:16	Unconfirmed	B*51:07:02	Unconfirmed	B*51:51	Unconfirmed	B*51:96	Unconfirmed
B*51:01:17	Unconfirmed	**B*51:08:01**	**Confirmed**	**B*51:52**	**Confirmed**	B*51:97	Unconfirmed
B*51:01:18	**Confirmed**	B*51:08:02	Unconfirmed	B*51:53	Unconfirmed	B*51:98N	Unconfirmed
B*51:01:19	**Confirmed**	**B*51:09:01**	**Confirmed**	B*51:54	Unconfirmed	B*51:99	Unconfirmed
B*51:01:20	**Confirmed**	**B*51:09:02**	**Confirmed**	**B*51:55**	**Confirmed**	**B*51:100**	**Confirmed**
B*51:01:21	**Confirmed**	B*51:09:03	Unconfirmed	**B*51:56:01**	**Confirmed**	B*51:101	Unconfirmed
B*51:01:22	Unconfirmed	**B*51:10**	**Confirmed**	B*51:56:02	Unconfirmed	B*51:102	Unconfirmed
B*51:01:23	Unconfirmed	**B*51:11N**	**Confirmed**	B*51:56:03	Unconfirmed	**B*51:103**	**Confirmed**
B*51:01:24	Unconfirmed	B*51:12	Unconfirmed	B*51:57	Unconfirmed	B*51:104	Unconfirmed
B*51:01:25	Unconfirmed	**B*51:13:01**	**Confirmed**	B*51:58	Unconfirmed	**B*51:105**	**Confirmed**
B*51:01:26	Unconfirmed	**B*51:13:02**	**Confirmed**	B*51:59	Unconfirmed	B*51:106	Unconfirmed
B*51:01:27	Unconfirmed	**B*51:14**	**Confirmed**	B*51:60	Unconfirmed	**B*51:107**	**Confirmed**
B*51:01:28	Unconfirmed	B*51:15	Unconfirmed	**B*51:61:01**	**Confirmed**	**B*51:108**	**Confirmed**
B*51:01:29	**Confirmed**	**B*51:16**	**Confirmed**	B*51:61:02	Unconfirmed	**B*51:109**	**Confirmed**
B*51:01:30	Unconfirmed	B*51:17	Unconfirmed	B*51:62	Unconfirmed	B*51:110N	Unconfirmed
B*51:01:31	Unconfirmed	B*51:18	Unconfirmed	B*51:63	Unconfirmed	**B*51:111**	**Confirmed**
B*51:01:32	**Confirmed**	**B*51:19**	**Confirmed**	**B*51:64**	**Confirmed**	B*51:112	Unconfirmed
B*51:01:33	**Confirmed**	**B*51:20**	**Confirmed**	**B*51:65**	**Confirmed**	B*51:113	Unconfirmed
B*51:01:34	**Confirmed**	B*51:21	Unconfirmed	B*51:66	Unconfirmed	B*51:114	Unconfirmed
B*51:01:35	**Confirmed**	**B*51:22**	**Confirmed**	**B*51:67**	**Confirmed**	**B*51:115**	**Confirmed**
B*51:01:36	Unconfirmed	**B*51:23**	**Confirmed**	**B*51:68**	**Confirmed**	**B*51:116**	**Confirmed**
B*51:01:37	Unconfirmed	**B*51:24:01**	**Confirmed**	**B*51:69**	**Confirmed**	**B*51:117**	**Confirmed**
B*51:01:38	**Confirmed**	B*51:24:02	Unconfirmed	**B*51:70**	**Confirmed**	B*51:118N	Unconfirmed
B*51:01:39	**Confirmed**	**B*51:24:03**	**Confirmed**	B*51:71	Unconfirmed	**B*51:119**	**Confirmed**
B*51:01:40	Unconfirmed	**B*51:24:04**	**Confirmed**	B*51:72	Unconfirmed	**B*51:120**	**Confirmed**
B*51:01:41	Unconfirmed	**B*51:24:05**	**Confirmed**	**B*51:73**	**Confirmed**	B*51:121	Unconfirmed
B*51:01:42	Unconfirmed	**B*51:26**	**Confirmed**	**B*51:74**	**Confirmed**	**B*51:122**	**Confirmed**
B*51:01:43	Unconfirmed	B*51:27N	Unconfirmed	**B*51:75**	**Confirmed**	**B*51:123**	**Confirmed**
B*51:01:44	**Confirmed**	B*51:28	Unconfirmed	B*51:76	Unconfirmed	**B*51:124**	**Confirmed**
B*51:01:45	Unconfirmed	**B*51:29**	**Confirmed**	B*51:77	Unconfirmed	B*51:125	Unconfirmed
B*51:01:46	Unconfirmed	B*51:30	Unconfirmed	**B*51:78:01**	**Confirmed**	**B*51:126**	**Confirmed**
B*51:01:47	Unconfirmed	B*51:31	Unconfirmed	B*51:78:02	Unconfirmed	**B*51:127**	**Confirmed**
B*51:01:48	Unconfirmed	B*51:32	Unconfirmed	**B*51:79**	**Confirmed**	B*51:128	Unconfirmed
B*51:01:49	Unconfirmed	B*51:33	Unconfirmed	B*51:80	Unconfirmed	B*51:129	Unconfirmed

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

Allele	Status[1]	Allele	Status[1]	Allele	Status[1]	Allele	Status[1]
B*51:130	**Confirmed**	B*51:150	Unconfirmed	B*51:169	Unconfirmed	B*51:189	Unconfirmed
B*51:131	Unconfirmed	**B*51:151**	**Confirmed**	B*51:170	Unconfirmed	B*51:190	Unconfirmed
B*51:132	Unconfirmed	**B*51:152**	**Confirmed**	B*51:171	Unconfirmed	B*51:191	Unconfirmed
B*51:133	Unconfirmed	B*51:153	Unconfirmed	B*51:172	Unconfirmed	B*51:192	Unconfirmed
B*51:134	**Confirmed**	B*51:154	Unconfirmed	B*51:173Q	Unconfirmed	**B*51:193**	**Confirmed**
B*51:135	Unconfirmed	B*51:155	Unconfirmed	**B*51:174**	**Confirmed**	B*51:194	Unconfirmed
B*51:136	**Confirmed**	**B*51:156**	**Confirmed**	B*51:175	Unconfirmed	B*51:195	Unconfirmed
B*51:137	Unconfirmed	B*51:157	Unconfirmed	B*51:176	Unconfirmed	B*51:196	Unconfirmed
B*51:138	Unconfirmed	**B*51:158:01**	**Confirmed**	B*51:177	Unconfirmed	B*51:197	Unconfirmed
B*51:139	Unconfirmed	**B*51:158:02**	**Confirmed**	B*51:178N	Unconfirmed	B*51:198	Unconfirmed
B*51:140	Unconfirmed	B*51:159	Unconfirmed	B*51:179	Unconfirmed	B*51:199	Unconfirmed
B*51:141	Unconfirmed	**B*51:160**	**Confirmed**	B*51:180	Unconfirmed	B*51:200	Unconfirmed
B*51:142	Unconfirmed	B*51:161	Unconfirmed	B*51:181	Unconfirmed	B*51:201	Unconfirmed
B*51:143	Unconfirmed	B*51:162	Unconfirmed	B*51:182	Unconfirmed	B*51:202	Unconfirmed
B*51:144	Unconfirmed	B*51:163	Unconfirmed	B*51:183	Unconfirmed	B*51:203	Unconfirmed
B*51:145	Unconfirmed	B*51:164	Unconfirmed	B*51:184N	Unconfirmed	B*51:204	Unconfirmed
B*51:146	**Confirmed**	B*51:165	Unconfirmed	**B*51:185**	**Confirmed**	B*51:205	Unconfirmed
B*51:147	**Confirmed**	B*51:166	Unconfirmed	B*51:186	Unconfirmed	B*51:206	Unconfirmed
B*51:148	**Confirmed**	**B*51:167**	**Confirmed**	**B*51:187**	**Confirmed**	B*51:207	Unconfirmed
B*51:149N	Unconfirmed	**B*51:168**	**Confirmed**	B*51:188	Unconfirmed	B*51:208	Unconfirmed

[1]Allele status "confirmed" or "unconfirmed" as listed on the IMGT/HLA web page 2016-July-14, release 3.25.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-B*51 homo- and heterozygotes is available upon request.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

SPECIFICITY TABLE

HLA-B*51 SSP subtyping

Specificities and sizes of the PCR products of the 84+1 primer mixes used for HLA-B*51 SSP subtyping

Primer Mix	Size of spec. PCR product[1]	Size of control band[2]	Amplified HLA-B*51 alleles[3]	Other amplified HLA-B alleles
1[4]	105 bp	**800 bp**	*51:01:01:01-51:06:04, 51:08:01:01-51:21, 51:23-51:24:05, 51:26-51:46, 51:48-51:103, 51:105-51:111, 51:113-51:127, 51:129-51:146, 51:148-51:188, 51:190-51:213, 51:215-51:221, 51:223-51:235N, 51:237-51:250, 51:252-51:266, 51:268-51:271, 51:273N-51:283, 51:285-51:309, 51:311-51:321	*08:32, 08:133, 08:180, 08:239, 18:07:01-18:07:02, 18:29, 18:79, 18:136, 35:01:01:01-35:08:01:08, 35:08:03-35:08:04, 35:08:06-35:18, 35:21-35:24:02, 35:27, 35:29:01-35:43:01, 35:43:03-35:45, 35:48, 35:50-35:62, 35:64:01-35:71, 35:74-35:75, 35:77, 35:79-35:81, 35:83-35:84, 35:86-35:94, 35:96-35:134N, 35:136-35:153, 35:155-35:185, 35:187-35:197, 35:199-35:206, 35:208:01-35:209, 35:211-35:216N, 35:218-35:225, 35:227-35:228, 35:230-35:253, 35:256-35:270, 35:272-35:273, 35:275-35:293, 35:295, 35:297-35:310, 35:312-35:316, 35:318-35:360, 35:362-35:367, 35:369-35:438, 35:440-35:449, 35:451-35:462, 35:464-35:489, 37:21, 37:67, 38:06-38:07, 44:06, 52:06:01-52:06:03, 53:01:01:01-53:08:02, 53:10-53:16, 53:18-53:27, 53:29, 53:31-53:37, 53:41-53:62, 78:01:01:02-78:02:02, 78:04, 78:07-78:10
2[4]	95 bp	1070 bp	*51:01:01:01-51:01:84, 51:03-51:04:02, 51:06:01-51:07:02, 51:11N-51:14, 51:16-51:18, 51:21-51:22, 51:24:01-51:24:05, 51:26-51:30, 51:32-51:33, 51:35, 51:37-51:39, 51:41N, 51:43, 51:45-51:46, 51:48-51:52, 51:55-51:58, 51:60-51:72, 51:74-51:80, 51:82-51:92:02, 51:94-51:96, 51:98N-51:107, 51:109-51:114, 51:116-51:119, 51:121, 51:123-51:138, 51:140, 51:142, 51:145, 51:147, 51:149N-51:152, 51:154-51:156, 51:158:01-51:174:02, 51:176-51:179,51:182-51:193,51:195-51:196,	*07:218, 13:62, 14:01:01:01-14:40, 14:42, 14:44-14:45, 14:47-14:55, 14:57-14:58, 14:60-14:61, 14:63-14:89, 15:37-15:38:02, 15:323, 15:335, 15:364, 15:368, 15:435, 18:15, 18:19, 18:30, 18:57:01-18:57:02, 18:152, 27:153, 35:21, 35:96, 35:188, 40:28, 40:51, 40:174, 44:459, 49:09, 50:58, 52:01:01:01-52:01:32, 52:01:34-52:02:02, 52:04-52:09:02, 52:12-52:18, 52:20-52:27, 52:30-52:66, 52:68-52:70, 52:72-52:73, 52:75-52:100, 53:06, 53:28, 56:05:01-56:06, 56:21, 58:08:01-58:08:02, 78:01:01:02-78:03, 78:05-78:07, 78:09, **C*01:30, C*02:142, C*03:384, C*05:216:01:01-05:216:01:02, C*06:207, C*08:51, C*08:114, C*12:87, C*14:76, C*15:39, C*15:130, C*15:195**

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43[4]	115 bp 215 bp	**800 bp**	*51:58 *51:50	
44	285 bp	**800 bp**	*51:76, 51:166	*08:39, 13:112, 15:140, 35:101:02, 35:195, 35:211, 44:185, 54:34
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49	160 bp	1070 bp	*51:01:02:01-51:01:02:02, 51:01:09, 51:02:02, 51:05, 51:06:04, 51:07:02, 51:09:02, 51:15, 51:54, 51:78:02, 51:93, 51:132, 51:144, 51:148, 51:180	*07:56:01-07:56:02, 07:72, 08:26:01-08:26:02, 08:56:01-08:56:02, 08:180, 08:239, 14:54, 15:02:01:01-15:02:12, 15:08:01-15:08:02, 15:11:01-15:11:07, 15:13:01-15:13:02, 15:15:01:01-15:15:01:02, 15:21:01:01-15:21:01:02, 15:31:01:01-15:31:01:03, 15:44, 15:55, 15:76, 15:88-15:89:02, 15:112, 15:121, 15:139, 15:143-15:144, 15:148, 15:170, 15:189, 15:191, 15:194, 15:209N, 15:213-15:215, 15:223, 15:265, 15:283-15:284, 15:291, 15:297, 15:301-15:303, 15:305, 15:308, 15:319, 15:325, 15:328, 15:330, 15:341, 15:350, 15:357-15:358, 15:367, 15:374, 15:378, 15:384, 15:394, 15:399, 15:404, 15:418, 15:420, 15:425, 15:437-15:438, 15:454N, 15:460, 15:479, 15:486, 15:491, 15:495, 15:504-15:505, 15:508, 15:513, 15:537, 15:553, 15:557, 15:567, 18:04:02, 18:29, 18:98:01, 35:01:01:01-35:01:55, 35:01:57-35:02:05, 35:02:07-35:03:21, 35:03:23-35:03:26, 35:03:28-35:08:04, 35:08:06-35:09:03,

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50	155 bp	1070 bp	*51:81	*07:02:01:01-07:02:13, 07:02:15-07:02:19, 07:02:21-07:02:34, 07:02:36-07:02:38, 07:02:40-07:02:72, 07:02:74-07:06:01:03, 07:06:03-07:06:05, 07:08:01-07:11, 07:13, 07:15-07:17, 07:19-07:21, 07:23-07:67N, 07:68:03-07:76, 07:79-07:83, 07:85:01-07:99, 07:101-07:136:02, 07:138-07:161N, 07:164-07:192, 07:194-07:195, 07:199-07:213, 07:215-07:224, 07:226, 07:228:01-07:234, 07:236, 07:238, 07:240-07:247, 07:249-07:254, 07:256-07:261, 07:263-07:344, 07:346-07:349, 07:351N-07:358, 07:360Q-07:385, 07:387-07:407, 08:01:02, 08:01:13, 08:20:01, 08:53:02, 08:79, 08:156, 08:213, 13:71, 15:421, 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, 35:31, 35:114, 37:07, 37:09, 40:02:01:01-40:02:19, 40:02:21-40:02:25, 40:02:27-40:03:02, 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, 40:27:01-40:27:03, 40:29, 40:31-40:32, 40:35:01, 40:37, 40:39-40:40, 40:45, 40:50:01:01-40:50:01:02, 40:56-40:58, 40:80, 40:82, 40:85, 40:89-40:91, 40:94, 40:97-40:98, 40:104-40:105, 40:107, 40:111, 40:115, 40:119, 40:122, 40:133Q, 40:142N-40:145, 40:157, 40:164, 40:169,

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51[4]	85 bp 135 bp 215 bp	**800 bp**	*51:68 *51:136 *51:72	*08:56:03 *50:66
52	160 bp	1070 bp	*51:69, 51:107	*18:65, 52:30, **A*33:122**
53	135 bp 165 bp 260 bp	1070 bp	*51:136 *51:71, 51:174:01-51:174:02 *51:70	 *13:105, 55:29 *52:55
54[4,5]	120 bp 250 bp	1070 bp	*51:74 *51:124, 51:156	*08:155, 35:46-35:47, 35:154, 35:207, 35:217, 35:257, 35:278, 35:450, 40:07-40:08, 40:13, 40:68, 40:106, 40:162, 40:220, 40:232, 41:46, 44:232, 49:67, 53:30
55[4]	75 bp 200 bp	1070 bp	*51:77 *51:75	
56	380 bp	1070 bp	*51:01:01:01-51:01:07, 51:01:09-51:01:14, 51:01:16-51:01:39, 51:01:41-51:01:42, 51:01:44-51:12, 51:16-51:24:05, 51:26-51:36, 51:38-51:41N, 51:43-51:44N, 51:46, 51:48-51:49, 51:51-51:53, 51:55-51:61:02, 51:64-51:77, 51:79-51:84, 51:86-51:89, 51:91, 51:93-51:96,	*08:03, 08:52, 08:78, 15:361, 27:102, 38:73, 40:13, 40:19, 40:109, 40:117, 40:292, 40:340, 40:394, 41:46, 41:60, 48:18, 49:18:01-49:18:02, 52:01:01:01-52:01:28, 52:01:30-52:11, 52:13, 52:15-52:19, 52:21:01-52:24, 52:27-52:38, 52:40-52:61, 52:64-52:67, 52:69-52:74, 52:76-52:87, 52:89N-52:96N, 52:98-52:100, 53:19, 56:21, 57:02:01:01-57:03:05, 57:05, 57:07, 57:09, 57:17, 57:39, 57:42, 57:46, 57:57, 57:63, 57:66, 57:70, 57:80, 57:82, 57:84, 57:94, 57:96, 57:101, 57:124,

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57	145 bp 210 bp	1070 bp	*51:79, 51:178N *51:54, 51:78:01-51:78:02	**A*24:426N** *13:17, 13:33, 15:36, 15:89:01-15:89:02, 15:256, 15:339, 15:505, 44:02:10, 44:34:01-44:34:02, 44:83, 44:225, 44:245, 44:269, 52:20, 53:09, 53:11-53:13, 53:31, 53:36, 53:38, 56:07, 59:08
58[7]	170 bp	1070 bp	*51:80, 51:107, 51:168	**A*33:122**
59[4]	120 bp 240 bp	1070 bp	*51:83 *51:88	
60[4,7]	85 bp 190 bp	**800 bp**	*51:94 *51:84, 51:130	*13:121 *39:141, 49:12, 55:87
61[4]	100 bp 210 bp	1070 bp	*51:85, 51:192, 51:214, 51:261, 51:274 *51:87, 51:115, 51:181	*27:14, 27:81, 44:20, 44:47, 44:100, 44:197, 50:20, 52:26 *40:376, 49:45, 56:59, **C*07:463, C*07:758**
62	180 bp 250 bp	1070 bp	*51:86, 51:132 *51:95	*39:57, 50:55
63[4]	70 bp 200 bp	**800 bp**	*51:91 *51:146	*13:86, 35:02:01:01-35:02:07, 35:02:08[w], 35:02:09-35:02:16, 35:81, 35:83, 35:95, 35:129N, 35:146, 35:154, 35:162, 35:172, 35:182-35:184, 35:211, 35:220, 35:258, 35:270, 35:273, 35:285, 35:309, 35:311, 35:323, 35:335, 35:339, 35:357, 35:361, 35:366-35:367, 35:372, 35:374, 35:377-35:379, 35:387, 35:391, 35:394, 35:396, 35:403, 35:407, 35:410, 35:419, 35:443, 35:483, 35:487, 45:12, 50:36, 53:19, 53:36, 58:65
64[4]	115 bp 170 bp	1070 bp	*51:67 *51:66, 51:89	*35:314
65[6]	185 bp 215 bp	1070 bp	*51:98N *51:103, 51:116, 51:151	*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, 40:07-40:08, 40:13, 40:68,

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				40:106, 40:162, 40:220, 40:232, 41:46, 42:26, 49:67
66[6]	175 bp 210 bp	1070 bp	*51:109, 51:132 *51:120	
67[4]	110 bp 160 bp 230 bp	1070 bp	*51:93, 51:122 *51:231 *51:100	
68	160 bp 190 bp	1070 bp	*51:134 *51:105	 *35:358
69[4]	105 bp 225 bp	1070 bp	*51:147 *51:110N	**A*02:01:33[w], A*23:01:14[w]**
70	160 bp	1070 bp	*51:111, 51:134	
71	185 bp	1070 bp	*51:117, 51:130	*39:141, 49:12, 55:87
72[4]	90 bp 145 bp 170 bp	1070 bp	*51:118N *51:169 *51:164	 *35:467, 39:46[w], 44:118[w], 49:64
73	170 bp 295 bp	1070 bp	*51:127, 51:174:01-51:174:02 *51:149N	*13:105, 55:29, 55:43
74	180 bp	1070 bp	*51:157, 51:300	*13:06, 13:53, 13:131, 15:42, 15:86, 15:224, 15:485, 18:191, 35:60, 46:18, 54:01:01:01-54:02, 54:05N, 54:07-54:08N, 54:10, 54:12-54:13, 54:17-54:25, 54:27-54:32, 54:34-54:39, 54:41, 55:01:01:01-55:03, 55:05, 55:07, 55:10-55:12, 55:15-55:16, 55:18-55:19, 55:21, 55:25-55:26, 55:29-55:31, 55:33-55:40, 55:42-55:45, 55:47-55:48, 55:50, 55:52-55:57, 55:59-55:67, 55:69-55:80, 55:82-55:85, 55:87-55:109, 56:10, 56:23, 56:54, 56:66, 59:01:01:01-59:01:01:02, 59:05-59:08, 59:10N, **C*01:90, C*15:128**
75[4,6]	95 bp	1070 bp	*51:56:01-51:56:03, 51:158:01-51:158:02	*35:01:10, 35:04:02, 40:28, 49:18:01, 50:14, 53:28, 55:01:04, 55:02:11, 55:28:02, **C*02:02:23, C*12:03:31**
76	175 bp 255 bp	1070 bp	*51:168 *51:152, 51:173Q	
77[7]	265 bp	1070 bp	*51:160	
78	190 bp	**800 bp**	*51:184N	
79	235 bp	1070 bp	*51:187	*53:20
80	235 bp	1070 bp	*51:64, 51:148	*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, 35:05:01:01-35:05:04, 35:22:01:01-35:22:01:02, 35:51, 35:58, 35:72, 35:89, 35:97, 35:114, 35:199, 35:232, 35:368, 35:389, 35:416, 35:427N, 35:440, 35:459N, 35:472, 35:481, 40:05:01:01-40:05:01:03,

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81[6]	185 bp 215 bp	1070 bp	*51:98N *51:167	
82	400 bp	1070 bp	*51:10, 51:193, 51:238, 51:285	*35:429, 48:02:02-48:02:03, 52:85, 58:95, 81:03
83	195 bp 215 bp	1070 bp	*51:35 *51:17	
84	140 bp 270 bp	**800 bp**	*51:126 *51:04:01-51:04:02, 51:46, 51:56:01-51:56:03, 51:139, 51:227, 51:281, 51:310	**C*05:216:01:01-05:216:01:02, C*08:114** *14:10, 18:22, 18:69[w], 18:105, 18:149-18:150, 35:21, 35:24:01-35:24:02, 35:81, 35:96, 35:109, 35:157, 35:188, 35:190, 35:233, 35:287, 37:04:01[w]-37:04:02[w], 40:28, 44:190, 44:203:01-44:203:02, 44:275, 44:290, 52:88, 53:02, 53:06, 53:28, 57:14:01-57:14:02, 58:09, 58:76, **C*03:384, C*15:39, C*15:130, C*15:195**
85[8]	-	-	**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*51 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 6, 25, 30 and 54 may give rise to a lower yield of HLA-specific PCR product than the other HLA-B*51 primer mixes.
[6]Primer mixes 25, 30, 39, 41, 65, 66, 75 and 81 may have tendencies of unspecific amplifications.
[7]Primer mixes 39, 58, 60 and 77 have a tendency to giving rise to primer oligomer formation.
[8]Primer mix 85 contains a negative control, which will amplify the 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 products 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.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: 2L8 **Lot-specific information**

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec.	105	95	265	255	270	210	240	105	85	160	245	495
PCR product							270			245		
Length of int.	800	1070	1070	1070	1070	800	1070	800	1070	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	206	527	357	357	355	357	355	206	540	357	357	3rd I
	5' -gAC 3'	5' -TgA 3'	5' -Tgg 3'	5' -Tgg 3'	5' -TCA 3'	5' -Tgg 3'	5' -CCC 3'	5' -gAC 3'	5' -gAC 3'	5' -Tgg 3'	5' -Tgg 3'	5' -CTT 3'
							385					
							5' -ggA 3'					
3'-primer(s)[3]	272	583	583	571	583	527	583	272	583	477	559	621
	5' -TgA 3'	5' -gTg 3'	5' -gTA 3'	5' -CCC 3'	5' -gTg 3'	5' -CCA 3'	5' -gTg 3'	5' -Tgg 3'	5' -gTg 3'	5' -gCg 3'	5' -CTC 3'	5' -ggg 3'
						527				559		
						5' -CCA 3'				5' -CgT 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.	200	105	100	170	105	140	145	110	130	160	210	210
PCR product			230	195		220		200	185			
Length of int.	1070	1070	800	1070	800	800	800	1070	1070	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	165	357	357	404	206	141	357	141	357	141	141	141
	5' -ACC 3'	5' -Tgg 3'	5' -Tgg 3'	5' -CCC 3'	5' -gAC 3'	5' -ATT 3'	5' -Tgg 3'	5' -ATT 3'	5' -Tgg 3'	5' -ATT 3'	5' -ATT 3'	5' -ATT 3'
				420		357						
				5' -TTA 3'		5' -Tgg 3'						
				431								
				5' -CgA 3'								
3'-primer(s)[3]	322	419	414	559	272	242	463	211	445	259	311	309
	5' -gTC 3'	5' -CgA 3'	5' -TgT 3'	5' -CAg 3'	5' -TgC 3'	5' -CCC 3'	5' -gCg 3'	5' -ggT 3'	5' -ggA 3'	5' -gTT 3'	5' -ggT 3'	5' -ATC 3'
			544			538		302	502			
			5' -ggT 3'			5' -gTC 3'		5' -ggC 3'	5' -CTA 3'			
			544									
			5' -ggT 3'									
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	120	105	205	205	245	105	105	165	195	260	225	110
PCR product	175	155	345	255			225					215
	205											
Length of int.	800	1070	800	1070	1070	800	1070	1070	1070	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	357	357	49	49	357	369	357	435	141	355	355	133
	5' -Tgg 3'	5' -Tgg 3'	5' -CAg 3'	5' -CAg 3'	5' -Tgg 3'	5' -TAC 3'	5' -Tgg 3'	5' -AAA 3'	5' -ATT 3'	5' -TCA 3'	5' -TCA 3'	5' -CCg 3'
	652	756		357		369						704
	5' -CCg 3'	5' -ACT 3'		5' -Tgg 3'		5' -TAC 3'						5' -TgT 3'
3'-primer(s)[3]	445	419	83	83	559	435	419	559	295	572	538	309
	5' -ggA 3'	5' -Cgg 3'	5' -TgA 3'	5' -TgA 3'	5' -CAg 3'	5' -TCT 3'	5' -Cgg 3'	5' -CTC 3'	5' -TCA 3'	5' -gCg 3'	5' -gTC 3'	5' -ATC 3'
	523	419	226	572	559		419					774
	5' -ACA 3'	5' -CgA 3'	5' -CAC 3'	5' -gCg 3'	5' -CAg 3'		5' -CgA 3'					5' -ggT 3'
	727	872					539					
	5' -CCA 3'	5' -TCA 3'					5' -TCC 3'					
	787											
	5' -TCC 3'											
Well No.	25	26	27	28	29	30	31	32	33	34	35	36

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

Well No.	37	38	39	40	41	42	43	44	45	46	47	48
Length of spec.	165	205	250	185	225	100	115	285	145	80	125	95
PCR product	225	250			305	135	215	385	190	170		220
					380							
Length of int.	1070	1070	1070	1070	1070	800	800	800	1070	800	800	1070
pos. control[1]												
5'-primer(s)[2]	141	374	362	165	357	106	141	106	141	103	209	357
	5'-ATT 3'	5'-CTA 3'	5'-gAC 3'	5'-ACC 3'	5'-Tgg 3'	5'-CCA 3'	5'-ATT 3'	5'-CCA 3'	5'-ATT 3'	5'-CCT 3'	5'-ggA 3'	5'-Tgg 3'
	357	419	363		670	488		667		357		
	5'-Tgg 3'	5'-gTC 3'	5'-AgC 3'		5'-CCT 3'	5'-Cgg 3'		5'-AgA 3'		5'-Tgg 3'		
			383		736			754				
			5'-ggA 3'		5'-gCA 3'			5'-ACg 3'				
					754							
					5'-ACg 3'							
3'-primer(s)[3]	265	583	583	309	539	163	214	343	244	141	292	412
	5'-CTA 3'	5'-gTg 3'	5'-gTg 3'	5'-ATC 3'	5'-TCC 3'	5'-ggC 3'	5'-CCA 3'	5'-T 3'	5'-CTA 3'	5'-gCA 3'	5'-gTC 3'	5'-gTC 3'
	539				916	583	314	916	292	487	292	412
	5'-TCT 3'				5'-gAT 3'	5'-gTg 3'	5'-gCC 3'	5'-gAT 3'	5'-gTg 3'	5'-Cgg 3'	5'-gTC 3'	5'-gTC 3'
												538
												5'-CCA 3'
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec.	160	155	85	160	135	120	75	380	145	170	120	85
PCR product			135		165	250	200		210		240	190
			215		260							
Length of int.	1070	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	800
pos. control[1]												
5'-primer(s)[2]	142	363	97	454	357	193	141	317	141	448	141	357
	5'-TCg 3'	5'-AgC 3'	5'-TCg 3'	5'-ACC 3'	5'-Tgg 3'	5'-CCA 3'	5'-ATT 3'	5'-gCT 3'	5'-ATT 3'	5'-CCA 3'	5'-ATT 3'	5'-Tgg 3'
			357	475		368	357		142	454	357	
			5'-Tgg 3'	5'-CCA 3'		5'-gTg 3'	5'-Tgg 3'		5'-TCg 3'	5'-ACC 3'	5'-Tgg 3'	
						385				457		
						5'-ggA 3'				5'-AgC 3'		
3'-primer(s)[3]	259	477	141	583	453	272	177	412	244	583	218	403
	5'-gTT 3'	5'-gCg 3'	5'-gCA 3'	5'-gTg 3'	5'-TCT 3'	5'-TgA 3'	5'-AAA 3'	5'-gTT 3'	5'-CTA 3'	5'-gTg 3'	5'-gCC 3'	5'-gCA 3'
	259		453		479	583	514		246		555	505
	5'-gTT 3'		5'-TCT 3'		5'-CgA 3'	5'-gTg 3'	5'-CTg 3'		5'-TAA 3'		5'-CCg 3'	5'-gCC 3'
			530		479				309			505
			5'-CCT 3'		5'-CCA 3'				5'-gTg 3'			5'-gCT 3'
					481							
					5'-gTg 3'							
					578							
					5'-TgA 3'							
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Lot No.: 2L8 **Lot-specific information**

Well No.	61	62	63	64	65	66	67	68	69	70	71	72
Length of spec.	100	180	70	115	185	175	110	160	105	160	185	90
PCR product	210	250	200	170	215	210	160	190	225			145
							230					170
Length of int.	1070	1070	800	1070	1070	1070	1070	1070	1070	1070	1070	1070
pos. control[1]												
5'-primer(s)[2]	357	357	397	138	97	357	141	121	141	154	357	267
	5' -Tgg 3'	5' -Tgg 3'	5' -gCT 3'	5' -TTg 3'	5' -TCC 3'	5' -Tgg 3'	5' -ATT 3'	5' -gCT 3'	5' -ATT 3'	5' -ACA 3'	5' -Tgg 3'	5' -.Ag 3'
			411	145	127		435	154		155		646
			5' -CAA 3'	5' -CAA 3'	5' -ggT 3'		5' -AAA 3'	5' -ACA 3'		5' -CgC 3'		5' -ACg 3'
			529	200								670
			5' -AgA 3'	5' -TCg 3'								5' -CCT 3'
3'-primer(s)[3]	418	493	559	272	272	488	259	272	206	272	494	317
	5' -gTC 3'	5' -CCT 3'	5' -CAg 3'	5' -TgA 3'	5' -TgA 3'	5' -CCA 3'	5' -gTC 3'	5' -TgA 3'	5' -CCA 3'	5' -TgA 3'	5' -TCg 3'	5' -ggA 3'
	527	496				496	331		327		505	774
	5' -CCg 3'	5' -gAC 3'				5' -gAC 3'	5' -CTC 3'		5' -TTC 3'		5' -gCT 3'	5' -ggT 3'
	528	565				526	506					
	5' -gCA 3'	5' -CAT 3'				5' -CTT 3'	5' -TgA 3'					
Well No.	61	62	63	64	65	66	67	68	69	70	71	72

Well No.	73	74	75	76	77	78	79	80	81	82	83	84
Length of spec.	170	180	95	175	265	190	235	235	185	400	195	140
PCR product	295			255					215		215	270
Length of int.	1070	1070	1070	1070	1070	800	1070	1070	1070	1070	1070	800
pos. control[1]												
5'-primer(s)[2]	357	420	379	362	266	166	77	363	96	652	408	355
	5' -Tgg 3'	5' -TTA 3'	5' -ACC 3'	5' -gAA 3'	5' -ACg 3'	5' -CCT 3'	5' -CTT 3'	5' -AgC 3'	5' -TTA 3'	5' -CCg 3'	5' -ggT 3'	5' -TCA 3'
			379	374					127		431	485
			5' -ACT 3'	5' -CTA 3'					5' -ggT 3'		5' -CgA 3'	5' -CAA 3'
				448								
				5' -CCA 3'								
3'-primer(s)[3]	479	559	435	583	2nd I	317	272	559	272	916	583	583
	5' -CgA 3'	5' -CgT 3'	5' -TCT 3'	5' -gTg 3'	5' -TCg 3'	5' -ggA 3'	5' -TgA 3'	5' -CAg 3'	5' -TgA 3'	5' -gAC 3'	5' -gTg 3'	5' -gTg 3'
	479											
	5' -CCA 3'											
	487											
	5' -CgT 3'											
	610											
	5' -C.g 3'											
Well No.	73	74	75	76	77	78	79	80	81	82	83	84

[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.

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit[2]

					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	202021001	202021002	202021003	202021004	202021005	202021006	202021007	202021008	202021009	202021010	202021011	202021012	202021013	202021014	202021015	202021016
	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	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit[2]

					Well															
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
				Prod. No.:	202021017	202021018	202021019	202021020	202021021	202021022	202021023	202021024	202021025	202021026	202021027	202021028	202021029	202021030	202021031	202021032
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: 2L8 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit[2]

					Well															
					33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
				Prod. No.:	202021033	202021034	202021035	202021036	202021037	202021038	202021039	202021040	202021041	202021042	202021043	202021044	202021045	202021046	202021047	202021048
	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	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit[2]

					Well															
					49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
				Prod. No.:	202021049	202021050	202021051	202021052	202021053	202021054	202021055	202021056	202021057	202021058	202021059	202021060	202021061	202021062	202021063	202021064
	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.: 2L8 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit[2]

					Well															
					65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
				Prod. No.:	202021065	202021066	202021067	202021068	202021069	202021070	202021071	202021072	202021073	202021074	202021075	202021076	202021077	202021078	202021079	202021080
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 2L8 **Lot-specific information**

CELL LINE VALIDATION SHEET

HLA-B*51 SSP subtyping kit[2]

					Well			
					81	82	83	84
				Prod. No.:	202021081	202021082	202021083	202021084
	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	-	-	-	-

101.561-24/03 – including *Taq* pol., IFU-01
101.561-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: 2L8 **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 5, 13, 17, 20, 21, 25, 27, 32, 33, 36, 39, 42 to 46, 51 to 53, 55, 57 to 62, 64, 66 to 73, 75 to 79 and 81 to 84 were available. The specificities of the primers in primer solutions 5, 17, 20, 27, 32, 39, 42, 44, 46, 51, 57, 61, 67, 75, 77, 82 and 84 were tested by separately adding one or two additional 5'-primers, and one, two or three additional 3'-primers accordingly.

In primer solutions 13, 21, 25, 33, 43, 45, 53, 55, 59, 60, 62, 66, 69, 71 and 73 it was only possible to test the 5'-primers, the 3'-primers were not possible to be tested. In primer solutions 36, 52, 58, 64, 68, 70, 72, 76, 78, 79, 81 and 83 it was only possible to test the 3'-primers, the 5'-primers were not possible to be tested. In primer solutions 7, 16, 38, 39, 41, 42, 44, 54, 63, 65 and 75 one, two or three of the 5'-primers were not possible to be tested. In primer solutions 15, 18, 20, 26 to 28, 42, 46, 51, 57, 61 and 67 one or two of the 3'-primers were not possible to be tested. In addition, one or more primers in primer solutions 18, 26, 28, 29, 31, 37, 41, 47, 48 and 54 were tested by separately adding one 5'-primer and/or one 3'-primer.

Lot No.: 2L8 **Lot-specific information**

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