HLA-C\*12 (101.624-12/12u) Lot No: 6N5 Expiry Date: 2025-11-01

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

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

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

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

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

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

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

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

**Gel Picture**

|  |
| --- |
| PHOTO DOCUMENT |





Abbrevations

‘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 5 and 26 may give rise to a lower yield of HLA-specific PCR product than the other C\*12 primer mixes

Primer mix 28 has a most pronounced tendency to giving rise to primer oligomer formation.

Primer mixes 30 and 40 may have tendencies of unspecific amplifications.

Primer mix 48 contains a negative control, which will amplify a 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\*12 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 3.27.0, January 2017.

**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\*12 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-C\*12 alleles | Other amplified HLA Class I alleles |
| **6** | 75 bp  150 bp  415 bp | \*12:48, 12:102  \*12:06  \*12:08, 12:81, 12:188, 12:287 | \*01:118, 01:128, 01:195, 03:08, 03:29, 03:31, 03:246, 03:555, 04:112, 04:169, 05:36, 06:44, 06:252, 14:73, 15:205, 16:64, 16:70, 16:87 |
| **8** | 95 bp  155 bp  195 bp  245 bp | \*12:15  \*12:40  \*12:80N  \*12:07 | **\***15:02:14  \*15:241, 16:14  **B\*35:310** |
| **13** | 105 bp  150 bp | \*12:31:01-12:31:02  \*12:10:01-12:10:02, 12:155Q, 12:156 | \*04:01:05, 04:01:75, 04:01:124, 05:106:02, 08:01:19, 08:160  \*04:01:05, 04:01:75, 04:01:124, 14:02:08, 14:02:21, 14:03:05 |
| **14** | 100 bp  150 bp | \*12:16:01, 12:147, 12:227, 12:279  \*12:11, 12:60, 12:118 | \*01:02:34, 01:21, 02:42, 02:107, 02:152, 04:140, 04:166:01, 04:166:03, 04:220, 05:98, 05:197, 06:02:72, 06:05w, 07:01:74, 07:02:09, 07:125:02, 08:14, 08:80, 08:103, 15:63, 15:113, 16:80, **B\*15:436, B\*67:02:01:01-67:02:01:02**  **\***07:940 |
| **16** | 185 bp  225 bp | \*12:13:01:01-12:13:01:02  \*12:14:01-12:14:02, 12:176 | \*01:60, 02:180, 04:58, 04:160:01-04:160:02, 04:368, 05:23, 05:62, 05:134, 05:143, 05:151, 06:118, 08:07, 08:47, 08:104, 08:188, 14:17, 15:65, 17:01:01:02-17:31, 17:33-17:34, 17:36-17:60 |
| **17** | 130 bp  565 bp | \*12:99:02, 12:159, 12:328  \*12:03:04, 12:03:09, 12:195:01 | **B\*18:01:42, B\*40:02:21w**  **\***01:02:18, 03:03:40, 06:02:38, 07:447, 07:940, 14:02:08, **B\*18:01:42, B\*27:05:27, B\*57:01:24** |
| **18** | 145 bp  175 bp  245 bp  270 bp | \*12:17, 12:27  \*12:35, 12:201  \*12:17  \*12:35, 12:27 | **\***04:12  \*03:53, **A\*68:226**  **A\*68:166, B\*07:297, B\*13:149, B\*38:60, B\*55:92** |
| **20** | 105 bp  175 bp  230 bp | \*12:46N  \*12:22, 12:58, 12:94 12:252, 12:326  \*12:19, 12:139Q, 12:158 | \*01:129, 04:52, 04:55, 04:405, 05:55, 06:325, 14:10, 14:48, 15:12, 15:144  \*01:31, 06:313, 14:38, 16:174Q |
| **22** | 100 bp  135 bp  590 bp | \*12:15, 12:23  \*12:99:01-12:99:02, 12:235, 12:328  \*12:21, 12:203 | **\***15:02:14  \*03:03:40, **B\*18:01:42, B\*40:02:21w**  \*05:106:02, 08:01:19 |
| **23** | 105 bp  140 bp  185 bp | \*12:205  \*12:26, 12:63  \*12:172, 12:201 | \*05:235, 06:56, 07:620, 15:147, **A\*02:362, A\*26:85, A\*66:41, B\*13:80, B\*18:116, B\*35:326, B\*44:38**  \*07:470, 16:36  \*03:477, 03:496, 04:337 |
| **24** | 135 bp  185 bp  425 bp | \*12:99:01, 12:235  \*12:43  \*12:28, 12:135, 12:325 | \*03:03:40, **B\*18:01:42**  \*04:01:05, 04:01:124, 06:02:38, 06:76:02, 07:447, 07:940 |
| **25** | 80 bp  155 bp  430 bp | \*12:39N  \*12:02:06, 12:02:08, 12:02:12, 12:21, 12:118, 12:149  \*12:167, 12:243 | \*02:02:44, 04:01:05, 04:01:124, 05:01:60, 05:106:02, 07:413, 07:422, 07:940, 08:01:19, 08:02:02, **B\*18:01:42,** **B\*27:05:27, B\*40:02:21**  \*02:12, 02:49w, 02:55:01w-02:55:02w, 02:115, 04:226w, 06:329:01:01w-06:329:01:02w, 15:03w, 15:16w, 15:25 |
| **27** | 100 bp  150 bp  175 bp  215 bp  295 bp | \*12:30  \*12:03:19, 12:03:32, 12:05:02, 12:155Q  \*12:94  \*12:36, 12:153  \*12:101 | **\***07:214, 07:429  \*01:04, 14:02:21, 14:03:05, 16:02:13  \*01:129, 06:325, 14:48, **A\*02:605Q**  **\***16:103  \*14:84, 16:81, 16:143 |
| **28** | 165 bp  275 bp  350 bp | \*12:232N  \*12:50  \*12:45, 12:166 | \*01:32:01-01:32:02, 02:56, 03:102, 03:263:01-03:263:02, 03:514, 04:180:01, 05:217, 06:20, 07:81, 07:168, 07:450, 07:896, 07:959, 08:123, 08:139, 14:82, 14:92, 15:126, 16:98, 16:102, 16:110  \*01:203, 02:159, 02:161, 05:81, 06:87, 06:330, 07:24, 07:218, 14:65, 16:13, 16:61 |
| **29** | 125 bp  185 bp  210 bp | \*12:38, 12:104N, 12:219N  \*12:42Q, 12:172  \*12:29, 12:86, 16:119 | \*07:820N, 14:93N, **B\*15:181N** **B\*57:50, B\*57:143N, 15:584N**  **\***03:477, 03:496, 04:337, 07:513Q, **B\*46:51Q** |
| **30** | 90 bp  210 bp  230 bp | \*12:32, 12:102, 12:144, 12:185  \*12:162  \*12:34 | \*02:51, 05:08, 05:52, 05:89, 06:41, 08:29, 08:31, **B\*15:33, B\*15:248**  **\***02:64 |
| **31** | 135 bp  180 bp  240 bp | \*12:47, 12:84N, 12:123  \*12:42Q, 12:80N  \*12:164 | **\***02:133, **A\*11:197, A\*26:67, A\*68:95**  **\***07:513Q, **B\*46:51Q**  \*15:67 |
| **32** | 55 bp  115 bp  180 bp | \*12:54, 12:188  \*12:37  \*12:62 | **\***01:59, 01:118, 02:65, 03:130, 03:140:01:01-03:140:01:02, 03:243, 04:114, 04:383, 05:20, 06:82, 06:210, 07:49, 07:210, 07:238, 07:247, 07:403, 14:04, 14:64, 14:77, 15:85, 15:181, 16:57, **A\*03:267, A\*68:46, B\*07:253**  \*06:209:02, 07:204:01, 07:482, **A\*02:211:01, A\*02:594, A\*02:817, A\*24:261, A\*24:445N, A\*68:76:01-68:76:02**  **A\*02:335** |
| **33** | 135 bp  210 bp | \*12:105N, 12:219N  \*12:100 | \*07:820N |
| **34** | 85 bp  235 bp  260 bp | \*12:171  \*12:109  \*12:125 | \*01:200, 02:170, 03:171, 03:211:01, 04:144, 05:93, 06:73, 08:20, 08:40, 15:221 |
| **35** | 195 bp  260 bp | \*12:110, 12:143, 12:278, 12:325  \*12:125 | \*01:173, 03:411, 04:375, 04:380, 06:227, 08:229, 15:154, **A\*68:275** |
| **37** | 90 bp  225 bp  285 bp | \*12:163  \*12:108  \*12:73 | **B\*14:51, B\*53:34, B\*58:21** |
| **38** | 105 bp  145 bp | \*12:15, 12:113, 12:282  \*12:156 | \*15:02:14, **B\*18:01:42, B\*40:02:21, B\*57:01:24**  \*04:01:05, 04:01:124, 14:02:08 |
| **39** | 200 bp  225 bp | \*12:136  \*12:59, 12:82 | \*04:280w  \*07:102, 07:351, **A\*25:55, B\*07:13, B\*07:15, B\*07:160, B\*42:18, B\*67:02:01:01-67:02:01:02** |
| **41** | 215 bp  240 bp | \*12:90, 12:148N  \*12:164 | **B\*56:08**  \*15:67 |
| **44** | 145 bp  290 bp | \*12:16:01, 12:147, 12:195:02, 12:217  \*12:160 | \*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, 15:23:01-15:23:02, 15:63, 15:138, 15:158, 16:21, 16:80 |
| **46** | 175 bp  190 bp | \*12:165,  \*12:143, 12:278, 12:325 | \*02:148  \*01:173, 03:411, 04:375, 04:380, 06:227, 08:229, 15:154, **A\*68:275** |

**4**The following alleles give rise to identical amplification patterns with the HLA-C\*12 primer set. These alleles can be distinguished by the HLA-C low resolution kit and the HLA-C\*05, HLA-C\*07, HLA-C\*08 or HLA-C\*16, kit, respectively.

|  |
| --- |
| Alleles |
| C\*12:09, C\*05:16, C\*05:85, C\*05:107, C05:241, C\*16:88 |
| C\*12:33, C\*16:91 |
| C\*12:181, C\*07:723 |
| C\*12:208, C\*12:222, C\*12:233, C\*12:251, C\*12:258, C\*08:05, C\*08:25, C\*16:15:01 |

**5**The following HLA-C\*12 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| Alleles | Primer mix | Alleles | Primer mix |
| C\*12:03:09, 12:159 | 17 | C\*12:32, 12:34 | 30 |
| C\*12:06, 12:48, 12:81 | 6 | C\*12:39N, 12:167 | 25 |
| C\*12:11, 12:227 | 14 | C\*12:45, 12:50, 12:232N | 28 |
| C\*12:23, 12:203 | 22 | C\*12:46N | 20 |
| C\*12:29, 12:38 | 29 | C\*12:86, 12:104N | 29 |
| C\*12:30, 12:36 | 27 | C\*12:109, 12:171 | 34 |