FIG. 1

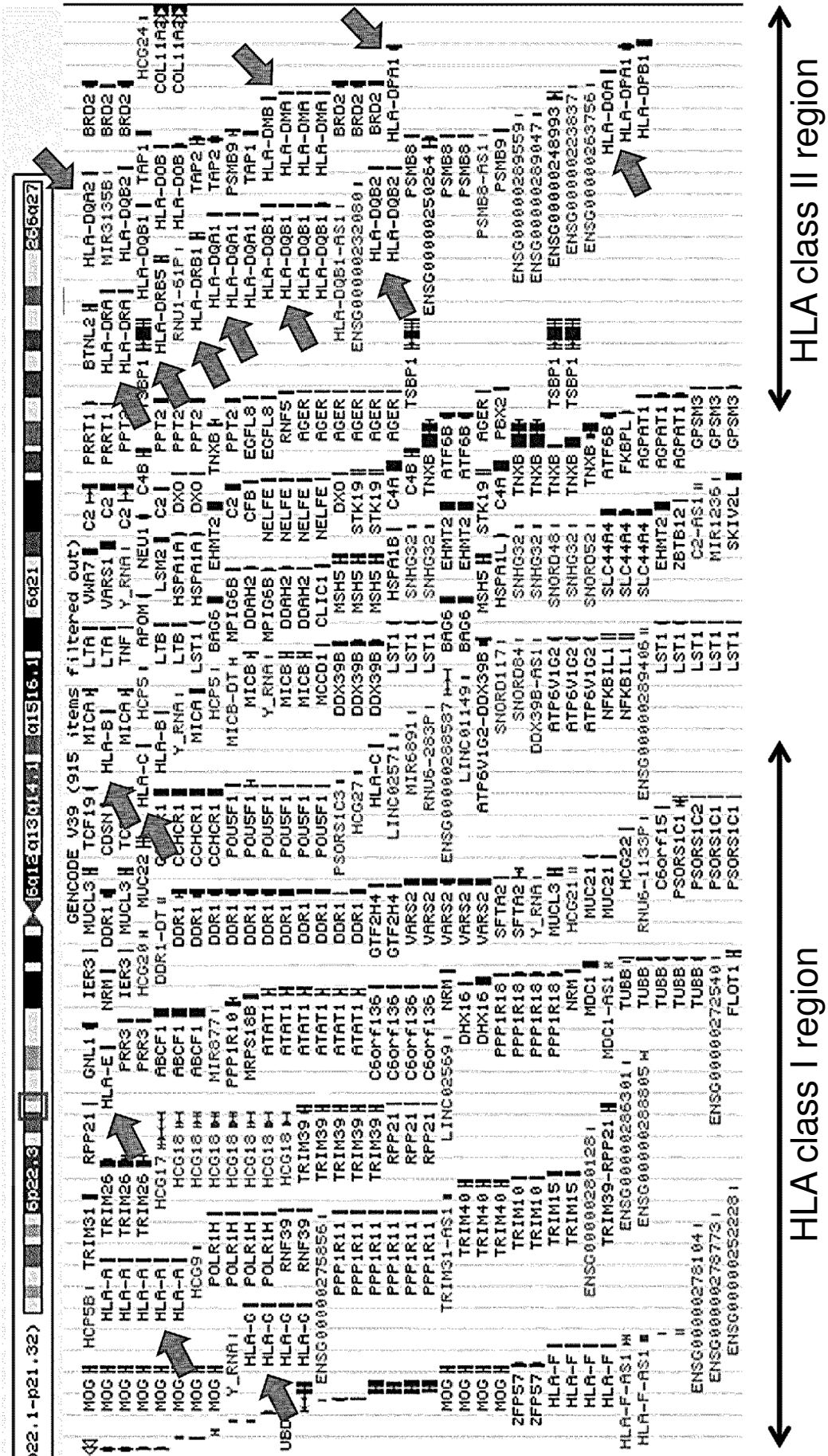


FIG. 2

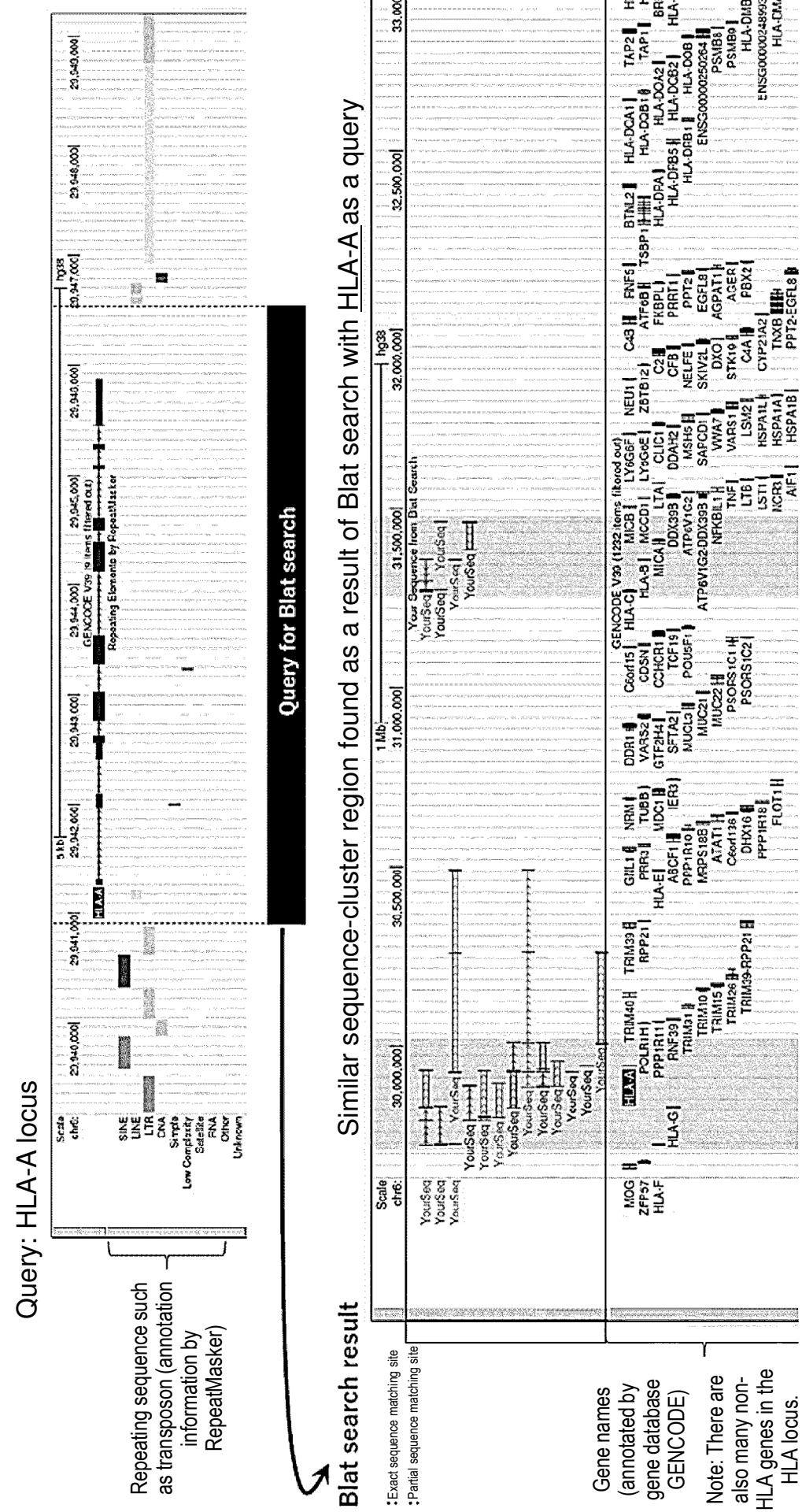

Query: HLA-A locus
Repeating sequence such as transposon (annotation information by RepeatMasker)
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-A as a query
I : Exact sequence matching site
I : Partial sequence matching site
Gene names (annotated by gene database GENCODE)
Note: There are also many non-HLA genes in the HLA locus.

FIG. 3

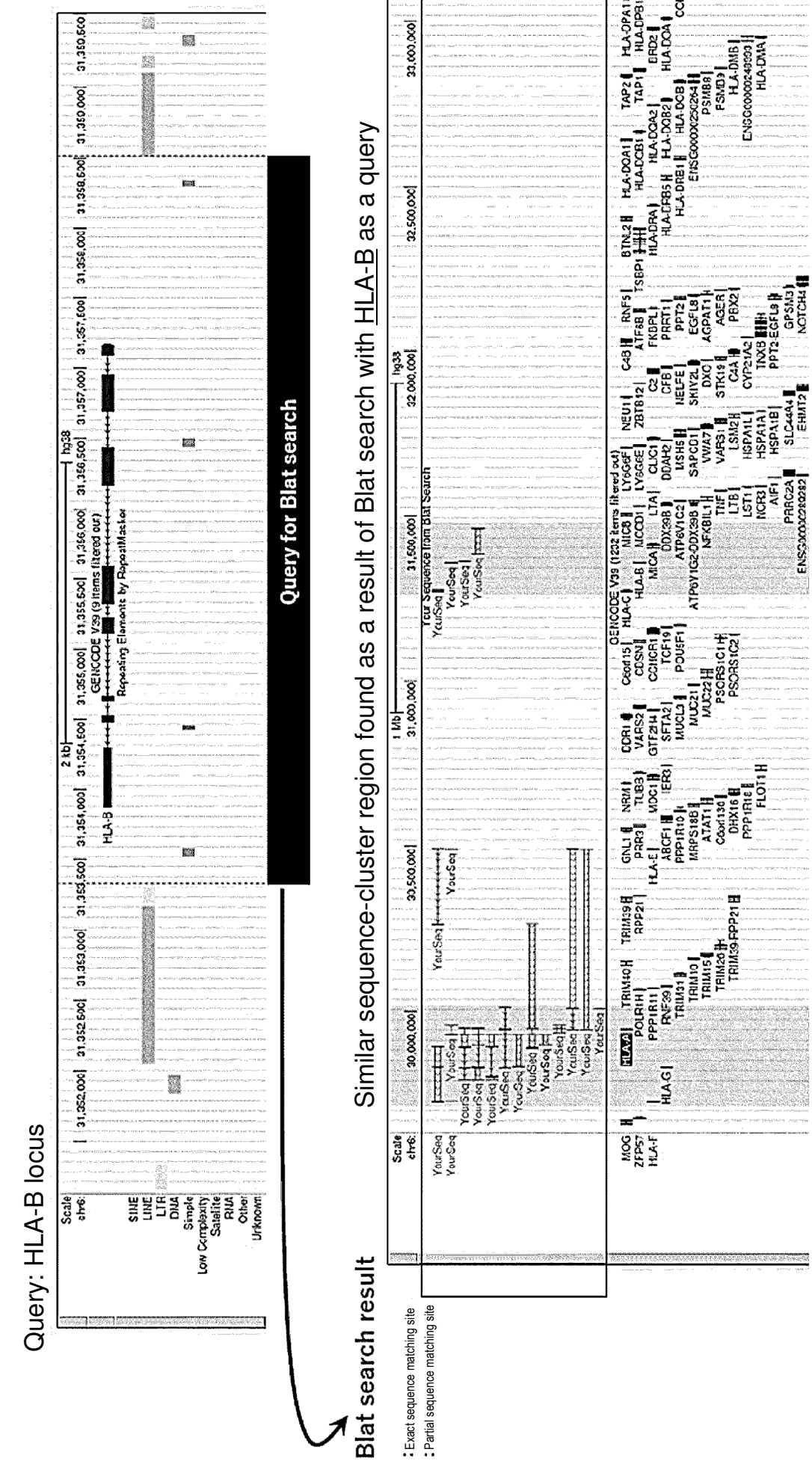
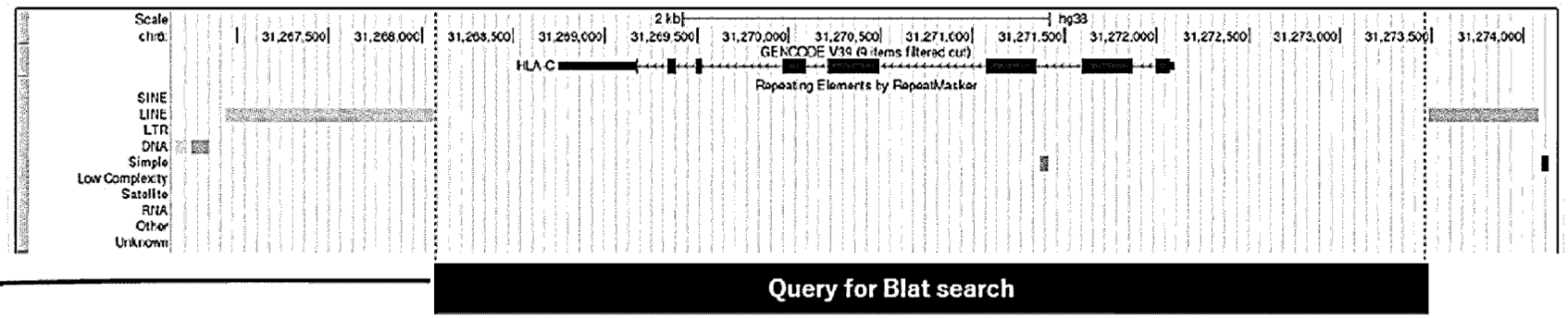

Query: HLA-B locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-B as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 4

Query: HLA-C locus



Blat search result

Similar sequence-cluster region found as a result of Blat search with HLA-C as a query

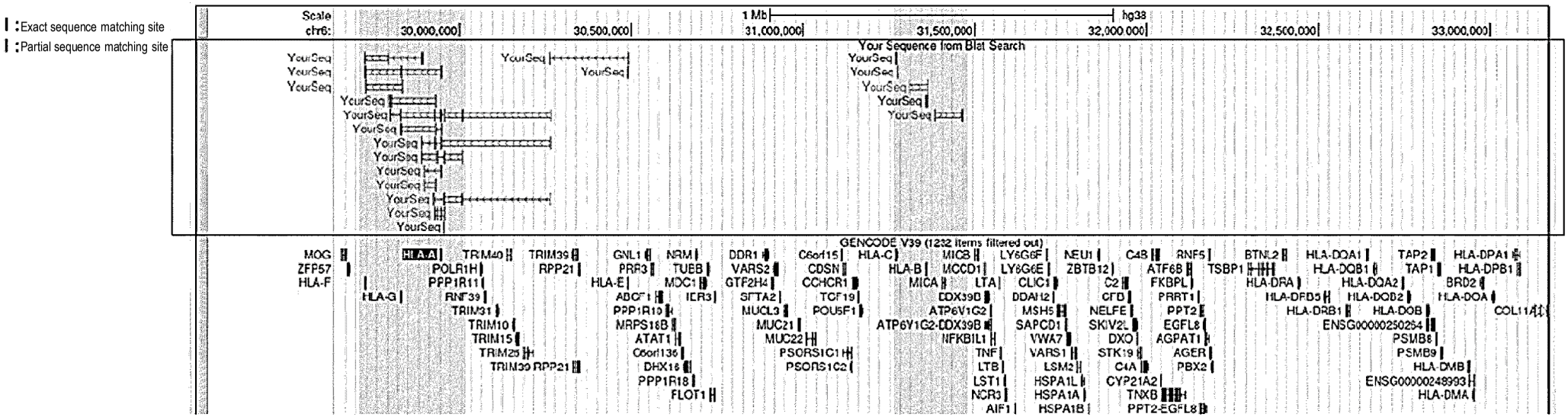


FIG. 5

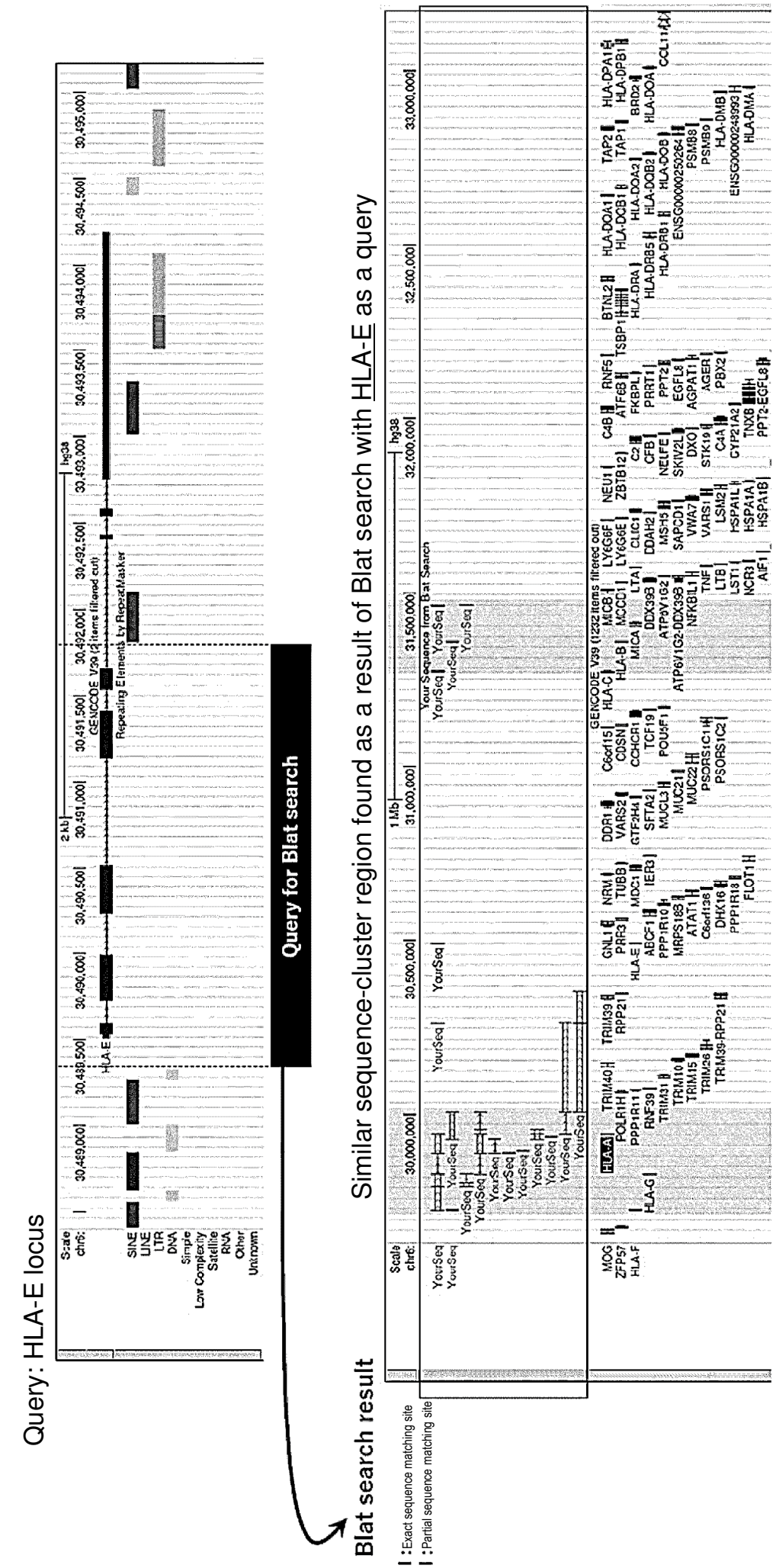

Query: HLA-E locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-E as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 6

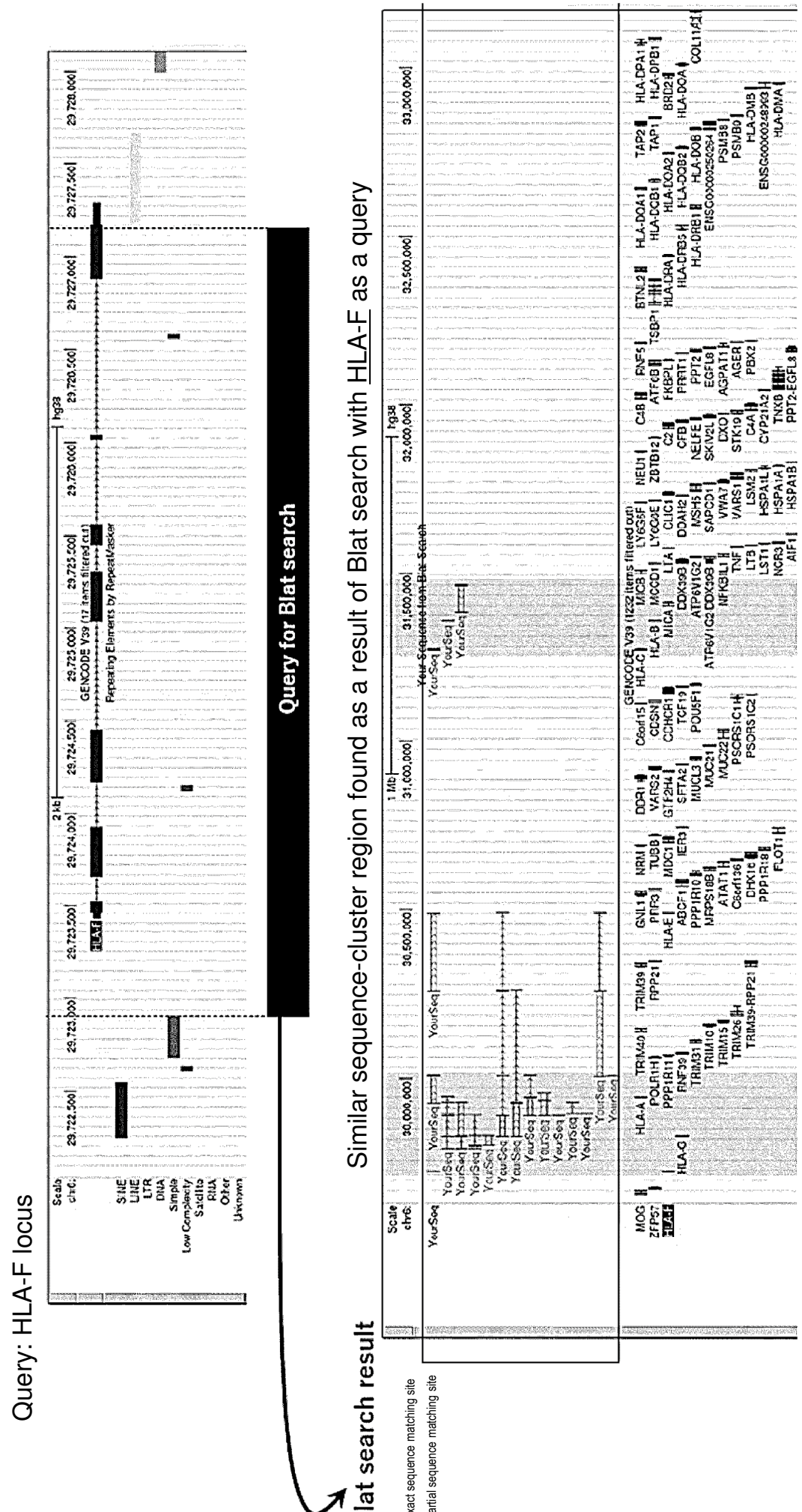

Query: HLA-F locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-F as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 7

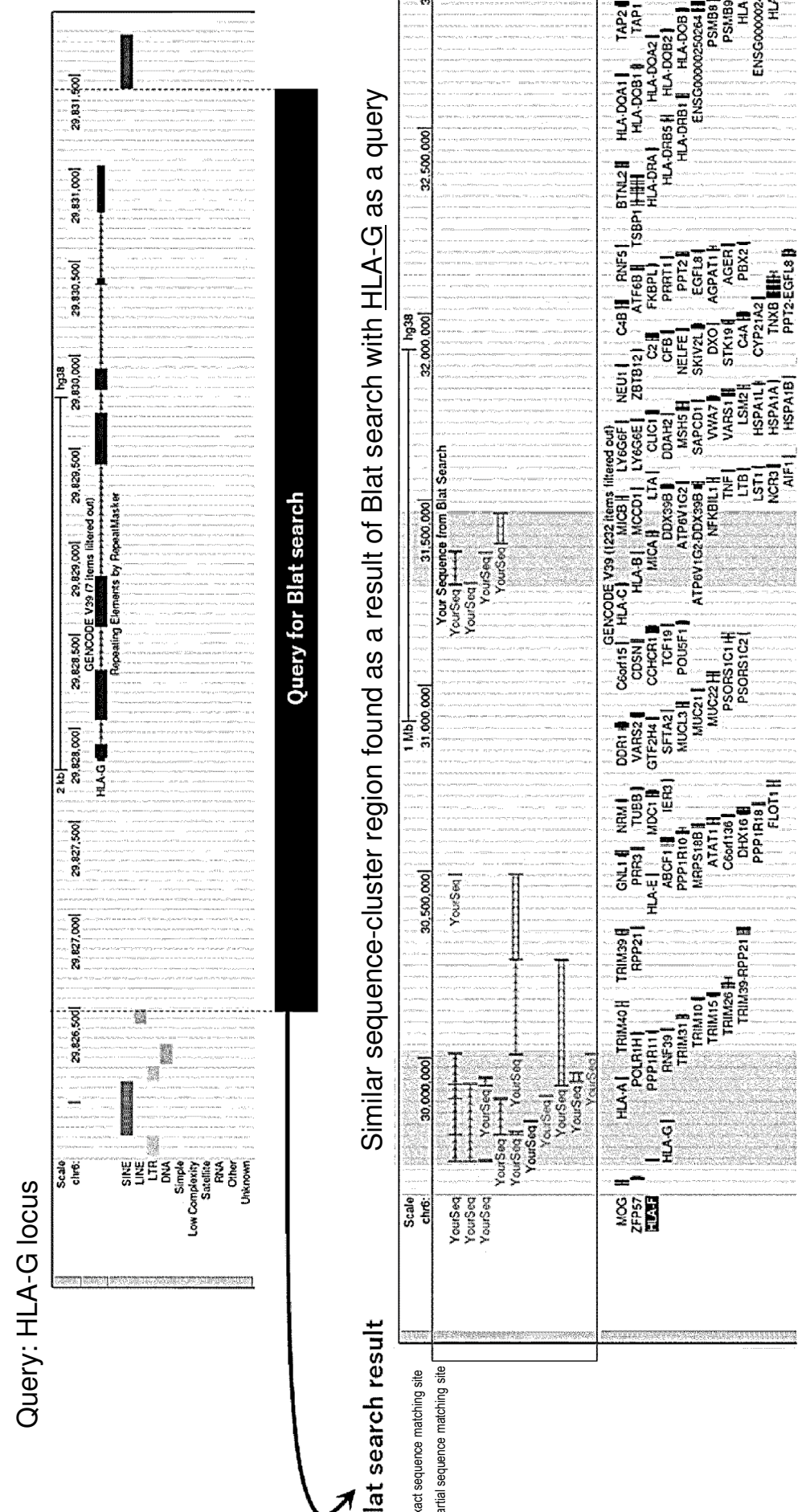

Query: HLA-G locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-G as a query
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
Repeating Elements by RepeatMasker
GENCODE V39 (7 items filtered out)
: Exact sequence matching site
: Partial sequence matching site

FIG. 8

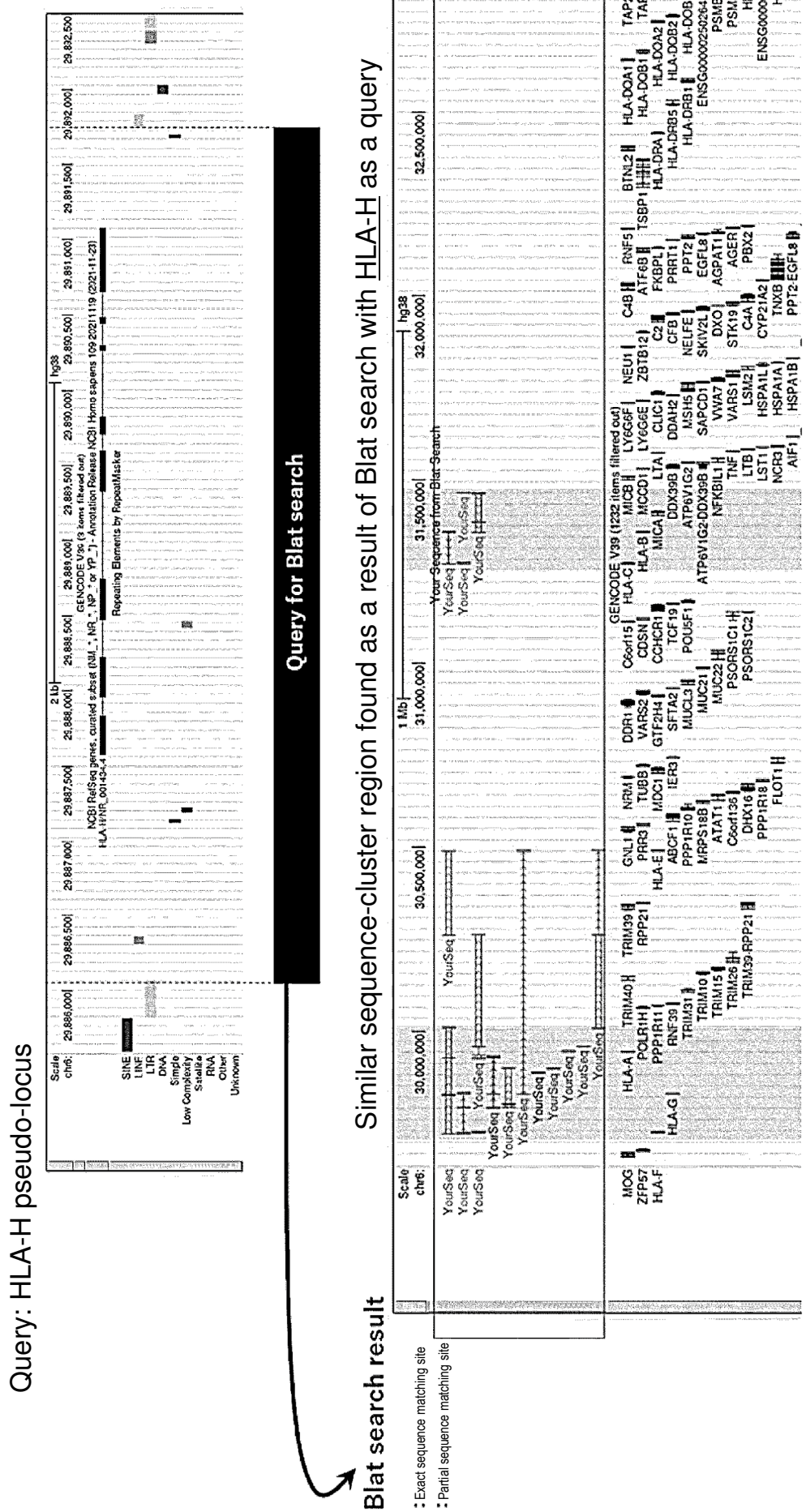

Query: HLA-H pseudo-locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-H as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 9

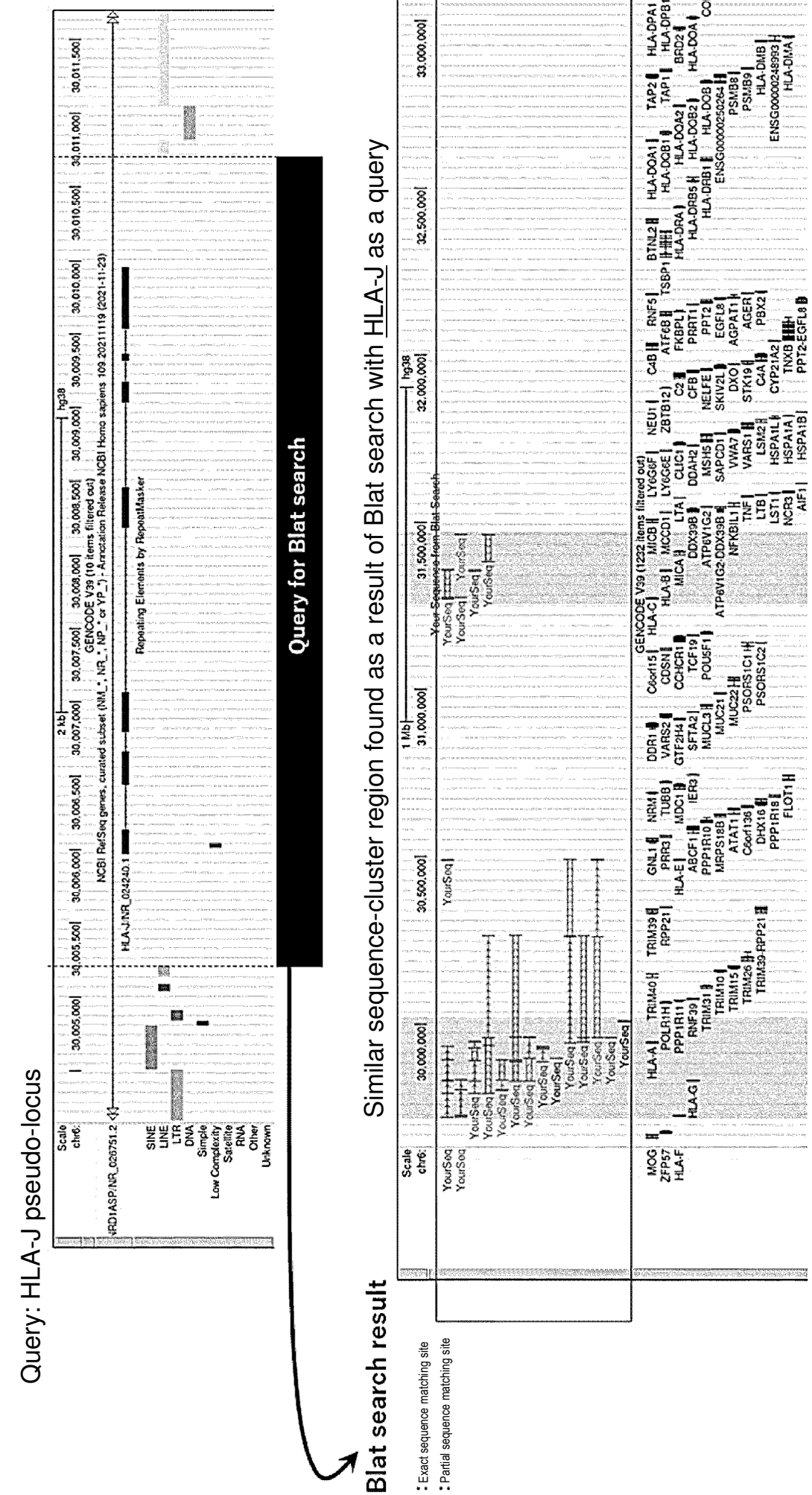

Query: HLA-J pseudo-locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-J as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 10

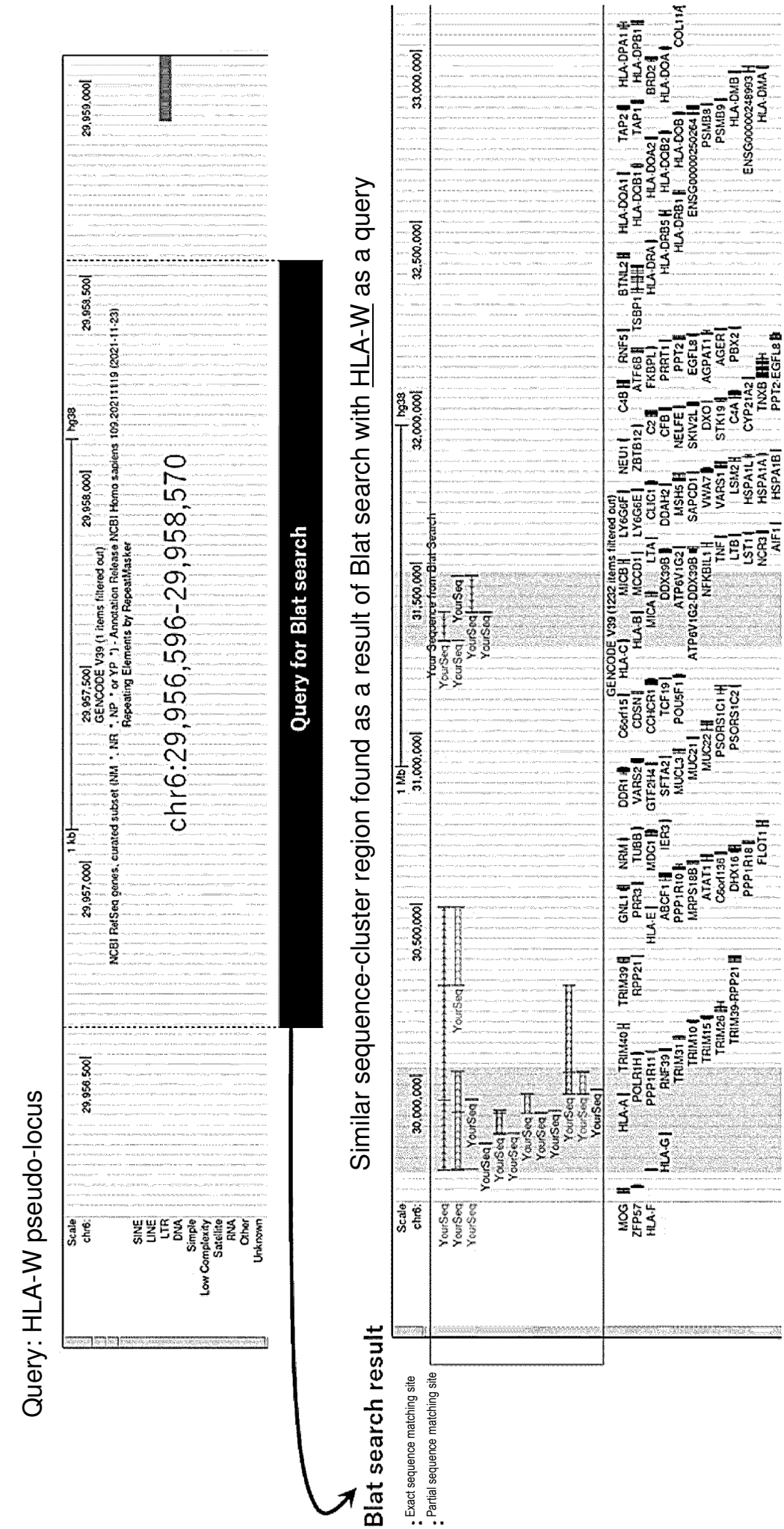

Query: HLA-W pseudo-locus
chr6:29,956,596-29,958,570
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with HLA-W as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 11

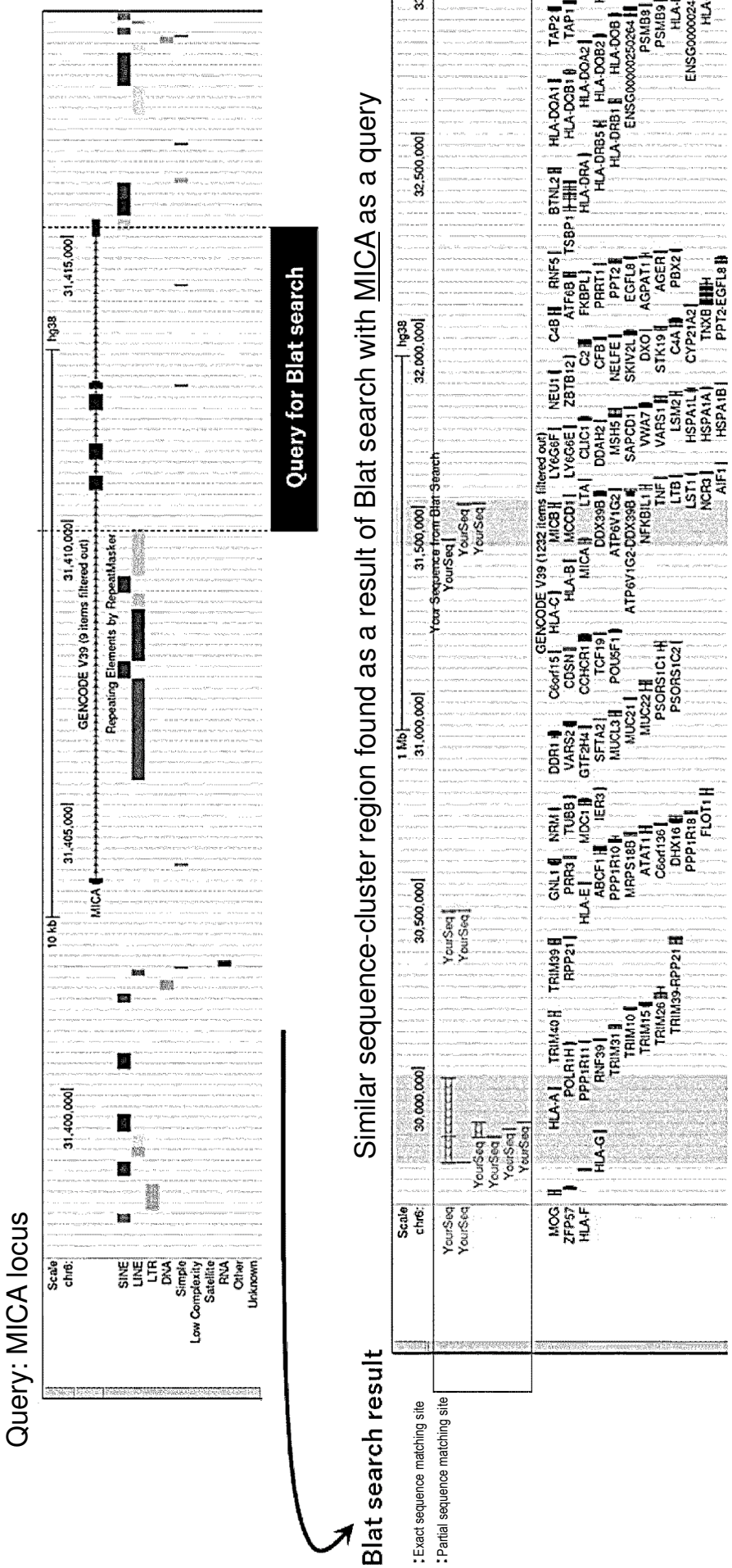

Query: MICA locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with MICA as a query
: Exact sequence matching site
: Partial sequence matching site
GENCODE V39 (9 items filtered out)
Repeating Elements by RepeatMasker
GENCODE V39 (1232 items filtered out)
Your Sequence from Blat Search
hg38
MICA
HLA-A
HLA-B
HLA-C
HLA-DRB1
HLA-DQA1
HLA-DQB1
HLA-DPA1
HLA-DPB1
TAP1
TAP2
BRD2
COL11A2

FIG. 12

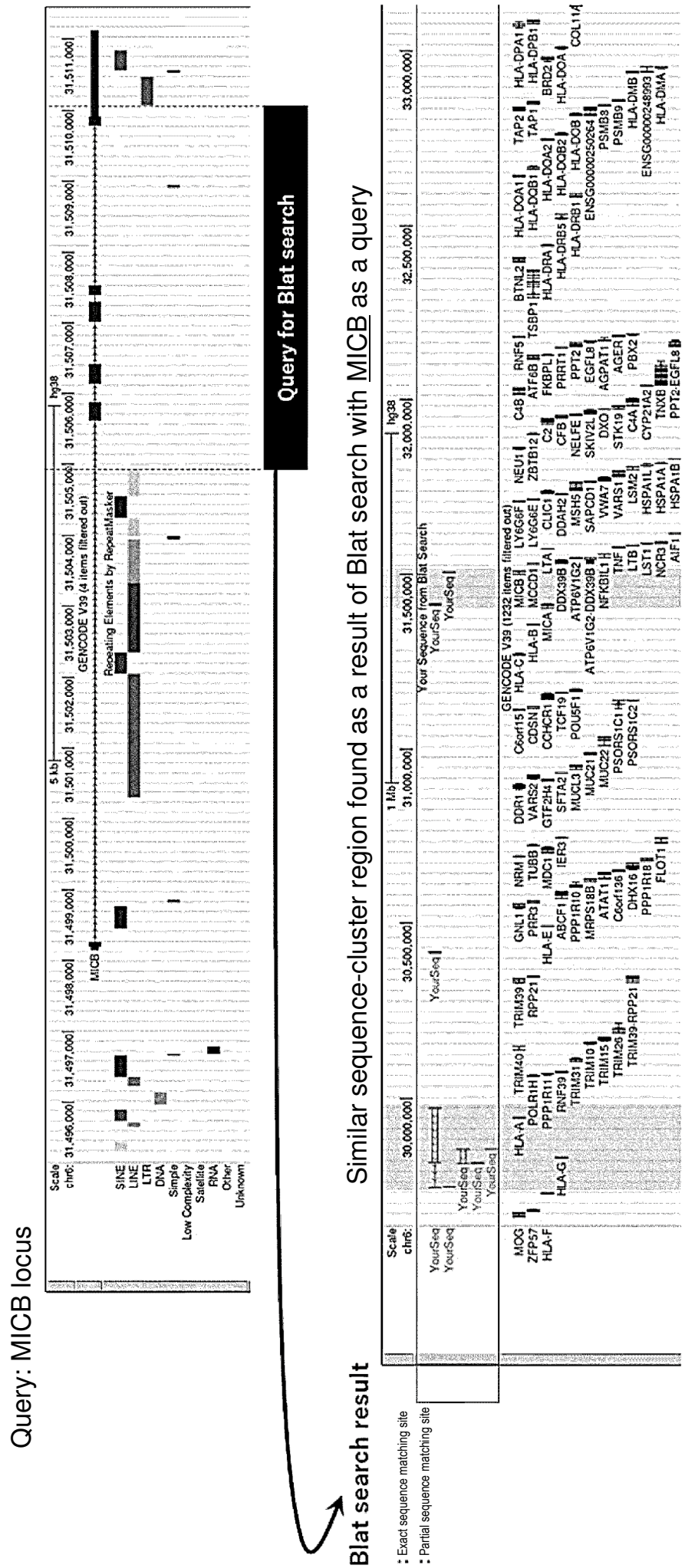

Query: MICB locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with MICB as a query
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
GENCODE V39 (4 items filtered out)
Repeating Elements by RepeatMasker
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
: Exact sequence matching site
: Partial sequence matching site

FIG. 13

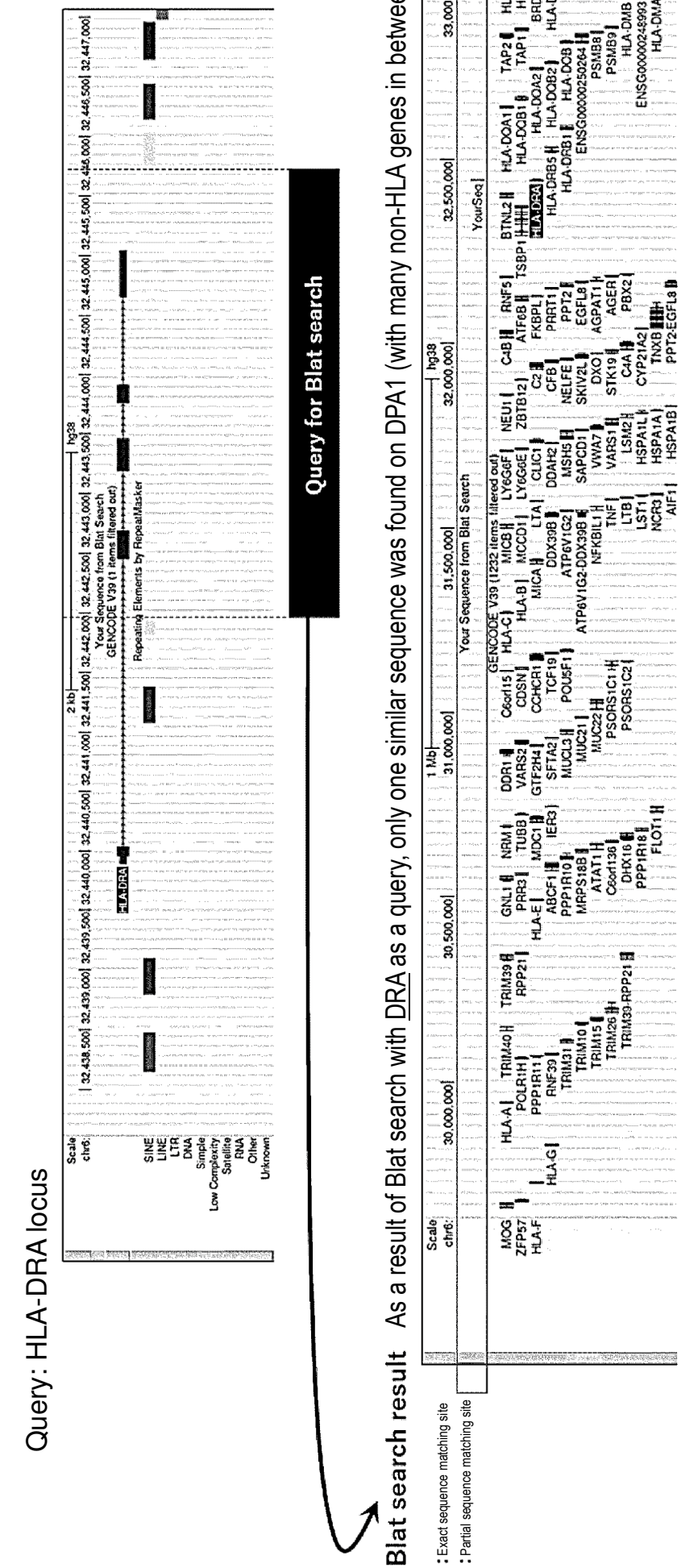

Query: HLA-DRA locus
Query for Blat search
Blat search result
As a result of Blat search with DRA as a query, only one similar sequence was found on DPA1 (with many non-HLA genes in between)
: Exact sequence matching site
: Partial sequence matching site

FIG. 14

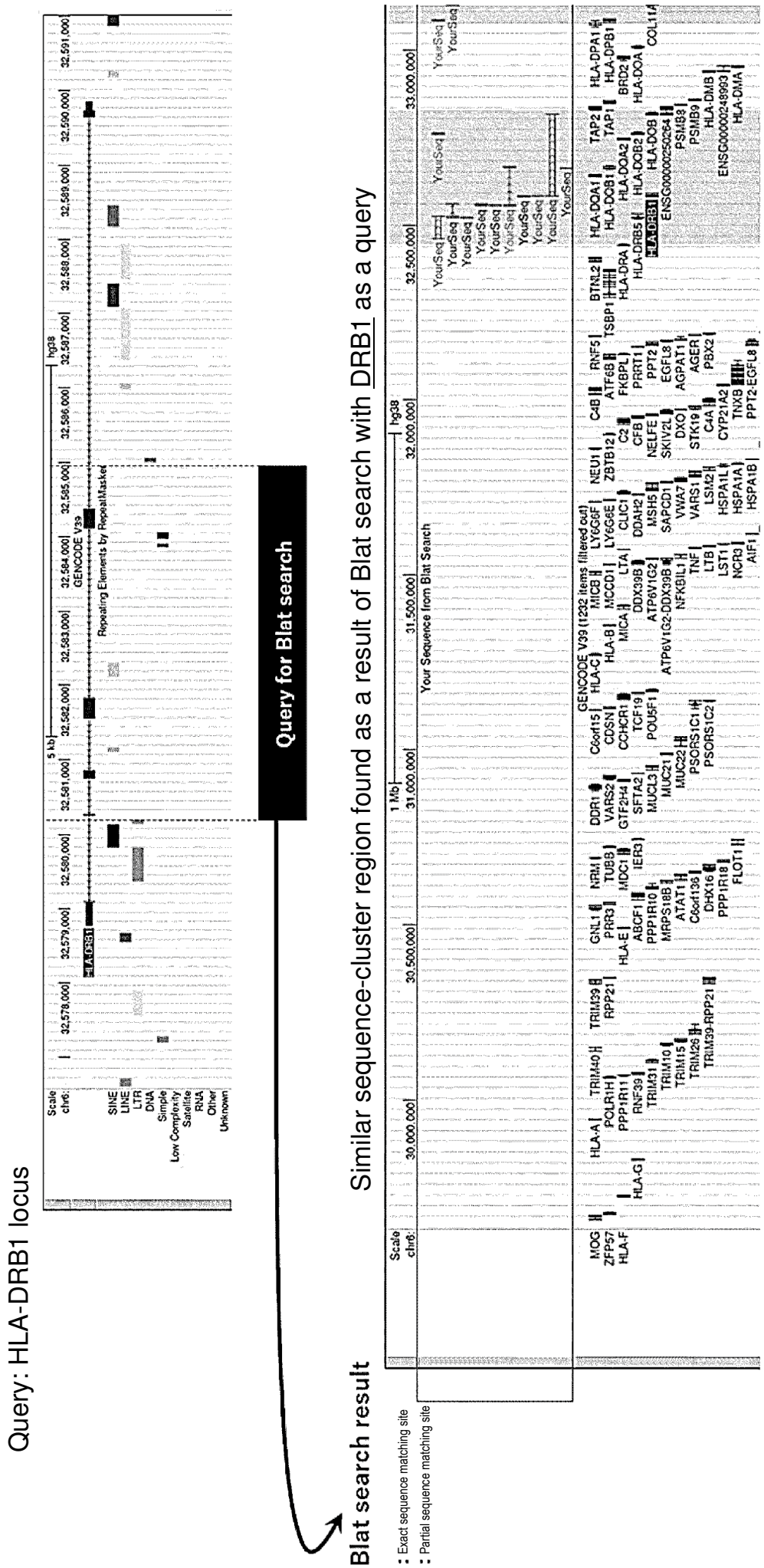

Query: HLA-DRB1 locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DRB1 as a query
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
Repeating Elements by RepeatMasker
: Exact sequence matching site
: Partial sequence matching site

FIG. 15

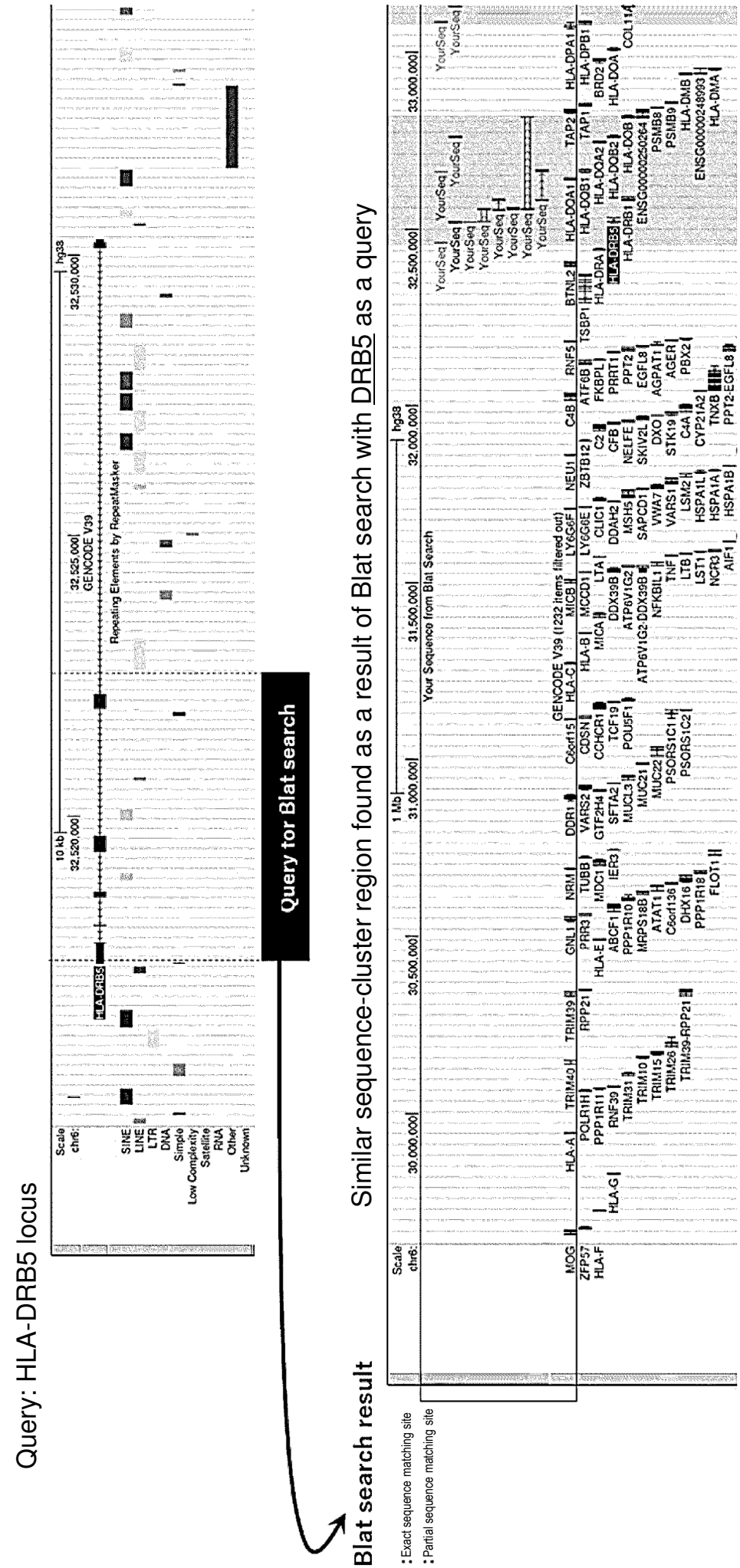

Query: HLA-DRB5 locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DRB5 as a query
Your Sequence from Blat Search
GENCODE V39
Repeating Elements by RepeatMasker
: Exact sequence matching site
: Partial sequence matching site

FIG. 16

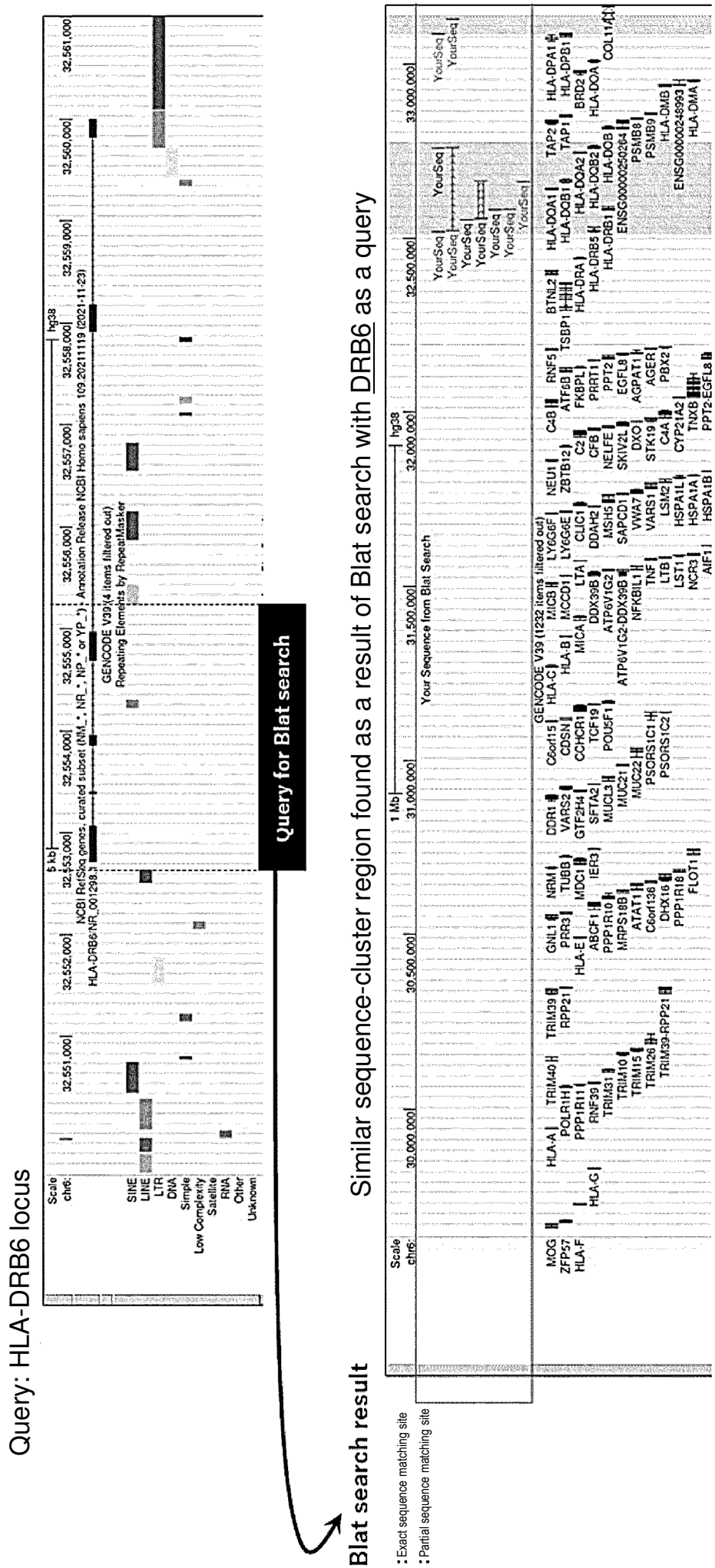

Query: HLA-DRB6 locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DRB6 as a query
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
: Exact sequence matching site
: Partial sequence matching site

FIG. 17

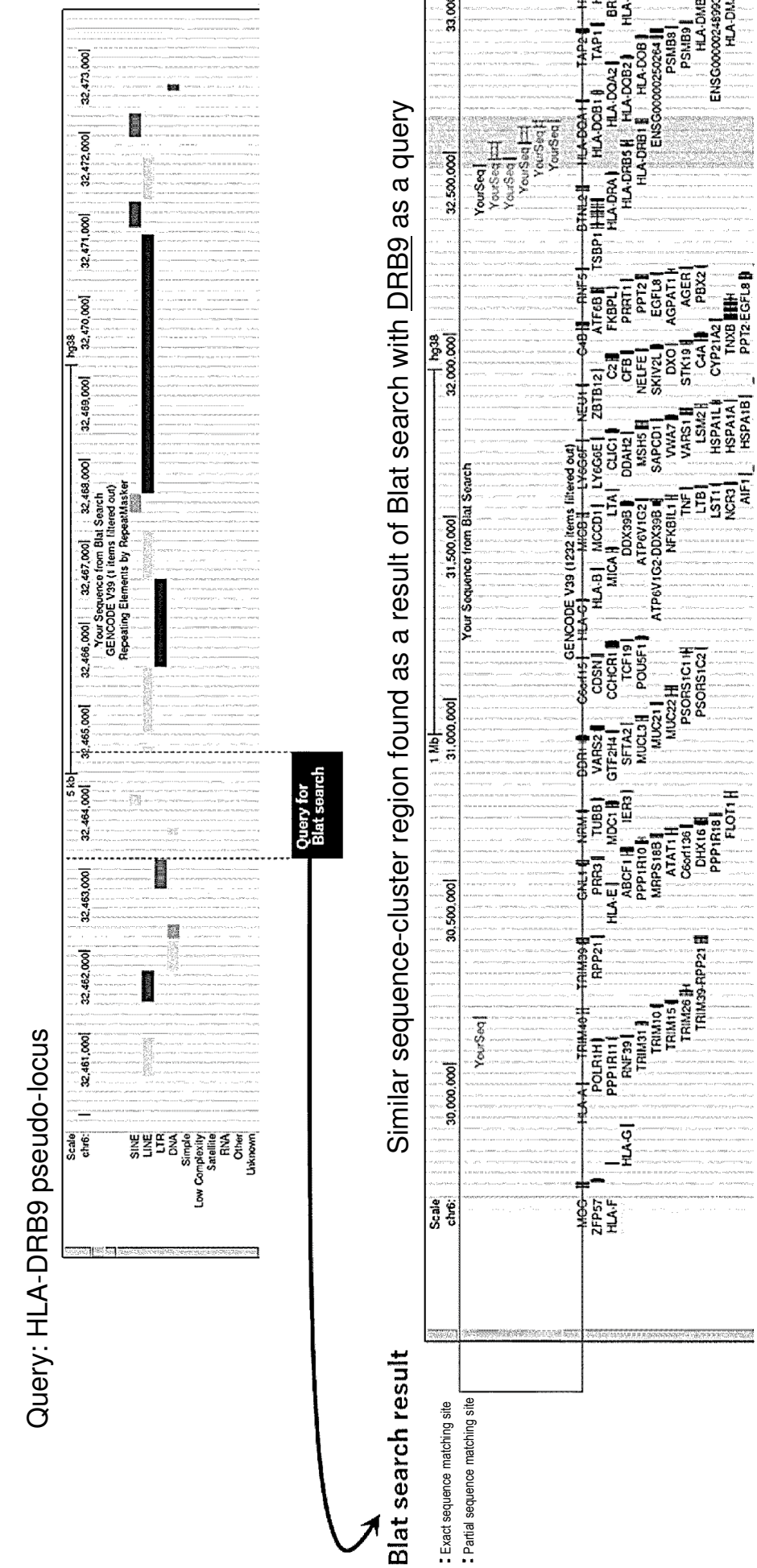

Query: HLA-DRB9 pseudo-locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DRB9 as a query
: Exact sequence matching site
: Partial sequence matching site

FIG. 18

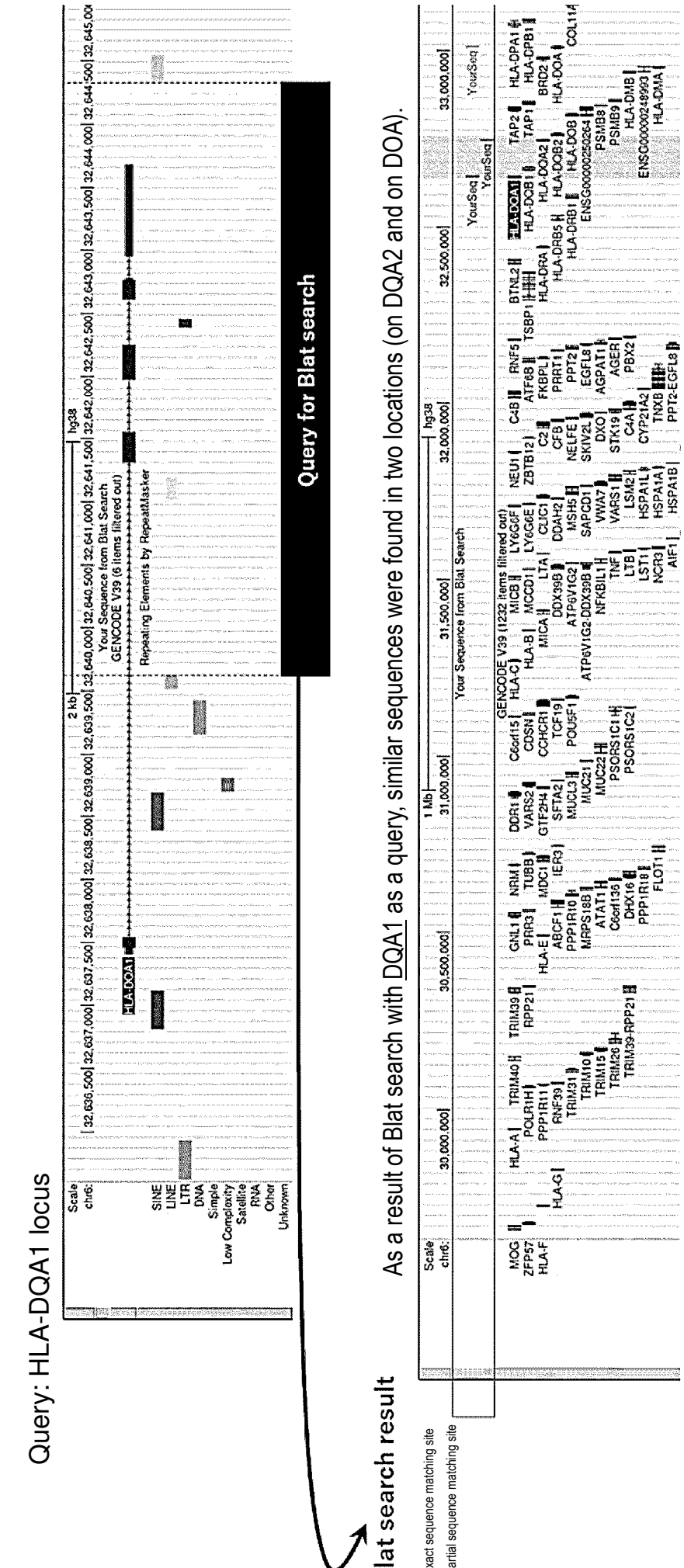

Query: HLA-DQA1 locus
Query for Blat search
Blat search result
As a result of Blat search with DQA1 as a query, similar sequences were found in two locations (on DQA2 and on DOA).
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
Repeating Elements by RepeatMasker
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
HLA-DQA1
HLA-DQA2
HLA-DOA
YourSeq
hg38
: Exact sequence matching site
: Partial sequence matching site

FIG. 19

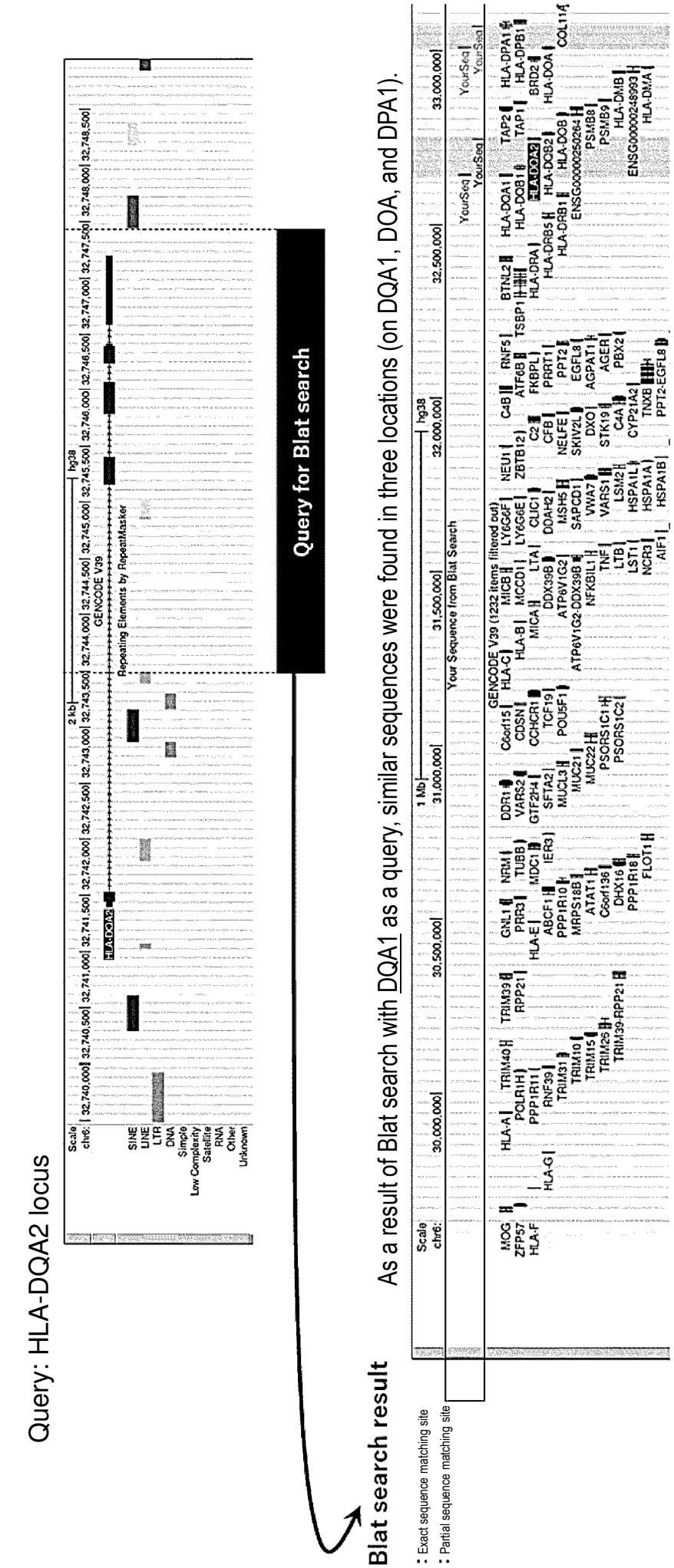

Query: HLA-DQA2 locus
Query for Blat search
Blat search result
As a result of Blat search with DQA1 as a query, similar sequences were found in three locations (on DQA1, DOA, and DPA1).
Your Sequence from Blat Search
GENCODE V39
Repeating Elements by RepeatMasker
HLA-DQA2
HLA-DQA1
HLA-DOA
HLA-DPA1
HLA-DPB1
HLA-DMB
HLA-DMA
TAP1
TAP2
BRD2
COL11A2
: Exact sequence matching site
: Partial sequence matching site

FIG. 20

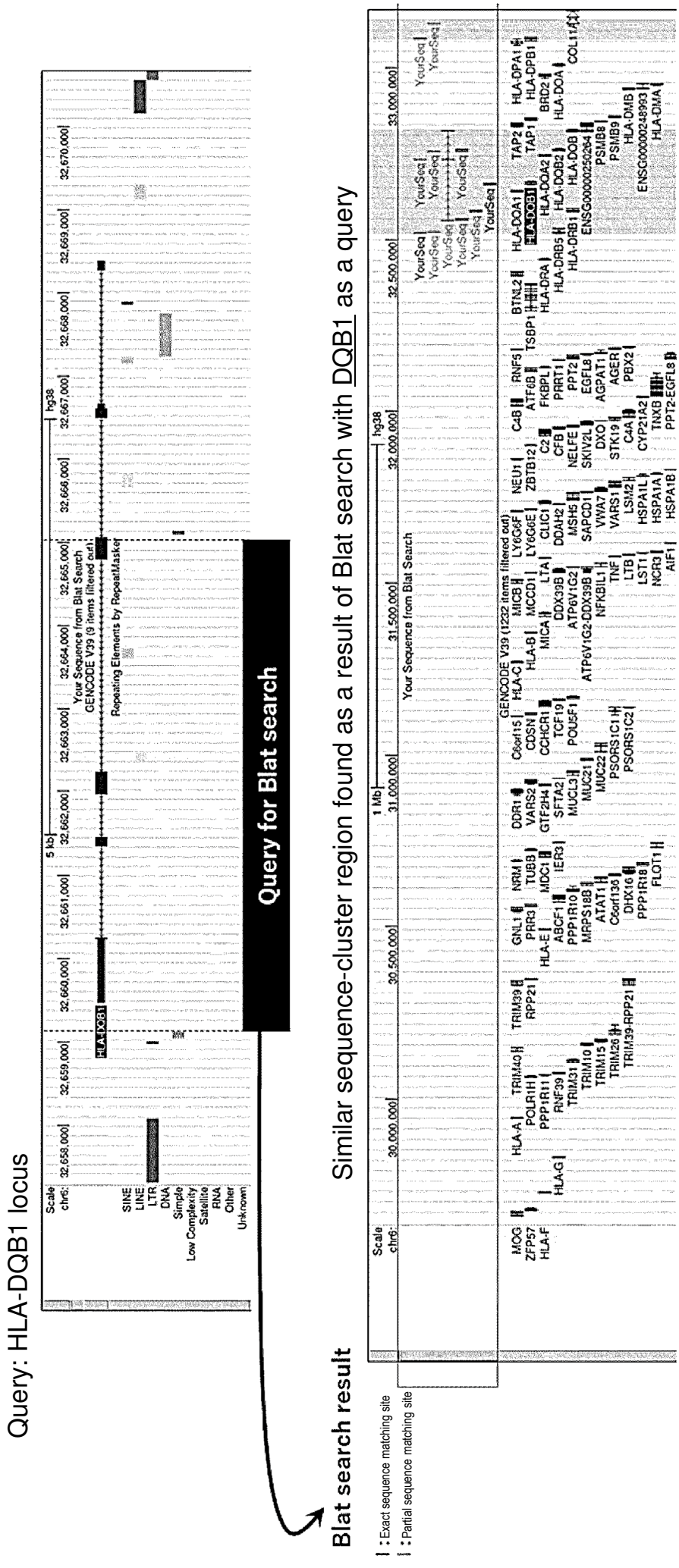

Query: HLA-DQB1 locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DQB1 as a query
Your Sequence from Blat Search
GENCODE V39 (9 items filtered out)
Repeating Elements by RepeatMasker
Your Sequence from Blat Search
GENCODE V39 (12232 items filtered out)
! : Exact sequence matching site
! : Partial sequence matching site

FIG. 21

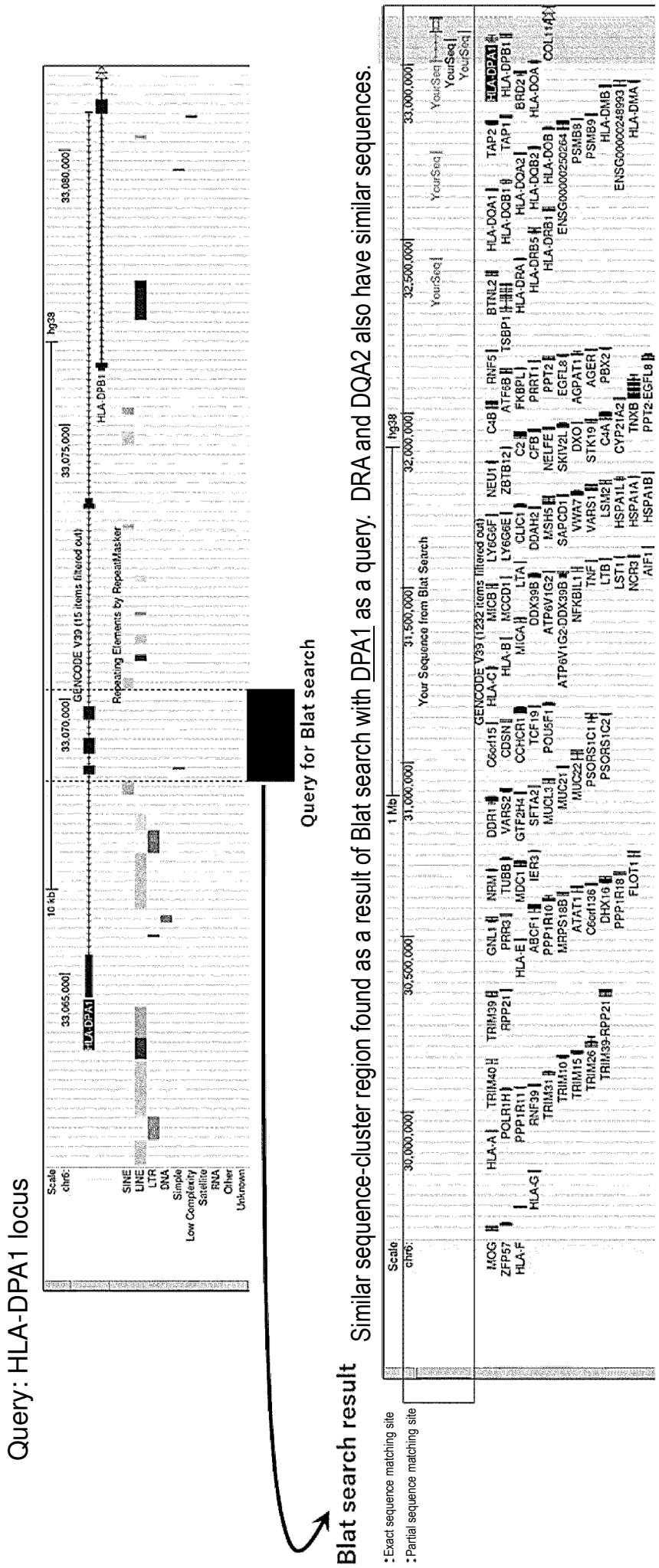

Query: HLA-DPA1 locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DPA1 as a query. DRA and DQA2 also have similar sequences.
: Exact sequence matching site
: Partial sequence matching site

FIG. 22

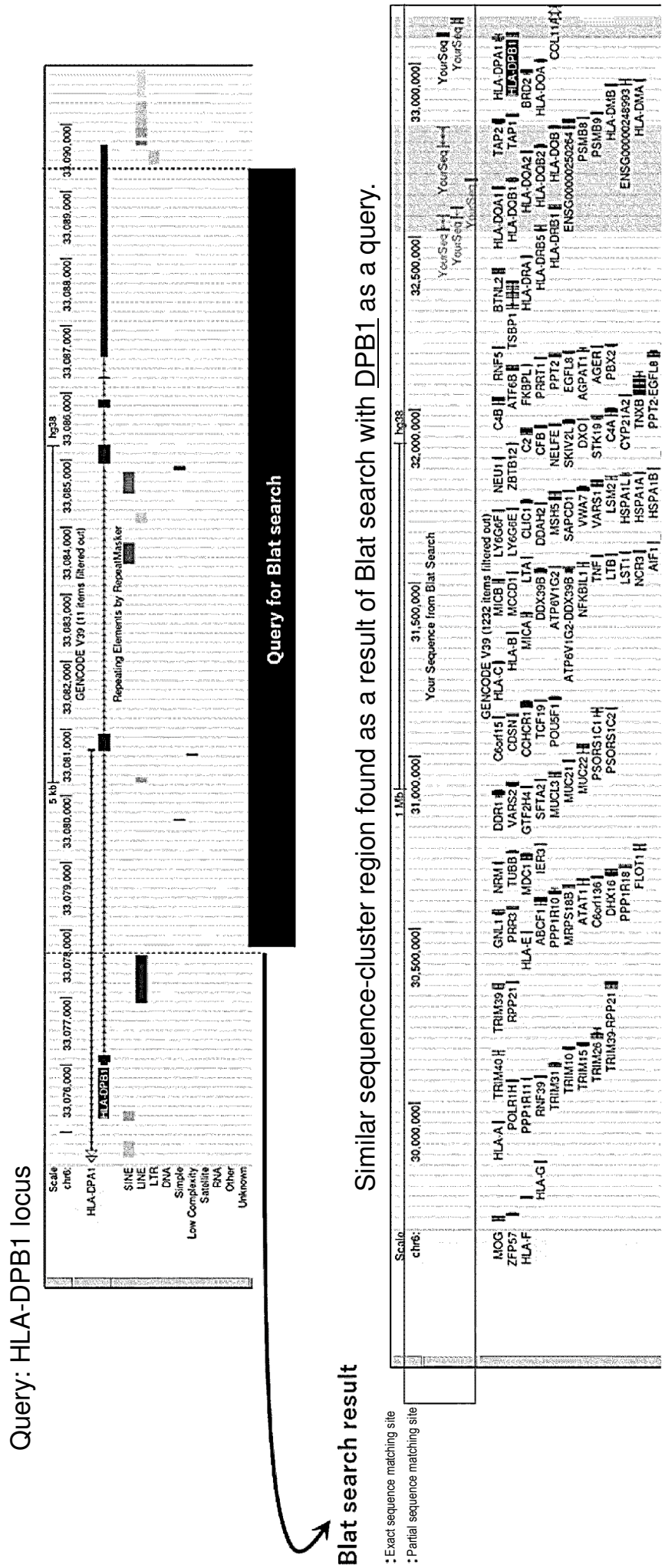

Query: HLA-DPB1 locus
Query for Blat search
Blat search result
Similar sequence-cluster region found as a result of Blat search with DPB1 as a query.
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
Repeating Elements by RepeatMasker
GENCODE V39 (11 items filtered out)
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
: Exact sequence matching site
: Partial sequence matching site

FIG. 23

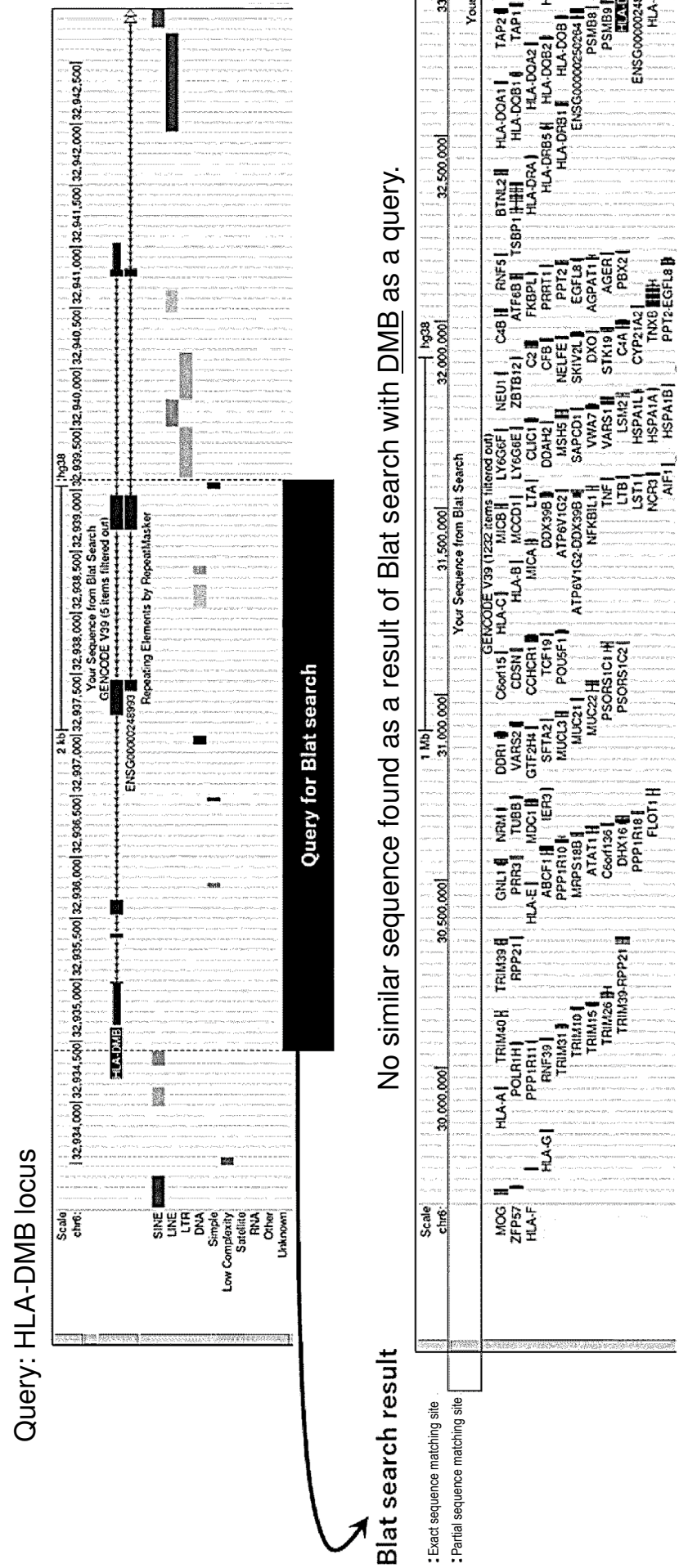

Query: HLA-DMB locus
Query for Blat search
Blat search result
No similar sequence found as a result of Blat search with DMB as a query.
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
Repeating Elements by RepeatMasker
YourSeq
HLA-DMB
I : Exact sequence matching site
II : Partial sequence matching site

FIG. 24

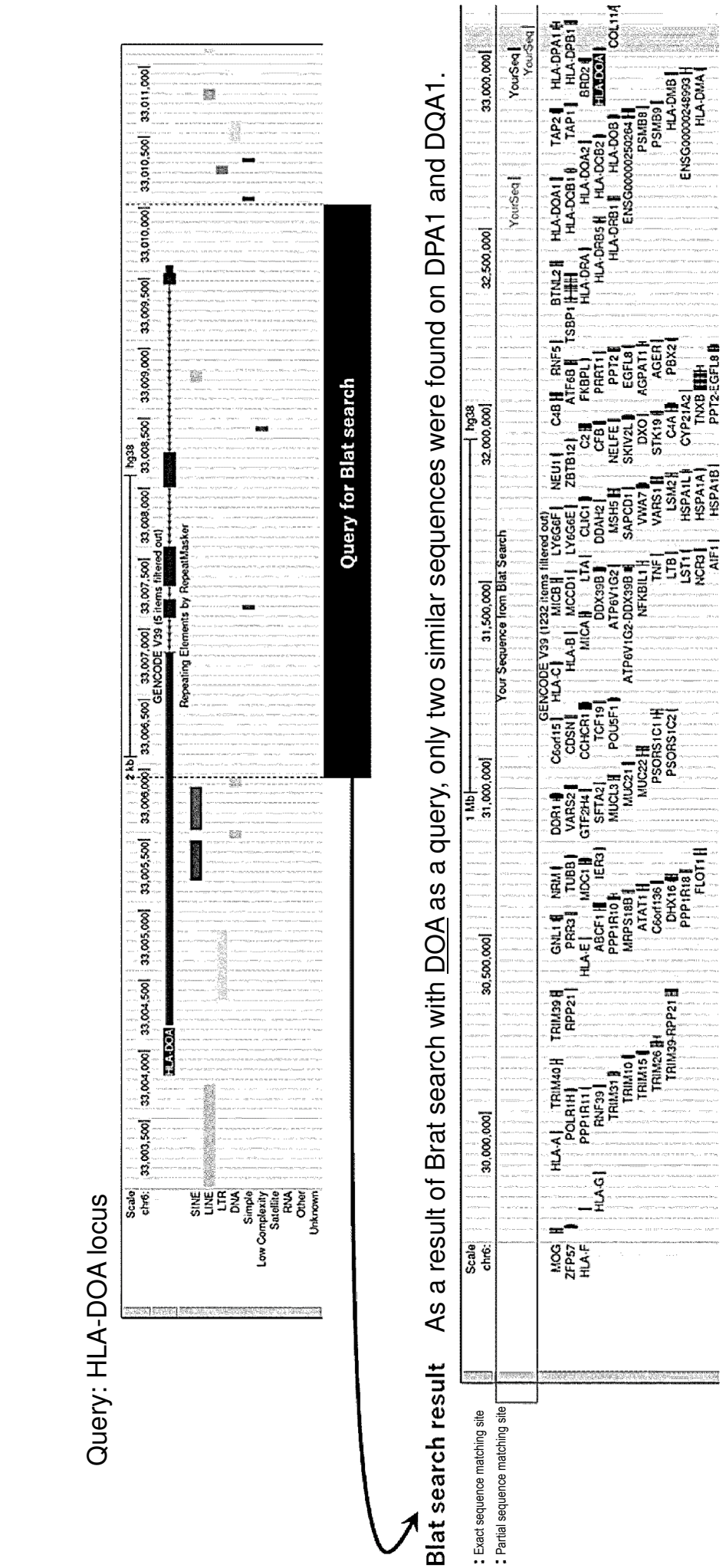

Query: HLA-DOA locus
Query for Blat search
Blat search result
As a result of Brat search with DOA as a query, only two similar sequences were found on DPA1 and DQA1.
Your Sequence from Blat Search
GENCODE V39 (1232 items filtered out)
Repeating Elements by RepeatMasker
GENCODE V39 (5 items filtered out)
HLA-DOA
: Exact sequence matching site
: Partial sequence matching site

FIG. 25

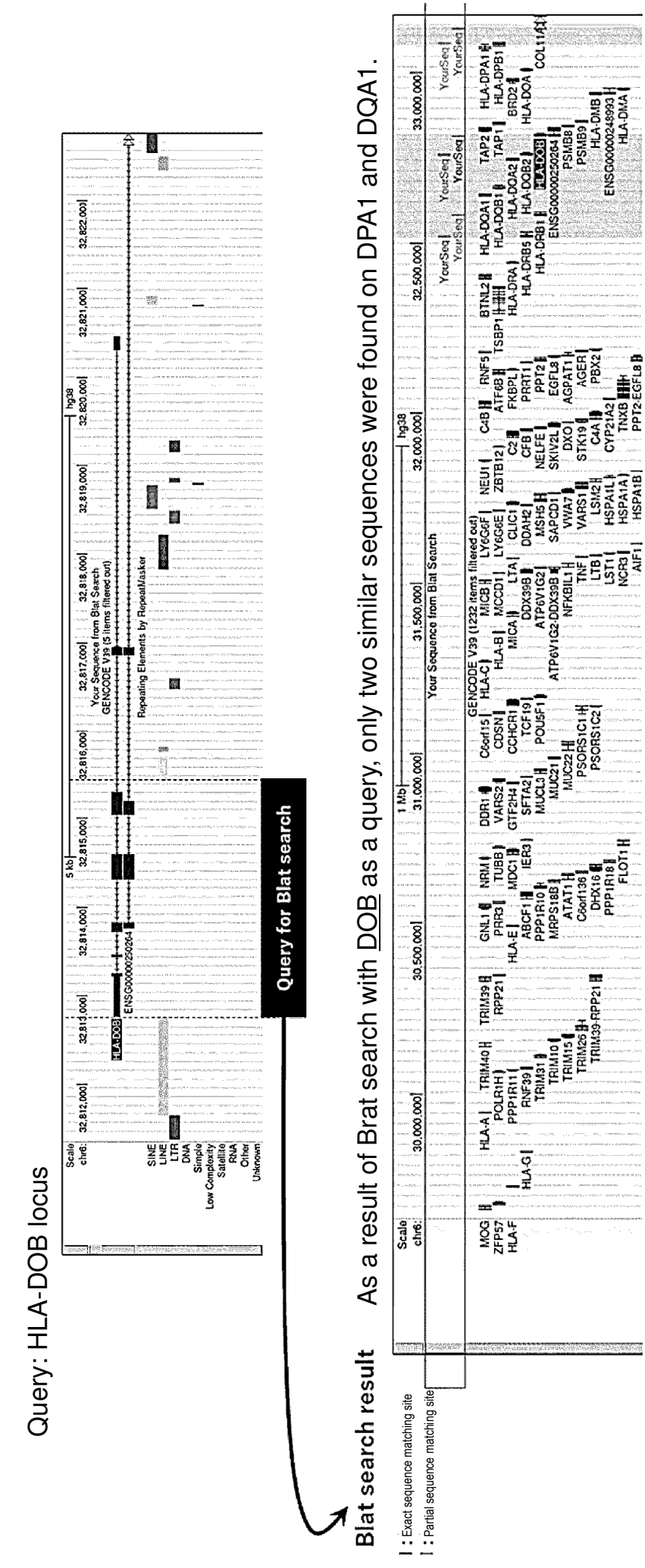

Query: HLA-DOB locus
Query for Blat search
Blat search result
As a result of Brat search with DOB as a query, only two similar sequences were found on DPA1 and DQA1.
: Exact sequence matching site
: Partial sequence matching site

FIG. 26

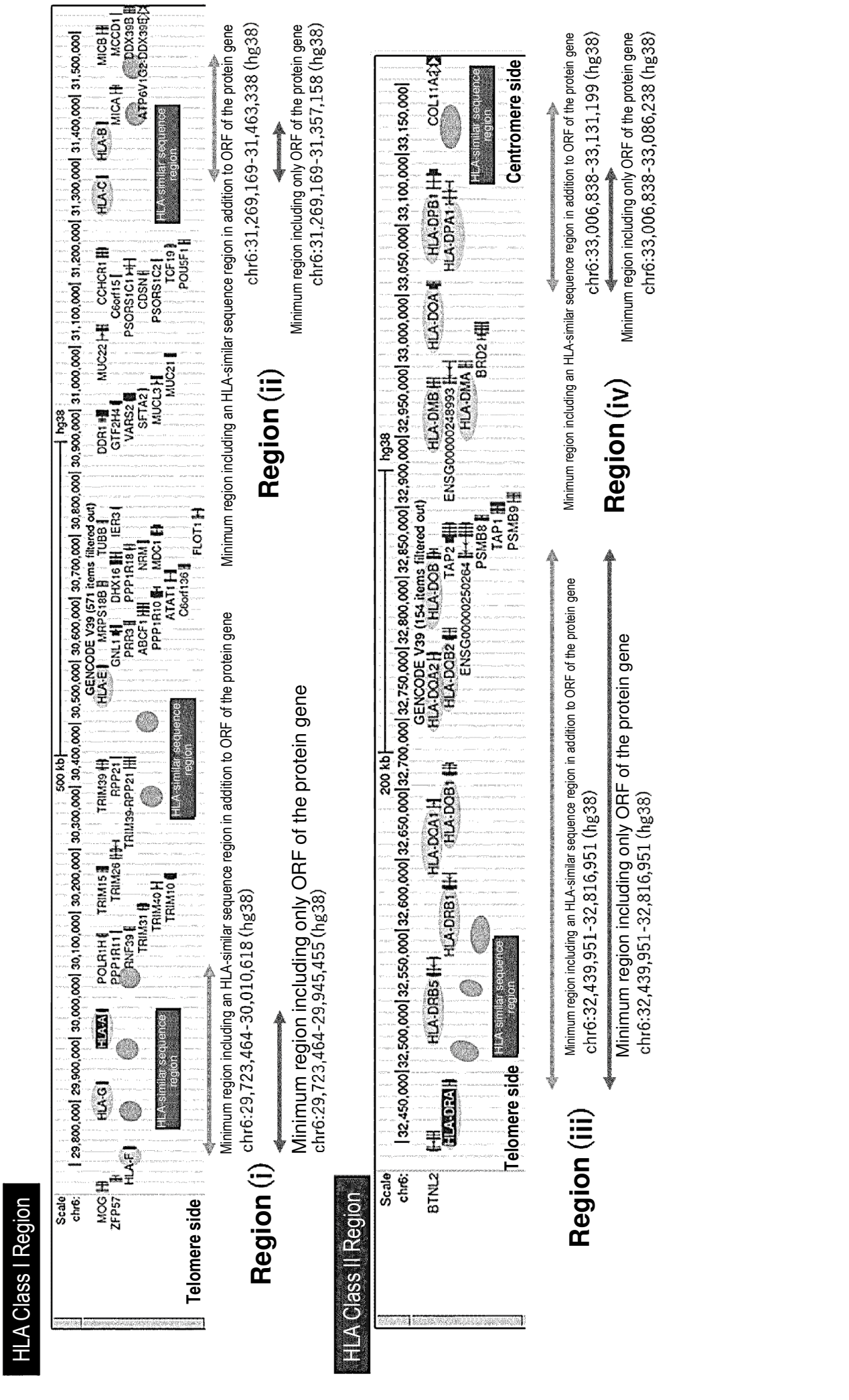

HLA Class I Region
Scale
chr6:
500 kb
hg38
Telomere side
HLA-similar sequence region
Minimum region including an HLA-similar sequence region in addition to ORF of the protein gene
chr6:29,723,464-30,010,618 (hg38)
Region (i)
Minimum region including only ORF of the protein gene
chr6:29,723,464-29,945,455 (hg38)
Region (ii)
chr6:31,269,169-31,463,338 (hg38)
Minimum region including only ORF of the protein gene
chr6:31,269,169-31,357,158 (hg38)
HLA Class II Region
200 kb
Centromere side
Region (iii)
Minimum region including an HLA-similar sequence region in addition to ORF of the protein gene
chr6:32,439,951-32,816,951 (hg38)
Minimum region including only ORF of the protein gene
chr6:32,439,951-32,816,951 (hg38)
Region (iv)
chr6:33,006,838-33,131,199 (hg38)
Minimum region including only ORF of the protein gene
chr6:33,006,838-33,086,238 (hg38)

FIG. 27

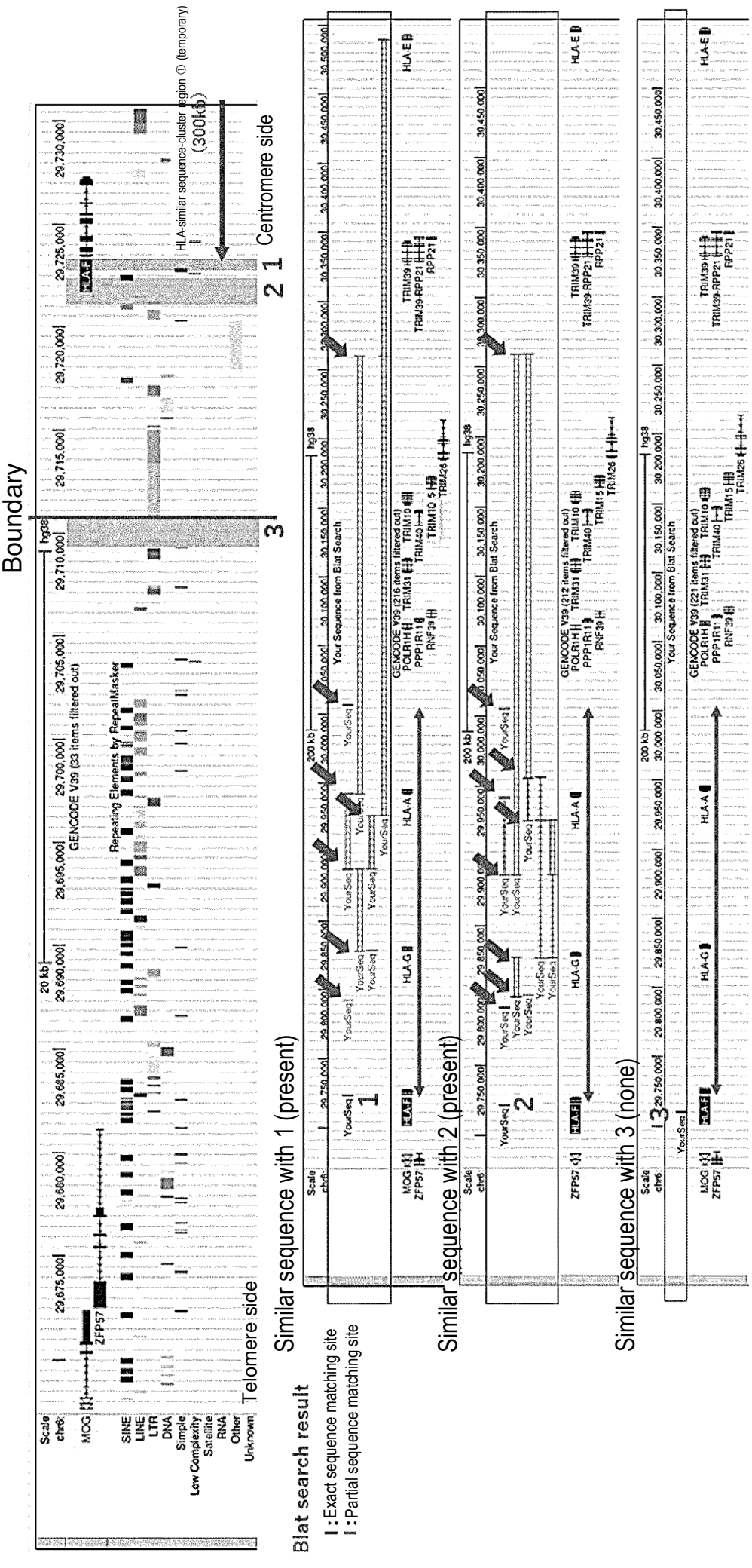

Boundary
Telomere side
Centromere side
HLA-similar sequence-cluster region ① (temporary)
(300kb)
Repeating Elements by RepeatMasker
GENCODE V39 (33 items filtered out)
Blat search result
I : Exact sequence matching site
I : Partial sequence matching site
Similar sequence with 1 (present)
Similar sequence with 2 (present)
Similar sequence with 3 (none)
Your Sequence from Blat Search
GENCODE V39 (216 items filtered out)
GENCODE V39 (212 items filtered out)
GENCODE V39 (221 items filtered out)

FIG. 28

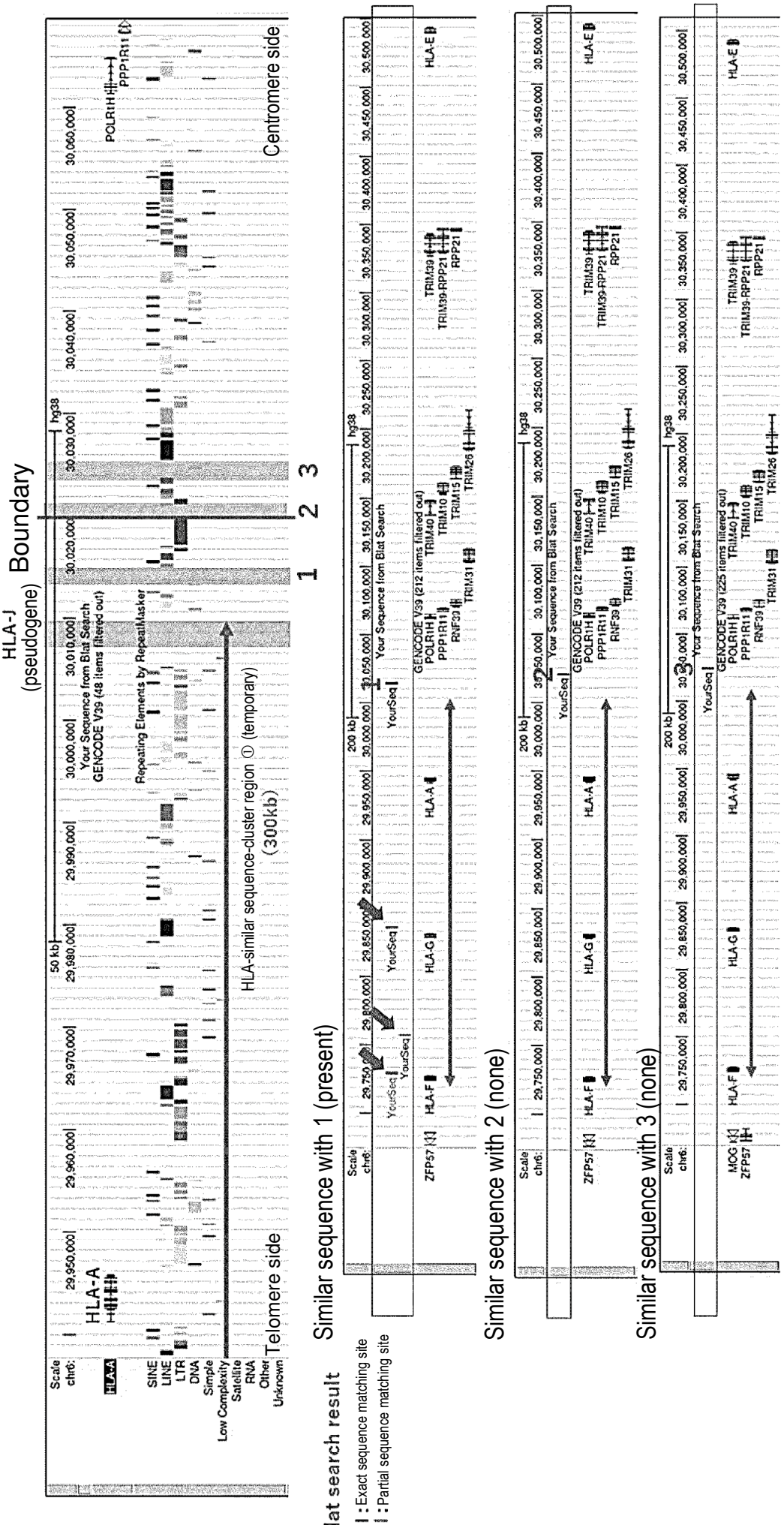

HLA-J
(pseudogene)
Boundary
1 2 3
Centromere side
Telomere side
HLA-similar sequence-cluster region ① (temporary)
(300kb)
Repeating Elements by RepeatMasker
Your Sequence from Blat Search
GENCODE V39 (48 items filtered out)
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
HLA-A
Blat search result
Exact sequence matching site
Partial sequence matching site
Similar sequence with 1 (present)
Similar sequence with 2 (none)
Similar sequence with 3 (none)

FIG. 29

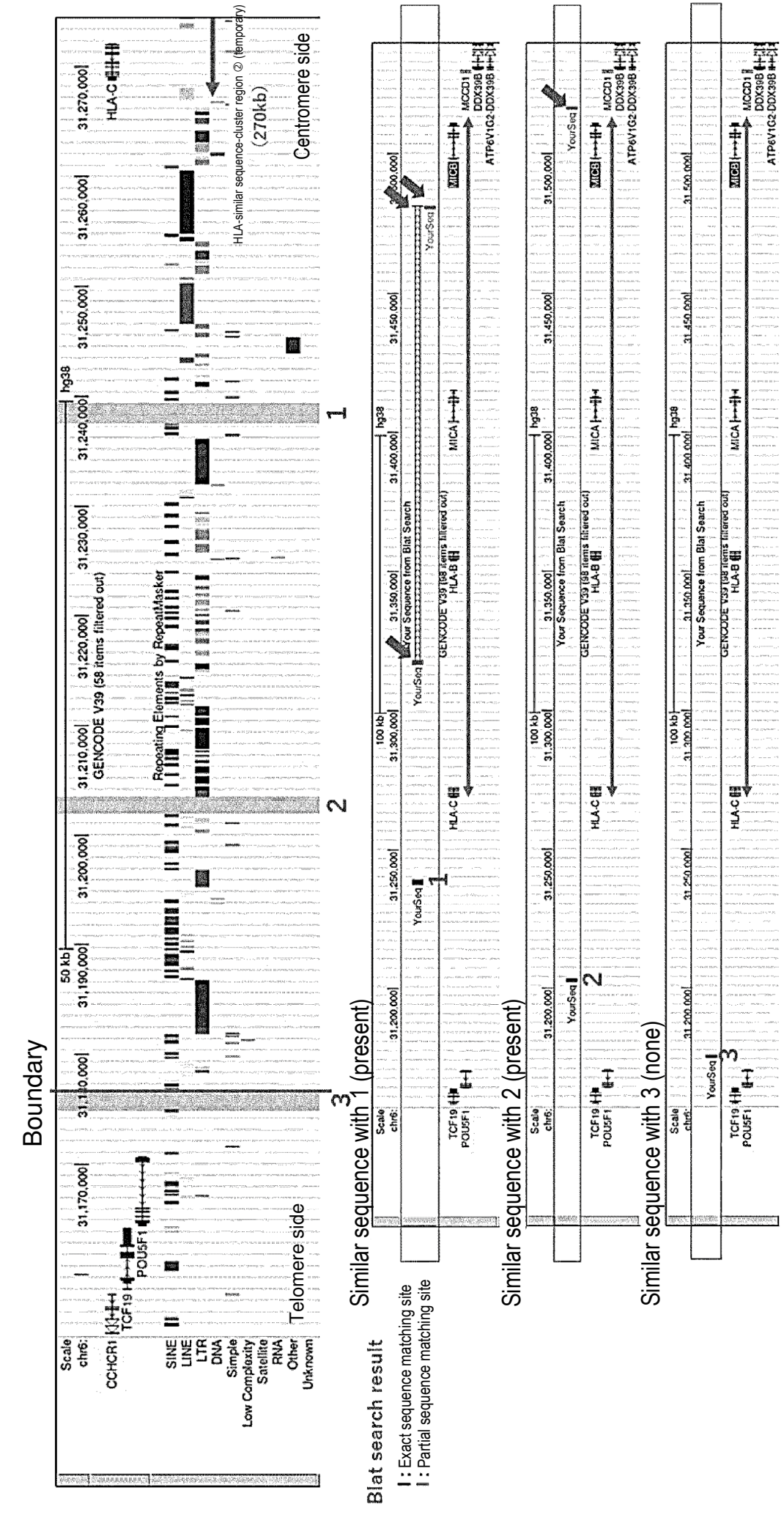

Boundary
Telomere side
Centromere side
HLA-similar sequence-cluster region ② (temporary)
(270kb)
Repeating Elements by RepeatMasker
GENCODE V39 (58 items filtered out)
Your Sequence from Blat Search
Similar sequence with 1 (present)
Similar sequence with 2 (present)
Similar sequence with 3 (none)
Blat search result
: Exact sequence matching site
: Partial sequence matching site

FIG. 30

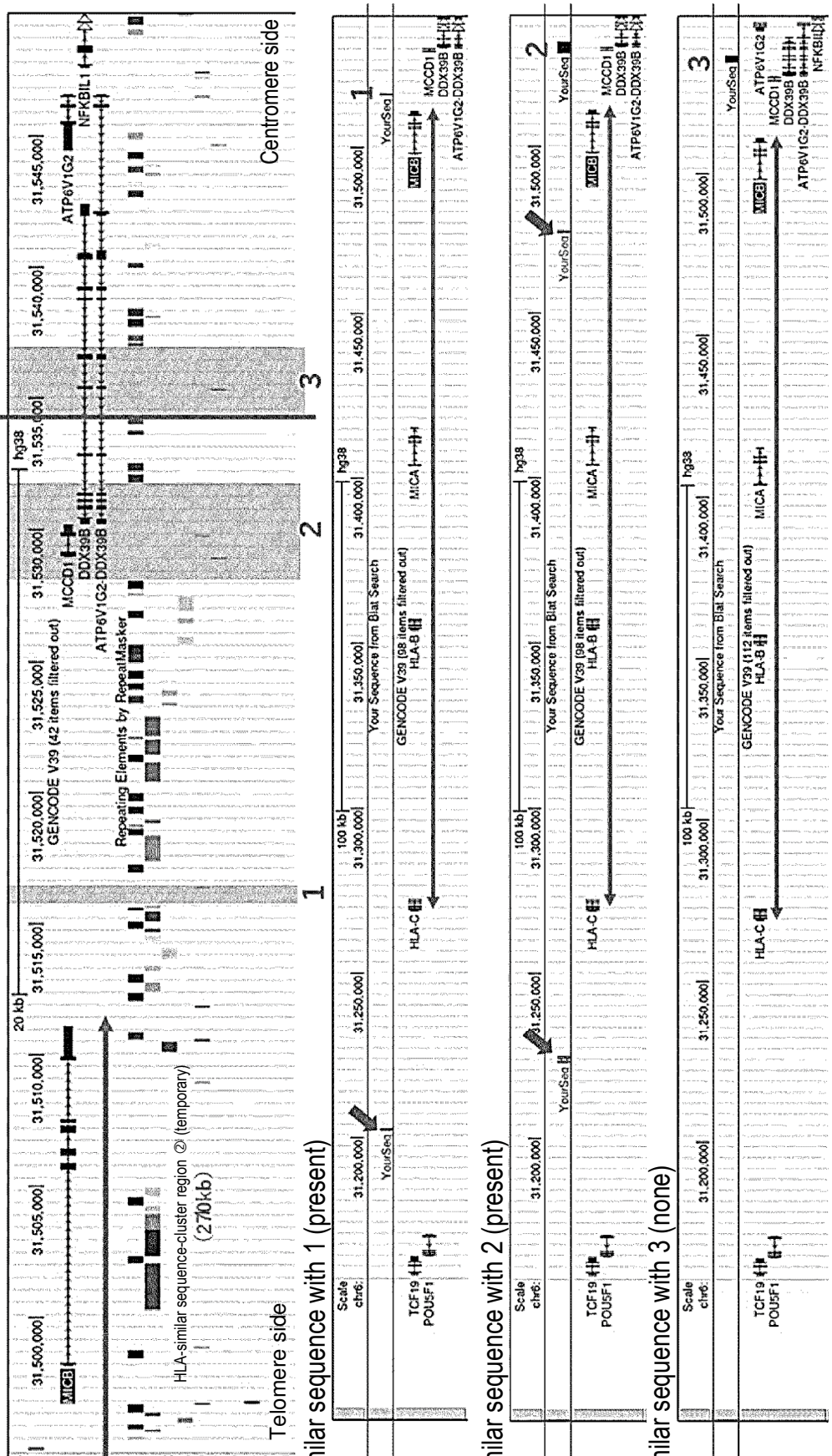

Boundary
Centromere side
Telomere side
HLA-similar sequence-cluster region ② (temporary)
(270kb)
Repeating Elements by RepeatMasker
GENCODE V39 (42 items filtered out)
Similar sequence with 1 (present)
Similar sequence with 2 (present)
Similar sequence with 3 (none)
Your Sequence from Blat Search
GENCODE V39 (98 items filtered out)
GENCODE V39 (112 items filtered out)
Blat search result
: Exact sequence matching site
: Partial sequence matching site

FIG. 31

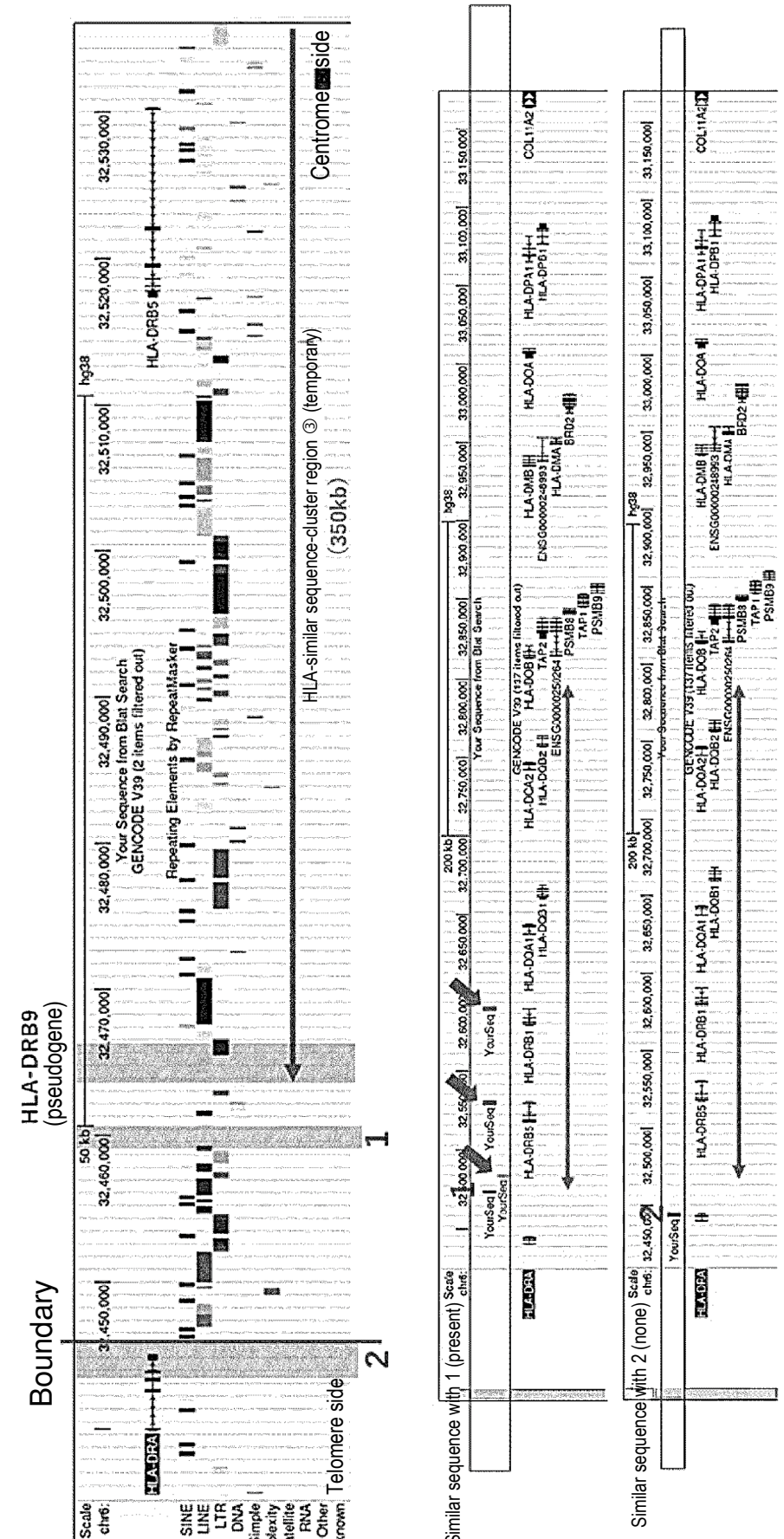

Boundary
HLA-DRB9
(pseudogene)
Telomere side
Centrome side
HLA-similar sequence-cluster region ③ (temporary)
(350kb)
Repeating Elements by RepeatMasker
Your Sequence from Blat Search
GENCODE V39 (2 items filtered out)
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
Blat search result
Similar sequence with 1 (present)
Similar sequence with 2 (none)
I : Exact sequence matching site (query site)
I : Partial sequence matching site

FIG. 32

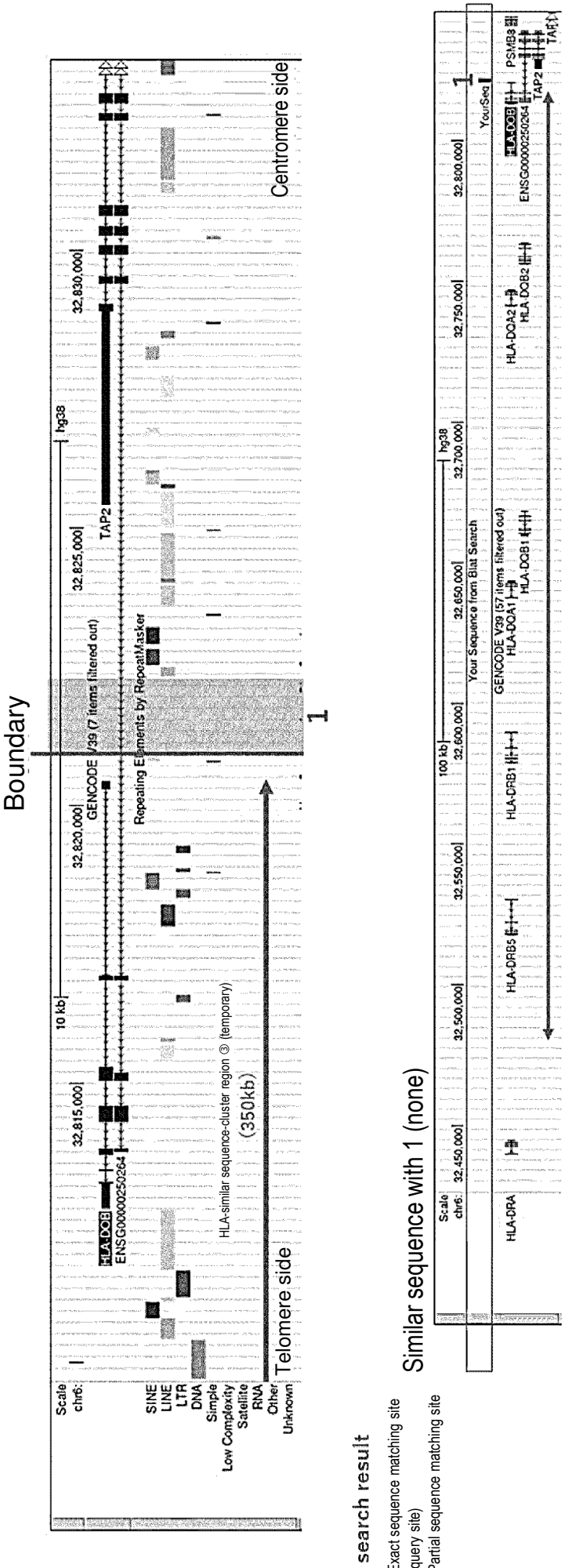

Boundary
Centromere side
Telomere side
(350kb)
HLA-similar sequence-cluster region ③ (temporary)
Repeating Elements by RepeatMasker
GENCODE V39 (7 items filtered out)
ENSG00000250264
HLA-DOB
TAP2
Scale
chr6:
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
Similar sequence with 1 (none)
Your Sequence from Blat Search
GENCODE V39 (57 items filtered out)
YourSeq
HLA-DRA
HLA-DRB5
HLA-DRB1
HLA-DQA1
HLA-DQB1
HLA-DQA2
HLA-DOB2
PSMB9
TAP1
Blat search result
: Exact sequence matching site (query site)
: Partial sequence matching site

FIG. 33

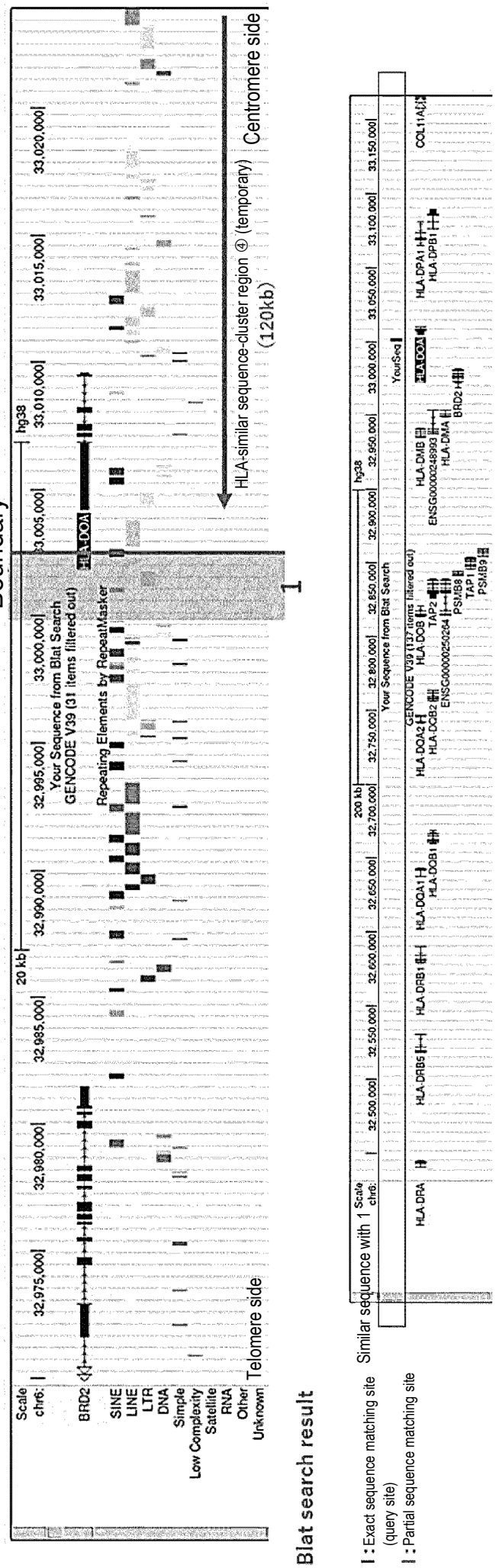

Boundary
HLA-similar sequence-cluster region ④ (temporary)
(120kb)
Centromere side
Telomere side
Scale
chr6:
BRD2
SINE
LINE
LTR
DNA
Simple
Low Complexity
Satellite
RNA
Other
Unknown
Repeating Elements by RepeatMasker
Your Sequence from Blat Search
GENCODE V39 (31 items filtered out)
hg38
Blat search result
Similar sequence with 1
: Exact sequence matching site (query site)
: Partial sequence matching site

FIG. 34

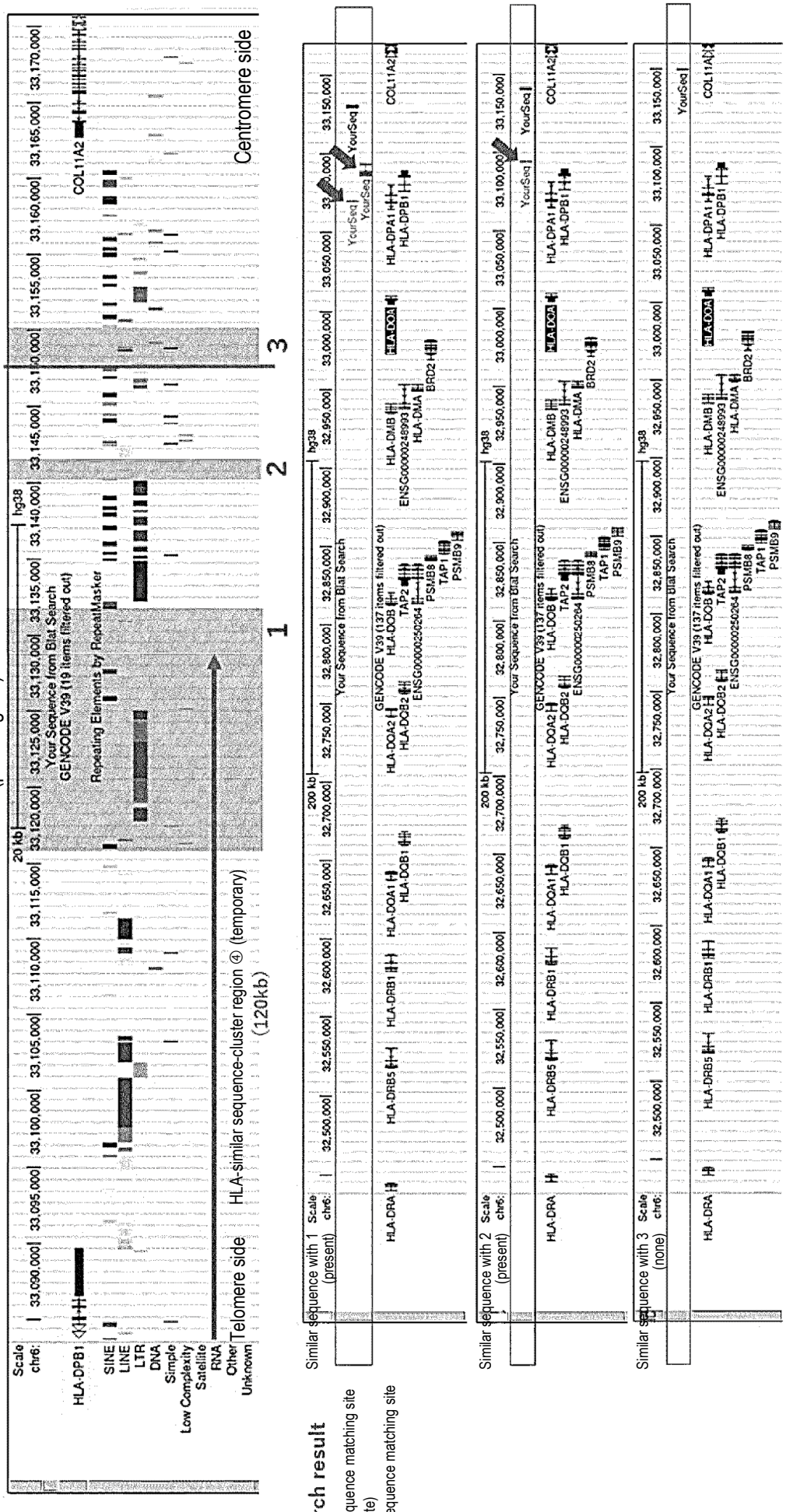

Boundary
(pseudogene)
Telomere side
Centromere side
HLA-similar sequence-cluster region ④ (temporary)
(120kb)
1
2
3
Blat search result
Exact sequence matching site (query site)
Partial sequence matching site
Similar sequence with 1 (present)
Similar sequence with 2 (present)
Similar sequence with 3 (none)
Your Sequence from Blat Search
GENCODE V39 (137 items filtered out)
Repeating Elements by RepeatMasker
HLA-DPB1
COL11A2
HLA-DRA
HLA-DRB5
HLA-DRB1
HLA-DQA1
HLA-DQB1
HLA-DQA2
HLA-DQB2
TAP2
PSMB8
TAP1
PSMB9
HLA-DOA
HLA-DMB
ENSG00000248993
HLA-DMA
BRD2
HLA-DPA1
HLA-DPB1

FIG. 35

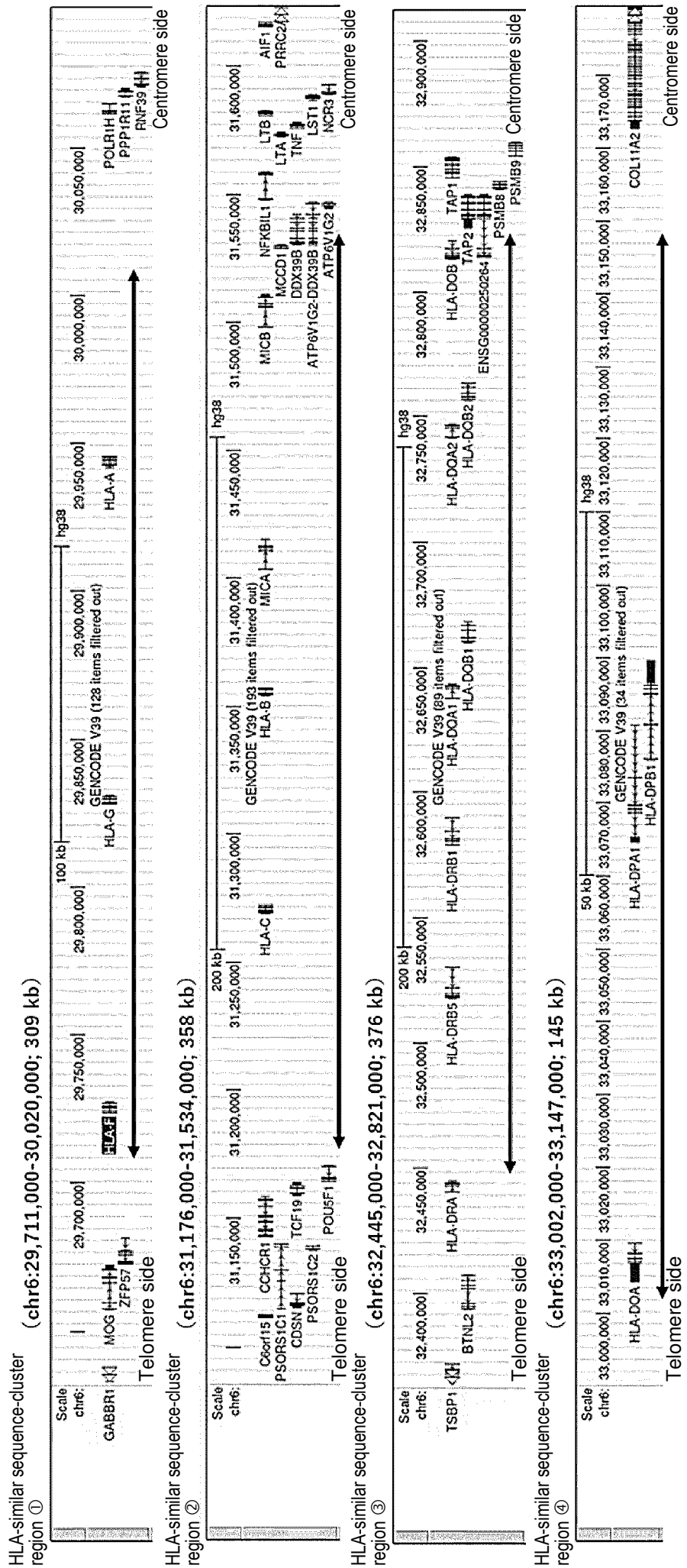

HLA-similar sequence-cluster region ①
(chr6:29,711,000-30,020,000; 309 kb)
HLA-similar sequence-cluster region ②
(chr6:31,176,000-31,534,000; 358 kb)
HLA-similar sequence-cluster region ③
(chr6:32,445,000-32,821,000; 376 kb)
HLA-similar sequence-cluster region ④
(chr6:33,002,000-33,147,000; 145 kb)
Telomere side
Centromere side
hg38
GENCODE V39
HLA-G
HLA-A
HLA-C
HLA-B
MICA
MICB
HLA-DRA
HLA-DRB5
HLA-DRB1
HLA-DQA1
HLA-DQB1
HLA-DQA2
HLA-DQB2
HLA-DOA
HLA-DOB
HLA-DPA1
HLA-DPB1
TAP1
TAP2
PSMB8
PSMB9
ATP6V1G2
ATP6V1G2-DDX39B
DDX39B
MCCD1
NFKBIL1
LTA
LTB
TNF
LST1
NCR3
AIF1
PRRC2A
POLR1H
PPP1R11
RNF39
ZFP57
MOG
GABBR1
TSBP1
BTNL2
TCF19
POU5F1
PSORS1C2
CDSN
PSORS1C1
CCHCR1
C6orf15
COL11A2

FIG. 36

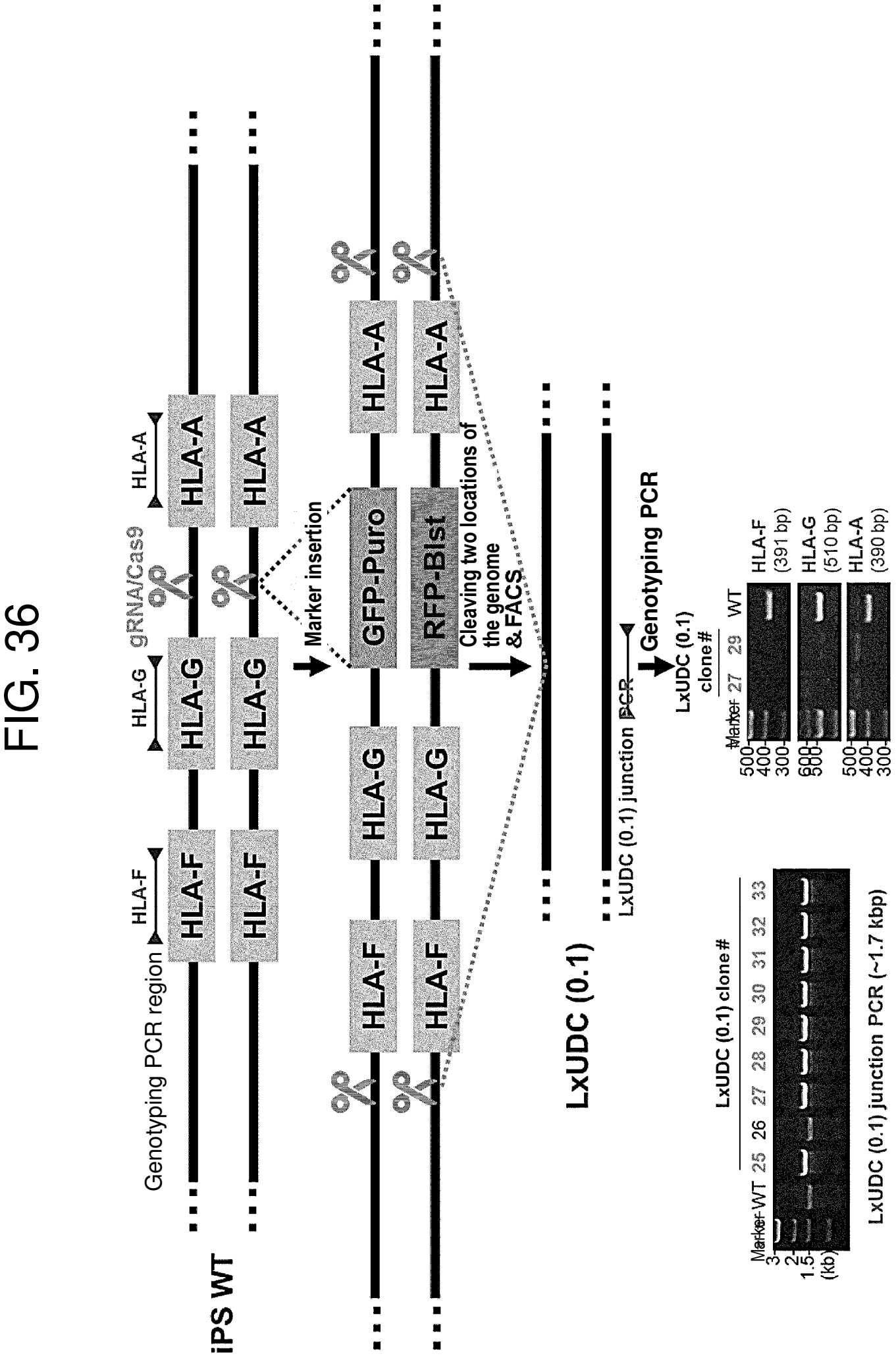

iPS WT
Genotyping PCR region
HLA-F
HLA-G
HLA-A
gRNA/Cas9
Marker insertion
GFP-Puro
RFP-Blst
Cleaving two locations of the genome & FACS
LxUDC (0.1)
LxUDC (0.1) junction PCR
Genotyping PCR
LxUDC (0.1) clone #
Marker WT 25 26 27 28 29 30 31 32 33
LxUDC (0.1) junction PCR (~1.7 kbp)
Marker 27 29 WT
HLA-F (391 bp)
HLA-G (510 bp)
HLA-A (390 bp)
(kb)
(bp)

FIG. 37

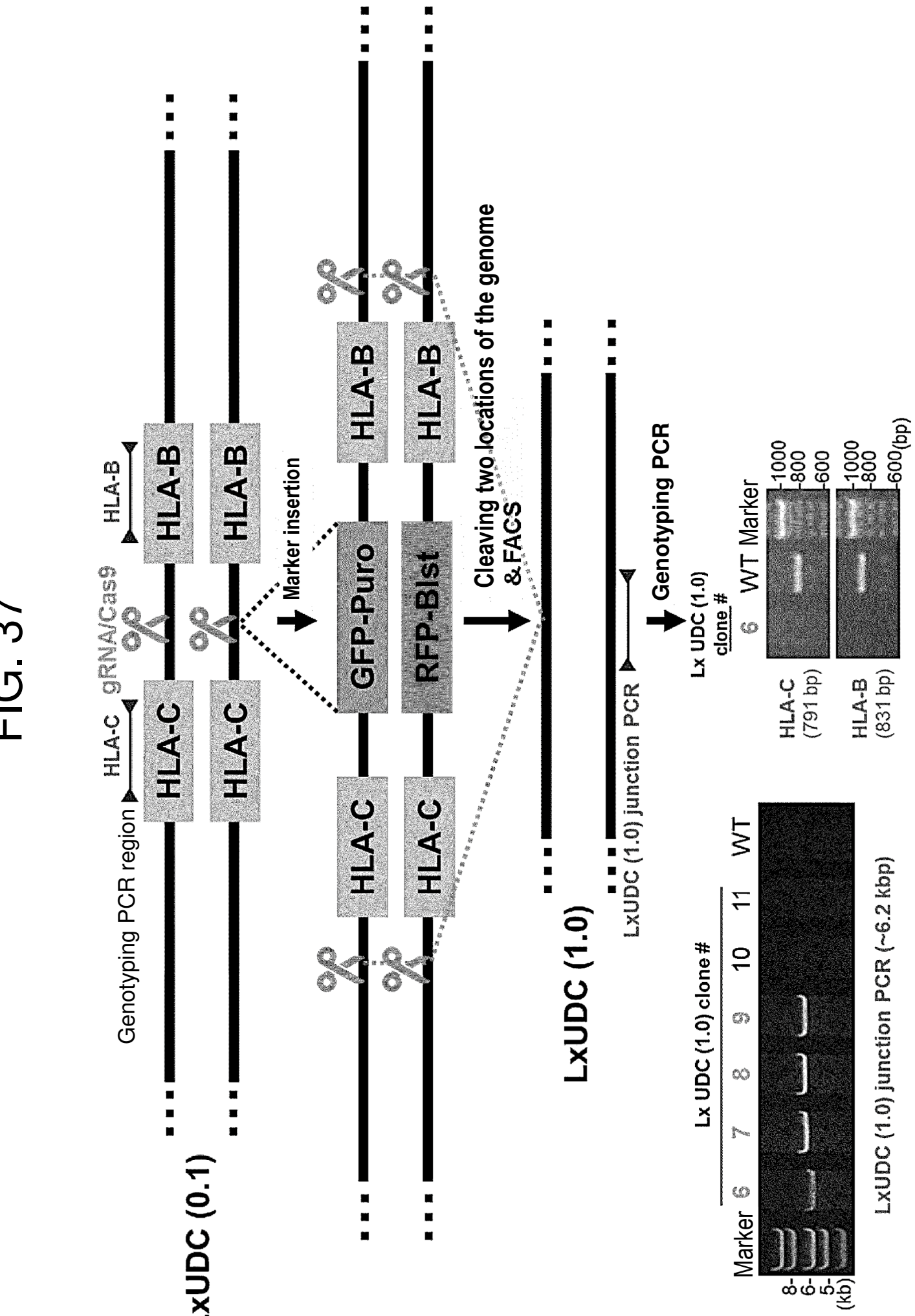

LxUDC (0.1)
HLA-C
HLA-B
gRNA/Cas9
Genotyping PCR region
Marker insertion
GFP-Puro
RFP-Blst
Cleaving two locations of the genome
& FACS
LxUDC (1.0)
LxUDC (1.0) junction PCR
Genotyping PCR
Lx UDC (1.0) clone #
6
WT Marker
1000
800
600
HLA-C (791 bp)
HLA-B (831 bp)
Lx UDC (1.0) clone #
Marker
6
7
8
9
10
11
WT
8-
6-
5-
(kb)
LxUDC (1.0) junction PCR (~6.2 kbp)

FIG. 38

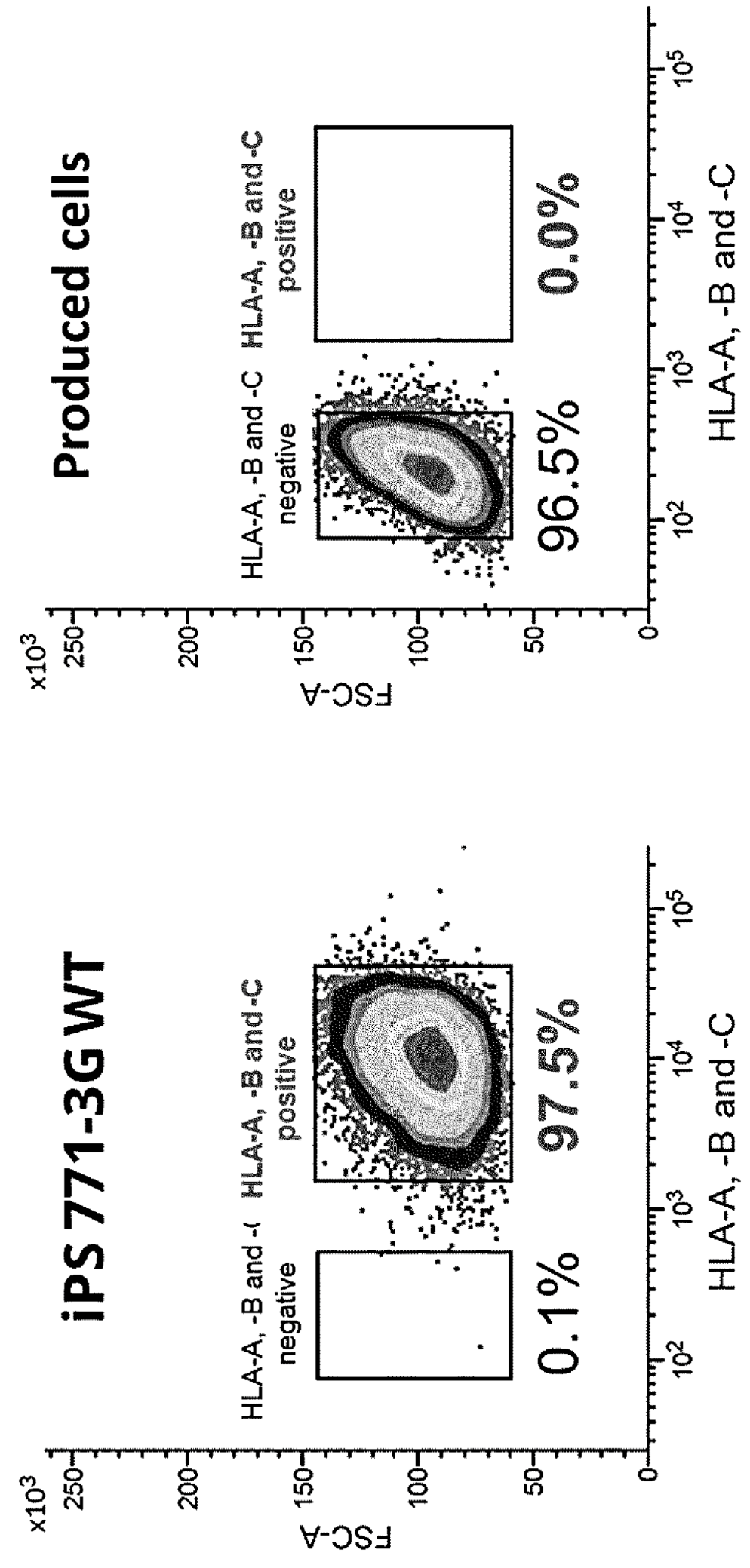

iPS 771-3G WT
Produced cells
HLA-A, -B and -C negative
HLA-A, -B and -C positive
0.1%
97.5%
96.5%
0.0%
FSC-A
x10^3
HLA-A, -B and -C
0
50
100
150
200
250
10^2
10^3
10^4
10^5

FIG. 39

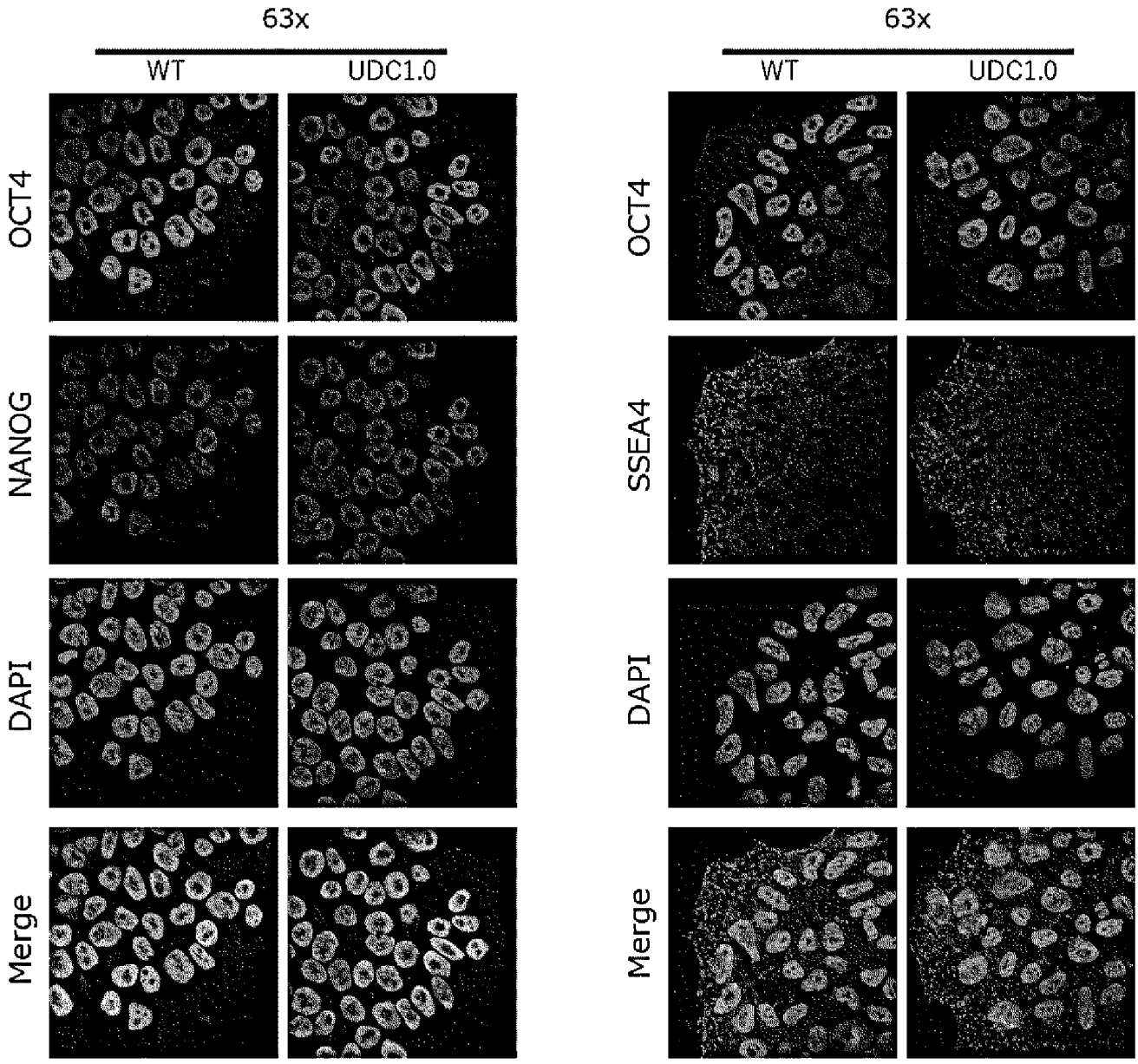

63x
WT
UDC1.0
OCT4
NANOG
DAPI
Merge
63x
WT
UDC1.0
OCT4
SSEA4
DAPI
Merge

FIG. 40

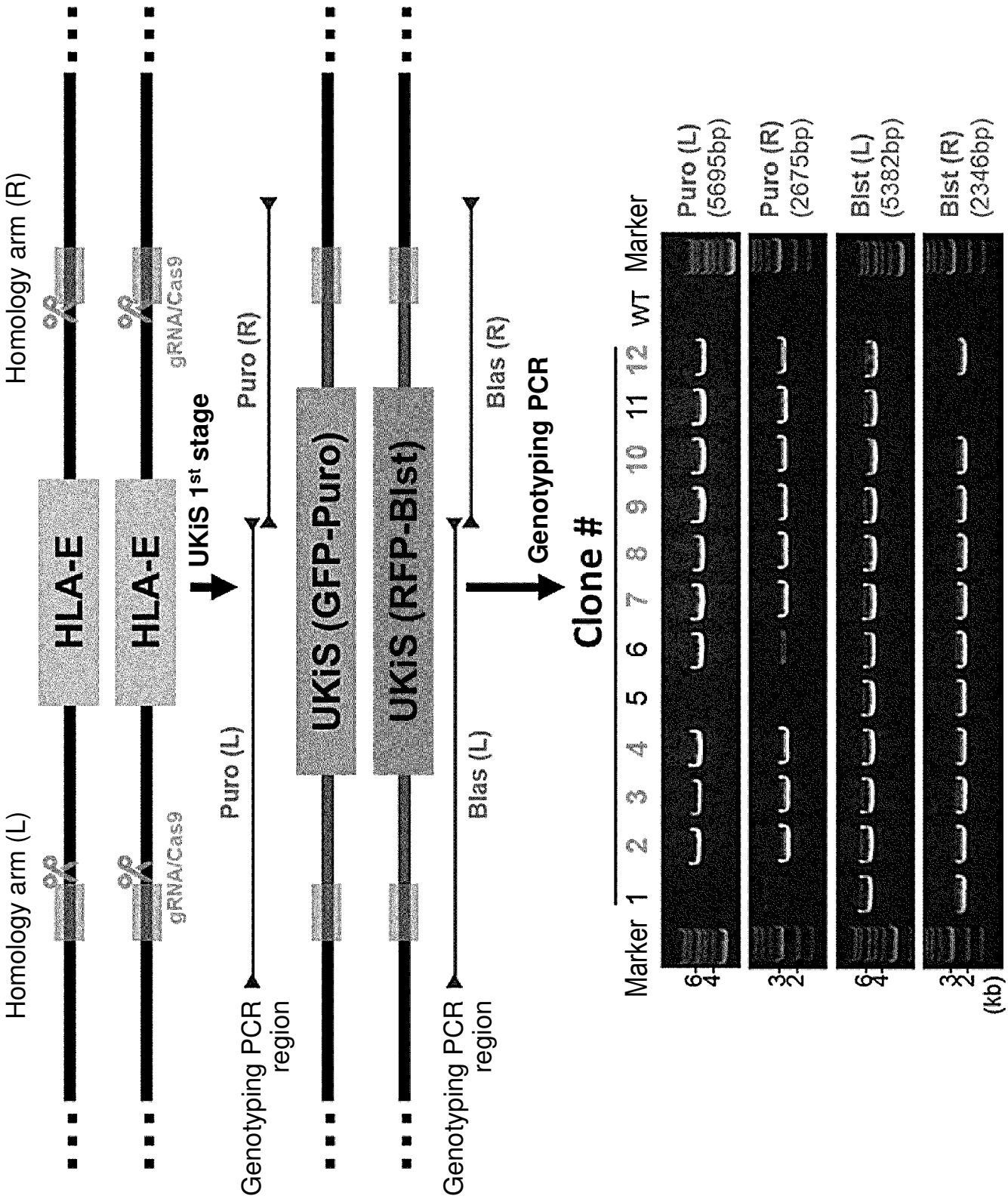

Homology arm (L)
Homology arm (R)
HLA-E
HLA-E
gRNA/Cas9
gRNA/Cas9
UKiS 1st stage
Puro (L)
Puro (R)
UKiS (GFP-Puro)
UKiS (RFP-Blst)
Blas (L)
Blas (R)
Genotyping PCR region
Genotyping PCR region
Genotyping PCR
Clone #
Marker 1 2 3 4 5 6 7 8 9 10 11 12 WT Marker
Puro (L) (5695bp)
Puro (R) (2675bp)
Blst (L) (5382bp)
Blst (R) (2346bp)
6
4
3
2
6
4
3
2
(kb)

FIG. 41

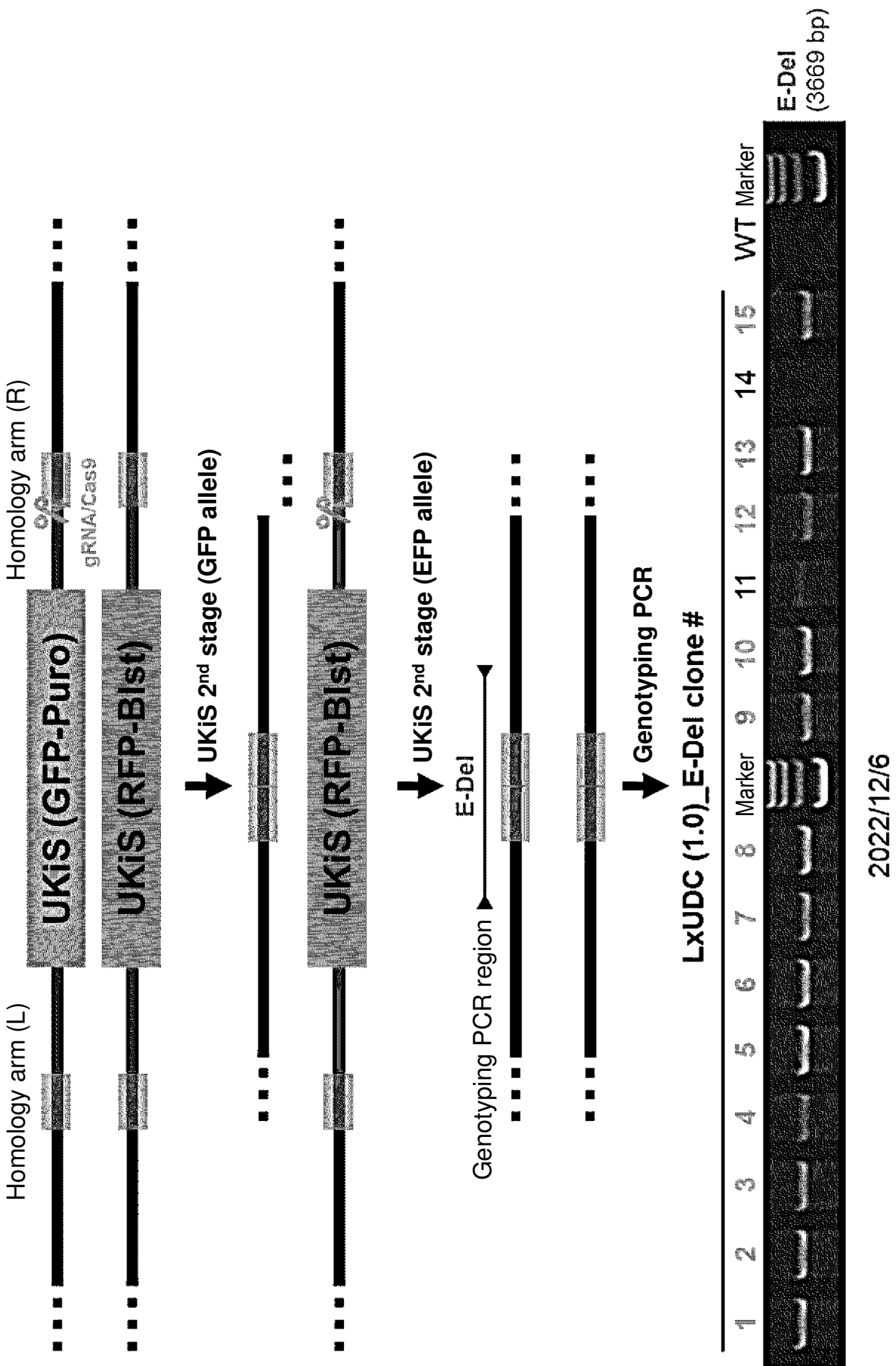

Homology arm (L)
Homology arm (R)
UKiS (GFP-Puro)
UKiS (RFP-Blst)
gRNA/Cas9
UKiS 2nd stage (GFP allele)
UKiS (RFP-Blst)
UKiS 2nd stage (EFP allele)
E-Del
Genotyping PCR region
Genotyping PCR
LxUDC (1.0)_E-Del clone #
Marker 1 2 3 4 5 6 7 8 Marker 9 10 11 12 13 14 15 WT Marker
E-Del (3669 bp)
4
3
(kb)
2022/12/6

FIG. 42

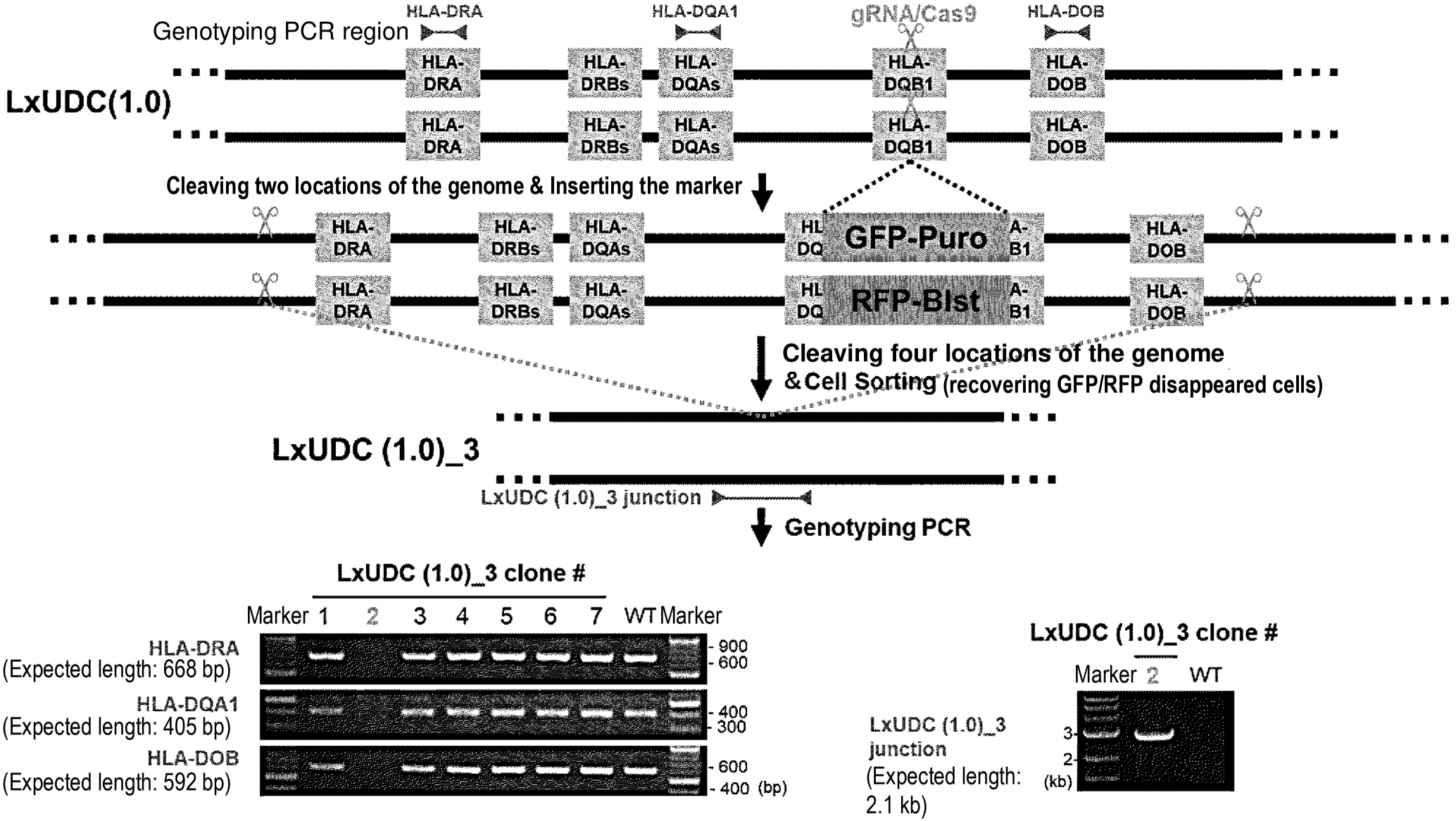

Genotyping PCR region
HLA-DRA
HLA-DQA1
gRNA/Cas9
HLA-DOB
LxUDC(1.0)
HLA-DRA
HLA-DRBs
HLA-DQAs
HLA-DQB1
HLA-DOB
Cleaving two locations of the genome & Inserting the marker
GFP-Puro
RFP-Blst
Cleaving four locations of the genome
& Cell Sorting (recovering GFP/RFP disappeared cells)
LxUDC (1.0)_3
LxUDC (1.0)_3 junction
Genotyping PCR
LxUDC (1.0)_3 clone #
Marker 1 2 3 4 5 6 7 WT Marker
HLA-DRA
(Expected length: 668 bp)
HLA-DQA1
(Expected length: 405 bp)
HLA-DOB
(Expected length: 592 bp)
900
600
400
300
600
400 (bp)
LxUDC (1.0)_3 clone #
Marker 2 WT
LxUDC (1.0)_3
junction
(Expected length:
2.1 kb)
3
2
(kb)

FIG. 43

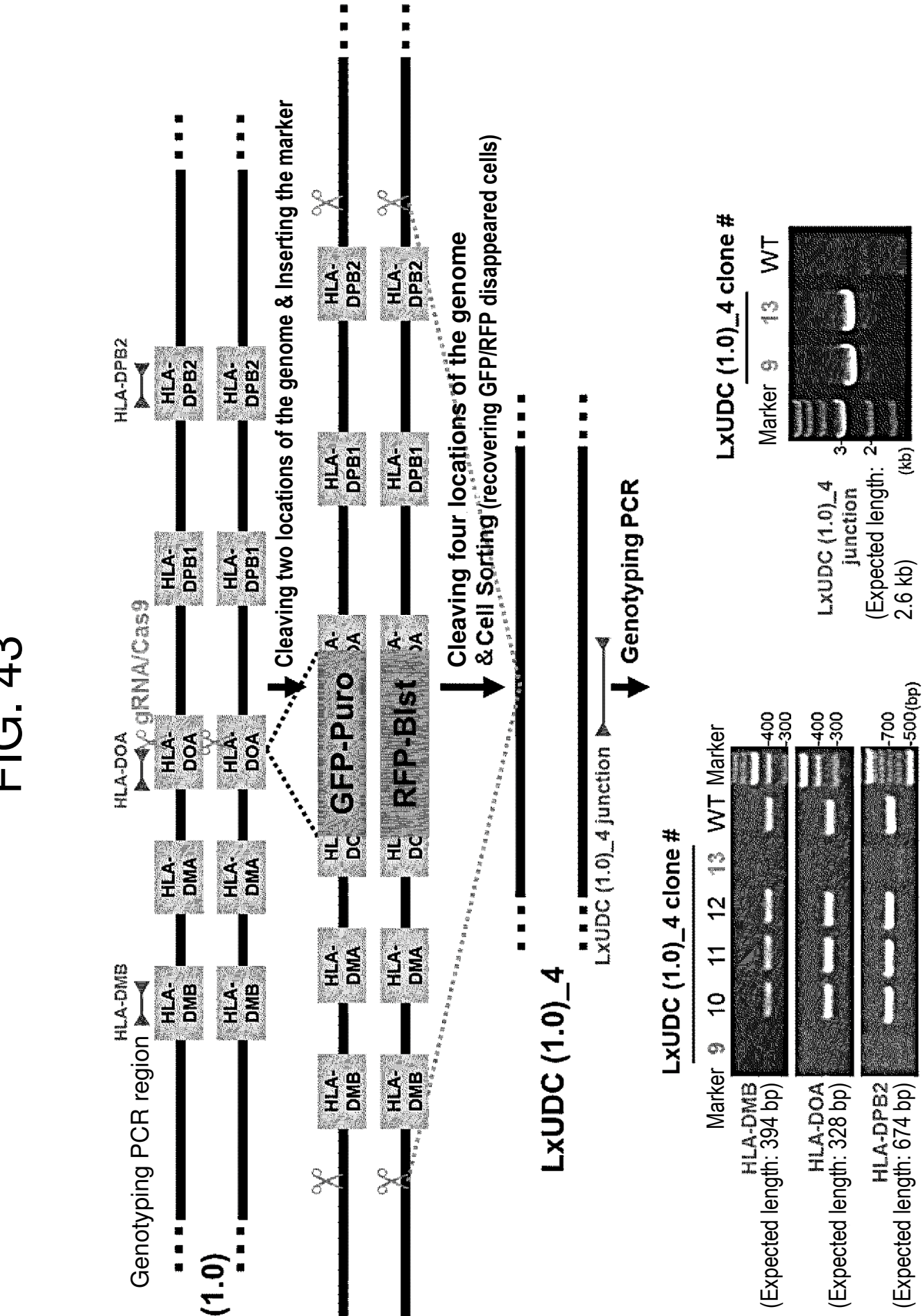

LxUDC (1.0)
Genotyping PCR region
HLA-DMB
HLA-DOA
HLA-DPB2
gRNA/Cas9
HLA-DMB
HLA-DOA
HLA-DPB1
HLA-DPB2
HLA-DMA
Cleaving two locations of the genome & Inserting the marker
GFP-Puro
RFP-Blst
Cleaving four locations of the genome
& Cell Sorting (recovering GFP/RFP disappeared cells)
LxUDC (1.0)_4
LxUDC (1.0)_4 junction
Genotyping PCR
LxUDC (1.0)_4 clone #
Marker 9 10 11 12 13 WT Marker
HLA-DMB
(Expected length: 394 bp)
HLA-DOA
(Expected length: 328 bp)
HLA-DPB2
(Expected length: 674 bp)
400
300
700
500(bp)
LxUDC (1.0)_4 clone #
Marker 9 13 WT
LxUDC (1.0)_4
junction
(Expected length:
2.6 kb)
3
2
(kb)

FIG. 44

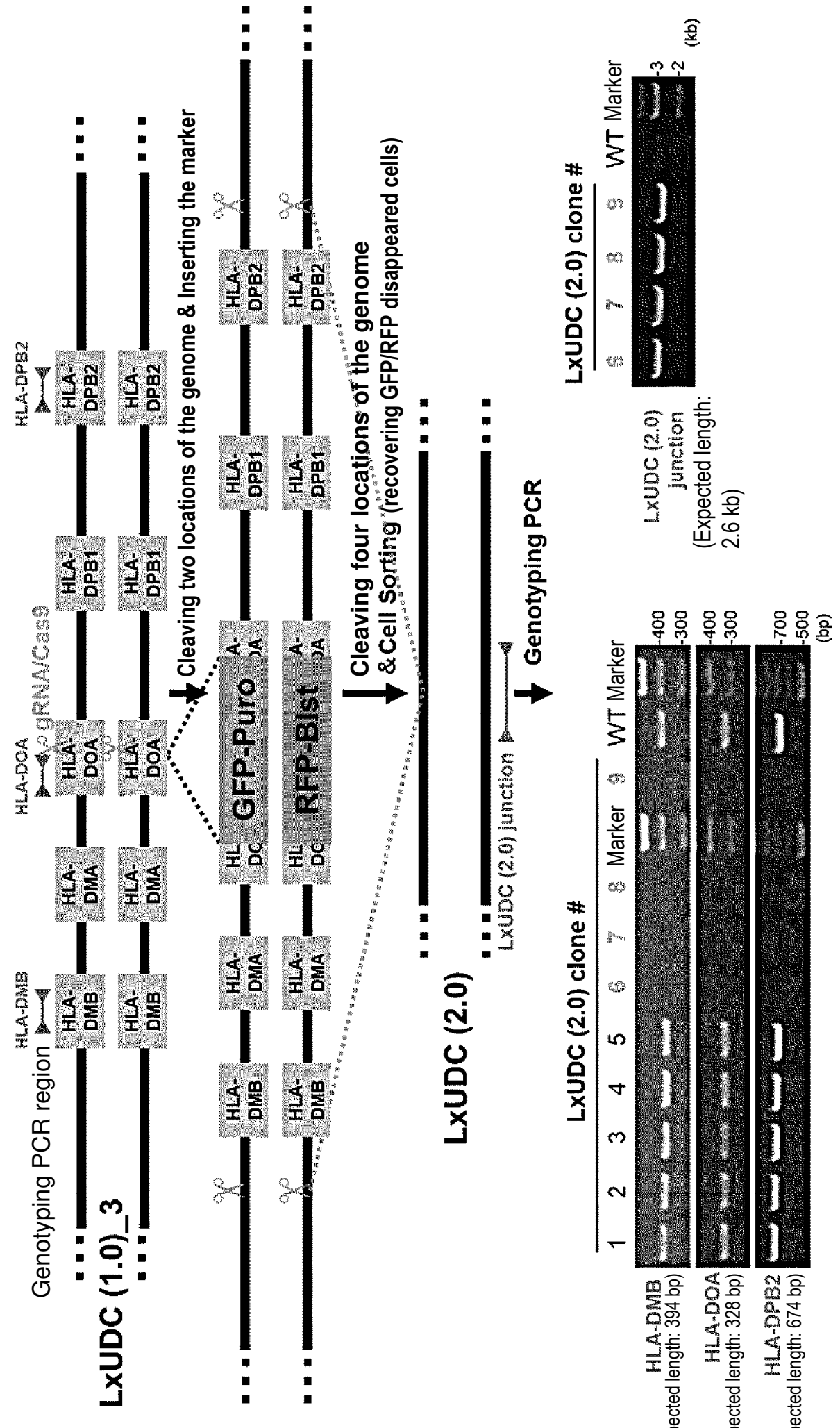

Genotyping PCR region
HLA-DMB
HLA-DOA
HLA-DPB2
gRNA/Cas9
LxUDC (1.0)_3
HLA-DMB
HLA-DMA
HLA-DOA
HLA-DPB1
HLA-DPB2
Cleaving two locations of the genome & Inserting the marker
GFP-Puro
RFP-Blst
Cleaving four locations of the genome
& Cell Sorting (recovering GFP/RFP disappeared cells)
LxUDC (2.0)
LxUDC (2.0) junction
Genotyping PCR
LxUDC (2.0) clone #
1 2 3 4 5 6 7 8 Marker 9 WT Marker
-400
-300
(bp)
HLA-DMB
(Expected length: 394 bp)
HLA-DOA
(Expected length: 328 bp)
HLA-DPB2
(Expected length: 674 bp)
LxUDC (2.0) clone #
6 7 8 9 WT Marker
-3
-2
(kb)
LxUDC (2.0) junction
(Expected length: 2.6 kb)

FIG. 45

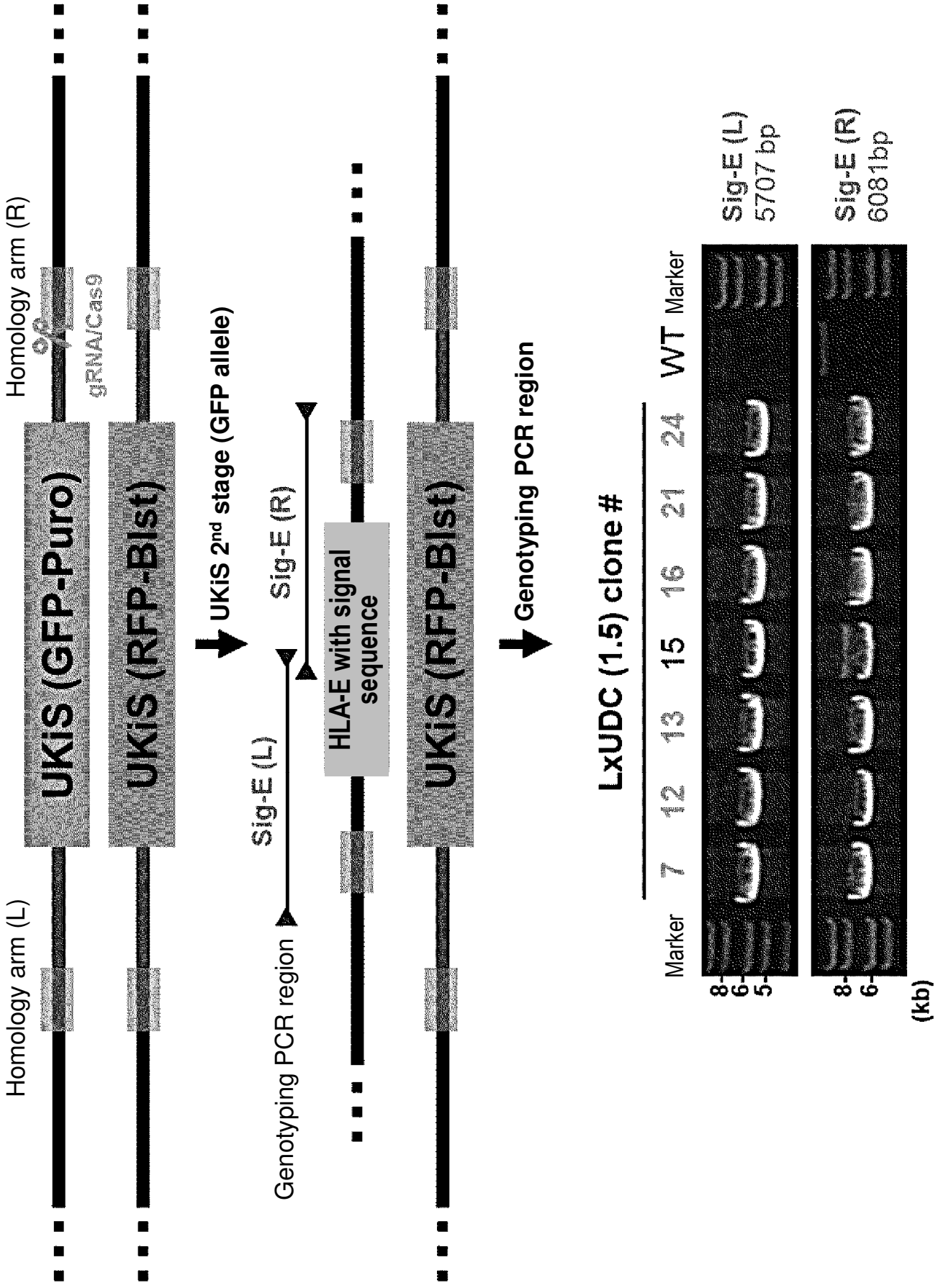

Homology arm (R)
gRNA/Cas9
UKiS (GFP-Puro)
UKiS (RFP-Blst)
Homology arm (L)
UKiS 2nd stage (GFP allele)
Sig-E (R)
Sig-E (L)
HLA-E with signal sequence
Genotyping PCR region
UKiS (RFP-Blst)
Genotyping PCR region
LxUDC (1.5) clone #
Marker 7 12 13 15 16 21 24 WT Marker
Sig-E (L) 5707 bp
Sig-E (R) 6081bp
8-
6-
5-
8-
6-
(kb)

FIG. 46

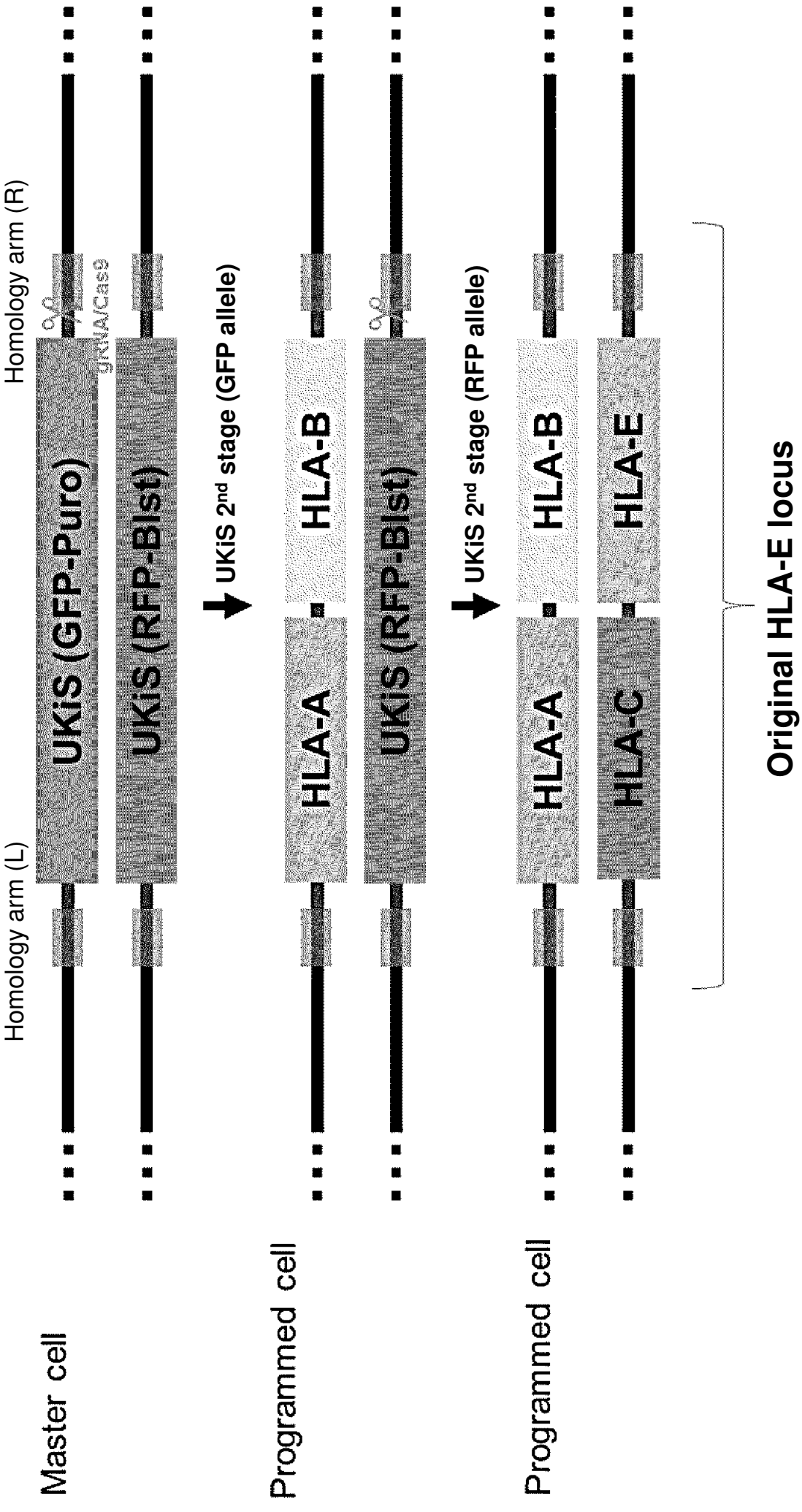

Master cell
Homology arm (L)
UKiS (GFP-Puro)
gRNA/Cas9
Homology arm (R)
UKiS (RFP-Blst)
UKiS 2nd stage (GFP allele)
Programmed cell
HLA-A
HLA-B
UKiS (RFP-Blst)
UKiS 2nd stage (RFP allele)
Programmed cell
HLA-A
HLA-B
HLA-C
HLA-E
Original HLA-E locus

FIG. 47

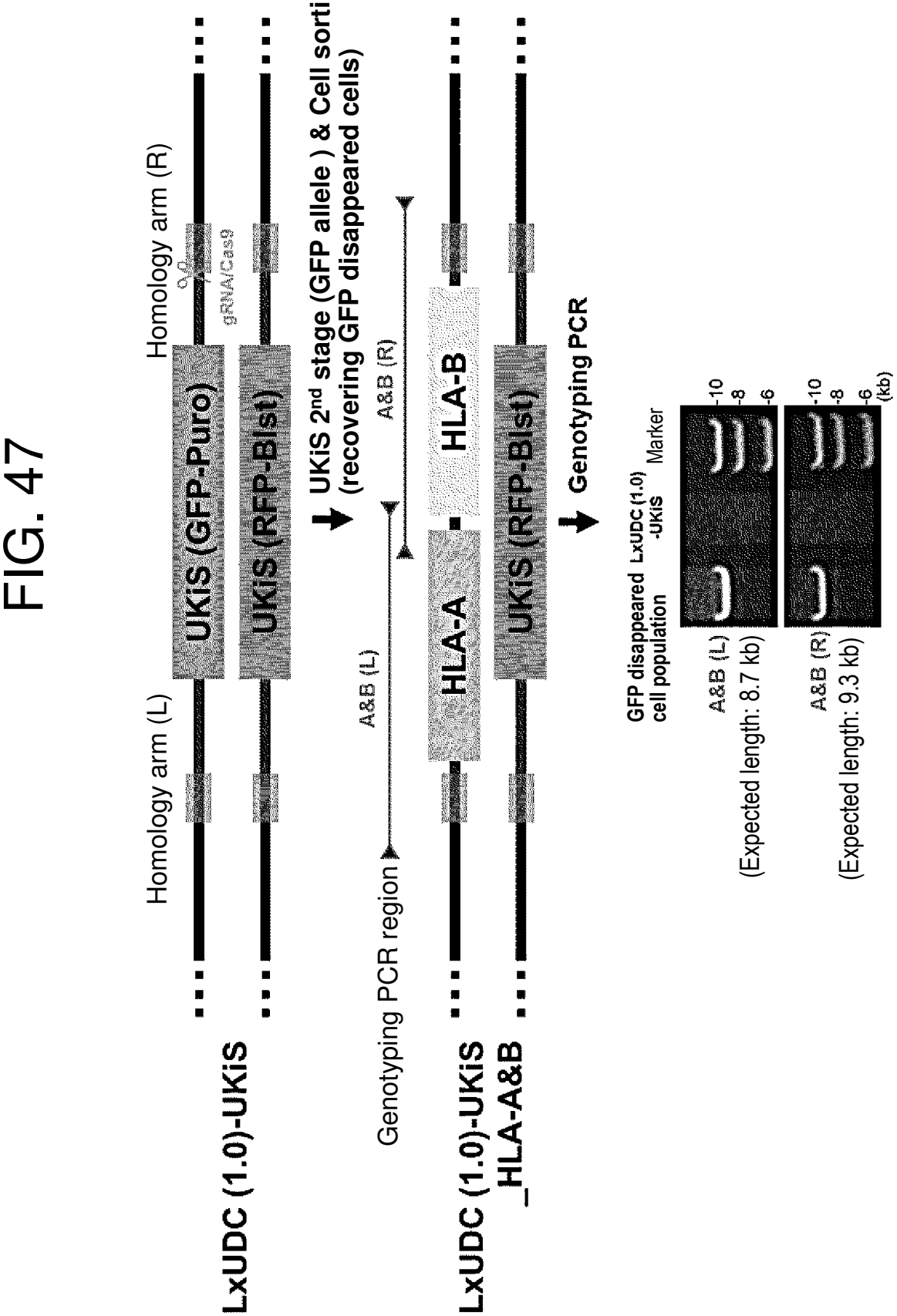

LxUDC (1.0)-UKiS
Homology arm (L)
UKiS (GFP-Puro)
Homology arm (R)
gRNA/Cas9
UKiS (RFP-Blst)
UKiS 2nd stage (GFP allele) & Cell sorting
(recovering GFP disappeared cells)
Genotyping PCR region
A&B (L)
A&B (R)
LxUDC (1.0)-UKiS
_HLA-A&B
HLA-A
HLA-B
UKiS (RFP-Blst)
Genotyping PCR
GFP disappeared cell population
LxUDC (1.0) -UKiS
Marker
-10
-8
-6
(kb)
A&B (L)
(Expected length: 8.7 kb)
A&B (R)
(Expected length: 9.3 kb)

FIG. 48

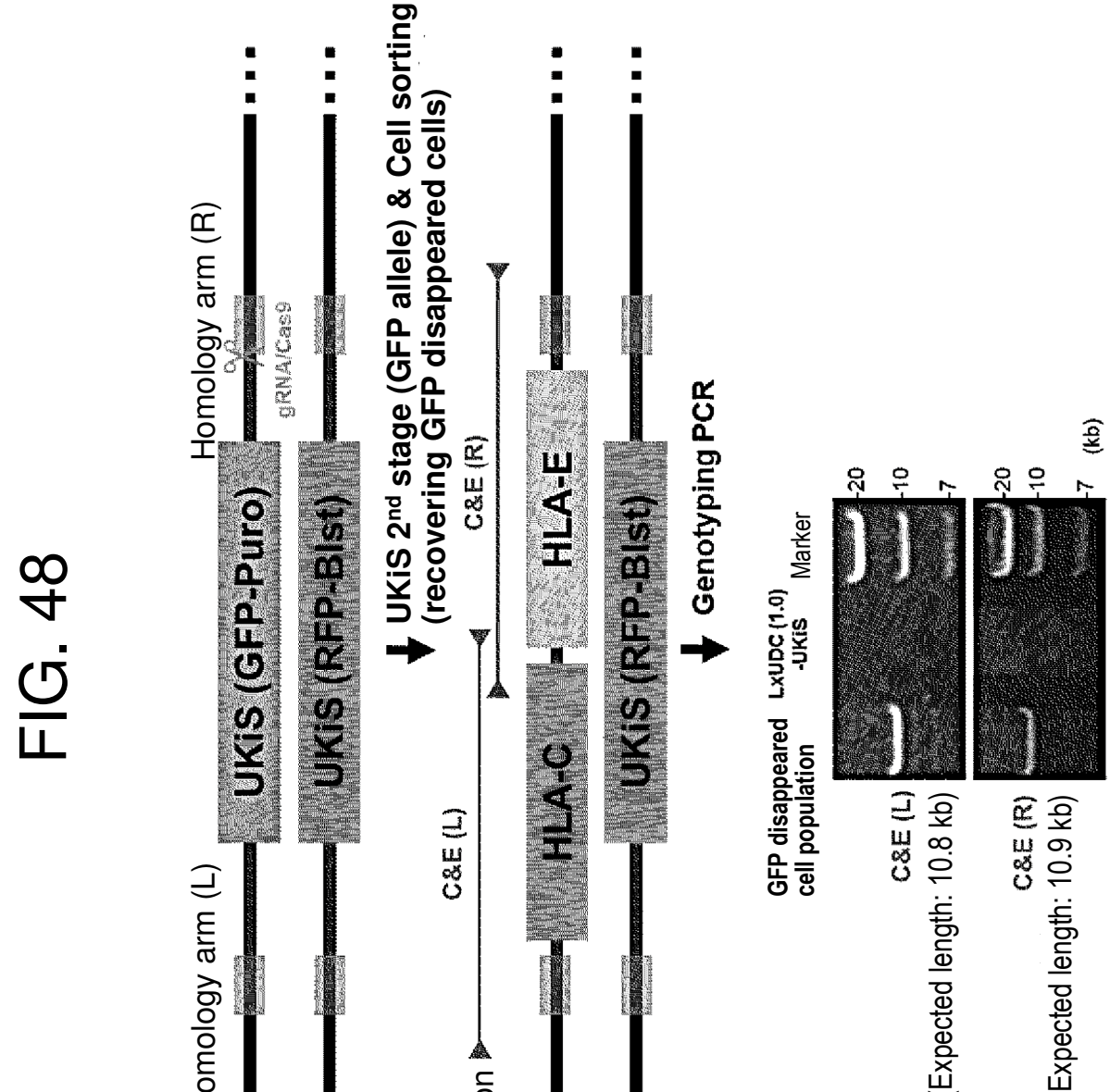

LxUDC (1.0)-UKiS
Homology arm (L)
UKiS (GFP-Puro)
UKiS (RFP-Blst)
Homology arm (R)
gRNA/Cas9
UKiS 2nd stage (GFP allele) & Cell sorting
(recovering GFP disappeared cells)
Genotyping PCR region
C&E (L)
C&E (R)
LxUDC (1.0)-UKiS
_HLA-C&E
HLA-C
HLA-E
UKiS (RFP-Blst)
Genotyping PCR
GFP disappeared
cell population
LxUDC (1.0)
-UKiS
Marker
20
10
7
(kb)
C&E (L)
(Expected length: 10.8 kb)
C&E (R)
(Expected length: 10.9 kb)

FIG. 49

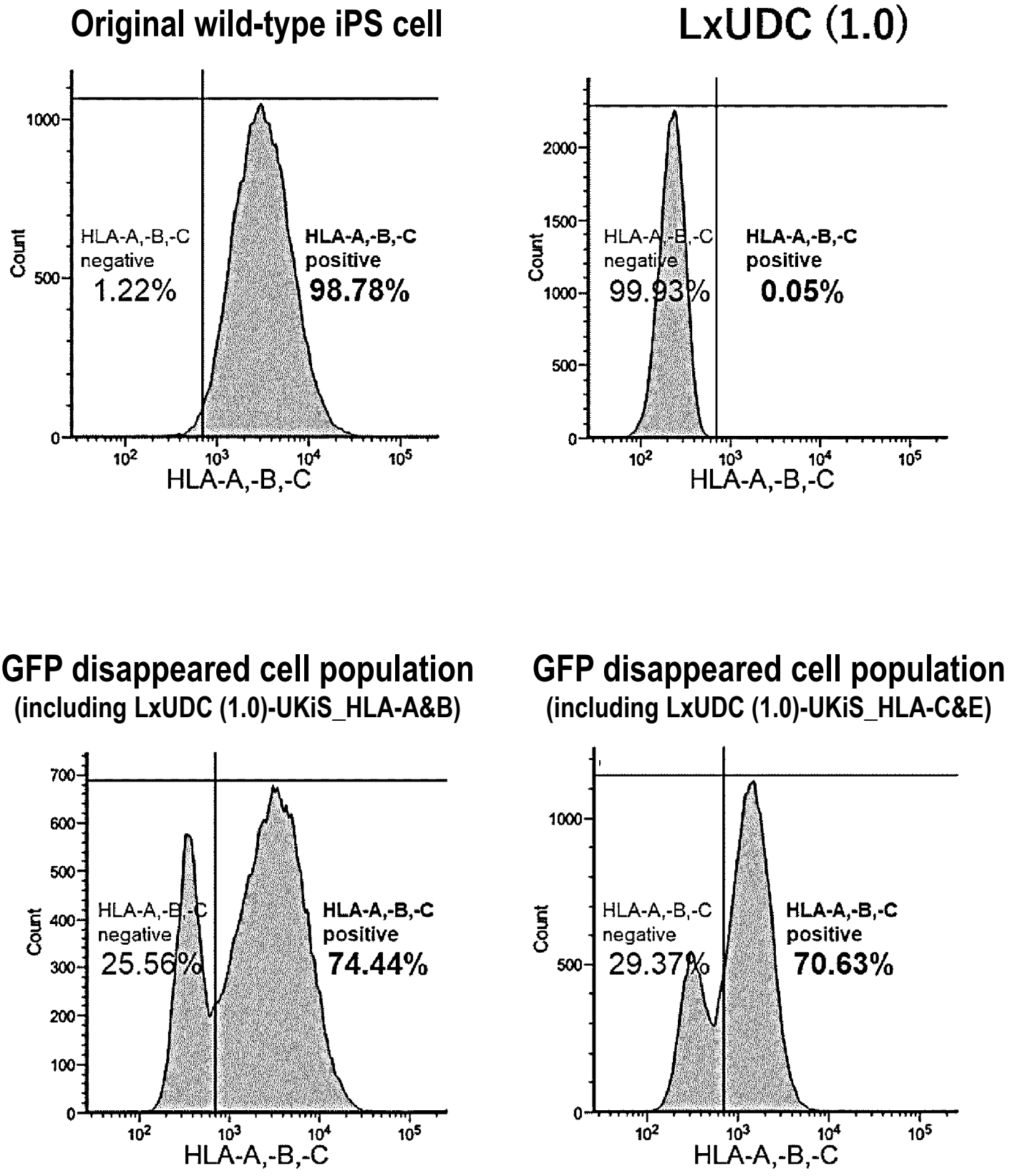
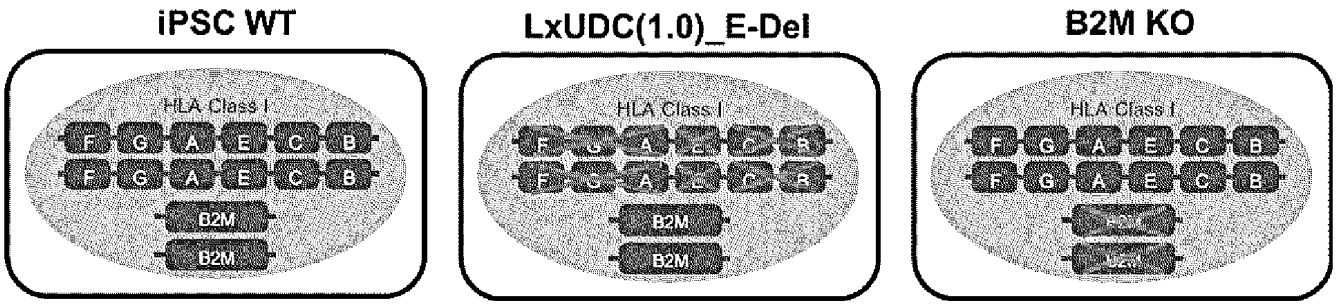
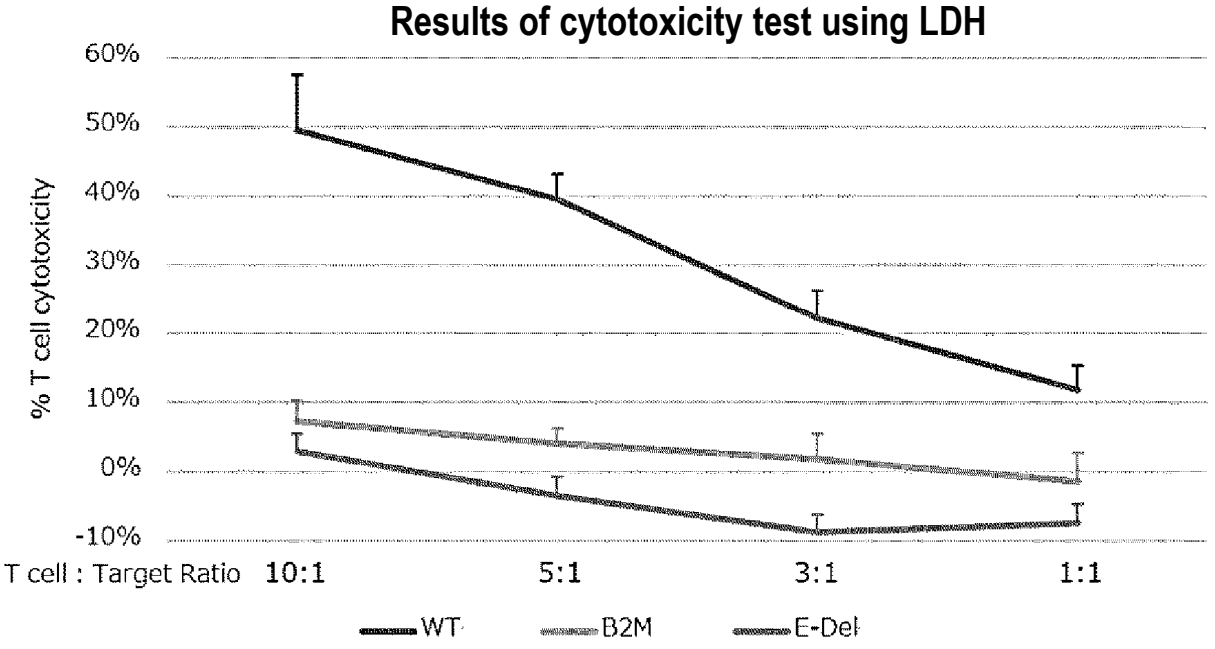

Original wild-type iPS cell
LxUDC (1.0)
GFP disappeared cell population
(including LxUDC (1.0)-UKiS_HLA-A&B)
GFP disappeared cell population
(including LxUDC (1.0)-UKiS_HLA-C&E)
Count
HLA-A,-B,-C
HLA-A,-B,-C negative
1.22%
HLA-A,-B,-C positive
98.78%
HLA-A,-B,-C negative
99.93%
HLA-A,-B,-C positive
0.05%
HLA-A,-B,-C negative
25.56%
HLA-A,-B,-C positive
74.44%
HLA-A,-B,-C negative
29.37%
HLA-A,-B,-C positive
70.63%

FIG. 50


iPSC WT
LxUDC(1.0)_E-Del
B2M KO
HLA Class I
F G A E C B
B2M


Results of cytotoxicity test using LDH
% T cell cytotoxicity
60%
50%
40%
30%
20%
10%
0%
-10%
T cell : Target Ratio
10:1
5:1
3:1
1:1
WT
B2M
E-Del