HLA-C\*16 (101.627-12/12u) Lot No: 9R8 Expiry Date: 2027-03-01

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.

Primer mixes 9, 13, 14 and 22 may have tendencies of unspecific amplifications.

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

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

Primer mix 24 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-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, 08:221, 15:191  **A\*24:106, B\*44:347, B\*44:527**  \*07:216 |
| **7** | 100 bp  170 bp  210 bp | \*16:11, 16:39:01-16:39:02  \*16:10  \*16:06, 16:115 | \*02:21, 08:221, 15:191  **A\*24:106, B\*44:347, B\*44:527**  \*07:216 |
| **8** | 130 bp  160 bp  190 bp  435 bp | \*16:08, 16:38, 16:167  \*16:89N  \*16:123N  \*16:53, 16:68, 16:88 | \*08:96, 15:114  \*05:169N, 15:216N  \*07:963N, 07:1005N |
| **9** | 85 bp  140 bp  205 bp  240 bp | \*16:12  \*16:52  \*16:35, 16:48  \*16:33 | \*02:79, 04:69, 06:299  \*06:133  \*01:160, 06:118, 07:31:01-07:31:02, 07:177, 07:514:01-07:514:02, 14:15, 14:87  \*01:140, 06:161, **B\*14:44** |
| **10** | 215 bp  350 bp | \*16:19  \*16:13, 16:61 | \*03:420, 04:101, 05:117, 07:114, 07:557, 08:135  \*01:203, 02:159, 02:161, 04:487, 05:81, 06:87, 06:330, 07:24, 07:218, 12:45, 12:166, 14:65 |
| **11** | 170 bp  540 bp | \*16:20, 16:169  \*16:15:02, 16:25, 16:64, 16:189, 16:201 | \*15:75, **A\*24:73, A\*24:157, A\*24:453, B\*07:66, B\*51:55, B\*57:129**  \*04:14, 04:68, 07:53, 07:216, 07:932 |
| **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, 15:241  \*07:963N, 07:1005N  \*02:121N, 06:171:01:01N-06:171:01:02N, 07:164N, 07:451N |
| **14** | 115 bp  210 bp | \*16:74  \*16:18, 16:23, 16:104 | \*01:215, 14:90 |
| **15** | 85 bp  120 bp  145 bp | \*16:04:03  \*16:39:01-16:39:02  \*16:21, 16:80 | \*08:221, 15:191  \*02:14:01-02:14:02, 02:107, 02:164, 04:42:01-04:42:02, 04:220, 05:43, 06:02:72, 06:05, 07:01:74, 07:02:09, 07:125:02, 08:37, 12:16:01, 12:147, 12:195:02, 12:217, 15:23:01-15:23:02, 15:63, 15:138, 15:158 |
| **16** | 165 bp  375 bp | \*16:90, 16:180  \*16:06-16:07:02, 16:117 | \*02:83, 05:224, 06:327, 08:24, 12:323  \*01:05, 01:21, 01:36:01-01:36:02, 01:55, 01:79:01-01:79:02, 01:120, 02:02:01-02:02:03, 02:02:06-02:02:08, 02:02:10-02:02:30, 02:02:32-02:02:48, 02:02:50-02:04, 02:06:01-02:16:02:02, 02:18-02:36:02, 02:38:01N-02:40:02, 02:42-02:56, 02:58-02:61:02, 02:63-02:73, 02:75-02:80, 02:82-02:122, 02:124-02:217, 03:05:01:01-03:05:01:03, 03:13:01:01-03:13:02, 03:25, 03:27, 03:35:01-03:35:02:02, 03:135, 03:167, 03:178, 03:198, 03:267, 03:292, 03:296:01-03:296:02, 03:335, 03:386, 03:407, 03:474, 03:482, 03:494, 03:555, 03:607-03:608, 04:01:01:01-04:01:01:29, 04:01:01:31-04:01:23, 04:01:25-04:01:142, 04:01:144-04:01:149, 04:03:01:01-04:20, 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, 04:264-04:341, 04:343-04:359, 04:361-04:369N, 04:371N-04:385N, 04:387-04:407, 04:409-04:420, 04:423-04:476, 04:478-04:494, 05:01:01:01-05:01:20, 05:01:22-05:01:72, 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-05:174, 05:176-05:213N, 05:215-05:240, 05:242-05:244N, 05:246-05:277, 06:101, 06:127:01:01-06:127:02, 06:136, 06:144, 06:264, 06:304, 07:01:01:01-07:01:02:14, 07:01:04-07:01:10, 07:01:12-07:01:27, 07:01:29-07:02:97, 07:02:99-07:02:126, 07:02:128-07:02:137, 07:02:139-07:03, 07:05-07:06:01:12, 07:06:03-07:09, 07:13:01:01-07:30, 07:32N-07:33N, 07:35-07:42, 07:44, 07:46-07:62, 07:64-07:100, 07:102-07:138, 07:140:01-07:141:03, 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, 07:404-07:405:02, 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, 07:627-07:650:02, 07:652-07:654, 07:657-07:663Q, 07:665-07:671, 07:673, 07:675N-07:692, 07:694-07:697Q, 07:699-07:725, 07:727, 07:729:01:01-07:730, 07:732-07:741, 07:743N, 07:745N, 07:748-07:750N, 07:752N-07:757, 07:759-07:775, 07:777-07:779:01:02, 07:781-07:796N, 07:798-07:830, 07:832-07:837, 07:840N-07:851, 07:853-07:857, 07:859-07:867, 07:869-07:875, 07:877-07:880, 07:882-07:891, 07:893-07:894, 07:898-07:900, 07:902-07:916, 07:918-07:919, 07:921-07:925, 07:927-07:947, 07:949-07:950, 07:952, 07:954N-07:973, 07:975-07:1009, 07:1011, 07:1013-07:1032, 07:1034-07:1054N, 08:01:01:01-08:01:07, 08:01:09-08:01:10, 08:01:12-08:01:33, 08:01:35-08:02:35, 08:02:37-08:11, 08:13-08:33:05, 08:35-08:43, 08:45-08:60, 08:62:01-08:63, 08:65-08:81, 08:83-08:125, 08:127N-08:170, 08:172-08:179, 08:181N-08:208N, 08:210-08:218, 08:220-08:261, 12:02:01-12:02:11, 12:02:13-12:02:42, 12:02:44-12:02:48, 12:08, 12:10:01-12:10:03, 12:14:01-12:14:02, 12:16:01-12:18:02, 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, 12:236N, 12:239-12:241, 12:243, 12:247, 12:250, 12:252, 12:255, 12:261, 12:263, 12:268, 12:275, 12:279-12:281, 12:285, 12:287, 12:294, 12:296, 12:298, 12:303-12:304, 12:307-12:308, 12:315, 12:327N, 12:329N, 12:336, 12:338, 12:351Q, 12:359, 12:362-12:363, 12:371, 14:09, 14:28:02, 14:150, 15:22, 15:65, 15:72, 15:190, 15:246, 17:16:01-17:16:02, 18:01:01:01-18:18 |
| **17** | 180 bp  235 bp | \*16:26, 16:46, 16:55, 16:64  \*16:97 | \*02:49, 02:75, 02:115, 04:01:01:01-04:01:01:29, 04:01:01:31-04:01:09, 04:01:11-04:01:22, 04:01:24-04:01:73, 04:01:74w, 04:01:75-04:01:149, 04:03:01:01-04:03:08, 04:03:10-04:07:01, 04:08-04:10, 04:12-04:20, 04:23-04:26, 04:28-04:32, 04:34-04:51, 04:53-04:54:02, 04:56-04:106, 04:108-04:115N, 04:117-04:129, 04:131-04:166:01, 04:166:03-04:168, 04:170N-04:171, 04:173N-04:230, 04:232-04:282, 04:284-04:404, 04:406-04:413, 04:415-04:494, 05:25, 05:42, 06:02:72, 06:05, 06:76:02, 07:01:74, 07:02:09, 07:125:02, 07:583, 08:28, 08:137, 08:168, 12:28, 12:132, 12:135, 12:146, 12:287, 12:325, 14:116, 15:25, 15:62, 15:169, **B\*35:570** |
| **18** | 120 bp  255 bp | \*16:38, 16:167  \*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, 04:03:01:01-04:03:11, 04:06:01, 04:06:03, 04:42:02, 04:80, 04:103:02, 04:140, 04:147, 04:160:01-04:160:02, 04:166:03, 04:171, 04:220, 04:256, 04:286, 04:294, 04:299, 04:304:02:01-04:304:02:02, 04:335, 04:337, 04:351:02, 04:357, 04:363, 04:381, 04:383, 04:393, 04:400, 04:402, 04:473, 04:489, 05:25, 05:42, 06:02:01:01-06:02:01:93, 06:02:03-06:02:09, 06:02:11-06:02:73, 06:02:75-06:25, 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, 06:205-06:209:02, 06:211:01:01N-06:216, 06:218-06:302, 06:304-06:362N, 07:01:01:01-07:01:02:14, 07:01:04-07:01:22, 07:01:24-07:02:10, 07:02:12-07:02:141, 07:02:143-07:02:145, 07:04:01:01-07:04:04, 07:04:06-07:06:06, 07:08-07:15, 07:17:01:01-07:19, 07:20:02-07:33N, 07:35, 07:37:01:02-07:50, 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, 07:182-07:226Q, 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, 07:442-07:506:01, 07:507N-07:560, 07:562-07:577, 07:579, 07:581-07:597, 07:599-07:667:02, 07:669-07:722, 07:724-07:755, 07:757-07:913, 07:915-07:918, 07:920-07:921, 07:923-07:969, 07:971-07:973, 07:975-07:992, 07:994-07:1024, 07:1026-07:1030, 07:1032-07:1040N, 07:1042N-07:1054N, 08:28, 08:137, 08:168, 12:28, 12:132, 12:135, 12:146, 12:287, 12:325, 15:25, 15:62, 15:169, 17:11, 18:01:01:01-18:18 |
| **19** | 100 bp  240 bp | \*16:28, 16:67 16:156  \*16:29, 16:31, 16:50 | \*01:108, 06:90, 14:123  \*01:10, 02:05:01-02:05:03, 02:17, 06:08, 06:22, 12:119, 12:293, 14:25, 14:119, 17:21**, B\*07:239, B\*14:46, B\*14:52, B\*14:111, 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  \*16:49:01 | \*06:359N |
| **22** | 85 bp  210 bp | \*16:58  \*16:24 | \*04:488, 07:1022  \*02:210, 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 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\*16:15:02, 16:20, 16:201 | 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 |

**5**The following alleles cannot be separated by the HLA-C\*16 kit. These alleles can be distinguished by the HLA-C low resolution kit and/or the HLA-C\*12 high resolution kit.

|  |
| --- |
| **Alleles** |
| C\*16:04:01:01-16:04:01:03, 16:04:04-16:04:05, 16:66, 16:78, 16:82, 16:109, 16:124, 16:149-16:150, 16:182, 16:203, C\*12:176, 12:333 |

Abbreviations

w: might be weakly amplified