HLA-A\*02 (101.412-24/04, -24u/04u) Lot No: 9R1 Expiry Date: 2027-07-01

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Sample ID:\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DNA Conc.(ng/ul):\_\_\_\_\_\_\_\_\_

Test Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tested By:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Review Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Reviewed By:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Interpretation:\_\_\_\_\_\_\_\_\_\_\_ Failed lanes: \_\_\_\_\_\_\_\_\_\_\_ Comments:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Gel Picture**

|  |
| --- |
| PHOTO DOCUMENT |









Abbreviations

ICB Internal Control Band

AmpS: Amplicon Size

**Notes:**

Product sizes are approximate. For detailed information, see the lot-specific Specificity Table and Interpretation Table.

This table is intended as a guide. For interpretation always use the Interpretation Table and/or Specificity Table.

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

The specific primers in primer mixes 3, 6, 31, 34, 39 and 55 may give rise to a lower yield of HLA-specific PCR product than the other A\*02 primer mixes.

Primer mixes 7, 11, 25, 33, 42, 46, 54, 57, 73, 81, 84, 87, 88, 93 and 94 have a tendency giving rise to primer oligomer formation.

Primer mixes 11, 13, 14, 17, 20, 27, 31, 32, 33, 34, 40, 41, 42, 46, 54, 59, 60, 61, 65, 71, 72, 75, 89 and 91 may have tendencies of unspecific amplifications, most pronounced in primer mixes 41 and 91.

Primer mixes 11 and 34 may give rise to a long fragment of approx. 600 bp in some HLA-A alleles. This band should not be considered in the interpretation of HLA-A\*02 typings.

Primer mix 18 may faintly amplify the C\*04:01:01:01-04:01:150 alleles.

For some samples primer mix 1 may amplify the A\*02:07:01-02:07:23 alleles.

Primer mix 34 may give rise to a lower yield of HLA-specific PCR product than the other HLA-A\*02 high resolution primer mixes for the A\*30 alleles.

In primer mixes 25 and 73 the positive control band may be weaker than for other HLA-A\*02 primer mixes.

Primer mix 96 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 product generated by the HGH positive control primer pair is 200 base pairs.





































**1**HLA-A\*02 alleles in bold lettering are listed as confirmed alleles on the on the IMGT/HLA web page [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla), release 3.25.0, July 2016.

**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 HLA-A\*02 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-A\*02 alleles | Other amplified HLA-A alleles |
| **7** | 170 bp  210 bp | \*02:02:01:01-02:02:07, 02:05:01:01-02:05:13, 02:08:01-02:08:02, 02:14, 02:47, 02:63, 02:102, 02:115, 02:154-02:155, 02:172, 02:179, 02:186, 02:209, 02:229, 02:232, 02:286, 02:320, 02:324, 02:337, 02:344, 02:359, 02:373N, 02:376, 02:413, 02:421, 02:433, 02:484, 02:489, 02:492, 02:495-02:496, 02:507, 02:517, 02:531-02:532, 02:542, 02:546, 02:572, 02:577, 02:591:01-02:591:02, 02:593, 02:601, 02:626, 02:636, 02:643N, 02:646, 02:655, 02:667, 02:670, 02:676, 02:709, 02:717, 02:731, 02:734, 02:766, 02:778, 02:790-02:791N, 02:799, 02:807N, 02:817-02:818, 02:826Q, 02:843, 02:867, 02:872, 02:881, 02:907, 02:922, 02:925, 02:951, 02:961, 02:963, 02:967, 02:990, 02:999N, 02:1019-02:1020, 02:1025, 02:1048, 02:1059N, 02:1064Q, 02:1086, 02:1095  \*02:540N | \*31:126N, 33:213N, **C\*02:38:02N** |
| **8** | 415 bp  505 bp | \*02:02:01:01-02:02:02, 02:02:04-02:02:07, 02:05:01:01-02:05:13, 02:14, 02:47, 02:63, 02:102, 02:115, 02:154-02:155, 02:172, 02:179, 02:186, 02:209, 02:229, 02:232, 02:271, 02:286, 02:320, 02:324, 02:337, 02:344, 02:359, 02:373N, 02:376, 02:413, 02:421, 02:433, 02:484, 02:489, 02:492, 02:495-02:496, 02:507, 02:517, 02:531-02:532, 02:546, 02:572, 02:577, 02:591:01-02:591:02, 02:593, 02:601, 02:626, 02:636, 02:643N, 02:646, 02:655, 02:667, 02:670, 02:676, 02:709, 02:717, 02:731, 02:734, 02:766, 02:778, 02:790-02:791N, 02:799, 02:807N, 02:817-02:818, 02:826Q, 02:843, 02:867, 02:872, 02:881, 02:907, 02:922, 02:925, 02:951, 02:961, 02:963, 02:967, 02:990, 02:999N, 02:1019, 02:1025, 02:1048, 02:1059N, 02:1064Q, 02:1086, 02:1095  \*02:32N |  |
| **11** | 135 bp  225 bp  350 bp | \*02:506N  \*02:89:01  \*02:04:01-02:04:02, 02:17:02:01-02:17:04, 02:57, 02:65, 02:108, 02:110, 02:152, 02:268, 02:300, 02:303, 02:334, 02:617, 02:657, 02:664, 02:680, 02:710N, 02:804, 02:890, 02:963, 02:985, 02:1054, 02:1072, 02:1092, 02:1094 | \*23:12, 24:28, 24:30, 24:42, 24:89, 24:309, 24:379, 29:19, 29:48, 29:74, 29:159, 32:08, 33:24, 33:184, 68:05, 68:20, 68:255, 74:06, 74:21, 74:39 |
| **14** | 95 bp  170 bp | \*02:91, 02:322  \*02:07:01:01-02:07:23, 02:15N, 02:18, 02:103, 02:112, 02:130, 02:191, 02:219, 02:255, 02:261, 02:265, 02:282, 02:319, 02:335, 02:369, 02:403, 02:426, 02:429, 02:432, 02:437Q, 02:449-02:452, 02:474, 02:477-02:478, 02:513, 02:541, 02:544, 02:566-02:567, 02:575, 02:583, 02:586, 02:622N, 02:652, 02:678, 02:721, 02:764, 02:771, 02:787, 02:822, 02:840, 02:855, 02:859, 02:897, 02:912, 02:918, 02:924, 02:935, 02:937, 02:941, 02:966, 02:973, 02:981, 02:1010, 02:1051, 02:1066-02:1067, 02:1075, 02:1098 | \*68:239 |
| **15** | 125 bp  265 bp  305 bp | \*02:21, 02:186, 02:587, 02:667, 02:764  \*02:87, 02:112, 02:129, 02:136, 02:571  \*02:96 | \*23:01:13, 24:340, **B\*51:01:58, B\*53:01:10** |
| **16** | 110 bp  155 bp | \*02:50, 02:73, 02:93:01-02:93:02, 02:122, 02:156, 02:172, 02:279, 02:594, 02:631, 02:651, 02:932, 02:952, 02:1072  \*02:09:01:01-02:09:01:04, 02:49:01-02:49:02, 02:597, 02:1013 | \*01:88:02-01:88:03, 01:236, 11:119:01-11:119:02, 11:209, 23:31, 23:45, 23:55, 24:15, 24:41, 24:51, 24:92, 24:235, 24:504, 24:557, 26:10, 32:28, 32:66, 32:158, 68:02:01:01-68:02:23, 68:15, 68:18N, 68:25, 68:27:01-68:28, 68:31, 68:34, 68:40, 68:44, 68:48-68:49N, 68:51, 68:53-68:54, 68:60-68:62, 68:64, 68:67, 68:74, 68:77-68:78, 68:80-68:82, 68:86, 68:92, 68:97, 68:110, 68:119:01-68:119:02, 68:124-68:125, 68:128, 68:138, 68:147, 68:153, 68:160, 68:163, 68:169-68:170, 68:174, 68:178, 68:184, 68:186-68:187, 68:193, 68:198, 68:201, 68:216N, 68:219, 68:225, 68:236N-68:237, 68:242, 68:250, 68:262, 68:272, 68:274-68:275, 68:278, 68:291-68:292N, 68:294, 68:299, 69:04, **B\*07:136:02, B\*40:323:02, B\*44:59:02, B\*44:136, B\*51:136, B\*53:60, C\*06:209:02, C\*07:204:01, C\*07:482, C\*12:37** |
| **17** | 205 bp  360 bp | \*02:83N  \*02:10, 02:17:02:01-02:17:04, 02:39, 02:108, 02:110, 02:148, 02:242, 02:244, 02:268, 02:300, 02:303, 02:398, 02:453, 02:604, 02:617, 02:628, 02:630, 02:657, 02:680, 02:804, 02:963, 02:1025, 02:1054 | \*23:12, 24:28, 24:30, 24:42, 24:89, 24:309, 24:379 |
| **20** | 135 bp  170 bp  260 bp  295 bp  320 bp | \*02:200  \*02:229  \*02:198  \*02:49:01, 02:682-02:683, 02:848, 02:910  \*02:672Q, 02:1041Q |  |
| **21** | 155 bp  220 bp  255 bp | \*02:09:01:01-02:09:01:04, 02:49:01-02:49:02, 02:597, 02:1013  \*02:15N, 02:356N  \*02:291 |  |
| **23** | 140 bp  180 bp | \*02:31, 02:161, 02:360, 02:387  \*02:17:02:01-02:17:04, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 02:657, 02:680, 02:963, 02:1054 | \*24:94, 24:138, 24:188, 24:228, 24:293, 24:515 |
| **24** | 75 bp  110 bp  160 bp  200 bp | \*02:230, 02:459  \*02:27, 02:393, 02:541, 02:589, 02:592, 02:662, 02:682  \*02:233:01  \*02:227N | \*01:88:02-01:88:03, 01:236, 11:119:01-11:119:02, 24:59, 24:190, 24:210, 24:229, 24:285, 24:395, 24:503, 68:271, **C\*07:204:01, C\*07:482**  **\***24:219 |
| **25** | 135 bp  160 bp  190 bp | \*02:16, 02:131:01:01-02:131:03, 02:226N, 02:487, 02:560, 02:693  \*02:283, 02:468:01N  \*02:384 | \*24:55, 24:315, 24:374, 68:157, 68:171:02N, **B\*07:136:02, B\*40:323:02**  **\***24:02:70 |
| **26** | 125 bp  165 bp  260 bp  305 bp | \*02:33  \*02:52, 02:992  \*02:198  \*02:696:01N |  |
| **27** | 95 bp  140 bp  175 bp  540 bp | \*02:28, 02:155, 02:185, 02:601  \*02:10, 02:50, 02:52, 02:73, 02:93:01, 02:95, 02:110, 02:114, 02:117, 02:122, 02:156, 02:242, 02:244, 02:279, 02:282, 02:300, 02:304, 02:339, 02:407, 02:409, 02:449, 02:453, 02:527, 02:580, 02:582, 02:630-02:631, 02:651, 02:681, 02:743, 02:890, 02:932, 02:952, 02:985, 02:1072  \*02:597  \*02:28, 02:155, 02:185, 02:601, 02:705 | \*30:13, 30:16, 30:44, 30:46  \*03:123:01-03:123:02, 03:171, 03:428, 03:442, 11:16, 11:35, 11:57, 11:73, 11:158, 24:131, 24:138, 24:188, 24:218, 24:515, 29:51, 29:73, 32:109, 68:01:01:01-68:11N, 68:13:01-68:48, 68:51-68:116, 68:118-68:119:02, 68:121:01-68:128, 68:130:01-68:130:02, 68:132-68:172, 68:175:01-68:199N, 68:201-68:204, 68:206-68:229, 68:231-68:243, 68:245N-68:282, 68:284-68:292N, 68:294-68:300  \*68:126 |
| **29** | 220 bp  300 bp | \*02:45-02:46, 02:48, 02:56:01w-02:56:02w, 02:78w, 02:92, 02:103w, 02:129, 02:169w, 02:195w, 02:358, 02:369, 02:571, 02:829w, 02:1028w  \*02:180 | \*11:199:02w-11:199:03w, 23:01:13, 24:340, 30:166w, 32:01:43w |
| **30** | 130 bp  160 bp  210 bp | \*02:163, 02:583, 02:618Q  \*02:43N, 02:104, 02:1055N  \*02:608N | \*03:234Q |
| **31** | 95 bp  220 bp | \*02:82N, 02:773N  \*02:45, 02:56:01-02:56:02, 02:78, 02:103, 02:169, 02:195, 02:829, 02:1022 | \*23:08N  \*11:199:02-11:199:03, 30:166, 32:01:43 |
| **32** | 85 bp  120 bp  205 bp  230 bp  255 bp | \*02:675N  \*02:131:01:01-02:131:02, 02:691N, 02:820  \*02:176  \*02:46, 02:48, 02:70, 02:129, 02:571, 02:1050  \*02:47, 02:479 | \*01:37:01:01-01:37:01:02, 03:360, 11:172, 23:01:13, 24:155N, 24:340, 24:438, 26:160, 29:75, 30:156, 30:170 |
| **33** | 155 bp  195 bp  240 bp | \*02:165, 02:168, 02:400, 02:420-02:421  \*02:85, 02:757  \*02:19, 02:36-02:37, 02:54, 02:255, 02:417, 02:696:01N, 02:723, 02:848, 02:883, 02:949 | \*25:08, 26:47, 66:18  \*01:20, 01:66, 01:73, 01:130, 24:14:01:01-24:14:01:04, 24:52, 24:291, 24:324, 25:36, 25:65, 26:29, 26:49, 26:205, 66:10, 69:09, **B\*07:64, B\*15:12:01-15:12:03, B\*15:19, B\*15:270, B\*15:298, B\*15:304N, B\*15:649, C\*04:95N** |
| **34** | 120 bp  170 bp | \*02:88N, 02:643N  \*02:34-02:35:02, 02:56:01-02:56:02, 02:62, 02:78, 02:103, 02:395N, 02:580, 02:741, 02:907, 02:1095 | \*03:01:59, 11:199:02, 30:01:01:01-30:01:24, 30:08:01-30:08:02, 30:11:01-30:11:02, 30:14L-30:20, 30:23-30:24, 30:26, 30:30-30:31, 30:35-30:43, 30:48-30:49, 30:52-30:56, 30:58-30:60, 30:62-30:63, 30:65, 30:72-30:75, 30:78N-30:79, 30:81-30:83, 30:86-30:87, 30:89, 30:91-30:95, 30:97-30:98, 30:102, 30:104, 30:106, 30:109-30:116, 30:118, 30:120, 30:122-30:123N, 30:125-30:126, 30:128-30:132N, 30:134-30:138, 30:140-30:143, 30:145N, 30:147-30:148, 30:154, 30:159, 30:161, 30:163-30:165, 30:167-30:168, 30:170-30:173, 30:176, 30:178N-30:181, 30:183-30:187, 30:190-30:192, 30:194-30:197N, 30:199, 30:201-30:203, 30:205, 30:207, 30:209N, 68:01:11, 68:01:25, 68:02:07, 69:07, **C\*03:82** |
| **35** | 110 bp  155 bp | \*02:40:01-02:40:02, 02:51, 02:130  \*02:77 | \*23:01:01:01-23:01:37, 23:02w, 23:04-23:23, 23:25-23:33, 23:35-23:56, 23:58-23:65, 23:67-23:68, 23:71-23:82, 23:84N-23:103N, 23:105-23:112, 23:114-23:127, 23:129, 24:24, 24:71, 24:315, 24:392, 24:527, 24:569, 29:101:01, 31:67-31:68, 32:28, 32:66, 32:158, 33:32:01, 68:51w, 68:168, **B\*40:323:02, B\*53:60** |
| **36** | 85 bp  445 bp | \*02:94N  \*02:24:01-02:24:02, 02:65, 02:135, 02:137, 02:152, 02:309, 02:507, 02:901, 02:927, 02:1000 | \*01:104, 01:134, 01:229, 01:405, 03:09, 03:89:01-03:89:02, 03:108, 03:172, 03:198, 11:06, 11:18, 11:312, 25:11, 26:03:01:01-26:03:01:02, 26:03:03, 26:06, 26:21, 26:30, 26:36, 26:78, 26:92, 26:111, 26:146, 26:177, 26:193, 26:229, 29:19, 29:48, 29:74, 29:159, 30:13, 30:16, 30:44, 30:46, 30:127, 32:08, 33:24, 33:184, 74:06, 74:21, 74:39, 80:01:01:01w |
| **38** | 125 bp  225 bp | \*02:41, 02:80, 02:117, 02:289:01-02:289:02, 02:304, 02:454, 02:872  \*02:351 | \*32:109, 68:262 |
| **39** | 80 bp  170 bp  250 bp  300 bp | \*02:390  \*02:18  \*02:153:01-02:153:02, 02:159, 02:293Q, 02:439N, 02:912, 02:921:01-02:921:02  \*02:170, 02:364 |  |
| **40** | 100 bp  220 bp  250 bp | \*02:52, 02:67, 02:404, 02:423, 02:855, 02:992  \*02:40:01-02:40:02, 02:51, 02:130, 02:500Q  \*02:153:01-02:153:02, 02:921:01-02:921:02 | \*30:47  \*29:22, 31:99, 33:22, **B\*27:256** |
| **41** | 85 bp  185 bp | \*02:675N  \*02:02:01:01-02:02:07, 02:05:01:01-02:05:13, 02:08:01-02:08:02, 02:14, 02:17:02:01-02:17:04, 02:47, 02:57-02:58, 02:63, 02:75, 02:102, 02:108, 02:110, 02:115, 02:154-02:155, 02:172, 02:179, 02:186, 02:209, 02:229, 02:232, 02:271, 02:286, 02:300, 02:303, 02:320, 02:324, 02:337, 02:344, 02:359, 02:373N, 02:376, 02:413, 02:421, 02:433, 02:484, 02:489, 02:492, 02:495-02:496, 02:507, 02:517, 02:527, 02:531-02:532, 02:546, 02:572, 02:577, 02:591:01-02:591:02, 02:593, 02:601, 02:617, 02:626, 02:631, 02:636, 02:643N, 02:646, 02:655, 02:657, 02:667, 02:670, 02:676, 02:680, 02:709, 02:717, 02:731, 02:766, 02:778, 02:790-02:791N, 02:799, 02:807N, 02:817-02:818, 02:826Q, 02:843, 02:867, 02:872, 02:881, 02:907, 02:922, 02:925, 02:951, 02:961, 02:963, 02:967, 02:990, 02:999N, 02:1019-02:1020, 02:1025, 02:1048, 02:1054, 02:1059N, 02:1064Q, 02:1086, 02:1095 | \*24:94, 24:138, 24:188, 24:228, 24:293, 24:515, **B\*07:449, B\*15:343, C\*01:129, C\*04:363, C\*05:125, C\*06:325, C\*07:386, C\*07:700, C\*12:94, C\*14:48** |
| **42** | 220 bp  245 bp | \*02:143, 02:217:01-02:217:02, 02:419:01-02:419:02, 02:881  \*02:34-02:35:03, 02:56:01-02:56:02, 02:62, 02:78, 02:103, 02:580, 02:741, 02:907, 02:1095 | \*11:199:03 |
| **43** | 180 bp  225 bp | \*02:71  \*02:03:01:01-02:03:12, 02:22:01:01-02:22:02, 02:49:01-02:49:02, 02:104, 02:117, 02:136, 02:148, 02:191, 02:230, 02:253, 02:258, 02:264:01:01-02:264:01:02, 02:267, 02:281, 02:315, 02:323, 02:345, 02:355, 02:370, 02:382, 02:402, 02:412, 02:427, 02:431, 02:447, 02:463, 02:466, 02:480, 02:505, 02:529, 02:544, 02:557, 02:568, 02:582, 02:595, 02:612, 02:633-02:634, 02:641, 02:651, 02:666, 02:682-02:684, 02:711, 02:774-02:775N, 02:809, 02:833N, 02:838, 02:841, 02:849-02:850, 02:854, 02:860, 02:914, 02:929, 02:949, 02:971, 02:976-02:977, 02:979, 02:988, 02:997Q, 02:1000, 02:1002, 02:1014, 02:1068Q, 02:1070-02:1071, 02:1091 | \*26:22, 66:09, 68:83, 68:105:01:01-68:105:01:02, **B\*07:451, C\*02:74** |
| **44** | 125 bp  160 bp  200 bp | \*02:203  \*02:59, 02:220, 02:513, 02:564, 02:602  \*02:222N, 02:342 | \*03:385, 25:79  \*11:247 |
| **45** | 105 bp  160 bp  185 bp  270 bp | \*02:60:01-02:60:02, 02:254, 02:594, 02:1029  \*02:391  \*02:19, 02:39, 02:44, 02:79:01-02:79:02, 02:86:01-02:86:02, 02:400, 02:408, 02:436, 02:619:01-02:619:02, 02:856, 02:860, 02:901, 02:927, 02:948, 02:1084  \*02:501N | \*01:20, 01:66, 01:130, 03:95, 03:343, 11:288, 24:14:01:01-24:14:01:04, 24:93, 24:324, 24:570 |
| **46** | 135 bp  205 bp | \*02:66  \*02:61 |  |
| **47** | 165 bp  205 bp  255 bp  305 bp | \*02:63  \*02:144, 02:205  \*02:35:01-02:35:03, 02:48, 02:78, 02:90, 02:331, 02:580, 02:741, 02:907, 02:941, 02:1095  \*02:207 | \*11:199:02-11:199:03, 34:02:04, 68:01:32 |
| **48** | 115 bp  185 bp | \*02:64:01-02:64:02, 02:177-02:178, 02:412, 02:676, 02:678  \*02:210, 02:451 |  |
| **49** | 110 bp  165 bp | \*02:27, 02:267, 02:408, 02:476N, 02:590, 02:662, 02:682  \*02:283 | \*01:88:02-01:88:03, 01:236, 11:119:01-11:119:02, 24:59, 24:190, 24:210, 24:229, 24:285, 24:395, 24:503, 68:230, 68:271, **C\*07:204:01, C\*07:482** |
| **54** | 240 bp  310 bp  350 bp | \*02:189-02:190, 02:438  \*02:228  \*02:74:01-02:74:02, 02:655, 02:783 |  |
| **55** | 85 bp  160 bp  200 bp  265 bp | \*02:343  \*02:486  \*02:01:83, 02:01:105, 02:01:107, 02:01:129, 02:01:138, 02:13, 02:26, 02:30:01-02:30:02, 02:40:01-02:40:02, 02:49:02, 02:51, 02:99:01-02:99:02, 02:130, 02:226N, 02:323, 02:393, 02:399, 02:402, 02:541, 02:547, 02:589, 02:592, 02:598, 02:619:01-02:619:02, 02:668, 02:693, 02:699, 02:701, 02:782, 02:801, 02:811:01-02:811:02, 02:838, 02:856, 02:859, 02:879N, 02:927, 02:1077, 02:1090, 02:1094  \*02:313 | \*03:95, 03:343, 29:22, 31:99, 33:22, **B\*07:451, B\*08:204, B\*27:256, C\*02:74** |
| **56** | 150 bp  180 bp  275 bp | \*02:175, 02:181  \*02:173, 02:496  \*02:53N, 02:81, 02:124, 02:829 | \*32:01:43 |
| **57** | 105 bp  145 bp  220 bp | \*02:42:01-02:42:02, 02:310, 02:528:01-02:528:02  \*02:160, 02:175  \*02:143, 02:217:01, 02:419:02 |  |
| **59** | 145 bp  200 bp | \*02:97:01-02:97:02  \*02:305N, 02:608N |  |
| **63** | 60 bp  95 bp  155 bp  205 bp | \*02:25, 02:171:02  \*02:259, 02:524:01-02:524:02  \*02:105, 02:301N  \*02:490N, 02:516N, 02:540N, 02:605Q | \*03:248, 25:19:01-25:19:02, 25:30, 26:43:01, 31:113, 34:02:01:01-34:02:01:08, 34:02:03-34:02:07, 34:04, 34:07-34:10N, 34:13, 34:15, 34:20-34:21, 34:24-34:26N, 34:28-34:30N, 66:06  \*03:51:01-03:51:02, 23:60, 23:128, 30:37, 31:122, 32:46:01, **B\*44:03:47**  \*03:269N, 31:60N, 31:126N, 32:132N, 33:213N |
| **64** | 125 bp  180 bp  235 bp  260 bp | \*02:106, 02:145  \*02:164:01-02:164:01, 02:221, 02:392, 02:564, 02:593  \*02:132  \*02:187 | \*24:72  \*01:44, 01:129, 03:44:01-03:44:02, 03:341, 03:385, 11:196, 11:201, 23:41, 24:245, 24:286, 25:16, 25:79, 25:84, 29:15, 29:108, 30:69, 30:162, 31:78, 31:183, 66:44 |
| **65** | 150 bp  185 bp  250 bp | \*02:160, 02:251, 02:391, 02:486  \*02:107  \*02:202:01, 02:437Q, 02:440Q, 02:500Q, 02:581Q |  |
| **66** | 170 bp  200 bp | \*02:109, 02:434, 02:709  \*02:30:01-02:30:02, 02:547, 02:598 |  |
| **67** | 100 bp  140 bp  180 bp  300 bp | \*02:91, 02:177, 02:322  \*02:111, 02:407, 02:449, 02:460  \*02:210, 02:330, 02:451, 02:679  \*02:350N | \*68:239 |
| **68** | 210 bp  255 bp | \*02:113:01N-02:113:02N, 02:321N  \*02:158, 02:184 | **B\*27:05:57** |
| **69** | 170 bp  225 bp  335 bp | \*02:114, 02:246, 02:279, 02:527, 02:582, 02:662, 02:927, 02:985, 02:1029  \*02:260  \*02:166, 02:1098 |  |
| **70** | 125 bp  180 bp  285 bp | \*02:115, 02:1096  \*02:133, 02:367, 02:487  \*02:53N, 02:192, 02:269, 02:433, 02:966 |  |
| **72** | 120 bp  230 bp  260 bp | \*02:183, 02:691N  \*02:189  \*02:19, 02:44, 02:118, 02:135, 02:149:01-02:149:02, 02:152, 02:190, 02:309, 02:402, 02:408, 02:417, 02:436, 02:438, 02:619:01-02:619:02, 02:723, 02:782, 02:804, 02:829, 02:838, 02:842, 02:906, 02:927, 02:948, 02:1002, 02:1084 | \*24:155N |
| **73** | 80 bp  120 bp  200 bp  255 bp | \*02:263  \*02:380, 02:528:01-02:528:02, 02:553  \*02:119  \*02:146, 02:158, 02:644, 02:749 | \*03:52, 30:109, 31:19 |
| **74** | 175 bp  250 bp | \*02:120, 02:549, 02:984  \*02:187, 02:223N | **B\*15:10:07, B\*35:01:60, B\*51:01:34, B\*58:01:24, B\*78:01:02**  \*24:597N |
| **75** | 100 bp  160 bp  200 bp | \*02:373N  \*02:166, 02:437Q, 02:581Q, 02:1064Q , 02:1098  \*02:121, 02:384, 02:425, 02:517, 02:562, 02:850, 02:937, 02:1092 | \*68:49N  \*24:350  \*23:47, 24:102, 24:234, 24:339, 24:347:02, 24:459:02, 24:566, 68:14, 68:81, 68:158, 68:264, **B\*53:60, C\*06:209:02, C\*12:37w, C\*14:132** |
| **76** | 115 bp  185 bp  225 bp | \*02:68  \*02:342, 02:392, 02:593  \*02:50, 02:122, 02:143, 02:225N, 02:556, 02:984 | \*03:341, 11:247, 24:245 |
| **77** | 80 bp  115 bp  260 bp  455 bp | \*02:123, 02:295, 02:344  \*02:162, 02:525N  \*02:366N  \*02:139 |  |
| **78** | 80 bp  130 bp  240 bp  455 bp  545 bp | \*02:03:12, 02:193  \*02:84, 02:213, 02:495  \*02:124, 02:978  \*02:139  \*02:01:14Q, 02:03:12 | \*68:01:59  \*01:01:38L, 03:01:96, 11:01:98, 24:02:03Q, 30:02:25, 33:03:03Q, 34:01:06, 68:01:59 |
| **79** | 115 bp  225 bp  270 bp | \*02:525N  \*02:125N, 02:217:02, 02:419:01, 02:881  \*02:53N, 02:146, 02:184, 02:192, 02:433, 02:644, 02:749, 02:966 | **B\*27:05:57** |
| **80** | 85 bp  135 bp  230 bp  545 bp | \*02:03:12, 02:214  \*02:194, 02:558  \*02:126  \*02:01:14Q, 02:03:12 | \*68:01:59  \*01:01:38L, 03:01:96, 11:01:98, 24:02:03Q, 30:02:25, 33:03:03Q, 34:01:06, 68:01:59 |
| **81** | 110 bp  235 bp  310 bp | \*02:183  \*02:165, 02:400, 02:420-02:421  \*02:127, 02:167, 02:299, 02:477 |  |
| **82** | 225 bp  255 bp  295 bp  390 bp | \*02:481  \*02:291  \*02:199  \*02:514N |  |
| **83** | 125 bp  205 bp  250 bp | \*02:215, 02:429, 02:467, 02:1014  \*02:85, 02:757  \*02:237, 02:313, 02:440Q, 02:500Q, 02:809, 02:927 | \*03:95, 03:343 |
| **84** | 125 bp  180 bp  205 bp  245 bp | \*02:618Q  \*02:133, 02:164:01-02:164:02, 02:173, 02:487, 02:496  \*02:315, 02:1027  \*02:250N, 02:348, 02:394 | \*03:234Q  \*01:44, 03:44:01-03:44:02, 25:16, 29:108, 30:69, 31:183 |
| **85** | 170 bp  215 bp  260 bp | \*02:314:01N, 02:376, 02:542, 02:622N  \*02:481, 02:605Q  \*02:134 | \*03:197:01N, 32:48N |
| **86** | 180 bp  255 bp  310 bp | \*02:06:31, 02:135, 02:309, 02:454  \*02:174, 02:947  \*02:228 |  |
| **87** | 110 bp  150 bp  210 bp  260 bp  305 bp | \*02:380  \*02:138, 02:181  \*02:284N  \*02:394  \*02:498 | \*03:52, 30:109, 31:19 |
| **88** | 135 bp  260 bp  305 bp | \*02:188, 02:235  \*02:366N  \*02:498 | **B\*15:67, B\*15:343, B\*35:110, B\*58:77, C\*06:325, C\*07:386, C\*07:700, C\*12:94, C\*14:48** |
| **89** | 120 bp  155 bp  200 bp | \*02:140, 02:182, 02:821  \*02:324, 02:426, 02:468:01N-02:468:02N, 02:836, 02:999N  \*02:227N, 02:562 | \*24:133, 26:99, 29:130, 31:48, 33:15  \*24:02:70, 31:125  \*24:102, 24:566 |
| **90** | 100 bp  130 bp  190 bp  255 bp | \*02:72, 02:206, 02:275, 02:377, 02:641  \*02:161  \*02:141  \*02:01:02:01-02:01:02:02, 02:01:207, 02:02:07, 02:05:07, 02:06:05, 02:06:09, 02:07:14, 02:50, 02:76:02, 02:99:02, 02:122, 02:243:03, 02:591:01, 02:666 | \*01:134, 01:229, 03:09, 03:89:02, 03:108, 03:172, 03:198, 03:330N, 11:06, 11:18, 11:312, 26:03:01:01-26:03:01:02, 26:03:03, 26:06, 26:21, 26:30, 26:78, 26:92, 26:177, 26:193, 26:227, 26:229, 29:19, 29:48, 29:159, 30:13, 30:16, 30:44, 30:46, 33:24, 33:184, 68:05, 68:15, 68:20, 68:255, 74:06, 74:21, 74:39, **C\*06:247** |
| **93** | 130 bp  245 bp  295 bp | \*02:163, 02:583  \*02:147, 02:339, 02:348  \*02:157:01-02:157:02, 02:473 | \*03:170, 23:52, 23:128, 24:73, 24:157, 24:453, 31:120, 32:119, 66:32, **B\*15:173, B\*15:477, B\*18:63, B\*39:90** |
| **94** | 110 bp  150 bp  175 bp  210 bp  360 bp | \*02:325, 02:377, 02:641  \*02:360  \*02:597  \*02:150:01  \*02:197:01-02:197:02, 02:478, 02:494, 02:745, 02:783 |  |
| **95** | 135 bp  235 bp | \*02:52, 02:105, 02:147, 02:151, 02:188, 02:339, 02:986, 02:992  \*02:132 | \*68:06, **B\*07:449, B\*15:67, B\*15:343, B\*35:110, B\*44:497, B\*58:77, C\*01:129, C\*06:325, C\*07:386, C\*07:700, C\*12:94, C\*14:48** |

**4**The following HLA-A\*02 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| Alleles | Primer mix | Alleles | Primer mix |
| A\*02:01:83, 02:01:105, 02:01:107, 02:01:129, 02:01:138, 02:343, 02:399, 02:668, 02:699, 02:879N, 02:1077, 02:1090 | 55 | A\*02:140, 02:468:02N, 02:836 | 89 |
| A\*02:18, 02:912 | 39 | A\*02:141, 02:275 | 90 |
| A\*02:28, 02:409 | 27 | A\*02:145, 02:221 | 64 |
| A\*02:60:01-02:60:02, 02:254, 02:501:01N | 45 | A\*02:150:01, 02:197:01-02:197:02, 02:325, 02:745 | 94 |
| A\*02:70, 02:820 | 32 | A\*02:159, 02:293Q, 02:364, 02:390 | 39 |
| A\*02:96, 02:587 | 15 | A\*02:177, 02:210 | 67 |
| A\*02:97:01-02:97:02, 02:305N | 59 | A\*02:180, 02:358 | 29 |
| A\*02:107, 02:202:01, 02:251 | 65 | A\*02:193, 02:213, 02:978 | 78 |
| A\*02:111, 02:350N, 02:679 | 67 | A\*02:215, 02:237, 02:467 | 83 |
| A\*02:119, 02:263, 02:553 | 73 | A\*02:233:01, 02:459 | 24 |
| A\*02:120, 02:223N | 74 | A\*02:269, 02:367, 02:1096 | 70 |
| A\*02:134, 02:314:01N | 85 | A\*02:301N, 02:524:01-02:524:02 | 63 |
| A\*02:138, 02:284N | 87 |

Abbreviations

w: might be weakly amplified