Gel Documentation Form and Worksheet

HLA-B\*15 (101.516-24/04, -24u/04u) Lot No: 8G5 Expiry Date: 2021-04-01

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 40, 59, 62, 80, 82 and 85 have a tendency to giving rise to primer oligomer formation.

Primer mixes 2, 5, 15, 30, 36, 55, 68, 77, 81, 83, 91 and 95 may have tendencies of unspecific amplifications.

Primer mix 91 may give rise to a long unspecific amplification product of approximately 800 bp. This should be disregarded when interpreting the B\*15 typings.

Primer mixes 23 and 77 may give rise to a lower yield of HLA-specific PCR product than the other HLA-B\*15 resolution primer mixes.

In primer mixes 52, 59 and 93 the positive control band may be weaker than for other HLA-B\*15 primer mixes.

Primer mix 96 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.









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**1**HLA-B\*15 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), 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-B\*15 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-B\*15 alleles | Other amplified Class I alleles |
|  **4** | 180 bp390 bp | \*15:01:01:02N\*15:285, 15:378 |  |
| **10** | 300 bp 515 bp  | \*15:37-15:38:02, 15:185, 15:323, 15:335, 15:364, 15:368, 15:435\*15:06, 15:27:01-15:27:04, 15:84, 15:109, 15:195, 15:327, 15:344, 15:398 |  |
| **13** | 395 bp435 bp | \*15:09:01-15:10:04, 15:18:01:01-15:18:06, 15:21:01:01-15:21:01:02, 15:23, 15:37, 15:44, 15:51-15:52, 15:66, 15:72, 15:80, 15:90, 15:93, 15:99, 15:108, 15:114-15:115, 15:119, 15:124, 15:133-15:134, 15:153, 15:161, 15:176, 15:186, 15:189, 15:197:01-15:198, 15:200, 15:221, 15:226N, 15:229, 15:238, 15:243, 15:252, 15:263, 15:275:01-15:275:02, 15:290, 15:292-15:294N, 15:306-15:307, 15:311-15:314, 15:323, 15:329, 15:335, 15:337-15:338, 15:351, 15:354, 15:376, 15:380N, 15:382, 15:388, 15:394, 15:404, 15:414, 15:420, 15:426-15:427, 15:433-15:436, 15:439, 15:445\*15:79N |  |
| **14** | 465 bp 515 bp | \*15:09:01-15:10:04, 15:30:01:01-15:30:01:02, 15:37, 15:45, 15:48, 15:63, 15:83, 15:90, 15:99, 15:150, 15:188, 15:243, 15:248, 15:252, 15:287, 15:312-15:313, 15:323-15:324, 15:329, 15:338, 15:361, 15:427, 15:435, 15:439, 15:445\*15:110 | \*46:74 |
| **16** | 120 bp 190 bp | \*15:116, 15:124, 15:352, 15:412\*15:12, 15:19, 15:270, 15:298, 15:304N | \*35:331, 40:52, 40:59, 40:352, 46:06, 46:43, 48:23, 57:59 |
| **20** | 360 bp 505 bp | \*15:105\*15:16:01:01-15:16:03, 15:34, 15:62, 15:67, 15:85-15:86, 15:95, 15:137, 15:194, 15:222, 15:242:02, 15:254, 15:303, 15:362, 15:393, 15:407-15:408 | \*46:11, 46:18, 46:33, 46:53, 46:67 |
| **21** | 205 bp 425 bp | \*15:16:01:01-15:16:03, 15:67, 15:95, 15:222, 15:254, 15:362, 15:408\*15:43 | **C\*03:158** |
| **24** | 205 bp 305 bp | \*15:26N\*15:33, 15:72, 15:78:01-15:78:04, 15:107, 15:116, 15:141, 15:150, 15:188, 15:209N, 15:248, 15:287, 15:352, 15:421 | \*46:06, 46:45 |
| **25** | 315 bp 385 bp | \*15:46, 15:53, 15:106, 15:212\*15:28, 15:428 | **C\*16:85** |
| **27** | 115 bp195 bp | \*15:33, 15:248\*15:400N | \*49:22, 51:126, 57:54, 57:96, **C\*03:87:01-03:87:02, C\*05:27, C\*05:39, C\*08:115** |
| **30** | 320 bp355 bp405 bp | \*15:40:01-15:40:02, 15:47:01-15:47:02, 15:49, 15:52, 15:114, 15:117, 15:124, 15:138, 15:238, 15:241, 15:389, 15:421\*15:75, 15:312\*15:375N | \*46:06, 46:25, 46:30 |
| **31** | 320 bp395 bp | \*15:44, 15:50, 15:69, 15:83, 15:86, 15:93, 15:121, 15:186, 15:188, 15:199, 15:218Q, 15:224, 15:252, 15:265, 15:323, 15:348, 15:368\*15:114, 15:153 | \*46:03, 46:18, 46:21:01-46:21:02, 46:29 |
| **32** | 275 bp 350 bp 380 bp | \*15:196\*15:190N\*15:48, 15:108, 15:136, 15:235, 15:249 | \*46:19 |
| **33** | 200 bp 255 bp 340 bp | \*15:118\*15:18:03, 15:42, 15:73, 15:86, 15:224, 15:303\*15:192, 15:281, 15:424 | \*46:11, 46:18 |
| **36** | 360 bp 435 bp | \*15:82, 15:260\*15:36, 15:89, 15:115, 15:256, 15:339 | **C\*03:186:01, C\*12:57:02****C\*16:85** |
| **39** | 315 bp385 bp | \*15:60, 15:119\*15:95, 15:285, 15:378 | **C\*07:213, C\*07:602** |
| **40** | 220 bp 425 bp | \*15:71, 15:175, 15:381\*15:13:01-15:13:02, 15:16:01:01-15:17:06, 15:23-15:24:02, 15:67, 15:95, 15:157, 15:162, 15:168, 15:177, 15:196, 15:208, 15:216, 15:222, 15:230, 15:254, 15:268, 15:273, 15:356, 15:361-15:362, 15:396, 15:403, 15:408, 15:411, 15:418, 15:423-15:424, 15:442 | **C\*06:77** |
| **42** | 350 bp460 bp | \*15:02:01-15:03:07, 15:05:01-15:06, 15:09:01-15:10:04, 15:13:01-15:13:02, 15:16:01:01-15:18:06, 15:21:01:01-15:21:01:02, 15:23, 15:25:01-15:25:03, 15:29, 15:31, 15:36-15:37, 15:39:01-15:40:02, 15:44, 15:48, 15:52, 15:55, 15:61-15:62, 15:64:01-15:64:02, 15:67, 15:69, 15:72, 15:74, 15:80, 15:86, 15:88w, 15:89-15:91, 15:93, 15:95, 15:98, 15:103, 15:106-15:108, 15:112, 15:114-15:115, 15:119, 15:121, 15:123-15:124, 15:127, 15:131-15:134, 15:136, 15:138-15:139, 15:151, 15:153, 15:155-15:156, 15:158, 15:161-15:162, 15:170, 15:173, 15:176w, 15:177, 15:185-15:186, 15:188, 15:194-15:198, 15:200w, 15:204, 15:208, 15:210, 15:213-15:214, 15:216, 15:219-15:220, 15:222-15:224, 15:226N, 15:229-15:230, 15:235, 15:238, 15:240, 15:242:01-15:243, 15:250w, 15:252-15:255, 15:263, 15:265-15:266, 15:268, 15:271, 15:273-15:275:02, 15:281-15:283, 15:288-15:294N, 15:297, 15:301-15:302N, 15:306-15:308, 15:310-15:311, 15:312w, 15:313-15:314, 15:319, 15:323, 15:325, 15:328-15:330, 15:332, 15:335, 15:337-15:339, 15:341, 15:345, 15:348, 15:351, 15:354, 15:356-15:358, 15:360-15:362, 15:364, 15:366, 15:369, 15:374, 15:376, 15:378, 15:380N, 15:382, 15:384, 15:388-15:389, 15:393-15:397, 15:399, 15:402-15:404, 15:407-15:408, 15:411w, 15:414, 15:418, 15:420-15:421, 15:423-15:427, 15:433-15:439, 15:444-15:445\*15:73, 15:86, 15:224, 15:303 | \*46:06, 46:08, 46:11, 46:13:01-46:13:03, 46:18-46:19, 46:21:01-46:21:02, 46:25-46:26, 46:33, 46:43\*46:11, 46:18 |
| **50** | 85 bp 185 bp | \*15:67, 15:343\*15:206 | \*35:110, 58:77, **A\*02:598, A\*02:695, A\*68:56** |
| **51** | 135 bp175 bp 200 bp | \*15:98, 15:109, 15:163\*15:277-15:278\*15:246N | \*35:122, 40:339, 56:29 |
| **52** | 200 bp345 bp | \*15:104, 15:307, 15:321Q\*15:92, 15:213 | \*35:364, 51:142 |
| **54** | 250 bp 410 bp | \*15:187\*15:97 | **C\*12:36** |
| **55** | 175 bp210 bp 255 bp | \*15:214\*15:321Q\*15:102, 15:284 | \*07:120, 14:61, 18:81, 35:250, 40:150, 48:45, 51:165, 57:29\*37:71, 51:30, 73:01-73:02 |
| **56** | 70 bp 260 bp | \*15:103\*15:227 | \*27:69, 37:23, 40:213 |
| **57** | 340 bp480 bp | \*15:111N, 15:300\*15:369 |  |
| **59**  | 230 bp 370 bp 420 bp | \*15:191, 15:234\*15:198, 15:270\*15:94N, 15:294N | **C\*06:33****\***35:161 |
| **61** | 160 bp205 bp | \*15:175\*15:125 | \*40:331\*40:342, 44:22, 44:105, 49:24 |
| **63** | 175 bp280 bp | \*15:127\*15:315 |  |
| **64** | 90 bp135 bp240 bp365 bp | \*15:302N\*15:270\*15:301\*15:122 | **C\*03:48, C\*05:126, C\*06:85, C\*07:540** |
| **65** | 405 bp470 bp520 bp | \*15:375N\*15:232\*15:129, 15:342, 15:395 | \*46:64 |
| **67** | 265 bp 300 bp | \*15:53, 15:183, 15:212, 15:336, 15:345\*15:132 | \*46:10, **C\*16:85** |
| **68** | 215 bp 380 bp | \*15:134\*15:247 | **C\*05:03** |
| **70** | 90 bp 185 bp | \*15:208\*15:138, 15:230, 15:241, 15:297 | \*07:68:01-07:68:03, 07:214, 07:237, 07:262, 18:35, 18:110, 35:66, 40:77, 40:87:01-40:87:02, 40:121, 40:158, 40:222, 40:237, 40:368, 44:150, 48:12, 48:14, 48:26, 48:29 |
| **71** | 290 bp315 bp 400 bp | \*15:53, 15:212, 15:336, 15:347\*15:205\*15:139 | **C\*01:124, C\*16:85** |
| **72** | 110 bp 200 bp295 bp 390 bp | \*15:226N\*15:380N\*15:140\*15:201 | \*35:216N, 39:87N\*51:166 |
| **74** | 75 bp 230 bp | \*15:145, 15:176, 15:411\*15:262N | \*35:237, 35:352, 51:228, 52:28 |
| **75** | 280 bp 315 bp390 bp | \*15:146\*15:367, 15:441\*15:201 | \*51:48, **C\*02:83, C\*08:24, C\*16:90** |
| **77**  | 185 bp230 bp | \*15:174\*15:123, 15:220, 15:388 |  |
| **78** | 110 bp 385 bp475 bp | \*15:142, 15:429\*15:147\*15:232, 15:369 | \*07:29, 07:186, 08:01:11, 08:56:01, 08:133, 08:176, 08:180, 13:93, 35:218, 35:256, 37:62, 51:68, 51:176, 57:49, **C\*07:02:30****\***46:42\*46:64 |
| **79** | 215 bp 420 bp | \*15:182N\*15:148, 15:330 |  |
| **80**  | 85 bp 200 bp225 bp340 bp | \*15:149N\*15:380N\*15:263\*15:320 |  |
| **82**  | 80 bp 200 bp245 bp | \*15:81\*15:246N\*15:277, 15:430 | \*53:35, 58:47\*35:222, 40:76, **C\*05:30, C\*06:125** |
| **84** | 155 bp195 bp 235 bp | \*15:167\*15:211, 15:400N\*15:197:01, 15:215 | **C\*03:168**\*35:117 |
| **85** | 340 bp 395 bp 420 bp | \*15:157\*15:76, 15:101, 15:255\*15:164 | **C\*07:335, C\*14:62** |
| **86** | 230 bp260 bp 400 bp | \*15:166\*15:272N\*15:193 |  |
| **87** | 85 bp 295 bp | \*15:71, 15:175, 15:204, 15:225, 15:344, 15:381\*15:169 | \*18:29, 18:98, 35:50, 35:231, 35:280, 35:323, 37:22, 40:248, 40:282, 40:351, 40:364, 41:12, 41:36, 46:14, 49:03, 49:48, 51:151, 52:51, 54:02, 55:16, 56:35, 57:39, 57:73, 58:41, **C\*03:278, C\*16:86** |
| **88** | 240 bp 450 bp | \*15:171\*15:158, 15:240, 15:377Q | **C\*14:67****C\*05:80** |
| **89** | 365 bp 420 bp445 bp | \*15:160, 15:282\*15:94N, 15:294N \*15:377Q | **C\*03:84, C\*03:281, C\*07:275** |
| **90** | 95 bp 195 bp | \*15:202, 15:239, 15:376\*15:173 | \*13:58, 18:12:01-18:12:02, 35:10, 35:13, 35:16, 35:28, 35:69, 35:80, 35:226, 35:270, 35:318, 37:01:01:01-37:01:05, 37:01:07-37:05, 37:07, 37:09-37:27, 37:29-37:59, 37:62-37:66, 37:68-37:71, 40:185, 40:209, 40:308, 40:350, 40:365, 44:83, 44:134, 49:03, 52:01:01:01-52:01:30, 52:03-52:15, 52:17, 52:19-52:31:02, 52:33-52:72, 52:74-52:75, 53:17:01-53:17:02, 53:28, 53:38, 78:05-78:06\*18:63, 39:90, 50:11, **A\*01:201, A\*02:695, A\*24:343** |
| **91**  | 135 bp 325 bp  | \*15:184, 15:203\*15:170, 15:356 | \*18:109, 38:62 |
| **92** | 95 bp155 bp | \*15:266, 15:332\*15:172, 15:328 | \*13:37, 38:49, 51:75 |
| **93** | 255 bp 295 bp 385 bp | \*15:258N, 15:304N\*15:53, 15:177, 15:212, 15:336, 15:347\*15:120 | **C\*01:124, C\*16:85** |
| **94** | 260 bp285 bp 325 bp | \*15:272N\*15:123\*15:178 |  |
| **95** | 160 bp340 bp 395 bp | \*15:358\*15:181N\*15:40:01-15:40:02, 15:47:01-15:47:02, 15:49, 15:52, 15:114, 15:117, 15:124, 15:138, 15:238, 15:241, 15:389, 15:421 | \*46:06, 46:25, 46:30 |

**4**The following HLA-B\*15 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| Alleles | Primer mix | Alleles | Primer mix |
| B\*15:81, 15:430 | 82 | B\*15:166, 15:193 | 86 |
| B\*15:82, 15:256 | 36 | B\*15:169, 15:225 | 87 |
| B\*15:92, 15:104 | 52 | B\*15:206, 15:343 | 50 |
| B\*15:120, 15:258N | 93 | B\*15:208, 15:230 | 70 |
| B\*15:142, 15:147, 15:429 | 78 | B\*15:301, 15:302N | 64 |
| B\*15:146, 15:147 | 75 |

**5**The B\*15:180 and the B\*46:71 alleles will give rise to identical amplification patterns. These alleles can e.g. be distinguished by the HLA-B low resolution kit and/or the HLA-B\*46 high resolution kit.

‘w’, might be weakly amplified.