HLA-A\*23 Lot No: 8R3 Expiry Date: 2027-03-01

(101.421-06/06u)

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 6, 20, 22, 27 and 37 may give rise to a lower yield of HLA-specific PCR product than the other A\*23 primer mixes.

Primer mixes 8 may have tendency of unspecific amplification.

Primer mixes 19 and 23 have tendencies to giving rise to primer oligomer formation.

Primer mixes 38 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\*23 alleles in bold lettering are listed as confirmed alleles on the on the IMGT/HLA web page [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla), release 3.30.0, October 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-A\*23 primer mixes have two or more product sizes:

|  |  |  |  |
| --- | --- | --- | --- |
| Primer Mix | Size of spec. PCR product | Amplified HLA-A\*23 alleles | Other amplified HLA Class I alleles |
| **3** | 125 bp  270 bp | \*23:03:01-23:03:02:02, 23:70, 23:83  \*23:25 | \*01:301Q, 03:347, 11:139, 24:21:01, 24:21:03, 24:208:01-24:208:02:02, 24:489, 24:499, 24:562, 29:07, 29:49, 31:29, 32:170, 33:187, **B\*18:27**  \*24:313:02 |
| **7** | 95 bp  145 bp  205 bp | \*23:08N  \*23:39  \*23:22 | \*02:82N, 02:773N  \*30:22, 30:104 |
| **8** | 140 bp  170 bp  215 bp | \*23:26, 23:39  \*23:48  \*23:09 | \*30:22, 30:104  \*24:403  \*01:02:01:01-01:02:02, 01:20, 01:188, 01:190, 01:307, 01:412, 01:420N, 24:129 |
| **10** | 135 bp  240 bp | \*23:23  \*23:10:01, 23:43, 23:110w | **\***24:562**, B\*18:27**  \*01:301Q, 11:139w, 24:10:01:01w-24:10:02w, 24:46, 24:210w, 24:300w, 24:340w, 24:494w-24:495w, 24:506w, 24:528 |
| **11** | 200 bp  270 bp | \*23:11N  \*23:32 | **\***24:586N  **B\*51:293** |
| **13** | 90 bp  210 bp | \*23:30  \*23:02, 23:24, 23:66 | \*24:531  \*02:680, 02:963, 24:06, 24:87, 24:138, 24:167, 24:285, 24:289, 24:339, 24:381 |
| **14** | 85 bp  190 bp  245 bp | \*23:53, 23:70  \*23:68  \*23:04, 23:83, 23:110 | \*01:301Q, 03:347, 11:139, 24:17:01:01-24:17:01:02, 24:41, 24:208:01-24:208:02:02, 24:488, 24:499, 24:503, 24:535, 29:07, 29:49  \*02:17:02:01-02:17:04, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 02:657, 02:680, 02:963, 02:1054, 03:347, 11:139, 24:03:01:01-24:03:04, 24:10:01:01-24:10:02, 24:18, 24:22, 24:33, 24:94, 24:125, 24:138, 24:167, 24:204, 24:207:01-24:207:02, 24:210, 24:289, 24:299-24:300, 24:315, 24:339-24:340, 24:374, 24:387, 24:441, 24:459:01-24:459:02, 24:461, 24:483, 24:488, 24:494-24:495, 24:506, 24:515, 24:524, 24:527, 24:540, 24:563, 24:570, 29:07, 29:49, 31:29, 32:170, 33:187, **B\*18:27** |
| **15** | 210 bp  290 bp | \*23:01:16, 23:14:01, 23:104  \*23:47 | \*24:13:02, 24:207:02, 24:315, 24:569, **B\*18:27**  \*24:234, 24:339, 24:347:02, 24:459:02 |
| **16** | 175 bp  205 bp | \*23:14:01-23:14:02, 23:104  \*23:105 | \*01:301Q, 02:17:02:01w-02:17:04w, 02:804, 03:347, 11:139, 24:02:01:01-24:04, 24:06-24:11N, 24:13:01-24:13:02, 24:17:01:01-24:23, 24:25-24:50, 24:54-24:56:02, 24:58-24:63, 24:66-24:91, 24:93, 24:95-24:113, 24:115-24:129, 24:131-24:137, 24:139-24:167, 24:169-24:187, 24:189-24:193, 24:195-24:198, 24:200-24:210, 24:212-24:221, 24:223-24:227, 24:229-24:290, 24:292, 24:294Q-24:295, 24:297-24:303N, 24:305-24:315, 24:317-24:318, 24:320-24:323N, 24:325-24:341, 24:343, 24:345-24:391, 24:393-24:394, 24:396N-24:407, 24:409-24:411, 24:413-24:457, 24:459:01-24:470, 24:472-24:480, 24:482-24:514N, 24:516-24:531, 24:533-24:550, 24:552-24:554, 24:556N, 24:558-24:573, 24:575-24:588, 33:19  \*02:804, 11:139, 24:02:01:01-24:02:15, 24:02:17-24:05:02, 24:07:01:01-24:11N, 24:17:01:01-24:17:01:02, 24:19-24:21:03, 24:23-24:50, 24:55-24:56:02, 24:58-24:63, 24:66-24:86N, 24:88-24:90:02N, 24:93, 24:95-24:106, 24:108-24:113, 24:115-24:132N, 24:134-24:137, 24:139-24:166, 24:168-24:187, 24:189-24:206, 24:208:01-24:210, 24:212-24:221, 24:223-24:226:02, 24:229-24:284, 24:286-24:288, 24:290, 24:292-24:295, 24:297-24:298, 24:300-24:303N, 24:305-24:314, 24:317-24:323N, 24:325-24:326, 24:328-24:338, 24:340-24:354, 24:356-24:380, 24:382-24:411, 24:413-24:457, 24:459:01-24:470, 24:472-24:477, 24:479Q-24:480, 24:482-24:514N, 24:516-24:550, 24:552-24:554, 24:556N, 24:558-24:568N, 24:570-24:573, 24:575-24:589, 26:16, 30:163, 33:19, 33:119, 68:45, 68:117 |
| **17** | 125 bp  225 bp | \*23:33  \*23:13 | \*24:386, 30:102  \*03:72, 11:88, 24:07:01:01-24:07:04, 24:19, 24:24, 24:131, 24:288, 24:290, 24:294Q, 24:339, 24:347:01-24:347:02, 24:387, 24:406, 24:453, 24:457, 24:477, 24:489, 24:510, 24:528, 24:541, 24:544, 24:566, 24:569, 24:574, 29:37, 29:56, 30:01:01:01-30:01:21, 30:11:01-30:11:02, 30:14L-30:20, 30:23-30:26, 30:30-30:31, 30:35-30:43, 30:48-30:49, 30:52-30:54, 30:56, 30:58-30:60, 30:62-30:63, 30:65, 30:72-30:75, 30:78N, 30:81-30:83, 30:86-30:89, 30:91-30:98, 30:102, 30:104, 30:106, 30:109-30:116, 30:118, 30:120, 30:122-30:123N, 30:125-30:126, 30:128-30:132N, 30:134-30:138, 30:140-30:143, 30:145N, 30:147-30:148, 30:154, 30:159, 30:161, 30:163-30:165, 30:167-30:168, 30:170-30:173, 30:176, 30:178N-30:181, 30:183-30:185, 30:187, 30:190-30:192, 30:194-30:197N, 30:199, 30:201-30:203, 30:205, 68:45, 68:117 |
| **19** | 120 bp  195 bp | \*23:15  \*23:46 | \*24:66, 24:308, 30:75 |
| **20** | 130 bp  195 bp  230 bp  270 bp | \*23:29  \*23:46  \*23:16  \*23:32 | \*24:128  \*24:66, 24:308, 30:75  \*24:297  **B\*51:293** |
| **22** | 90 bp  290 bp | \*23:31, 23:45, 23:53, 23:70  \*23:19N | \*01:301Q, 03:347, 11:139, 24:17:01:01-24:17:01:02, 24:41, 24:62, 24:106, 24:208:01-24:208:02:02, 24:330, 24:488, 24:499, 24:503, 24:535, 29:07, 29:49, 31:29, 32:170, 33:187 |
| **23** | 80 bp  170 bp | \*23:45  \*23:20, 23:58 | \*02:41, 02:80, 02:117, 02:289:01, 02:304, 02:454, 02:872, 24:62, 26:10, 31:67-31:68, 32:28, 32:66, 32:158, 33:32:01, 68:262 |
| **24** | 105 bp  180 bp  240 bp | \*23:49  \*23:21  \*23:40 | \*24:444, 30:06, **C\*04:361**  **C\*04:344**  \*24:302 |
| **25** | 95 bp  205 bp | \*23:41  \*23:42 | \*02:221, 29:15, 30:162, 31:78 |
| **27** | 85 bp  200 bp  285 bp | \*23:53, 23:70  \*23:34, 23:57  \*23:35 | \*01:301Q, 03:347, 11:139, 24:17:01:01-24:17:01:02, 24:41, 24:208:01-24:208:02:02, 24:488, 24:499, 24:503, 24:535, 29:07, 29:49  \*02:17:02:01-02:17:04, 02:108, 02:110, 02:268, 02:300, 02:303, 02:617, 02:657, 02:1054, 24:13:01, 24:94, 24:188, 24:207:01, 24:228, 24:515 |
| **29** | 170 bp  200 bp  240 bp  290 bp | \*23:48  \*23:37:01-23:37:02  \*23:40  \*23:47 | \*24:403  \*24:273, 24:506  \*24:302  \*24:234, 24:339, 24:347:02, 24:459:02 |
| **30** | 110 bp  245 bp | \*23:56  \*23:38N | **C\*04:446**  \*24:61 |
| **34** | 90 bp  170 bp | \*23:18  \*23:58 | \*24:267 |
| **35** | 105 bp  260 bp | \*23:49  \*23:27 | \*24:444, 30:06, **C\*04:361**  **\***24:255 |

**4**The following HLA-A\*23 alleles can be distinguished by the different sizes of the HLA-specific PCR product:

|  |  |  |  |
| --- | --- | --- | --- |
| **Alleles** | **Primer mix** | **Alleles** | **Primer mix** |
| A\*23:08N, 23:22 | 7 | A\*23:16, 23:29 | 20 |
| A\*23:09, 23:26 | 8 | A\*23:38N, 23:56 | 30 |
| A\*23:10:01, 23:23 | 10 | A\*23:41, 23:42 | 25 |

Abbreviations

‘w’, may be weakly amplified.

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