

101.431-12 – including *Taq* polymerase, IFU-01
101.431-12u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **3G4**

Lot-specific information

Olerup SSP® HLA-A*32

Product number:	101.431-12 – including <i>Taq</i> polymerase 101.431-12u – without <i>Taq</i> polymerase
Lot number:	3G4
Expiry date:	2021-02-01
Number of tests:	12
Number of wells per test:	31+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. 3G4.

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

**CHANGES COMPARED TO THE PREVIOUS OLERUP SSP®
HLA-A*32 LOT (5E4)**

The HLA-A*32 kit is updated for new alleles to enable separation of:

- Null and Alternatively expressed alleles
- The product documentation has been updated for new alleles of IMGT 3.32.0.

Two wells have been added to HLA-A*31, wells **31 and 32**.

The format of the Worksheet has been changed.

The HLA-A*32 primer set, specificity and interpretation tables have been updated for the HLA-A alleles described since the previous *Olerup SSP®* HLA-A*32 lot was made (**Lot No. 5E4**).

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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
2	Modified	Modified	Modified primer pair for improved HLA-specific amplification.
14	-	Modified	3'-primer modified for improved yield of HLA-specific PCR product.
26	-	Exchanged	Exchanged positive control primer pair, exchanged 3'-primer for decreased tendency of primer oligomer formation.
30	Added	Added	Negative control moved to well 32, primer pair added for the A*32:101Q allele.
31	New	New	New primer pair added for the A*32:92N allele.
32	-	-	Negative control added from well 30.

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Well **32** 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-A*32 SSP subtyping

CONTENT

The primer set contains 5'- and 3'-primers for identifying the A*32:01 to A*32:110 alleles.

PLATE LAYOUT

Each test consists of 32 PCR reactions in a 32 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	NC

The 32 well cut PCR plate is marked with 'HLA-A*32' in silver/gray ink.

Well No. 1 is marked with the Lot No. '3G4'.

Wells 1 to 31– HLA-A*32 high resolution primers.

Well 32 – 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.

Please note: When removing each 32 well PCR plate, make sure that the remaining plates stay covered. Use a scalpel or a similar instrument to carefully cut the foil between the plates.

INTERPRETATION

Due to the sharing of sequence motifs between HLA-A alleles non-HLA-A*32 alleles will be amplified by some primer mixes. For further details see Specificity Table.

UNIQUELY IDENTIFIED ALLELES

All the HLA-A*32 alleles, i.e. **A*32:01 to A*32:110 alleles**, recognized by the HLA Nomenclature Committee in April 2018^{1,2} will be amplified by the primers in the HLA-A*32 subtyping kit.

The HLA-A*32 kit enables separation of the confirmed HLA- A*32 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- A*32 alleles is listed below.

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The HLA-A*32 kit also enables identification of null and alternatively expressed alleles.

The following HLA-A*32 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

Alleles	Primer mix
A*32:10, 32:16	12
A*32:21, 32:44	17
A*32:23, 32:54	20
A*32:28, 32:53, 32:66	23

¹HLA-A alleles listed on the IMGT/HLA web page 2018-April-16, release 3.32.0, 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>.

ALLELE CONFIRMATION STATUS

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

¹Allele 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.

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RESOLUTION IN HOMO- AND HETEROZYGOTES

Results file with resolution in HLA-A*32 homo- and heterozygotes is available upon request.

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SPECIFICITY TABLE

HLA-A*32 SSP subtyping

Specificities and sizes of the PCR products of the 31+1 primer mixes used for HLA-A*32 SSP subtyping

Primer Mix	Size of spec. PCR product ¹	Size of control band ²	Amplified HLA-A*32 alleles ³	Other amplified HLA-A alleles
1	200 bp	800 bp	*32:01:01:01-32:06, 32:08-32:14, 32:16-32:24, 32:26:01-32:38, 32:40-32:41, 32:43-32:63, 32:65-32:78, 32:80-32:92N, 32:94-32:110	*01:01:01:01-01:01:84, 01:03:01:01-01:04N, 01:06-01:19, 01:21-01:33, 01:35-01:42, 01:44-01:46, 01:48-01:50, 01:52:01N-01:59, 01:61-01:70, 01:72-01:82, 01:84-01:104, 01:106-01:142, 01:144-01:187, 01:189, 01:191-01:219, 01:221-01:249, 01:251-01:253, 02:45, 02:56:01-02:56:02, 02:103, 02:195, 03:01:01:01-03:01:03, 03:01:05-03:11N, 03:13-03:22:02, 03:25-03:29, 03:31-03:35, 03:37-03:58, 03:60-03:69N, 03:71, 03:73-03:87, 03:90-03:112, 03:114-03:151, 03:153-03:157:01, 03:158-03:193, 03:195-03:197N, 03:199, 03:201-03:204, 03:206-03:259, 03:261-03:272, 03:274-03:277, 03:279N-03:293, 11:199:01-11:199:02, 11:222, 30:55, 31:21, 36:01-36:06, 74:01:01-74:03, 74:05-74:18, 74:22-74:28
2	430 bp 520 bp	1070 bp	*32:01:01:01-32:01:06, 32:01:08-32:01:11, 32:01:13-32:02, 32:05-32:27N, 32:29-32:30:01, 32:31-32:33:01, 32:34-32:65, 32:67-32:77, 32:79-32:83, 32:85-32:93, 32:95-32:100, 32:102-32:110 *32:01:01:01-32:01:05, 32:01:07-32:01:29, 32:04-32:09, 32:11Q-32:21, 32:23-32:77, 32:79-32:83, 32:85-32:100, 32:102-32:110	*29:13 *02:81, 02:124, 23:36, 25:19:01-25:19:02, 25:30, 29:13
3	130 bp	1070 bp	*32:02, 32:22	*11:01:28, 11:01:77, 24:21:03, 24:208, 29:05, 29:33, 29:77, 29:87, 29:104, 31:24, 33:59, 33:102
4 ^{4,5}	115 bp	800 bp	*32:02, 32:06, 32:109	*02:24:02, 02:507, 24:21:03, 24:208, 29:33, 29:51, 29:80, 31:41, 33:94
5	165 bp	800 bp	*32:03	

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6⁴	120 bp 520 bp	1070 bp	*32:20 *32:04, 32:52	*03:152, 03:219, 24:18, 24:204, 24:213
7	135 bp	800 bp	*32:05, 32:17, 32:79	*29:13
8⁶	165 bp 215 bp	1070 bp	*32:19N *32:07	*01:02 ^w , 01:20 ^w , 03:72, 11:88, 23:09 ^w , 23:51, 24:24, 24:67, 24:145, 24:156, 24:191, 24:290, 24:392, 26:16, 29:37, 29:56, 30:01:01-30:04:02, 30:06, 30:09-30:20, 30:23-30:30, 30:32- 30:54, 30:56-30:59N, 30:61-30:78N, 30:80-30:129, 33:119, 68:45, 68:117
9	180 bp	1070 bp	*32:01:01:01-32:01:17, 32:01:19-32:03, 32:05- 32:110	*29:13
10⁶	150 bp	800 bp	*32:08, 32:17	*29:13
11⁴	120 bp 165 bp	1070 bp	*32:20 *32:09	
12	130 bp	1070 bp	*32:10	*02:507, 29:28, 29:79, 31:30, 31:97, 33:94, B*07:02:40, C*02:02:15, C*04:175
13	195 bp 155 bp 200 bp	1070 bp	*32:16 *32:11Q *32:15	*01:51, 02:55, 02:644, 03:24, 25:03, 25:30, 26:20, 34:08, 68:71
14	215 bp	1070 bp	*32:12, 32:18	*29:06, 31:51, 74:26, C*02:02:15^w, C*03:03:20^w, C*04:175^w, C*08:01:15^w
15	165 bp	1070 bp	*32:13	*23:03:01, 24:21:03, 24:208, 29:03, 29:33, 31:05, 33:10
16	220 bp 220 bp	1070 bp	*32:18 *32:14	
17⁴	75 bp 200 bp	1070 bp	*32:21 *32:44	*29:62, 31:45, 33:16 *33:75
18	130 bp 185 bp	1070 bp	*32:24 *32:60	
19⁴	110 bp 185 bp	1070 bp	*32:25, 32:45N *32:60	
20^{4,5}	125 bp 220 bp	1070 bp	*32:23 *32:54	*33:46 *02:294, 34:01:01 [?] -34:01:02 [?] , 34:05 [?] , 66:08
21	150 bp	800 bp	*32:26:01	*31:25
22	175 bp 230 bp	1070 bp	*32:56N *32:27N	
23⁴	80 bp	1070 bp	*32:28, 32:66	*02:41, 02:80, 02:117, 02:289:01, 02:304, 02:454, 23:45, 24:62, 26:10, 31:67-31:68, 33:32:01
24	225 bp 175 bp	800 bp	*32:53 *32:48N, 32:56N	*02:480, 33:39, 68:176 *02:314N, 03:197N
25	205 bp	1070 bp	*32:61	
26	135 bp	800 bp	*32:68	
27	180 bp	1070 bp	*32:47	

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28⁴	95 bp	1070 bp	*32:69
29	170 bp	1070 bp	*32:74
30	400 bp	1070 bp	*32:101Q
31	205 bp	1070 bp	*32:92N
32⁷	-	-	Negative Control

¹Alleles are assigned by the presence of specific PCR product(s). However, the sizes of the specific PCR products may be helpful in the interpretation of HLA-A*32 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.

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

⁵Primer mixes 4 and 20 may have tendencies of unspecific amplifications.

⁶Primer mixes 8 and 10 may give rise to a lower yield of HLA-specific PCR product than the other A*32 primer mixes.

⁷Primer mix 32 contains a negative control, which will amplify more than 95% of HLA amplicons as well as the amplicons generated by the control primer pairs matching the human growth hormone gene. HLA-specific PCR product sizes range from 75 to 200 base pairs and the PCR product generated by the HGH positive control primer pair is 430 base pairs.

‘w’, might be weakly amplified.

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

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PRIMER SPECIFICATION

Well No.	1	2	3	4	5	6	7	8	9	10	11	12
Length of spec. PCR product	200	430	130	115	165	120	135	165	180	150	120	130
		520				520		215			165	195
Length of int. pos. control ¹	800	1070	1070	800	800	1070	800	1070	1070	800	1070	1070
5'-primer(s) ²	98	302	448	448	180	101	180	98	180	180	101	448
	5'-CTT ^{3'}	5'-gAg ^{3'}	5'-CCT ^{3'}	5'-CCT ^{3'}	5'-TTT ^{3'}	5'-CAT ^{3'}	5'-TTT ^{3'}	5'-CTC ^{3'}	5'-TTT ^{3'}	5'-TTT ^{3'}	5'-CAT ^{3'}	5'-CCT ^{3'}
	98					317		448	180		448	
	5'-CTT ^{3'}					5'-gCT ^{3'}		5'-CCT ^{3'}	5'-TTT ^{3'}		5'-CCT ^{3'}	
3'-primer(s) ³	256	448	539	524	302	180	265	270	317	282	180	539
	5'-CTg ^{3'}	5'-CAA ^{3'}	5'-TCT ^{3'}	5'-CAT ^{3'}	5'-ggT ^{3'}	5'-TCA ^{3'}	5'-CCC ^{3'}	5'-ACA ^{3'}	5'-ggA ^{3'}	5'-gAC ^{3'}	5'-TCA ^{3'}	5'-TCC ^{3'}
	256	538				555	282	573		292	571	602
	5'-CTg ^{3'}	5'-CAA ^{3'}				5'-CCA ^{3'}	5'-gAC ^{3'}	5'-AgT ^{3'}		5'-gTg ^{3'}	5'-CCg ^{3'}	5'-TCA ^{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	155	215	165	220	75	130	110	125	150	175	80	175
	200		220		200	185	185	220		230	225	
Length of int. pos. control ¹	1070	1070	1070	1070	1070	1070	1070	1070	800	1070	1070	800
5'-primer(s) ²	102	139	139	124	448	180	180	448	448	98	414	98
	5'-ACA ^{3'}	5'-TCg ^{3'}	5'-TCg ^{3'}	5'-gCC ^{3'}	5'-CCT ^{3'}	5'-TTT ^{3'}	5'-TTT ^{3'}	5'-CCT ^{3'}	5'-CCT ^{3'}	5'-CTT ^{3'}	5'-CAg ^{3'}	5'-CTT ^{3'}
	448	448	448				448	652			649	411
	5'-CCT ^{3'}	5'-CCT ^{3'}	5'-CCT ^{3'}				5'-CCT ^{3'}	5'-CTg ^{3'}			5'-ACA ^{3'}	5'-TAg ^{3'}
3'-primer(s) ³	259	317	317	302	482	271	258	532	559	232	453	232
	5'-gTT ^{3'}	5'-ggA ^{3'}	5'-ggA ^{3'}	5'-ggC ^{3'}	5'-Tgg ^{3'}	5'-CAT ^{3'}	5'-TCg ^{3'}	5'-CTT ^{3'}	5'-CCT ^{3'}	5'-C.g ^{3'}	5'-TCT ^{3'}	5'-C.g ^{3'}
	563	616	570		608	323	323	829		286	831	538
	5'-CgA ^{3'}	5'-CgC ^{3'}	5'-CCg ^{3'}		5'-gCg ^{3'}	5'-AgC ^{3'}	5'-AgC ^{3'}	5'-CTC ^{3'}		5'-CTA ^{3'}	5'-TCC ^{3'}	5'-CAA ^{3'}
							508					
							5'-CTA ^{3'}					
Well No.	13	14	15	16	17	18	19	20	21	22	23	24

Well No.	25	26	27	28	29	30	31
Length of spec. PCR product	205	135	180	95	170	400	205
Length of int. pos. control ¹	1070	800	1070	1070	1070	1070	1070
5'-primer(s) ²	668	736	401	98	704	302	448
	5'-ggg ^{3'}	5'-ggA ^{3'}	5'-CCA ^{3'}	5'-CTT ^{3'}	5'-TgA ^{3'}	5'-gAg ^{3'}	5'-CCT ^{3'}
3'-primer(s) ³	831	808	538	154	831	418	613
	5'-TCC ^{3'}	5'-AgA ^{3'}	5'-CAA ^{3'}	5'-CAT ^{3'}	5'-TCC ^{3'}	5'-gTg ^{3'}	5'-gCg ^{3'}
Well No.	25	26	27	28	29	30	31

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Lot-specific information

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

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

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

101.431-12 – including *Taq* polymerase, IFU-01
101.431-12u – without *Taq* polymerase, IFU-02

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“Instructions for Use” (IFU)

Lot No.: **3G4**

Lot-specific information

CELL LINE VALIDATION SHEET																				
HLA-A*32 SSP subtyping kit ²																				
					Well															
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
					201324501	201891402	201324503	201324504	201324505	201324506	201324507	201324508	201673909	201324510	201324511	201324512	201324513	201891414	201324515	201324516
	IHCW cell line ¹		A*	A*	Prod. No.:															
1	9001	SA	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280	LK707	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011	E4181324	*01:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275	GU373	*30:01		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
5	9009	KAS011	*01:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353	SM	*02:01	*26:03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020	QBL	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025	DEU	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026	YAR	*26:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107	LKT3	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051	PITOUT	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052	DBB	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004	JESTHOM	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071	OLGA	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075	DKB	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037	SWEIG007	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282	CTM3953540	*03:01	*80:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257	32367	*33:03	*74:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038	BM16	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059	SLE005	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064	AMALA	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056	KOSE	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124	IHL	*02:01	*34:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	9035	JBUSH	*32:01		+	+	-	-	-	-	-	-	+	-	-	-	-	-	-	-
25	9049	IBW9	*33:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285	WT49	*02:05		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191	CH1007	*24:10	*29:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320	BEL5GB	*02:01	*29:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050	MOU	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021	RSH	*30:01	*68:02	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
31	9019	DUCAF	*30:02		-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
32	9297	HAG	*02:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098	MT14B	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104	DHIF	*31:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302	SSTO	*32:01		+	+	-	-	-	-	-	-	+	-	-	-	-	-	-	-
36	9024	KT17	*02:06	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065	HHKB	*03:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099	LZL	*02:17		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315	CML	*01:01	*03:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134	WHONP199	*02:07	*30:01	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-
41	9055	H0301	*03:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066	TAB089	*02:07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076	T7526	*02:06	*02:07	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057	TEM	*66:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239	SHJO	*23:01	*24:02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013	SCHU	*03:01		+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045	TUBO	*02:16	*03:01	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303	TER-ND	*02:01	*11:01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.431-12 – including *Taq* polymerase, IFU-01
101.431-12u – without *Taq* polymerase, IFU-02

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Lot No.: **3G4**

Lot-specific information

CELL LINE VALIDATION SHEET																			
HLA-A*32 SSP subtyping kit ²																			
				Well															
				17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
				Prod. No.:	201324517	201448118	201448119	201324520	201324521	201324522	201324523	201324524	201448125	201891426	201448127	201673928	201673929	201891430	201891431
	IHWC cell line ¹	A*	A*																
1	9001 SA	*24:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	9280 LK707	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	9011 E4181324	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	9275 GU373	*30:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	9009 KAS011	*01:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	9353 SM	*02:01	*26:03		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	9020 QBL	*26:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	9025 DEU	*31:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	9026 YAR	*26:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	9107 LKT3	*24:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	9051 PITOUT	*29:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	9052 DBB	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	9004 JESTHOM	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	9071 OLGA	*31:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	9075 DKB	*24:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	9037 SWEIG007	*29:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	9282 CTM3953540	*03:01	*80:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	9257 32367	*33:03	*74:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	9038 BM16	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	9059 SLE005	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	9064 AMALA	*02:17			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	9056 KOSE	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	9124 IHL	*02:01	*34:01		-	-	-	?	-	-	-	-	-	-	-	-	-	-	-
24	9035 JBUSH	*32:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	9049 IBW9	*33:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	9285 WT49	*02:05			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	9191 CH1007	*24:10	*29:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	9320 BEL5GB	*02:01	*29:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	9050 MOU	*29:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	9021 RSH	*30:01	*68:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31	9019 DUCAF	*30:02			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	9297 HAG	*02:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
33	9098 MT14B	*31:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
34	9104 DHIF	*31:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35	9302 SSTO	*32:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	9024 KT17	*02:06	*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
37	9065 HHKB	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
38	9099 LZL	*02:17			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
39	9315 CML	*01:01	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	9134 WHONP199	*02:07	*30:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
41	9055 H0301	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
42	9066 TAB089	*02:07			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
43	9076 T7526	*02:06	*02:07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
44	9057 TEM	*66:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
45	9239 SHJO	*23:01	*24:02		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
46	9013 SCHU	*03:01			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
47	9045 TUBO	*02:16	*03:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	9303 TER-ND	*02:01	*11:01		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

101.431-12 – including *Taq* polymerase, IFU-01
101.431-12u – without *Taq* polymerase, IFU-02

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Lot No.: 3G4

Lot-specific information

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

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

No DNAs carrying the alleles to be amplified by primer solutions 3 to 5, 7, 10 to 19 and 21 to 31 were available. The specificities of the primers in primer solutions 3 to 5, 7, 11 to 15, 18, 23, 24 and 30 were tested by separately adding one or two additional 5'-primers, respectively one or two additional 3'-primers.

In primer solutions 16, 25 to 27 and 29 it was only possible to test the 3'-primers, the 5'-primer was not possible to test.

In primer solutions 10, 17, 19, 21, 22, 28 and 31 it was only possible to test the 5'-primers, the 3'-primers were not possible to test.

In primer solution 1, 7, 8, 10 to 14, 18, 20 and 24 one of the 3'-primers was not possible to test. In primer solutions 1, 6, 9, 11, 14, 15, 23 and 24 one of the 5'-primers was not possible to test.

Additional primers in primer solutions 6, 8 and 20 were tested by separately adding 5'-primers respectively 3'-primers.

101.431-12 – including *Taq* polymerase, IFU-01
101.431-12u – without *Taq* polymerase, IFU-02

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Lot No.: **3G4**

Lot-specific information

101.431-12 – including *Taq* polymerase, IFU-01
101.431-12u – without *Taq* polymerase, IFU-02

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Lot No.: **3G4**

Lot-specific information

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