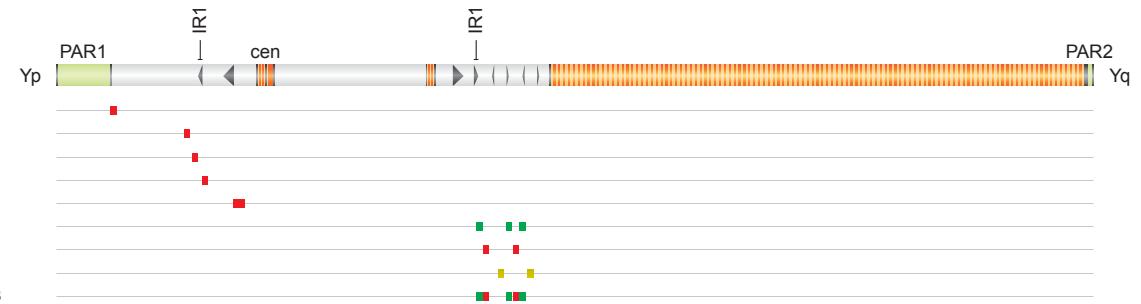


A i Structure of IR3/IR3

Reference IR3/IR3

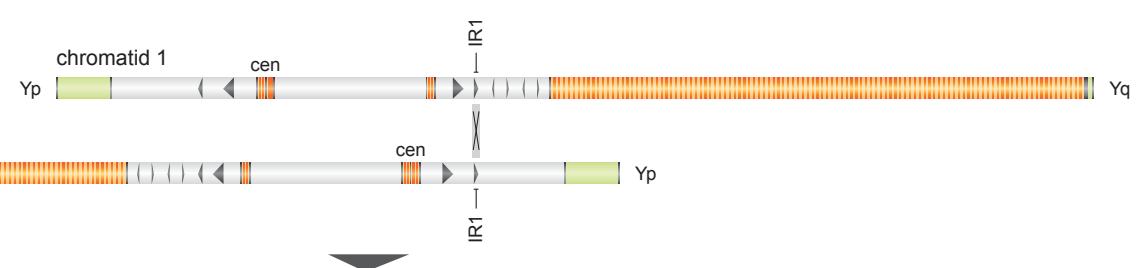
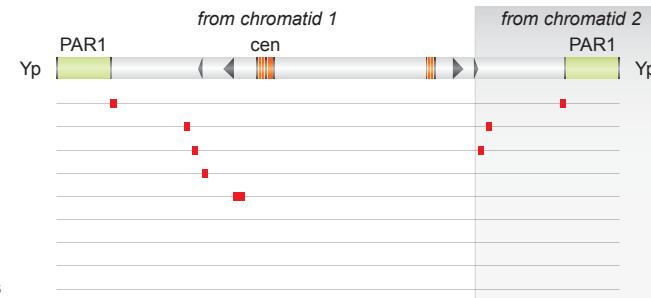
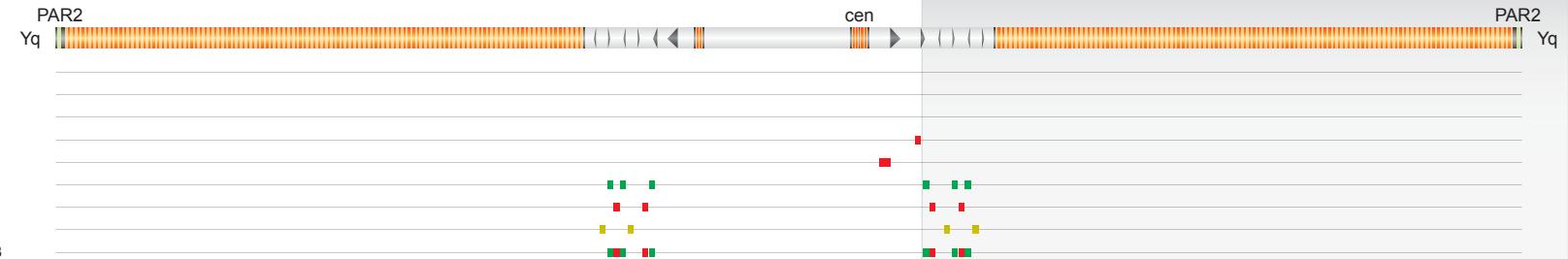
pDP1335
RP11-199M217224/17225
17228/17229**Structure of AZFc**

Reference AZFc

RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1**

chromatid 2

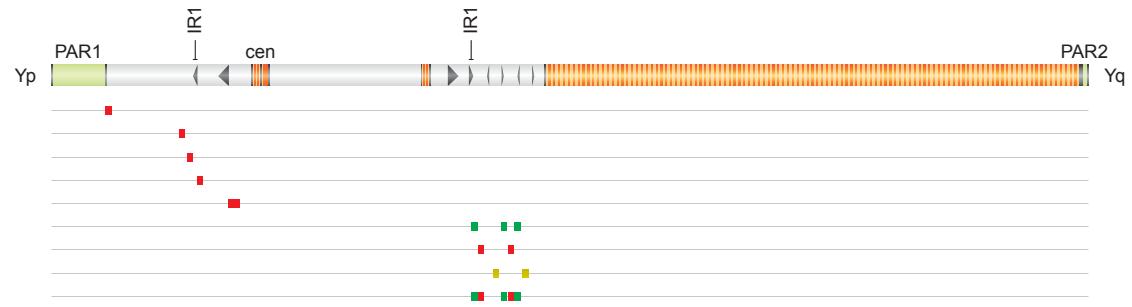
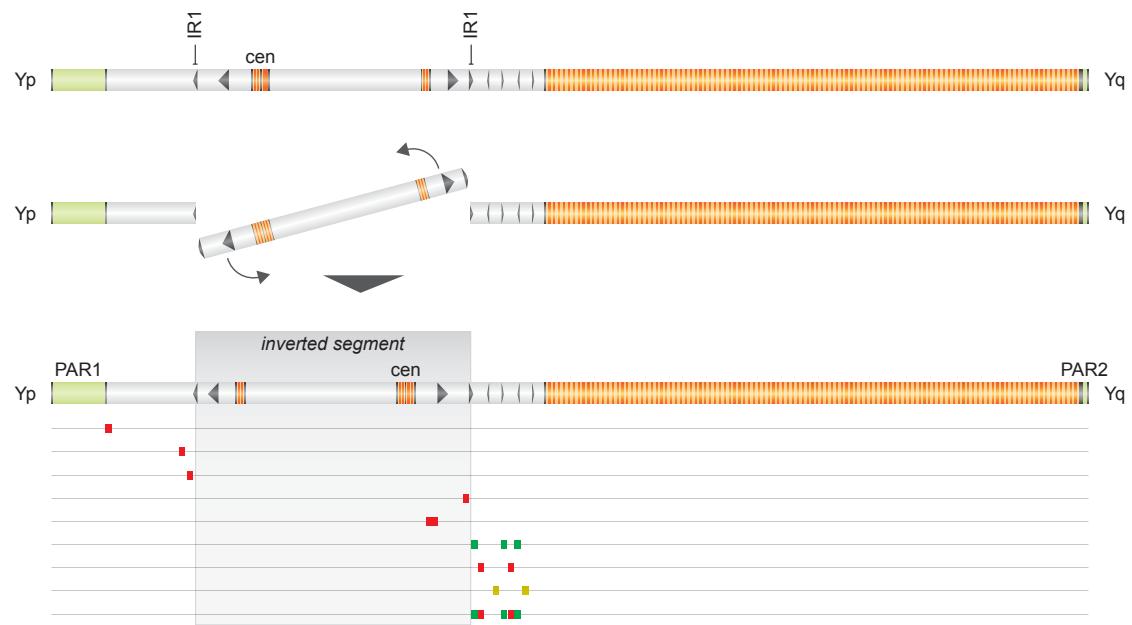
Yq

**PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

A ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8



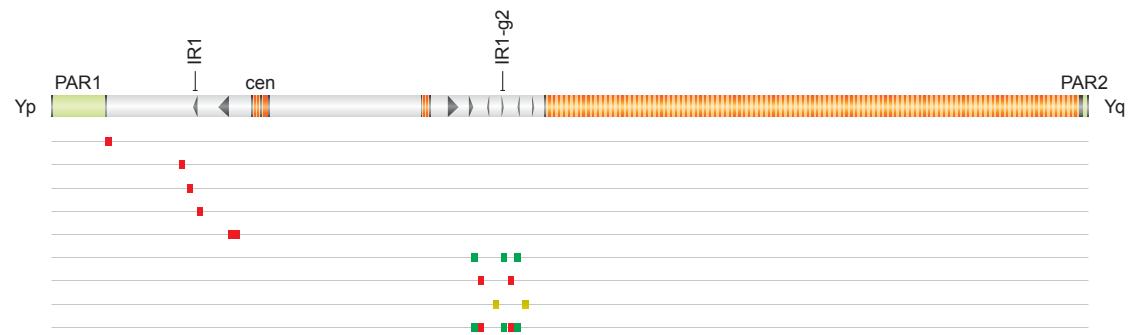
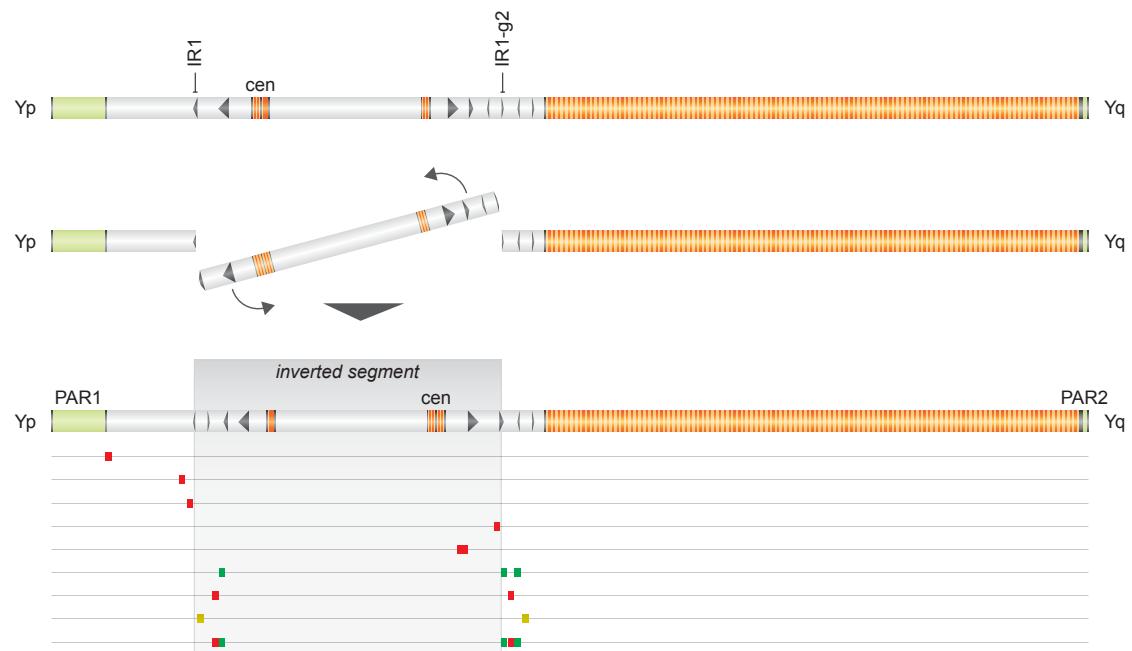
B ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

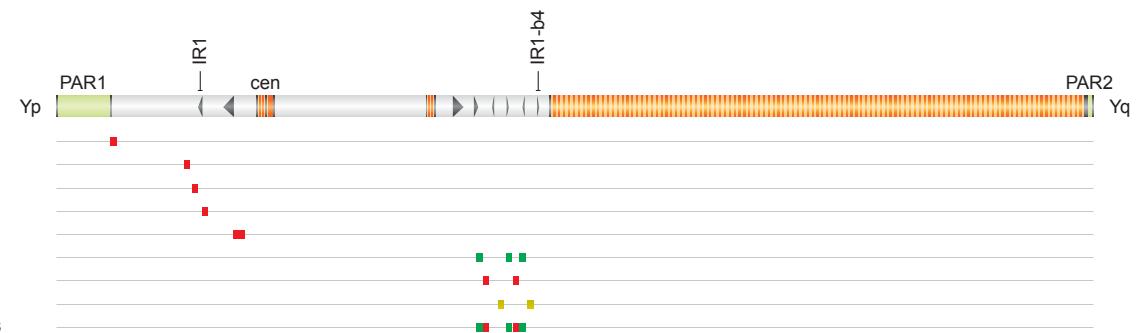
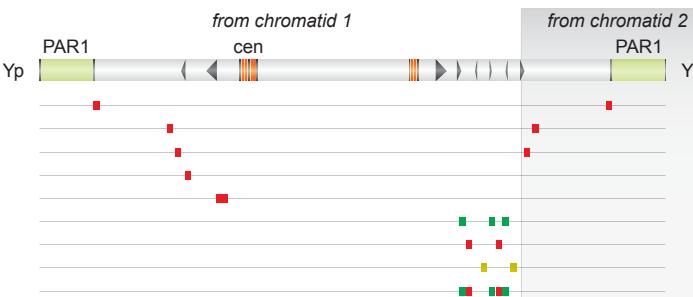
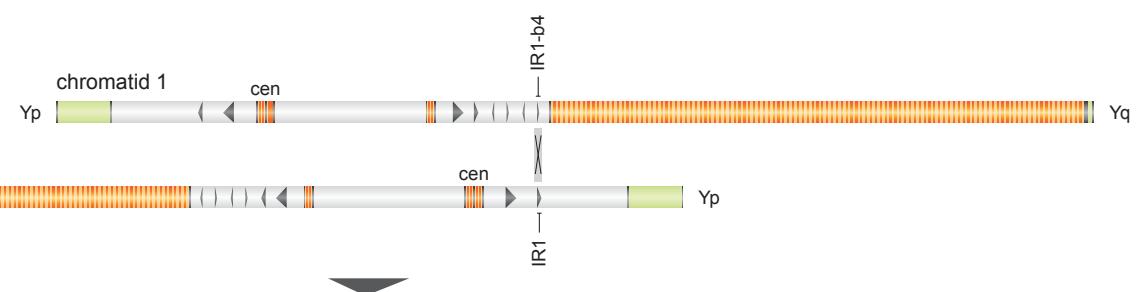
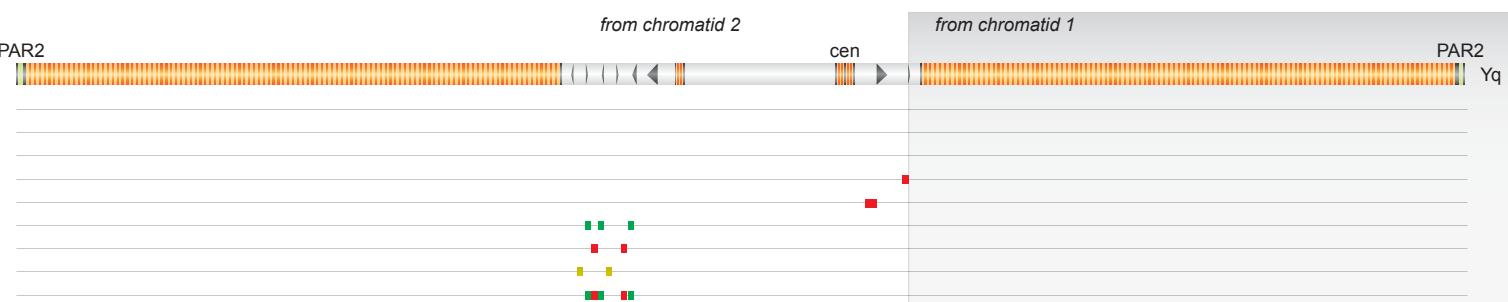
Reference AZFc

**Intrachromatid crossing-over at IR1/IR1-g2****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

C i Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-b4****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

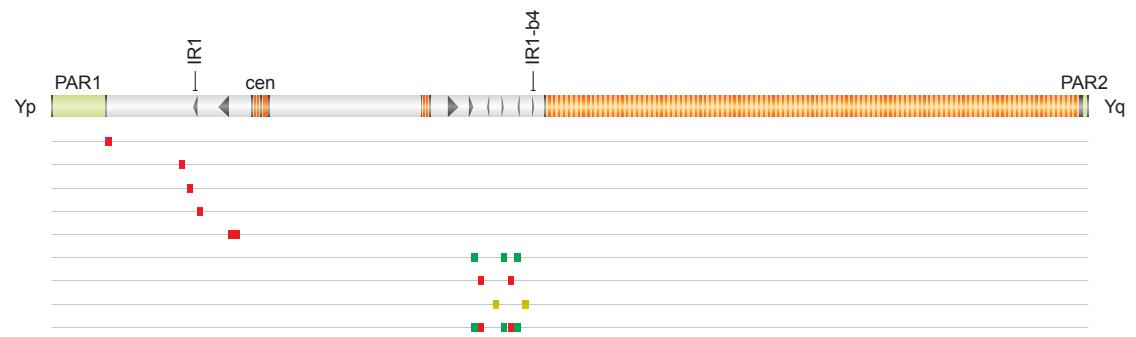
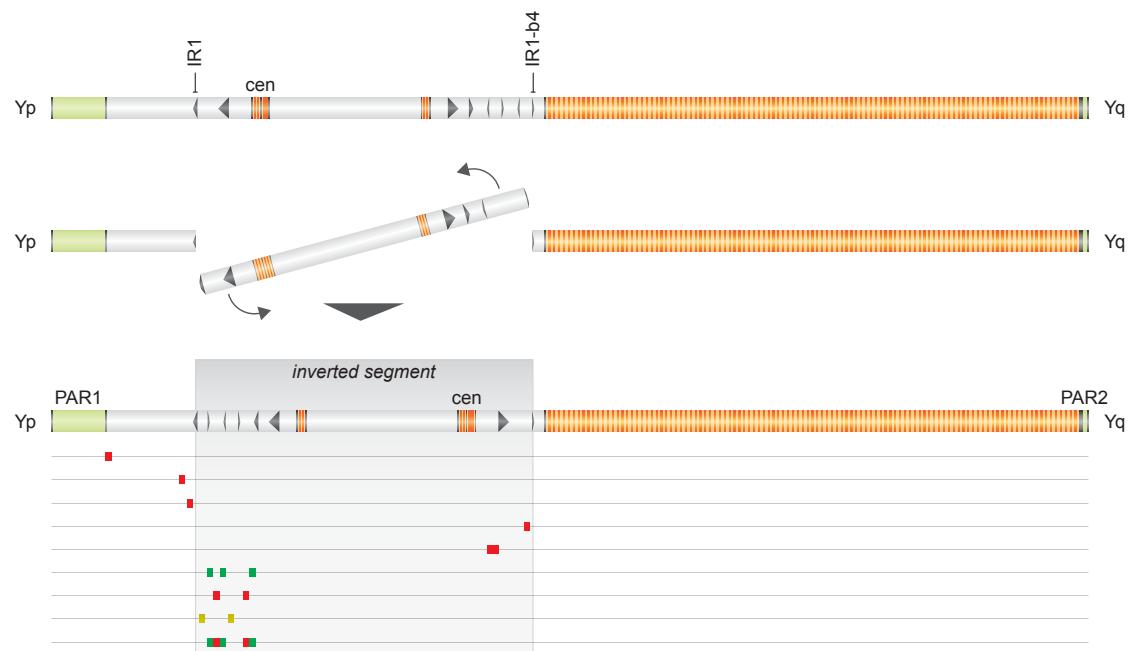
C ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

Reference AZFc

**Intrachromatid crossing-over at IR1/IR1-b4****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

D i Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229

Reference AZFc

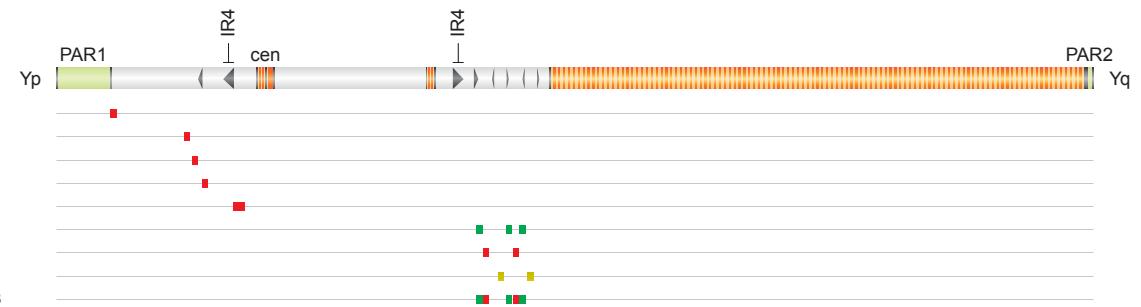
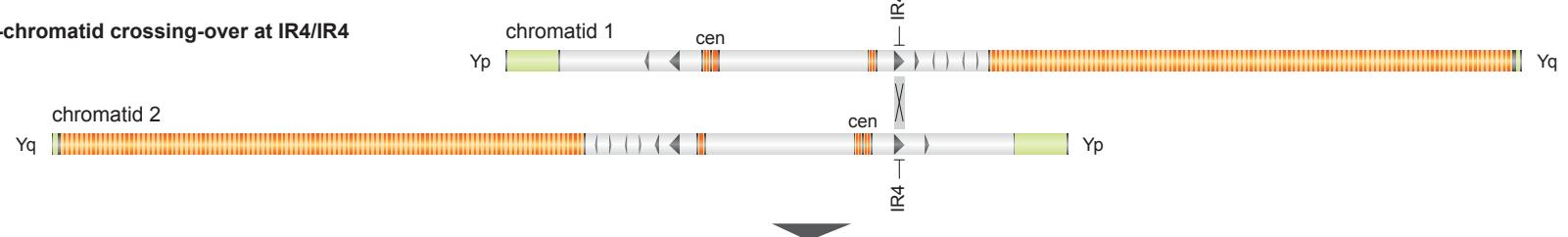
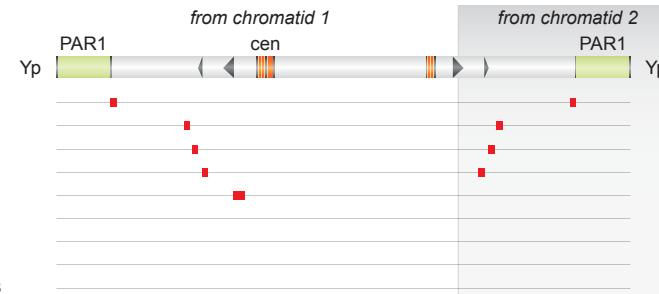
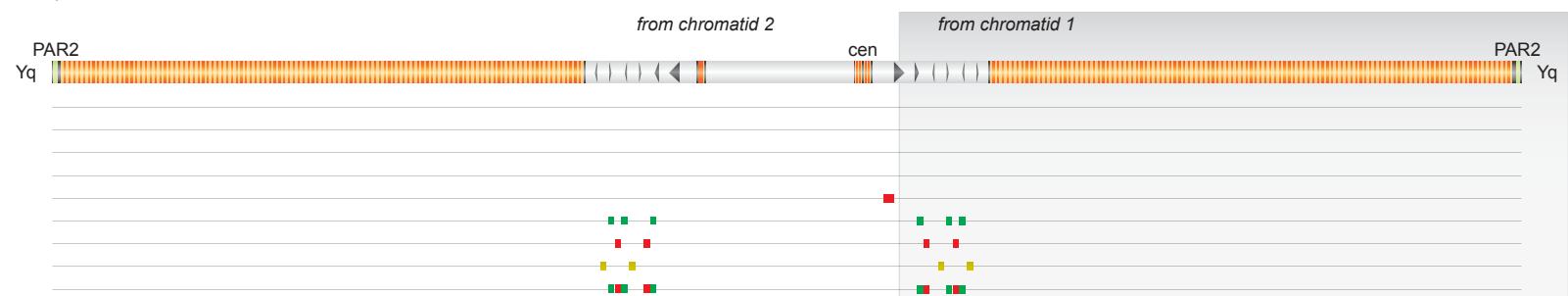
RP11-516H8

RP11-363G6

18E8

RP11-79J10

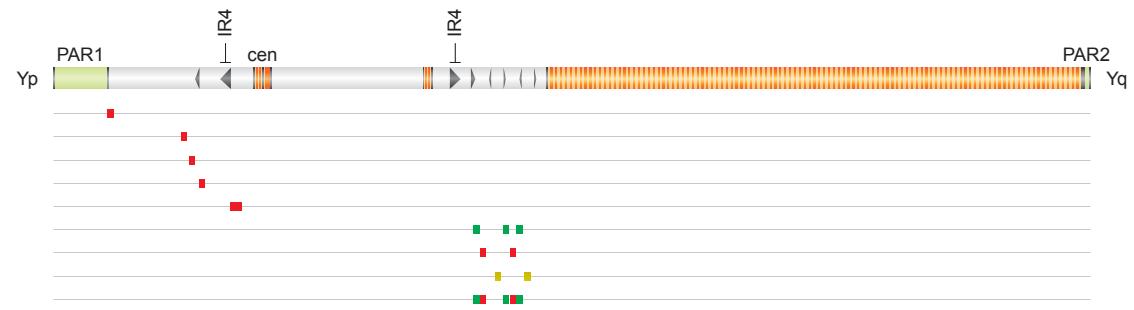
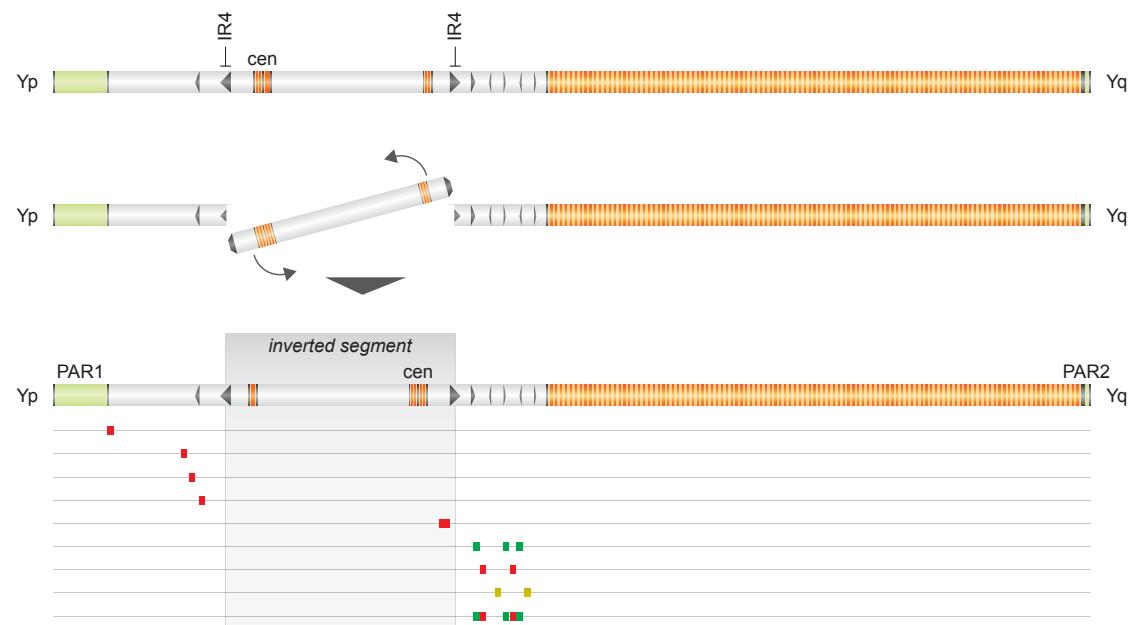
RP11-363G6 + 18E8

**Sister-chromatid crossing-over at IR4/IR4****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

D ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR4/IR4****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

E i Structure of IR3/IR3

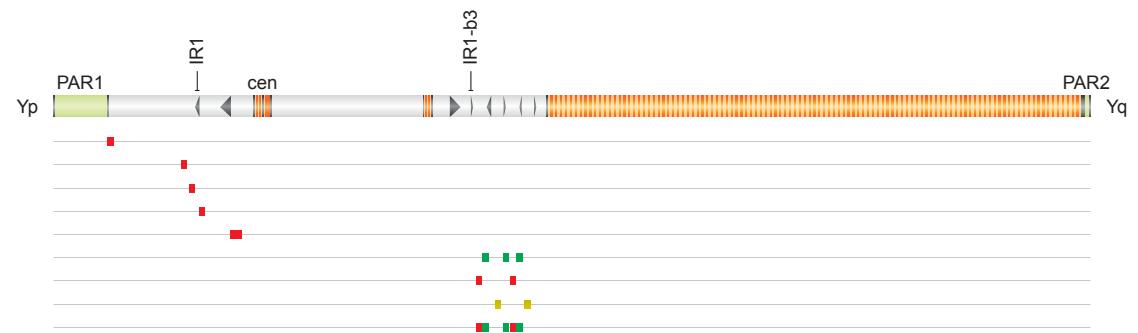
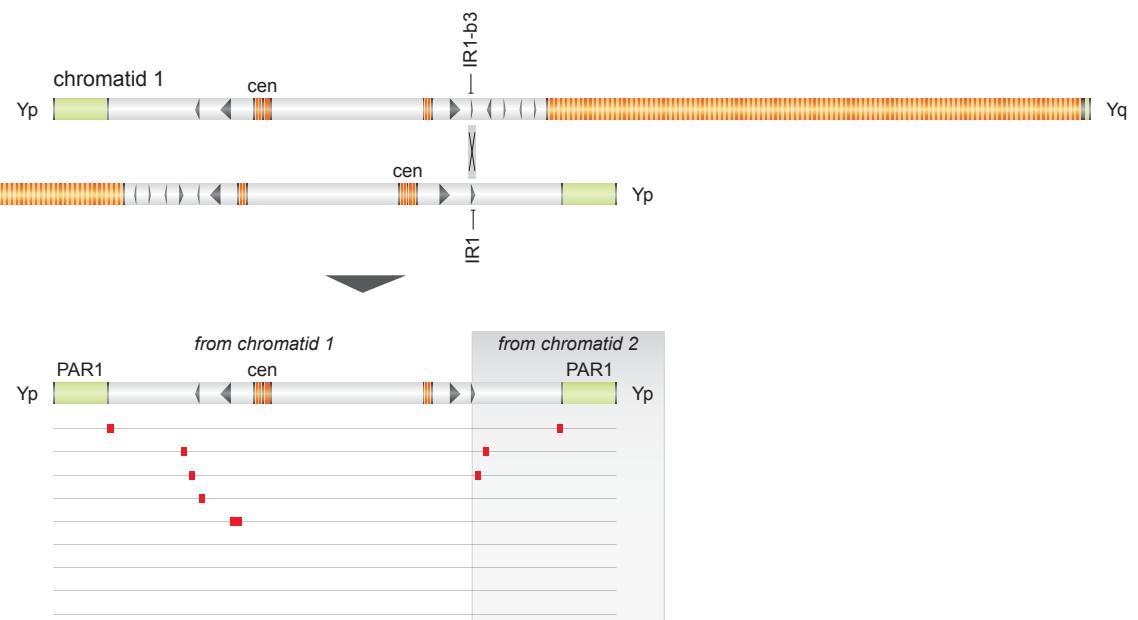
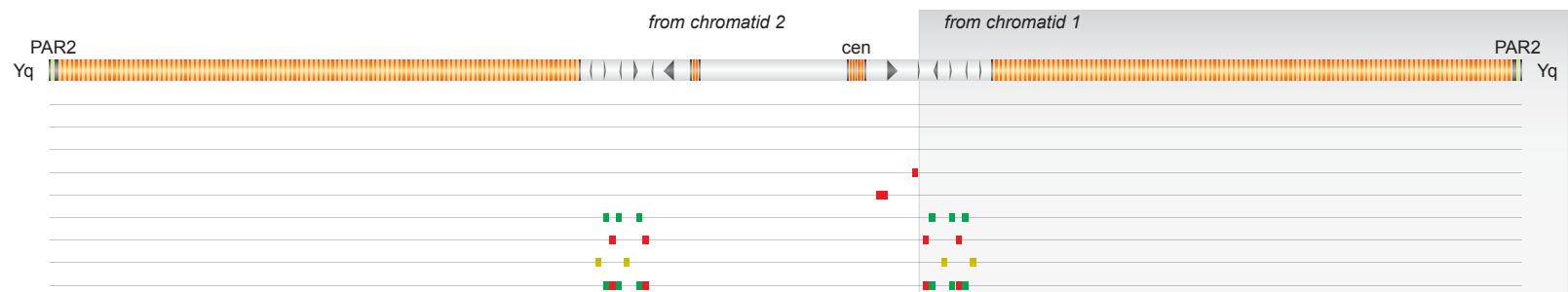
Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G618E8
RP11-79J10

RP11-363G6 + 18E8

Structure of AZFc

b2/b3 inversion

**Sister-chromatid crossing-over at IR1/IR1-b3****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

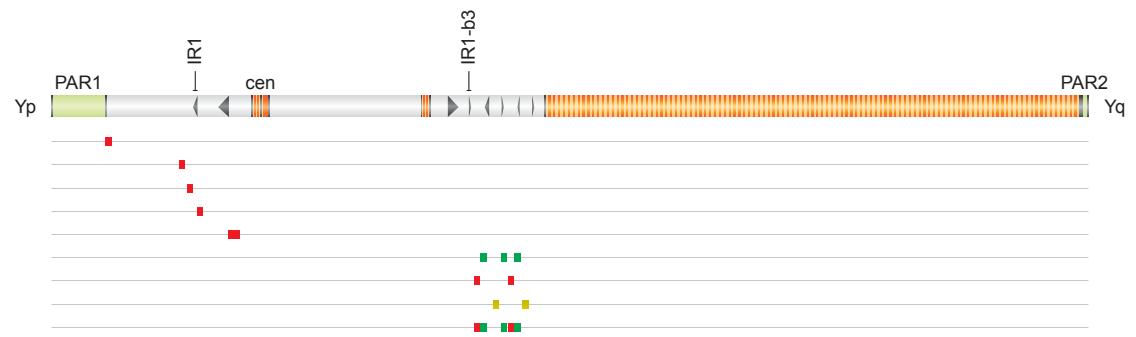
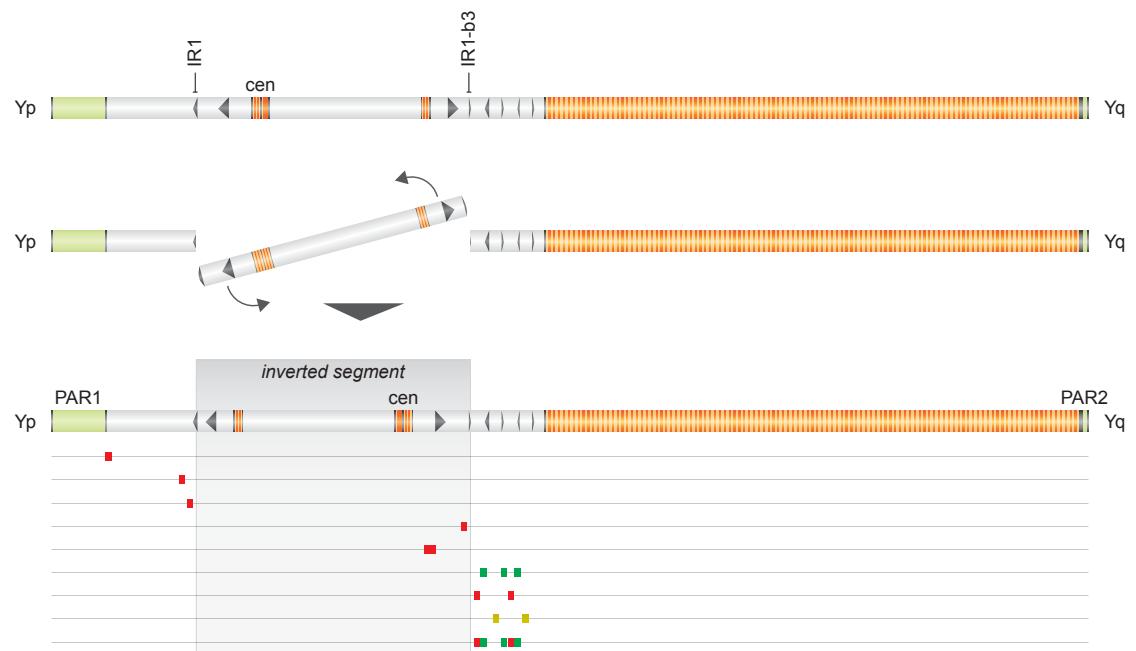
E ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

b2/b3 inversion

**Intrachromatid crossing-over at IR1/IR1-b3****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8



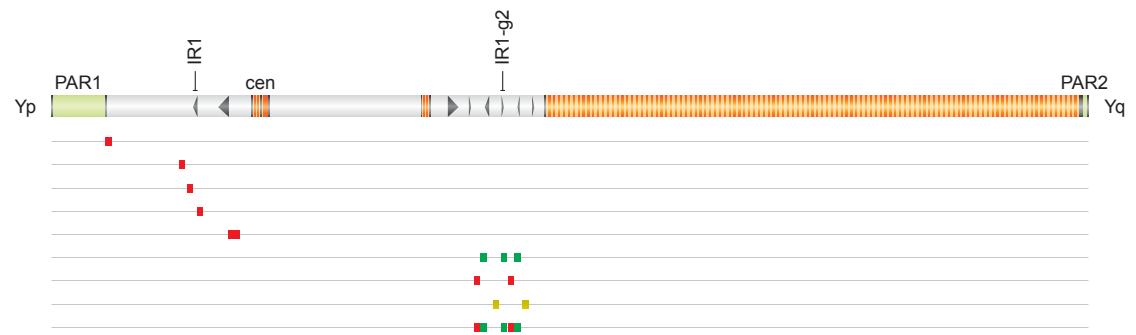
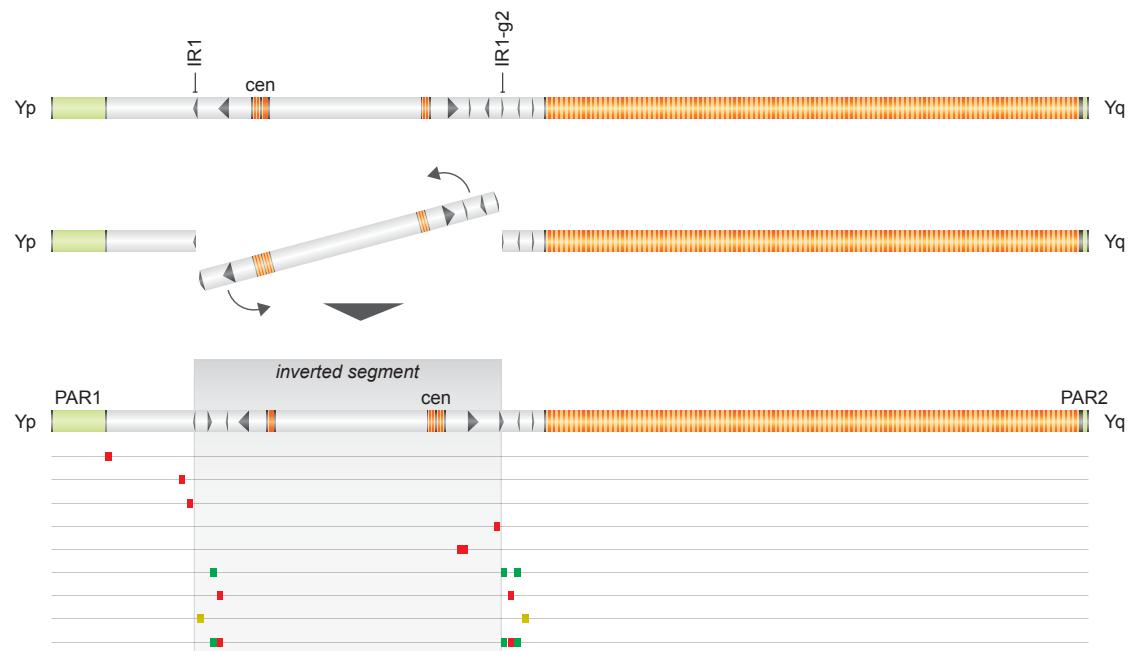
F ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

b2/b3 inversion

**Intrachromatid crossing-over at IR1/IR1-g2****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8



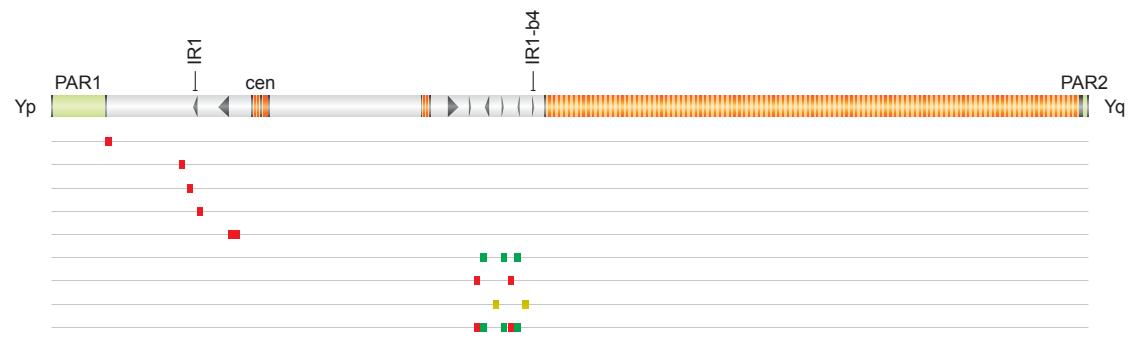
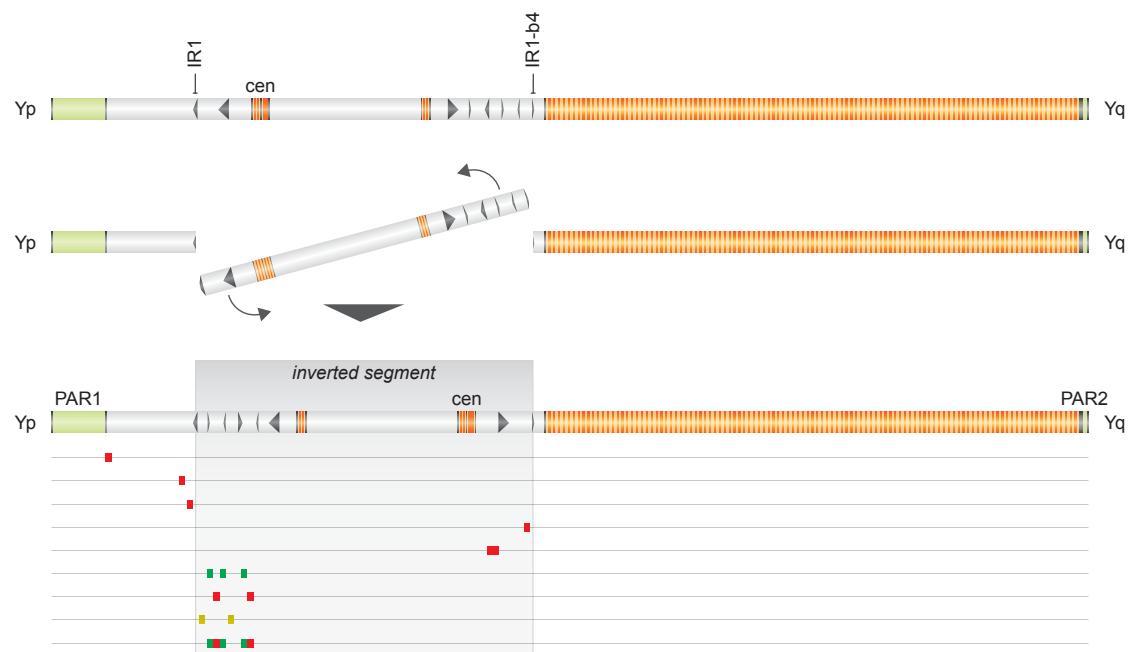
G ii Structure of IR3/IR3

Reference IR3/IR3

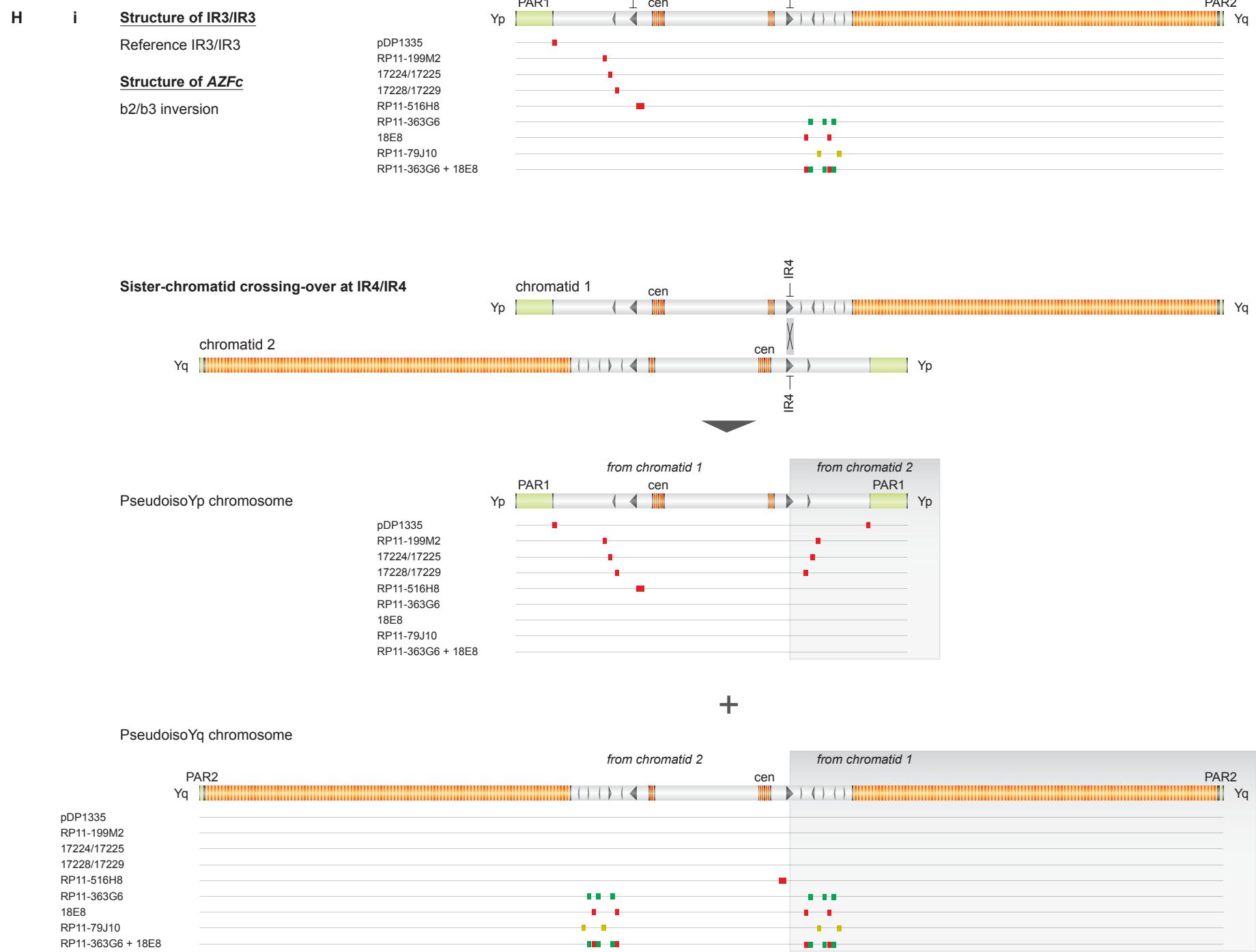
pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

b2/b3 inversion

**Intrachromatid crossing-over at IR1/IR1-b4****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8



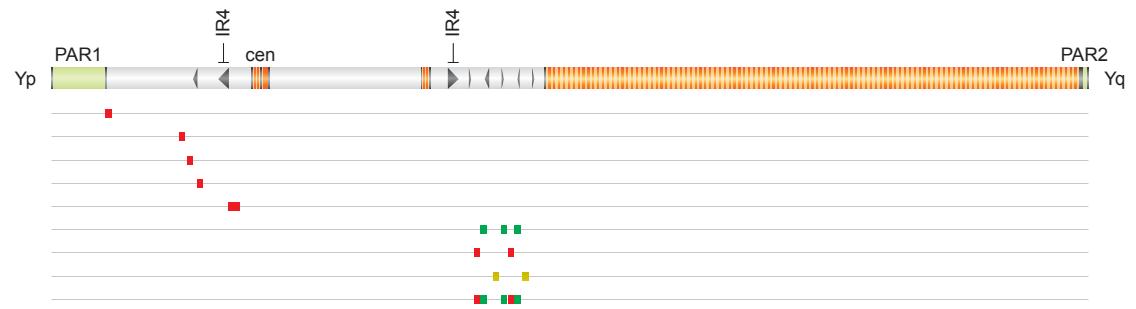
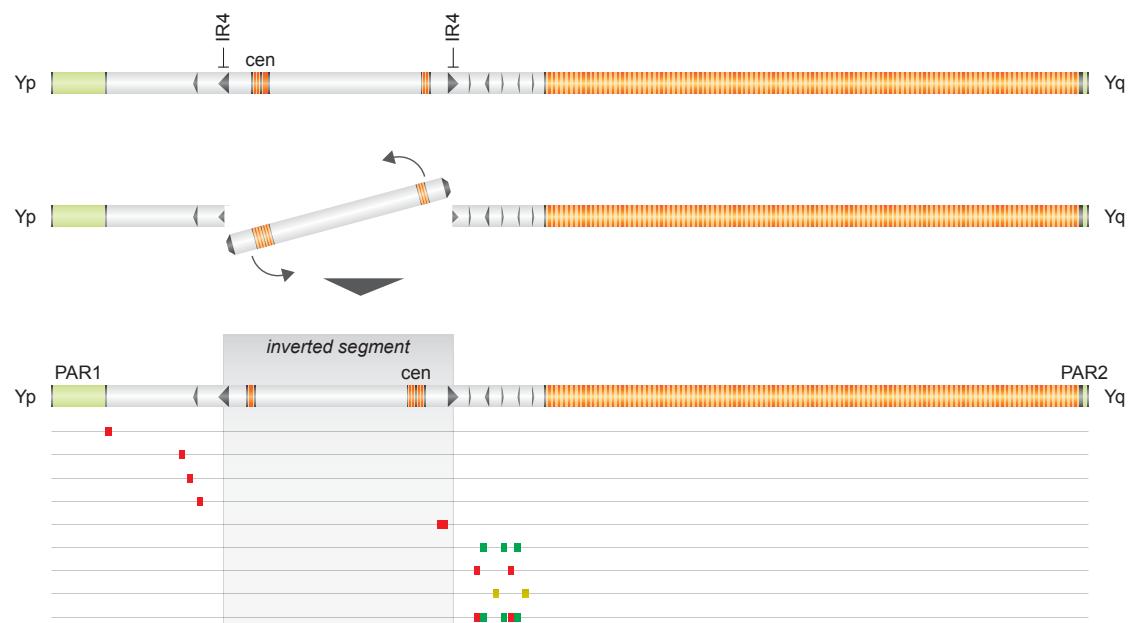
H ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

b2/b3 inversion

**Intrachromatid crossing-over at IR4/IR4****Pericentric inversion**

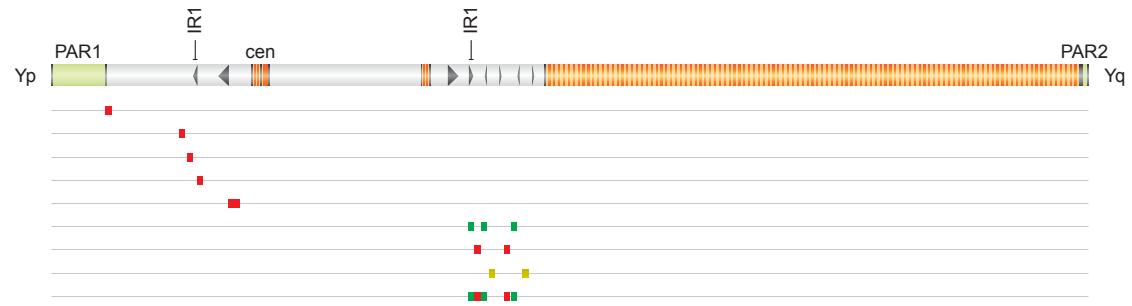
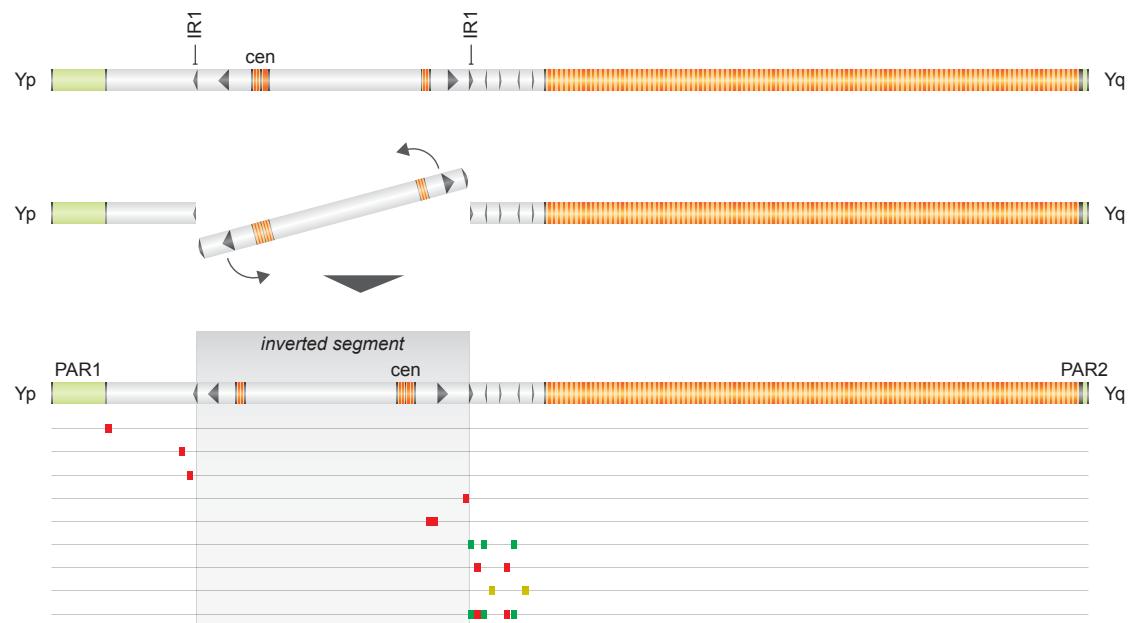
pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8



I ii **Structure of IR3/IR3**

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1**

Pericentric inversion

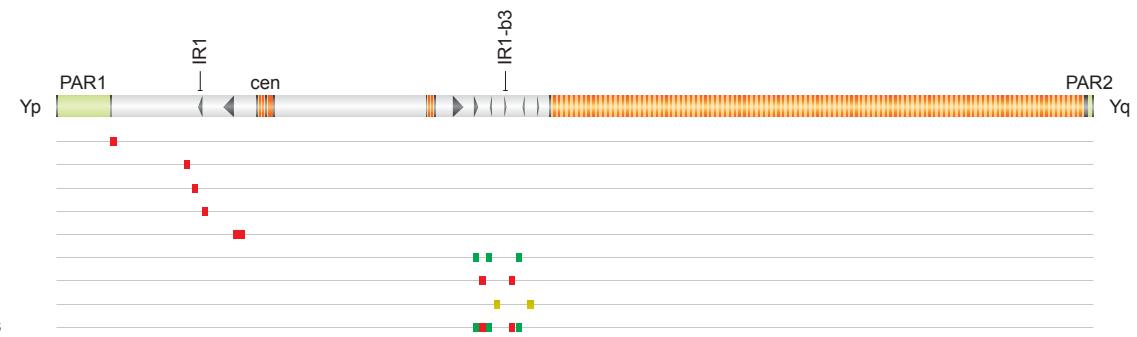
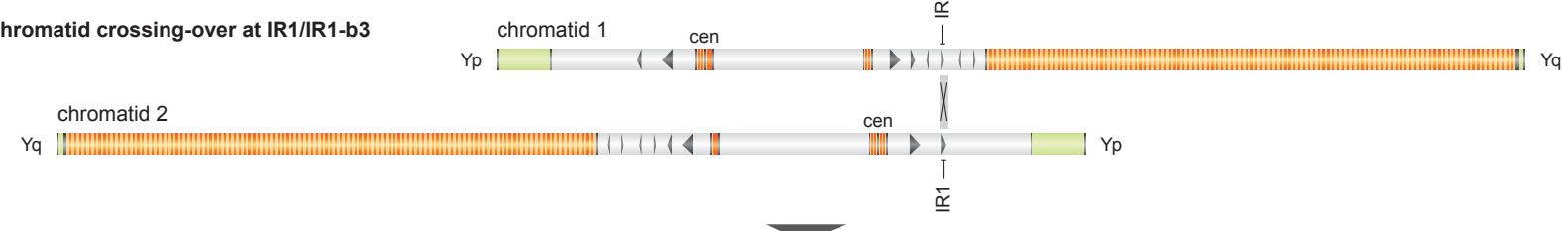
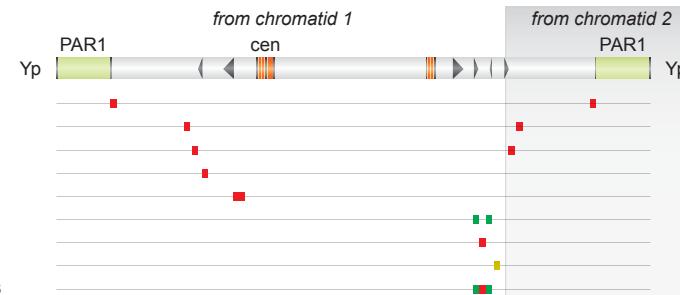
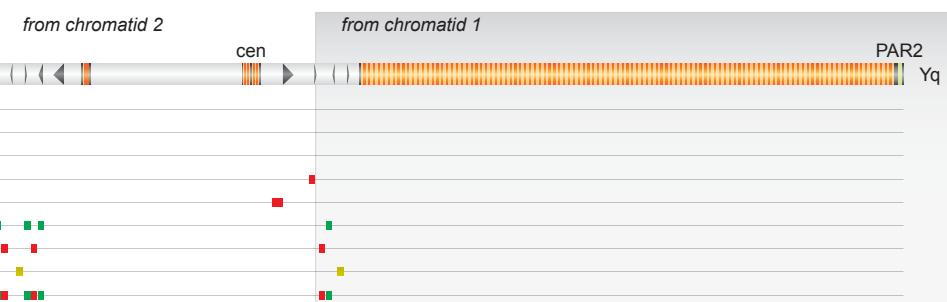
pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

J i Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G618E8
RP11-79J10

RP11-363G6 + 18E8

**Sister-chromatid crossing-over at IR1/IR1-b3****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

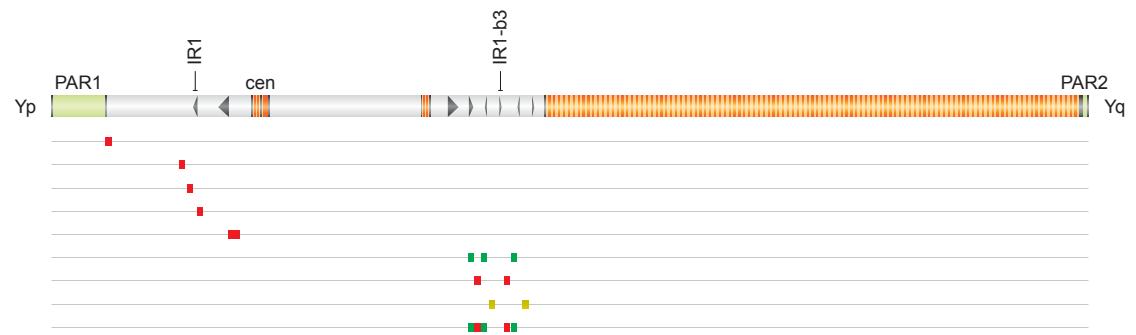
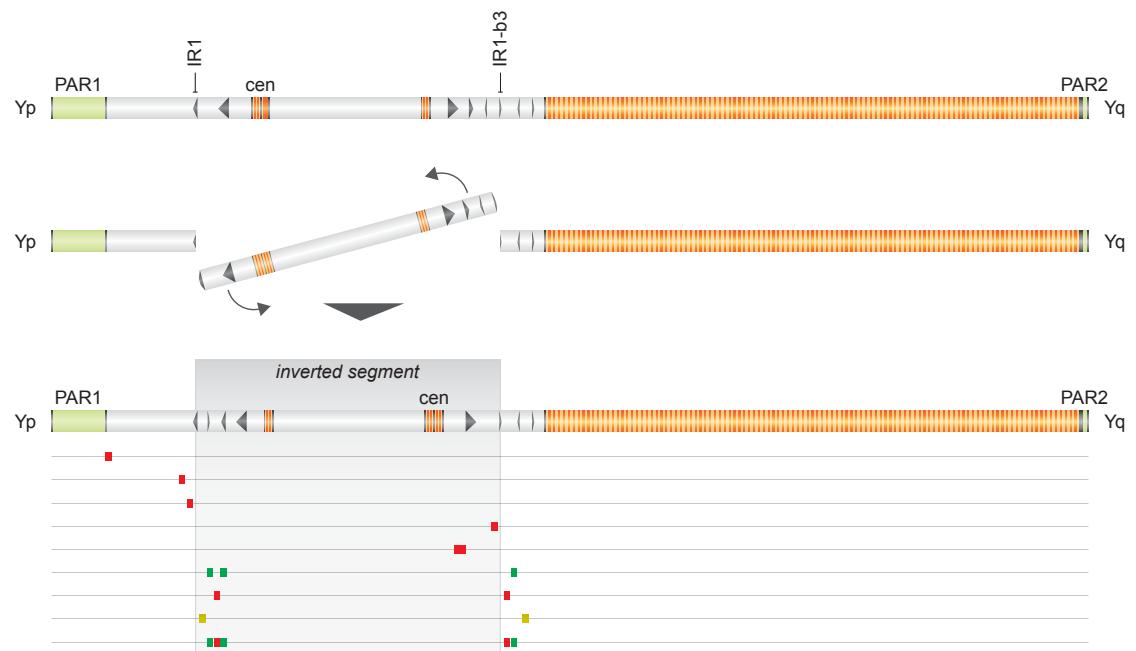
J ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

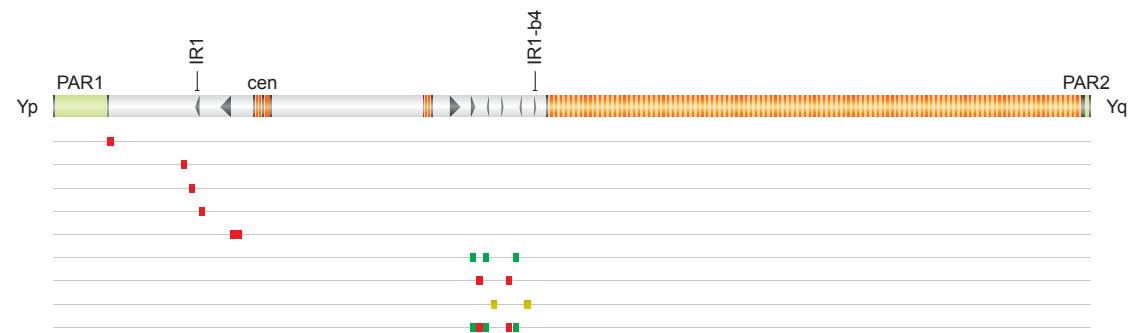
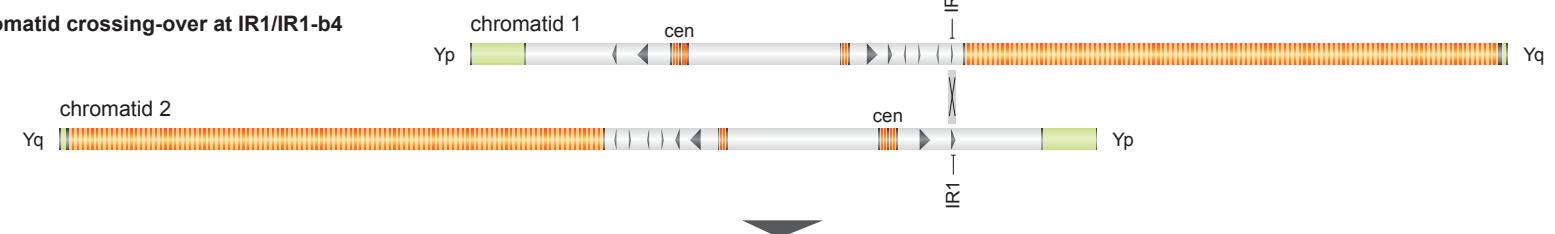
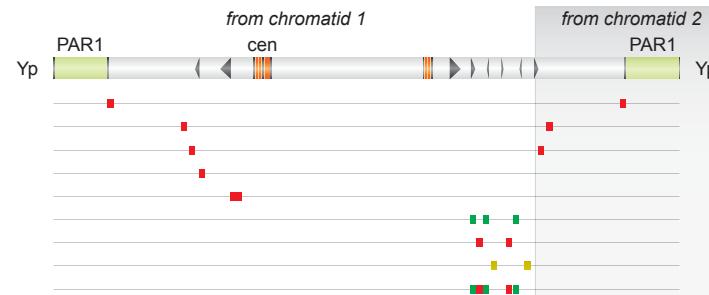
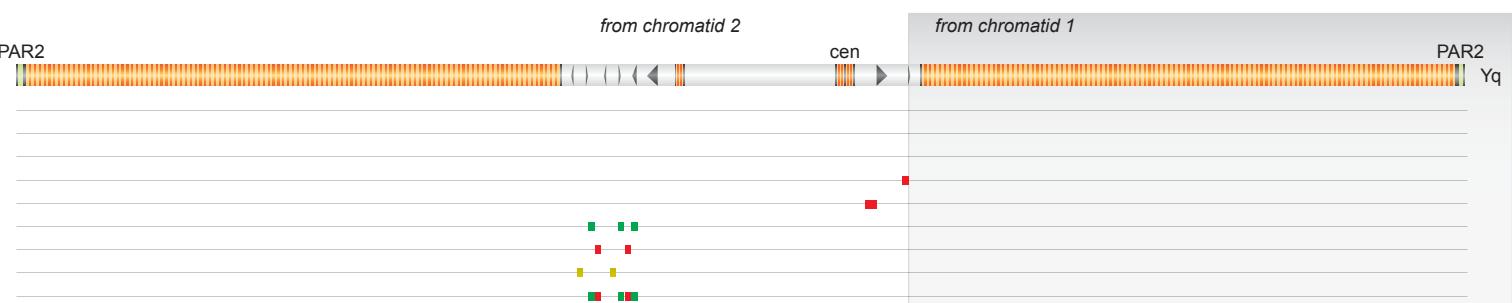
gr/rg inversion

**Intrachromatid crossing-over at IR1/IR1-b3****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

K i Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-b4****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

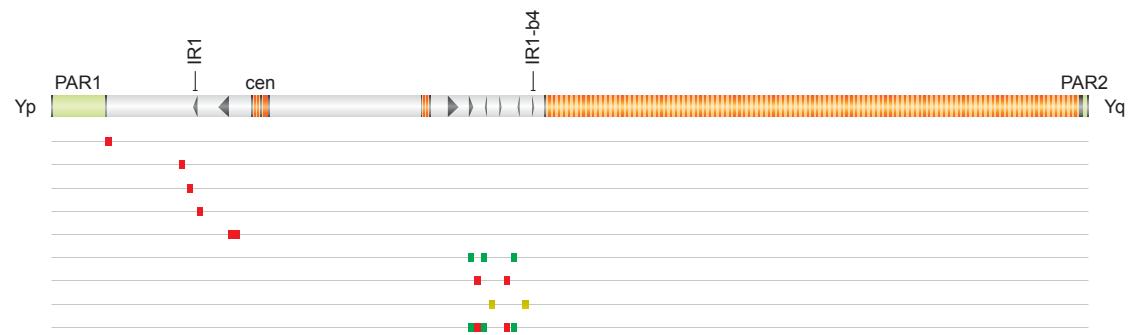
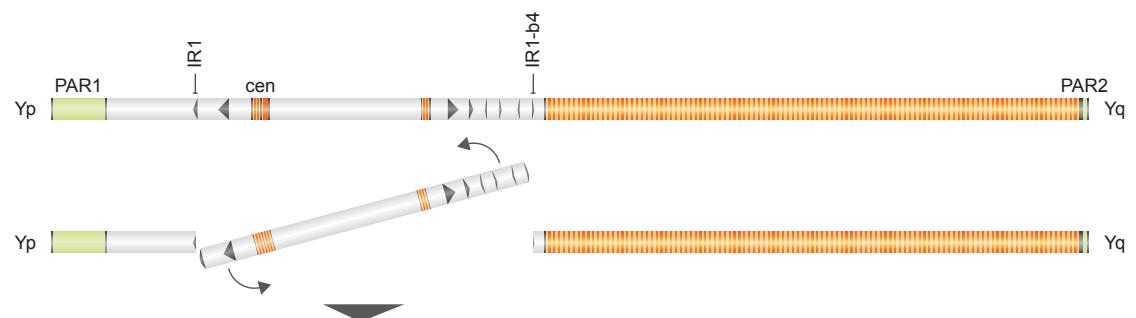
K ii Structure of IR3/IR3

Reference IR3/IR3

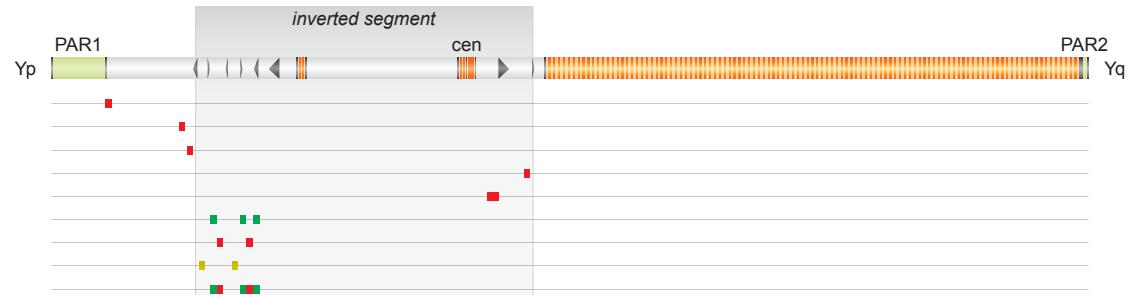
pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

Structure of AZFc

gr/rg inversion

**Intrachromatid crossing-over at IR1/IR1-b4****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

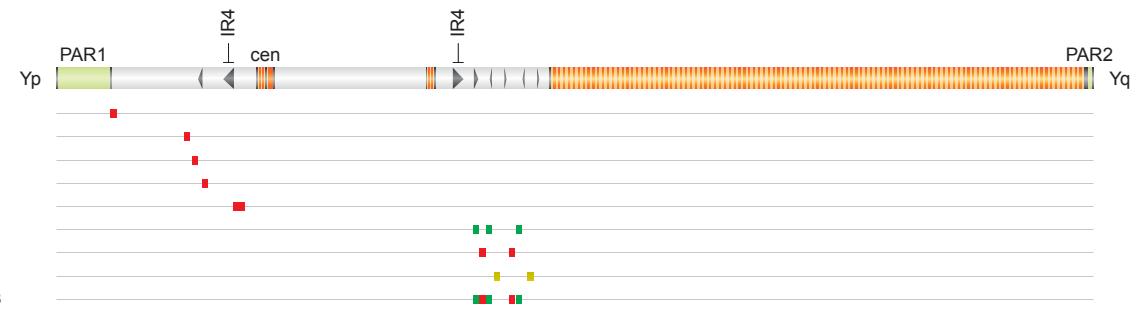
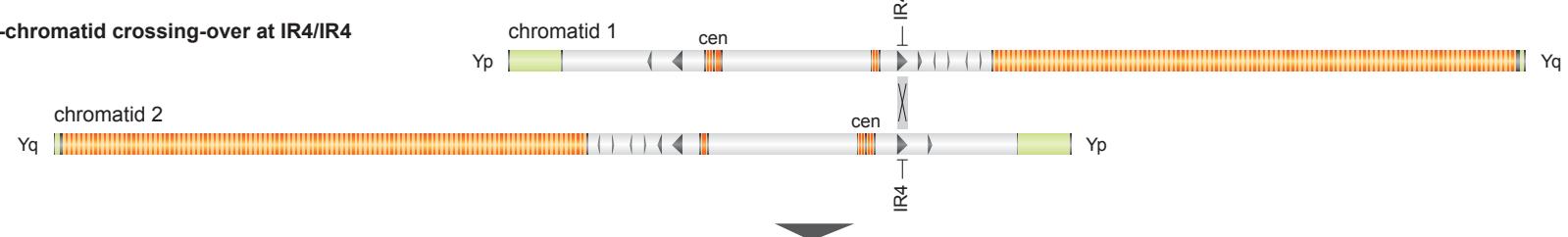
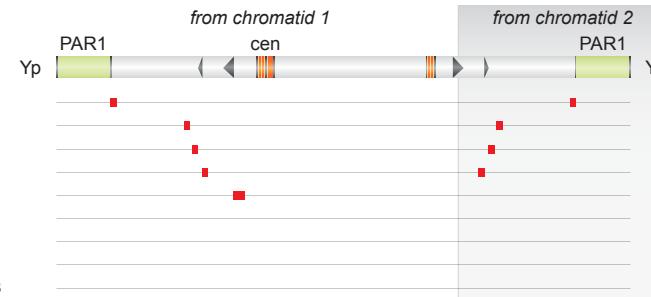
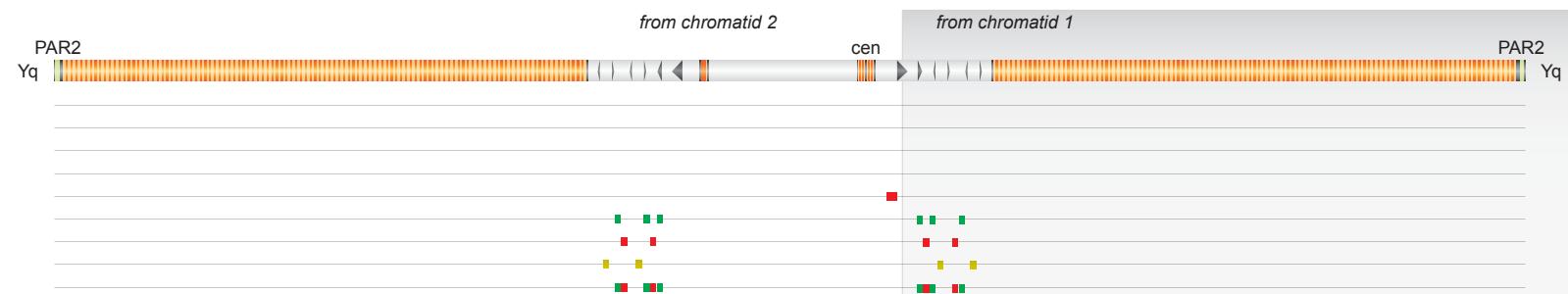


L i Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G618E8
RP11-79J10

RP11-363G6 + 18E8

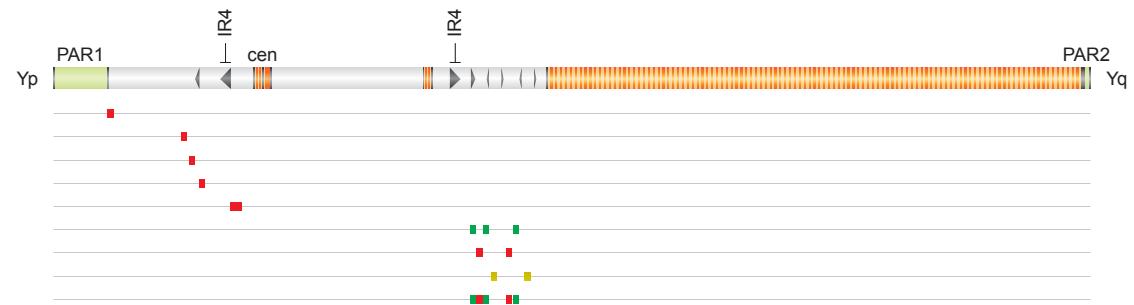
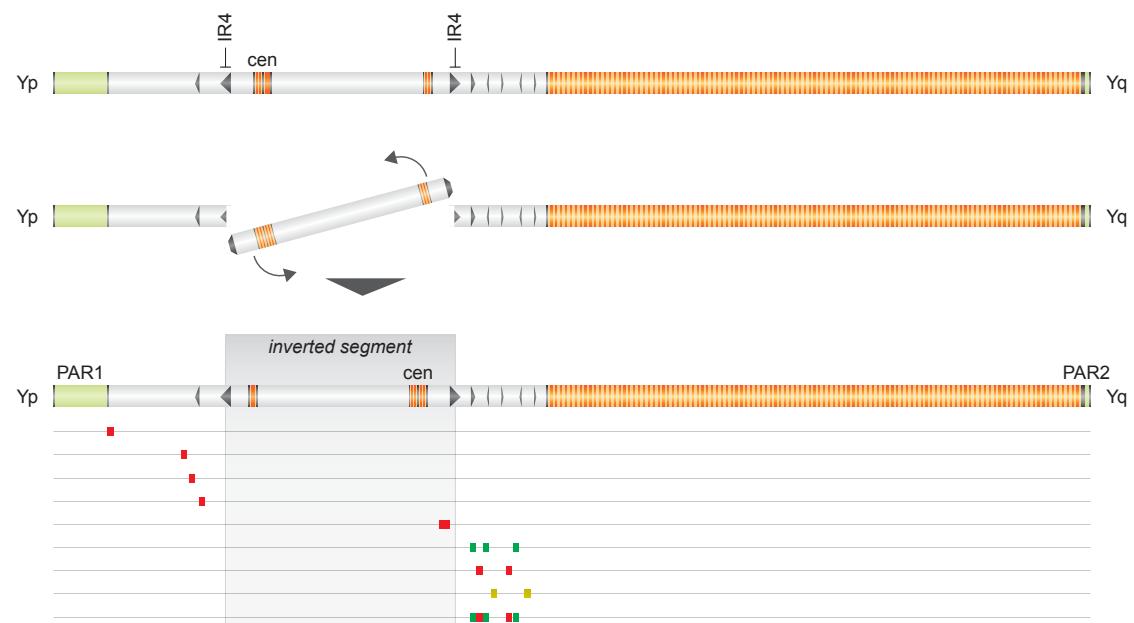
**Sister-chromatid crossing-over at IR4/IR4****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

L ii Structure of IR3/IR3

Reference IR3/IR3

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G618E8
RP11-79J10

RP11-363G6 + 18E8

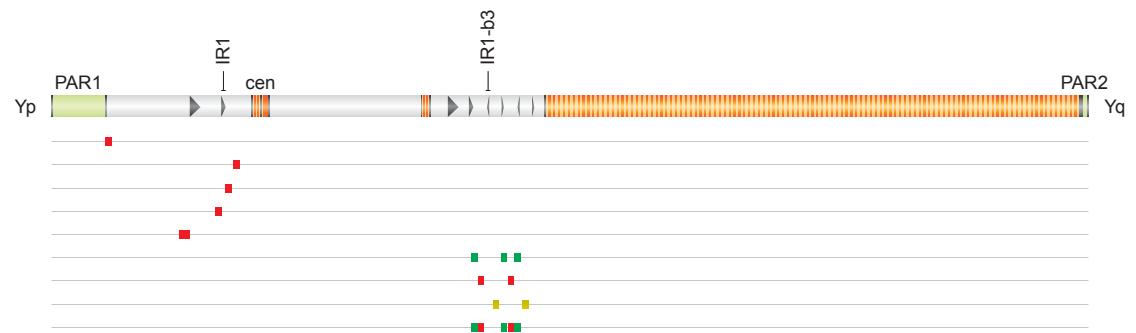
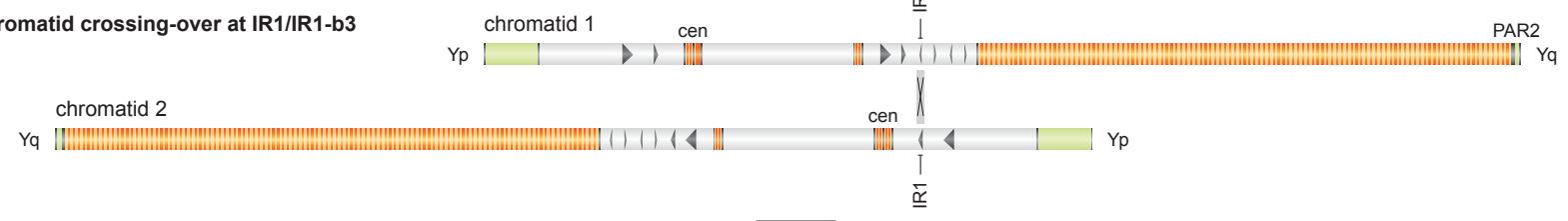
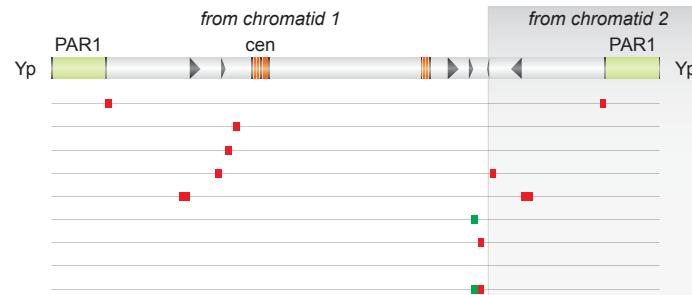
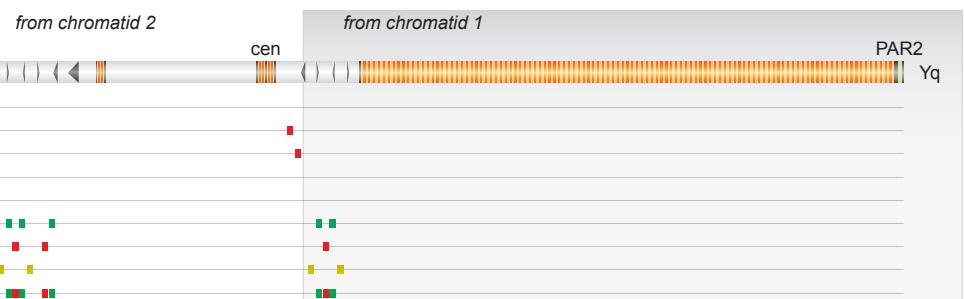
**Intrachromatid crossing-over at IR4/IR4****Pericentric inversion**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

M i Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2**Structure of AZFc**

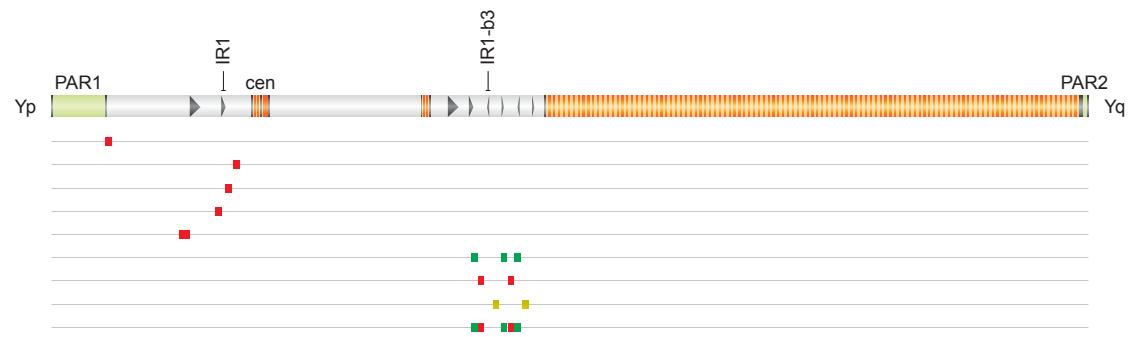
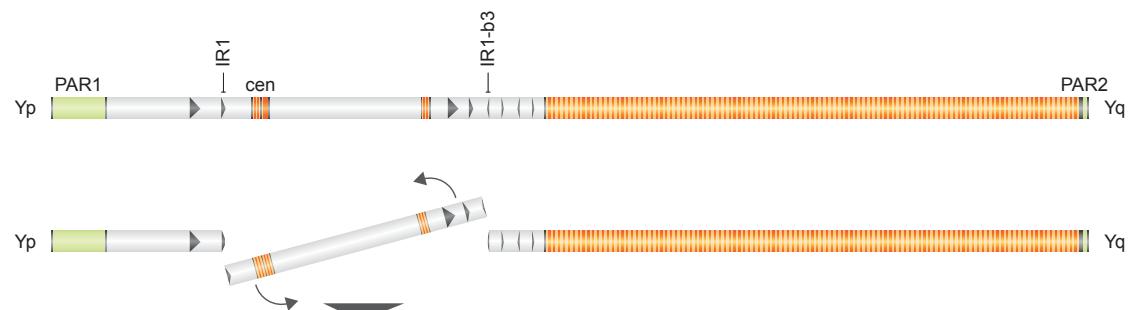
Reference AZFc

17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-b3****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

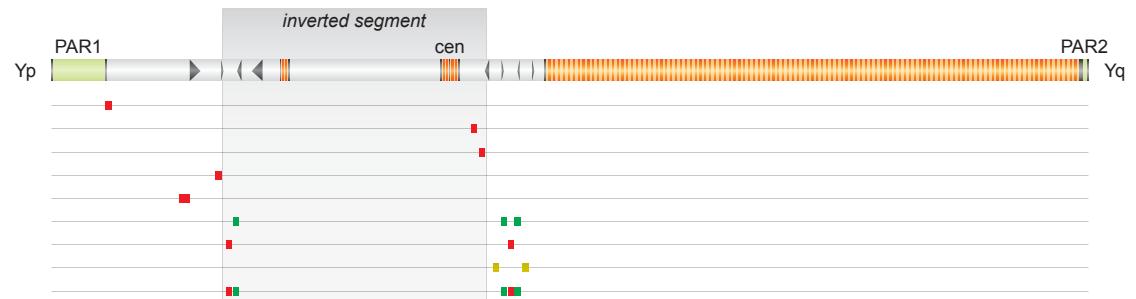
M ii Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1-b3****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

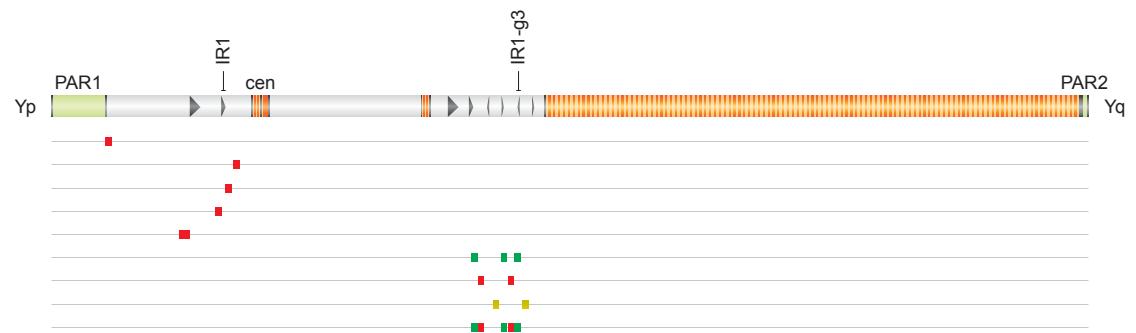
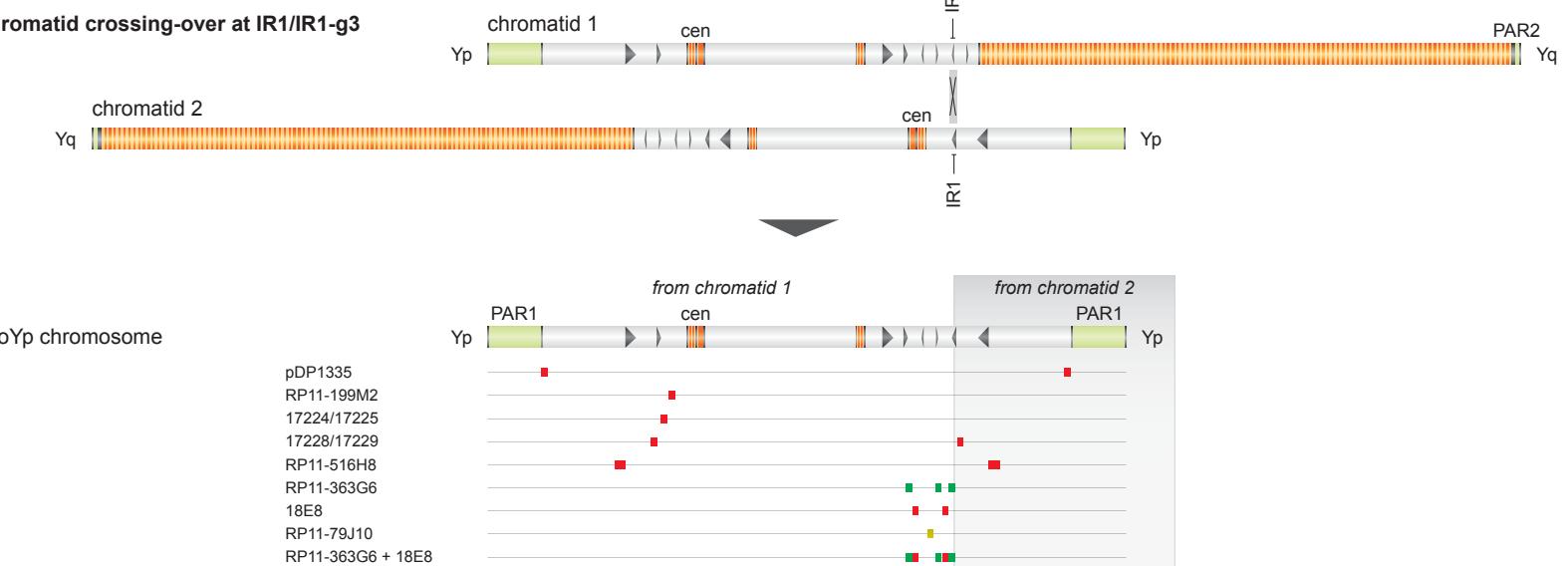


N i Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2**Structure of AZFc**

Reference AZFc

17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-g3****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

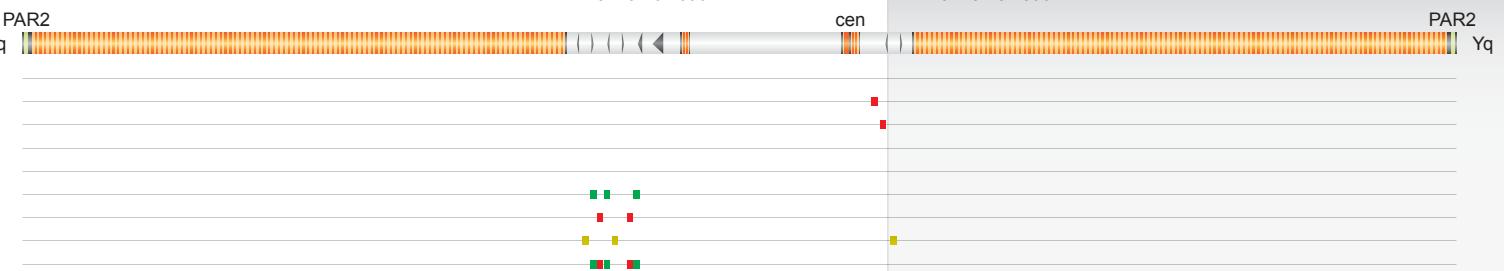
+

from chromatid 2

from chromatid 1

PAR2

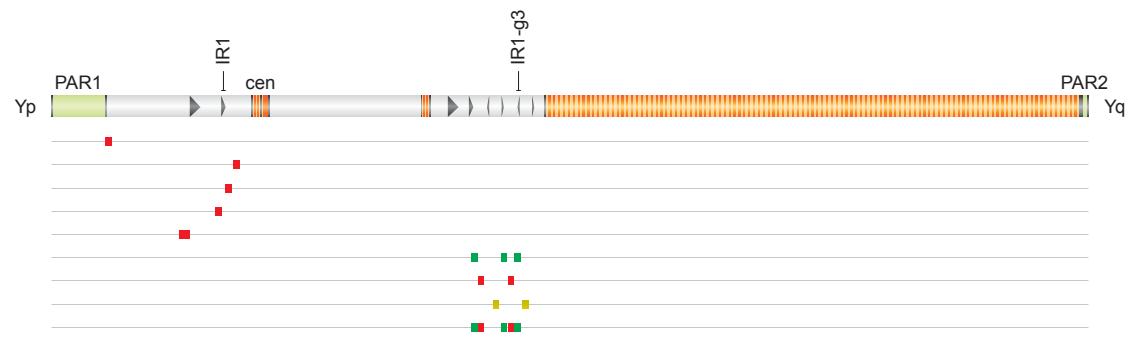
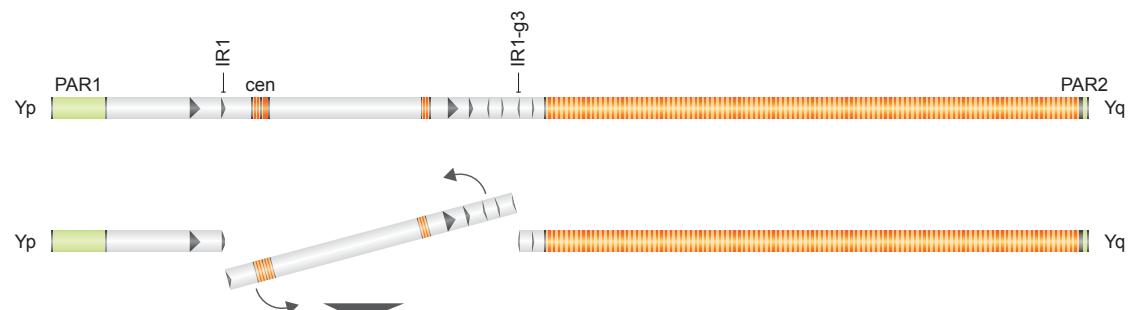
Yq



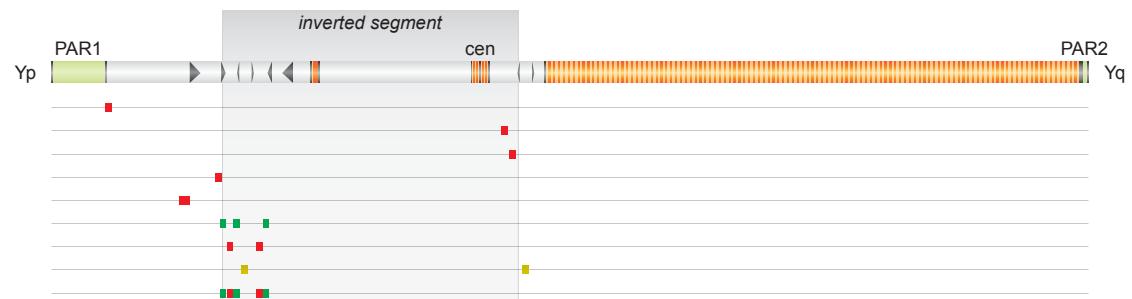
N ii Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1-g3****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

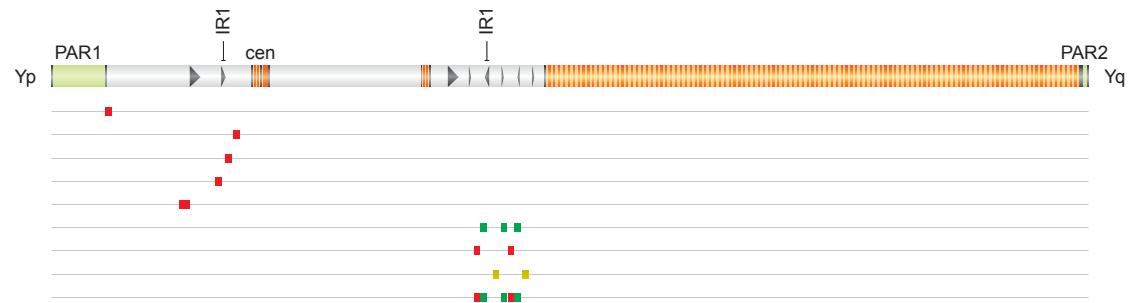
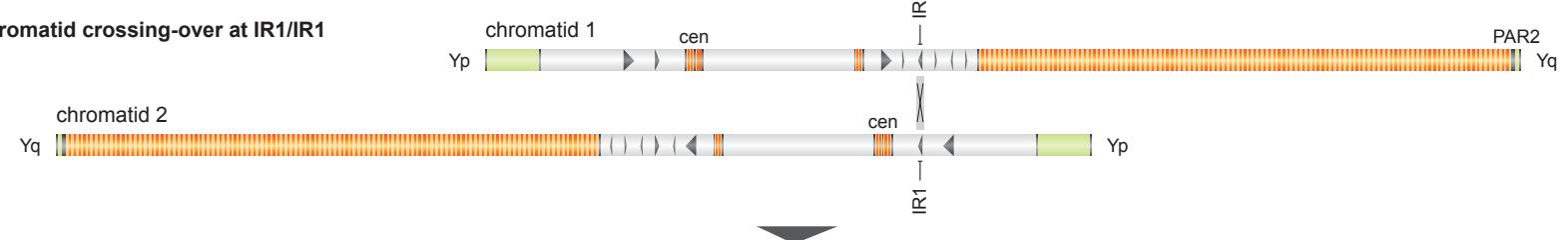
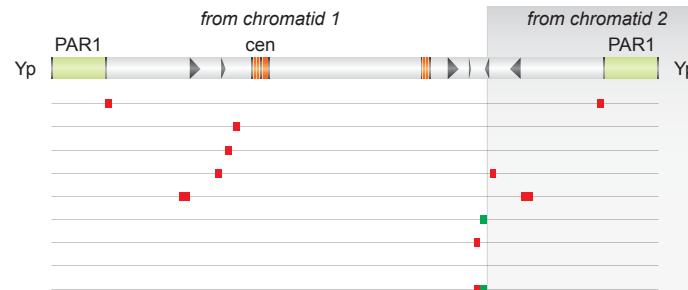
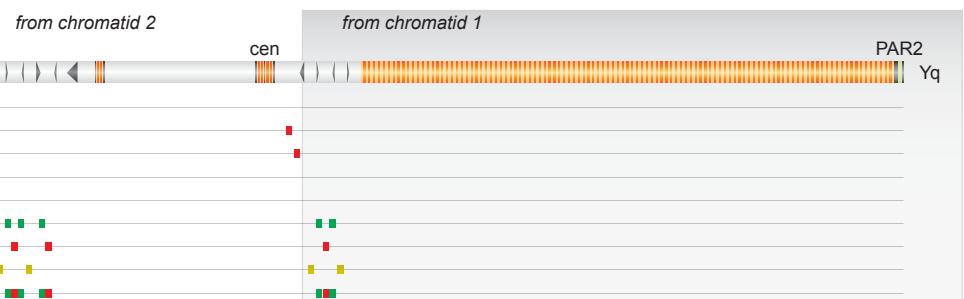


O i Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2**Structure of AZFc**

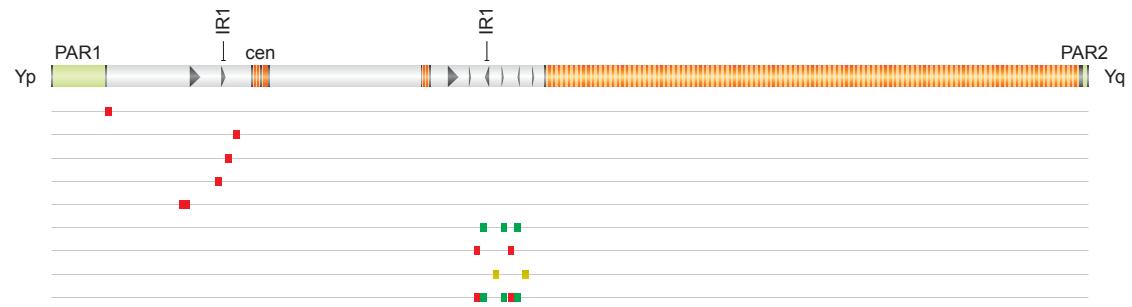
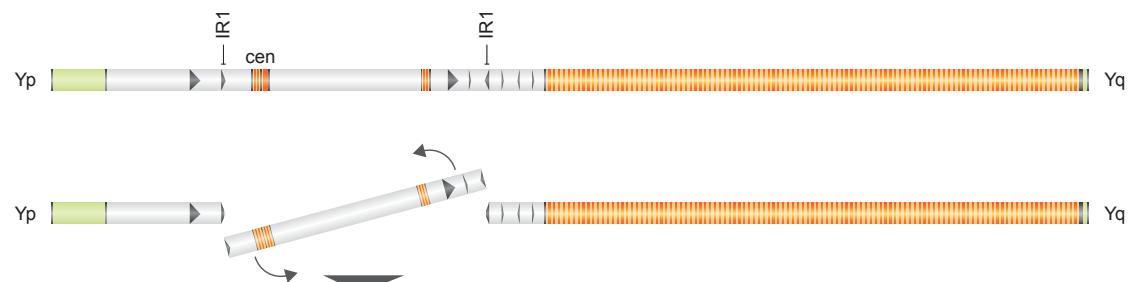
b2/b3 inversion

17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

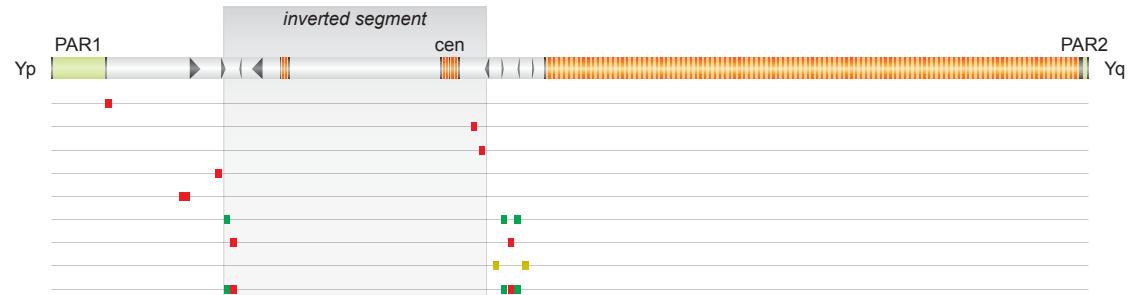
O ii Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

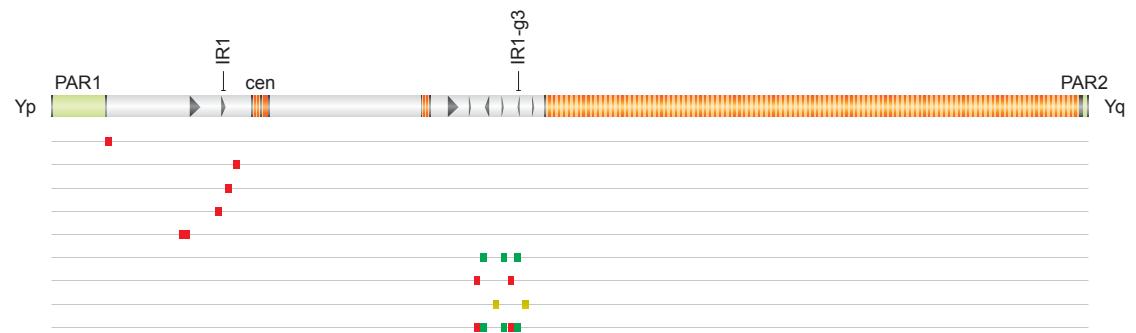
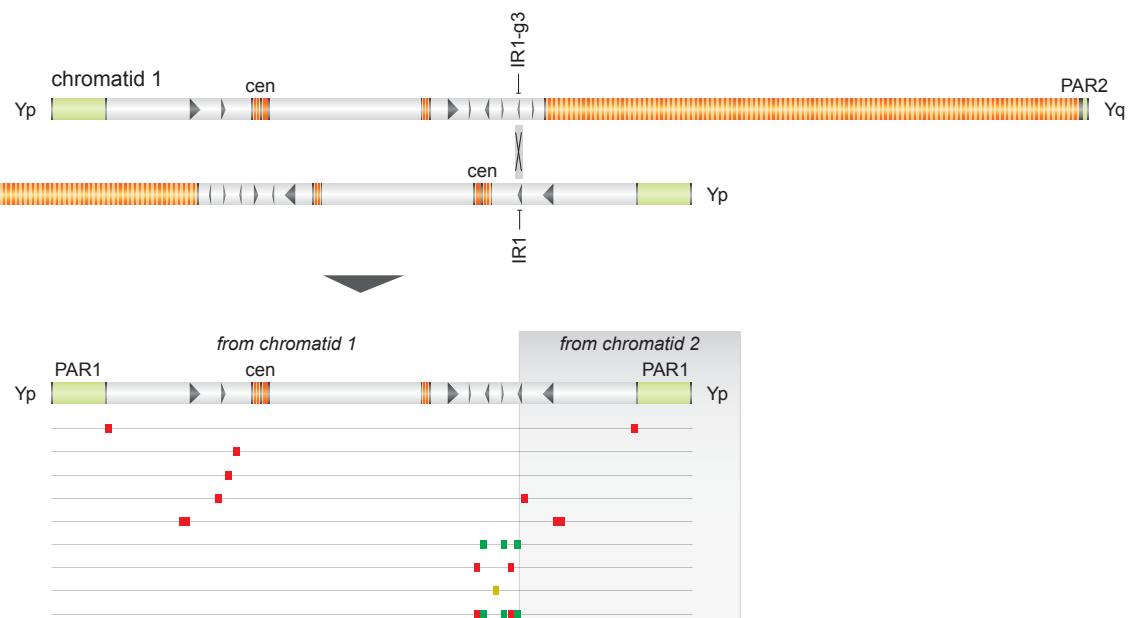
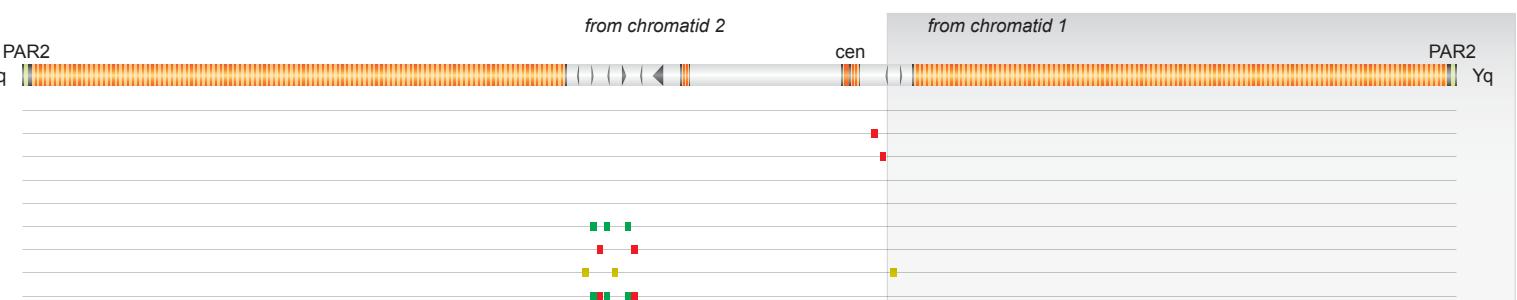


P i Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2**Structure of AZFc**

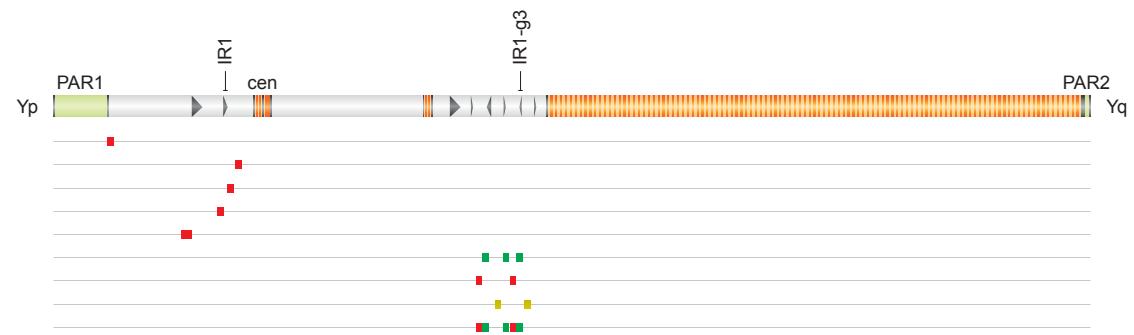
b2/b3 inversion

17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-g3****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

P ii Structure of IR3/IR3

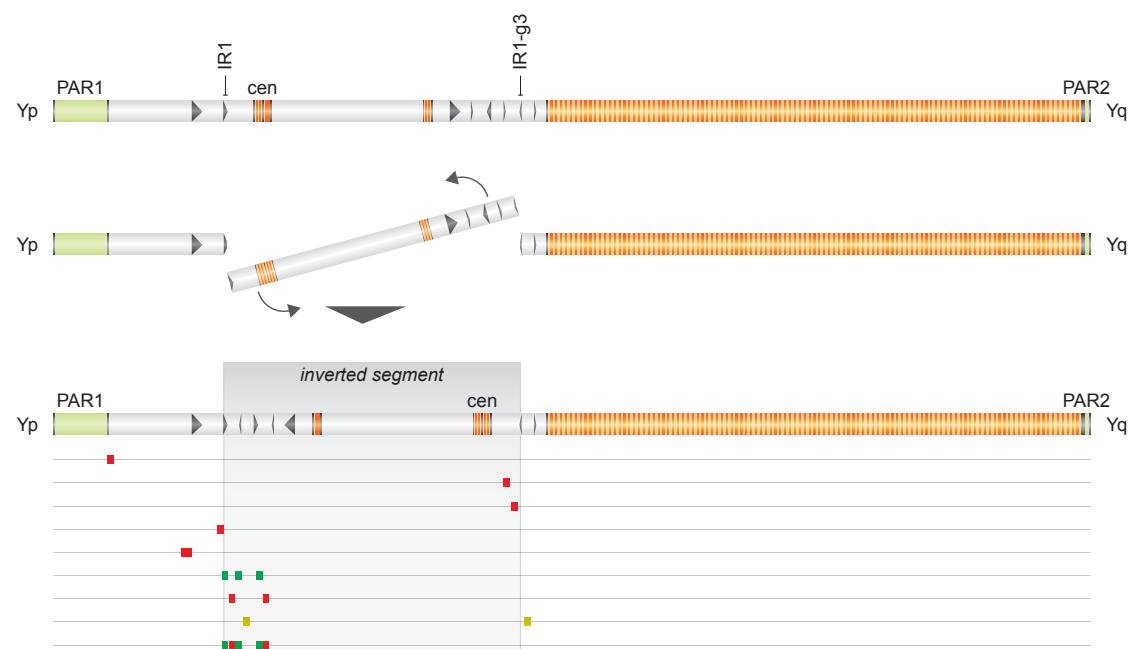
IR3/IR3 inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1-g3**

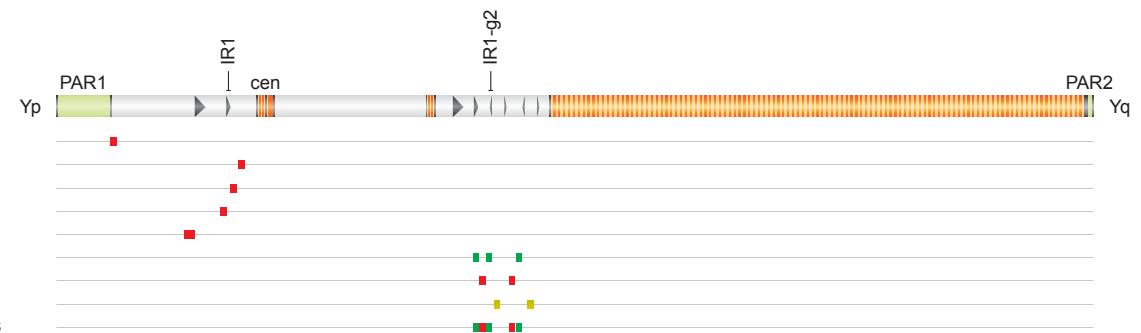
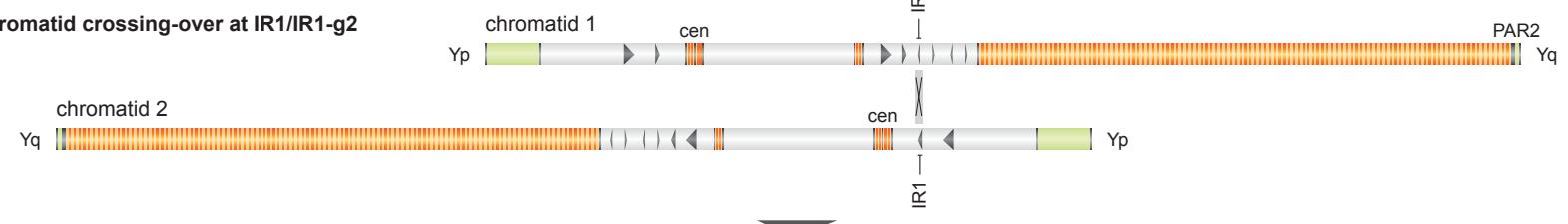
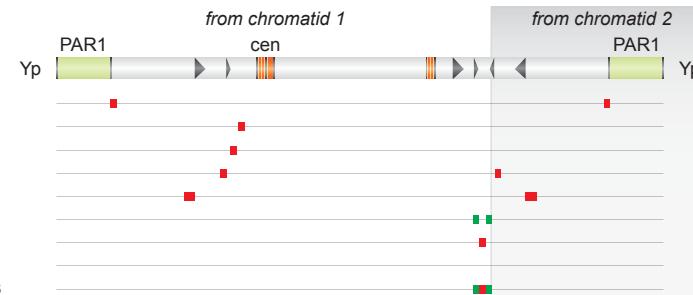
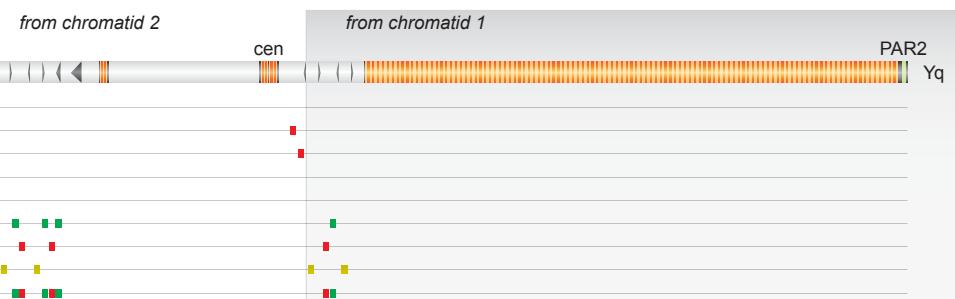
Pericentric inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8



Q i Structure of IR3/IR3

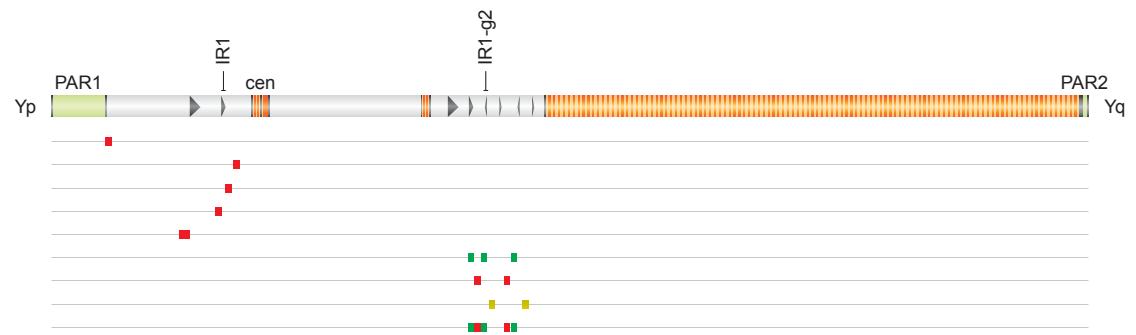
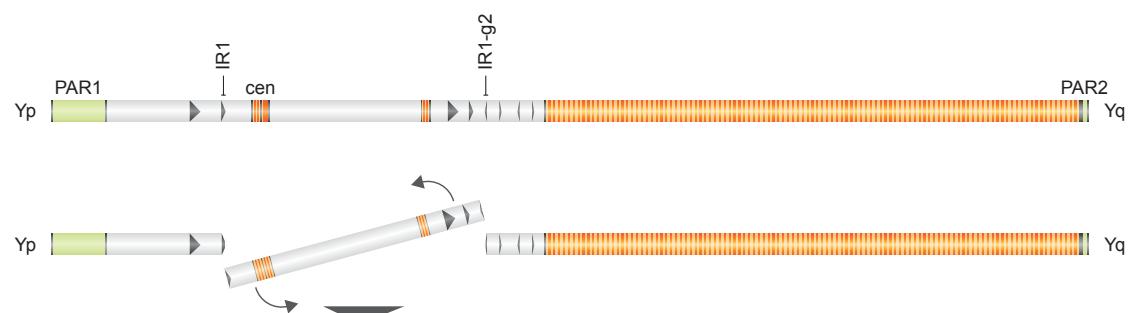
IR3/IR3 inversion

pDP1335
RP11-199M217224/17225
17228/17229RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-g2****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

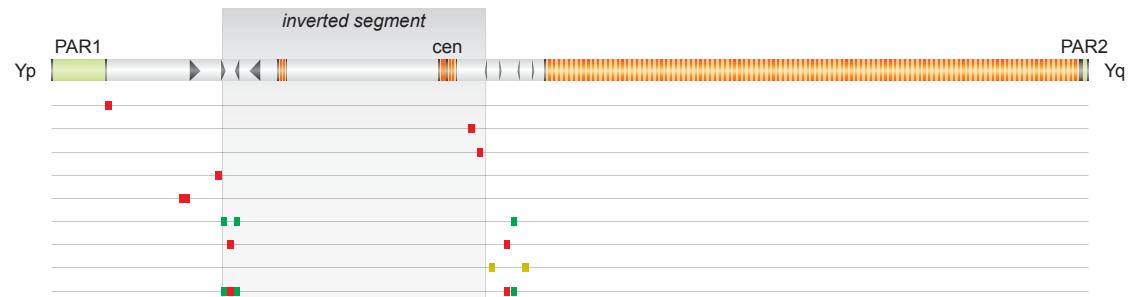
Q ii Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1-g2****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

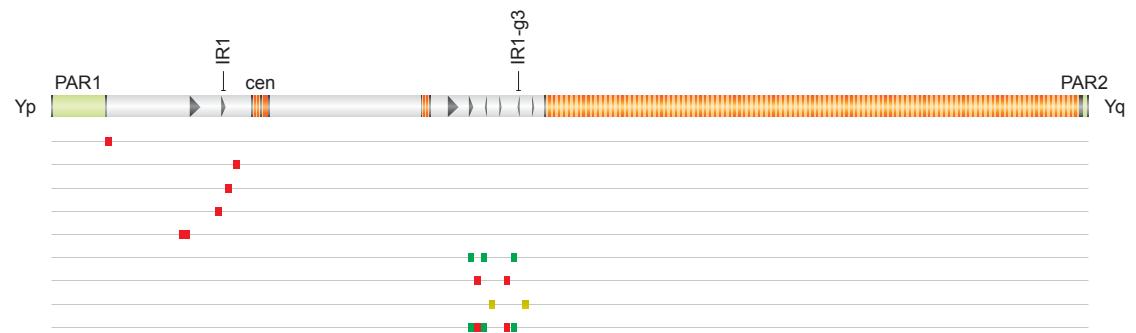
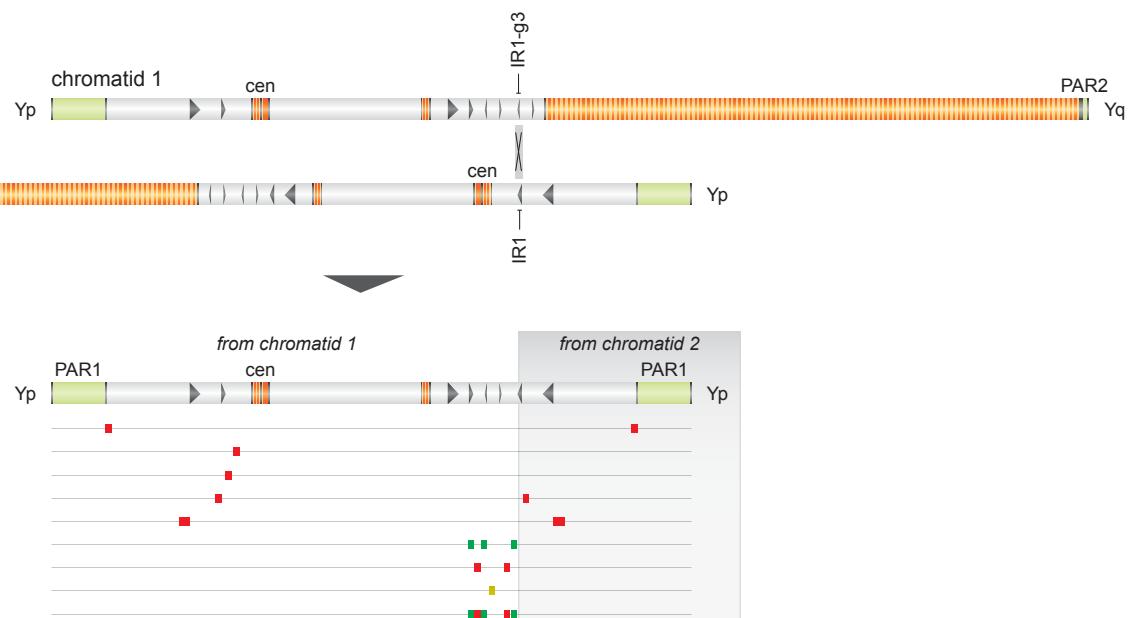
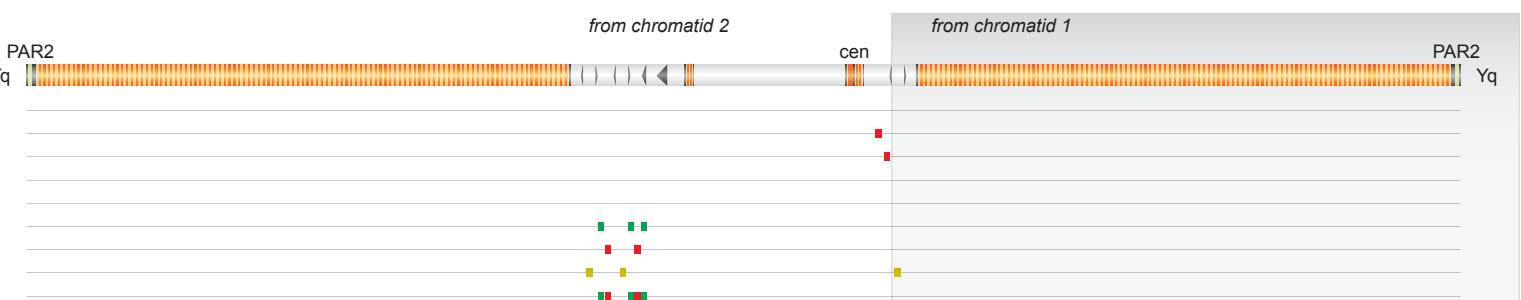


R i Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2**Structure of AZFc**

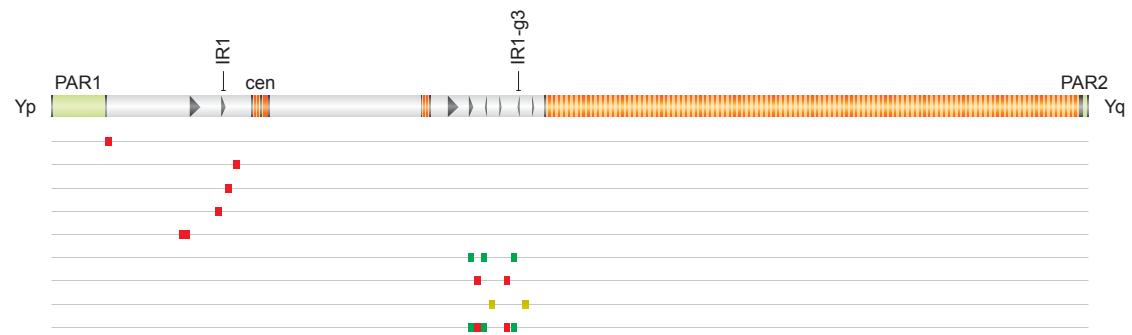
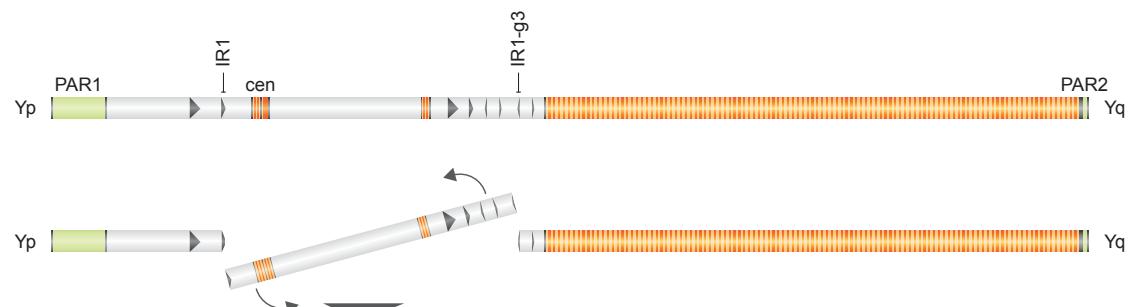
gr/rg inversion

17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**Sister-chromatid crossing-over at IR1/IR1-g3****PseudoisoYp chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8**PseudoisoYq chromosome**pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

R ii Structure of IR3/IR3

IR3/IR3 inversion

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

**Intrachromatid crossing-over at IR1/IR1-g3****Pericentric inversion**

pDP1335
RP11-199M2
17224/17225
17228/17229
RP11-516H8
RP11-363G6
18E8
RP11-79J10
RP11-363G6 + 18E8

