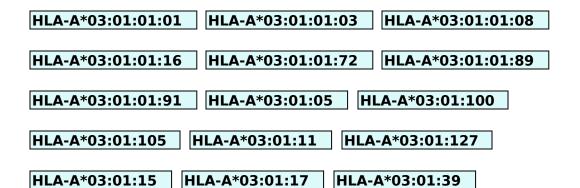
Locus: HLA-A

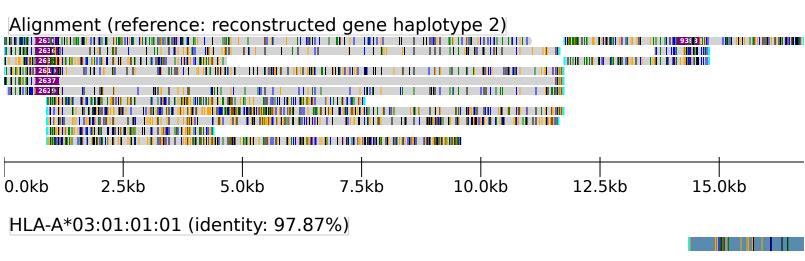
Resolution: 4th field

Full typing result:



bam coverage

variants



HLA-A*03:01:01:03 (identity: 97.87%)

HLA-A*03:01:01:08 (identity: 97.87%)

HLA-A*03:01:01:16 (identity: 97.87%)

HLA-A*03:01:01:72 (identity: 97.87%)

HLA-A*03:01:01:89 (identity: 97.87%)

HLA-A*03:01:01:91 (identity: 97.87%)

HLA-A*03:01:05 (identity: 97.87%)

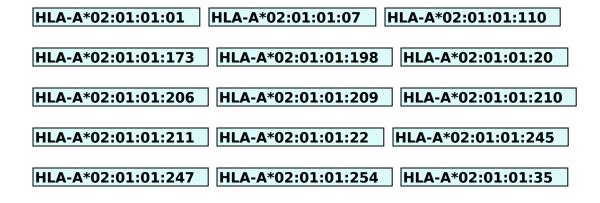
HLA-A*03:01:100 (identity: 97.87%)

HLA-A*03:01:105 (identity: 97.87%)

Locus: HLA-A

Resolution: 4th field

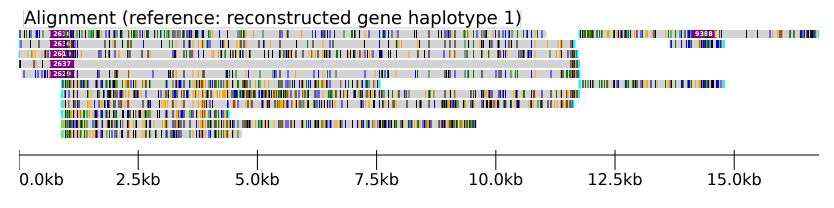
Full typing result:



bam coverage

r 10 variants





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

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

HLA-A*02:01:01:110 (identity: 100.00%)

HLA-A*02:01:01:173 (identity: 100.00%)

HLA-A*02:01:01:198 (identity: 100.00%)

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

HLA-A*02:01:01:206 (identity: 100.00%)

HLA-A*02:01:01:209 (identity: 100.00%)

HLA-A*02:01:01:210 (identity: 100.00%)

HLA-A*02:01:01:211 (identity: 100.00%)

Locus: HLA-B

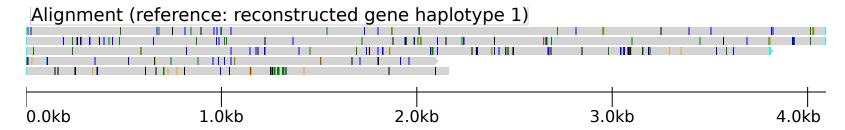
Resolution: 4th field

Full typing result:

HLA-B*15:01:01:01

bam coverage

variants



HLA-B*15:01:01:01 (identity: 100.00%)

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-C

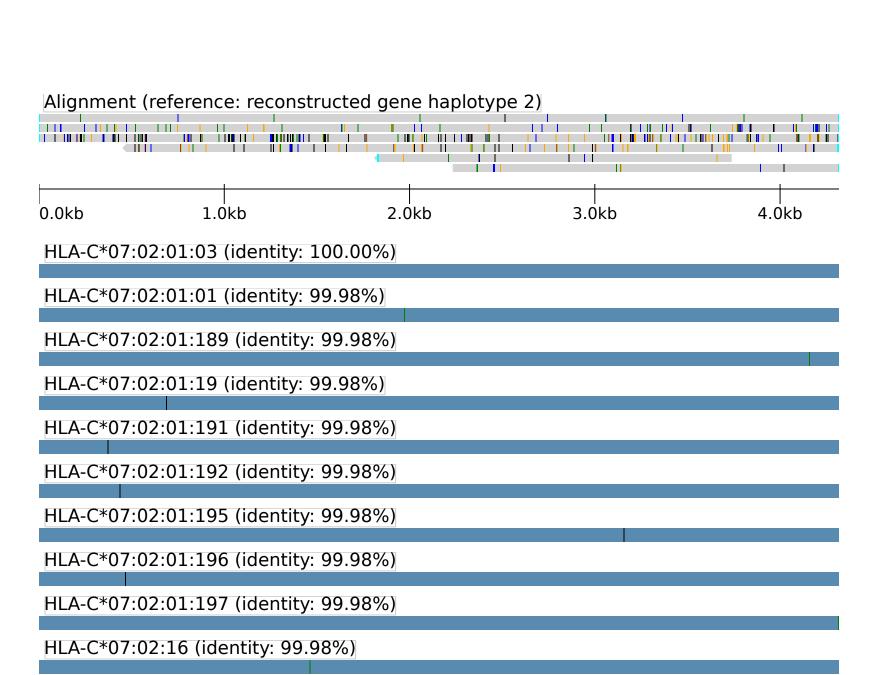
Resolution: 4th field

Full typing result:

HLA-C*07:02:01:03	HLA-C*07:02:01:01	HLA-C*07:02:01:189
HLA-C*07:02:01:19	HLA-C*07:02:01:191	HLA-C*07:02:01:192
HLA-C*07:02:01:195	HLA-C*07:02:01:196	HLA-C*07:02:01:197
HLA-C*07:02:16		

bam coverage

variants



Locus: HLA-C

Resolution: 4th field

Full typing result:

HLA-C*03:03:01:01 | HLA-C*03:03:01:34 | HLA-C*03:03:01:69

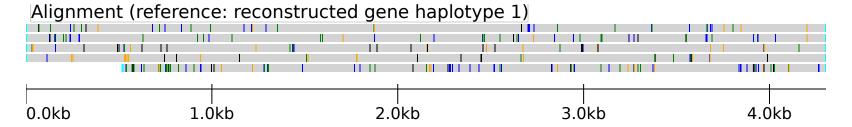
HLA-C*03:03:01:70 | HLA-C*03:03:22 | HLA-C*03:126

HLA-C*03:43:01 | HLA-C*03:479 | HLA-C*03:507

HLA-C*03:187

bam coverage

variants



HLA-C*03:03:01:01 (identity: 100.00%)

HLA-C*03:03:01:34 (identity: 99.98%)

HLA-C*03:03:01:69 (identity: 99.98%)

HLA-C*03:03:01:70 (identity: 99.98%)

HLA-C*03:03:22 (identity: 99.98%)

HLA-C*03:126 (identity: 99.98%)

HLA-C*03:43:01 (identity: 99.98%)

HLA-C*03:479 (identity: 99.98%)

HLA-C*03:507 (identity: 99.98%)

....

HLA-C*03:187 (identity: 99.98%)

Sample: HG01258 Locus: HLA-DMA Resolution: 4th field Full typing result: HLA-DMA*01:01:01:02 bam coverage **5**4 36 variants Alignment (reference: reconstructed gene haplotype 1) 143 0.0kb 5.0kb 1.0kb 2.0kb 3.0kb 4.0kb HLA-DMA*01:01:01:02 (identity: 100.00%)

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

Locus: HLA-DMB

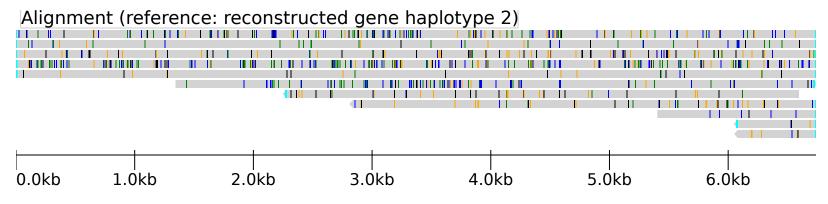
Resolution: 4th field

Full typing result:

HLA-DMB*01:01:01:03

bam coverage

variants



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

Locus: HLA-DOA

Resolution: 4th field

Full typing result:

HLA-DOA*01:01:04:01

bam coverage

variants

0.0kb 1.0kb 2.0kb 3.0kb

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

Alignment (reference: reconstructed gene haplotype 1)

Locus: HLA-DOB

Resolution: 4th field

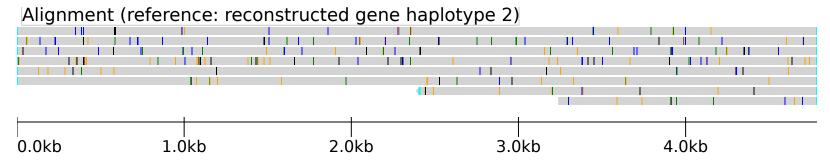
Full typing result:

HLA-DOB*01:01:01:04

bam coverage

variants

variancs



HLA-DOB*01:01:01:04 (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

7

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb 1.0kb 2.0kb 3.0kb 4.0kb

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

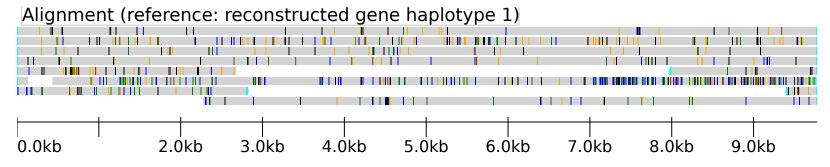
Resolution: 4th field

Full typing result:

HLA-DPA1*01:03:01:02

bam coverage

variants



HLA-DPA1*01:03:01:02 (identity: 100.00%)

Locus: HLA-DPA1

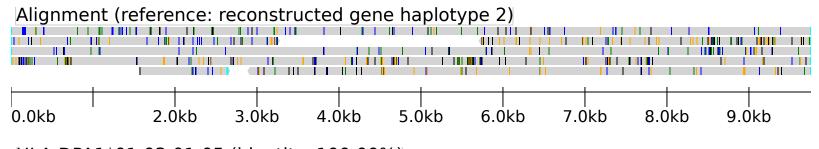
Resolution: 4th field

Full typing result:

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

bam coverage

variants



HLA-DPA1*01:03:01:05 (identity: 100.00%)

HLA-DPA1*01:03:01:15 (identity: 99.99%)

HLA-DPA1*01:03:01:74 (identity: 99.99%)

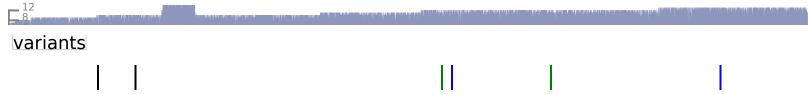
Locus: HLA-DPA2

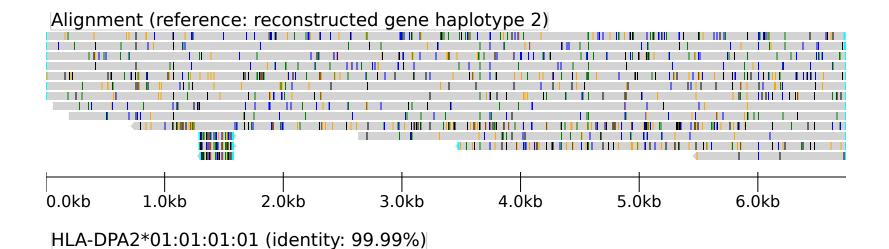
Resolution: 4th field

Full typing result:

HLA-DPA2*01:01:01:01

bam coverage





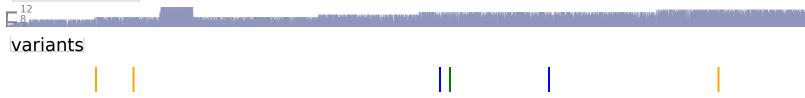
Locus: HLA-DPA2

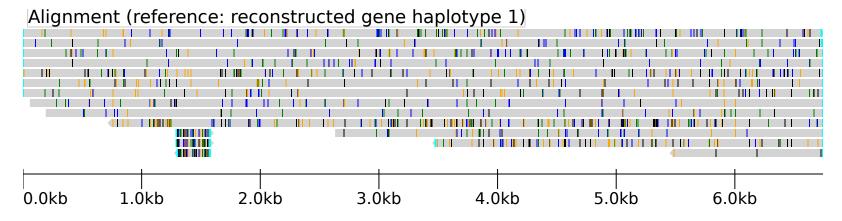
Resolution: 4th field

Full typing result:

HLA-DPA2*01:01:01:02

bam coverage





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

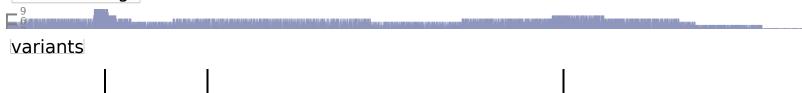
Locus: HLA-DPB1

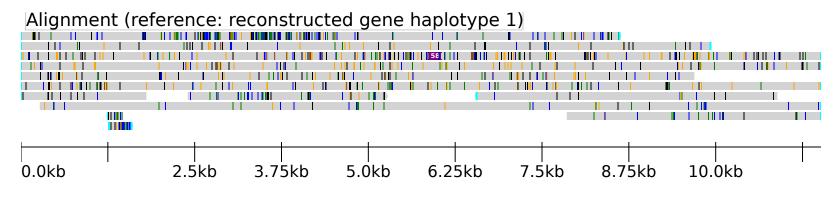
Resolution: 4th field

Full typing result:

HLA-DPB1*04:02:01:02	HLA-DPB1*04:02:01:03	HLA-DPB1*04:02:01:04
HLA-DPB1*04:02:01:05	HLA-DPB1*04:02:01:07	HLA-DPB1*04:02:01:09
HLA-DPB1*04:02:01:11	HLA-DPB1*04:02:01:14	HLA-DPB1*04:02:01:15
HLA-DPB1*04:02:01:18	HLA-DPB1*04:02:01:21	HLA-DPB1*04:02:01:22
	·	·
HLA-DPB1*04:02:01:24	HLA-DPB1*04:02:01:25	HLA-DPB1*04:02:01:26

bam coverage





HLA-DPB1*04:02:01:02 (identity: 100.00%)

HLA-DPB1*04:02:01:03 (identity: 99.99%)

HLA-DPB1*04:02:01:04 (identity: 99.99%)

HLA-DPB1*04:02:01:05 (identity: 99.99%)

HLA-DPB1*04:02:01:07 (identity: 99.99%)

HLA-DPB1*04:02:01:09 (identity: 99.99%)

HLA-DPB1*04:02:01:11 (identity: 99.99%)

HLA-DPB1*04:02:01:14 (identity: 99.99%)

HLA-DPB1*04:02:01:15 (identity: 99.95%)

HLA-DPB1*04:02:01:18 (identity: 99.99%)

Locus: HLA-DPB1

Resolution: 4th field

Full typing result:

 HLA-DPB1*04:01:01
 HLA-DPB1*04:01:01:15
 HLA-DPB1*04:01:60:01

 HLA-DPB1*666:01
 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

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2) _____ 0.0kb 6.25kb 8.75kb 2.5kb 3.75kb 5.0kb 7.5kb 10.0kb

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

HLA-DPB1*04:01:01:15 (identity: 99.97%)

HLA-DPB1*04:01:60:01 (identity: 99.99%)

HLA-DPB1*666:01 (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%)

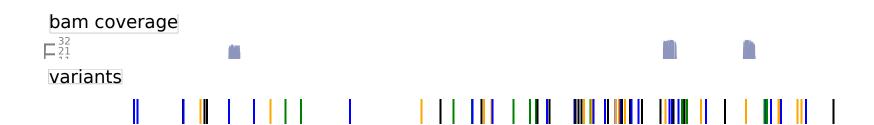
HLA-DPB1*04:01:01:02 (identity: 99.92%)

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

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

Sample: HG01258 Locus: HLA-DPB2 Resolution: 4th field Full typing result:







Locus: HLA-DPB2

Resolution: 4th field

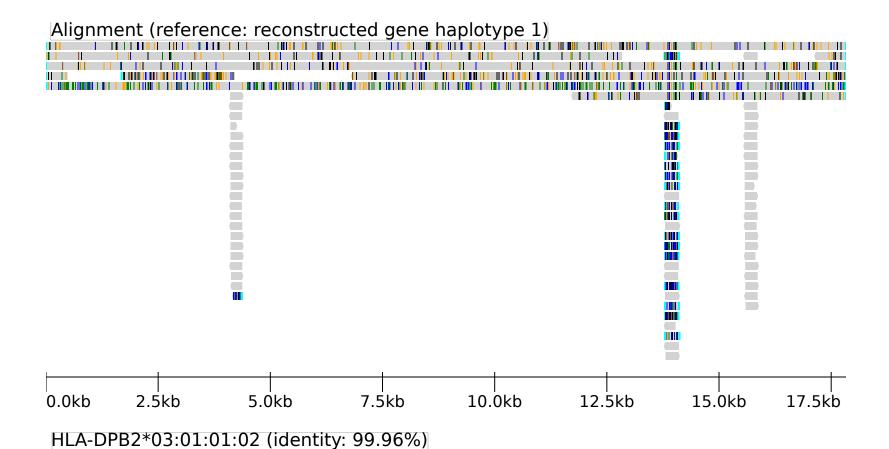
Full typing result:

HLA-DPB2*03:01:01:02

bam coverage

□ 28 19

variants



Locus: HLA-DQA1

Resolution: 4th field

Full typing result:

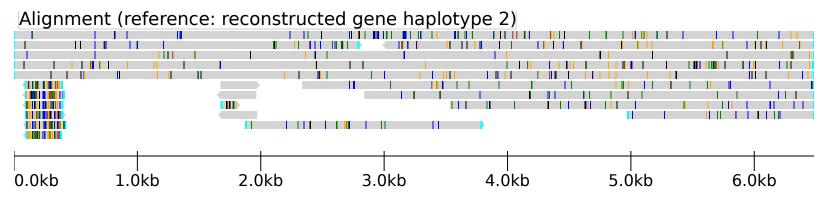
HLA-DQA1*01:05:01:01

bam coverage



variants





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

Locus: HLA-DQA1

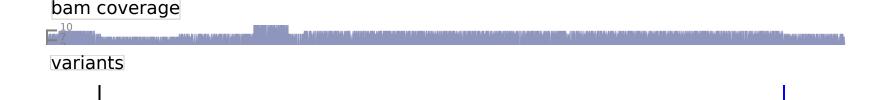
Resolution: 4th field

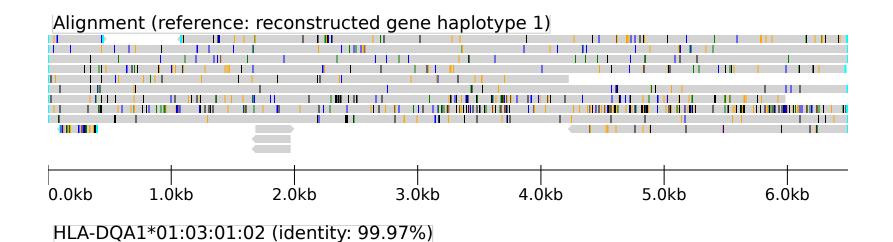
Full typing result:

HLA-DQA1*01:03:01:02 | HLA-DQA1*01:03:01:12 | HLA-DQA1*01:03:01:17

HLA-DQA1*01:03:01:12 (identity: 99.95%)

HLA-DQA1*01:03:01:17 (identity: 99.95%)





Locus: HLA-DQA2

Resolution: 4th field

Full typing result:

HLA-DQA2*01:01:01:02

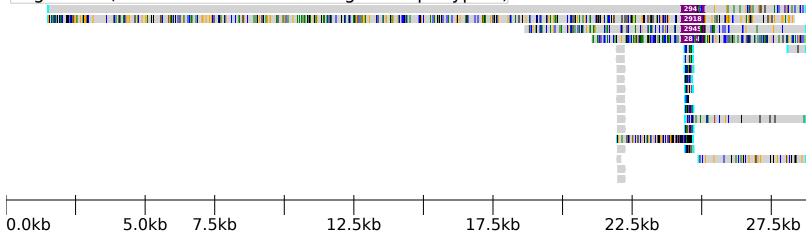
bam coverage

L 16

variants



Alignment (reference: reconstructed gene haplotype 2)



HLA-DQA2*01:01:01:02 (identity: 99.79%)

Locus: HLA-DQA2

Resolution: 4th field

Full typing result:

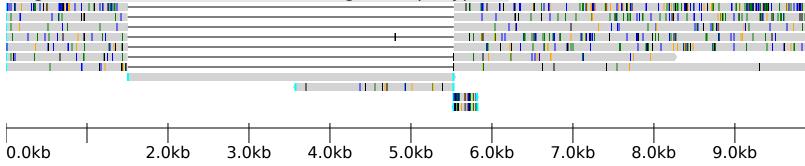
HLA-DQA2*01:01:02:01

bam coverage

variants







HLA-DQA2*01:01:02:01 (identity: 31.26%)

Locus: HLA-DQB1

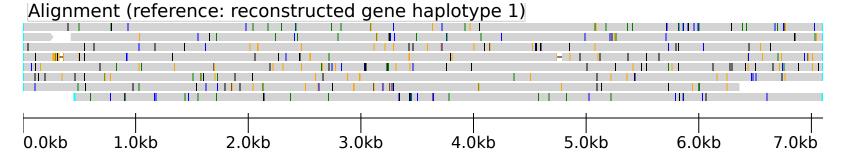
Resolution: 4th field

Full typing result:

HLA-DQB1*06:03:01:01

bam coverage

variants



HLA-DQB1*06:03:01:01 (identity: 100.00%)

Locus: HLA-DQB1

Resolution: 4th field

Full typing result:

HLA-DQB1*05:01:01:05

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)

Ookb 1.0kb 2.0kb 3.0kb 4.0kb 5.0kb 6.0kb 7.0kb

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*01:01:01:15

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb 1.0kb 2.0kb 3.0kb 4.0kb 5.0kb 6.0kb 7.0kb

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

HLA-DQB2*01:01:01:15 (identity: 99.97%)

Locus: HLA-DQB2

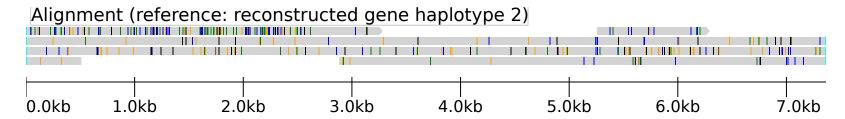
Resolution: 4th field

Full typing result:

HLA-DQB2*01:02:02:01

bam coverage

variants



HLA-DQB2*01:02:02:01 (identity: 100.00%)

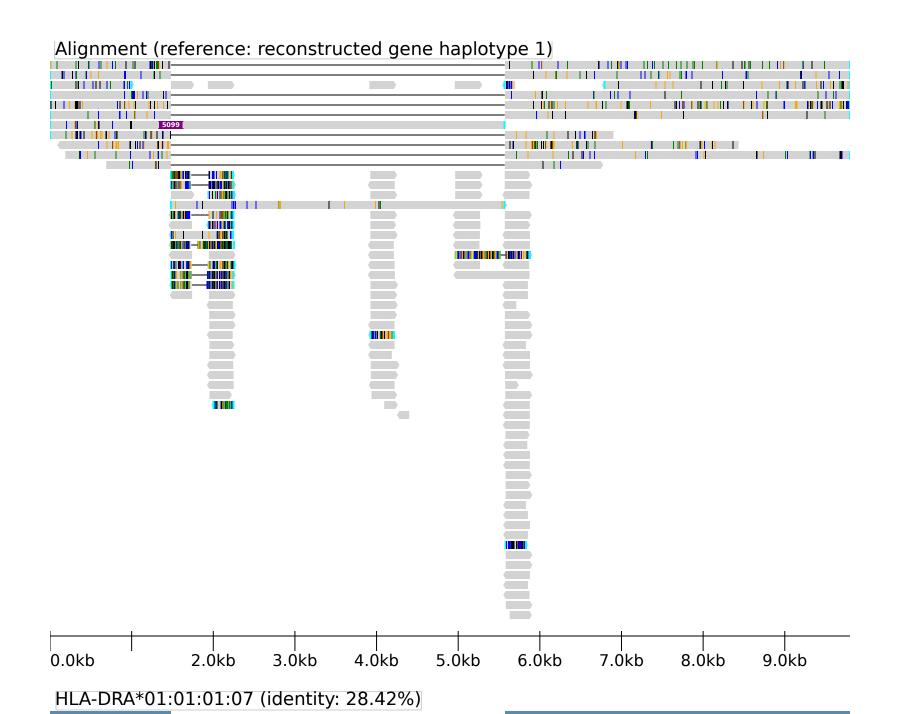
Locus: HLA-DRA

Resolution: 4th field

Full typing result:

HLA-DRA*01:01:01:07





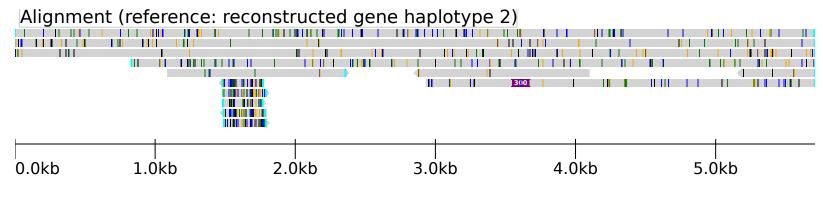
Locus: HLA-DRA

Resolution: 4th field

Full typing result:

HLA-DRA*01:01:01:11





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

Locus: HLA-DRB1

Resolution: 4th field

Full typing result:

HLA-DRB1*14:243

bam coverage

variants

HLA-DRB1*14:243 (identity: 82.84%)

131

Alignment (reference: reconstructed gene haplotype 2) 1 3CF 1 30 31. (31.(- 3(i) 45 31 (630) 31; (296) 13(9 31,7 3(4 0.0kb2.5kb 3.75kb 5.0kb 6.25kb 7.5kb 8.75kb 10.0kb 11.25kb

Resolution: 4th field Full typing result: HLA-DRB1*13:01:01:01 bam coverage **■** 47 32 variants Alignment (reference: reconstructed gene haplotype 1) Alignment (reference: reconstructed gene naplotype 1) 317 5 | | | 0.0kb 3.75kb 13.75kb 2.5kb 5.0kb 7.5kb 11.25kb 6.25kb 8.75kb HLA-DRB1*13:01:01:01 (identity: 99.75%)

Sample: HG01258

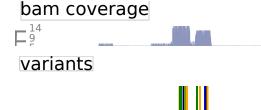
Locus: HLA-DRB1

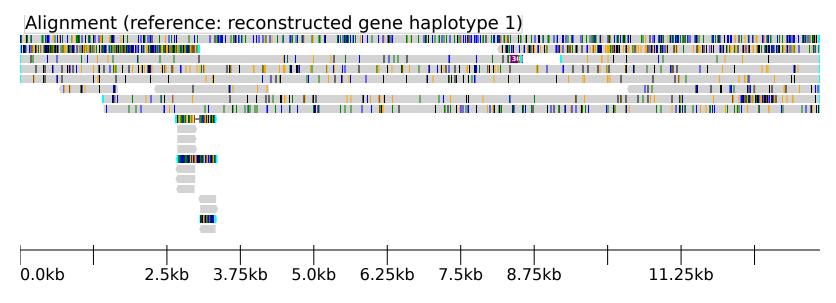
Locus: HLA-DRB3

Resolution: 4th field

Full typing result:

HLA-DRB3*02:02:01:02



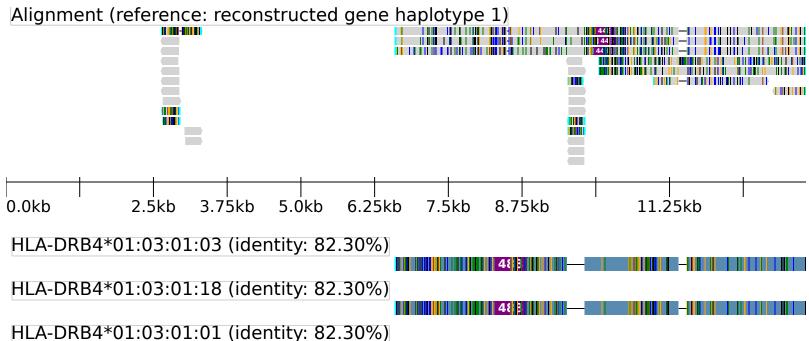


HLA-DRB3*02:02:01:02 (identity: 100.00%)

Locus: HLA-DRB4

Resolution: 4th field

Full typing result:



Locus: HLA-DRB4

Resolution: 4th field

Full typing result:

HLA-DRB4*01:03:01:01 HLA-DRB4*01:03:01:03 HLA-DRB4*01:03:01:18 HLA-DRB4*01:03:01:02N HLA-DRB4*01:152

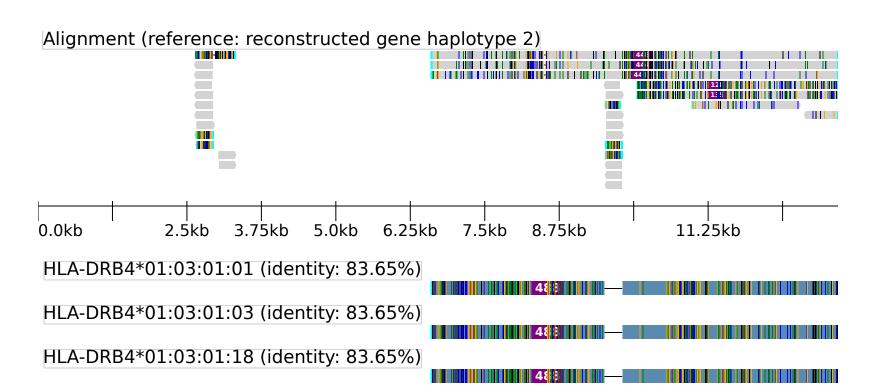
bam coverage

Variants

HLA-DRB4*01:03:01:02N (identity: 83.61%)

HLA-DRB4*01:152 (identity: 83.64%)





Locus: HLA-DRB5

Resolution: 4th field

Full typing result:

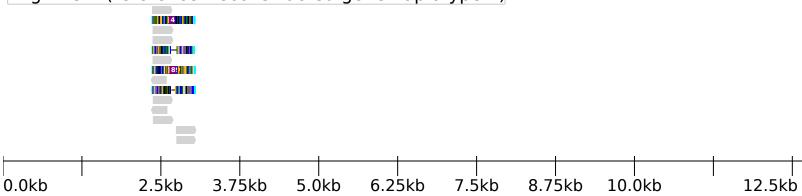
HLA-DRB5*01:01:01:03 | HLA-DRB5*01:131N

bam coverage

□ ¹⁰ ⁷

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-DRB5*01:01:01:03 (identity: 98.25%)

HLA-DRB5*01:131N (identity: 98.25%)

Locus: HLA-DRB5

Resolution: 4th field

Full typing result:

HLA-DRB5*01:02:01

bam coverage

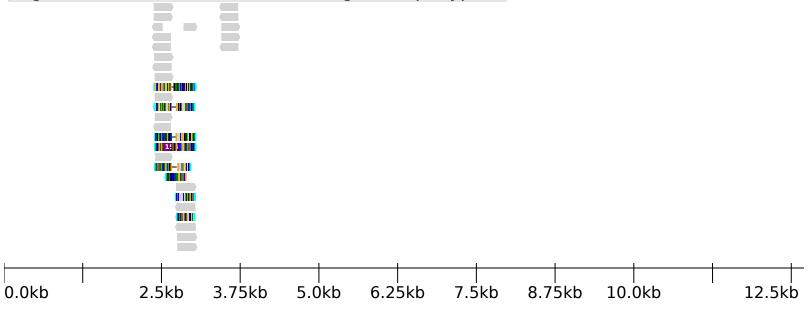
L 14 10



variants



Alignment (reference: reconstructed gene haplotype 1)



HLA-DRB5*01:02:01 (identity: 63.91%)



Locus: HLA-E

Resolution: 4th field

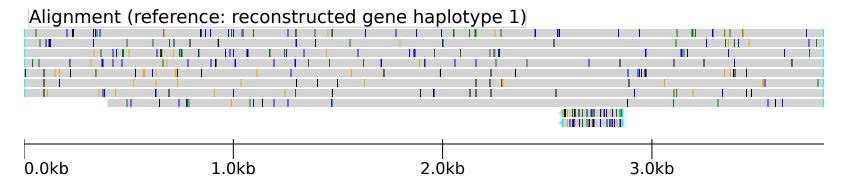
Full typing result:

HLA-E*01:03:02:01

bam coverage

variants

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

Locus: HLA-E

Resolution: 4th field

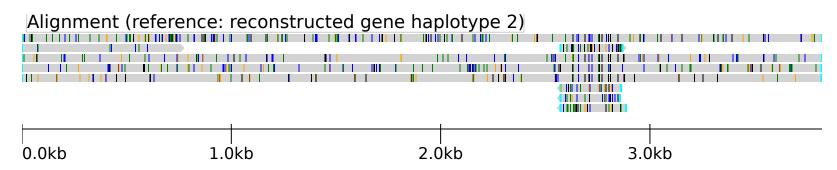
Full typing result:

HLA-E*01:01:02

bam coverage

5

variants



HLA-E*01:01:02 (identity: 99.63%)

Locus: HLA-F

Resolution: 4th field

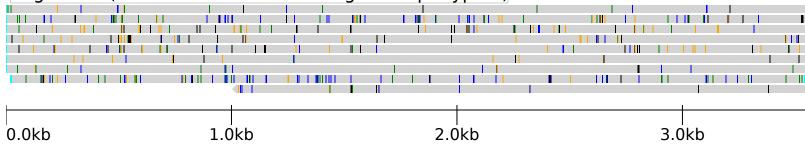
Full typing result:

HLA-F*01:03:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-F*01:03:01:01 (identity: 100.00%)

Locus: HLA-F

Resolution: 4th field

Full typing result:

HLA-F*01:01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb 1.0kb 2.0kb 3.0kb

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

Locus: HLA-G

Resolution: 4th field

Full typing result:

HLA-G*01:01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

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

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

Locus: HLA-G

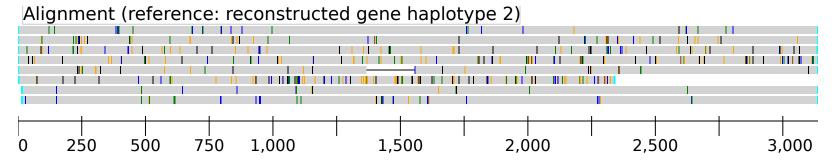
Resolution: 4th field

Full typing result:

HLA-G*01:01:01:05

bam coverage

variants



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

Locus: HLA-H

Resolution: 4th field

Full typing result:

HLA-H*01:01:01:01

bam coverage

variants

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

Locus: HLA-H

Resolution: 4th field

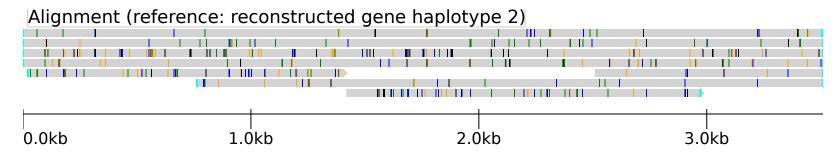
Full typing result:

HLA-H*02:04:01

bam coverage

_ 7 5

variants



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

Locus: HLA-J

Resolution: 4th field

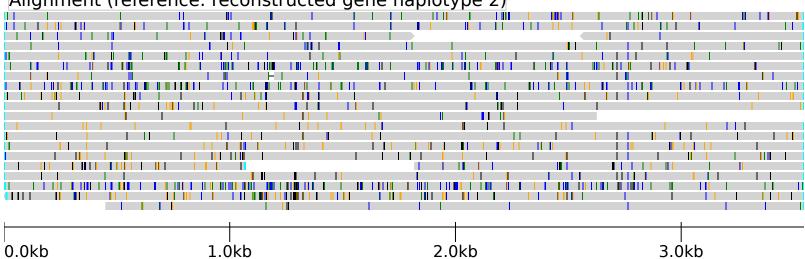
Full typing result:

HLA-J*01:01:01:05

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



HLA-J*01:01:05 (identity: 100.00%)

Locus: HLA-J

Resolution: 4th field

Full typing result:

HLA-J*01:01:01:04

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb

1.0kb

2.0kb

3.0kb

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-K

Resolution: 4th field

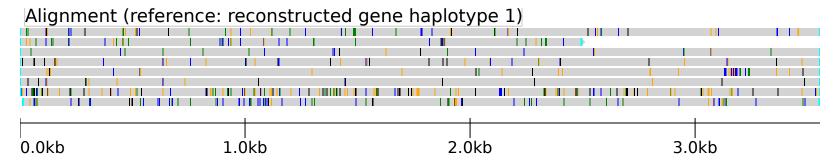
Full typing result:

HLA-K*01:02

bam coverage

Marianto

variants



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

Locus: HLA-L

Resolution: 4th field

Full typing result:

HLA-L*01:01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

0.0kb 1.0kb 2.0kb 3.0kb

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

Locus: HLA-N

Resolution: 4th field

Full typing result:

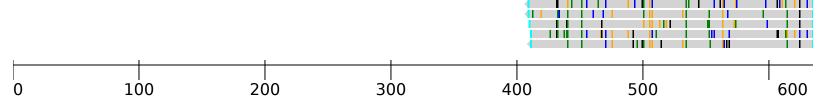
HLA-N*01:01:01:01 HLA-N*01:01:03

bam coverage

— 5 3

variants

Alignment (reference: reconstructed gene haplotype 1)



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

HLA-N*01:01:03 (identity: 100.00%)

Locus: HLA-P

Resolution: 4th field

Full typing result:

HLA-P*02:01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

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

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

Locus: HLA-P

Resolution: 4th field

Full typing result:

HLA-P*02:01:01:02

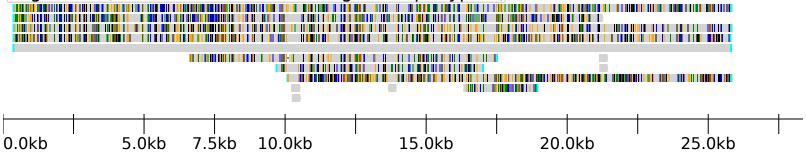


9 6

variants



Alignment (reference: reconstructed gene haplotype 2)



HLA-P*02:01:01:02 (identity: 96.28%)

Locus: HLA-T

Resolution: 4th field

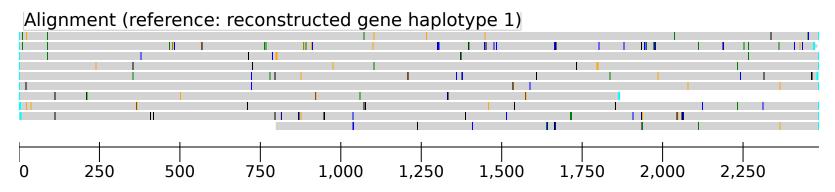
Full typing result:

HLA-T*01:01:01:05

bam coverage

I 6

variants



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

Locus: HLA-T

Resolution: 4th field

Full typing result:

HLA-T*03:01:01:01

bam coverage

0

variants

Alignment (reference: reconstructed gene haplotype 2) 250 500 750 1,000 1,250 1,500 1,750 2,000 2,250

HLA-T*03:01:01:01 (identity: 99.40%)

Locus: HLA-U

Resolution: 4th field

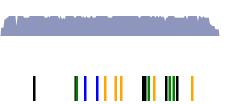
Full typing result:

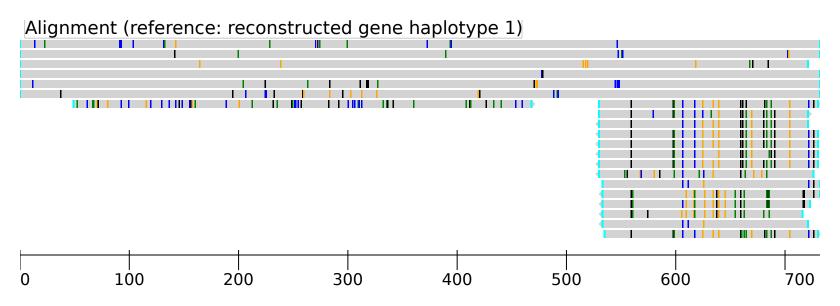
HLA-U*01:03

bam coverage

L 18

variants





HLA-U*01:03 (identity: 100.00%)

Locus: HLA-U

Resolution: 4th field

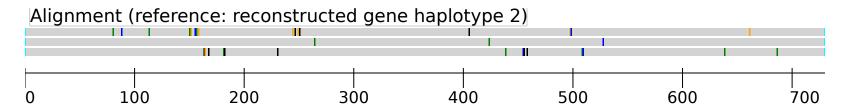
Full typing result:

HLA-U*01:04

bam coverage

3

variants



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

Locus: HLA-V

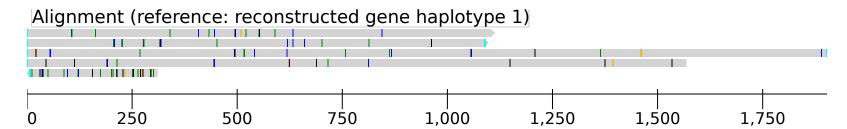
Resolution: 4th field

Full typing result:

HLA-V*01:01:01:01

bam coverage

variants



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

Locus: HLA-W

Resolution: 4th field

Full typing result:

HLA-W*01:01:01:05

bam coverage

F 3

variants





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

Locus: HLA-W

Resolution: 4th field

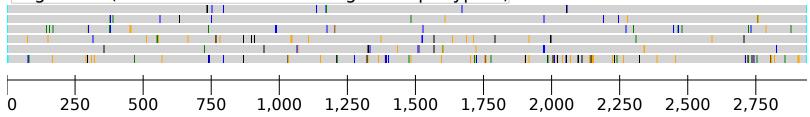
Full typing result:

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

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)

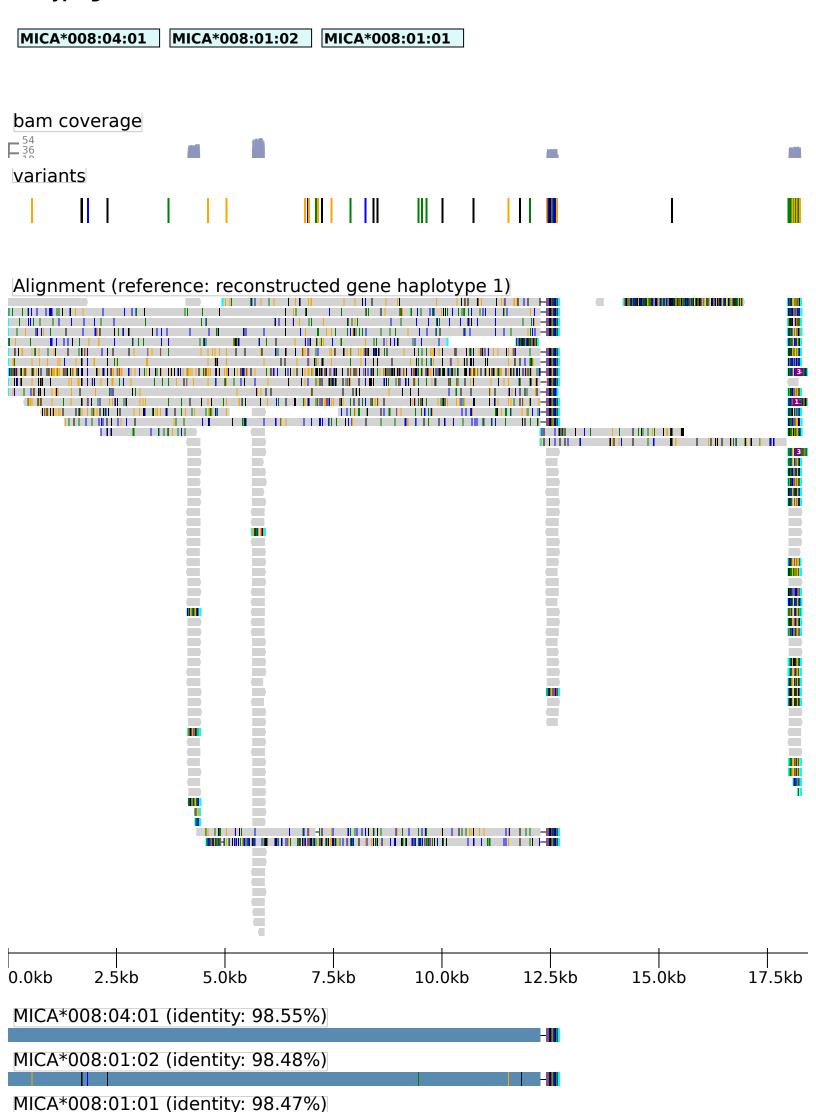


HLA-W*03:01:01:01 (identity: 99.93%)

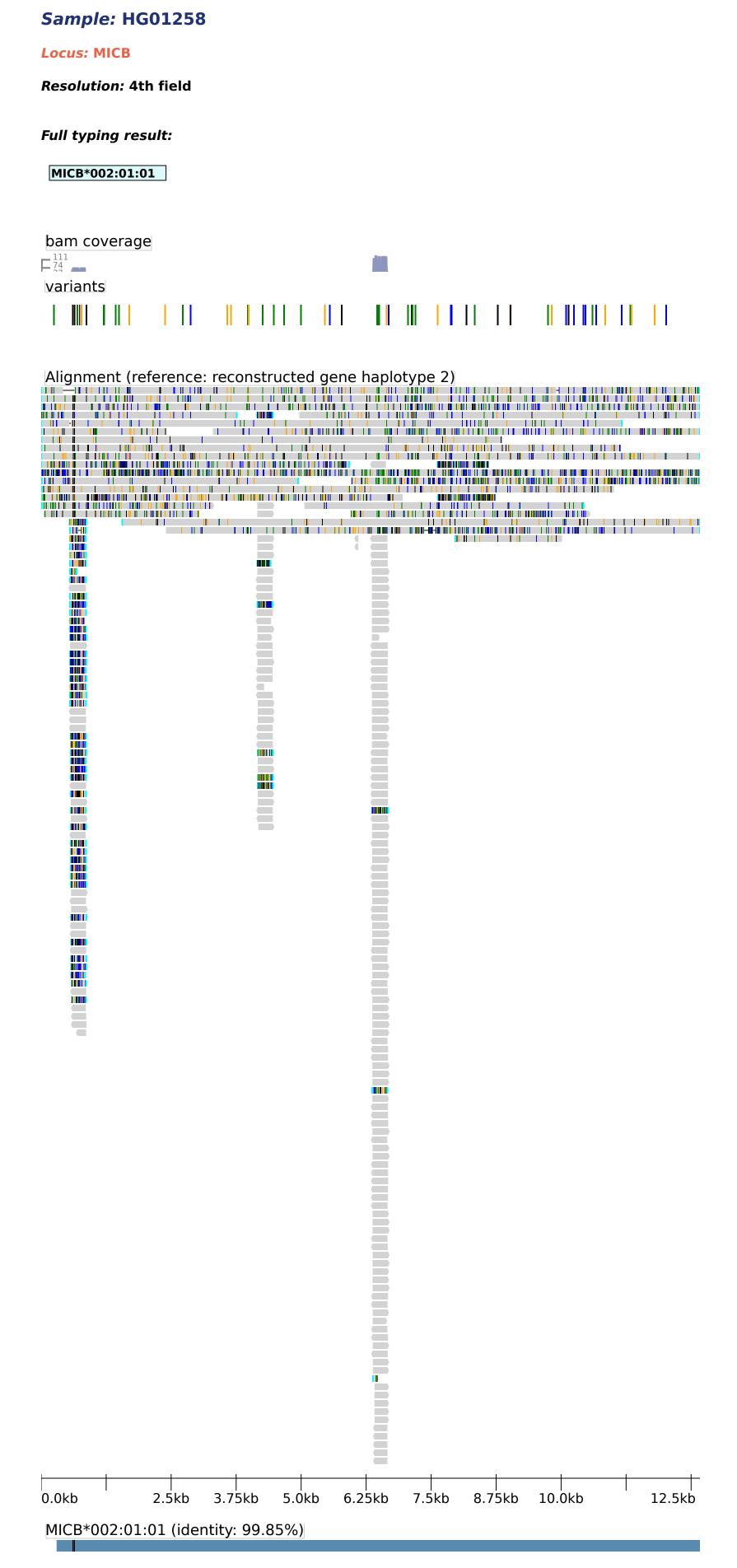
HLA-W*03:01:01:02 (identity: 99.90%)

Sample: HG01258 Locus: MICA Resolution: 4th field

Full typing result:







Locus: TAP1

Resolution: 4th field

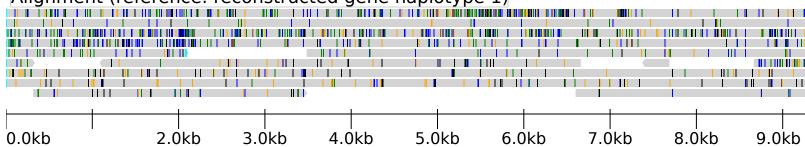
Full typing result:

TAP1*01:01:01:01

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 1)



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

Locus: TAP1

Resolution: 4th field

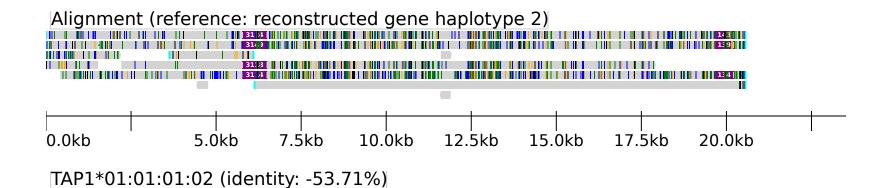
Full typing result:

TAP1*01:01:01:02

bam coverage

variants





Locus: TAP2

Resolution: 4th field

Full typing result:

TAP2*02:01:02:03

bam coverage

variants

TAP2*02:01:02:03 (identity: 100.00%)

Locus: TAP2

Resolution: 4th field

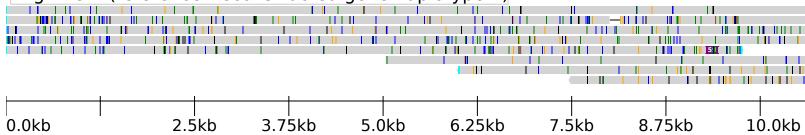
Full typing result:

TAP2*01:01:07:05

bam coverage

variants

Alignment (reference: reconstructed gene haplotype 2)



TAP2*01:01:07:05 (identity: 100.00%)