HLA-A\*68 (101.418-12/04 -12u/04u) Lot No: 8N9 Expiry Date: 2026-04-01

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

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

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

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

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

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

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

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

**Gel Picture**

|  |
| --- |
| PHOTO DOCUMENT |





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 1, 17, 29 and 31 may give rise to a lower yield of HLA-specific PCR product than the other HLA-A\*68 primer mixes.

Primer mixes 11, 15, 20, 35, 38, 46 and 47 may have tendencies of unspecific amplifications.

Primer mixes 29, 32, 35 and 38 have tendencies of giving rise to primer oligomer formation.

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-A\*68 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-A\*68 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-A\*68 alleles | Other amplified HLA-A alleles |
| **4** | 180 bp 225 bp | \*68:01:41, 68:30\*68:03:01:01-68:03:02, 68:05, 68:20, 68:180, 68:206, 68:255 | \*02:06:05, 02:99:02\*02:06:05, 02:99:02 |
| **5** | 140 bp 235 bp | \*68:25, 68:262\*68:04:01-68:04:02 | \*02:339, 02:407, 02:449, 02:594, 02:743, 02:932, 32:109\*11:98, 11:250, 33:51, 66:15 |
| **8** | 160 bp 240 bp | \*68:07\*68:46 |  |
| **9** | 195 bp 250 bp | \*68:47\*68:08:01:01-68:08:01:02, 68:08:02, 68:63, 68:157, 68:168 | \*25:19:01-25:19:02, 25:30, 26:43:01-26:43:02, 26:112, 34:02:01:04-34:02:01:07, 34:02:04?, 34:03?-34:04?, 34:06?-34:07?, 34:09?-34:10N?, 34:13?, 34:15?, 66:06, 66:33, 66:43 |
| **10** | 165 bp190 bp | \*68:09, 68:26, 68:129, 68:134, 68:204\*68:148Q | \*01:12, 01:19, 01:127, 01:136, 01:360, 01:380:01:01-01:380:01:02, 02:662, 03:10, 03:167, 11:01:01:01-11:01:34, 11:01:36-11:01:56, 11:01:58-11:01:103, 11:01:105-11:07:02, 11:10-11:21N, 11:26-11:27, 11:29-11:30, 11:32:01-11:34, 11:36-11:43, 11:45-11:49, 11:51-11:52Q, 11:54:01-11:58, 11:60-11:93, 11:95-11:111, 11:114-11:115N, 11:117-11:129, 11:131-11:139, 11:141-11:157, 11:159-11:161, 11:163-11:175, 11:177-11:182Q, 11:184-11:190, 11:192-11:203, 11:205-11:210N, 11:212-11:215N, 11:217-11:225, 11:227-11:228, 11:230-11:255, 11:257, 11:259-11:268, 11:270, 11:272Q-11:289, 11:291-11:309, 11:311-11:325, 11:327-11:345, 11:347N-11:371, 11:373-11:391, 11:393-11:396, 11:398-11:417N, 24:17:01:01-24:17:01:02, 24:41, 24:208:01-24:208:02:02, 24:296, 24:488, 24:499, 24:503, 24:535, 24:551, 24:555, 24:557, 29:05, 29:33, 29:77, 29:87, 29:104, **C\*16:67**\*01:396Q |
| **11** | 160 bp200 bp | \*68:17:01-68:17:02\*68:10, 68:14, 68:120N | \*02:358, 25:77 |
| **12** | 200 bp 405 bp | \*68:38, 68:110, 68:120N\*68:11N | **C\*06:139** |
| **13** | 210 bp 240 bp260 bp | \*68:12:01-68:12:02, 68:50:01-68:50:02, 68:117, 68:129, 68:131, 68:230\*68:51\*68:113:01-68:113:02, 68:115, 68:271 | \*25:59, 26:122\*26:18 |
| **15** | 145 bp 200 bp | \*68:19\*68:14, 68:80-68:81, 68:158, 68:264 | \*02:237, 02:809, 03:17:01, 03:171, 24:18, 24:204, 24:213\*02:121, 02:425, 02:517, 02:850, 02:937, 23:47, 24:234, 24:339, 24:347:02, **B\*53:60, C\*06:209:02, C\*12:37w, C\*14:132** |
| **18** | 200 bp 225 bp | \*68:26, 68:65, 68:115, 68:131\*68:21:01-68:21:03 | \*01:01:01:01-01:01:65, 01:01:67-01:04:01:02N, 01:06-01:29, 01:31N-01:33, 01:35-01:71, 01:73-01:78, 01:80-01:101, 01:103-01:144, 01:146-01:166, 01:168-01:199, 01:201-01:227, 01:229-01:235, 01:237-01:243, 01:245-01:266:02, 01:268-01:270, 01:272-01:283, 01:285N-01:375, 01:377-01:379N, 01:381-01:389, 01:391-01:408, 03:18, 03:97, 03:122, 03:135, 03:167, 11:27, 11:38-11:39, 11:94, 11:209, 11:271, 11:326, 23:53, 23:70, 24:17:01:01-24:17:01:02, 24:41, 24:208:01-24:208:02:02, 24:296, 24:499, 24:503, 24:535, 24:551, 24:557, 25:59, 29:03, 29:33, 80:01:01:01-80:09N\*01:86, 03:04:01- 03:04:03, 03:345:01:01-03:345:01:02, 11:153:01-11:153:02, 11:351Q |
| **21** | 165 bp 215 bp | \*68:28\*68:24, 68:123 | \*02:49:01, 02:682-02:683, 24:87, 24:285, 24:289, 26:217, 31:97, 66:19, **B\*07:197, B\*27:45, B\*27:108, B\*27:249** |
| **24** | 85 bp375 bp | \*68:112:01-68:112:02\*68:105:01:01-68:105:01:02 | \*33:147, 34:15, **B\*08:131, B\*08:136, B\*08:139**\*02:55, 02:644, 02:741, 02:815, 26:22, 33:22, 66:09, 69:01:01:01-69:08 |
| **25** | 240 bp365 bp | \*68:29, 68:250\*68:94N | \*02:243:01-02:243:03, 24:82, 26:177, 29:155\*26:71N |
| **26** | 100 bp190 bp | \*68:49N\*68:33, 68:80 | \*02:152, 02:802, 24:141, 33:03:17 |
| **27** | 105 bp185 bp 235 bp | \*68:18N\*68:34\*68:43:01-68:43:02 | \*02:385, 02:529, 33:120\*03:396, 11:219 |
| **28** | 200 bp 230 bp | \*68:35:01:01-68:35:01:02, 68:38, 68:110\*68:44 | **C\*06:139**\*26:173 |
| **29** | 80 bp 250 bp | \*68:42, 68:54, 68:61, 68:63, 68:183\*68:36-68:37, 68:249 | \*02:03:01:01-02:03:11, 02:26, 02:99:01, 02:117, 02:148, 02:171:02, 02:253, 02:258, 02:264:01:01-02:264:01:02, 02:281, 02:315, 02:323, 02:345, 02:355, 02:370, 02:393, 02:402, 02:412, 02:427, 02:431, 02:447, 02:463, 02:466, 02:480, 02:489, 02:505, 02:529, 02:541, 02:544, 02:557, 02:568, 02:589, 02:592, 02:595, 02:612, 02:619:02, 02:633-02:634, 02:641, 02:666, 02:684, 02:711, 02:774-02:775N, 02:782, 02:809, 02:833N, 02:849-02:850, 02:854, 02:860, 02:914, 02:949, 02:971, 02:976-02:977, 02:979, 02:988, 02:997Q, 02:1000, 03:01:38, 03:123:02, 03:428, 11:25:01, 11:191, 26:01:17, 34:01:07**B\*44:02:57, B\*44:03:19-44:03:20** |
| **30** | 145 bp 245 bp | \*68:37 | \*02:117, 02:135, 25:01:01:01, 25:01:02-25:01:08, 25:02-25:07, 25:10-25:19:01, 25:20-25:27:02, 25:29-25:30, 26:01:01:01, 26:01:02-26:01:14, 26:01:16-26:01:25, 26:01:27-26:01:37, 26:02:01, 26:03:01:01, 26:04-26:08:01:01, 26:09-26:10, 26:12:01:01, 26:13, 26:15-26:17, 26:19-26:20:01, 26:21-26:27, 26:29-26:39, 26:41-26:43:02, 26:45-26:46, 26:48-26:72, 26:74-26:109, 26:111, 26:113, 26:216, 32:152, 34:01:01:01, 34:01:02, 34:05, 34:11-34:12, 43:01, 66:01:01:01, 66:01:02, 66:01:05, 66:02:01:01, 66:03:01:01, 66:04-66:15, 66:17, 66:19-66:21, 66:32, 66:35 |
| **34** | 105 bp165 bp | \*68:18N\*68:55:01-68:55:02, 68:124 | \*03:163, 03:244, 30:199 |
| **35** | 140 bp295 bp | \*68:59N\*68:93, 68:97 | \*26:132, 32:73, **B\*44:129** |
| **37** | 145 bp170 bp285 bp | \*68:67, 68:192\*68:123\*68:26, 68:65, 68:115, 68:131 | \*26:125, 34:12?, 66:30\*25:36, 25:59, 25:65, 26:29, 26:49, 26:205, 66:10 |
| **39** | 95 bp180 bp | \*68:106\*68:68 |  |
| **41** | 135 bp200 bp | \*68:144\*68:45, 68:117 | \*02:939, 32:68\*24:24, 24:67, 24:290, 24:392, 26:16, 30:163, 33:119 |
| **42** | 130 bp245 bp | \*68:60, 68:99:01-68:99:02\*68:101:01 | \*02:879N, 11:164, 24:394, 33:199\*03:180 |
| **44** | 190 bp270 bp | \*68:75:01-68:75:02, 68:96, 68:130:01-68:130:02 \*68:159Q | \*11:11, 43:01-43:03 |
| **45** | 150 bp220 bp265 bp | \*68:41\*68:72\*68:86, 68:159Q, 68:265 | \*01:126\*11:301\*02:886, 26:57, **B\*39:104** |
| **46** | 110 bp495 bp | \*68:52\*68:142N | \*02:396 |

**4**The following HLA-A\*68 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| Alleles | Primer mix | Alleles | Primer mix |
| A\*68:19, 68:158 | 15 | A\*68:68, 68:106 | 39 |
| A\*68:52, 68:142N | 46 | A\*68:99:01, 68:101:01 | 42 |

**5**The HLA-A\*68 primer set cannot separate the following alleles. These alleles can be distinguished by the HLA-A low resolution kit and/or the HLA-A\*34 high resolution kit.

|  |
| --- |
| **Alleles** |
| A\*68:276Q, 34:02:01:01-34:02:01:03, 34:02:02-34:02:03, 34:02:05-34:02:06, 34:20, 34:22, 34:25-34:26N |

Abbreviations

‘w’, may be weakly amplified.

‘?’, nucleotide sequence information not available for the primer matching sequence.