HLA-A-B-C Combi Tray Lot No: 1V3 Expiry Date: 2029-01-01

(101.702-24/06 – 24u/06u)

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

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

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

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

Tested By:

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

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

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

**Gel Picture**

|  |
| --- |
| PHOTO DOCUMENT |

**HLA-A low resolution**

**HLA-B low resolution**

**HLA-C low resolution**

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-A low resolution primer set**

HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

Primer mix 3 may faintly amplify the A\*30:04:01:01-30:04:03, 30:06, 30:09:01:01-30:09:01:02, 30:17, 30:29, 30:46, 30:77, 30:89-30:90, 30:99, 30:103, 30:105, 30:117, 30:139, 30:150, 30:155, 30:160 and 30:183 alleles.

Primer mix 6 may give rise to a lower yield of A\*23 alleles than the other A low primer mixes.

Primer mix 9 may weakly amplify the A\*34 alleles.

Primer mixes 6, 9, 10, 13, 14, 20 and 23 have a tendency to giving rise to primer oligomer formation.

Primer mix 22 might faintly amplify most A\*11 alleles.

Primer mixes 15 and 24 may give rise to a lower yield of HLA-specific PCR product than the other HLA-A low primer mixes.

Primer mixes 7, 15, 17, 20, 22 and 24 may have tendencies of unspecific amplifications.

**HLA-B low resolution primer set**

HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

Primer mix 28 may give rise to a lower yield of HLA-specific PCR product than the other HLA-B low resolution primer mixes in B\*40, B\*41, B\*45, B\*49 and B\*50 alleles.

Primer mixes 28, 29, 33, 38 and 63 may give rise to a lower yield of HLA-specific PCR product than the other HLA-B low resolution primer mixes.

Primer mixes 33, 42, 52 and 62 may have tendencies of unspecific amplifications, most pronounced in primer mix 33.

Primer mixes 25, 27, 38, 41, 42, 43, 44, 50, 58, 67 and 69 have a tendency to giving rise to primer oligomer formation.

The B\*57 and B\*58 alleles might be faintly amplified by primer mix 33.

The C\*17:01 to C\*17:04 alleles might be faintly amplified by primer mix 49.

Primer mix 67 may generate a false positive band of about 800 base pairs. This band should be disregarded when interpreting HLA-B low resolution typings.

Primer mix 63 may give rise to a lower yield of B\*54 alleles than the other B low primer mixes.

The Bw4-associated HLA-A specificities A9, A23, A24, A2403, A25 and A32 are not amplified by the primer pair in primer mix 70.

In primer mix 29 the positive control band may be weaker than for other HLA-B low resolution primer mixes.

**HLA-C low resolution primer set**

HLA-specific PCR products shorter than 125 base pairs have a lower intensity and are less sharp than longer PCR products.

Primer mix 74 will for most C\*02 alleles give rise to two specific PCR fragments.

Primer mix 76 will for most C\*03 alleles give rise to two specific PCR fragments.

Primer mix 81 will for most C\*07 alleles give rise to two specific PCR fragments.

Primer mix 82 will for most C\*08 alleles give rise to multiple specific PCR fragments.

Primer mix 89 will for most C\*15 alleles give rise to two specific PCR fragments.

Primer mixes 84, 85 and 91 may have tendencies of unspecific amplifications.

Primer mixes 86, 88 and 90 have a tendency to giving rise to primer oligomer formation.

Primer mixes 75, 78, 80, 82, 87, 88, 94 and 95 may give rise to a lower yield of HLA-specific PCR fragments than the other HLA-C low resolution primer mixes.

Primer mix 86 might faintly amplify most C\*01 and the C\*14 alleles.

In primer mixes 86, 87, 88 and 90 the positive control band may be weaker than for other HLA-C low resolution primer mixes.

Primer mix 96 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.

**HLA-A low resolution Interpretation Table**











**1**HLA-A, HLA-B and HLA-C alleles listed on the IMGT/HLA web page 2024-October-09, release 3.58.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

**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 serological reactivity of all HLA-A alleles is not known. The grouping of not serologically defined alleles is taken from Tissue Antigens 73, 95-170, 2009.

**4**The HLA-A alleles will be grouped into their corresponding serological specificities, except that the following alleles give rise to identical amplification patterns. These alleles can be separated by the full A-B-C primer set or by the respective high-resolution SSP primer sets.

|  |  |
| --- | --- |
| A\*01:26, 01:136, 01:192, 01:380:01:01-01:380:01:02, A\*11:94, 11:112, 11:211, 11:290, 11:326 | A\*23:14:01-23:14:02, 23:104-23:105, 23:141, A\*24:24, 24:71, 24:315, 24:392, 24:527, 24:569 |
| A\*01:28, 01:229, 01:299, A\*11:282 | A\*23:66, 23:99, 23:128, 23:137, A\*24:14:01:01-24:15, 24:51-24:53, 24:57, 24:64, 24:94, 24:114, 24:138, 24:188, 24:222N, 24:228, 24:291, 24:296, 24:304, 24:316, 24:324, 24:412, 24:481, 24:515, 24:574, 24:610, B\*53:72, C\*04:01:03 |
| A\*01:43, A\*11:271 | A\*25:78, 26:01:83-26:01:85, 26:57, 26:248-26:250, 26:252N, A\*66:15 |
| A\*01:427, A\*36:02 | A\*26:92, A\*66:42 |
| A\*01:464, A\*36:04 | A\*30:01:01:01-30:04:04, 30:06-30:07, 30:09:01:01-30:12:02, 30:14L-30:15, 30:17-30:20, 30:23-30:43, 30:45, 30:47-30:54, 30:56-30:88, 30:90-30:124, 30:126-30:139, 30:141-30:149, 30:151-30:162, 30:164-30:176, 30:178N-30:185, 30:187-30:232, B\*07:260, C\*12:328 |
| A\*03:215, 03:225, 03:249, 03:322, 03:414, 03:468, A\*25:77, 25:89 | A\*31:08, A\*33:53 |
| A\*11:11, A\*34:19 | A\*31:109, A\*33:125, 33:131, 33:249 |
| A\*11:116, 11:140, 11:199:01-11:199:02, 11:222, A\*66:23 | A\*32:03:01:01-32:03:01:02, 32:38, 32:60, 32:71, 32:78, 32:80, 32:107, B\*15:642 |
| A\*11:325, A\*24:555 | A\*34:01:01:01-34:01:07, 34:05-34:06, 34:11-34:12, 34:14, 34:16-34:18, 34:23, 34:27, A\*66:40 |
| A\*23:11N, A\*31:29 | A\*34:34, A\*66:02:01:01-66:03:01:03, 66:16, 66:21, 66:25-66:26Q, 66:28N, 66:34, 66:39N, 66:43, 66:48 |

Abbreviations

?: nucleotide sequence information not available for the primer matching sequence.

w: might be weakly amplified.

**HLA-B low resolution Interpretation Table**







































































**1**HLA-A, HLA-B and HLA-C alleles listed on the IMGT/HLA web page 2024-October-09, release 3.58.0, [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

**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 serological reactivity of all HLA-B alleles is not known. The grouping of not serologically defined alleles is taken from Tissue Antigens 73, 95-170, 2009.

page <http://hla.alleles.org/alleles/deleted.html>.

**4**The HLA-B alleles will be grouped into their corresponding serological specificities, except that following alleles give rise to identical amplification patterns.

These alleles can be separated by the full A-B-C primer set or by the respective high-resolution SSP primer sets.

|  |  |
| --- | --- |
| B\*07:349, B\*42:05:01-42:05:02 | B\*40:496, B\*41:62 |
| B\*08:26:01-08:26:02, 08:50, 08:62, 08:85, 08:94, 08:242, 08:263, 08:265, 08:272, 08:299, 08:324, B\*42:01:07, 42:07, 42:24, 42:26 | B\*53:30, B\*58:111 |
| B\*13:35, 13:59, 13:71, 13:108, 13:140, B\*44:135, 44:158, 44:184 | B\*53:39, B\*57:128, B\*58:100 |
| B\*14:08:01-14:08:02, 14:55, B\*39:01:35, 39:30, 39:32-39:33, 39:47, 39:50, 39:74, 39:82, 39:102, 39:107, 39:112, 39:128, 39:136, 39:171, 39:174 | B\*54:49N, B\*55:01:07, 55:02:01:01-55:02:10, 55:02:12-55:02:16, 55:07, 55:10, 55:12-55:13, 55:16, 55:19, 55:26-55:27, 55:30, 55:35, 55:37, 55:39, 55:41-55:43, 55:46-55:48, 55:50, 55:57, 55:61-55:63, 55:65, 55:67, 55:69-55:72, 55:77, 55:80-55:83N, 55:88-55:89N, 55:96, 55:107, 55:112, 55:117N, 55:120, 55:128-55:129, 55:131-55:133, 55:137-55:138, 55:140 |
| B\*15:712, B\*58:27 | B\*55:04, 55:08, 55:49, 55:86, B\*56:01:05, 56:01:13, 56:15, 56:19N, 56:22, 56:88, 56:99 |
| B\*18:29, 18:72:01-18:72:03, 18:92, 18:175, B\*35:01:55, 35:01:62, 35:32:01-35:32:03, 35:37, 35:53N, 35:64:01-35:64:02, 35:68:01-35:68:02, 35:99, 35:118-35:119, 35:174, 35:369, 35:409, 35:433, 35:523 | B\*57:67:01, B\*58:36 |

Abbreviations

w: might be weakly amplified.

?: nucleotide sequence information not available for the primer matching sequence.

**HLA-C low resolution Interpretation Table**























**1**HLA-A, HLA-B and HLA-C alleles listed on the IMGT/HLA web page 2024-October-09, release 3.58.0. [www.ebi.ac.uk/imgt/hla](http://www.ebi.ac.uk/imgt/hla).

**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 HLA-C alleles will be grouped into their corresponding serological specificities, except that the following alleles give rise to identical amplification patterns. These alleles can be separated by the full A-B-C primer set or by the respective high-resolution SSP primer sets.

|  |  |
| --- | --- |
| C\*01:125, 01:218, C\*14:58 | C\*12:02:29, 12:49, 12:123, 12:381, B\*18:01:42, B\*57:01:24 |
| C\*01:169:02, C\*03:94:01-03:94:02 | C\*12:03:34:01-12:03:34:02, B\*15:510, B\*35:475 |
| C\*03:16, 03:536, B\*46:77 | C\*14:06, 14:08-14:09, 14:28:01-14:28:02, 14:63, 14:105Q, 14:150, 14:163, A\*29:86, A\*30:62, A\*31:187, A\*33:63, B\*07:499, B\*08:249, 08:306, B\*18:64, B\*35:183, 35:252, 35:502, B\*39:114, 39:140, B\*40:138, B\*41:59 |
| C\*05:206, C\*17:05 | C\*14:110, 14:147, B\*07:239, B\*14:03, B\*14:112 |
| C\*12:02:14-12:02:15, 12:02:19, 12:02:30, 12:02:32, 12:02:34, 12:02:37, 12:02:40, 12:02:50, 12:18:02, 12:85:02, 12:222, 12:224, B\*67:02:01:01-67:02:01:02 |

Abbreviations

w: might be weakly amplified.

?: nucleotide sequence information not available for the primer matching sequence.