Locus: HLA-A

Resolution: 4th field

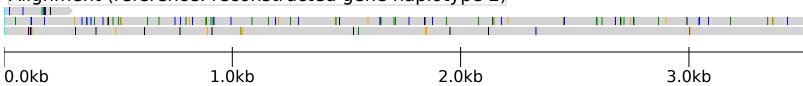
Full typing result:

HLA-A*01:16N HLA-A*01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-A*01:16N (identity: 100.00%)

HLA-A*01:01:01 (identity: 99.97%)

Locus: HLA-A

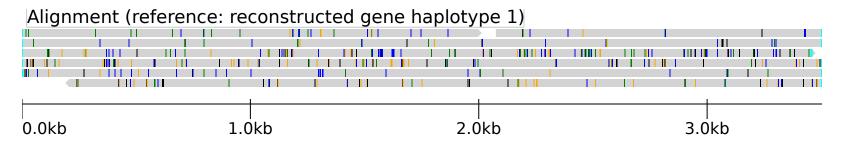
Resolution: 4th field

Full typing result:

HLA-A*11:01:01:01

bam coverage

variants



HLA-A*11:01:01:01 (identity: 100.00%)

Locus: HLA-B

Resolution: 4th field

Full typing result:

HLA-B*56:01:01:15 | HLA-B*55:02:01:04

bam coverage

variants

HLA-B*56:01:01:15 (identity: 99.95%)

HLA-B*55:02:01:04 (identity: 99.93%)

Locus: HLA-B

Resolution: 4th field

Full typing result:

HLA-B*08:01:01:01

bam coverage

variants

HLA-B*08:01:01:01 (identity: 99.98%)

Locus: HLA-C

Resolution: 4th field

Full typing result:

HLA-C*07:01:01:01

HLA-C*07:970N

HLA-C*07:01:01:131

HLA-C*07:01:01:132

HLA-C*07:01:01:16

HLA-C*07:01:08

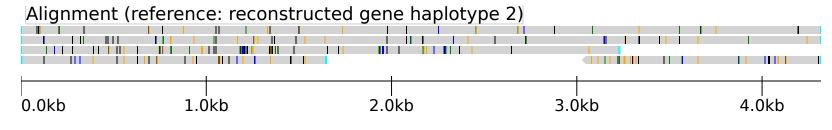
HLA-C*07:01:31

HLA-C*07:01:76

HLA-C*07:1030

bam coverage

variants



HLA-C*07:01:01:01 (identity: 100.00%)

HLA-C*07:970N (identity: 98.74%)

HLA-C*07:01:01:131 (identity: 99.98%)

HLA-C*07:01:01:132 (identity: 99.98%)

HLA-C*07:01:01:16 (identity: 99.98%)

HLA-C*07:01:05 (identity: 99.98%)

HLA-C*07:01:08 (identity: 99.98%)

HLA-C*07:01:31 (identity: 99.98%)

HLA-C*07:01:76 (identity: 99.98%)

HLA-C*07:1030 (identity: 99.98%)

Locus: HLA-C

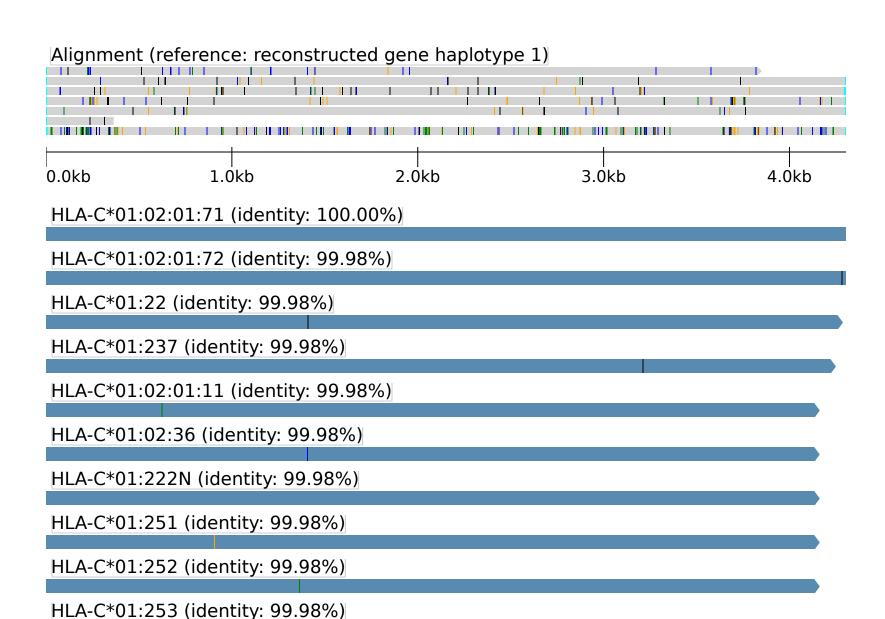
Resolution: 4th field

Full typing result:

HLA-C*01:222N | HLA-C*01:251 | HLA-C*01:252 HLA-C*01:253

bam coverage

variants



Locus: HLA-DMA

Resolution: 4th field

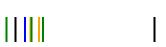
Full typing result:

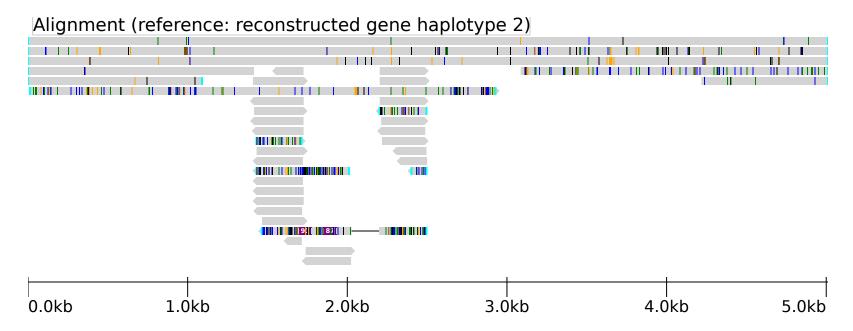
HLA-DMA*01:01:01:01

bam coverage

□ 18 12

variants





HLA-DMA*01:01:01:01 (identity: 99.98%)

Locus: HLA-DMA

Resolution: 4th field

Full typing result:

HLA-DMA*01:01:02 HLA-DMA*01:01:04 HLA-DMA*01:01:01

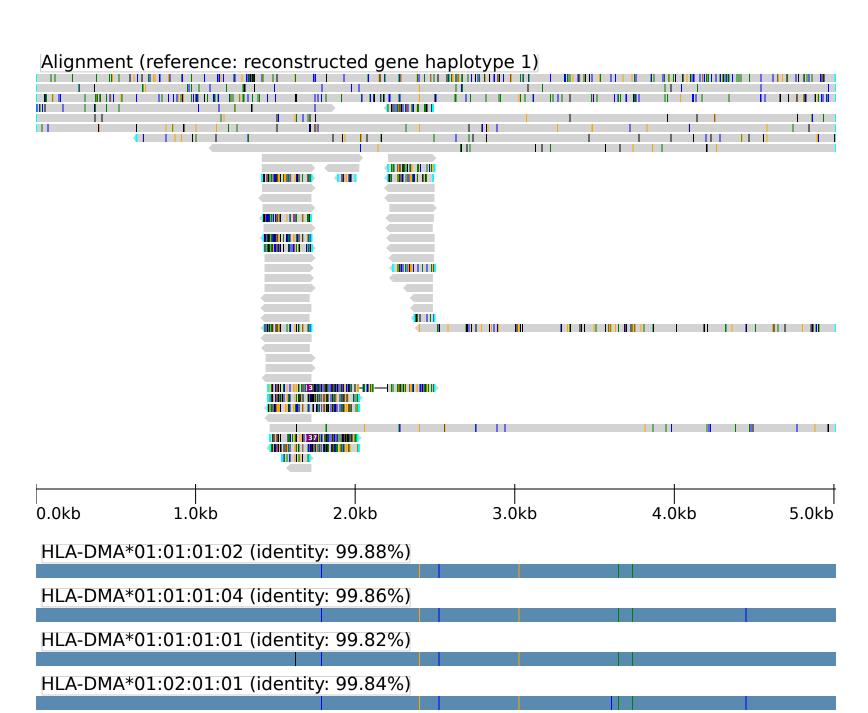
HLA-DMA*01:02:01:01

bam coverage

= 34 23

variants





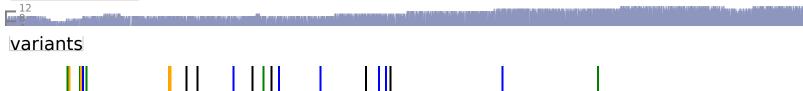
Locus: HLA-DMB

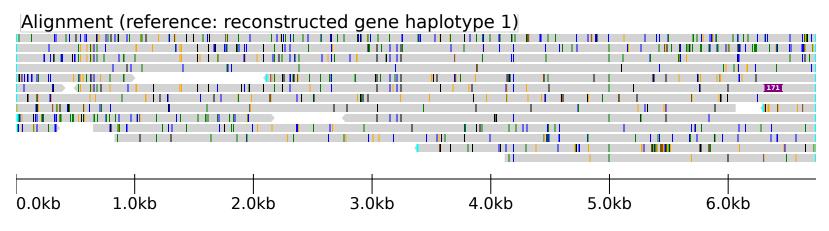
Resolution: 4th field

Full typing result:

HLA-DMB*01:01:01:01

bam coverage





HLA-DMB*01:01:01:01 (identity: 99.99%)

Locus: HLA-DOA

Resolution: 4th field

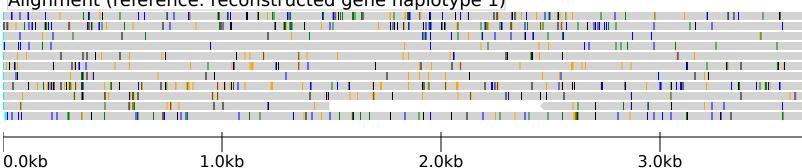
Full typing result:

HLA-DOA*01:01:02:20

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-DOA*01:01:02:20 (identity: 100.00%)

Locus: HLA-DOA

Resolution: 4th field

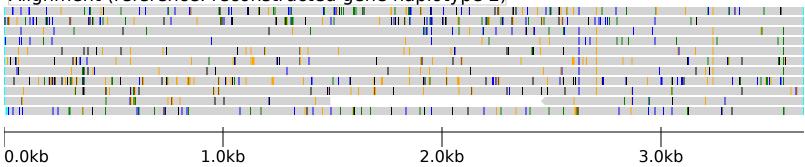
Full typing result:

HLA-DOA*01:01:02:06 | HLA-DOA*01:01:02:20

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-DOA*01:01:02:06 (identity: 99.92%)

HLA-DOA*01:01:02:20 (identity: 99.89%)

Locus: HLA-DOB

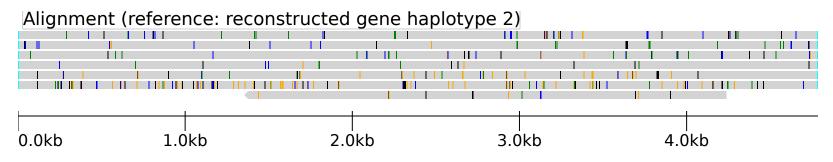
Resolution: 4th field

Full typing result:

HLA-DOB*01:05 HLA-DOB*01:01:04

bam coverage

variants



HLA-DOB*01:05 (identity: 99.96%)

HLA-DOB*01:01:01:04 (identity: 99.94%)

Locus: HLA-DOB

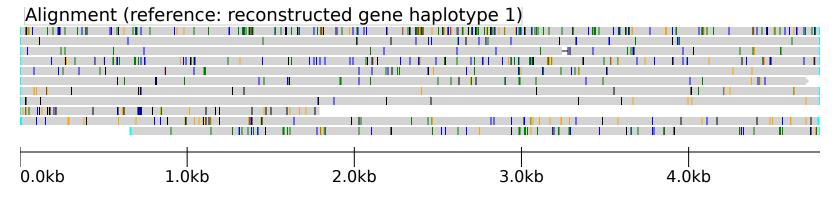
Resolution: 4th field

Full typing result:

HLA-DOB*01:01:03:02

bam coverage

variants



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

Locus: HLA-DPA1

Resolution: 4th field

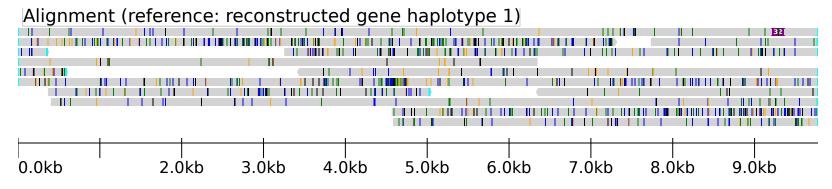
Full typing result:

HLA-DPA1*01:03:01:02

bam coverage

varianto

variants



HLA-DPA1*01:03:01:02 (identity: 99.98%)

Locus: HLA-DPA1

Resolution: 4th field

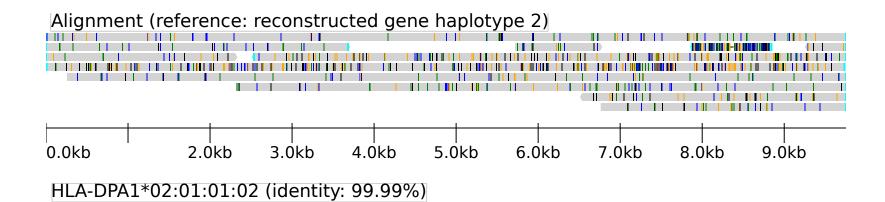
Full typing result:

HLA-DPA1*02:01:01:02

bam coverage

__ 5

variants

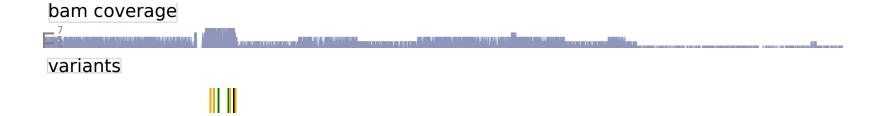


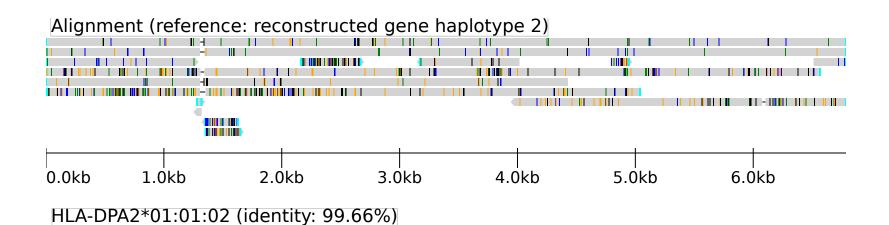
Locus: HLA-DPA2

Resolution: 4th field

Full typing result:

HLA-DPA2*01:01:02





Locus: HLA-DPA2

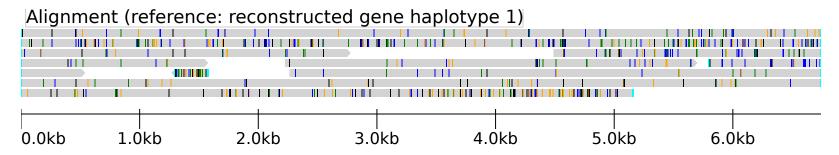
Resolution: 4th field

Full typing result:

HLA-DPA2*01:01:01:01

bam coverage

variants



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

Locus: HLA-DPB1

Resolution: 4th field

Full typing result:

HLA-DPB1*128:01 | HLA-DPB1*04:01:01 | HLA-DPB1*04:01:01:35

HLA-DPB1*04:01:01:06 | HLA-DPB1*1423:01N | HLA-DPB1*04:01:01:02

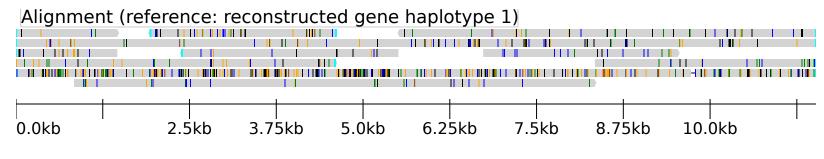
HLA-DPB1*04:01:01:04 | HLA-DPB1*04:01:01:07 | HLA-DPB1*04:01:01:08 |

HLA-DPB1*04:01:01:10 | HLA-DPB1*04:01:01:101 | HLA-DPB1*04:01:01:104 |

HLA-DPB1*04:01:01:108 | HLA-DPB1*04:01:01:113 | HLA-DPB1*04:01:01:114 |

bam coverage

variants



HLA-DPB1*128:01 (identity: 100.00%)

HLA-DPB1*04:01:01:01 (identity: 99.99%)

HLA-DPB1*04:01:01:35 (identity: 99.92%)

HLA-DPB1*04:01:01:06 (identity: 99.96%)

HLA-DPB1*1423:01N (identity: 99.96%)

HLA-DPB1*04:01:01:02 (identity: 99.92%)

HLA-DPB1*04:01:01:04 (identity: 99.96%)

HLA-DPB1*04:01:01:07 (identity: 99.98%)

HLA-DPB1*04:01:01:08 (identity: 99.98%)

HLA-DPB1*04:01:01:10 (identity: 99.98%)

Locus: HLA-DPB1

Resolution: 4th field

Full typing result:

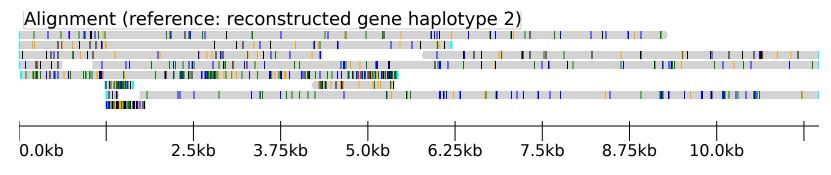
```
HLA-DPB1*14:01:01 HLA-DPB1*1384:01 HLA-DPB1*1395:01

HLA-DPB1*1414:01 HLA-DPB1*14:01:02 HLA-DPB1*14:01:01:03

HLA-DPB1*14:01:01:05 HLA-DPB1*14:01:01:06 HLA-DPB1*14:01:01:07

HLA-DPB1*14:01:01:08
```





HLA-DPB1*14:01:01:01 (identity: 100.00%)

HLA-DPB1*1384:01 (identity: 99.99%)

HLA-DPB1*1395:01 (identity: 99.99%)

HLA-DPB1*1414:01 (identity: 99.99%)

HLA-DPB1*14:01:01:02 (identity: 99.99%)

HLA-DPB1*14:01:01:03 (identity: 99.99%)

HLA-DPB1*14:01:01:05 (identity: 99.99%)

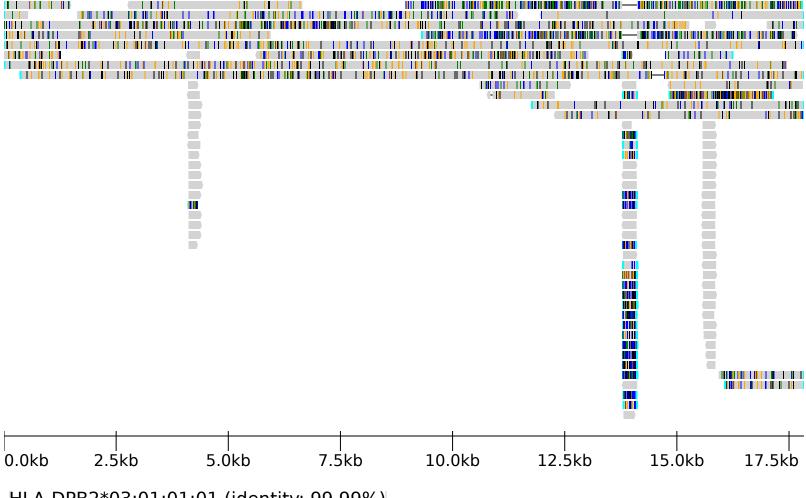
HLA-DPB1*14:01:01:06 (identity: 99.99%)

HLA-DPB1*14:01:01:07 (identity: 99.99%)

HLA-DPB1*14:01:01:08 (identity: 99.99%)

Sample: NA12878 Locus: HLA-DPB2 Resolution: 4th field Full typing result: HLA-DPB2*01:01:01 | HLA-DPB2*03:01:01:01 bam coverage 52 35 variants Alignment (reference: reconstructed gene haplotype 2) Alignment (reference: reconstructed gene naplotype 2) i m Ш III m Ш III 0.0kb 2.5kb 5.0kb 7.5kb 10.0kb 12.5kb 15.0kb HLA-DPB2*01:01:01 (identity: 99.39%) HLA-DPB2*03:01:01:01 (identity: 97.40%)

Sample: NA12878 Locus: HLA-DPB2 Resolution: 4th field Full typing result: HLA-DPB2*03:01:01:01 bam coverage variants Alignment (reference: reconstructed gene haplotype 1) Alignment (reference: reconstructed gene napiotype 1) - III ш Ш



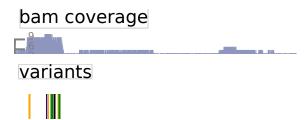
HLA-DPB2*03:01:01:01 (identity: 99.99%)

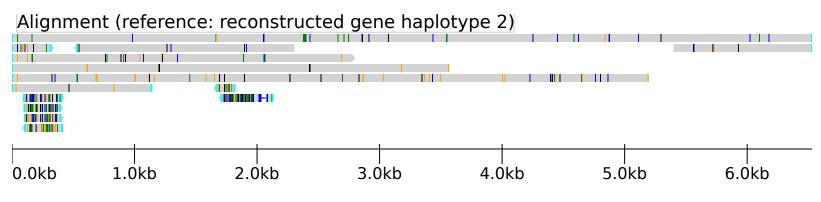
Locus: HLA-DQA1

Resolution: 4th field

Full typing result:

HLA-DQA1*05:01:01:02





HLA-DQA1*05:01:01:02 (identity: 100.00%)

Locus: HLA-DQA1

Resolution: 4th field

Full typing result:

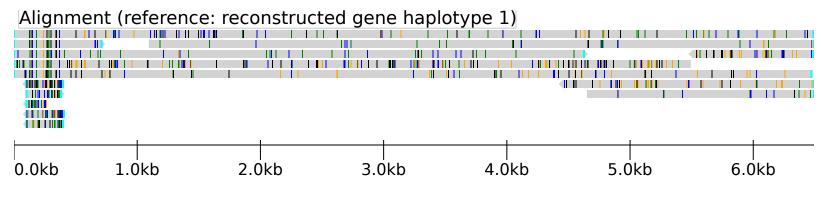
HLA-DQA1*01:01:01:05 | HLA-DQA1*01:01:01

bam coverage



variants





HLA-DQA1*01:01:05 (identity: 99.78%)

HLA-DQA1*01:01:01:01 (identity: 99.77%)

Locus: HLA-DQA2

Resolution: 4th field

Full typing result:

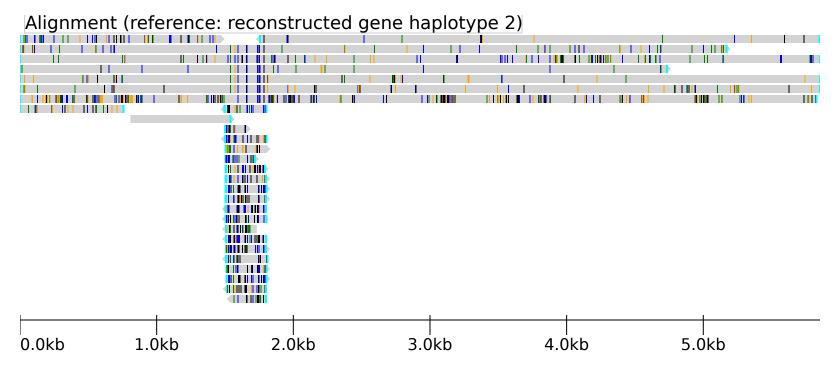
HLA-DQA2*01:01:01:01

bam coverage

22 15

variants





HLA-DQA2*01:01:01:01 (identity: 99.80%)

Locus: HLA-DQA2

Resolution: 4th field

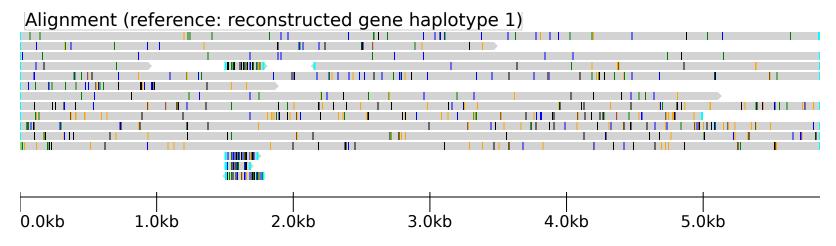
Full typing result:

HLA-DQA2*01:01:02:01

bam coverage

variants





HLA-DQA2*01:01:02:01 (identity: 100.00%)

Locus: HLA-DQB1

Resolution: 4th field

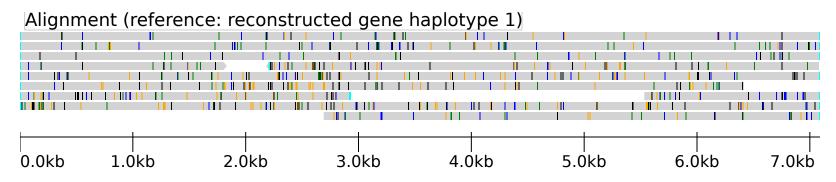
Full typing result:

HLA-DQB1*05:01:01:03

bam coverage

6

variants



HLA-DQB1*05:01:01:03 (identity: 99.99%)

Locus: HLA-DQB1

Resolution: 4th field

Full typing result:

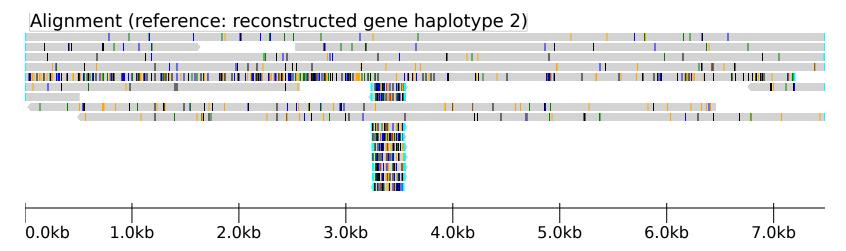
HLA-DQB1*02:01:01:01

bam coverage

L 14 10

variants





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

Locus: HLA-DQB2

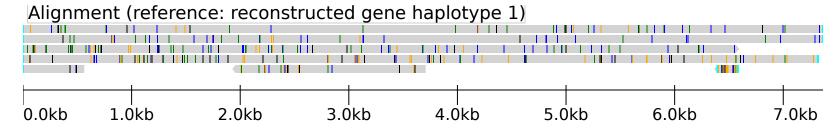
Resolution: 4th field

Full typing result:

HLA-DQB2*01:01:01

bam coverage

variants



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

Resolution: 4th field Full typing result: HLA-DRA*01:02:02:01 bam coverage **—** 34 23 variants Alignment (reference: reconstructed gene haplotype 1) 0.0kb 2.5kb 5.0kb 7.5kb 10.0kb 15.0kb 12.5kb HLA-DRA*01:02:02:01 (identity: 95.40%)

Sample: NA12878

Locus: HLA-DRA

Locus: HLA-DRA

Resolution: 4th field

Full typing result:

HLA-DRA*01:01:01:05 | HLA-DRA*01:01:01:04

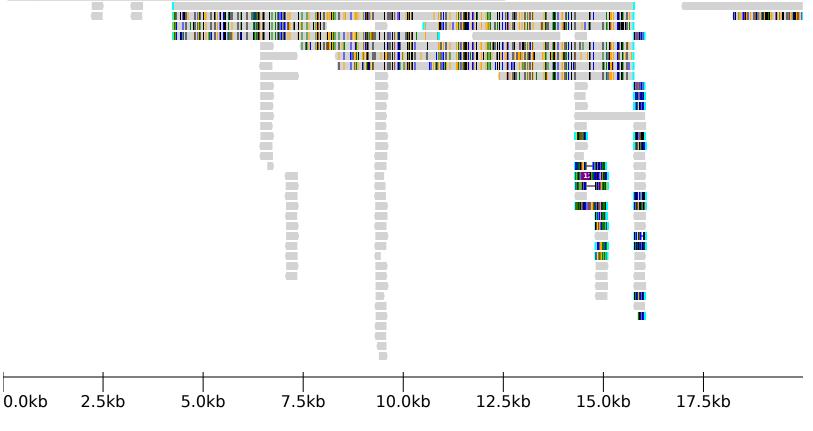
bam coverage

— 30 20

variants



Alignment (reference: reconstructed gene haplotype 2)



HLA-DRA*01:01:01:05 (identity: -15.29%)

HLA-DRA*01:01:01:04 (identity: -15.29%)

Sample: NA12878 Locus: HLA-DRB1 Resolution: 4th field Full typing result: HLA-DRB1*01:01:01:01 bam coverage variants Alignment (reference: reconstructed gene haplotype 2)

6.25kb

5.0kb

7.5kb

8.75kb

10.0kb

0.0kb

3.75kb

2.5kb

HLA-DRB1*01:01:01:01 (identity: 93.89%)

Resolution: 4th field Full typing result: HLA-DRB1*03:01:01:01 bam coverage **■** 43 29 variants Alignment (reference: reconstructed gene haplotype 1) 25 4 8 -111-4 32 :48 41- 43 8 31 2 25 43 85 0.0kb 7.5kb 5.0kb 10.0kb 12.5kb 15.0kb 17.5kb 20.0kb HLA-DRB1*03:01:01:01 (identity: 43.45%)

Sample: NA12878

Locus: HLA-DRB1

Locus: HLA-DRB3

Resolution: 4th field

Full typing result:

HLA-DRB3*02:02:01:02

bam coverage

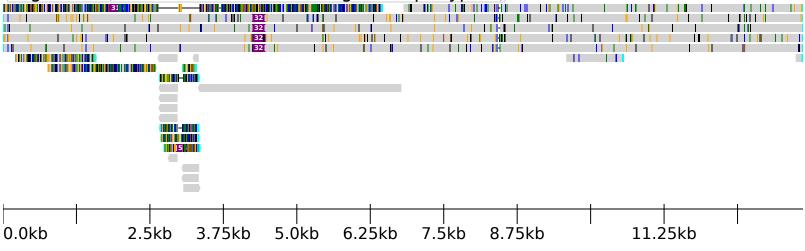
□ 8 **□** 8



variants







HLA-DRB3*02:02:01:02 (identity: 98.36%)

Locus: HLA-DRB3

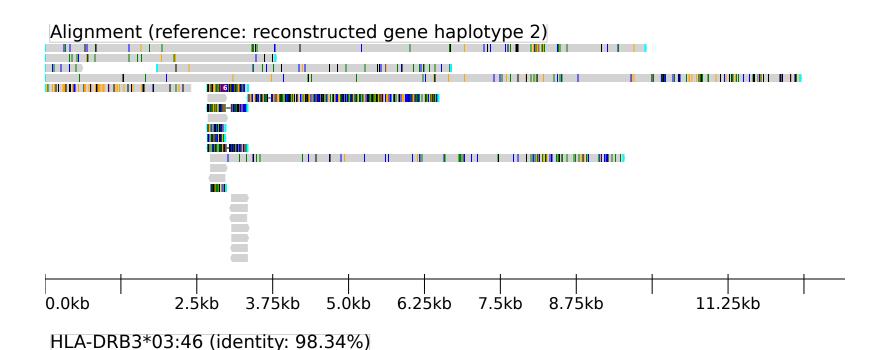
Resolution: 4th field

Full typing result:

HLA-DRB3*03:46

bam coverage

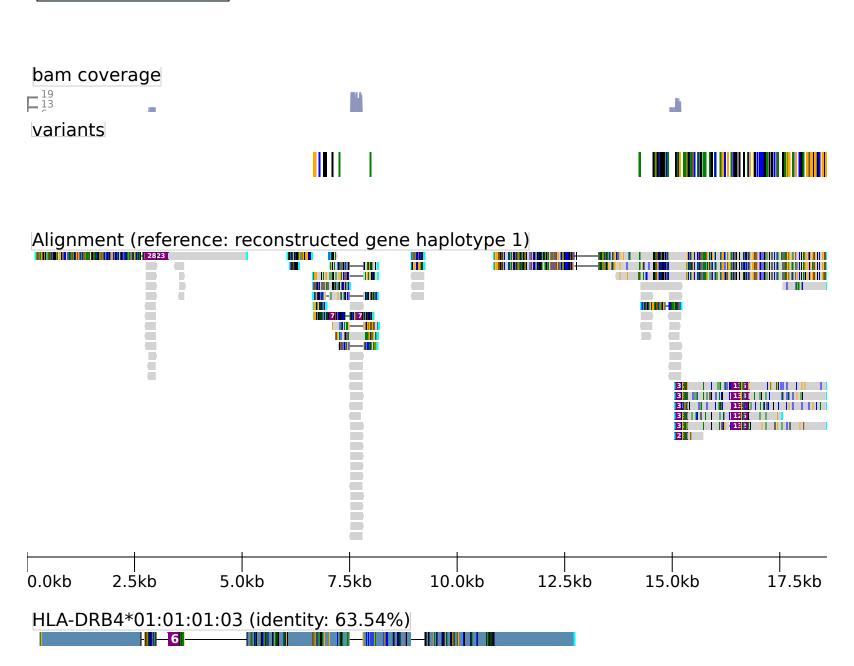
variants



Sample: NA12878 Locus: HLA-DRB4 Resolution: 4th field

Full typing result:

HLA-DRB4*01:01:01:03



Locus: HLA-DRB4

Resolution: 4th field

Full typing result:

HLA-DRB4*01:01:01:01 | HLA-DRB4*01:01:03 | HLA-DRB4*01:01:12

bam coverage

L

variants

Alignment (reference: reconstructed gene haplotype 2)

0.0kb 2.5kb 5.0kb 7.5kb 10.0kb 12.5kb 15.0kb

HLA-DRB4*01:01:01:01 (identity: 72.94%)

HLA-DRB4*01:01:01:03 (identity: 71.86%)

HLA-DRB4*01:01:12 (identity: 72.94%)

Locus: HLA-DRB5

Resolution: 4th field

Full typing result:

HLA-DRB5*01:01:01:04

bam coverage

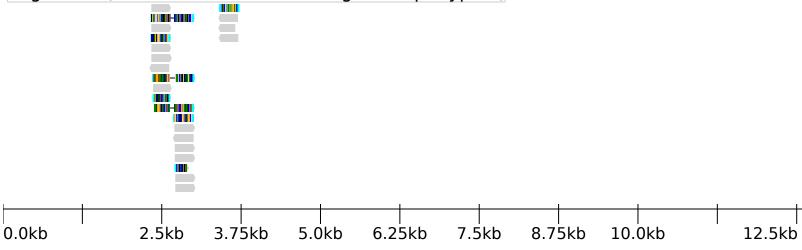
F₇¹⁰



variants



Alignment (reference: reconstructed gene haplotype 2)



HLA-DRB5*01:01:01:04 (identity: 89.09%)

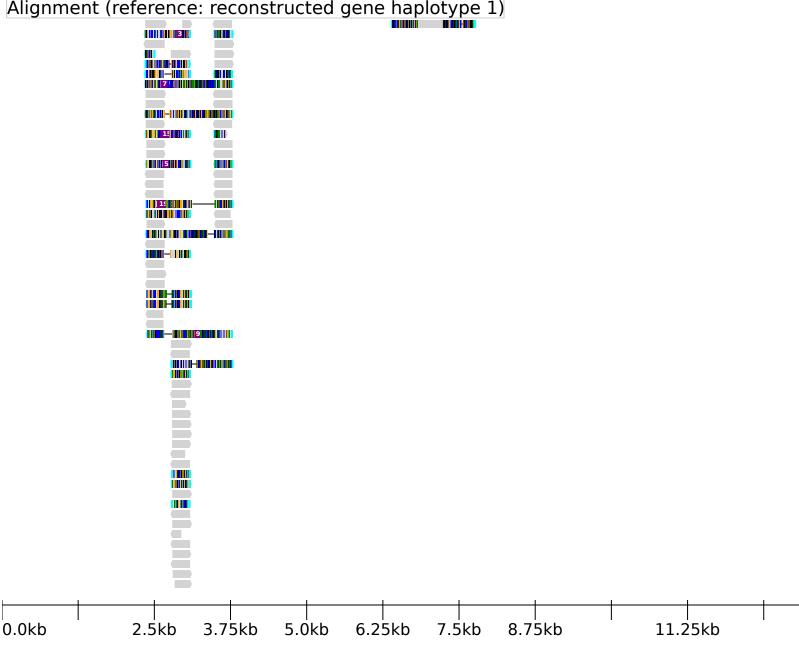
Sample: NA12878 Locus: HLA-DRB5 Resolution: 4th field

Full typing result:

HLA-DRB5*01:08:01N

bam coverage **—** 35 23 variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-DRB5*01:08:01N (identity: 43.95%)

Locus: HLA-E

Resolution: 4th field

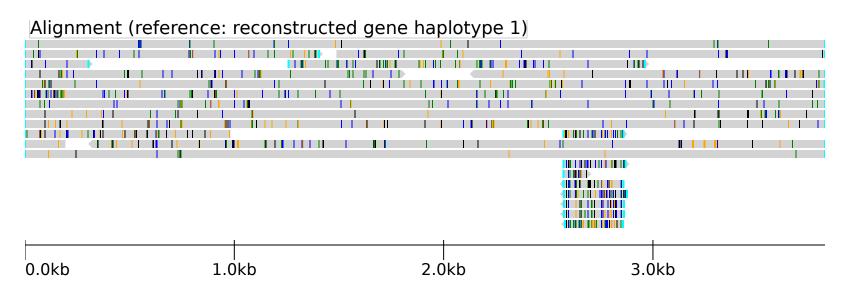
Full typing result:

HLA-E*01:01:01:01

bam coverage

variants





HLA-E*01:01:01 (identity: 100.00%)

Locus: HLA-F

Resolution: 4th field

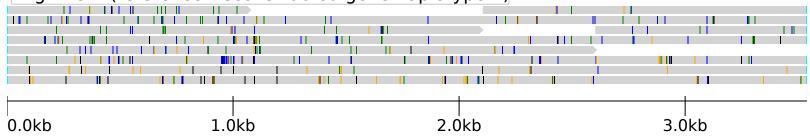
Full typing result:

HLA-F*01:01:02:09

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-F*01:01:02:09 (identity: 100.00%)

Locus: HLA-F

Resolution: 4th field

Full typing result:

```
HLA-F*01:01:09 HLA-F*01:01:01:10 HLA-F*01:01:01:11

HLA-F*01:01:01:12 HLA-F*01:01:01:27 HLA-F*01:01:01:29

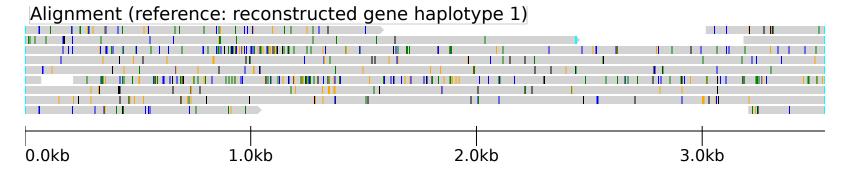
HLA-F*01:01:01:42 HLA-F*01:01:01:43 HLA-F*01:01:06

HLA-F*01:01:07 HLA-F*01:01:08 HLA-F*01:01:11

HLA-F*01:02:01:02 HLA-F*01:10 HLA-F*01:12
```

bam coverage

variants



HLA-F*01:01:01:09 (identity: 100.00%)

HLA-F*01:01:01:10 (identity: 99.97%)

HLA-F*01:01:01:11 (identity: 99.97%)

HLA-F*01:01:01:12 (identity: 99.97%)

HLA-F*01:01:01:27 (identity: 99.97%)

HLA-F*01:01:01:29 (identity: 99.97%)

HLA-F*01:01:01:42 (identity: 99.97%)

HLA-F*01:01:01:43 (identity: 99.97%)

HLA-F*01:01:06 (identity: 99.97%)

HLA-F*01:01:07 (identity: 99.97%)

Locus: HLA-G

Resolution: 4th field

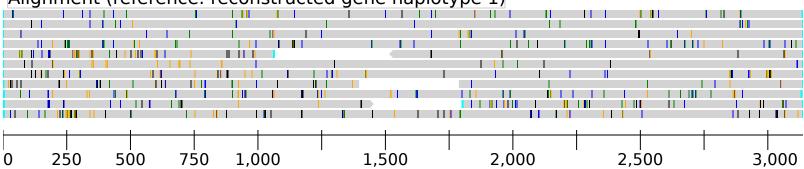
Full typing result:

HLA-G*01:01:02:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-G*01:01:02:01 (identity: 100.00%)

Locus: HLA-G

Resolution: 4th field

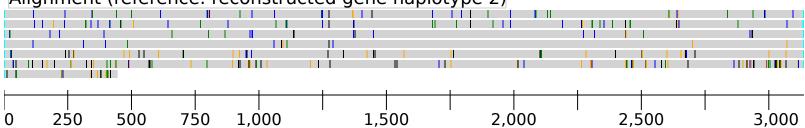
Full typing result:

HLA-G*01:01:03:03

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-G*01:01:03:03 (identity: 99.97%)

Locus: HLA-H

Resolution: 4th field

Full typing result:

HLA-H*02:01:01:01

bam coverage

variants

HLA-H*02:01:01 (identity: 99.86%)

Locus: HLA-H

Resolution: 4th field

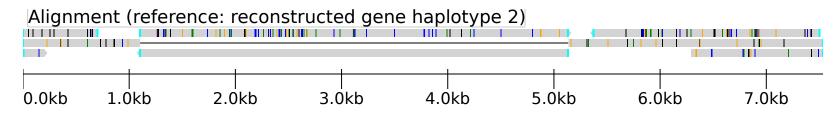
Full typing result:

HLA-H*02:07:01:01

bam coverage

3 12 2

variants



HLA-H*02:07:01:01 (identity: -15.13%)

Locus: HLA-J

Resolution: 4th field

Full typing result:

HLA-J*01:01:01:04

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)

0.0kb 1.0kb 2.0kb 3.0kb

HLA-J*01:01:04 (identity: 99.97%)

Locus: HLA-J

Resolution: 4th field

Full typing result:

HLA-J*01:01:02

bam coverage

variants

0.0kb

Alignment (reference: reconstructed gene haplotype 1)

2.0kb

3.0kb

HLA-J*01:01:02 (identity: 100.00%)

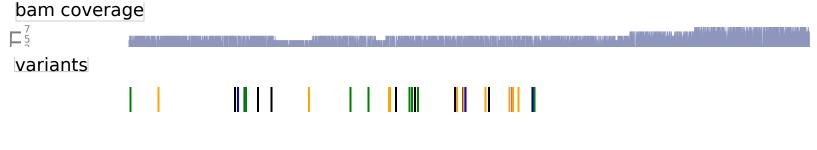
1.0kb

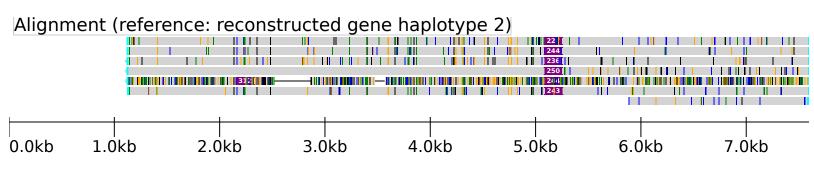
Locus: HLA-K

Resolution: 4th field

Full typing result:

HLA-K*01:01:01:03





HLA-K*01:01:01:03 (identity: 89.84%)

Locus: HLA-K

Resolution: 4th field

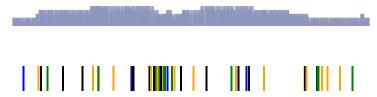
Full typing result:

HLA-K*01:01:01:02

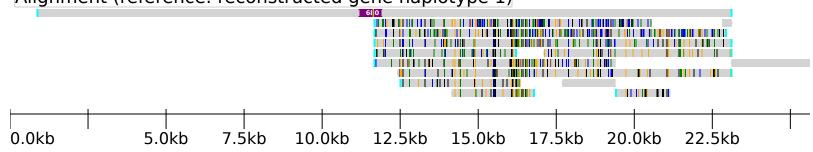
bam coverage

F 5

variants



Alignment (reference: reconstructed gene haplotype 1)



HLA-K*01:01:02 (identity: 96.60%)

Locus: HLA-L

Resolution: 4th field

Full typing result:

HLA-L*01:03

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)

0.0kb 1.0kb 2.0kb 3.0kb

HLA-L*01:03 (identity: 99.97%)

Locus: HLA-L

Resolution: 4th field

Full typing result:

HLA-L*01:01:02

bam coverage

variants

HLA-L*01:01:02 (identity: 99.97%)

Locus: HLA-P

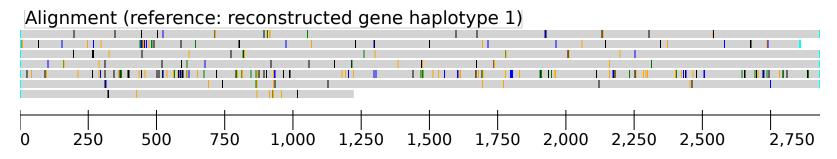
Resolution: 4th field

Full typing result:

HLA-P*02:01:01:01 | HLA-P*02:01:01:02

bam coverage

variants



HLA-P*02:01:01:01 (identity: 99.90%)

HLA-P*02:01:01:02 (identity: 99.90%)

Locus: HLA-P

Resolution: 4th field

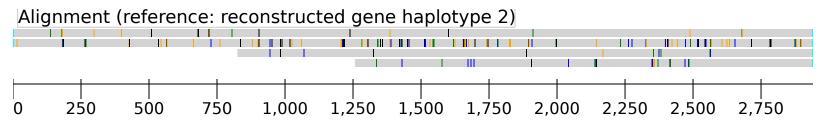
Full typing result:

HLA-P*01:01:01:01

bam coverage

3

variants



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

Locus: HLA-T

Resolution: 4th field

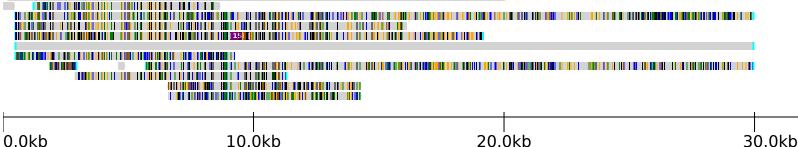
Full typing result:

HLA-T*01:01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



HLA-T*01:01:01:01 (identity: 95.50%)

Locus: HLA-T

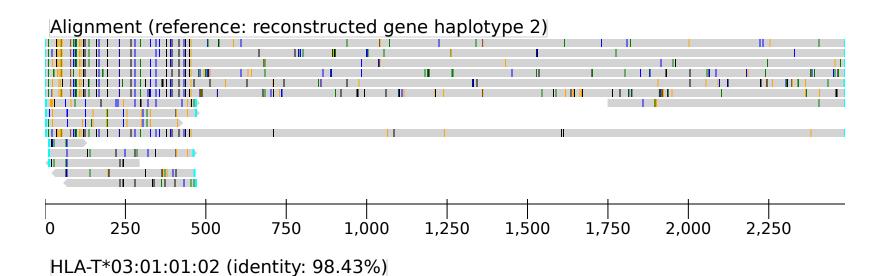
Resolution: 4th field

Full typing result:

HLA-T*03:01:01:02

bam coverage

variants



Locus: HLA-U

Resolution: 4th field

Full typing result:

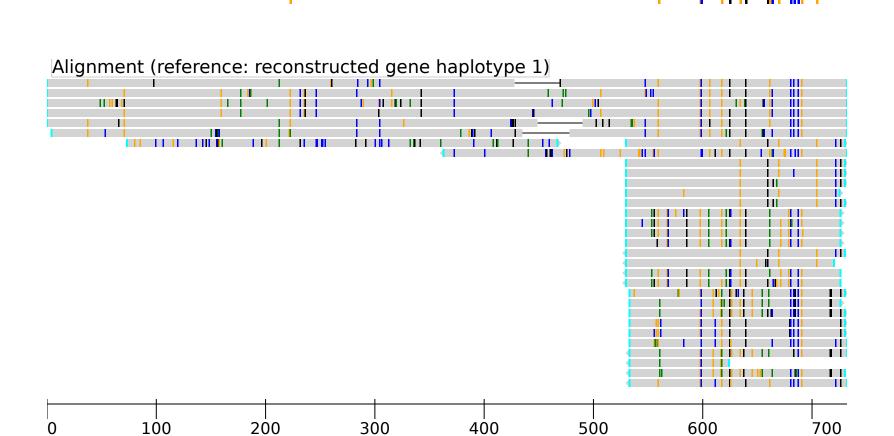
HLA-U*01:03

bam coverage

HLA-U*01:03 (identity: 97.95%)

□ 27 18

variants

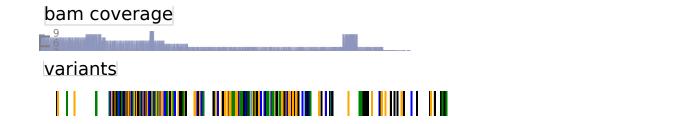


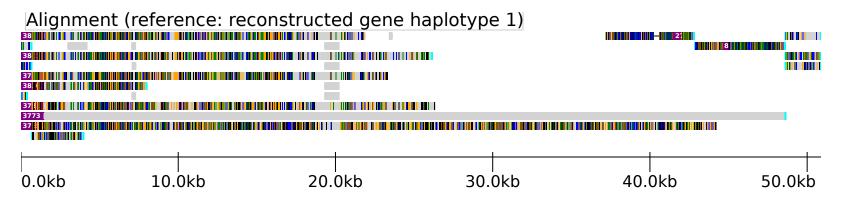
Locus: HLA-W

Resolution: 4th field

Full typing result:

HLA-W*01:01:01:02





HLA-W*01:01:01:02 (identity: 100.00%)

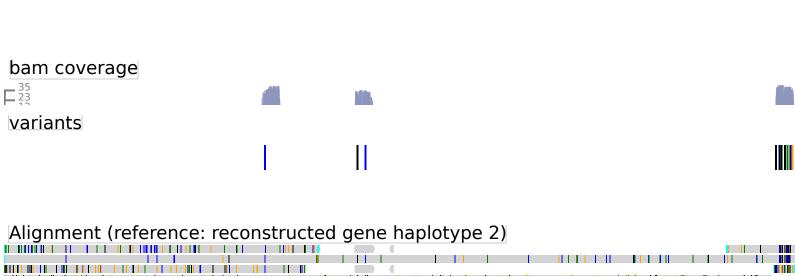
Sample: NA12878 Locus: MICA Resolution: 4th field Full typing result: MICA*008:01:01 MICA*008:01:02 bam coverage variants Alignment (reference: reconstructed gene haplotype 1) i illuli 6 IIIII 2 6 4 0.0kb 2.5kb 3.75kb 5.0kb 6.25kb 7.5kb 8.75kb 12.5kb 10.0kb MICA*008:01:01 (identity: 99.98%)

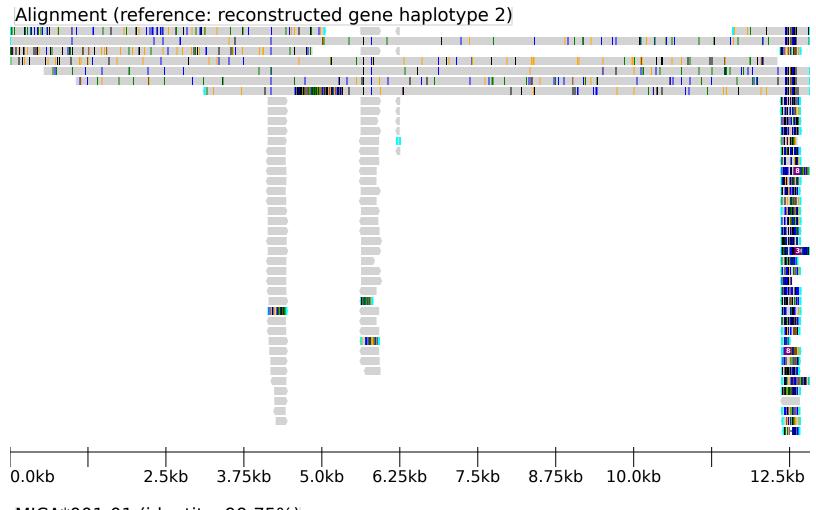
MICA*008:01:02 (identity: 99.98%)

Sample: NA12878 Locus: MICA Resolution: 4th field

Full typing result:

MICA*001:01





MICA*001:01 (identity: 99.75%)

Sample: NA12878 Locus: MICB Resolution: 4th field Full typing result: MICB*052 bam coverage 132 88 variants Alignment (reference: reconstructed gene haplotype 1) Alignment (reference: reconstructed gene haplotype 1) Ì 4 0.0kb 3.75kb 5.0kb 2.5kb 6.25kb 7.5kb 8.75kb 10.0kb 12.5kb MICB*052 (identity: 99.94%)

Sample: NA12878 Locus: MICB Resolution: 4th field Full typing result: MICB*002:01:01 bam coverage 124 83 variants $\|$ Alignment (reference: reconstructed gene haplotype 2) Alignment (reference: reconstructed gene haplotype 2) 1 7.5kb 0.0kb 2.5kb 3.75kb 5.0kb 6.25kb 12.5kb 8.75kb 10.0kb MICB*002:01:01 (identity: 99.71%)

Locus: TAP1

Resolution: 4th field

Full typing result:

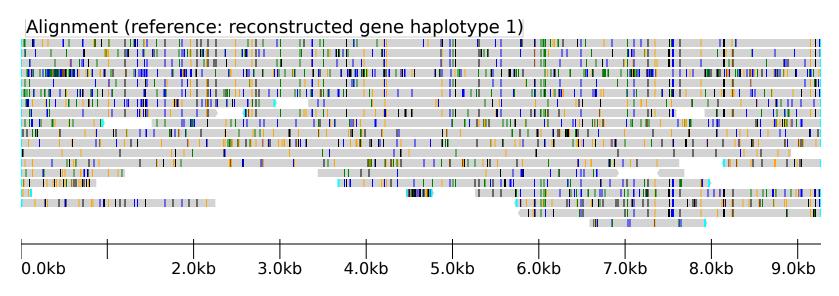
TAP1*01:01:01:01

bam coverage

variants

17



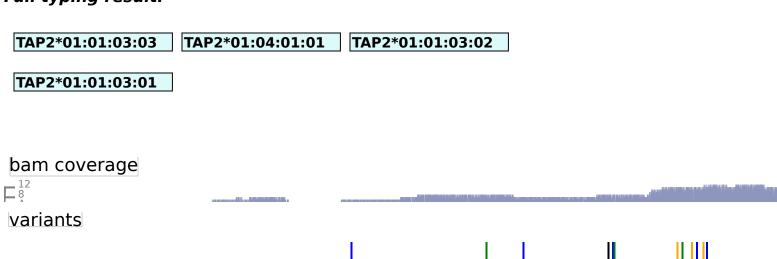


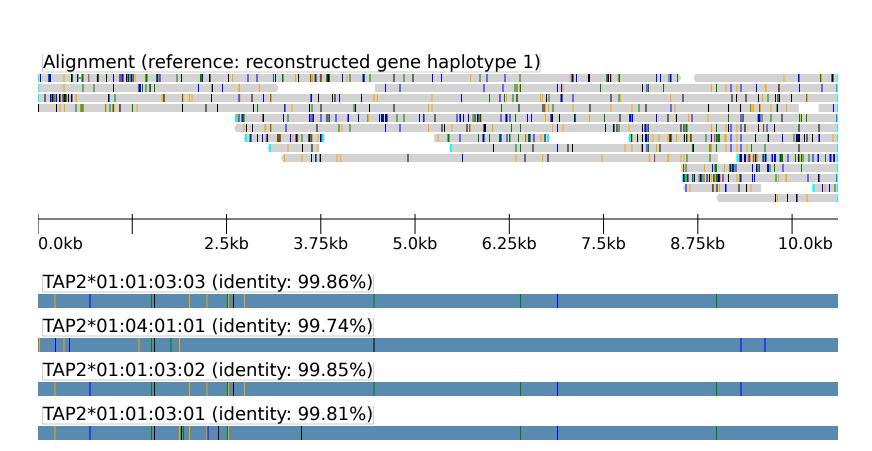
TAP1*01:01:01 (identity: 99.99%)

Locus: TAP2

Resolution: 4th field

Full typing result:





Locus: TAP2

Resolution: 4th field

Full typing result:

TAP2*02:01:02:01

