Gel Documentation Form and Worksheet

HLA-C\*16 (101.627-12/12u) Lot No: 0H4 Expiry Date: 2021-05-01

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 2 and 3 may give rise to a lower yield of HLA-specific PCR product than the other C\*16 primer mixes, most pronounced in primer mix 2.

Primer mixes 9, 14 and 23 may have tendencies of unspecific amplifications.

Primer mix 22 has a tendency to giving rise to primer oligomer formation.

Primer mix 24 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.

Change in revision R01 compared to R00:

1. Primer mix 21 does not amplify the C\*16:63 allele. Thus, this lot of the C\*16 subtyping kit cannot distinguish the C\*16:63 and C\*16:02:01-16:02:14, 16:02:16, 16:47, 16:57, 16:60, 16:69, 16:74, 16:84, 16:99, 16:101-16:102, 16:107-16:108 and 16:120-16:121 alleles. This has been corrected in the Specificity and Interpretation Tables.











**1**HLA-C\*16 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-C\*16 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-C\*16 alleles | Other amplified HLA Class I alleles |
| **6** | 125 bp  160 bp  210 bp | \*16:11, 16:39:01-16:39:02  \*16:10  \*16:06, 16:115 | **\***02:21  **A\*24:106**  \*07:216 |
| **7** | 100 bp  170 bp  210 bp | \*16:09  \*16:45  \*16:07:01 | **\***02:34  \*04:14, 04:68, 05:112, **A\*24:96, A\*24:146** |
| **8** | 130 bp  160 bp  190 bp  435 bp | \*16:08, 16:38  \*16:89N  \*16:123N  \*16:53, 16:68, 16:88 | \*08:96, 15:114 |
| **9** | 85 bp  140 bp  205 bp | \*16:12  \*16:52  \*16:35, 16:48 | \*02:79, 04:69  \*06:133  \*06:118, 07:31:01-07:31:02, 07:177, 07:514, 14:15, 14:87 |
| **10** | 215 bp  350 bp | \*16:19  \*16:13, 16:61 | \*04:101, 05:117, 07:114, 07:557, 08:135  \*05:81, 06:87, 07:24, 07:218, 12:45, 12:166, 14:65 |
| **11** | 170 bp  540 bp | \*16:20  \*16:15:01-16:15:02, 16:25, 16:64 | \*15:75, **A\*24:73, A\*24:157, B\*07:66, B\*51:55**  **\***04:14, 04:68, 07:53, 07:216 |
| **12** | 100 bp  210 bp  245 bp | \*16:17, 16:67  \*16:22  \*16:16Q | \*01:27 |
| **13** | 130 bp  190 bp  240 bp | \*16:14  \*16:123N  \*16:77N | \*06:32, 12:40  \*02:121N, 06:171N, 07:164N, 07:451N |
| **15** | 85 bp  120 bp  145 bp | \*16:04:03  \*16:39:01-16:39:02  \*16:21, 16:80 | \*02:14:01-02:14:02, 02:107, 04:42:01-04:42:02, 04:220, 05:43, 06:05, 07:02:09, 08:37, 12:16, 12:147, 12:195:02, 12:217, 15:23:01-15:23:02, 15:63, 15:138 |
| **16** | 165 bp  375 bp | \*16:90  \*16:06-16:07:02, 16:117 | \*02:83, 08:24  \*01:05, 01:21, 01:36, 01:55, 01:79:01-01:79:02, 01:120, 02:02:01-02:02:03, 02:02:05-02:02:08, 02:02:10-02:02:30, 02:02:32-02:04, 02:06:01-02:16:02, 02:18-02:36:02, 02:38N-02:40:02, 02:42-02:56, 02:58-02:61, 02:63-02:73, 02:75-02:80, 02:82-02:122, 02:124-02:140, 03:05, 03:13:01-03:13:02, 03:25, 03:27, 03:35:01-03:35:02, 03:135, 03:167, 03:178, 03:198, 03:267, 03:292, 03:296:01-03:296:02, 03:335, 03:386,  04:01:01:01-04:01:23, 04:01:25-04:01:94, 04:03:01-04:20, 04:23-04:36, 04:38-04:39, 04:41-04:79, 04:81-04:99, 04:101-04:109, 04:111-04:116, 04:118-04:177, 04:179-04:223:02, 04:225N-04:229, 04:231, 04:233N-04:241, 04:243-04:262, 04:264-04:293, 05:01:01:01-05:01:20, 05:01:22-05:01:39, 05:03-05:06, 05:08-05:09:03, 05:11-05:15, 05:17-05:30, 05:32-05:84, 05:86-05:95, 05:97-05:103:02, 05:105-05:106:02, 05:108-05:147, 05:149-05:151, 05:153N-05:164, 06:101, 06:127:01:01-06:127:02, 06:136, 06:144, 07:01:01:01-07:01:10, 07:01:12-07:01:27, 07:01:29-07:03, 07:05-07:06:01:02, 07:07-07:09, 07:13-07:30, 07:32N-07:33N, 07:35-07:42, 07:44, 07:46-07:62, 07:64-07:100, 07:102-07:138, 07:140-07:141:02, 07:143-07:176, 07:178-07:180, 07:182-07:183, 07:185-07:194, 07:197-07:271, 07:273-07:294, 07:296-07:301, 07:303-07:322, 07:325-07:327, 07:330:01-07:331, 07:333-07:335, 07:337, 07:339-07:345, 07:347N-07:353, 07:356, 07:359-07:360, 07:362-07:363, 07:368:01-07:377, 07:379-07:393N, 07:396-07:402, 07:404-07:405, 07:407-07:419, 07:421-07:425, 07:427, 07:429-07:443, 07:445-07:446, 07:448-07:458, 07:460-07:462, 07:464-07:465, 07:468-07:479, 07:481-07:484N, 07:486, 07:488-07:500, 07:502-07:510, 07:512-07:513Q, 07:515-07:522, 07:524-07:533, 07:536-07:551N, 07:553-07:561, 07:564-07:567, 07:570-07:584, 07:588, 07:590-07:599, 07:601-07:608, 07:610, 07:612-07:621, 07:623-07:625, 07:627-07:634, 08:01:01:01-08:01:10, 08:01:12-08:11, 08:13-08:33:03, 08:35-08:43, 08:45-08:60, 08:62:01-08:63, 08:65-08:81, 08:83-08:125, 08:127N-08:167, 12:02:01-12:02:11, 12:02:13-12:02:19, 12:08, 12:10:01-12:10:02, 12:14:01-12:14:02, 12:16-12:18:02, 12:21-12:22, 12:27, 12:30, 12:36, 12:40-12:41, 12:49, 12:56, 12:64, 12:67-12:69, 12:72-12:74, 12:80N, 12:83-12:86, 12:96, 12:103-12:106, 12:112, 12:114, 12:117-12:118, 12:123-12:124, 12:126-12:128, 12:130, 12:132, 12:136-12:137, 12:142, 12:145-12:146, 12:148N, 12:151, 12:155Q, 12:161-12:162, 12:164, 12:166, 12:168-12:169, 12:177, 12:179, 12:181, 12:188, 12:193, 12:196, 12:198, 12:204, 12:207-12:208, 12:212, 12:214, 12:217, 12:219N, 12:221-12:222, 12:224, 12:226, 12:228, 12:231, 12:233-12:234, 14:09, 14:28:02, 15:22, 15:65, 15:72, 17:16, 18:01-18:10 |
| **17** | 180 bp  235 bp | \*16:26, 16:46, 16:55, 16:64  \*16:97 | \*02:49, 02:75, 02:115, 04:01:01:01-04:01:09, 04:01:11-04:01:22, 04:01:24-04:01:73, 04:01:74w, 04:01:75-04:01:94, 04:03:01-04:07:01, 04:08-04:10, 04:12-04:20, 04:23-04:26, 04:28-04:32, 04:34-04:51, 04:53-04:54, 04:56-04:106, 04:108-04:115N, 04:117-04:129, 04:131-04:168, 04:170N-04:171, 04:173N-04:230, 04:232-04:282, 04:284-04:293, 05:25, 05:42, 06:05, 06:76:02, 07:02:09, 07:583, 08:28, 08:137, 12:28, 12:132, 12:135, 12:146, 15:25, 15:62 |
| **18** | 120 bp  255 bp | \*16:38  \*16:26, 16:46, 16:55, 16:64 | \*08:96, 15:114  \*01:23, 01:58, 02:49, 02:75, 02:115, 04:01:72, 04:03:01-04:03:04, 04:06:01, 04:42:02, 04:80, 04:140, 04:147, 04:160, 04:171, 04:220, 04:256, 04:286, 05:25, 05:42, 06:02:01:01-06:02:01:14, 06:02:03-06:02:09, 06:02:11-06:25, 06:27-06:29, 06:31-06:52, 06:54-06:124, 06:126-06:131, 06:133-06:168, 06:170-06:197, 06:199-06:203, 06:205-06:209, 06:211N-06:216, 06:218-06:219, 07:01:01:01-07:01:22, 07:01:24-07:02:10, 07:02:12-07:02:86, 07:04:01:01-07:04:04, 07:04:06-07:06:02, 07:08-07:15, 07:17:01-07:19, 07:21-07:33N, 07:35, 07:37-07:50, 07:52-07:55N, 07:57-07:58, 07:61N-07:63, 07:65-07:73:01, 07:74-07:78:02, 07:80-07:87, 07:89-07:95,  07:96:02-07:108:02, 07:110-07:126, 07:128-07:172:01, 07:173-07:176, 07:178-07:180, 07:182-07:226, 07:228-07:262, 07:264N-07:294, 07:296-07:314:02, 07:315-07:326, 07:329N-07:354, 07:356-07:366, 07:368:01-07:377, 07:379-07:389, 07:391-07:401, 07:403-07:437N, 07:439-07:441:01, 07:442-07:560, 07:562-07:577, 07:579, 07:581-07:597, 07:599-07:634, 08:28, 08:137, 12:28, 12:132, 12:135, 12:146, 15:25, 15:62, 17:11, 18:01-18:10 |
| **19** | 100 bp  240 bp | \*16:28, 16:67  \*16:29, 16:31, 16:50 | \*01:108, 06:90  \*01:10, 02:05:01-02:05:03, 02:17, 06:08, 06:22, 12:119, 14:25, 17:21**, B\*07:239, B\*14:46, B\*14:52, B\*40:243** |
| **20** | 95 bp  145 bp  210 bp | \*16:27  \*16:32  \*16:23, 16:104 | \*05:112  \*14:90 |
| **21** | 445 bp  595 bp | \*16:40, 16:53, 16:110, 16:113  \*16:49 |  |
| **22** | 85 bp  210 bp | \*16:58  \*16:24 | \*03:108, 03:150, 04:293, 07:25, 07:404, 15:136 |
| **23** | 95 bp  170 bp | \*16:42, 16:56  \*16:30N | \*04:273, 05:56, 08:69, 12:131 |

**4**The HLA-C\*16 primer set cannot separate the 16:04:01:01-16:04:01:02, 16:04:04-16:04:05, 16:33, 16:66, 16:78, 16:82, 16:109 and the C\*12:176 alleles. These alleles can be distinguished by the HLA-C low resolution kit and/or the HLA-C\*12 high resolution kit.

**5**The following HLA-C\*16 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| **Alleles** | **Primer mix** | **Alleles** | **Primer mix** |
| C\*16:15:01-16:15:02, 16:20 | 11 | C\*16:27, 16:32 | 20 |
| C\*16:16Q, 16:17 | 12 | C\*16:28, 16:31, 16:50 | 19 |
| C\*16:24, 16:58 | 22 | C\*16:30N, 16:56 | 23 |

**6**This lot of the C\*16 subtyping kit cannot distinguish the C\*16:63 and C\*16:02:01-16:02:14, 16:02:16, 16:47, 16:57, 16:60, 16:69, 16:74, 16:84, 16:99, 16:101-16:102, 16:107-16:108 and 16:120-16:121 alleles.

‘w’ might be weakly amplified.