Gel Documentation Form and Worksheet

HLA-C\*03 (101.611-12/12u) Lot No: 1H4 Expiry Date: 2021-06-01

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

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

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

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

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

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

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

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

**Gel Picture**

|  |
| --- |
| PHOTO DOCUMENT |







‘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.

Primer mixes 7 and 41 may give rise to a lower yield of HLA-specific PCR product than the other HLA-C\*03 primer mixes.

Primer mixes 15, 26, 30, 35, 43, 52 and 59 have a tendency to giving rise to primer oligomer formation.

Primer mixes 20, 28, 32 and 38 may have tendencies of unspecific amplifications.

Primer mix 63 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.





























**1**HLA-C\*03 alleles in bold lettering are listed as confirmed alleles on the IMGT/HLA web page [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla) 2016-July-14, release 3.25.0.

**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-C\*03 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-C\*03 alleles | Other amplified HLA Class I alleles |
| **6** | 90 bp  215 bp | \*03:21, 03:80:02, 03:142, 03:287  \*03:06:01-03:06:02 | **B\*15:96** |
| **7** | 110 bp  185 bp | \*03:08, 03:29, 03:31, 03:246  \*03:03:01:01-03:03:43, 03:11:01-03:11:02, 03:13:01-03:13:02, 03:18:01-03:18:02, 03:20N-03:22Q, 03:30-03:31, 03:39, 03:43:01-03:43:02, 03:49-03:50, 03:52-03:53, 03:55-03:56, 03:58-03:59, 03:61-03:62, 03:66-03:69, 03:75-03:76, 03:79, 03:81, 03:83, 03:85-03:86, 03:88, 03:96-03:97, 03:102-03:103, 03:112, 03:116:01-03:116:02, 03:119:01-03:120, 03:122, 03:124, 03:126-03:127, 03:132-03:133, 03:141-03:142, 03:144, 03:150-03:152, 03:158, 03:160-03:161, 03:165:01-03:165:02, 03:167-03:168, 03:171, 03:175-03:177, 03:182, 03:185, 03:187-03:189N, 03:192, 03:195-03:196, 03:202-03:207, 03:214, 03:217, 03:220, 03:223, 03:227-03:231, 03:237, 03:241-03:243, 03:251, 03:253-03:254, 03:262, 03:267-03:268, 03:271-03:276, 03:284-03:285, 03:288-03:291, 03:295, 03:304, 03:307-03:308, 03:312, 03:316N, 03:319-03:321, 03:324-03:325, 03:327, 03:336, 03:339, 03:341, 03:345-03:346, 03:351-03:352, 03:356-03:357, 03:360, 03:363N, 03:367, 03:370, 03:372, 03:375, 03:377N-03:378, 03:380N, 03:383, 03:389 | \*01:118, 01:128, 06:44, 07:01:01:01-07:01:24, 07:01:26-07:01:61, 07:06:01:01-07:07, 07:09, 07:16, 07:18-07:20, 07:22, 07:24, 07:26:01-07:26:03, 07:28, 07:30, 07:35-07:36, 07:40, 07:44, 07:52-07:53, 07:55N, 07:57-07:60, 07:65, 07:70-07:71, 07:73:01-07:73:02, 07:77-07:78:02, 07:81-07:83, 07:86, 07:89, 07:91-07:96:02, 07:98N, 07:103-07:104N, 07:106, 07:108:01-07:113, 07:115-07:116, 07:118-07:120, 07:122, 07:124, 07:128-07:129, 07:131:01-07:132, 07:134, 07:140-07:141:02, 07:148, 07:150Q-07:151, 07:153, 07:162, 07:164N-07:166, 07:170, 07:173, 07:176, 07:179-07:180, 07:182, 07:188-07:191N, 07:196-07:197, 07:200-07:201, 07:203-07:207, 07:210, 07:212, 07:214-07:215, 07:219, 07:222-07:224, 07:227N-07:228, 07:230-07:231, 07:235Q-07:237, 07:246:01-07:250, 07:253-07:257:04, 07:263, 07:266-07:269, 07:276-07:282, 07:292-07:293, 07:296-07:301, 07:303-07:304, 07:310-07:311, 07:313, 07:317, 07:330:01-07:332, 07:337, 07:343, 07:353, 07:362, 07:366, 07:369-07:371, 07:377, 07:385-07:387, 07:404, 07:407-07:408, 07:410, 07:412, 07:417, 07:419, 07:421-07:422, 07:424, 07:427, 07:430-07:431, 07:435, 07:437N, 07:440-07:444, 07:448, 07:450, 07:453-07:455, 07:458, 07:460-07:463, 07:468-07:471, 07:475-07:476N, 07:479, 07:481, 07:488, 07:490-07:492, 07:498-07:499, 07:502, 07:506, 07:508, 07:512, 07:514-07:515, 07:517, 07:521-07:522, 07:526-07:527, 07:531, 07:536-07:537, 07:540, 07:545-07:547, 07:549-07:550, 07:554, 07:555w, 07:557, 07:559, 07:561, 07:568, 07:570-07:571, 07:579, 07:581, 07:587-07:589, 07:591, 07:602-07:604, 07:607, 07:610, 07:613-07:615, 07:617-07:621, 07:623-07:624, 07:627, 07:633N-07:634, 14:73, 15:02:10, 15:02:17, 15:99, 18:05, **B\*07:259**  \*01:51, 06:53:01, 07:56:01, 07:60, 07:79, 07:109:01, 14:46:02, 17:26, **B\*07:93, B\*08:39, B\*27:155, B\*35:101:02, B\*35:195, B\*35:211, B\*38:27, B\*51:76, B\*54:34** |
| **11** | 145 bp  230 bp  415 bp | \*03:87:01-03:87:02  \*03:126, 03:385  \*03:08, 03:29, 03:31, 03:246 | \*05:86  \*01:118, 01:128, 04:112, 04:169, 05:36, 06:44, 12:08, 12:81, 12:188, 14:73, 16:64, 16:70, 16:87 |
| **12** | 110 bp  140 bp  260 bp  305 bp  590 bp | \*03:265N  \*03:214  \*03:03:12, 03:03:15, 03:11:01, 03:18:01, 03:39, 03:308  \*03:03:29, 03:04:19, 03:113:01 | **B\*44:198N**  \*01:51, 05:55, 06:53:01, 07:56:01, 07:60, 07:79, 07:109:01, 12:58, 15:12, 15:144, 17:26  \*07:10, 07:43:01-07:43:02, 07:184, 07:196, 07:367, 07:568, **B\*35:01:38, B\*35:03:15, B\*35:08:04, B\*35:15:02, B\*37:04:02, B\*57:01:18, B\*58:01:17**  \*07:104N, 12:46N |
| **13** | 80 bp  140 bp | \*03:02:01-03:02:18, 03:15-03:16, 03:33, 03:36, 03:40:01, 03:40:03-03:40:04, 03:42-03:43:01, 03:60, 03:71, 03:84, 03:89, 03:95, 03:108, 03:110, 03:119:02, 03:121N, 03:132, 03:139, 03:146, 03:169Q, 03:175, 03:194, 03:197-03:201N, 03:216, 03:221-03:222, 03:224N-03:226, 03:238, 03:240, 03:245, 03:248, 03:258, 03:264, 03:271, 03:279, 03:298-03:301, 03:315, 03:329-03:330, 03:332, 03:338, 03:349-03:350, 03:365, 03:371, 03:373  \*03:17:01-03:17:02, 03:71, 03:249, 03:271, 03:302 | \*01:97, 02:02:38, 04:54, 06:02:08, 07:02:32, 07:17:03, 07:242, 12:02:19, 12:03:20, 14:02:01:01-14:02:01:07, 14:02:03-14:02:20, 14:02:22-14:16, 14:18-14:24:01, 14:25, 14:27-14:53, 14:56-14:78, 14:80-14:81, 14:83-14:91, 14:93N-14:96, 15:77, 16:01:06, **B\*15:78:03**  **\***01:97, 04:37, 04:230, 04:263, 06:02:08, 06:34:02, 12:03:20, 14:02:01:01-14:02:01:07, 14:02:03-14:02:20, 14:02:22-14:07N, 14:10-14:16, 14:18-14:27, 14:29-14:53, 14:55-14:81, 14:83-14:91, 14:93N-14:96, 16:01:06 |
| **14** | 70 bp  210 bp | \*03:02:10, 03:03:21, 03:04:26  \*03:19, 03:102, 03:307 | **\***02:26:01, 05:58:02, 06:70:01, 07:20, 07:390, 07:562, 08:105, 12:140, 15:02:25, 15:23:01, 15:138, **B\*15:315, B\*44:85, B\*51:226, B\*55:30**  **B\*56:37w** |
| **16** | 120 bp  150 bp  250 bp | \*03:105  \*03:07:01-03:07:02, 03:10, 03:15, 03:29, 03:45, 03:163, 03:226, 03:268, 03:297  \*03:218, 03:252 | \*08:147  \*01:14, 01:154, 02:02:13, 02:02:29, 04:01:23, 04:07:02, 05:01:12, 05:29:02, 06:02:01:01-06:02:01:14, 06:02:03-06:04:02, 06:06-06:10, 06:12-06:76:01, 06:77-06:81, 06:83-06:146, 06:148-06:209, 06:211N-06:216, 06:218-06:219, 07:07, 07:09, 07:76:01-07:76:02, 07:315, 07:328, 07:406, 07:559, 07:598, 12:04:01, 14:12, 14:49, 15:02:10, 15:02:17, 15:99, 17:01:01:02-17:01:03, 17:01:05-17:21, 17:23-17:40, 18:01-18:10, **B\*15:277, B\*15:430, B\*35:222, B\*42:22** |
| **17** | 100 bp  135 bp | \*03:20N, 03:101  \*03:05, 03:25, 03:27, 03:167, 03:296:01-03:296:02, 03:335, 03:386 |  |
| **18** | 165 bp  195 bp  220 bp | \*03:102, 03:263:01-03:263:02  \*03:83  \*03:23, 03:318N | **B\*15:96, B\*44:274, B\*56:37** |
| **19** | 105 bp  250 bp | \*03:24  \*03:33, 03:115, 03:236 | \*15:90  \*02:114, 04:106, 08:78 |
| **20** | 160 bp  250 bp  455 bp | \*03:25, 03:155  \*03:47, 03:227, 03:252  \*03:227 | \*08:95, **B\*35:252, B\*39:114**  \*12:126 |
| **21** | 210 bp  240 bp | \*03:26  \*03:57:01, 03:88 |  |
| **22** | 200 bp  255 bp | \*03:15, 03:27, 03:38:01-03:38:02, 03:69, 03:130, 03:136, 03:163, 03:237, 03:246, 03:274, 03:277N, 03:297  \*03:213 | \*02:12, 02:49, 02:55:01-02:55:02, 02:115, 04:03:01, 04:03:03-04:03:04, 04:06:01-04:06:02, 04:16, 04:80, 04:107, 04:147, 04:160, 04:171, 04:190, 04:256, 04:286, 06:70:01-06:70:02, 06:132:01-06:132:02, 07:20, 07:96:01-07:96:02, 07:127, 07:263, 07:390, 07:562, 07:578, 12:140, 15:03, 15:16, 15:25 |
| **23** | 90 bp  260 bp | \*03:28, 03:49, 03:117  \*03:22Q, 03:90, 03:103, 03:153, 03:169Q | \*01:65, 04:201:02, 05:86 |
| **25** | 305 bp  355 bp | \*03:32, 03:45, 03:136, 03:297  \*03:38:02, 03:69, 03:130, 03:136, 03:163, 03:246, 03:274, 03:297 | \*04:80, 04:100, 04:110w, 04:178, 06:143, 07:10, 07:43:01, 07:196, 07:568w, 15:25, 15:62, **B\*15:357, B\*35:178, B\*35:282, B\*35:316**  \*04:80, 04:100, 04:110w, 04:178, 06:143, 07:10, 07:43:01, 07:196, 07:367, 07:568w, 12:44, 15:03, 15:16, 15:25 |
| **26** | 70 bp  105 bp  255 bp | \*03:34, 03:142, 03:261, 03:272, 03:386  \*03:36, 03:77, 03:187, 03:296:01-03:296:02  \*03:13:01-03:13:02, 03:35:01-03:35:02, 3:125, 03:176, 03:178, 03:198, 03:267, 03:292 | \*04:212, **B\*44:27**  \*04:201:02, 04:212, 05:86, 07:133, 07:242, 07:330:01, **B\*15:96** |
| **27** | 80 bp  210 bp  275 bp | \*03:11:01-03:11:02, 03:18:02, 03:37:01-03:37:02, 03:64:01, 03:99:02, 03:301  \*03:208N, 03:323N  \*03:15, 03:32, 03:45, 03:60, 03:136, 03:297 | \*02:08, 02:42, 04:256, 06:03:01, 07:314:02, 12:02:17, 12:03:23, 15:10:02-15:10:03, 15:113, **B\*56:01:09, B\*58:74**, **B\*82:01:01:02, B\*82:02:01:02**  **\***02:49, 02:75, 02:115, 04:03:01-04:03:04, 04:06:01-04:06:02, 04:16, 04:80, 04:147, 04:160, 04:171, 04:256, 04:286, 06:03:01, 06:132:01-06:132:02, 07:96:01-07:96:02, 07:314:02, 07:578, 15:25, 15:62 |
| **28** | 90 bp  165 bp | \*03:258  \*03:16, 03:41:01-03:41:02, 03:113:01-03:113:02, 03:147, 03:151, 03:293, 03:384 | \*01:97, 02:02:38, 04:01:01:01-04:01:04, 04:01:06, 04:01:08, 04:01:10-04:01:17, 04:01:19-04:01:21, 04:01:23-04:01:25, 04:01:27-04:01:67, 04:01:69-04:01:94, 04:03:01-04:04:01:02, 04:05-04:20, 04:23-04:49, 04:51-04:63, 04:65-04:76, 04:78-04:94:01, 04:95N-04:98:02, 04:100-04:119, 04:121-04:155, 04:157-04:159, 04:161-04:174, 04:176-04:177, 04:179, 04:180:02-04:200, 04:202-04:211, 04:213-04:222, 04:223:02-04:233N, 04:235-04:250, 04:252-04:261, 04:263-04:293, 06:02:08, 06:34:02, 07:02:32, 07:17:03, 12:02:19, 12:03:20, 12:233, 14:02:01:01-14:02:01:07, 14:02:03-14:02:10, 14:02:12-14:16, 14:18-14:31, 14:33-14:43, 14:45-14:67, 14:69-14:81, 14:83-14:91, 14:93N-14:96, 15:77, 16:01:06, 18:01-18:10, **B\*13:13:02, B\*15:01:17, B\*15:78:03** |
| **29** | 140 bp  170 bp  285 bp | \*03:98  \*03:51, 03:96, 03:161, 03:165:01, 03:194  \*03:39, 03:67 | \*04:64:01  \*06:53:01, 07:56:01, 07:60, 07:79, 07:109:01**, B\*08:39** |
| **30** | 150 bp  175 bp | \*03:61  \*03:46, 03:96, 03:194, 03:221, 03:328 | \*04:64:01 |
| **31** | 100 bp  210 bp  555 bp | \*03:59, 03:123  \*03:44  \*03:58, 03:86, 03:94, 03:99:01-03:99:02, 03:209, 03:302 | \*05:85, 05:107, 12:178, 15:37, 15:102, 16:18**, B\*54:38** |
| **32** | 90 bp  185 bp | \*03:58, 03:189N  \*03:48, 03:84, 03:174, 03:281, 03:365 | \*01:03, 01:24, 01:78, 01:146:01-01:146:02, 04:37, 05:85, 07:364 |
| **33** | 110 bp  180 bp  310 bp  365 bp | \*03:62  \*03:224N  \*03:167, 03:346  \*03:43:01-03:43:02, 03:119:01-03:119:02, 03:132, 03:175, 03:271 | \*07:586w  **B\*07:93, B\*08:39**  **\***07:60, 07:79, 12:58, 14:10, 14:46:02**, B\*35:101:02** |
| **34** | 130 bp  195 bp  240 bp | \*03:54, 03:98  \*03:192  \*03:53 | \*12:17 |
| **35** | 140 bp  200 bp  250 bp | \*03:56, 03:214, 03:229N  \*03:79  \*03:244Q | **B\*44:208** |
| **36** | 160 bp  240 bp | \*03:122, 03:206, 03:212, 03:219  \*03:50, 03:72 | \*04:84, 07:167, 07:585, 08:128 |
| **38** | 70 bp  105 bp | \*03:184:01-03:184:02  \*03:52, 03:95, 03:305 | \*04:43, 04:143, 04:171 |
| **39** | 110 bp  160 bp  195 bp | \*03:36, 03:77, 03:187, 03:296:01-03:296:02  \*03:63, 03:145  \*03:174, 03:365 | \*04:34, 04:122, 04:212, 04:265, 14:53, **B\*13:13:02, B\*40:01:49-40:01:50** |
| **40** | 70 bp  230 bp  260 bp | \*03:80:01  \*03:126, 03:385  \*03:66 | \*04:201:01, 06:192, 07:330:02, **A\*68:118, B\*08:115** |
| **41** | 120 bp  195 bp  295 bp  345 bp | \*03:68  \*03:100  \*03:205  \*03:380N | \*01:155  \*04:161w |
| **42** | 120 bp  165 bp  195 bp | \*03:78  \*03:201N  \*03:192 |  |
| **43** | 230 bp  270 bp | \*03:74, 03:81, 03:137, 03:175, 03:199, 03:223, 03:245, 03:317, 03:388  \*03:97, 03:153 | **B\*07:310, B\*15:96, B\*39:103, B\*56:37** |
| **44** | 70 bp  160 bp  250 bp | \*03:91:01  \*03:75, 03:120, 03:229N  \*03:244Q |  |
| **45** | 150 bp  255 bp  295 bp | \*03:93, 03:206, 03:212  \*03:213  \*03:76 | \*04:84, 07:167, 07:585, 08:128 |
| **46** | 150 bp  210 bp | \*03:155  \*03:58, 03:86, 03:94, 03:99:01-03:99:02 | \*08:95, **B\*35:252, B\*39:114**  \*01:02:01:01-01:02:31, 01:02:33-01:03, 01:06-01:07:01, 01:08, 01:10-01:11, 01:13-01:20, 01:23-01:33, 01:38-01:48, 01:51-01:54, 01:56N-01:76, 01:78, 01:80-01:90, 01:92-01:96, 01:98N-01:100, 01:103-01:113, 01:115-01:119, 01:121Q-01:130, 01:132-01:156, 04:37, 05:85, 05:107, 06:204, 14:45, 15:102 |
| **51** | 120 bp  235 bp | \*03:105  \*03:303 | \*08:147 |
| **53** | 240 bp  315 bp  345 bp | \*03:106  \*03:312  \*03:380N | \*15:151 |
| **55** | 260 bp  470 bp | \*03:207  \*03:211:02 | \*05:03 |
| **56** | 160 bp  265 bp | \*03:145, 03:363N  \*03:73 |  |
| **60** | 70 bp  215 bp | \*03:18:02, 03:64:01, 03:301  \*03:82, 03:85, 03:371 | \*02:08, 12:02:17, 12:03:23, 15:10:02-15:10:03, **B\*56:01:09, B\*58:74**  \*02:129 |

**4**The C\*03:99:01 and C\*05:107 alleles give rise to identical amplification patterns with the HLA-C\*03 subtyping kit. These alleles can be distinguished by the HLA-C low resolution kit and/or the HLA-C\*05 subtyping kits.

The C\*03:135, 03:154, 03:260, 03:286 and 03:326 and the C\*15:43 give rise to identical amplification patterns with the HLA-C\*03 subtyping kit. These alleles can be distinguished by the HLA-C low resolution kit and/or the HLA-C\*15 subtyping kits.

**5**The following HLA-C\*03 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| Alleles | Primer mix | Alleles | Primer mix |
| C\*03:04:19, 03:265N | 12 | C\*03:44, 03:123, 03:209 | 31 |
| C\*03:06:01-03:06:02, 03:287 | 6 | C\*03:49, 03:103 | 23 |
| C\*03:23, 03:263:01-03:263:02 | 18 | C\*03:50, 03:122 | 36 |
| C\*03:24, 03:236 | 19 | C\*03:62, 03:346 | 33 |
| C\*03:28, 03:90 | 23 | C\*03:68, 03:205 | 41 |
| C\*03:37:01-03:37:02, 03:208N | 27 | C\*03:72, 03:219 | 36 |
| C\*03:44, 03:123, 03:209 | 31 |

‘w’, might be weakly amplified.

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

Changes in revision R02 compared to R00:

1. In primer mix 10, the size of the positive control band has been corrected to 800 bp in the Product Insert and the Worksheet.