**Locus: HLA-B** 

Resolution: 4th field

Full typing result:

HLA-B\*07:02:01:01

bam coverage

variants

HLA-B\*07:02:01:01 (identity: 100.00%)

**Locus: HLA-B** 

Resolution: 4th field

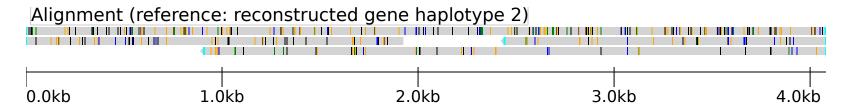
#### Full typing result:

HLA-B\*18:01:01:01

#### bam coverage

 $\square$   $\frac{3}{2}$ 

variants



HLA-B\*18:01:01:01 (identity: 99.98%)

Locus: HLA-C

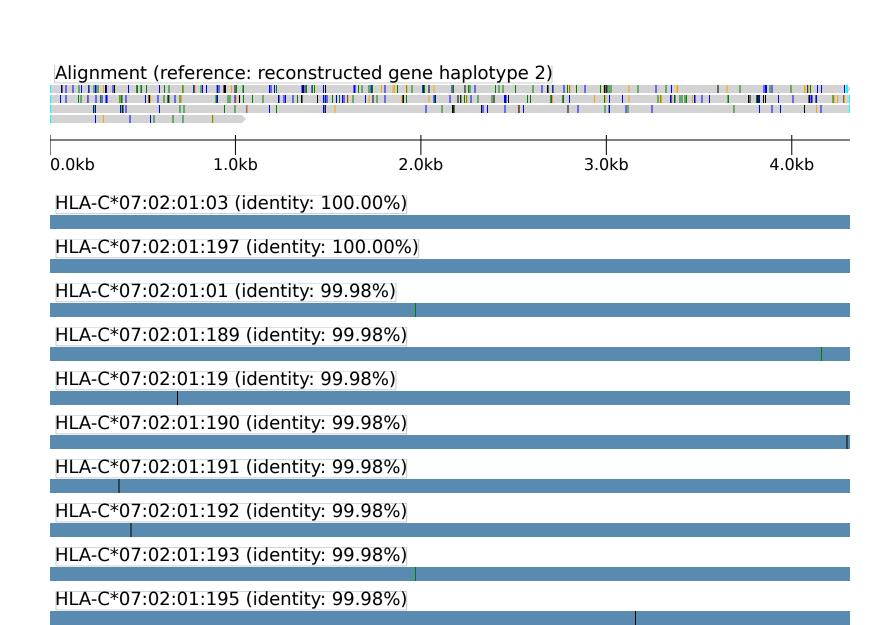
Resolution: 4th field

#### Full typing result:

HLA-C*07:02:01:03	HLA-C*07:02:01:197	HLA-C*07:02:01:01
	1	
HLA-C*07:02:01:189	HLA-C*07:02:01:19	HLA-C*07:02:01:190
	1	1
HLA-C*07:02:01:191	HLA-C*07:02:01:192	HLA-C*07:02:01:193
	7	
HLA-C*07:02:01:195		

#### bam coverage

variants



Locus: HLA-C

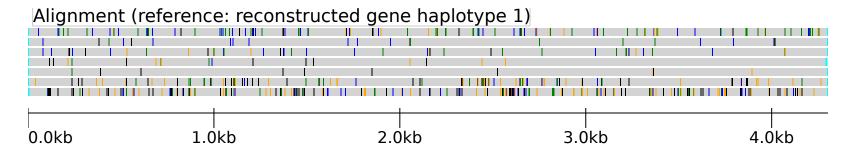
Resolution: 4th field

#### Full typing result:

HLA-C\*05:01:74

#### bam coverage

variants



HLA-C\*05:01:01:01 (identity: 99.98%)

HLA-C\*05:01:01:02 (identity: 99.95%)

HLA-C\*05:01:01:82 (identity: 99.95%)

HLA-C\*05:01:74 (identity: 99.95%)

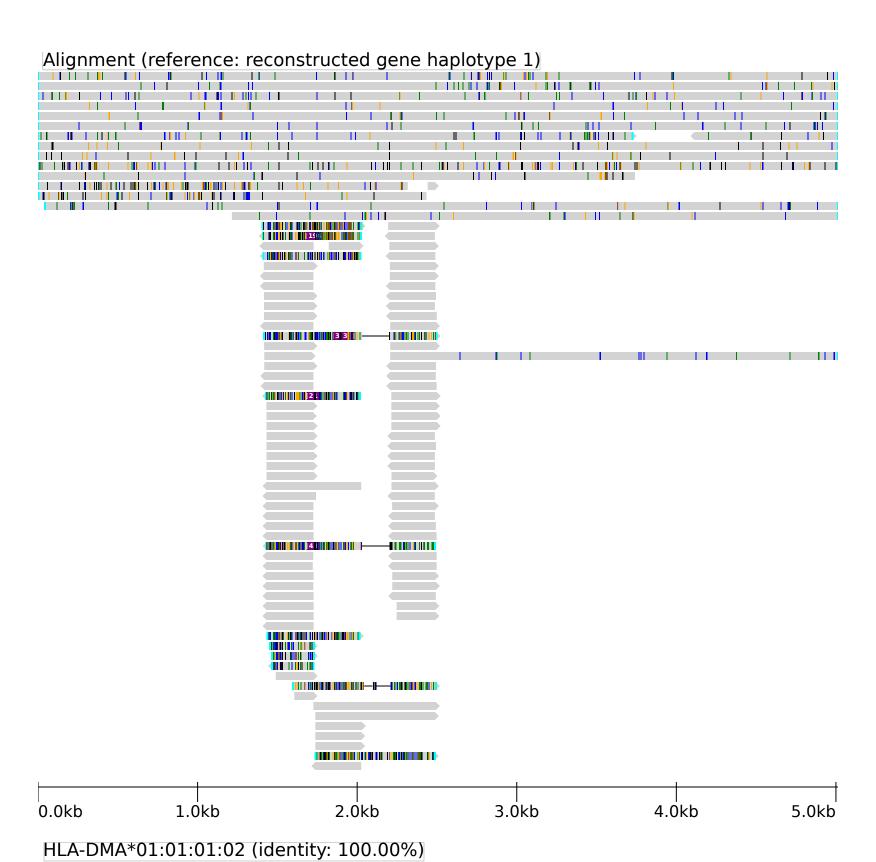
# Sample: HG01257 Locus: HLA-DMA

Resolution: 4th field

#### Full typing result:

HLA-DMA\*01:01:01:02





Locus: HLA-DMB

Resolution: 4th field

#### Full typing result:

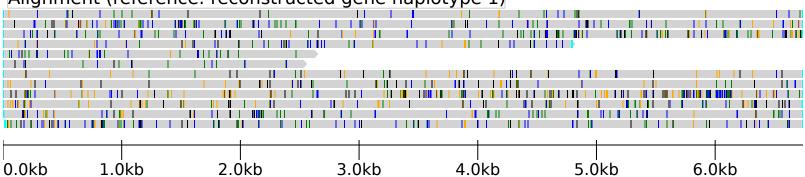
HLA-DMB\*01:03:01:17 | HLA-DMB\*01:03:01:02 | HLA-DMB\*01:03:01:18

HLA-DMB\*01:03:01:04

#### bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-DMB\*01:03:01:17 (identity: 100.00%)

HLA-DMB\*01:03:01:02 (identity: 99.99%)

HLA-DMB\*01:03:01:18 (identity: 99.99%)

HLA-DMB\*01:03:01:04 (identity: 99.97%)

**Locus: HLA-DOA** 

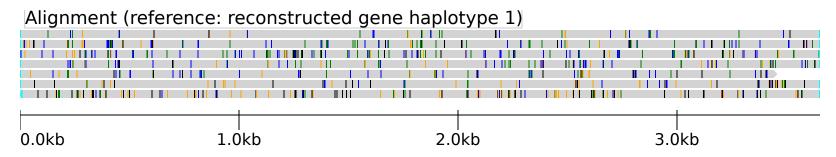
Resolution: 4th field

Full typing result:

HLA-DOA\*01:01:04:01

bam coverage

variants



HLA-DOA\*01:01:04:01 (identity: 100.00%)

Locus: HLA-DOA

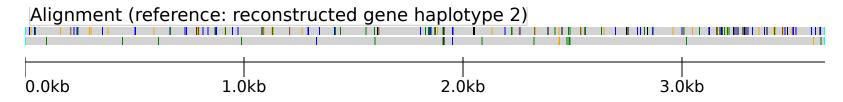
Resolution: 4th field

#### Full typing result:

HLA-DOA\*01:01:02:03

bam coverage

variants



HLA-DOA\*01:01:02:03 (identity: 100.00%)

**Locus: HLA-DOB** 

Resolution: 4th field

Full typing result:

HLA-DOB\*01:03:01:02

bam coverage

variants

HLA-DOB\*01:03:01:02 (identity: 100.00%)

**Locus: HLA-DOB** 

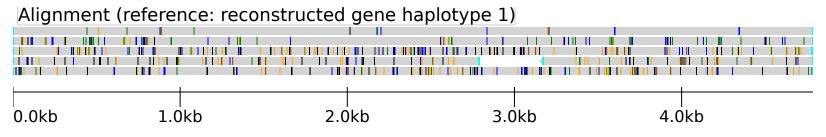
Resolution: 4th field

#### Full typing result:

HLA-DOB\*01:01:03:09 | HLA-DOB\*01:01:03:02 | HLA-DOB\*01:01:28

bam coverage

variants



HLA-DOB\*01:01:03:09 (identity: 100.00%)

HLA-DOB\*01:01:03:02 (identity: 99.98%)

HLA-DOB\*01:01:01:28 (identity: 99.98%)

**Locus: HLA-DPA1** 

Resolution: 4th field

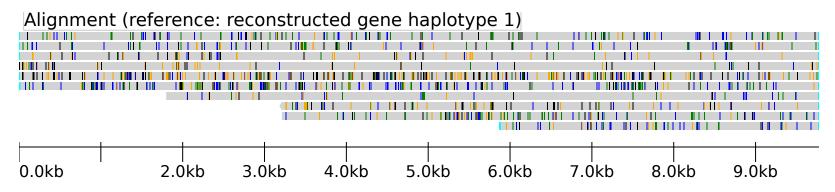
Full typing result:

HLA-DPA1\*01:03:01:01

bam coverage

**—** <sup>9</sup>

variants



HLA-DPA1\*01:03:01:01 (identity: 100.00%)

**Locus: HLA-DPA1** 

Resolution: 4th field

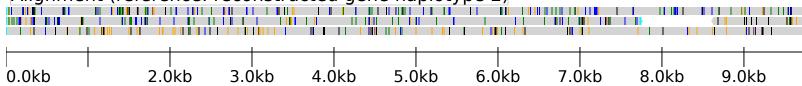
Full typing result:

HLA-DPA1\*01:03:01:05 | HLA-DPA1\*01:03:01:15 | HLA-DPA1\*01:03:01:74

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-DPA1\*01:03:01:05 (identity: 99.99%)

HLA-DPA1\*01:03:01:15 (identity: 99.98%)

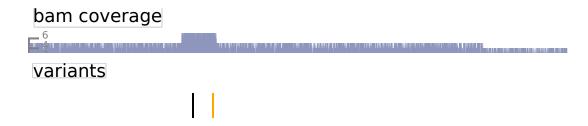
HLA-DPA1\*01:03:01:74 (identity: 99.98%)

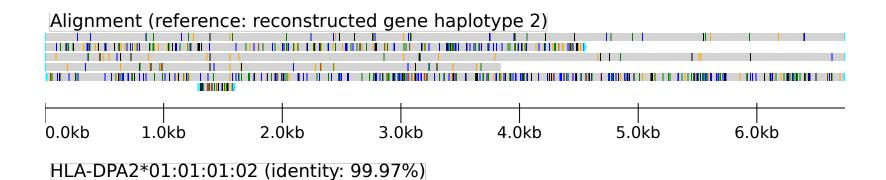
**Locus: HLA-DPA2** 

Resolution: 4th field

Full typing result:

HLA-DPA2\*01:01:01:02





**Locus: HLA-DPA2** 

Resolution: 4th field

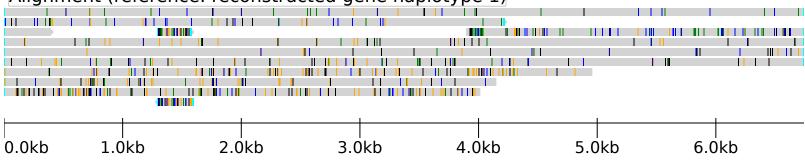
Full typing result:

HLA-DPA2\*02:01:01:01



variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-DPA2\*02:01:01:01 (identity: 100.00%)

**Locus: HLA-DPB1** 

Resolution: 4th field

#### Full typing result:

HLA-DPB1\*02:02:01:01 HLA-DPB1\*02:02:01:05 HLA-DPB1\*02:02:01:04

HLA-DPB1\*02:02:03 HLA-DPB1\*1188:01 HLA-DPB1\*1376:01

HLA-DPB1\*1403:01 HLA-DPB1\*02:02:01:09 HLA-DPB1\*47:01:01:01

HLA-DPB1\*48:01 HLA-DPB1\*02:01:02:04 HLA-DPB1\*112:01:01:02

HLA-DPB1\*02:01:02:05 HLA-DPB1\*02:01:02:01 HLA-DPB1\*71:01:01

#### bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb 2.5kb 3.75kb 5.0kb 6.25kb 7.5kb 8.75kb 10.0kb

HLA-DPB1\*02:02:01:01 (identity: 100.00%)

HLA-DPB1\*02:02:01:05 (identity: 99.97%)

HLA-DPB1\*02:02:01:04 (identity: 99.97%)

HLA-DPB1\*02:02:03 (identity: 99.99%)

HLA-DPB1\*1188:01 (identity: 99.99%)

HLA-DPB1\*1376:01 (identity: 99.99%)

HLA-DPB1\*1403:01 (identity: 99.99%)

HLA-DPB1\*02:02:01:09 (identity: 99.96%)

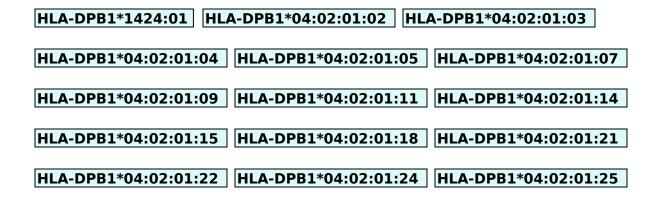
HLA-DPB1\*47:01:01:01 (identity: 99.96%)

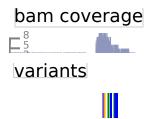
HLA-DPB1\*48:01 (identity: 99.95%)

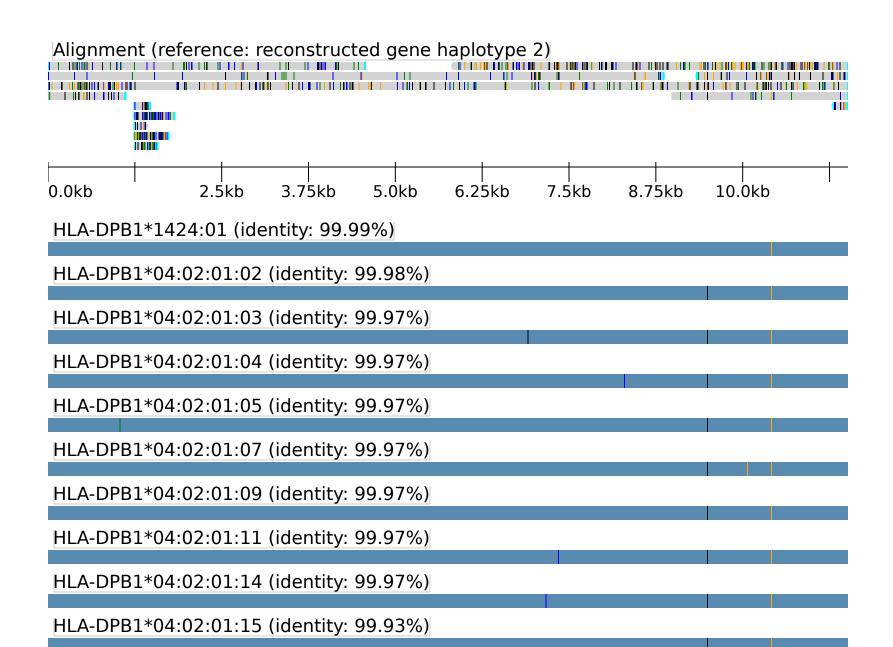
Locus: HLA-DPB1

Resolution: 4th field

#### Full typing result:







### Sample: HG01257 Locus: HLA-DPB2 Resolution: 4th field Full typing result: HLA-DPB2\*03:01:01:02 bam coverage variants Alignment (reference: reconstructed gene haplotype 2)

10.0kb

12.5kb

17.5kb

15.0kb

HLA-DPB2\*03:01:01:02 (identity: 99.96%)

5.0kb

7.5kb

2.5kb

0.0kb

## Sample: HG01257 Locus: HLA-DPB2 Resolution: 4th field Full typing result: HLA-DPB2\*01:01:02 bam coverage variants Alignment (reference: reconstructed gene haplotype 1) Alignment (reference: reconstructed gene haplotype 1) Ш III Ш III 0.0kb 2.5kb 5.0kb 7.5kb 10.0kb 12.5kb 15.0kb HLA-DPB2\*01:01:02 (identity: 99.99%)

**Locus: HLA-DQA1** 

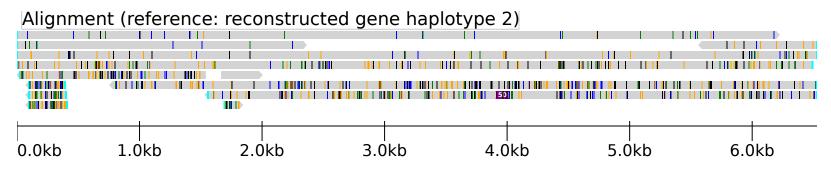
Resolution: 4th field

Full typing result:

HLA-DQA1\*05:01:01:01

bam coverage

variants



HLA-DQA1\*05:01:01:01 (identity: 99.98%)

**Locus: HLA-DQA1** 

Resolution: 4th field

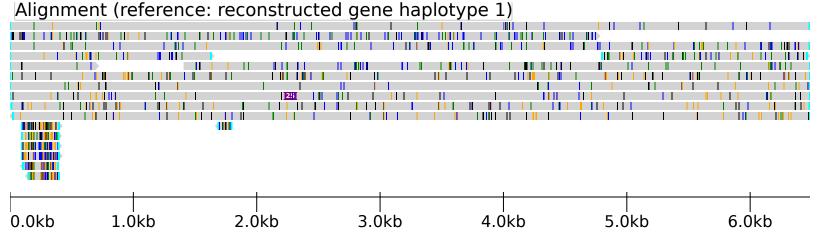
Full typing result:

HLA-DQA1\*01:05:01:01

bam coverage

variants

Alignment (reference, reconstructed gone bankstyne 1)



HLA-DQA1\*01:05:01:01 (identity: 100.00%)

**Locus: HLA-DQA2** 

Resolution: 4th field

Full typing result:

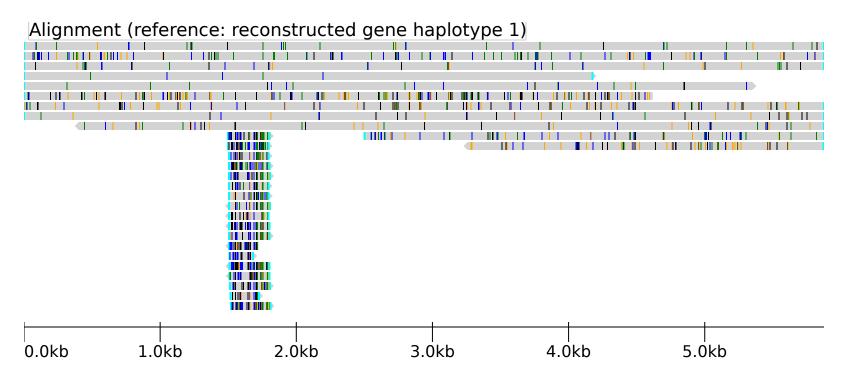
HLA-DQA2\*01:04:01:02

bam coverage

L 24

variants





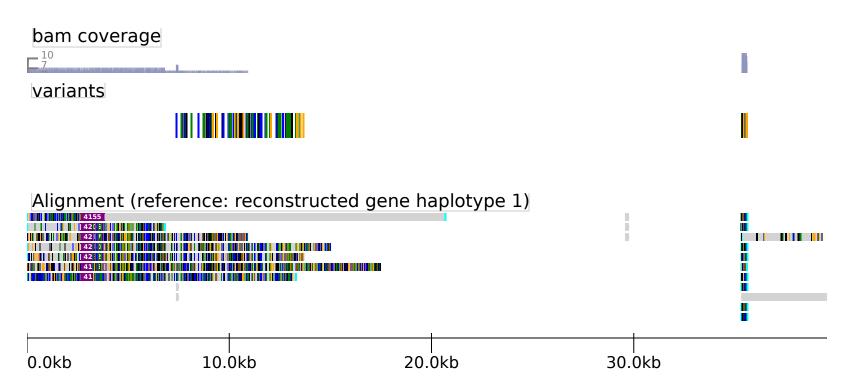
HLA-DQA2\*01:04:01:02 (identity: 99.98%)

**Locus: HLA-DQB1** 

Resolution: 4th field

Full typing result:

HLA-DQB1\*02:01:01:12



HLA-DQB1\*02:01:01:12 (identity: 100.00%)

Locus: HLA-DQB1

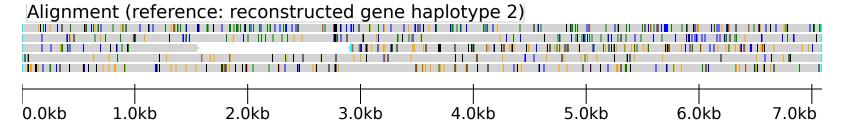
Resolution: 4th field

Full typing result:

HLA-DQB1\*05:01:01:05

bam coverage

variants



HLA-DQB1\*05:01:01:05 (identity: 100.00%)

**Locus: HLA-DQB2** 

Resolution: 4th field

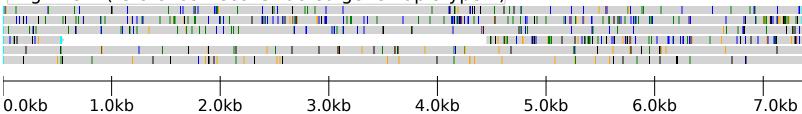
Full typing result:

HLA-DQB2\*01:01:01:01 HLA-DQB2\*01:01:15

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-DQB2\*01:01:01:01 (identity: 99.97%)

HLA-DQB2\*01:01:01:15 (identity: 99.96%)

**Locus: HLA-DQB2** 

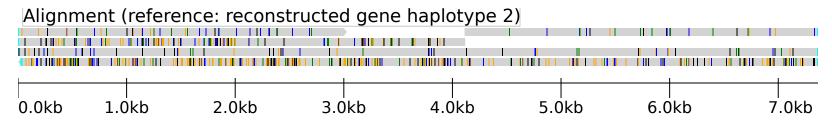
Resolution: 4th field

Full typing result:

HLA-DQB2\*01:01:01:03 | HLA-DQB2\*01:01:04

bam coverage

variants



HLA-DQB2\*01:01:01:03 (identity: 99.99%)

HLA-DQB2\*01:01:01:04 (identity: 99.97%)

Locus: HLA-DRA

Resolution: 4th field

#### Full typing result:

HLA-DRA\*01:01:05 | HLA-DRA\*01:01:01:01 | HLA-DRA\*01:01:08

bam coverage

**□** 30 20

variants



Alignment (reference: reconstructed gene haplotype 1) 0.0kb 5.0kb 7.5kb 20.0kb 10.0kb 12.5kb 15.0kb 17.5kb

HLA-DRA\*01:01:05 (identity: 91.17%)

HLA-DRA\*01:01:01:01 (identity: 91.19%)

HLA-DRA\*01:01:01:08 (identity: 91.17%)

**Locus: HLA-DRA** 

Resolution: 4th field

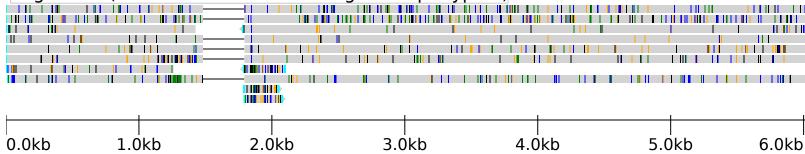
Full typing result:

HLA-DRA\*01:01:01:11



variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-DRA\*01:01:01:11 (identity: 94.55%)

Sample: HG01257

Locus: HLA-DRB1

Resolution: 4th field

#### Full typing result:

```
      HLA-DRB1*03:01:01:03
      HLA-DRB1*03:01:01:02
      HLA-DRB1*03:01:01:01

      HLA-DRB1*03:01:01:13
      HLA-DRB1*03:01:01:13
      HLA-DRB1*03:01:01:21

      HLA-DRB1*03:01:01:14
      HLA-DRB1*03:01:01:17
      HLA-DRB1*03:01:01:05
```

bam coverage variants Alignment (reference: reconstructed gene haplotype 2) 0.0kb 2.5kb 3.75kb 5.0kb 6.25kb 7.5kb 10.0kb 8.75kb HLA-DRB1\*03:01:01:03 (identity: 84.11%) 1319 HLA-DRB1\*03:01:01:02 (identity: 84.03%) 1319 HLA-DRB1\*03:01:01:01 (identity: 84.07%) 1319 HLA-DRB1\*03:01:01:06 (identity: 83.86%) 1319 HLA-DRB1\*03:01:01:13 (identity: 83.86%) 1319 HLA-DRB1\*03:01:01:21 (identity: 83.87%) 1319 HLA-DRB1\*03:01:01:14 (identity: 83.86%) 1319

HLA-DRB1\*03:01:01:17 (identity: 83.86%)

HLA-DRB1\*03:01:01:05 (identity: 83.87%)

1319

1319

Locus: HLA-DRB1 Resolution: 4th field Full typing result: HLA-DRB1\*10:01:01:03 bam coverage **■** 57 38 variants Alignment (reference: reconstructed gene haplotype 1) 31.7 17 0.0kb 3.75kb 2.5kb 5.0kb 6.25kb 7.5kb 8.75kb 11.25kb 13.75kb HLA-DRB1\*10:01:01:03 (identity: 99.99%)

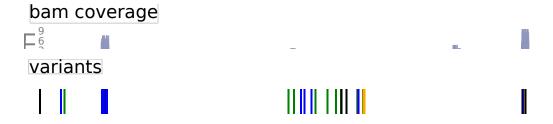
Sample: HG01257

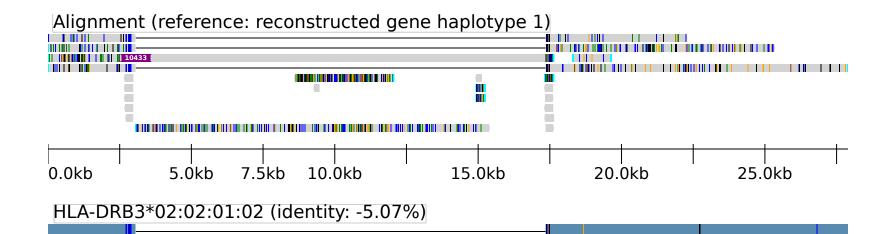
**Locus: HLA-DRB3** 

Resolution: 4th field

#### Full typing result:

HLA-DRB3\*02:02:01:02

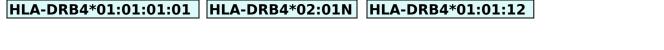


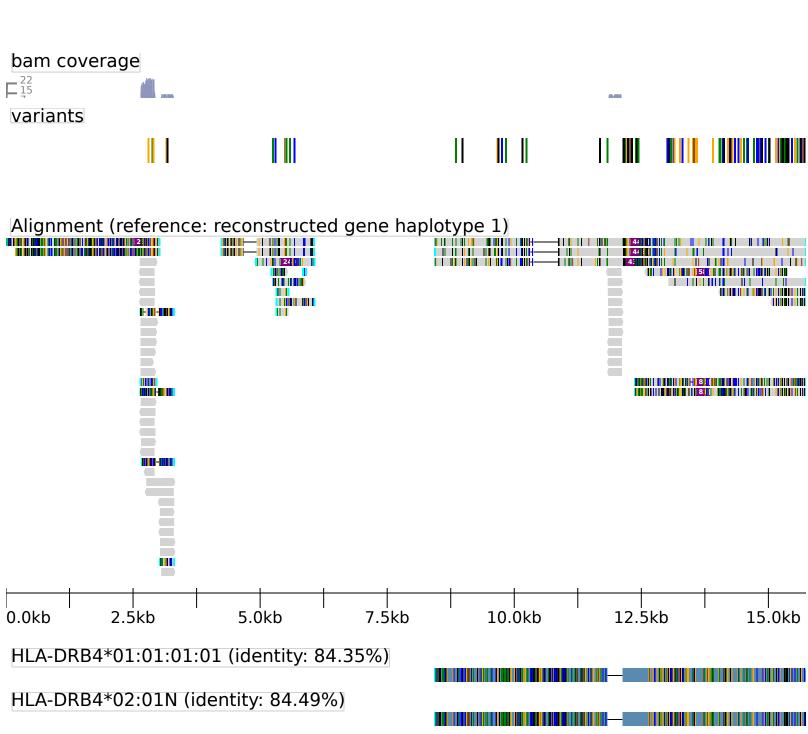


Locus: HLA-DRB4

Resolution: 4th field

#### Full typing result:





HLA-DRB4\*01:01:12 (identity: 84.35%)

**Locus: HLA-DRB5** 

Resolution: 4th field

#### Full typing result:

HLA-DRB5\*01:01:01:04 | HLA-DRB5\*01:01:03 | HLA-DRB5\*01:131N

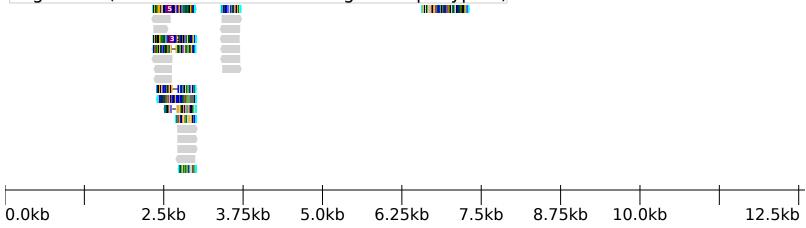
bam coverage

F 2

variants



Alignment (reference: reconstructed gene haplotype 2)



HLA-DRB5\*01:01:01:04 (identity: 90.50%)

HLA-DRB5\*01:01:01:03 (identity: 90.50%)

HLA-DRB5\*01:131N (identity: 90.50%)

**Sample: HG01257** Locus: HLA-DRB5 Resolution: 4th field Full typing result: HLA-DRB5\*01:01:01:06

HLA-DRB5\*01:01:01:06 (identity: 68.29%)

## HLA-DRB5\*01:01:01:01 | HLA-DRB5\*01:01:02 | HLA-DRB5\*01:01:05 bam coverage **1**4 9 variants Alignment (reference: reconstructed gene haplotype 1) 0.0kb 2.5kb 3.75kb 5.0kb 6.25kb 7.5kb 8.75kb 11.25kb HLA-DRB5\*01:01:01:01 (identity: 74.42%) HLA-DRB5\*01:01:01:02 (identity: 68.29%) HLA-DRB5\*01:01:01:05 (identity: 68.29%)

Sample: HG01257 Locus: HLA-E Resolution: 4th field Full typing result: HLA-E\*01:01:01:03 HLA-E\*01:01:01:49 HLA-E\*01:01:01:01 HLA-E\*01:01:01:52 HLA-E\*01:01:01:53 HLA-E\*01:01:02 HLA-E\*01:03:01:01 HLA-E\*01:118 | HLA-E\*01:125 HLA-E\*01:01:01:14 HLA-E\*01:01:36 HLA-E\*01:01:37 HLA-E\*01:01:39 HLA-E\*01:01:41 HLA-E\*01:01:42 bam coverage **■** 50 33 variants Alignment (reference: reconstructed gene haplotype 1) -1111 11 1 ANT NET TO THE PERSON OF THE P 35 | 0.0kb 2.5kb 3.75kb 5.0kb 6.25kb 7.5kb 8.75kb 10.0kb HLA-E\*01:01:01:01 (identity: -101.60%) HLA-E\*01:01:01:03 (identity: -101.62%) HLA-E\*01:01:01:49 (identity: -101.62%) HLA-E\*01:01:52 (identity: -101.62%) HLA-E\*01:01:01:53 (identity: -101.62%) HLA-E\*01:01:02 (identity: -101.62%) HLA-E\*01:03:01:01 (identity: -101.62%) -||||| HLA-E\*01:118 (identity: -101.62%) HLA-E\*01:125 (identity: -101.62%) HLA-E\*01:01:14 (identity: -103.38%)

-|||||

**Locus: HLA-F** 

Resolution: 4th field

#### Full typing result:

HLA-F\*01:01:01:01

bam coverage

variants

HLA-F\*01:01:01:01 (identity: 100.00%)

**Locus: HLA-F** 

Resolution: 4th field

#### Full typing result:

HLA-F\*01:03:01:01

#### bam coverage

variants

HLA-F\*01:03:01:01 (identity: 99.94%)

Locus: HLA-G

Resolution: 4th field

Full typing result:

HLA-G\*01:01:01:05

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

250 500 750 1,000 1,500 2,000 2,500 0 3,000

HLA-G\*01:01:05 (identity: 100.00%)

Locus: HLA-G

Resolution: 4th field

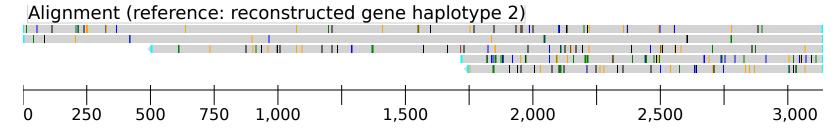
#### Full typing result:

HLA-G\*01:01:01:01

bam coverage



variants



HLA-G\*01:01:01 (identity: 100.00%)

Locus: HLA-H

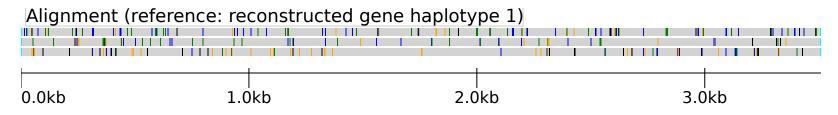
Resolution: 4th field

#### Full typing result:

HLA-H\*02:04:01

#### bam coverage

variants



HLA-H\*02:04:01 (identity: 100.00%)

**Locus: HLA-H** 

Resolution: 4th field

#### Full typing result:

HLA-H\*01:01:01:03



variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-H\*01:01:03 (identity: -54.67%)

Locus: HLA-J

Resolution: 4th field

Full typing result:

HLA-J\*01:01:01:06

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)

0.0kb 1.0kb 2.0kb 3.0kb

HLA-J\*01:01:06 (identity: 99.94%)

Locus: HLA-J

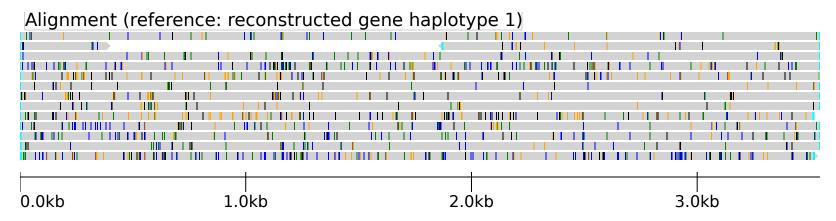
Resolution: 4th field

Full typing result:

HLA-J\*01:01:04

bam coverage

variants



HLA-J\*01:01:04 (identity: 100.00%)

**Locus: HLA-K** 

Resolution: 4th field

Full typing result:

HLA-K\*01:01:01:01

bam coverage

variants

HLA-K\*01:01:01 (identity: 100.00%)

**Locus: HLA-L** 

Resolution: 4th field

#### Full typing result:

HLA-L\*01:01:02

#### bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)

0.0kb 1.0kb 2.0kb 3.0kb

HLA-L\*01:01:02 (identity: 99.95%)

Locus: HLA-L

Resolution: 4th field

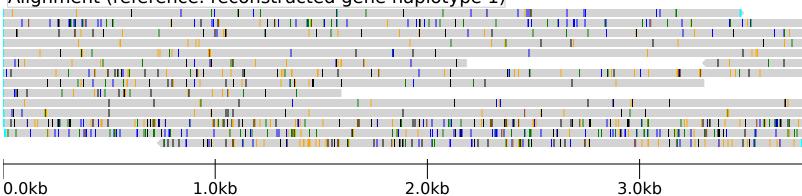
Full typing result:

HLA-L\*01:01:01:03

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-L\*01:01:03 (identity: 100.00%)

Locus: HLA-P

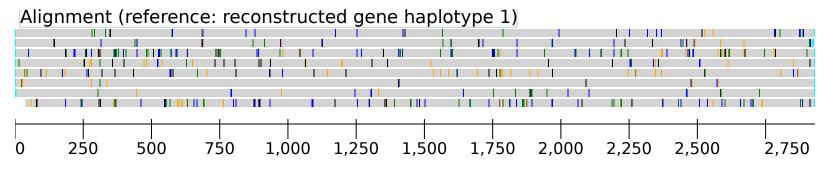
Resolution: 4th field

Full typing result:

HLA-P\*02:01:01:02

bam coverage

variants



HLA-P\*02:01:01:02 (identity: 100.00%)

Locus: HLA-P

Resolution: 4th field

Full typing result:

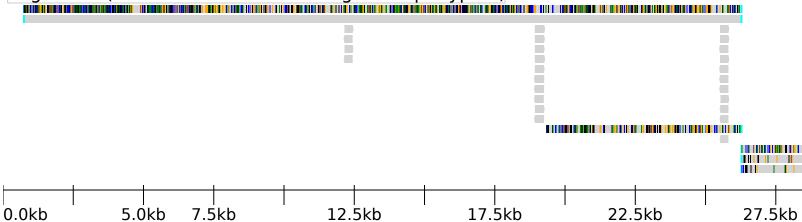
HLA-P\*02:01:01:01

bam coverage

**L** §

variants





HLA-P\*02:01:01:01 (identity: 100.00%)

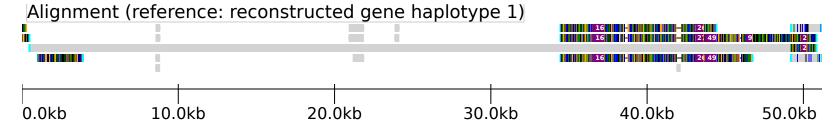
**Locus: HLA-T** 

Resolution: 4th field

#### Full typing result:

HLA-T\*01:01:01:05





HLA-T\*01:01:01:05 (identity: 100.00%)

Locus: HLA-T

Resolution: 4th field

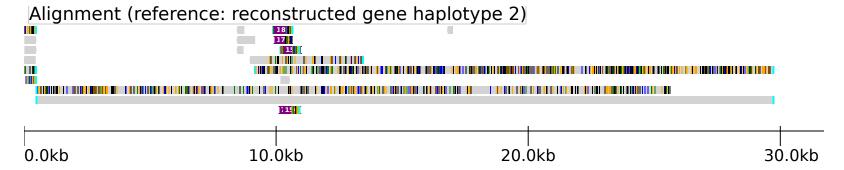
#### Full typing result:

HLA-T\*03:01:01:02

bam coverage

Second Provided Provided





HLA-T\*03:01:01:02 (identity: 97.75%)

Locus: HLA-U

Resolution: 4th field

#### Full typing result:

HLA-U\*01:03

#### bam coverage

F 7

0

variants

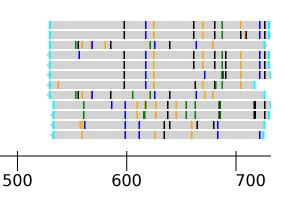


Alignment (reference: reconstructed gene haplotype 1)

300

400

200



HLA-U\*01:03 (identity: 68.99%)

100

**Locus: HLA-U** 

Resolution: 4th field

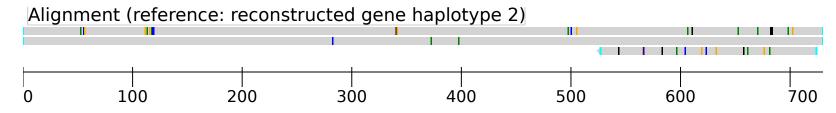
#### Full typing result:

HLA-U\*01:04

bam coverage

 $\square$   $\frac{3}{2}$ 

variants



HLA-U\*01:04 (identity: 100.00%)

**Locus: HLA-W** 

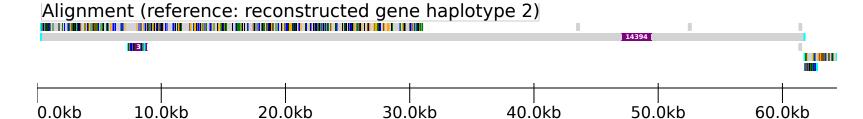
Resolution: 4th field

#### Full typing result:

HLA-W\*01:01:01:05

bam coverage

variants



HLA-W\*01:01:01:05 (identity: 100.00%)

**Locus: HLA-W** 

Resolution: 4th field

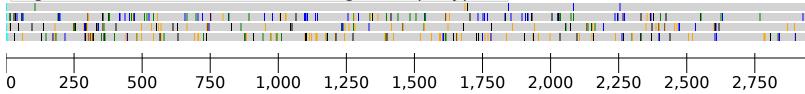
#### Full typing result:

HLA-W\*03:01:01:01 | HLA-W\*03:01:01:02

#### bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-W\*03:01:01:01 (identity: 100.00%)

HLA-W\*03:01:01:02 (identity: 99.97%)

# Sample: HG01257 Locus: MICA Resolution: 4th field Full typing result: MICA\*008:04:01 bam coverage **3**3 22 21 variants Alignment (reference: reconstructed gene haplotype 1) **— 15** 0.0kb 2.5kb 5.0kb 7.5kb 10.0kb 12.5kb 15.0kb 17.5kb MICA\*008:04:01 (identity: 100.00%)

Locus: MICA

Resolution: 4th field

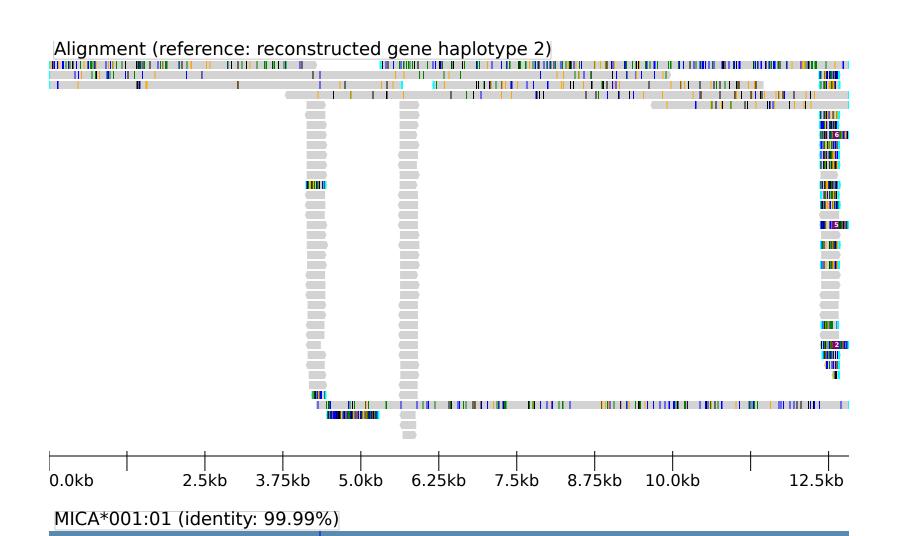
Full typing result:

MICA\*001:01

bam coverage

**F** 22

variants



Locus: MICB Resolution: 4th field Full typing result: MICB\*052 bam coverage **□** 132 variants Alignment (reference: reconstructed gene haplotype 1) Alignment (reference: reconstructed gene naplotype 1) ĪIII IIII TITLE OF **III** Ш 2.5kb 6.25kb 0.0kb 3.75kb 5.0kb 7.5kb 8.75kb 10.0kb 12.5kb MICB\*052 (identity: 99.85%)

Sample: HG01257

Locus: MICB Resolution: 4th field Full typing result: MICB\*005:02:01 bam coverage 135 90 variants Alignment (reference: reconstructed gene haplotype 2) Alignment (reference: reconstructed gene naplotype 2) 111111 0.0kb 5.0kb 2.5kb 3.75kb 6.25kb 7.5kb 8.75kb 10.0kb 12.5kb MICB\*005:02:01 (identity: 99.74%)

Sample: HG01257

**Locus: TAP1** 

Resolution: 4th field

Full typing result:

TAP1\*01:01:01:02

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb 2.0kb 3.0kb 4.0kb 5.0kb 6.0kb 7.0kb 8.0kb 9.0kb

TAP1\*01:01:01:02 (identity: 99.99%)

**Locus: TAP1** 

Resolution: 4th field

Full typing result:

TAP1\*01:01:01:04

bam coverage

variants

TAP1\*01:01:01:04 (identity: 100.00%)

**Locus: TAP2** 

Resolution: 4th field

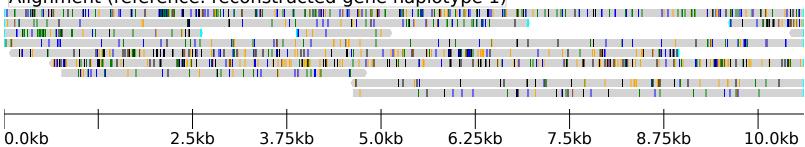
Full typing result:

TAP2\*01:01:03:03



variants

Alignment (reference: reconstructed gene haplotype 1)



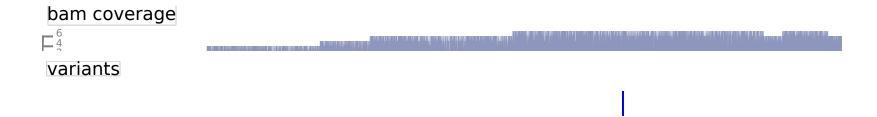
TAP2\*01:01:03:03 (identity: 99.99%)

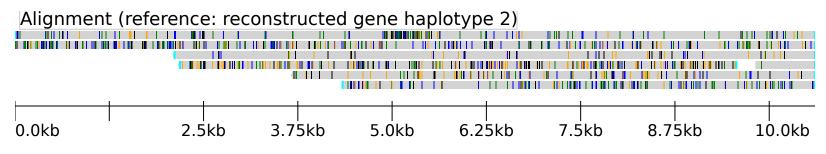
**Locus: TAP2** 

Resolution: 4th field

Full typing result:

TAP2\*01:01:07:05





TAP2\*01:01:07:05 (identity: 99.98%)