

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **7D8**

Lot-specific information

Olerup SSP® HLA-B*44

Product number:	101.563-24/03 – including <i>Taq</i> pol. 101.563-24u/03u – without <i>Taq</i> pol.
Lot number:	7D8
Expiry date:	2018-10-01
Number of tests:	24 tests – Product No. 101.563-24/24u 3 tests – Product No. 101.563-03/03u
Number of wells per test:	63+1
Storage - pre-aliquoted primers:	dark at -20°C
- PCR Master Mix:	-20°C
- Adhesive PCR seals	RT
- Product Insert	RT

This Product Description is only valid for Lot No. 7D8.

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*44 Lot (11Y).

The HLA-B*44 kit is updated for new alleles to enable separation of:

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

A well containing Negative Control primer pairs has been added.

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

¹As described in section Uniquely Identified Alleles.

The HLA-B*44 specificity and interpretation tables have been updated for the HLA-B alleles described since the previous *Olerup SSP®* HLA-B*44 lot was made (Lot No. 11Y). The kit design is based on IMGT/HLA database 3.23.0.

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

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

Well	5'-primer	3'-primer	rationale
4	-	Added	3'-primer added for the B*44:03:28 allele.
10	-	Added	3'-primer added for the B*44:237N allele.
17	-	Added	3'-primer added for the B*44:02:39 allele.
33	Moved	-	5'-primer moved to well 63, exchange of positive control primer pairs for decreased tendency of primer oligomer formation.
48	-	Added	3'-primer added for the B*44:237N allele.
50	-	Added	3'-primer added for the B*44:227 allele.
51	Added	-	5'-primer added for the B*44:217N allele.
52	Removed	-	5'-primer removed for improved HLA-specific amplification.
61	Added	-	5'-primer added for the B*44:221 allele.
62	Modified	-	5'-primer modified for improved HLA-specific amplification.
63	Added	-	5'-primer added from well 33 for the B*44:81 allele.
64	-	-	Updated negative control.

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Well **64** contains Negative Control primer pairs, that will amplify more than 95% of the *Olerup SSP®* HLA Class I, DRB, DQB1, DPB1 and DQA1 amplicons as well as all the amplicons generated by the control primer pairs matching the human growth hormone gene.

HLA-specific PCR product sizes range from 75 to 200 base pairs.
The PCR product generated by the positive control primer pair is 430 base pairs.

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

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

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

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PRODUCT DESCRIPTION

HLA-B*44 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the B*44:02 to B*44:238 alleles.

PLATE LAYOUT

Each test consists of 64 PCR reactions in a 64 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	NC

The 64 well cut PCR plate is marked with 'HLA-B*44' in silver/gray ink.

Well No. 1 is marked with the Lot No. '7D8'.

Wells 1 to 63 – HLA-B*44 high resolution primers.

Well 64 – 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*44 alleles will be amplified by primer mixes 1 to 9, 11, 12, 14 to 18, 20 to 23, 25 to 27, 29 to 42, 44, 45, 48 to 50, 52, 54, 56, 57, 59, 61 and 62. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1 to 6, 11, 21, 26, 29, 31, 33, 35, 38 to 40, 42, 44, 48, 50, 54 and 56.

For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-B*44 alleles, i.e. **B*44:02 to B*44:238**, recognized by the HLA Nomenclature Committee in January 2016^{1,2} will be amplified by the primers in the HLA-B*44 subtyping kit².

The HLA-B*44 kit enables separation of the confirmed HLA-B*44 alleles as listed in the IMGT/HLA database. An HLA allele is listed as confirmed by IMGT/HLA if it has been sequenced by more than a single laboratory or from multiple sources. Current allele confirmation status for HLA-B*44 alleles is listed below.

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The HLA-B*44 kit also enables identification of polymorphisms in exons outside of the region encoding the peptide binding domain and of null and alternatively expressed alleles.

The following HLA-B*44 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix	Alleles	Primer mix
B*44:32, 44:124	21	B*44:78, 44:136	48
B*44:58N, 44:139	47	B*44:79:01-44:79:02, 44:192	44
B*44:69, 44:85	26	B*44:94, 44:98	31
B*44:72, 44:93	47	B*44:160Q, 44:198N	56

The HLA-B*44 subtyping cannot distinguish the following silent mutations: the B*44:02:01:01, 44:02:01:03-44:02:09 and 44:02:11-44:02:38 alleles, the B*44:03:01-44:03:33 and 44:128:02 alleles, the B*44:05:01-44:05:04 alleles, the B*44:27:01-44:27:02 alleles, the B*44:28:01-B*44:28:02 alleles, the B*44:37:01-44:37:02 allele, the B*44:41:01-44:41:02 allele, the B*44:43:01-44:43:02 alleles, the B*44:59:01-44:59:02 alleles or the B*44:79:01-44:79:02 alleles.

¹HLA-B alleles listed on the IMGT/HLA web page 2016-January-19, release 3.23.0, www.ebi.ac.uk/imgt/hla.

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

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ALLELE CONFIRMATION STATUS

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

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Allele	Status ¹	Allele	Status ¹	Allele	Status ¹	Allele	Status ¹
B*44:115	Confirmed	B*44:153	Unconfirmed	B*44:193	Unconfirmed	B*44:232	Unconfirmed
B*44:116	Unconfirmed	B*44:154	Unconfirmed	B*44:194	Unconfirmed	B*44:233	Unconfirmed
B*44:117	Confirmed	B*44:155	Unconfirmed	B*44:195N	Unconfirmed	B*44:234	Unconfirmed
B*44:118	Unconfirmed	B*44:156	Unconfirmed	B*44:196	Unconfirmed	B*44:235	Unconfirmed
B*44:119	Unconfirmed	B*44:157	Unconfirmed	B*44:197	Unconfirmed	B*44:236	Unconfirmed
B*44:120	Confirmed	B*44:158	Unconfirmed	B*44:198N	Unconfirmed	B*44:237N	Unconfirmed
B*44:121	Unconfirmed	B*44:159	Confirmed	B*44:199	Unconfirmed	B*44:238	Unconfirmed
B*44:122	Confirmed	B*44:160Q	Unconfirmed	B*44:200	Unconfirmed		
B*44:123	Unconfirmed	B*44:161	Unconfirmed	B*44:201	Unconfirmed		
B*44:124	Unconfirmed	B*44:162	Unconfirmed	B*44:202	Unconfirmed		
B*44:125	Unconfirmed	B*44:163	Unconfirmed	B*44:203	Unconfirmed		
B*44:126:01	Confirmed	B*44:164	Unconfirmed	B*44:204	Unconfirmed		
B*44:126:02	Unconfirmed	B*44:165	Unconfirmed	B*44:205:01	Unconfirmed		
B*44:127	Unconfirmed	B*44:166	Unconfirmed	B*44:205:02	Unconfirmed		
B*44:128:01	Unconfirmed	B*44:167	Unconfirmed	B*44:206	Unconfirmed		
B*44:128:02	Unconfirmed	B*44:168	Unconfirmed	B*44:207	Unconfirmed		
B*44:129	Unconfirmed	B*44:169	Unconfirmed	B*44:208	Unconfirmed		
B*44:130	Unconfirmed	B*44:170	Unconfirmed	B*44:209	Unconfirmed		
B*44:131	Unconfirmed	B*44:171N	Unconfirmed	B*44:210	Unconfirmed		
B*44:132	Confirmed	B*44:172	Unconfirmed	B*44:211	Unconfirmed		
B*44:133	Unconfirmed	B*44:173	Confirmed	B*44:212	Unconfirmed		
B*44:134	Unconfirmed	B*44:174	Unconfirmed	B*44:213	Unconfirmed		
B*44:135	Confirmed	B*44:175	Unconfirmed	B*44:214	Unconfirmed		
B*44:136	Unconfirmed	B*44:176	Unconfirmed	B*44:215	Unconfirmed		
B*44:137	Confirmed	B*44:177	Confirmed	B*44:216	Unconfirmed		
B*44:138Q	Unconfirmed	B*44:178	Unconfirmed	B*44:217N	Unconfirmed		
B*44:139	Confirmed	B*44:179	Unconfirmed	B*44:218	Unconfirmed		
B*44:140	Unconfirmed	B*44:180	Unconfirmed	B*44:219	Unconfirmed		
B*44:141	Unconfirmed	B*44:181	Unconfirmed	B*44:220	Unconfirmed		
B*44:142	Unconfirmed	B*44:182	Unconfirmed	B*44:221	Confirmed		
B*44:143	Confirmed	B*44:183	Unconfirmed	B*44:222	Unconfirmed		
B*44:144	Unconfirmed	B*44:184	Unconfirmed	B*44:223	Unconfirmed		
B*44:145	Unconfirmed	B*44:185	Unconfirmed	B*44:224	Unconfirmed		
B*44:146	Confirmed	B*44:186	Unconfirmed	B*44:225	Unconfirmed		
B*44:147	Unconfirmed	B*44:187	Unconfirmed	B*44:226	Unconfirmed		
B*44:148	Confirmed	B*44:188	Confirmed	B*44:227	Confirmed		
B*44:149N	Unconfirmed	B*44:189	Unconfirmed	B*44:228	Unconfirmed		
B*44:150	Unconfirmed	B*44:190	Unconfirmed	B*44:229	Unconfirmed		
B*44:151	Unconfirmed	B*44:191	Confirmed	B*44:230	Unconfirmed		
B*44:152	Unconfirmed	B*44:192	Unconfirmed	B*44:231	Unconfirmed		

¹Allele status “confirmed” or “unconfirmed” as listed on the IMGT/HLA web page 2016-January-19, release 3.23.0, www.ebi.ac.uk/imgt/hla.

RESOLUTION IN HOMO- AND HETEROZYGOSES

Results file with resolution in HLA-B*44 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-B*44 SSP subtyping

Specificities and sizes of the PCR products of the 63+1 primer mixes used for HLA-B*44 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-B*44 alleles ³	Other amplified HLA Class I alleles ⁴
1	260 bp	800 bp	*44:02:01:01-44:02:38, 44:03:01:01-44:14, 44:17, 44:19N, 44:21-44:30, 44:32- 44:36, 44:38-44:40, 44:43:01- 44:46, 44:48-44:53, 44:55-44:63, 44:66-44:90, 44:92-44:98, 44:102-44:105, 44:107-44:131, 44:133-44:134, 44:136-44:137, 44:139-44:149N, 44:151-44:157, 44:159-44:165, 44:167-44:183, 44:185-44:189, 44:191-44:192, 44:194, 44:196, 44:198N-44:212, 44:214-44:229, 44:231-44:233, 44:235, 44:237N-44:238	*27:127, 35:45, 35:71, 35:169, 35:309, 51:42, 53:22, 57:07, 83:01, C*15:25
2⁵	90 bp	800 bp	*44:02:01:01-44:02:09, 44:02:11- 44:05:04, 44:09-44:33, 44:35- 44:38, 44:41:01-44:43:02, 44:45- 44:56N, 44:58N-44:59:02, 44:61N-44:80, 44:82, 44:84:01- 44:110, 44:112-44:129, 44:131- 44:133, 44:135-44:144, 44:146- 44:155, 44:157-44:167, 44:169- 44:193, 44:195N-44:199, 44:201- 44:209, 44:211-44:220, 44:222- 44:223, 44:226-44:238	*15:53, 15:212, 18:107, 35:63, 35:217, 40:01:01-40:01:10, 40:01:12-40:09, 40:11:01-40:11:02, 40:13-40:16, 40:18- 40:20, 40:22N-40:40, 40:42-40:45, 40:47-40:57, 40:59-40:82, 40:84-40:92, 40:94-40:136, 40:138-40:148, 40:150- 40:169, 40:171-40:176, 40:178-40:184, 40:186-40:208, 40:210-40:214, 40:216N-40:247, 40:249-40:264, 40:266-40:281, 40:283-40:293, 40:295- 40:324, 40:326-40:327, 41:01:01-41:11, 41:13-41:21, 41:23-41:35, 41:37-41:40, 41:42-41:45N, 45:01:01-45:18, 47:01:01:01-47:10, 49:01:01-49:02, 49:04:01-49:14, 49:16-49:24, 49:28- 49:41, 50:01:01-50:02, 50:04-50:06, 50:08-50:20, 50:31-50:43, 57:51, 57:69, C*16:85
3	225 bp	800 bp	*44:02:01:01-44:02:39, 44:05:01- 44:06, 44:08-44:09, 44:11-44:12, 44:14, 44:16-44:17, 44:19N, 44:21-44:25, 44:27:01-44:27:02, 44:33-44:34:02, 44:42, 44:44, 44:48-44:49, 44:51-44:53, 44:55, 44:58N-44:59:02, 44:62-44:63, 44:66-44:68, 44:70-44:75, 44:78, 44:80, 44:83-44:84:02, 44:86- 44:91, 44:93, 44:95, 44:97, 44:101-44:102, 44:104, 44:112- 44:113, 44:116-44:119, 44:121, 44:123, 44:126:01-44:127,	*08:49, 08:60, 08:76, 08:129, 27:127, 35:38, 35:115, 35:169, 35:260, 37:01:01-37:01:07, 37:01:09, 37:01:11, 37:03N-37:06:02, 37:08, 37:10-37:38, 37:41-37:43, 37:45-37:50, 37:52-37:57, 42:13, 53:22, 57:09, 57:24, 83:01, C*15:25

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Lot No.: **7D8**

Lot-specific information

			44:131-44:134, 44:136-44:137, 44:139-44:140, 44:142, 44:145, 44:148-44:149N, 44:151-44:152, 44:162, 44:168-44:173, 44:176- 44:177, 44:179, 44:185, 44:187, 44:190-44:191, 44:195N-44:196, 44:200-44:201, 44:206, 44:208, 44:211-44:212, 44:214, 44:216- 44:221, 44:225-44:226, 44:229, 44:235, 44:238	
4	160 bp	1070 bp	*44:03:01:01-44:03:33, 44:07, 44:13, 44:26, 44:30, 44:32, 44:36-44:40, 44:46-44:47, 44:50:01-44:50:02, 44:54, 44:57, 44:60-44:61N, 44:64:01-44:65, 44:69, 44:79:01-44:79:02, 44:81, 44:85, 44:92, 44:94, 44:96, 44:98, 44:103, 44:105, 44:108N- 44:111, 44:114-44:115, 44:120, 44:122, 44:124-44:125, 44:128:01-44:130, 44:141, 44:143, 44:147, 44:153-44:157, 44:159-44:161, 44:163-44:165, 44:167, 44:174-44:175, 44:178, 44:180-44:183, 44:186, 44:188- 44:189, 44:192-44:194, 44:197- 44:199, 44:202-44:205:02, 44:207, 44:209-44:210, 44:215, 44:222, 44:224, 44:227-44:228, 44:231-44:234, 44:237N	*51:42, 52:26, A*23:31, C*07:231
5⁵	75 bp	1070 bp	*44:04, 44:28:01-44:28:02, 44:56N, 44:76	*07:20, 07:140, 07:153, 35:45, C*05:102, C*14:61
6	255 bp 170 bp 195 bp	1070 bp	*44:70 *44:39 *44:05:01-44:05:04, 44:10, 44:15, 44:17-44:18, 44:25, 44:31, 44:43:01-44:43:02, 44:58N, 44:62, 44:70, 44:75, 44:77-44:78, 44:82, 44:107, 44:117, 44:123, 44:134, 44:136, 44:139-44:140, 44:144, 44:158, 44:184, 44:213, 44:226, 44:230, 44:236	*07:20, 07:140, 07:153, 15:14, 15:91, 15:131, 15:161, 18:56, 35:45, 35:71, 35:169, 35:309, 40:132, 40:178, 45:01:01-45:02, 45:05-45:07, 45:09, 45:11-45:18, 46:17, 49:20, 50:02, 51:23, 51:108, 52:15, 53:22, 57:07, 58:07, 82:01-82:03, C*02:82, C*05:102, C*06:165, C*08:93, C*14:61, C*15:25
7	155 bp	1070 bp	*44:06, 44:29, 44:89	*18:67, 37:34, 38:06-38:07, 49:03, 51:01:01:01-51:01:39, 51:01:41- 51:24:05, 51:26-51:46, 51:48-51:53, 51:55-51:77, 51:79-51:103, 51:105- 51:111, 51:113-51:146, 51:148-51:200, 52:01:01:01-52:01:28, 52:03-52:15, 52:17-52:19, 52:21-52:31:02, 52:33- 52:59, 53:01:01-53:02, 53:04-53:08:02, 53:10, 53:14-53:29, 53:32-53:35, 53:37, 53:40-53:41, 58:01:01:01-58:02:02, 58:04-58:16:02, 58:18-58:29, 58:31N- 58:35, 58:37-58:43, 58:45:01-58:63, 58:65-58:78
8⁵	90 bp	1070 bp	*44:07-44:08, 44:57, 44:194	*13:58, 15:183, 15:345, 18:80, 18:102, 27:52, 27:67, 35:84, 35:90,

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **7D8**

Lot-specific information

				35:150:01-35:150:02, 35:184, 35:201, 40:83, 40:170, 40:185, 40:209, 41:41, 46:10, 50:07, 51:103, 51:119
9⁵	120 bp 195 bp	1070 bp	*44:23N *44:10, 44:15, 44:18, 44:140	*45:01:01-45:01:02, 45:05-45:07, 45:11- 45:18, 49:20, 50:02, 82:01-82:03
10⁵	125 bp 150 bp 175 bp	800 bp	*44:24, 44:181 *44:92 *44:237N	
11	150 bp	800 bp	*44:02:01:01-44:05:04, 44:07, 44:10-44:39, 44:41:01-44:43:02, 44:45, 44:47-44:56N, 44:58N- 44:59:02, 44:61N-44:74, 44:76- 44:82, 44:84:01-44:89, 44:91- 44:126:02, 44:128:01-44:128:02, 44:132-44:133, 44:135-44:155, 44:157-44:200, 44:202-44:209, 44:211-44:238	*37:06:01-37:06:02, 40:13, 40:19, 40:47, 40:96, 40:109-40:110, 40:117, 40:157, 40:188, 40:201, 40:292, 47:01:01:01- 47:01:02, 47:03-47:10, 49:01:01-49:02, 49:04:01-49:14, 49:16-49:20, 49:22- 49:25, 49:27-49:41, 51:112, 53:30, 53:39, 57:45, 57:51, 57:69, C*16:85
12	145 bp	1070 bp	*44:09, 44:46, 44:75, 44:90, 44:129, 44:131	*07:133, 08:155, 15:46, 15:53, 15:106, 15:143, 15:212, 18:48, 18:107, 35:19, 35:47, 35:63, 35:154, 35:217, 35:274, 39:69, 40:01:01-40:11:02, 40:14:01- 40:16, 40:18, 40:20, 40:22N-40:40, 40:42-40:45, 40:48-40:75, 40:77-40:92, 40:94-40:95, 40:97-40:108, 40:111- 40:116, 40:118N-40:136, 40:138- 40:156, 40:158-40:184, 40:186-40:187, 40:189-40:200, 40:202-40:207, 40:210- 40:264, 40:266-40:291N, 40:293- 40:307, 40:309-40:327, 41:01:01-41:04, 41:06-41:25, 41:27-41:45N, 45:01:01- 45:15, 45:17-45:18, 47:02, 47:03 ^w , 50:01:01-50:02, 50:04-50:05, 50:07- 50:20, 50:31-50:43
13⁵	90 bp	1070 bp	*44:13, 44:67	
14⁵	95 bp	800 bp	*44:12, 44:232	*07:133 ^w , 08:155, 15:143, 18:48, 18:107, 35:19, 35:47, 35:154, 35:217, 35:274, 39:69, 40:08, 40:25, 40:68, 40:106, 40:166 ^w , 40:232, 40:313, 50:15, 51:112, 53:30, 53:39
15	170 bp	1070 bp	*44:14, 44:17, 44:51, 44:62, 44:123, 44:166, 44:213, 44:230	*07:04, 07:19, 07:25, 07:146, 08:01:01- 08:01:22, 08:01:24-08:05, 08:07- 08:12:03, 08:15-08:19N, 08:21-08:24, 08:26:01-08:27, 08:29-08:39, 08:41- 08:48, 08:50-08:54, 08:56:01-08:69, 08:71-08:73, 08:75-08:78, 08:80- 08:86N, 08:88-08:110, 08:112-08:142, 08:144-08:155, 08:157-08:158, 15:51, 15:83, 15:179:01-15:179:02, 15:199, 15:218Q, 18:56, 18:113, 35:38, 35:87, 35:115, 35:169, 35:260, 37:09, 37:12, 37:35, 37:56, 38:30, 40:136, 40:231, 40:279, 41:01:01-41:09, 41:11-41:45N, 42:01:01-42:02:01:02, 42:04-42:18, 42:21-42:22, 45:09, 45:14,

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **7D8**

Lot-specific information

				51:08:01-51:08:02, 51:20, 51:36, 51:44N, 51:97, 51:141, 51:153, 52:19, 53:22, 55:20, 55:56, 56:13, 57:09, 57:24, 82:01-82:03
16	145 bp	800 bp	*44:18, 44:25, 44:50:01-44:50:02, 44:95	*40:13, 40:19, 40:109, 40:117, 40:292, 49:01:01-49:01:08, 49:04:01-49:14, 49:16-49:25, 49:27-49:41, 51:112, 53:30, 53:39, 57:45, 57:51, 57:69
17	195 bp	1070 bp	*44:02:01:01-44:04, 44:06-44:09, 44:11-44:13, 44:19N-44:24, 44:26-44:30, 44:32-44:36, 44:38- 44:41:02, 44:44, 44:46-44:50:02, 44:52N-44:57, 44:59:01-44:61N, 44:63, 44:65-44:69, 44:71-44:74, 44:76, 44:79:01-44:81, 44:83- 44:87, 44:89-44:90, 44:92- 44:100, 44:102-44:106, 44:108N- 44:116, 44:118-44:122, 44:124- 44:131, 44:137-44:138Q, 44:141- 44:143, 44:145-44:149N, 44:151- 44:157, 44:159-44:165, 44:167- 44:183, 44:185-44:189, 44:191- 44:194, 44:196-44:212, 44:214- 44:216, 44:218-44:222, 44:224- 44:225, 44:227-44:229, 44:231- 44:233, 44:235, 44:237N-44:238	*27:127, 51:42, 83:01
18⁵	115 bp	1070 bp	*44:31, 44:169, 44:182, 40:132, 40:178	
	155 bp		*44:74	
	260 bp		*44:19N, 44:82, 44:96, 44:153	*57:07
19	150 bp	1070 bp	*44:11	
	190 bp		*44:30	
20	130 bp	1070 bp	*44:22, 44:105	*49:24
21⁵	100 bp	800 bp	*44:32	
	180 bp		*44:16, 44:21, 44:64:01-44:64:02, 44:124, 44:150	*07:28, C*02:97
22	205 bp	800 bp	*44:177, 44:228	*13:81, 35:183
	290 bp		*44:26	*35:138, 47:07
23¹⁰	145 bp	800 bp	*44:02:01:01-44:05:04, 44:06?, 44:07-44:09, 44:10?-44:12?, 44:13, 44:14?, 44:16-44:17, 44:18?, 44:19N, 44:20?, 44:21, 44:22?, 44:23N, 44:24?-44:25?, 44:26, 44:28:01?-44:30?, 44:32?- 44:38?, 44:39, 44:40?-44:45?, 44:46, 44:47?-44:48?, 44:49, 44:50:01?, 44:50:02-44:53, 44:54?-44:55?, 44:56N-44:57, 44:58N?, 44:59:01-44:59:02, 44:60?, 44:61N, 44:62?-44:63?, 44:64:01-44:66, 44:67?-44:76?, 44:77, 44:78?-44:80?, 44:81, 44:82?, 44:83, 44:84:01?-44:100?, 44:101, 44:102?-44:108N?, 44:109-44:110, 44:111?-44:112?,	*15:247, 27:47, 51:42

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **7D8**

Lot-specific information

			44:113, 44:114 [?] , 44:115, 44:116 [?] , 44:117-44:118, 44:119 [?] - 44:126:01 [?] , 44:126:02, 44:127 [?] - 44:128:01 [?] , 44:128:02-44:130, 44:131 [?] -44:136 [?] , 44:137, 44:139 [?] -44:149N [?] , 44:150- 44:152, 44:153 [?] -44:172 [?] , 44:173, 44:174 [?] -44:176 [?] , 44:177, 44:178 [?] -44:183 [?] , 44:184, 44:185 [?] -44:186 [?] , 44:187, 44:188 [?] -44:202 [?] , 44:203, 44:204 [?] -44:205:01 [?] , 44:205:02, 44:206 [?] -44:210 [?] , 44:211, 44:212 [?] -44:219 [?] , 44:220, 44:221 [?] -44:223 [?] , 44:224-44:225, 44:226 [?] -44:228 [?] , 44:229-44:230, 44:231 [?] -44:236 [?] , 44:237N, 44:238 [?]	
24	225 bp	1070 bp	*44:02:01:02S	
25^{7,10}	145 bp	1070 bp	*44:06 [?] , 44:10 [?] -44:12 [?] , 44:14 [?] , 44:15, 44:17 [?] -44:18 [?] , 44:20 [?] , 44:22 [?] , 44:24 [?] -44:26 [?] , 44:27:01- 44:27:02, 44:28:01 [?] -44:30 [?] , 44:31, 44:32 [?] -44:34:01 [?] , 44:35 [?] - 44:38 [?] , 44:40 [?] -44:45 [?] , 44:47 [?] - 44:48 [?] , 44:50:01 [?] , 44:54 [?] -44:55 [?] , 44:58N [?] , 44:60 [?] , 44:62 [?] - 44:64:01 [?] , 44:67 [?] -44:76 [?] , 44:78 [?] - 44:80 [?] , 44:82 [?] , 44:84:01 [?] - 44:100 [?] , 44:102 [?] -44:108N [?] , 44:111 [?] -44:112 [?] , 44:114 [?] , 44:116 [?] , 44:119 [?] -44:126:01 [?] , 44:127 [?] -44:128:01 [?] , 44:131 [?] - 44:137 [?] , 44:138Q, 44:139 [?] - 44:149N [?] , 44:153 [?] -44:172 [?] , 44:174 [?] -44:183 [?] , 44:185 [?] - 44:186 [?] , 44:188 [?] -44:202 [?] , 44:204 [?] -44:210 [?] , 44:212 [?] - 44:217N [?] , 44:219 [?] , 44:221 [?] - 44:223 [?] , 44:226 [?] -44:228 [?] , 44:231 [?] -44:236 [?] , 44:238 [?]	*07:02:01-07:57, 07:59-07:265, 08:01:01-08:05, 08:07-08:158, 13:01:01- 13:04, 13:06-13:23, 13:25-13:87, 14:01:01 ^w -14:53 ^w , 15:01:01:01-15:01:04, 15:01:06-15:19, 15:20 ^w , 15:21, 15:23- 15:40, 15:42-15:58, 15:60-15:99, 15:101, 15:103-15:129, 15:131-15:200, 15:202-15:227, 15:229-15:246N, 15:248-15:270, 15:272N-15:283, 15:285-15:304N, 15:306-15:379, 18:01:01:01-18:15, 18:17N-18:120, 27:01-27:05:30, 27:06-27:21, 27:23- 27:46, 27:48-27:67, 27:69-27:146, 35:01:01:01 ^w -35:30 ^w , 35:31, 35:32:01 ^w - 35:42:02 ^w , 35:43:01, 35:44 ^w -35:45 ^w , 35:46, 35:47 ^w -35:56 ^w , 35:57, 35:58 ^w - 35:59:02 ^w , 35:60, 35:61:01 ^w -35:72 ^w , 35:74 ^w -35:78 ^w , 35:79, 35:80 ^w -35:86 ^w , 35:87, 35:88 ^w -35:167 ^w , 35:169 ^w - 35:184 ^w , 35:185, 35:186 ^w -35:229 ^w , 35:231 ^w -35:278 ^w , 35:279, 35:280 ^w - 35:311 ^w , 37:01:01-37:57, 38:01:01 ^w - 38:01:08 ^w , 38:01:09-38:01:10, 38:02:01 ^w -38:17 ^w , 38:19 ^w -38:56 ^w , 38:57- 38:59, 39:01:01:01 ^w -39:01:01:03 ^w , 39:01:01:04, 39:01:03 ^w -39:01:22 ^w , 39:01:23, 39:02:01 ^w -39:20 ^w , 39:22 ^w - 39:102 ^w , 39:103-39:114, 40:01:01- 40:16, 40:18-40:40, 40:42-40:327, 41:01:01-41:45N, 42:01:01-42:02:01:02, 42:04-42:22, 45:01:01-45:06, 45:07 ^w , 45:08-45:18, 46:01:01-46:65, 47:01:01:01-47:10, 48:01:01-48:01:06, 48:02:01 ^w -48:02:02 ^w , 48:03:01-48:38, 49:01:01-49:14, 49:16-49:41, 50:01:01- 50:02, 50:04-50:20, 50:31-50:36,

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **7D8**

Lot-specific information

				50:38-50:43, 51:01:01:01 ^w -51:06:02 ^w , 51:07:01 ^w -51:09:02 ^w , 51:10 ^w -51:24:05 ^w , 51:26 ^w -51:41N ^w , 51:43 ^w -51:46 ^w , 51:48 ^w - 51:50 ^w , 51:52 ^w -51:156 ^w , 51:157, 51:158:01 ^w -51:189 ^w , 52:01:01:01 ^w - 52:01:24 ^w , 52:01:27 ^w , 52:02:01 ^w - 52:06:03 ^w , 52:07, 52:08 ^w -52:45 ^w , 53:01:01 ^w -53:01:10 ^w , 53:02 ^w -53:39 ^w , 54:01:01-54:34, 55:01:01-55:01:02, 55:01:04-55:05, 55:07-55:78, 56:01:01:01-56:04, 56:05:01 ^w -56:05:02 ^w , 56:06-56:20:02, 56:21 ^w , 56:22-56:50, 57:01:01-57:82, 58:01:01:01 ^w , 58:01:02 ^w -58:01:18 ^w , 58:02:01 ^w , 58:04 ^w - 58:10N ^w , 58:11, 58:12 ^w -58:19 ^w , 58:20, 58:21 ^w -58:28:01 ^w , 58:29 ^w , 58:31N ^w - 58:59:01 ^w , 58:60 ^w -58:69 ^w , 59:01:01:01- 59:09, 67:01:01 ^w -67:04 ^w , 78:01:01 ^w - 78:08 ^w , 81:01-81:02, 81:03 ^w , 81:04N- 81:08, 82:01-82:02:02, 82:03 [?] , 83:01
26⁵	100 bp 135 bp 225 bp	800 bp	*44:69 *44:33 *44:85	*38:51
27	160 bp	800 bp	*44:02:10, 44:34:01	A*24:137 *15:32:02, 40:01:11, 40:58, 49:03, 52:01:02, 52:01:04, 52:01:09, 52:02:01, 52:03, 52:06:01-52:06:02, 52:09, 52:10:03, 52:21, 52:31:02 *45:01:01-45:03, 45:05-45:07, 45:09, 45:11-45:18, 49:20, 50:02, 51:23, 51:108, 52:15
	255 bp		*44:15, 44:18, 44:20, 44:47, 44:100, 44:197	
28	130 bp 165 bp	1070 bp	*44:68 *44:35	
29^{5,7}	90 bp	800 bp	*44:117	*14:10, 35:59:01, 35:242, 37:19:01, 38:20, 39:42, 39:106, C*15:05:08 , C*17:01:10 *13:23, 13:55, 18:09, 27:01, 27:142, 37:10, 40:47, 40:96, 40:157, 40:201, 49:02 *45:01:01-45:01:02, 45:05-45:07, 45:11- 45:18, 49:20, 50:02, 82:01-82:03
	255 bp		*44:15, 44:55, 44:103, 44:188, 44:212	
30	195 bp	800 bp	*44:10, 44:15, 44:18, 44:140	
31⁵	110 bp 195 bp	1070 bp	*44:94 *44:17, 44:43:01-44:43:02, 44:144, 44:230	*15:14, 15:91, 15:131, 15:161, 18:56, 35:45, 35:71, 45:09, 46:17, 53:22, 58:07, C*02:82 , C*06:165 , C*14:61 A*02:432 , A*30:29 , A*31:61
	230 bp 260 bp		*44:98 *44:99	
32	155 bp	1070 bp	*44:02:01:01-44:02:39, 44:05:01- 44:06, 44:08-44:09, 44:11-44:12, 44:14-44:25, 44:27:01-44:27:02, 44:33-44:34:02, 44:41:01-44:42, 44:44, 44:48-44:49, 44:51-44:53, 44:55, 44:58N-44:59:02, 44:62- 44:63, 44:66-44:68, 44:70-44:75, 44:78, 44:80, 44:83-44:84:02, 44:86-44:91, 44:93, 44:95, 44:97,	*07:04, 07:19, 07:25, 07:146, 08:01:01- 08:05, 08:07-08:12:03, 08:14-08:19N, 08:21-08:24, 08:26:01-08:39, 08:41- 08:42, 08:44-08:54, 08:56:01-08:69, 08:71-08:78, 08:80-08:142, 08:144- 08:155, 08:157-08:158, 13:46, 15:51, 15:83, 15:179:01-15:179:02, 15:199, 15:218Q, 18:56, 18:113, 27:47, 27:127, 35:38, 35:87, 35:115, 35:169, 35:260,

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: **7D8**

Lot-specific information

			44:99-44:102, 44:104, 44:106, 44:112-44:113, 44:116-44:119, 44:121, 44:123, 44:126:01- 44:127, 44:131-44:134, 44:136- 44:140, 44:142, 44:145, 44:148- 44:149N, 44:151-44:152, 44:158, 44:162, 44:166, 44:168-44:173, 44:176-44:177, 44:179, 44:185, 44:187, 44:190-44:191, 44:195N- 44:196, 44:200-44:201, 44:206, 44:208, 44:211-44:214, 44:216- 44:221, 44:225-44:226, 44:229- 44:230, 44:235-44:236, 44:238	37:01:01-37:01:11, 37:03N-37:06:02, 37:08-37:38, 37:41-37:57, 38:30, 40:136, 40:231, 40:279, 41:01:01- 41:45N, 42:01:01-42:02:01:02, 42:04- 42:18, 42:20-42:22, 45:01:01-45:18, 51:08:01-51:08:02, 51:20, 51:36, 51:44N, 51:97, 51:141, 51:153, 52:19, 53:22, 55:20, 55:56, 56:13, 57:09, 57:24, 82:01-82:03, 83:01
33	185 bp	800 bp	*44:16, 44:37:01-44:37:02, 44:64:01-44:64:02, 44:80, 44:91, 44:132, 44:150, 44:190	*07:28, 08:87, 15:77, 15:233, 52:26, 57:04:01-57:04:02, A*23:31, A*24:106, C*01:115, C*02:97, C*07:231, C*16:10
34	160 bp	800 bp	*44:15, 44:18, 44:140	*45:01:01-45:01:02, 45:04-45:08, 45:10- 45:18, 55:56, 56:13, 82:01-82:03
35⁵	85 bp 185 bp	800 bp	*44:63 *44:04, 44:56N, 44:132, 44:137, 44:163, 44:190	*08:87, C*01:115, C*07:231, C*16:10
36⁶	145 bp	800 bp	*44:40, 44:44, 44:130, 44:156, 44:210	*07:149, 08:02, 08:117, 15:115, 27:01, 27:142, 38:02:01-38:02:06, 38:03-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 38:43-38:50, 56:07, 59:08
37	235 bp 205 bp	1070 bp	*44:142 *44:10, 44:14, 44:17, 44:31, 44:43:01-44:43:02, 44:45, 44:51, 44:62, 44:77, 44:82, 44:107, 44:123, 44:135, 44:184, 44:213, 44:230	*07:20, 07:140, 07:153, 15:14, 15:91, 15:131, 15:161, 18:56, 35:45, 35:71, 35:169, 35:309, 40:132, 40:178, 45:09, 45:14, 46:17, 51:23, 51:108, 52:15, 53:22, 57:07, 58:07, 82:01-82:03
38	225 bp	800 bp	*44:41:01-44:41:02, 44:106, 44:158, 44:166, 44:213, 44:230, 44:236	*07:04, 07:19, 07:25, 07:146, 08:01:01- 08:05, 08:07-08:08N, 08:10-08:12:03, 08:14-08:19N, 08:21-08:24, 08:26:01- 08:26:03, 08:28-08:39, 08:41-08:48, 08:50-08:54, 08:56:01-08:59:02, 08:61- 08:69, 08:71-08:75, 08:77-08:78, 08:80- 08:83, 08:85-08:103, 08:105-08:128, 08:130-08:142, 08:144-08:155, 08:157- 08:158, 15:51, 15:179:01-15:179:02, 15:199, 15:218Q, 18:56, 18:113, 27:47, 35:87, 37:09, 37:44, 37:51, 38:30, 40:136, 40:231, 40:279, 41:02:01-41:04, 41:08, 41:10-41:11, 41:13, 41:15, 41:18- 41:19, 41:23-41:24, 41:27, 41:31, 41:36, 41:38-41:43, 41:45N, 42:01:01- 42:02:01:02, 42:05:01-42:12, 42:14- 42:18, 42:20-42:22, 82:01-82:03, C*05:62, C*07:68, C*07:140, C*07:151, C*07:199:01-07:199:02, C*07:364
39^{5,8}	75 bp	800 bp	*44:16, 44:42, 44:91, 44:132, 44:166, 44:190	*07:04, 07:19, 07:25, 07:146, 08:01:01- 08:01:26, 08:01:28-08:05, 08:07- 08:12:03, 08:14-08:19N, 08:21-08:24, 08:26:01-08:39, 08:41-08:42, 08:44- 08:54, 08:56:01-08:69, 08:71-08:78,

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **7D8**

Lot-specific information

				08:80-08:85, 08:87-08:134, 08:136-08:142, 08:144-08:151, 08:153- 08:155, 08:157-08:158, 13:46, 15:51, 15:83, 15:179:01-15:179:02, 15:199, 15:218Q, 18:113, 35:38, 35:87, 35:115, 35:260, 37:01:01-37:01:11, 37:03N- 37:06:02, 37:08-37:31, 37:33N-37:38, 37:41-37:52, 37:54-37:57, 38:30, 40:136, 40:231, 40:279, 41:01:01- 41:45N, 42:01:01-42:02:01:02, 42:04- 42:18, 42:20-42:22, 45:04, 45:08, 45:10, 51:08:01-51:08:02, 51:20, 51:36, 51:44N, 51:97, 51:141, 51:153, 52:19, 55:20, 55:56, 56:13, 57:09, 57:24, C*05:62, C*07:04:01-07:04:10, C*07:11-07:12, C*07:45, C*07:63, C*07:68, C*07:101, C*07:139-07:140, C*07:142, C*07:151, C*07:181, C*07:199:01-07:199:02, C*07:272, C*07:302, C*07:323-07:324, C*07:328- C*07:329N, C*07:336, C*07:338, C*07:354-07:355, C*07:357, C*07:361, C*07:364-07:365, C*07:378, C*07:394- 07:395, C*07:403, C*07:406, C*07:420, C*07:426, C*07:428, C*07:459, C*07:466-C*07:467, C*07:480, C*07:487
40	235 bp	1070 bp	*44:10, 44:15, 44:18, 44:48	*35:45, 35:71, 35:169, 35:309, 45:01:01- 45:03, 45:05-45:07, 45:09, 45:11-45:18, 49:20, 50:02, 53:22, 58:07, 82:01-82:03, C*02:82, C*05:102, C*06:165, C*08:93, C*14:61, C*15:25
	260 bp		*44:31, 44:41:01-44:41:02, 44:54, 44:65, 44:106, 44:135, 44:158, 44:184, 44:213, 44:230, 44:236	*07:20, 07:140, 07:153, 15:14, 15:91, 15:131, 15:161, 18:56, 27:47, 27:50:01- 27:50:02, 40:132, 40:178, 46:17, 58:07, 82:01-82:03, C*02:82, C*05:102, C*06:165, C*08:93, C*14:61
41	255 bp	1070 bp	*44:49, 44:156	*08:02, 08:117
42⁹	130 bp 165 bp	800 bp	*44:90, 44:97 *44:14, 44:62, 44:166, 44:213	*40:166, 45:06, C*07:69, C*08:68 *08:01:01-08:01:22, 08:01:24-08:05, 08:08N-08:12:03, 08:15-08:19N, 08:21- 08:24, 08:26:01-08:27, 08:29-08:36, 08:38-08:39, 08:41-08:48, 08:50-08:54, 08:56:01-08:59, 08:71-08:73, 08:75- 08:76, 08:78, 08:80-08:86N, 08:88, 08:90-08:106, 08:109-08:110, 08:112- 08:142, 08:144-08:155, 08:157-08:158, 15:83, 35:87, 37:12, 38:30, 40:136, 40:231, 40:279, 41:01:01-41:03:02, 41:05-41:09, 41:11-41:17, 41:19-41:20, 41:22-41:45N, 42:01:01-42:02:01:02, 42:04-42:08, 42:10-42:15, 42:17-42:18, 42:21-42:22, 45:14, 51:08:01-51:08:02, 51:20, 51:36, 51:44N, 51:97, 51:141, 51:153, 52:19, 55:20, 55:56, 56:13,

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7D8**

Lot-specific information

				57:09, 82:01-82:03
43⁵	110 bp 165 bp	800 bp	*44:52N *44:29, 44:89	
44⁵	85 bp 160 bp	800 bp	*44:53, 44:182, 44:192 *44:73, 44:76, 44:79:01-44:79:02, 44:146, 44:150	*07:28, 08:87, C*01:115, C*02:97, C*07:231, C*16:10 *07:28, 15:77, 15:233, 52:26, C*01:115, C*02:97
45	220 bp 250 bp	800 bp	*44:36 *44:54, 44:86, 44:106, 44:135, 44:158, 44:184, 44:213	*07:20, 07:140, 07:153, 52:56, 53:27
46	165 bp 450 bp	1070 bp	*44:66 *44:56N	
47⁵	65 bp 115 bp 140 bp 195 bp	1070 bp	*44:93, 44:139 *44:72, 44:204 *44:191 *44:58N	
48⁵	105 bp 140 bp 175 bp 260 bp 595 bp	1070 bp	*44:61N *44:59:01-44:59:02, 44:136, 44:191 *44:237N *44:78, 44:120, 44:195N *44:59:01-44:59:02, 44:136	*35:223 *35:204, C*03:147
49⁵	85 bp	800 bp	*44:108N	*18:23N
50⁵	95 bp 160 bp 195 bp 285 bp	1070 bp	*44:111, 44:200 *44:171N *44:137, 44:227 *44:148	*58:76, C*03:251, C*05:10, C*08:44, C*08:61, C*08:82, C*08:126
51⁵	110 bp 200 bp	1070 bp	*44:115 *44:217N	
52⁷	130 bp 405 bp	1070 bp	*44:143 *44:118	*39:46
53	210 bp	1070 bp	*44:122	
54	270 bp	1070 bp	*44:126:01-44:126:02, 44:159, 44:195N	*35:247, 58:45:01-58:45:02, C*03:96, C*15:52
55⁷	255 bp	1070 bp	*44:110, 44:138Q, 44:149N, 44:211	
56⁵	110 bp 250 bp 280 bp	1070 bp	*44:198N *44:160Q *44:104, 44:148	C*03:265N *37:16Q, C*15:96Q *58:76, C*03:251, C*05:10, C*08:44, C*08:61, C*08:82, C*08:126
57⁷	185 bp	1070 bp	*44:60, 44:83-44:84:01, 44:194, 44:205:01-44:205:02, 44:225	*07:149, 13:01:01-13:04, 13:06-13:08, 13:10-13:12:01, 13:13:01-13:23, 13:25- 13:29, 13:31-13:38, 13:40-13:66, 13:68- 13:87, 15:36, 15:89, 15:256, 15:339, 18:09, 37:10, 51:54, 51:78:01-51:78:02, 52:20, 53:09, 53:11-53:13, 53:31, 53:36, 53:38
58	210 bp	1070 bp	*44:87-44:88, 44:223	
59	185 bp	1070 bp	*44:84:02, 44:156	*08:02, 08:117, 15:115, 38:02:01- 38:02:06, 38:03-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 38:43-38:50, 56:07, 59:08

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7D8**

Lot-specific information

60⁵	100 bp	1070 bp	*44:187	
61	210 bp	1070 bp	*44:130, 44:156, 44:221, 44:224	*07:149, 08:02, 08:117, 15:115, 18:09, 37:10, 38:02:01-38:02:06, 38:03-38:04, 38:08, 38:15, 38:18, 38:23, 38:29, 38:35, 38:43-38:45, 38:47-38:50
	255 bp		*44:15, 44:55, 44:103, 44:188, 44:212	*13:23, 13:55, 18:09, 27:01, 27:142, 37:10, 40:47, 40:96, 40:157, 40:201, 49:02
62⁵	115 bp	1070 bp	*44:38	*13:80
	300 bp		*44:71	
63	150 bp	1070 bp	*44:81	
	285 bp		*44:173	
64¹¹	Negative Control			

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-B*44 SSP typings.

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

Nonspecific amplifications, i.e. a ladder or a smear of bands, may sometimes be seen. GC-rich primers have a higher tendency of giving rise to nonspecific amplifications than other primers.

PCR fragments longer than the control bands may sometimes be observed. Such bands should be disregarded and do not influence the interpretation of the SSP typings.

PCR fragments migrating faster than the control bands, but slower than a 400 bp fragment may be seen in some gel read-outs. Such bands can be disregarded and do not influence the interpretation of the SSP typings.

Some primers may give rise to primer oligomer artifacts. Sometimes this phenomenon is an inherent feature of the primer pair(s) of a primer mix. More often it is due to other factors such as too low amount of DNA in the PCR reactions, taking too long time in setting up the PCR reactions, working at elevated room temperature or using thermal cyclers that are not pre-heated.

²The internal positive control primer pairs amplify segments of the human growth hormone gene. The internal positive control bands are 1070 or 800 base pairs respectively, well distribution as outlined in the table. Well number 1 contains the shorter, 800 bp, internal positive control band. The well distribution of the internal controls can help in orientation of the kit on gel photo, as well as allow for kit identification. In the presence of a specific amplification the intensity of the control band often decreases.

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

⁴Due to the sharing of sequence motifs between HLA-B alleles, non-HLA-B*44 alleles will be amplified by primer mixes 1 to 9, 11, 12, 14 to 18, 20 to 23, 25 to 27, 29 to 42, 44, 45, 48 to 50, 52, 54, 56, 57, 59, 61 and 62. In addition, a few HLA-A and HLA-C alleles will be amplified by primer mixes 1 to 6, 11, 21, 26, 29, 31, 33, 35, 38 to 40, 42, 44, 48, 50, 54 and 56.

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

⁶Primer mix 36 has a tendency to giving rise to primer oligomer formation.

⁷Primer mixes 25, 29, 52, 55 and 57 may have tendencies of unspecific amplifications.

⁸Primer mix 39 may give rise to a lower yield of HLA-specific PCR product than the other B*44 primer mixes.

⁹In primer mix 42 the positive control band may be weaker than for other HLA-B*44 primer mixes.

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: 7D8

Lot-specific information

¹⁰We assume that the fourth exon nucleotide sequences are conserved within allelic groups. Primer mix 25 amplifies the B*44:27 and B*44:31 alleles. The purpose of primer mixes 23 and 25 is to distinguish e.g. the B*44:02,44:02 and B*44:02,44:27 genotypes.

¹¹Primer mix 64 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

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

‘w’, might be weakly amplified.

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7D8**

Lot-specific information

PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	260	90	225	160	75	170	155	90	120	125	150	145
					255	195			195	150		
										175		
Length of int. pos. control ¹	800	800	800	1070	1070	1070	1070	1070	1070	800	800	1070
5'-primer(s) ²	355	142	355	418	359	142	206	142	420	142	206	206
	5'-TCA 3'	5'-TCA 3'	5'-TCA 3'	5'-Agg 3'	5'-CCg 3'	5'-TCC 3'	5'-gAC 3'	5'-TCA 3'	5'-TTA 3'	5'-TCA 3'	5'-gAA 3'	5'-gAA 3'
	355		355		539	418	418		493	418	206	
	5'-TTA 3'		5'-TTA 3'		5'-gCg 3'	5'-AgT 3'	5'-Agg 3'		5'-CTT 3'	5'-Agg 3'	5'-gAA 3'	
						418						
						5'-AgT 3'						
3'-primer(s) ³	572	193	538	539	572	272	309	193	572	226	317	311
	5'-gCg 3'	5'-CgT 3'	5'-gTC 3'	5'-TCA 3'	5'-gCg 3'	5'-Tgg 3'	5'-ATC 3'	5'-CgC 3'	5'-gCg 3'	5'-CAC 3'	5'-ggA 3'	5'-ggT 3'
	572	193		539		572	544	193		278		
	5'-gTg 3'	5'-TgT 3'		5'-TCA 3'		5'-gCg 3'	5'-ggT 3'	5'-CgC 3'		5'-Tgg 3'		
										526		
										5'-CAT 3'		
Well No.	1	2	3	4	5	6	7	8	9	10	11	12

Well No.	13	14	15	16	17	18	19	20	21	22	23	24
Length of spec. PCR product	90	95	170	145	195	115	150	130	100	205	145	225
						155	190		180	290		
						260						
Length of int. pos. control ¹	1070	800	1070	800	1070	1070	1070	1070	800	800	800	1070
5'-primer(s) ²	206	206	409	206	418	6	206	106	257	49	668	4 th I
	5'-gAA 3'	5'-gAA 3'	5'-ggC 3'	5'-gAA 3'	5'-Agg 3'	5'-C.g 3'	5'-gAA 3'	5'-CCg 3'	5'-CCC 3'	5'-CAG 3'	5'-ggT 3'	5'-CCg 3'
						355	418		418			
						5'-CCA 3'	5'-Agg 3'		5'-Agg 3'			
						361						
						5'-Agg 3'						
						460						
						5'-ACg 3'						
						499						
						5'-TCT 3'						
3'-primer(s) ³	255	259	538	309	572	106	313	193	317	85	774	896
	5'-CgC 3'	5'-gTT 3'	5'-gTC 3'	5'-ATC 3'	5'-gTg 3'	5'-CAT 3'	5'-Cgg 3'	5'-CgT 3'	5'-ggA 3'	5'-CAC 3'	5'-ggT 3'	5'-TCA 3'
				309	572	572	566		559	171		
				5'-ATg 3'	5'-gCg 3'	5'-gCg 3'	5'-CCg 3'		5'-CTC 3'	5'-ACC 3'		
					576							
					5'-CgC 3'							
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7D8**

Lot-specific information

Well No.	25	26	27	28	29	30	31	32	33	34	35	36
Length of spec.	145	100	160	130	90	195	110	155	185	160	85	145
PCR product		135	255	165	255		195				185	235
		225					230					
							260					
Length of int.	1070	800	800	1070	800	800	1070	1070	800	800	800	800
pos. control ¹												
5'-primer(s) ²	668	134	141	418	97	420	353	540	185	420	142	206
	5'-ggC 3'	5'-CCA 3'	5'-ATT 3'	5'-Agg 3'	5'-TCC 3'	5'-TTA 3'	5'-gTA 3'	5'-gAC 3'	5'-CAA 3'	5'-TTA 3'	5'-TCA 3'	5'-AgA 3'
		256	357		369		385		418		418	355
		5'-ACT 3'	5'-Tgg 3'		5'-TAC 3'		5'-ggT 3'		5'-Agg 3'		5'-Agg 3'	5'-TCA 3'
		445					419					
		5'-TCA 3'					5'-gTC 3'					
							504					
							5'-CAC 3'					
3'-primer(s) ³	774	317	259	506	309	572	572	3 rd I	317	538	186	309
	5'-ggT 3'	5'-ggA 3'	5'-CTC 3'	5'-Tgg 3'	5'-gTg 3'	5'-gCg 3'	5'-gCg 3'	5'-TAT 3'	5'-ggA 3'	5'-gTC 3'	5'-TCC 3'	5'-gTg 3'
		538	572	540	419				572		287	548
		5'-gTC 3'	5'-gCg 3'	5'-CTT 3'	5'-CgA 3'				5'-gCC 3'		5'-TCA 3'	5'-ggC 3'
											559	
											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.	205	225	75	235	255	130	110	85	220	165	65	105
PCR product				260		165	165	160	250	450	115	140
											140	175
											195	260
												595
Length of int.	1070	800	800	1070	1070	800	800	800	800	1070	1070	1070
pos. control ¹												
5'-primer(s) ²	409	355	540	355	97	193	418	418	107	206	142	142
	5'-ggC 3'	5'-CCC 3'	5'-gAC 3'	5'-CCC 3'	5'-TCg 3'	5'-CCA 3'	5'-Agg 3'	5'-Agg 3'	5'-CAC 3'	5'-gAA 3'	5'-TCA 3'	5'-TCA 3'
				379		412			363	649		355
				5'-ACC 3'		5'-ATA 3'			5'-AgC 3'	5'-ACA 3'		5'-TCA 3'
									395			
									5'-gCT 3'			
3'-primer(s) ³	572	538	572	572	309	282	489	463	317	369	164	208
	5'-gCg 3'	5'-gTC 3'	5'-gCC 3'	5'-gCg 3'	5'-gTg 3'	5'-gCC 3'	5'-gCg 3'	5'-gCg 3'	5'-ggA 3'	5'-CCT 3'	5'-gCT 3'	5'-CTA 3'
						538	544	527	572	774	218	242
						5'-gTC 3'	5'-ggT 3'	5'-CCT 3'	5'-gCg 3'	5'-ggT 3'	5'-gCT 3'	5'-CCC 3'
								538			242	278
								5'-CCA 3'			5'-CCC 3'	5'-Tgg 3'
								545			295	453
								5'-AgC 3'			5'-TCA 3'	5'-TCT 3'
												453
												5'-TCC 3'
												572
												5'-gCT 3'
												578
												5'-TgA 3'
Well No.	37	38	39	40	41	42	43	44	45	46	47	48

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **7D8**

Lot-specific information

Well No.	49	50	51	52	53	54	55	56	57	58	59	60
Length of spec.	85	95	110	130	210	270	255	110	185	210	185	100
PCR product		160	200	405				250				
		195						280				
		285										
Length of int.	800	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070	1070
pos. control ¹												
5'-primer(s) ²	610	142	415	228	404	355	355	355	165	400	167	668
	5'-TgT 3'	5'-TCA 3'	5'-ACT 3'	5'-ATg 3'	5'-CCA 3'	5'-TCA 3'	5'-TCC 3'	5'-TCA 3'	5'-ACC 3'	5'-TCA 3'	5'-gCA 3'	5'-ggT 3'
		355	503	646			358			410		
		5'-TCA 3'	5'-CCC 3'	5'-ACg 3'			5'-TCT 3'			5'-gTg 3'		
							363					
							5'-AgC 3'					
3'-primer(s) ³	3 rd I	197	572	317	572	572	572	426	311	572	311	728
	5'-TAT 3'	5'-gAT 3'	5'-gCg 3'	5'-ggA 3'	5'-gCg 3'	5'-gCT 3'	5'-gCg 3'	5'-TCC 3'	5'-Cgg 3'	5'-gCg 3'	5'-Cgg 3'	5'-CCT 3'
		259		916		595		563				
		5'-CTA 3'		5'-gAC 3'		5'-CCg 3'		5'-CgT 3'				
		287				595		592				
		5'-TCA 3'				5'-CCT 3'		5'-gTC 3'				
		307						601				
		5'-gCA 3'						5'-CTT 3'				
		601										
		5'-CTT 3'										
Well No.	49	50	51	52	53	54	55	56	57	58	59	60

Well No.	61	62	63
Length of spec.	210	115	150
PCR product	255	300	285
Length of int.	1070	1070	1070
pos. control ¹			
5'-primer(s) ²	97	355	74
	5'-TCC 3'	5'-TCA 3'	5'-C 3'
	142		207
	5'-TCT 3'		5'-AAT 3'
3'-primer(s) ³	309	430	317
	5'-gTg 3'	5'-gCT 3'	5'-ggA 3'
		613	
		5'-gCA 3'	
Well No.	61	62	63

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

²The nucleotide position matching the specificity-determining 3'-end of the primer is given. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

³The nucleotide position matching the specificity-determining 3'-end of the primer is given in the anti-sense direction. Nucleotide numbering as on the www.ebi.ac.uk/imgt/hla web site. The sequence of the 3 terminal nucleotides of the primer is given.

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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“Instructions for Use” (IFU)

Lot No.: **7D8**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-B*44 SSP subtyping kit ²																				
					Well ³															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
				Prod. No.:	201666201	201666202	201666203	201666204	201666205	201666206	201666207	201666208	201666209	201666210	201666211	201666212	201666213	201666214	201666215	201666216
	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	9025	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	+	+	-	+	-	-	-	-	-	-	+	-	-	-	-	-

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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Lot No.: 7D8

Lot-specific information

CELL LINE VALIDATION SHEET																																	
HLA-B*44 SSP subtyping kit ²																																	
					Well ³																												
					17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32													
				Prod. No.:	201666217	201666218	201666219	201666220	201666221	201666222	201666223	201666224	201666225	201666226	201666227	201666228	201666229	201666230	201666231	201666232													
	IHCW cell line ¹		B*																														
1	9001	SA	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*52:01	*73:01	-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*52:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*15:10	*53:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009	KAS011	*37:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
6	9353	SM	*39:01	*51:01	-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*18:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*35:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*38:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*54:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*44:03		+	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*57:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9025	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		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*40:02	*56:02	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*38:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049	IBW9	*14:02		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*58:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*46:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*46:01		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*38:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*42:01	*50:01	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
46	9013	SCHU	*07:02		-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*51:01		-	-	-	-	-	-	-	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*35:01	*44:03	+	-	-	-	-	-	-	+	-	f	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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Lot No.: **7D8**

Lot-specific information

CELL LINE VALIDATION SHEET																												
HLA-B*44 SSP subtyping kit ²																												
				Well ³																								
				33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48									
				Prod. No.:	201666233	201666234	201666235	201666236	201666237	201666238	201666239	201666240	201666241	201666242	201666243	201666244	201666245	201666246	201666247	201666248								
				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	9025	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																							

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Lot-specific information

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101.563-24/03 – including *Taq* pol., IFU-01
101.563-24u/03u – without *Taq* pol., IFU-02

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

Lot No.: 7D8

Lot-specific information

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

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

³Primer mix 39 amplifies C*07:04 alleles in the CH1007 and TUBO cell lines.

No DNAs carrying the alleles to be amplified by primer solutions 10, 18, 19, 21, 22, 24, 26, 28, 29, 33, 43 to 56, 58, 60, 62 and 63 were available.

The specificities of the primers in primer solutions 10, 18, 21, 26, 29, 33, 44 to 46, 50, 55 and 56 were tested by separately adding one, two or three additional 5'-primers, respectively one, two or three additional 3'-primers.

In primer solutions 19, 22, 28, 43, 47, 48, 54, 60 and 62 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solutions 49, 51 to 53, 58 and 63 it was only possible to test the 3'-primers, the 5'-primers were not possible to test. In primer solution 24 neither the 5'-primer nor the 3'-primer was possible to test.

In primer solutions 1, 3, 5, 6, 18, 21, 26, 31, 33, 45, 46 and 55 one or two of the 5'-primers were not possible to test. In primer solutions 1, 2, 7, 10, 16, 17, 35, 36, 44, 46, 50 and 56 one or more of the 3'-primers were not possible to test.

Additional primers in primer solutions 6 to 8, 27, 31, 35, 36, 42 and 61 were tested by separately adding one 5'-primer and/or one 3'-primer.

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