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 bp  190 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 bp  200 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 bp  260 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 bp  375 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 bp  365 bp | \*68:29, 68:250  \*68:94N | \*02:243:01-02:243:03, 24:82, 26:177, 29:155  \*26:71N |
| **26** | 100 bp  190 bp | \*68:49N  \*68:33, 68:80 | \*02:152, 02:802, 24:141, 33:03:17 |
| **27** | 105 bp  185 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 bp  165 bp | \*68:18N  \*68:55:01-68:55:02, 68:124 | \*03:163, 03:244, 30:199 |
| **35** | 140 bp  295 bp | \*68:59N  \*68:93, 68:97 | \*26:132, 32:73, **B\*44:129** |
| **37** | 145 bp  170 bp  285 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 bp  180 bp | \*68:106  \*68:68 |  |
| **41** | 135 bp  200 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 bp  245 bp | \*68:60, 68:99:01-68:99:02  \*68:101:01 | \*02:879N, 11:164, 24:394, 33:199  \*03:180 |
| **44** | 190 bp  270 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 bp  220 bp  265 bp | \*68:41  \*68:72  \*68:86, 68:159Q, 68:265 | \*01:126  \*11:301  \*02:886, 26:57, **B\*39:104** |
| **46** | 110 bp  495 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.

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| --- |
| **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.