Gel Documentation Form and Worksheet

HLA-B\*15 (101.516-24/04, -24u/04u) Lot No: 1L5 Expiry Date: 2024-05-01

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, 85 and 95 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 the majority of the 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-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 bp  390 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, 15:112, 15:195, 15:327, 15:344, 15:398 |  |
| **13** | 395 bp  435 bp | \*15:09:01-15:10:05, 15:18:01:01-15:18:07, 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, 15:447, 15:451, 15:455, 15:487N, 15:498, 15:503-15:504, 15:526, 15:530, 15:548  \*15:79N |  |
| **14** | 465 bp  515 bp | \*15:09:01-15:10:05, 15:30:01:01-15:30:01:03, 15:37, 15:45, 15:48, 15:63, 15:83:01:01-15:83:01:02, 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, 15:455, 15:503, 15:506, 15:530, 15:541  \*15:110 | \*46:74, 46:81 |
| **16** | 120 bp  190 bp | \*15:116, 15:124, 15:352, 15:412, 15:507  \*15:12:01-15:12:03, 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  \*15:16:01:01-15:16:04, 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, 15:485-15:486, 15:550, 15:552 | \*46:11, 46:18, 46:33, 46:53, 46:67 |
| **21** | 205 bp  425 bp | \*15:16:01:01-15:16:04, 15:67, 15:95, 15:222, 15:254, 15:362, 15:408, 15:550  \*15:43 | **C\*03:158, C\*05:171:01:01-C\*05:171:01:02**  \*27:195 |
| **24** | 205 bp  305 bp | \*15:26N  \*15:33, 15:72, 15:78:01:01-15:78:04, 15:107, 15:116, 15:141, 15:150, 15:188, 15:209N, 15:248, 15:287, 15:352, 15:421, 15:524 | \*46:06, 46:45 |
| **25** | 315 bp  385 bp | \*15:46, 15:53, 15:106, 15:212  \*15:28, 15:428 | \*40:26, 40:40, **C\*16:85** |
| **27** | 115 bp  195 bp | \*15:33, 15:248  \*15:400N | \*49:22, 51:126, 57:54, 57:96, **C\*03:87:01-03:87:02, C\*03:414, C\*05:27, C\*05:39, C\*05:184, C\*08:115, C\*08:182** |
| **30** | 320 bp  355 bp  405 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, 15:519, 15:532  \*15:75, 15:312  \*15:375N | \*46:06, 46:25, 46:30 |
| **31** | 320 bp  395 bp | \*15:44, 15:50, 15:69, 15:83:01:01-15:83:01:02, 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, 15:449, 15:485, 15:494, 15:497  \*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, 15:73:01:01-15:73:01:02, 15:86, 15:224, 15:303, 15:485-15:486, 15:552  \*15:192, 15:281, 15:424 | \*46:11, 46:18 |
| **36** | 360 bp  435 bp | \*15:82, 15:260  \*15:36, 15:89:01-15:89:02, 15:115, 15:256, 15:339, 15:505 | **C\*03:186:01, C\*04:344, C\*12:57:02**  **C\*16:85** |
| **39** | 315 bp  385 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, 15:16:01:01-15:17:07, 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, 15:446, 15:462, 15:500, 15:516, 15:523, 15:532, 15:550 | **\***27:195, 40:26, **C\*03:504, C\*06:77, C\*07:714, 07:724** |
| **42** | 350 bp  460 bp | \*15:02:01:01-15:03:09, 15:05:01-15:06, 15:09:01-15:10:05, 15:13:01-15:13:02, 15:16:01:01-15:18:07, 15:21:01:01-15:21:01:02, 15:23, 15:25:01:01-15:25:04, 15:29:01:01-15:29:01:02, 15:31:01:01-15:31:01:03, 15:36-15:37, 15:39:01:01-15:40:02, 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, 15:89:01-15:91, 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, 15:219-15:220:02, 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, 15:444-15:449, 15:451, 15:454N-15:455, 15:458, 15:460, 15:462-15:463N, 15:468, 15:475, 15:485, 15:487N, 15:491, 15:494-15:495, 15:497, 15:500, 15:502-15:506, 15:508-15:509, 15:511, 15:516-15:517, 15:523, 15:526-15:527, 15:530, 15:532, 15:537, 15:539, 15:543-15:544N, 15:546Q, 15:548, 15:550, 15:552-15:553, 15:555, 15:557  \*15:73:01:01-15:73:01:02, 15:86, 15:224, 15:303, 15:485-15:486, 15:552 | \*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, A\*69:05** |
| **51** | 135 bp  175 bp  200 bp | \*15:98, 15:109, 15:163  \*15:277-15:278  \*15:246N | \*55:104  \*35:122, 40:339, 56:29 |
| **52** | 200 bp  345 bp | \*15:104, 15:307, 15:321Q  \*15:92, 15:213 | \*35:364, 35:379, 35:462, 51:142, 52:80, 57:116 |
| **54** | 250 bp  410 bp | \*15:187  \*15:97 | **C\*12:36** |
| **55** | 175 bp  210 bp  255 bp | \*15:214  \*15:321Q  \*15:102, 15:284 | \*07:120, 14:61, 18:81, 35:250, 39:145, 39:158, 40:150, 40:427, 44:311, 48:45, 51:165, 57:29  \*37:71, 44:278, 51:30, 58:105, 73:01:01:01-73:02 |
| **56** | 70 bp  260 bp | \*15:103  \*15:227 | \*07:329, 18:183, 27:69, 27:192, 37:23, 40:213, 42:28, 44:338 |
| **57** | 340 bp  480 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 bp  205 bp | \*15:175  \*15:125 | \*40:331  \*13:124, 14:73, 37:85, 40:342, 44:22, 44:105, 49:24, **C\*12:301** |
| **63** | 175 bp  280 bp | \*15:127  \*15:315 | \*46:77 |
| **64** | 90 bp  135 bp  240 bp  365 bp | \*15:302N  \*15:270  \*15:301  \*15:122 | \*08:246  **C\*03:48, C\*05:126, C\*06:85, C\*07:540** |
| **65** | 405 bp  470 bp  520 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, 15:511  \*15:132 | \*27:195, 40:26, 40:40, 46:10, **C\*02:167, C\*03:504, C\*05:205, C\*06:284, C\*07:828, C\*16:85**  **C\*07:02:92** |
| **68** | 215 bp  380 bp | \*15:134  \*15:247 | \*44:284, **C\*03:490, C\*05:03** |
| **70** | 90 bp  185 bp | \*15:208  \*15:138, 15:230, 15:241, 15:297 | \*51:252  \*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, 40:422, 44:150, 48:12, 48:14, 48:26, 48:29 |
| **71** | 290 bp  315 bp  400 bp | \*15:53, 15:212, 15:336, 15:347  \*15:205  \*15:139 | \*27:195, 40:26, 40:40, **C\*01:124, C\*16:85** |
| **72** | 110 bp  200 bp  295 bp  390 bp | \*15:226N  \*15:380N  \*15:140  \*15:201 | \*35:216N, 38:165N, 39:87N  **C\*15:199**  \*51:166 |
| **74** | 75 bp  230 bp | \*15:145, 15:176, 15:411  \*15:262N | \*35:237, 35:352, 51:228, 52:28, **C\*03:420** |
| **75** | 280 bp  315 bp  390 bp | \*15:146  \*15:367, 15:441  \*15:201 | \*51:48, **C\*02:83, C\*05:224, C\*08:24, C\*16:90** |
| **77** | 185 bp  230 bp | \*15:174  \*15:123, 15:220:01:01-15:220:02, 15:388, 15:475, 15:517, 15:539 | \*27:179, 44:312, 51:299 |
| **78** | 110 bp  385 bp  475 bp | \*15:142, 15:429  \*15:147  \*15:232, 15:369 | \*07:29, 07:186, 07:383, 08:01:11, 08:56:01, 08:133, 08:176, 08:180, 13:93, 35:218, 35:256, 37:62, 51:68, 51:176, 52:77, 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 bp  225 bp  340 bp | \*15:149N  \*15:380N  \*15:263  \*15:320 | **C\*15:199** |
| **82** | 80 bp  200 bp  245 bp | \*15:81  \*15:246N  \*15:277, 15:430 | \*53:35, 58:47  \*35:222, 40:76, **C\*05:30, C\*06:125, C\*16:144** |
| **84** | 155 bp  195 bp  235 bp | \*15:167  \*15:211, 15:400N  \*15:197:01, 15:215 | **\***35:408  **C\*03:168**  \*35:117 |
| **85** | 340 bp  395 bp  420 bp | \*15:157, 15:500  \*15:76, 15:101, 15:255, 15:509  \*15:164 | **C\*07:335, C\*14:62** |
| **86** | 230 bp  260 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, 18:98:01-18:98:02, 27:214, 35:50, 35:231, 35:280, 35:323, 37:22, 40:248, 40:282, 40:351, 40:364, 41:12, 41:36, 42:27, 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\*07:756, C\*14:67**  **C\*05:80, C\*15:173** |
| **89** | 365 bp  420 bp  445 bp | \*15:160:01:01-15:160:01:02, 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, 15:477 | \*13:58, 18:12:01-18:12:02, 35:10, 35:13, 35:16, 35:28:01:01-35:28:01:03, 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, 37:68-37:81, 37:83-37:91, 40:185, 40:209, 40:308, 40:350, 40:365, 44:83, 44:134, 44:445, 49:03, 51:310, 52:01:01:01-52:01:48, 52:03-52:15, 52:17, 52:19-52:31:02, 52:33-52:72, 52:74-52:95, 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, A\*25:66, A\*69:05** |
| **91** | 135 bp  325 bp | \*15:184, 15:203  \*15:170, 15:356 | \*18:109, 38:62 |
| **92** | 95 bp  155 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 | \*27:195, 40:26, 40:40, **C\*01:124, C\*16:85** |
| **94** | 260 bp  285 bp  325 bp | \*15:272N  \*15:123  \*15:178 |  |
| **95** | 160 bp  340 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, 15:519, 15:532 | \*46:06, 46:25, 46:30 |

**4**The HLA-B\*15 primer set cannot separate the following alleles. These alleles can be distinguished by the HLA-B low resolution kit and/or the respective high resolution kits:

|  |
| --- |
| **Alleles** |
| B\*15:180, 46:71 |
| B\*15:515, 35:43:01, 35:135, 35:185, 51:220 |

**5**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\*15:202, 15:239, 15:477 | 90 |
| B\*15:120, 15:258N | 93 | B\*15:206, 15:343 | 50 |
| B\*15:142, 15:147, 15:429 | 78 | B\*15:208, 15:230 | 70 |
| B\*15:146, 15:441 | 75 | B\*15:301, 15:302N | 64 |

‘w’, might be weakly amplified.