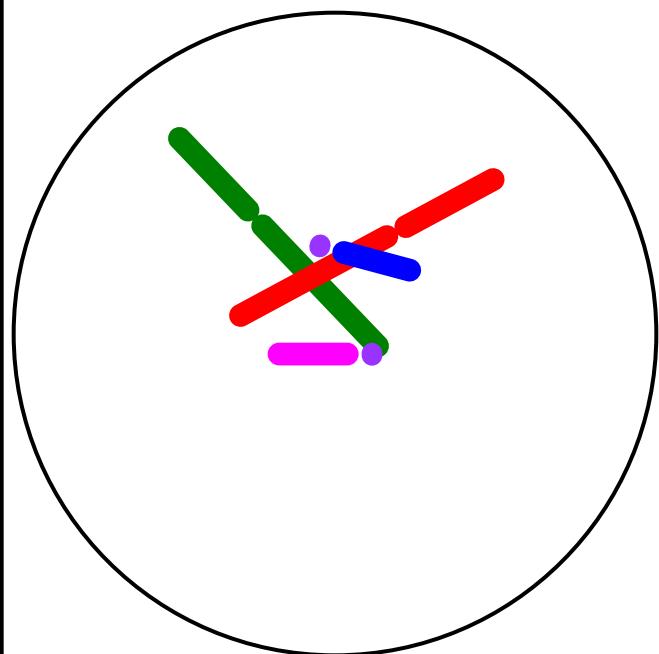
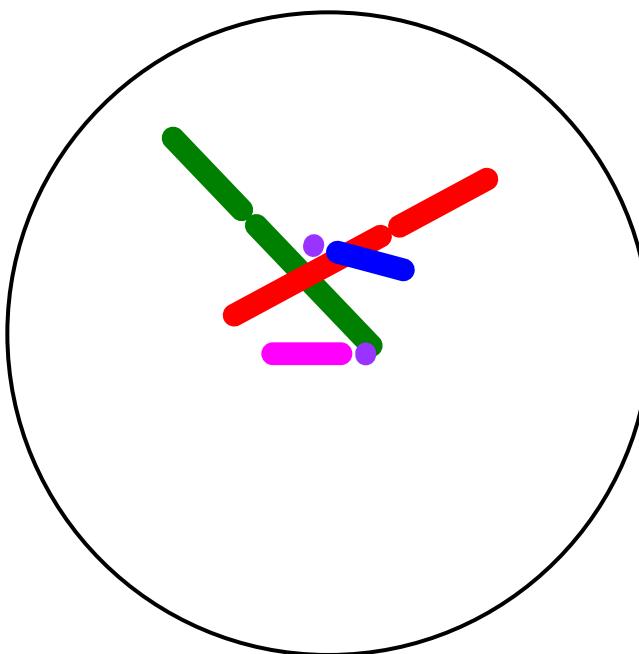


## first meiotic division: prophase: leptotene



normal

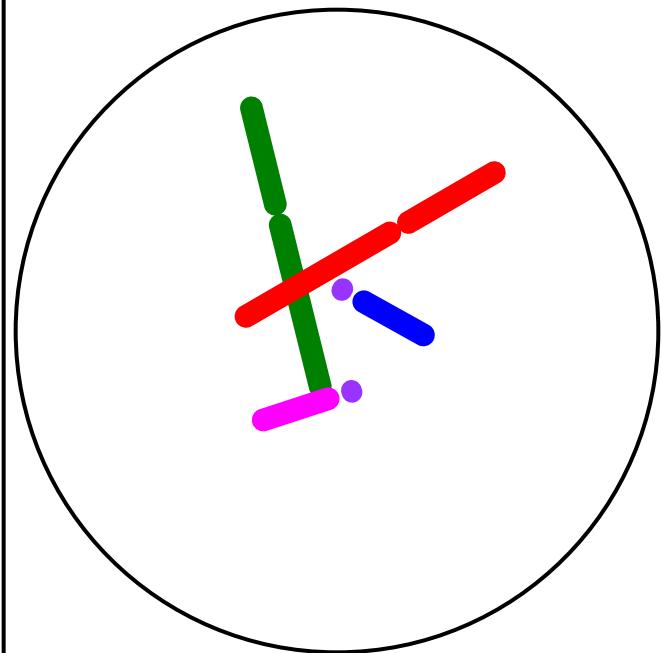


trisomy 21

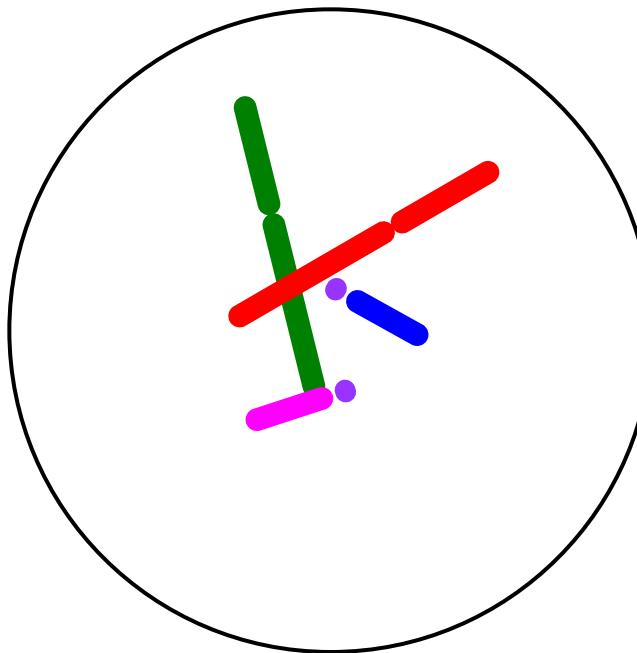
chromosome 21

other chromosomes

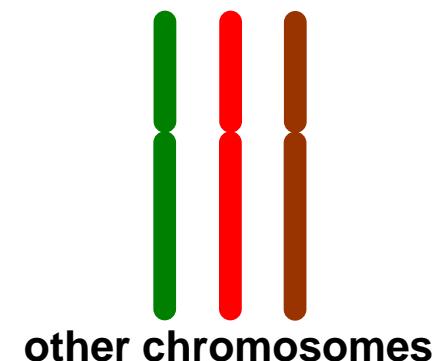
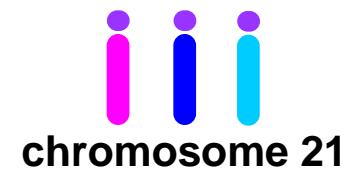
## first meiotic division: prophase: leptotene



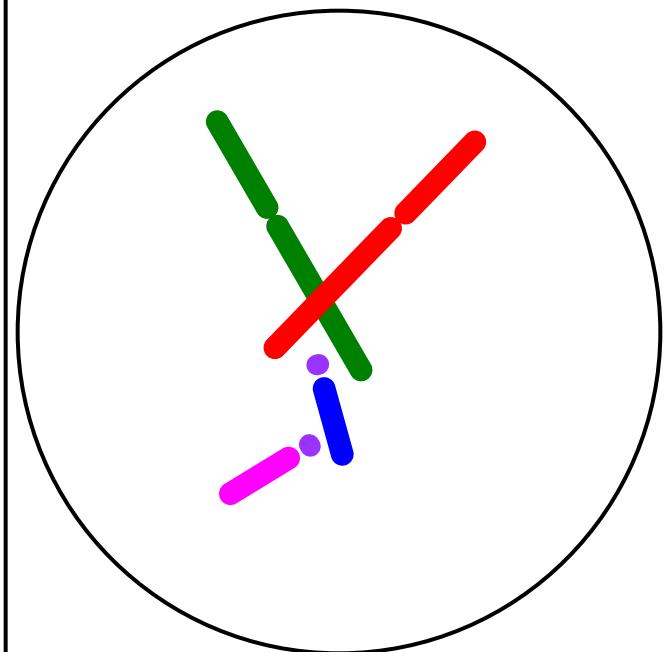
normal



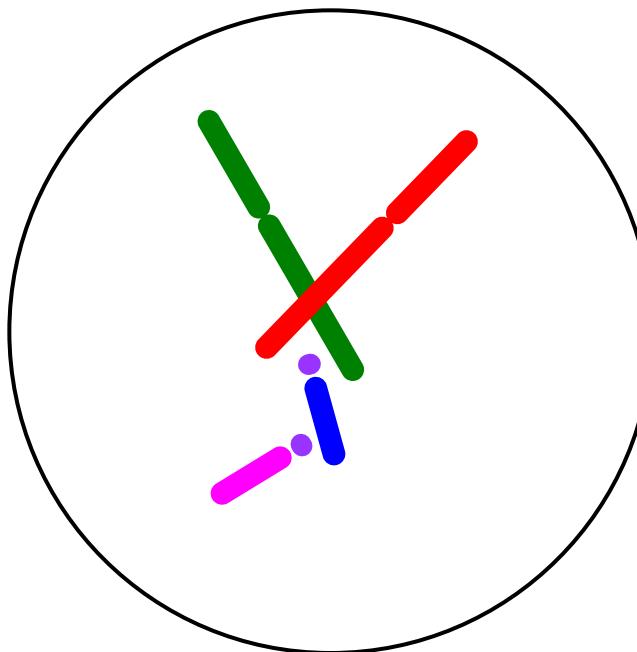
trisomy 21



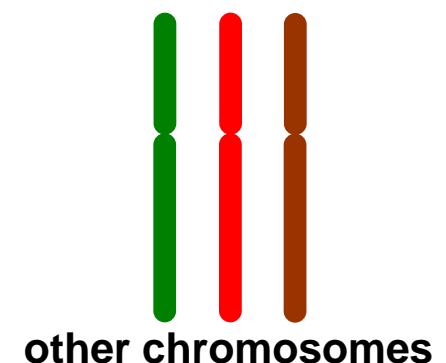
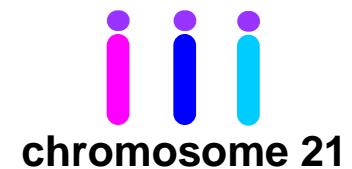
## first meiotic division: prophase: leptotene



normal

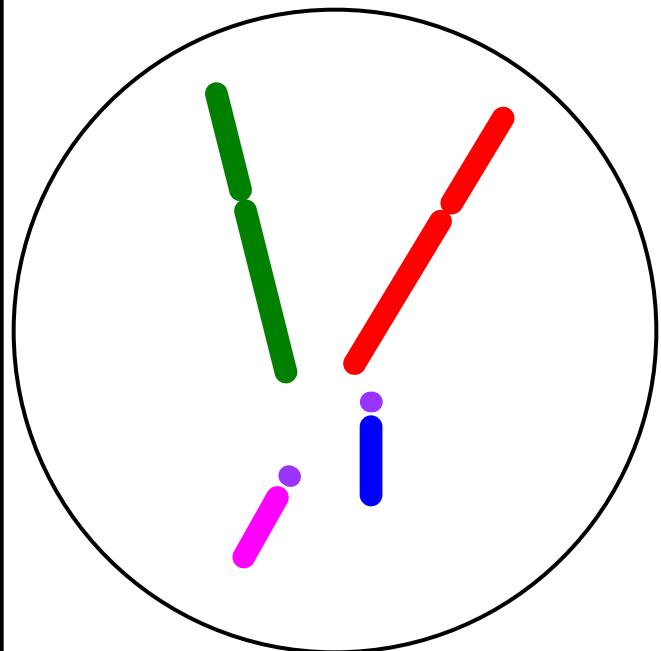


trisomy 21

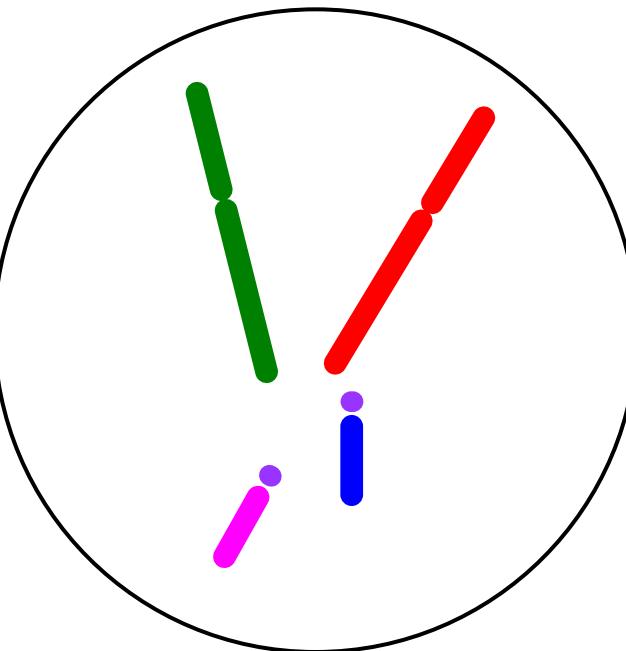


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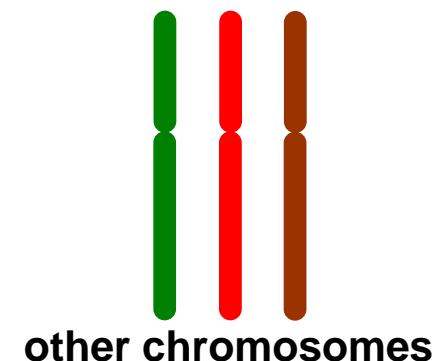
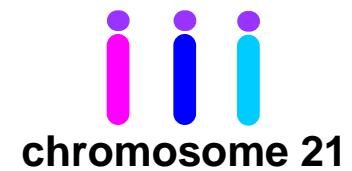
## first meiotic division: prophase: leptotene



normal

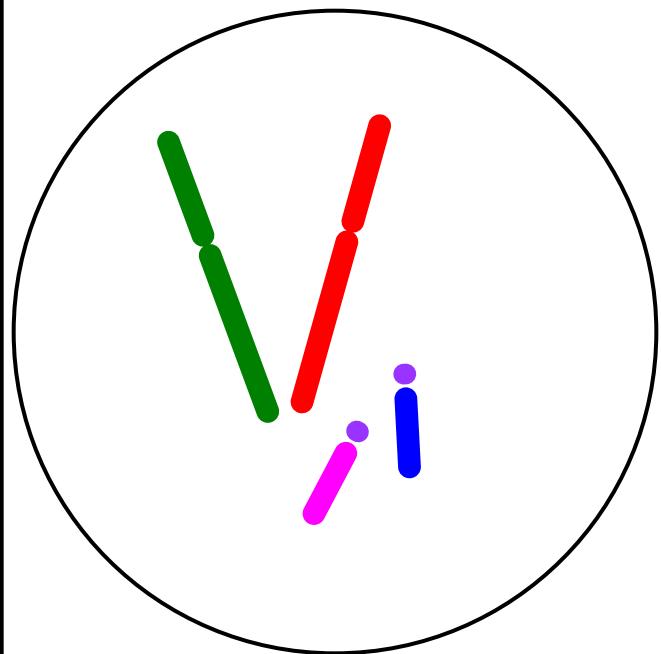


trisomy 21

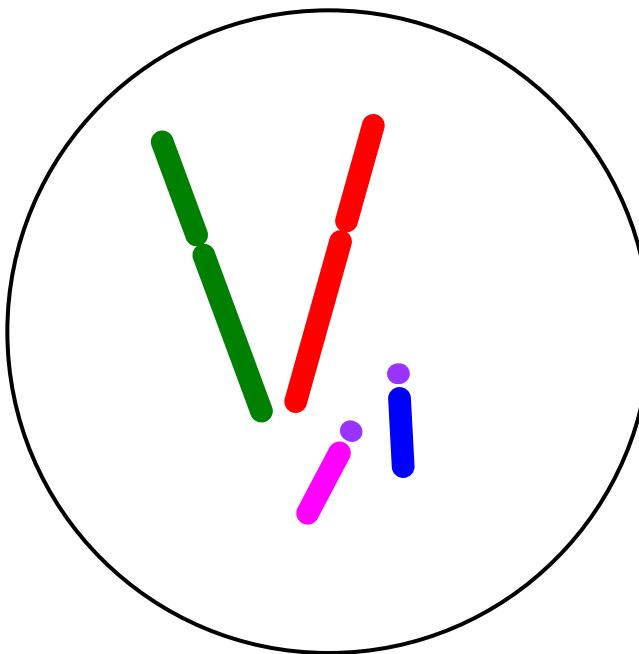


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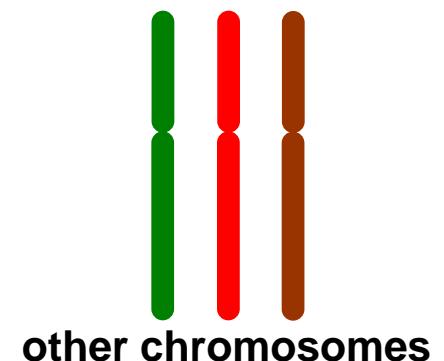
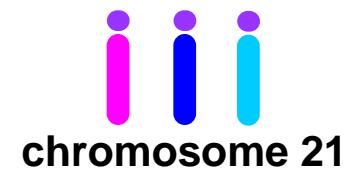
## first meiotic division: prophase: leptotene



normal

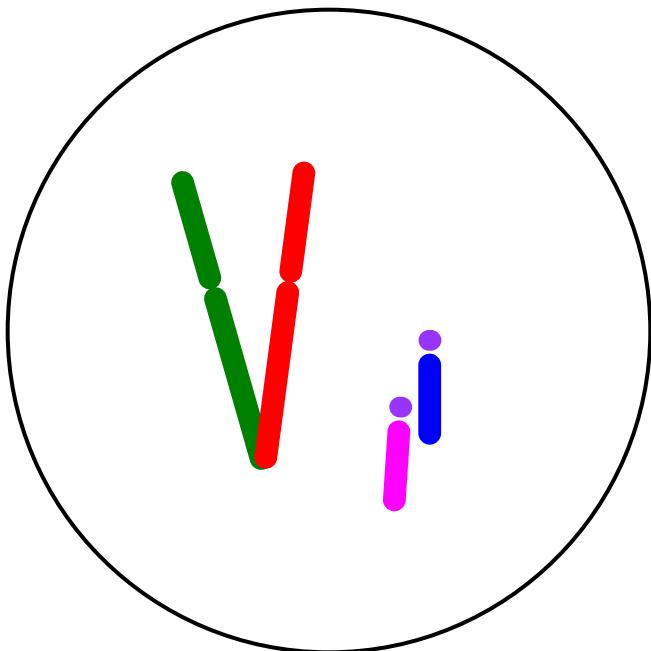


trisomy 21

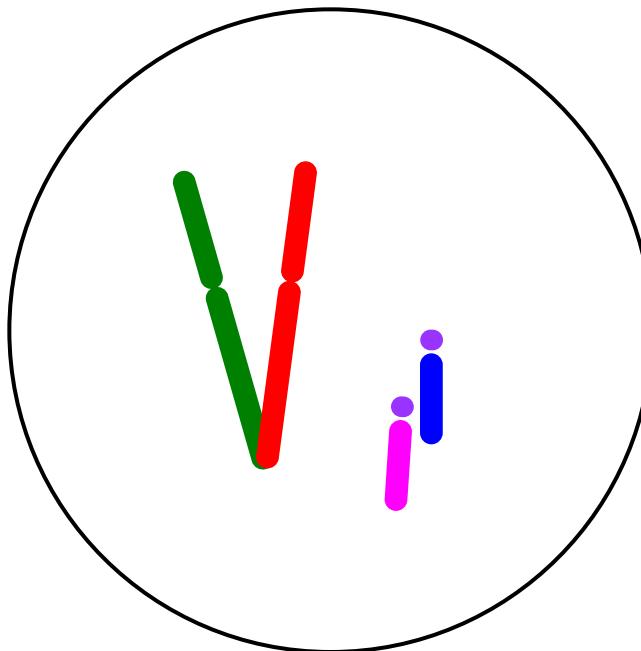


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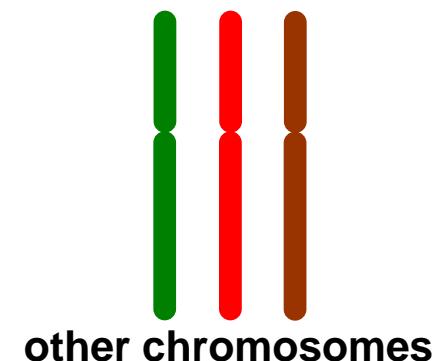
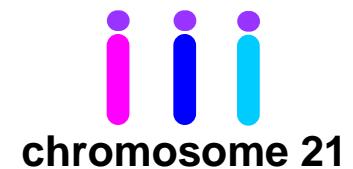
## first meiotic division: prophase: leptotene



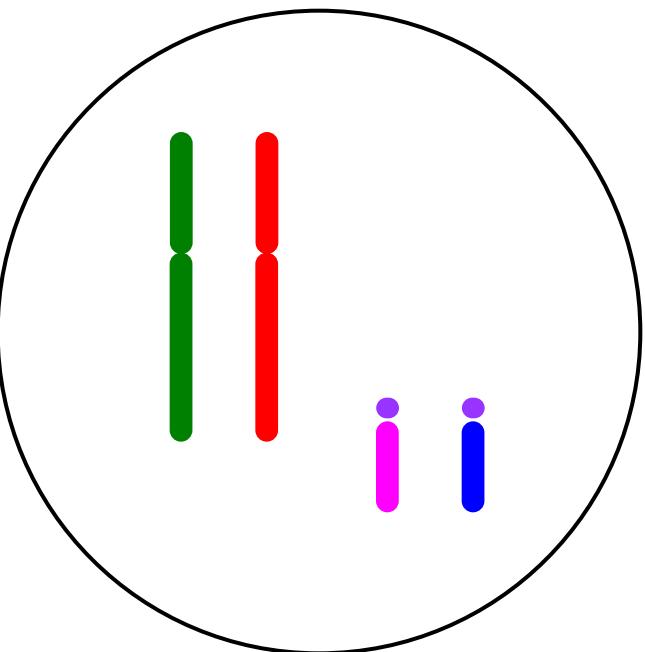
normal



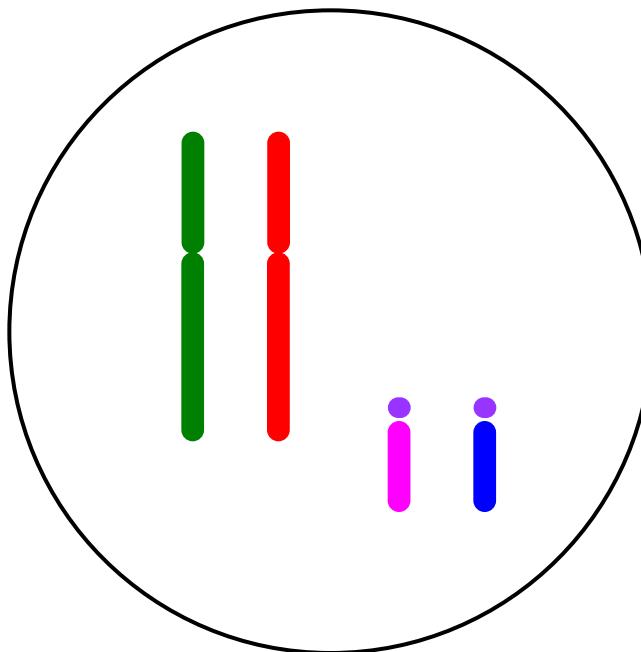
trisomy 21



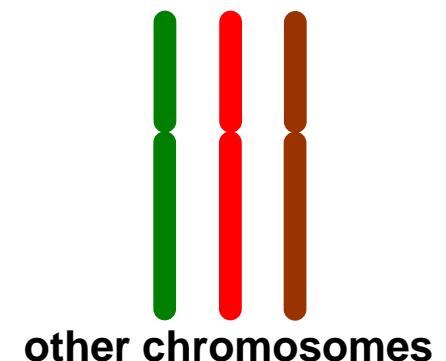
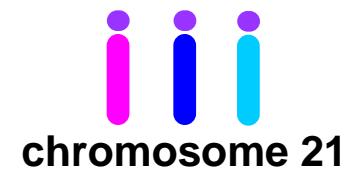
## first meiotic division: prophase: leptotene



normal

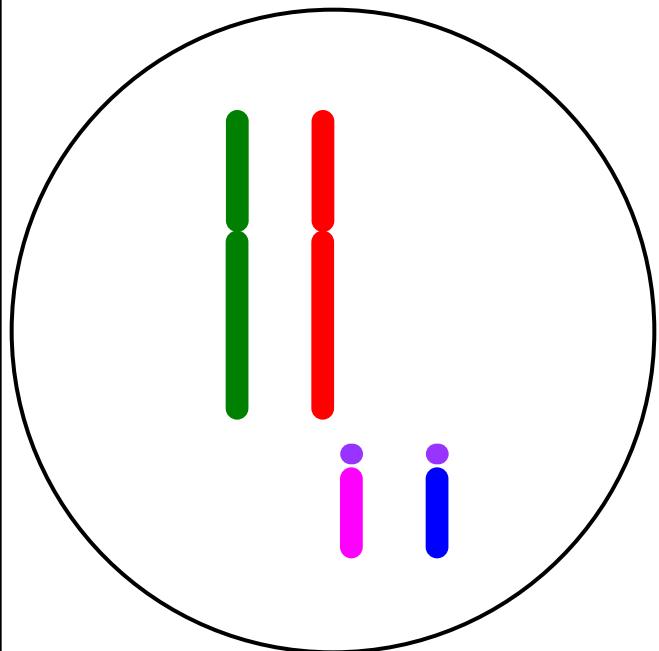


trisomy 21

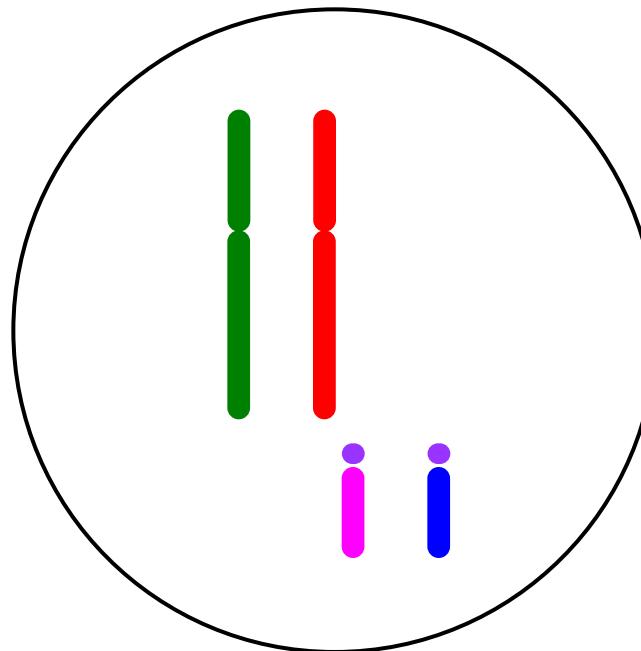


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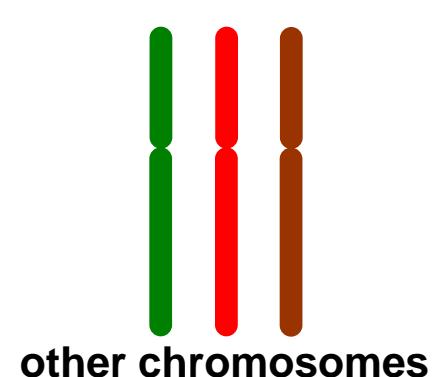
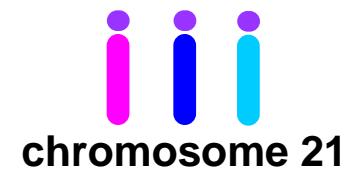
## first meiotic division: prophase: leptotene



normal

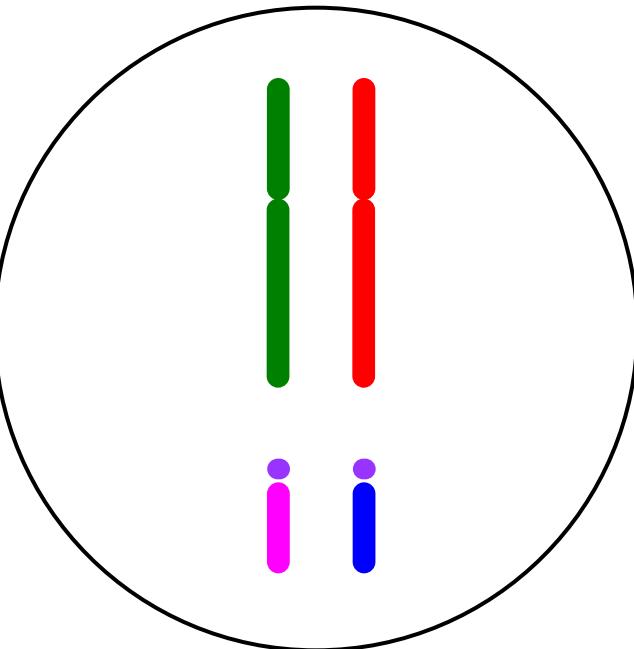


trisomy 21

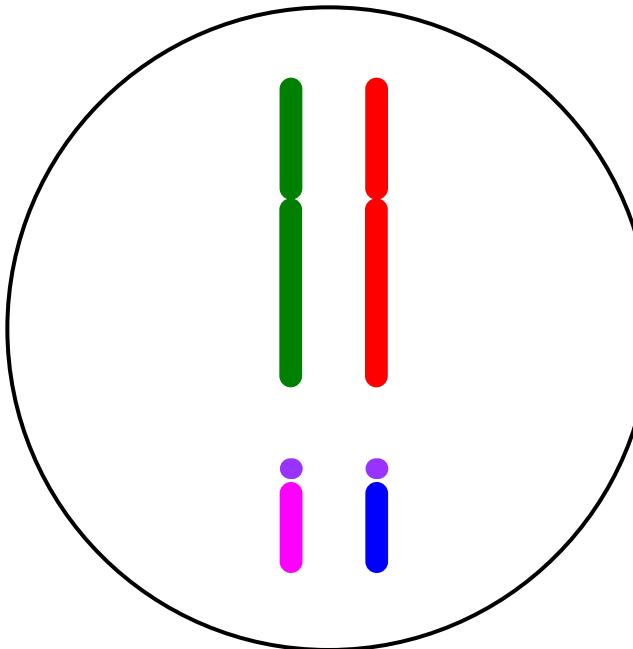


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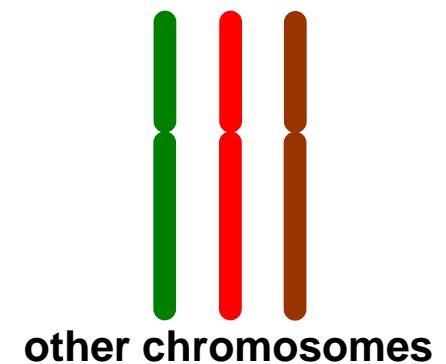
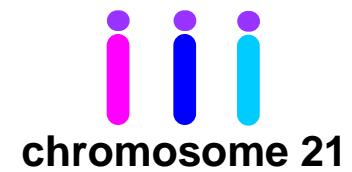
## first meiotic division: prophase: zygotene



normal

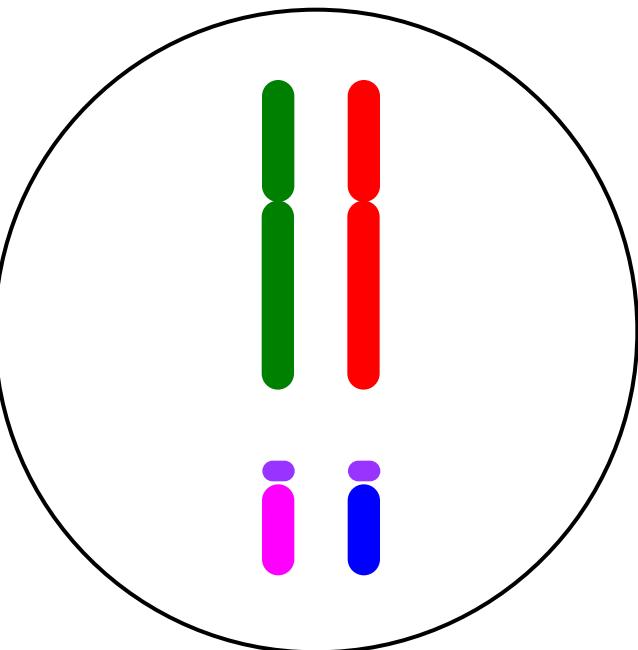


trisomy 21

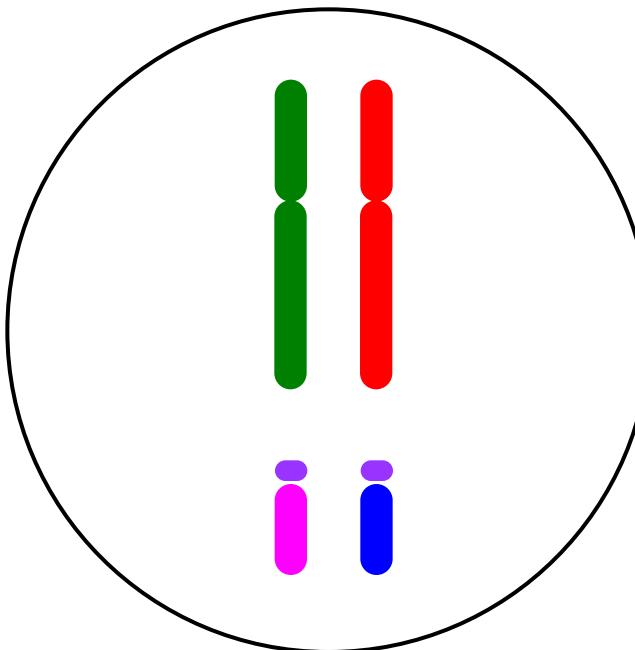


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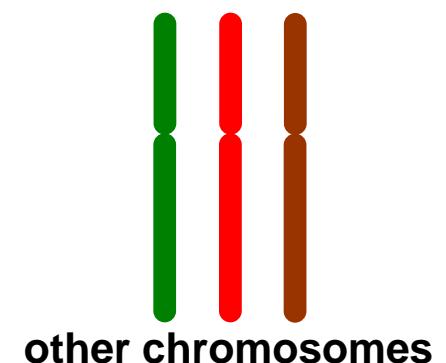
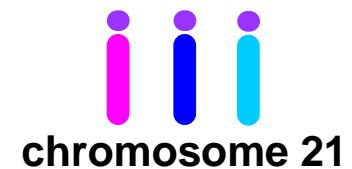
## first meiotic division: prophase: pachytene



normal

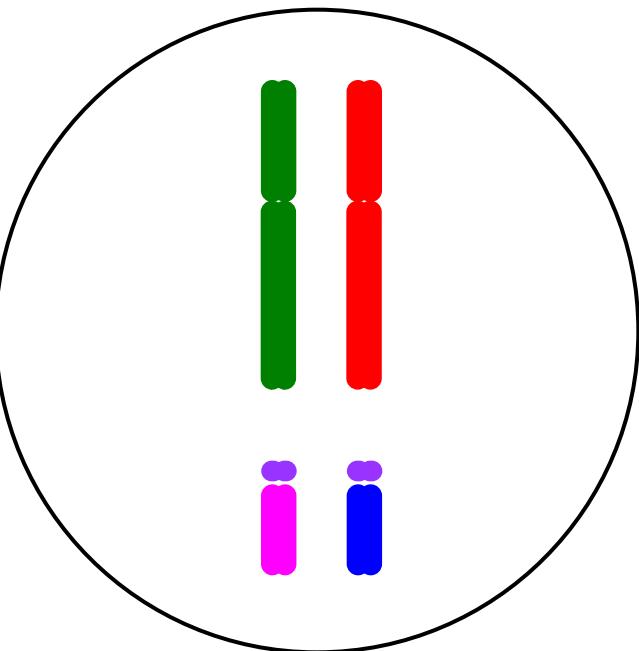


trisomy 21

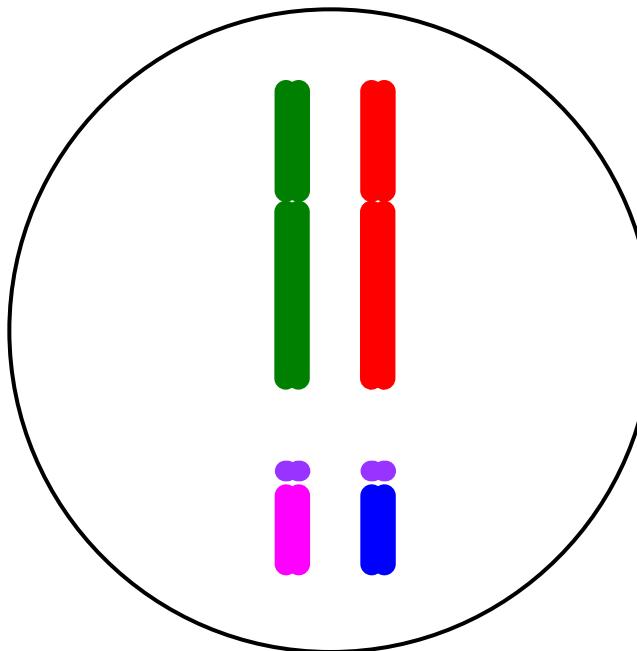


other chromosomes

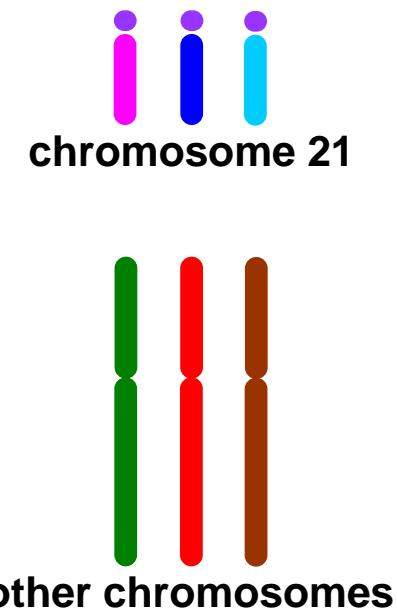
## first meiotic division: prophase: pachytene



normal

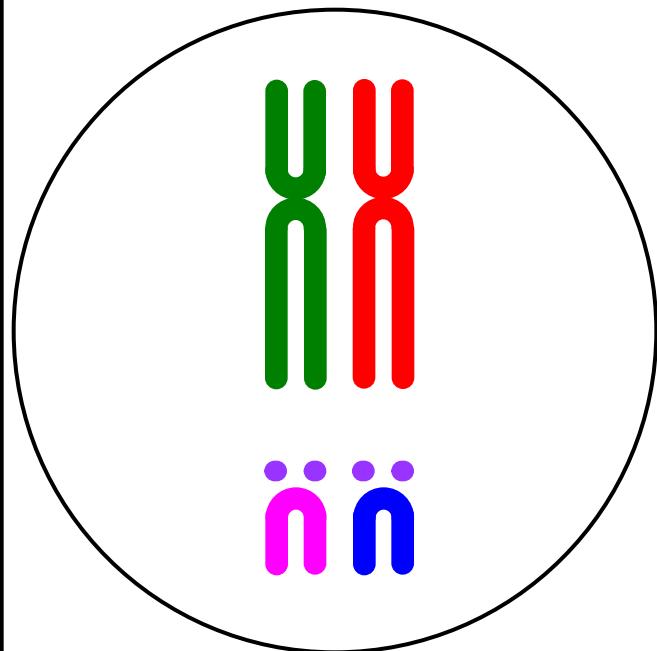


trisomy 21

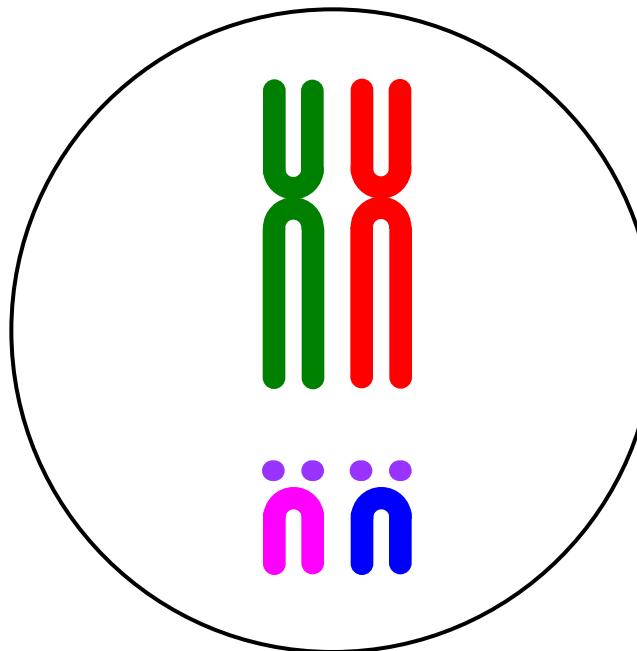


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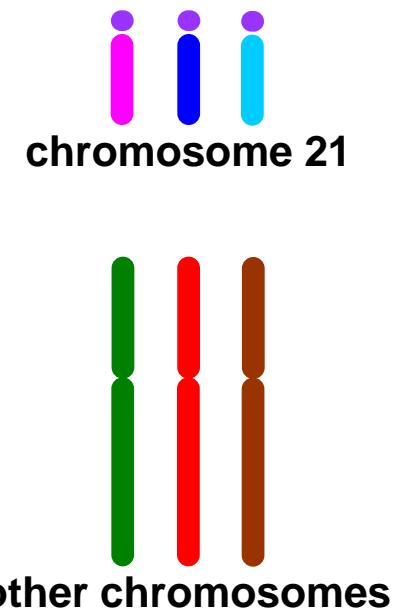
## first meiotic division: prophase: diplotene



normal

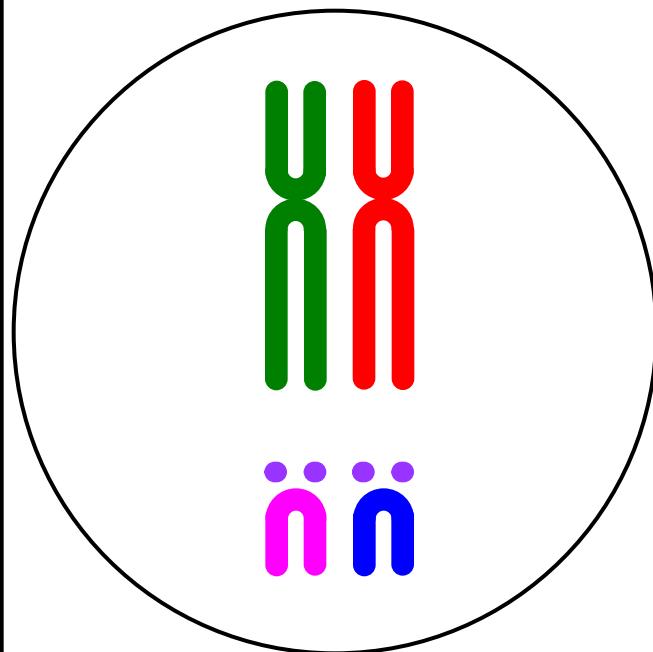


trisomy 21

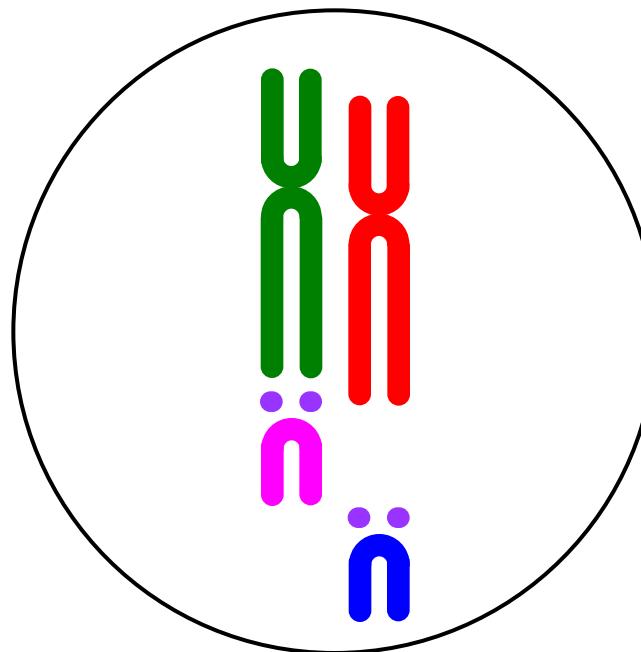


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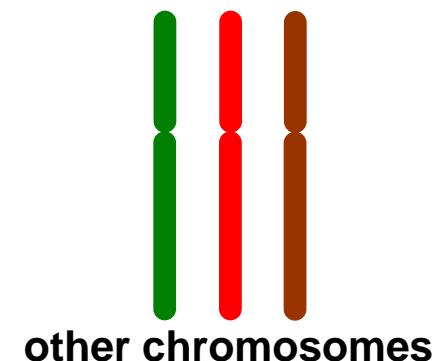
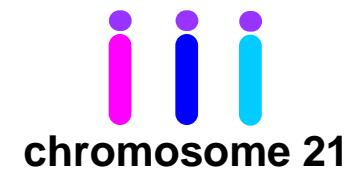
## first meiotic division: prophase: diplotene



normal

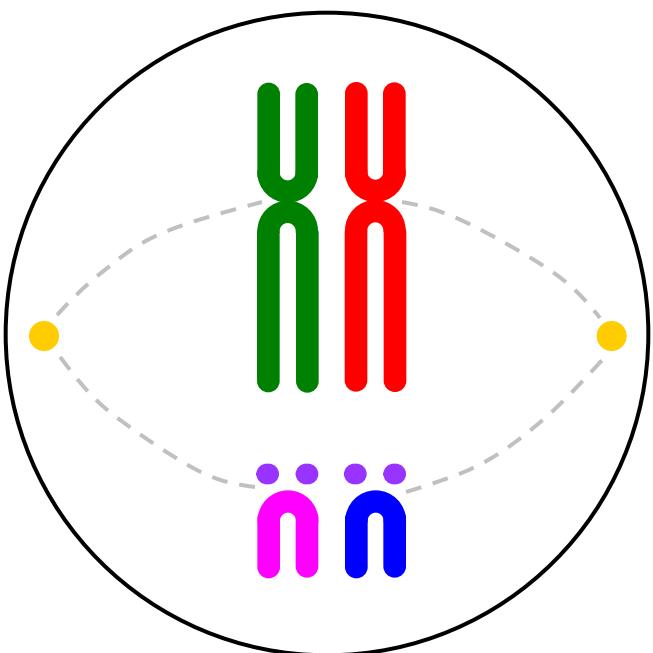


trisomy 21

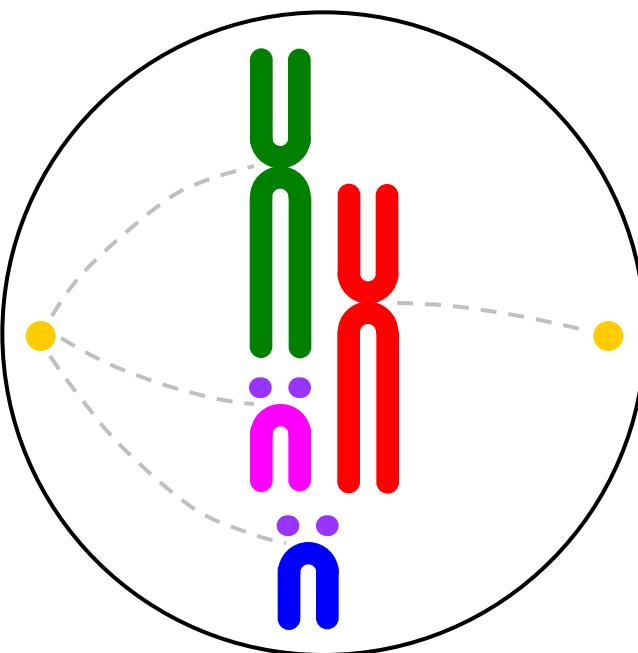


© 2003 H. NUMABE M.D.

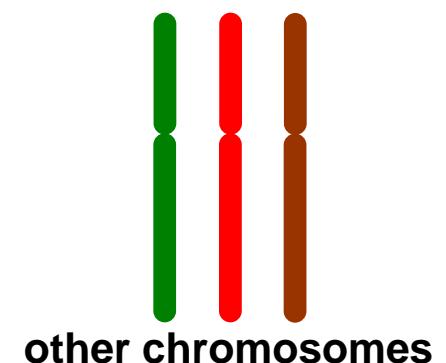
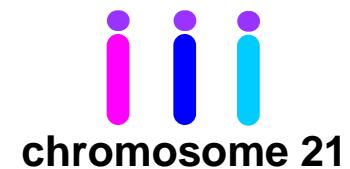
## first meiotic division: metaphase I



normal

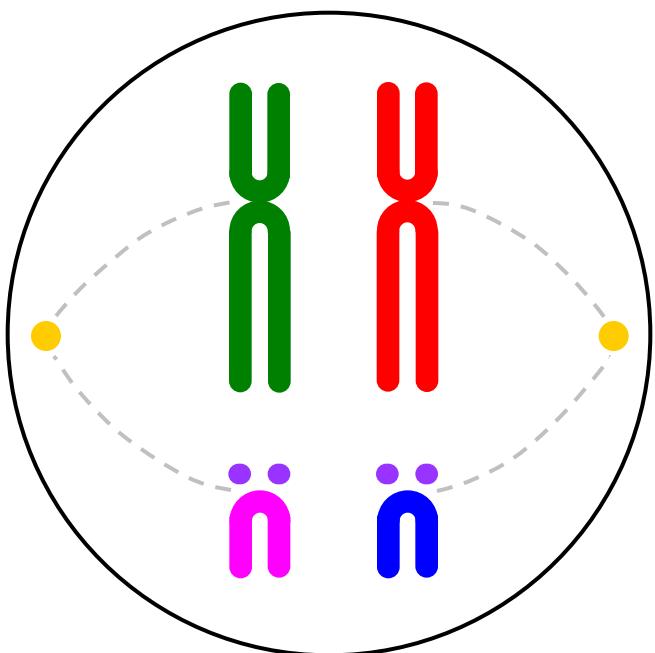


trisomy 21

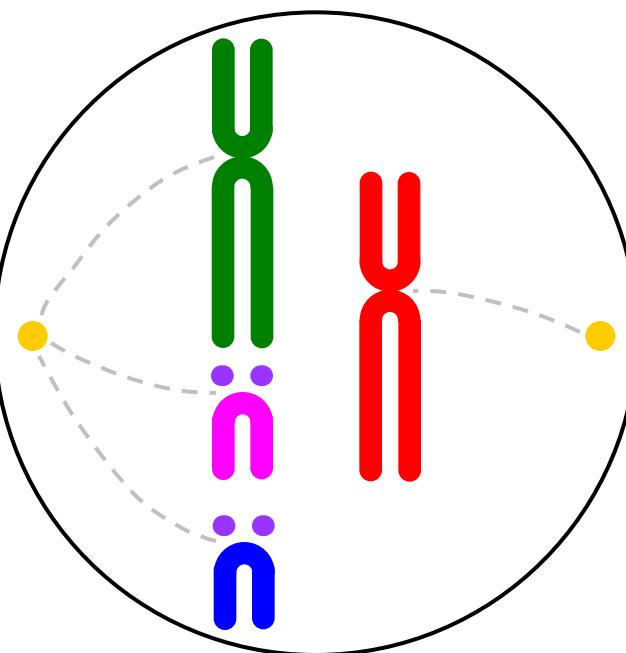


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## first meiotic division: metaphase I



normal

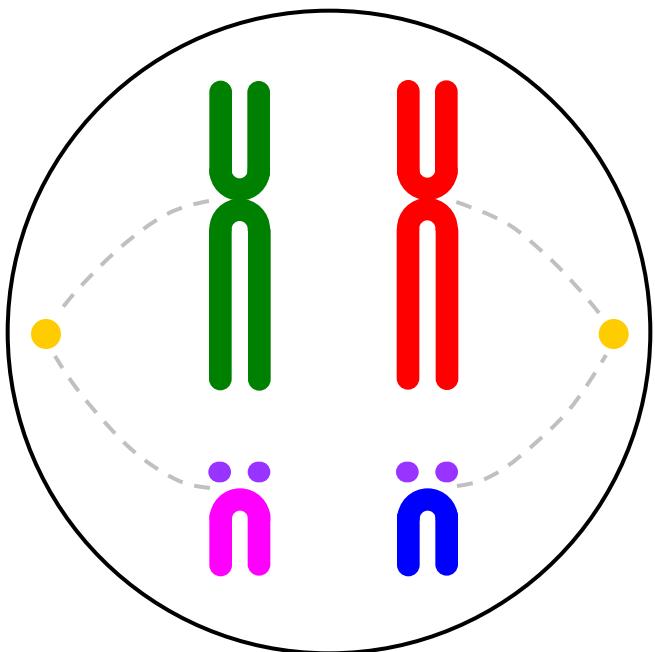


trisomy 21

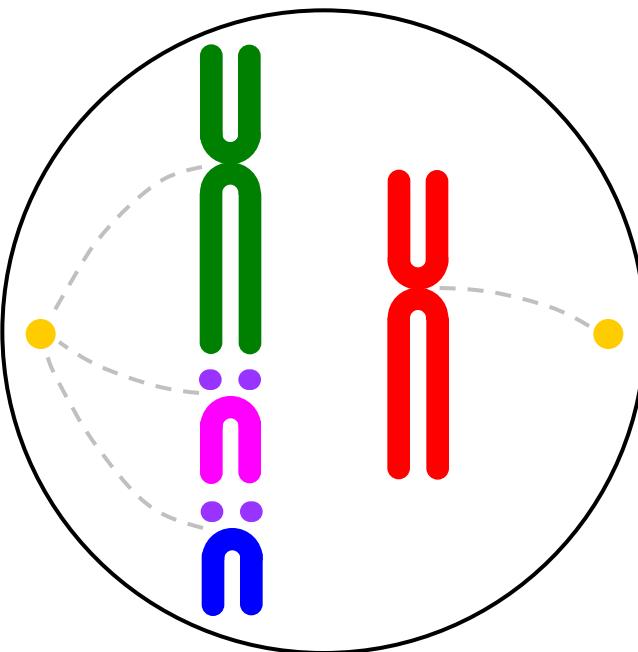
chromosome 21

other chromosomes

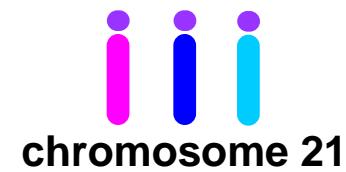
## first meiotic division: anaphase I



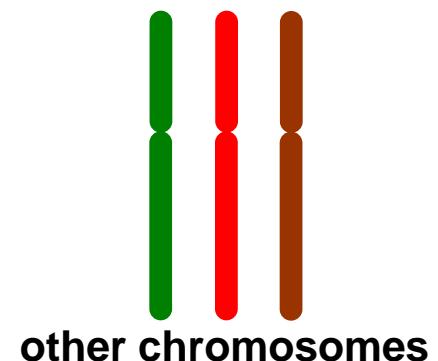
normal



trisomy 21

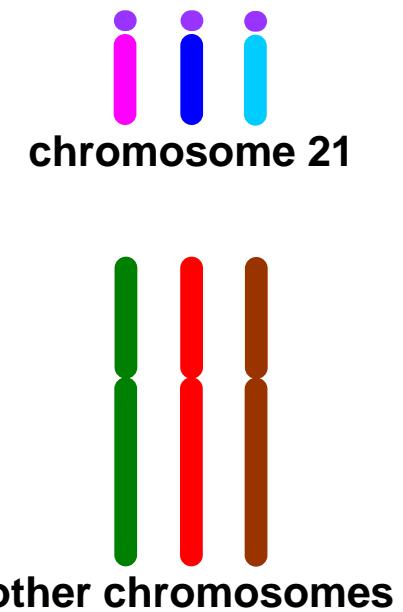
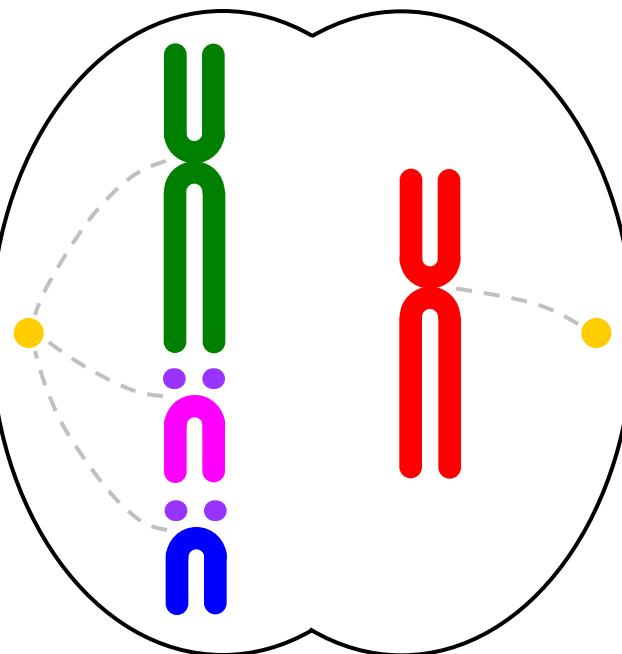
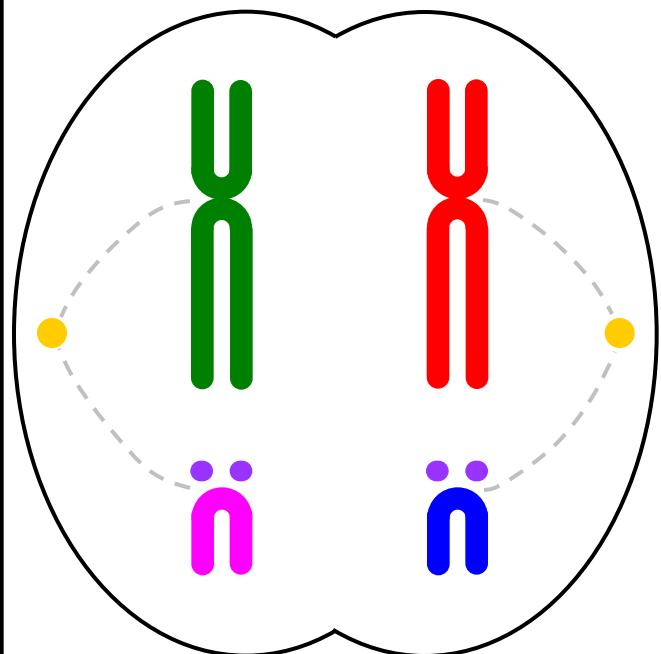


chromosome 21



other chromosomes

## first meiotic division: telophase I

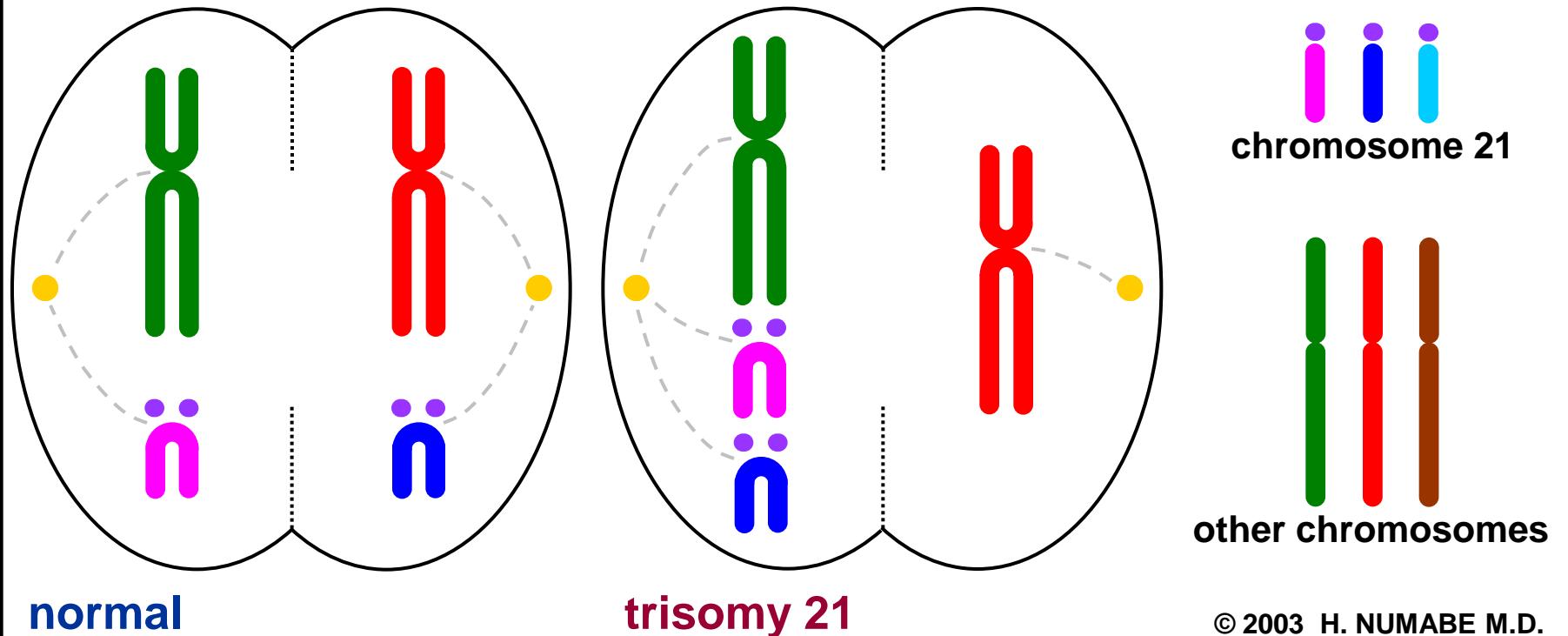


normal

trisomy 21

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## first meiotic division: telophase I

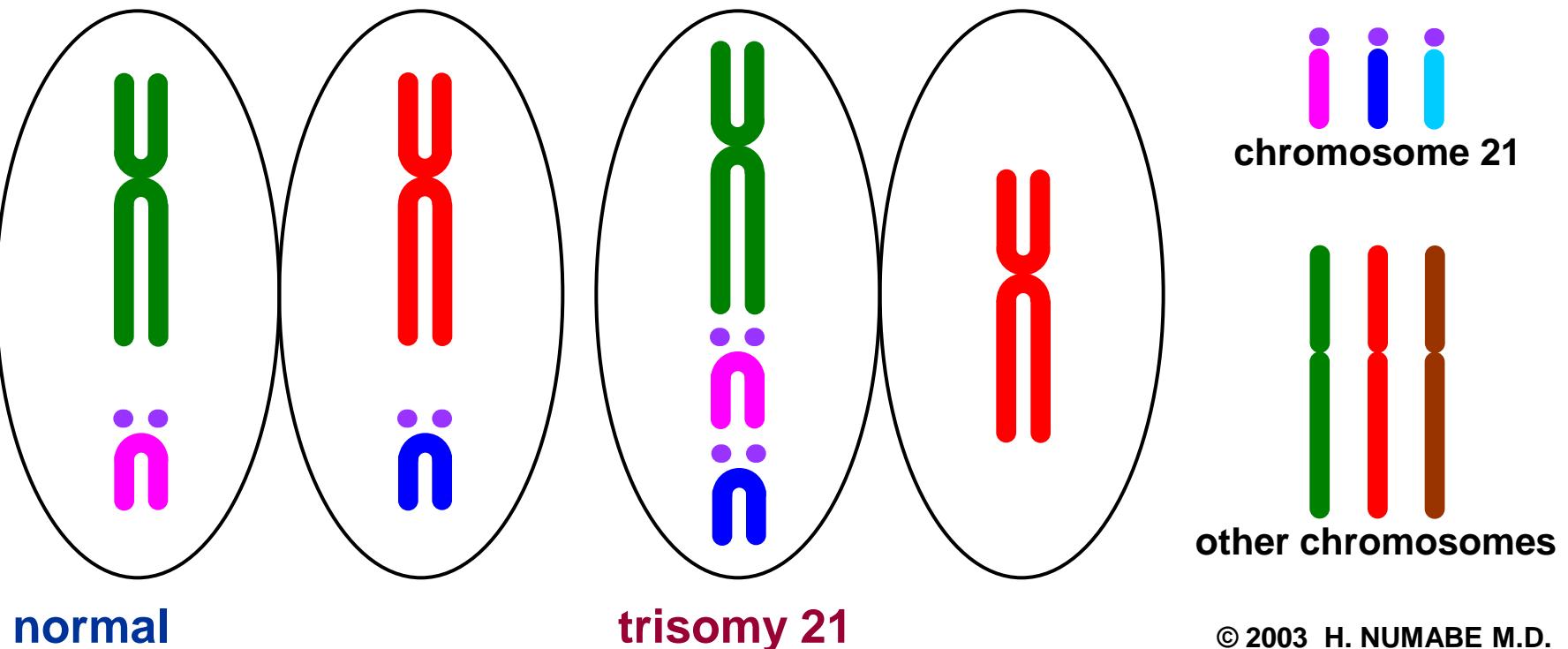


normal

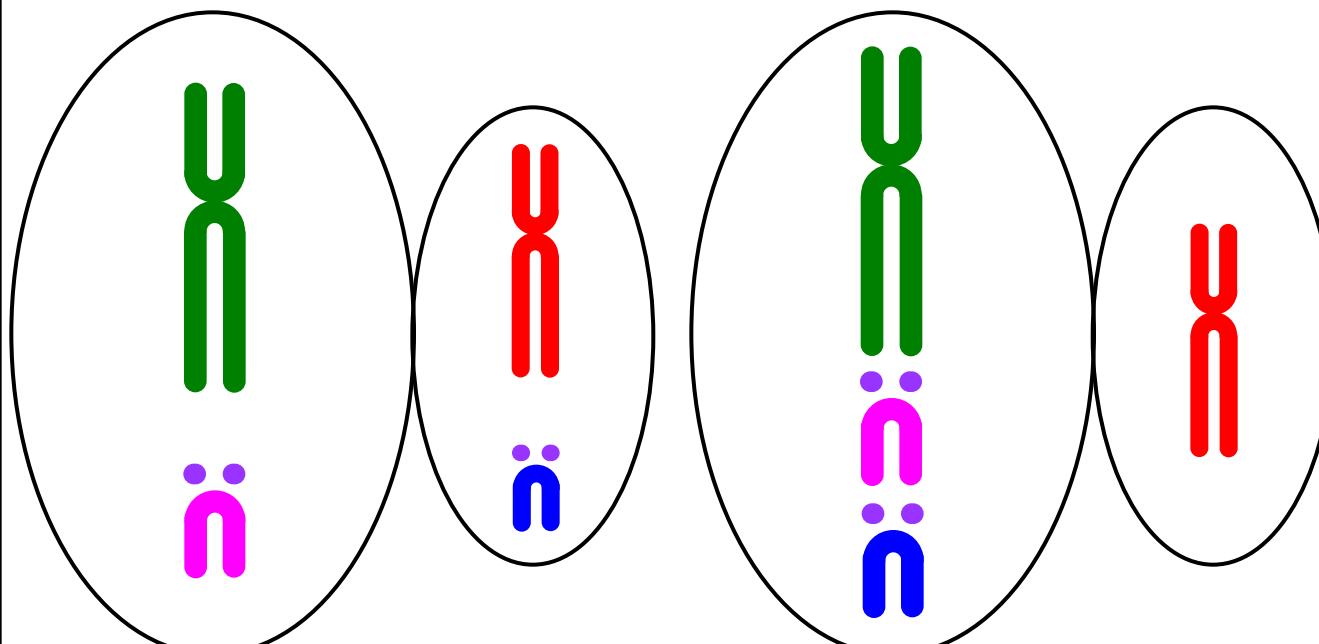
trisomy 21

© 2003 H. NUMABE M.D.

## first meiotic division: telophase I: first polar body



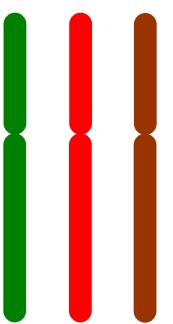
## first meiotic division: telophase I: first polar body



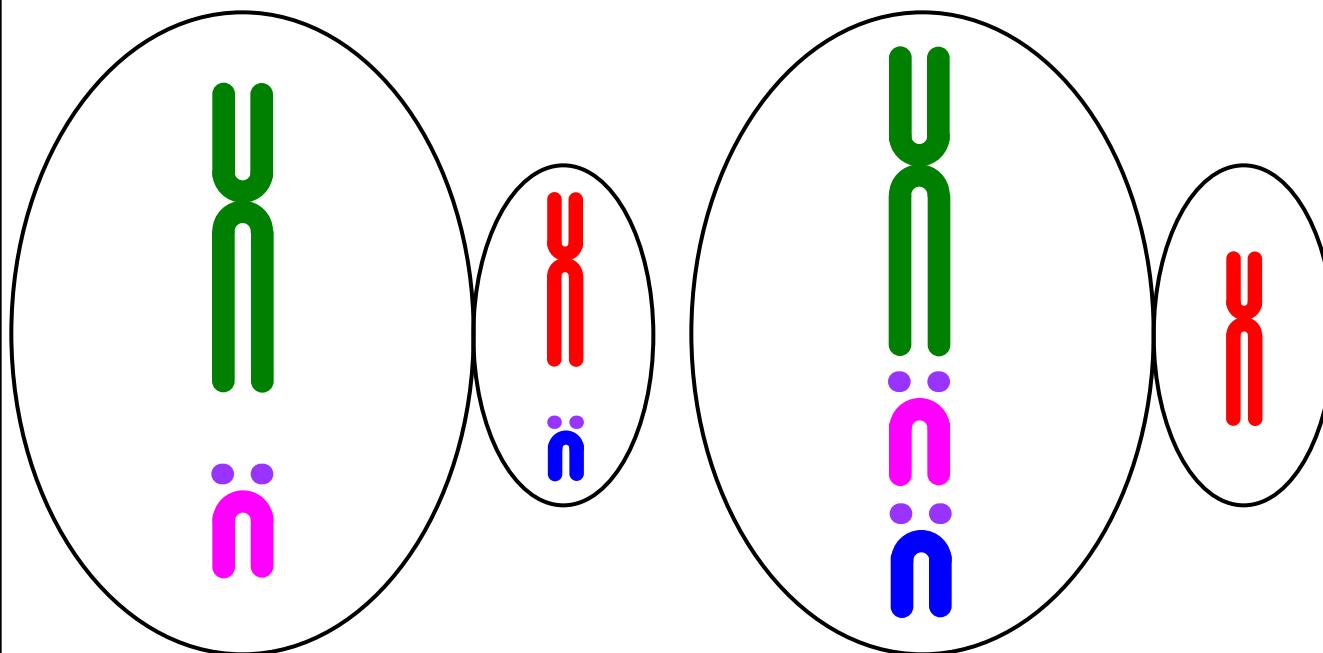
normal

trisomy 21

  
chromosome 21

  
other chromosomes

## first meiotic division: telophase I: first polar body



chromosome 21

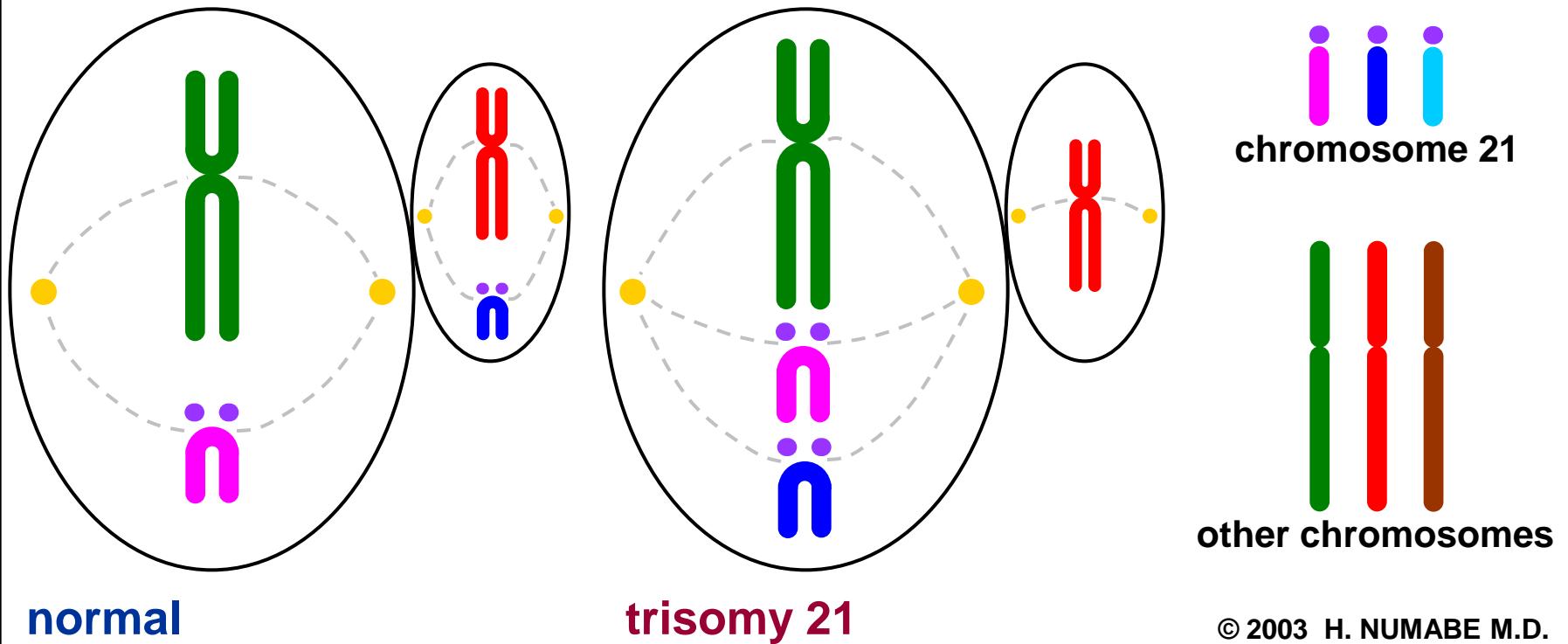
other chromosomes

normal

trisomy 21

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## second meiotic division: metaphase II

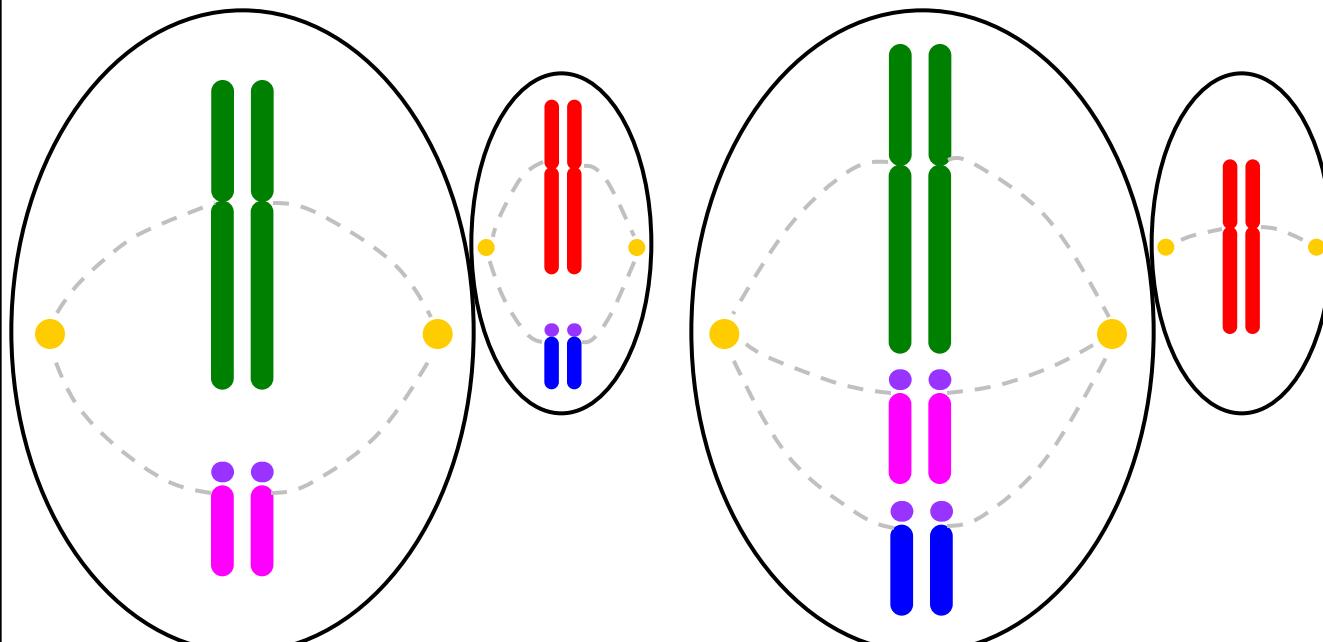


normal

trisomy 21

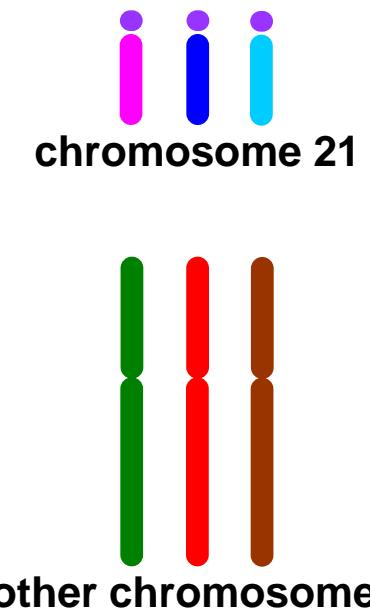
© 2003 H. NUMABE M.D.

## second meiotic division: metaphase II



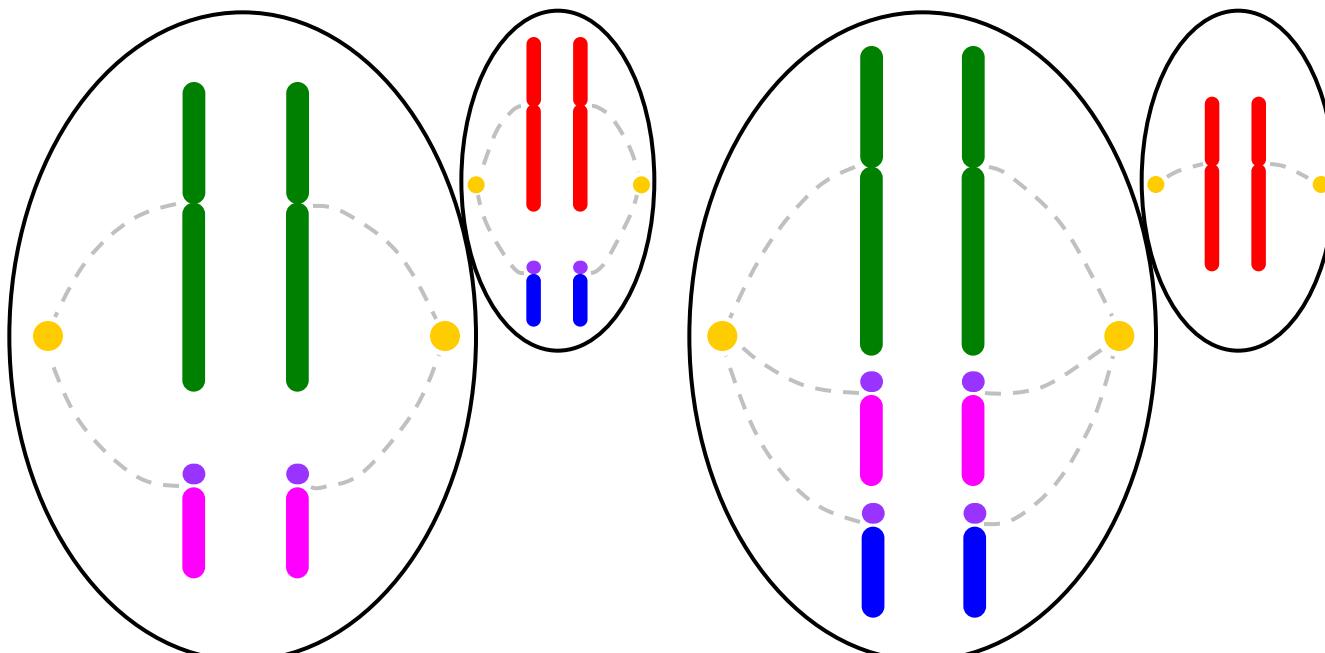
normal

trisomy 21



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## second meiotic division: anaphase II



chromosome 21

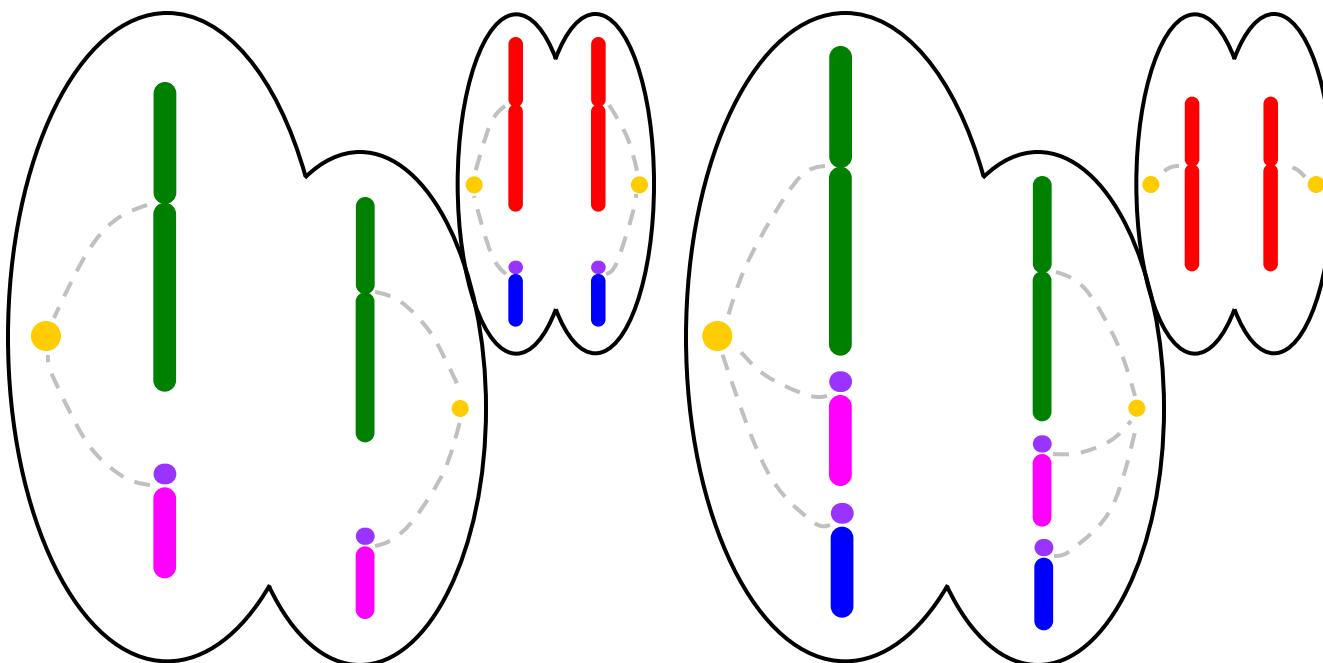
other chromosomes

normal

trisomy 21

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## second meiotic division: telophase II



**chromosome 21**

Three pairs of chromosomes are shown, each consisting of a pink (long) and a blue (short) sister chromatid. They are labeled 'chromosome 21'.

**other chromosomes**

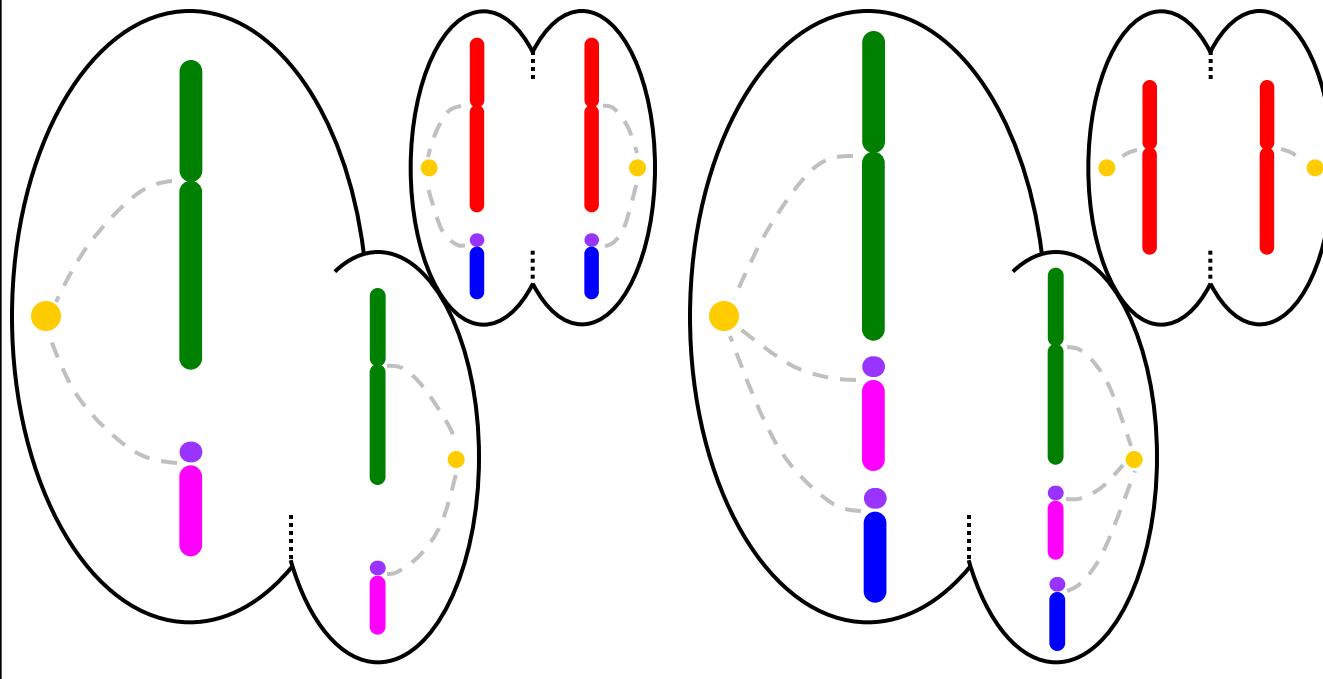
Three pairs of chromosomes are shown, each consisting of a green (long), a red (middle), and a brown (short) sister chromatid. They are labeled 'other chromosomes'.

**normal**

**trisomy 21**

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## second meiotic division: telophase II



chromosome 21

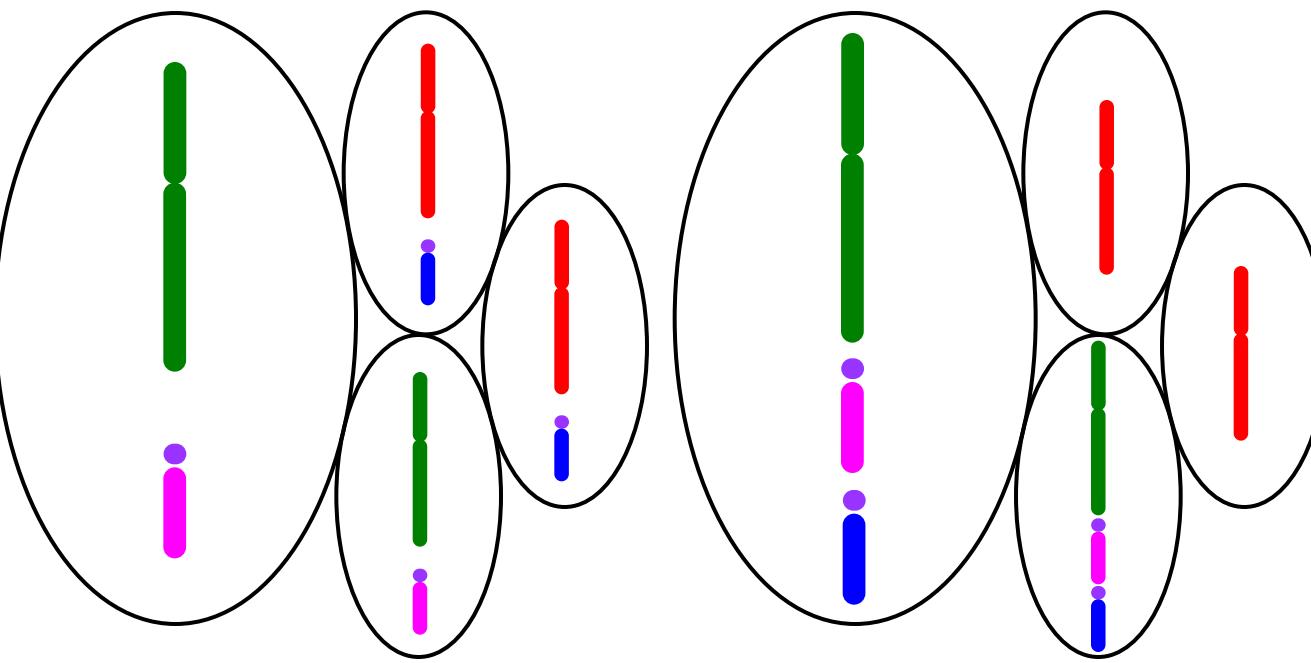
other chromosomes

normal

trisomy 21

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## second meiotic division: second polar bodies



normal

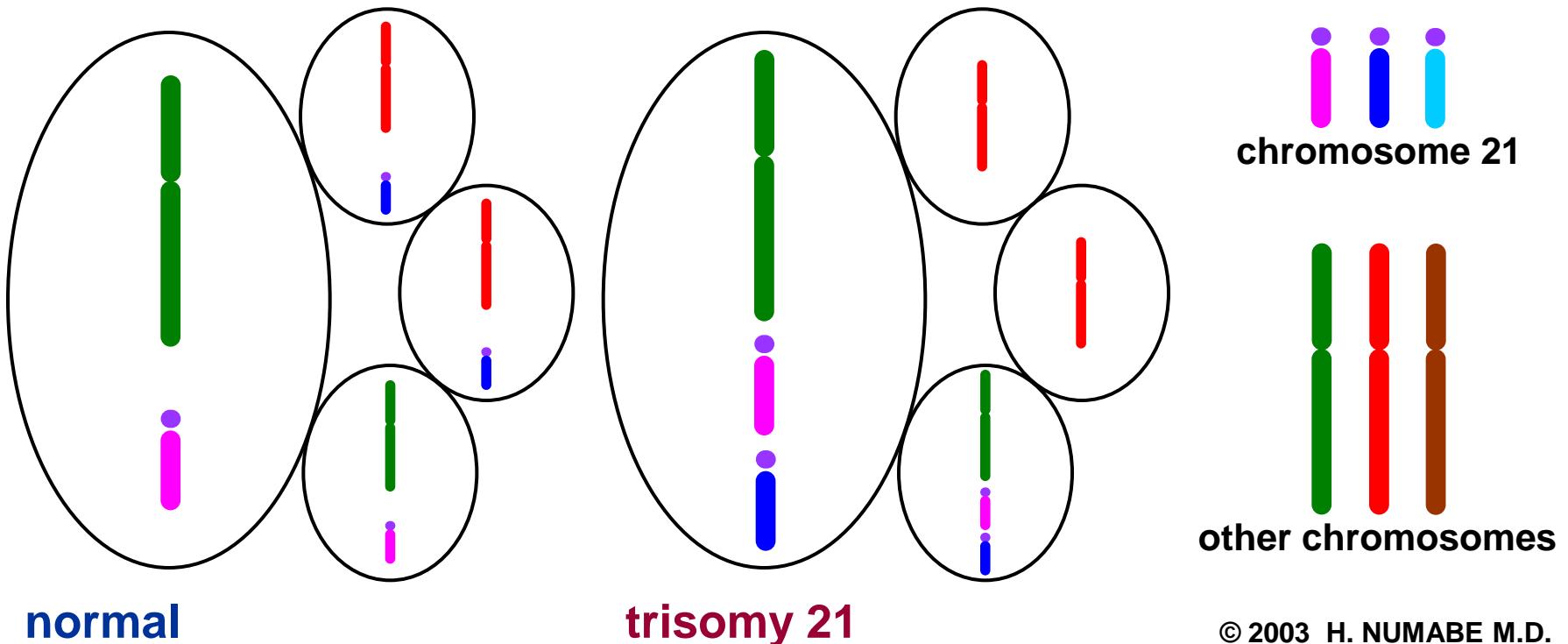
trisomy 21

chromosome 21

other chromosomes

© 2003 H. NUMABE M.D.

## second meiotic division: second polar bodies

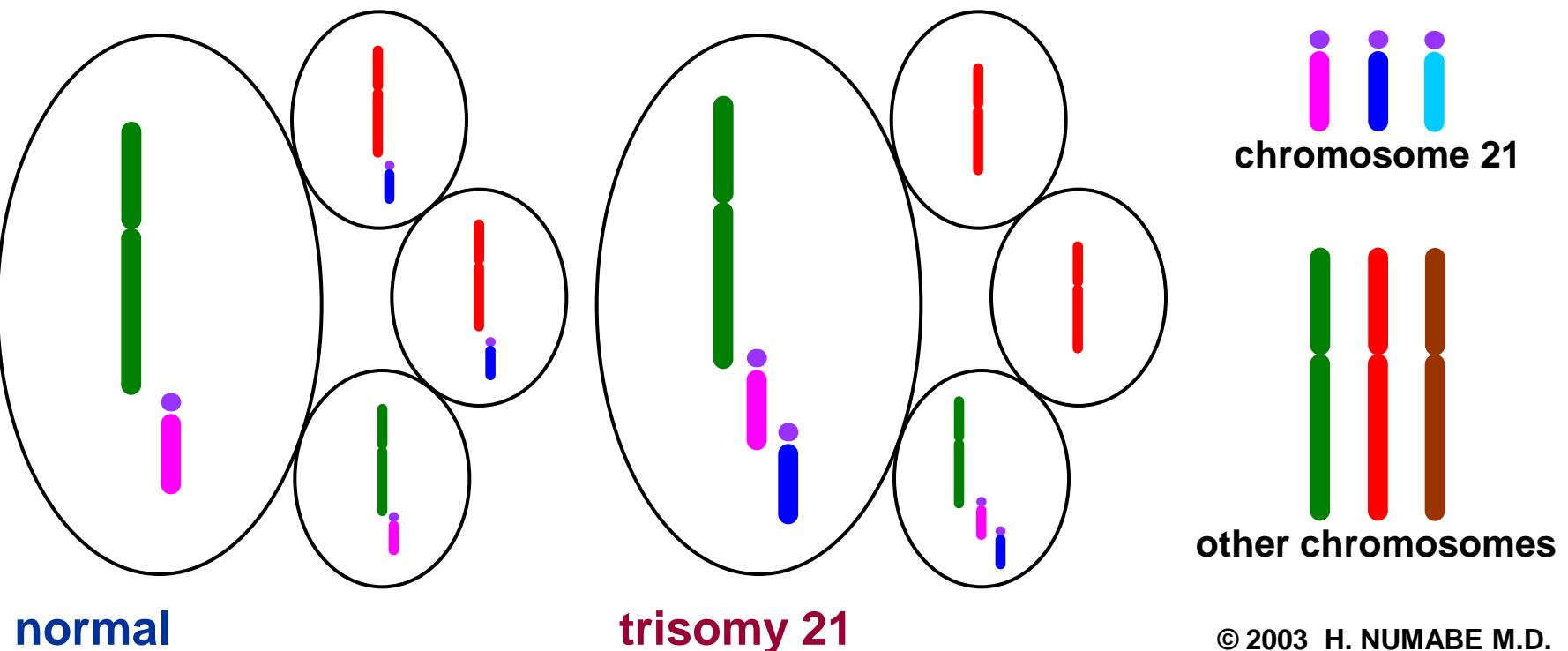


normal

trisomy 21

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## second meiotic division: second polar bodies

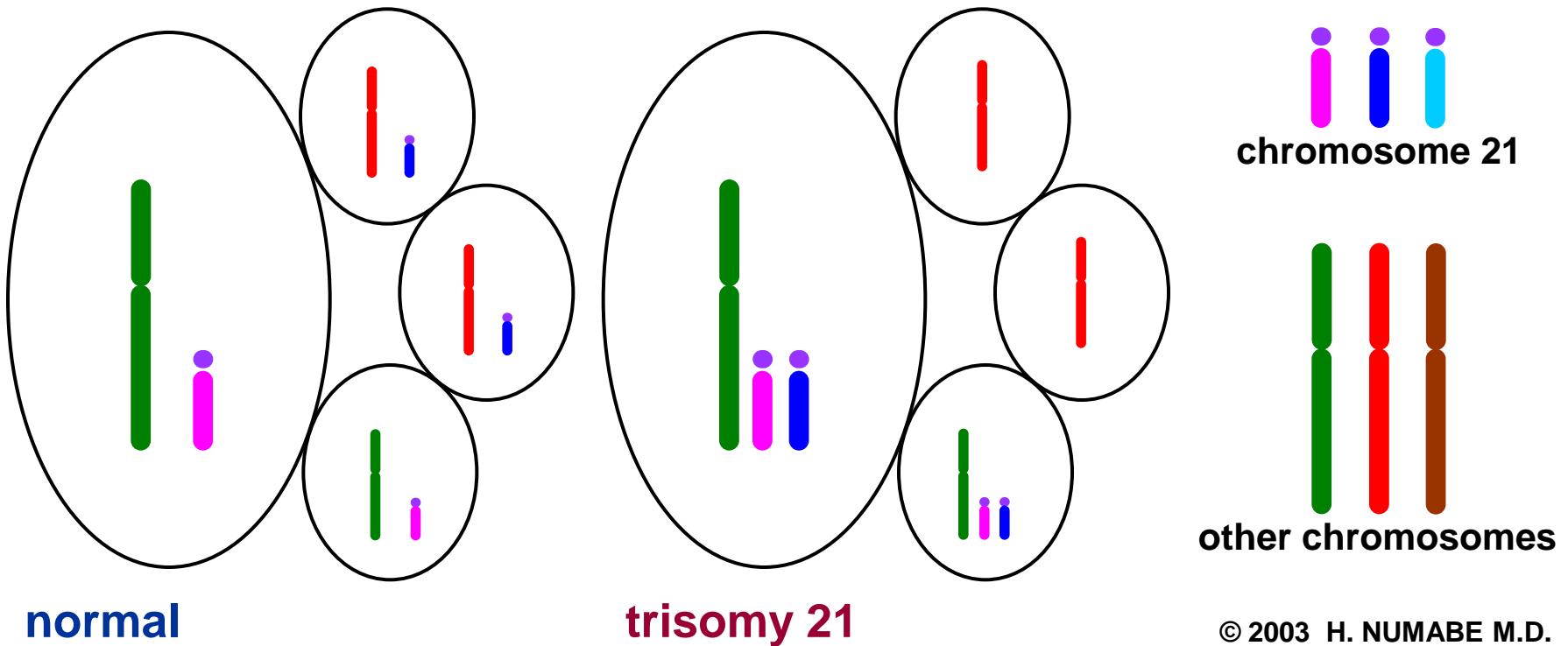


normal

trisomy 21

© 2003 H. NUMABE M.D.

## second meiotic division: second polar bodies

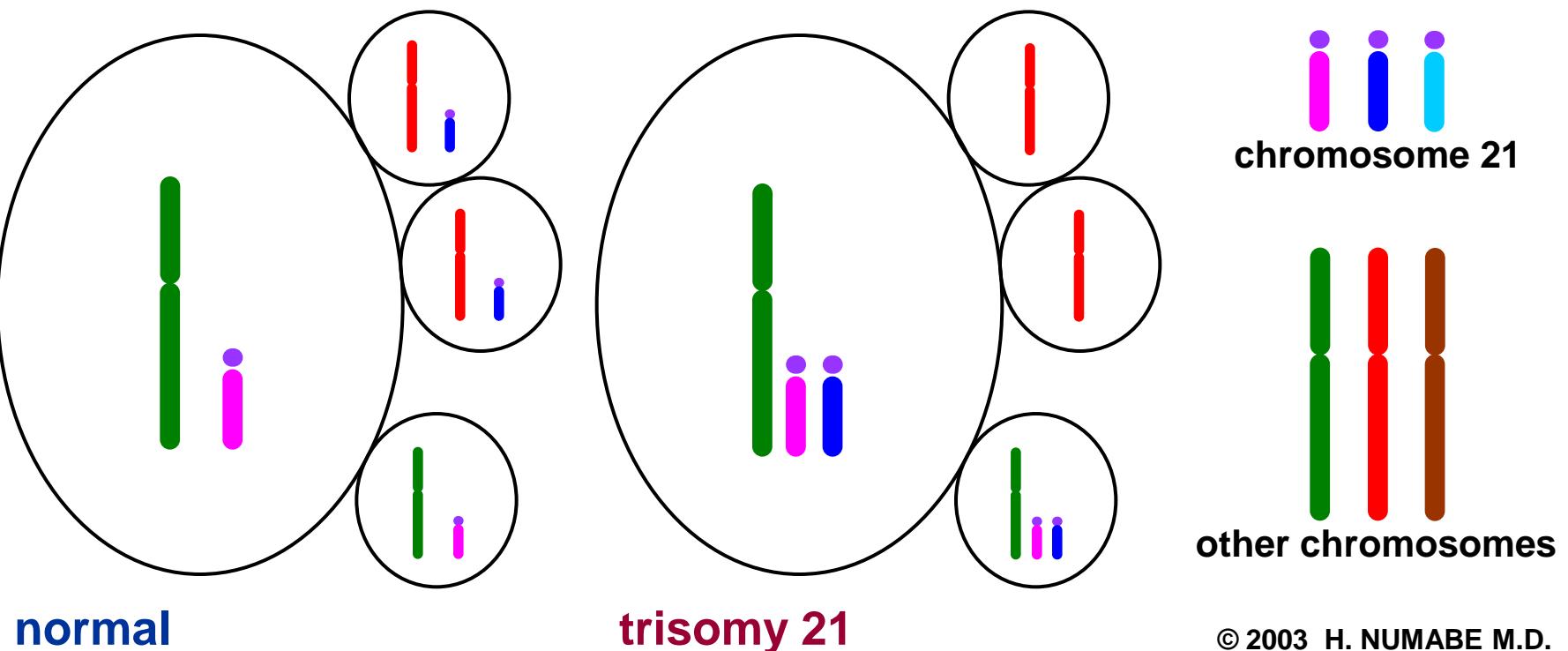


normal

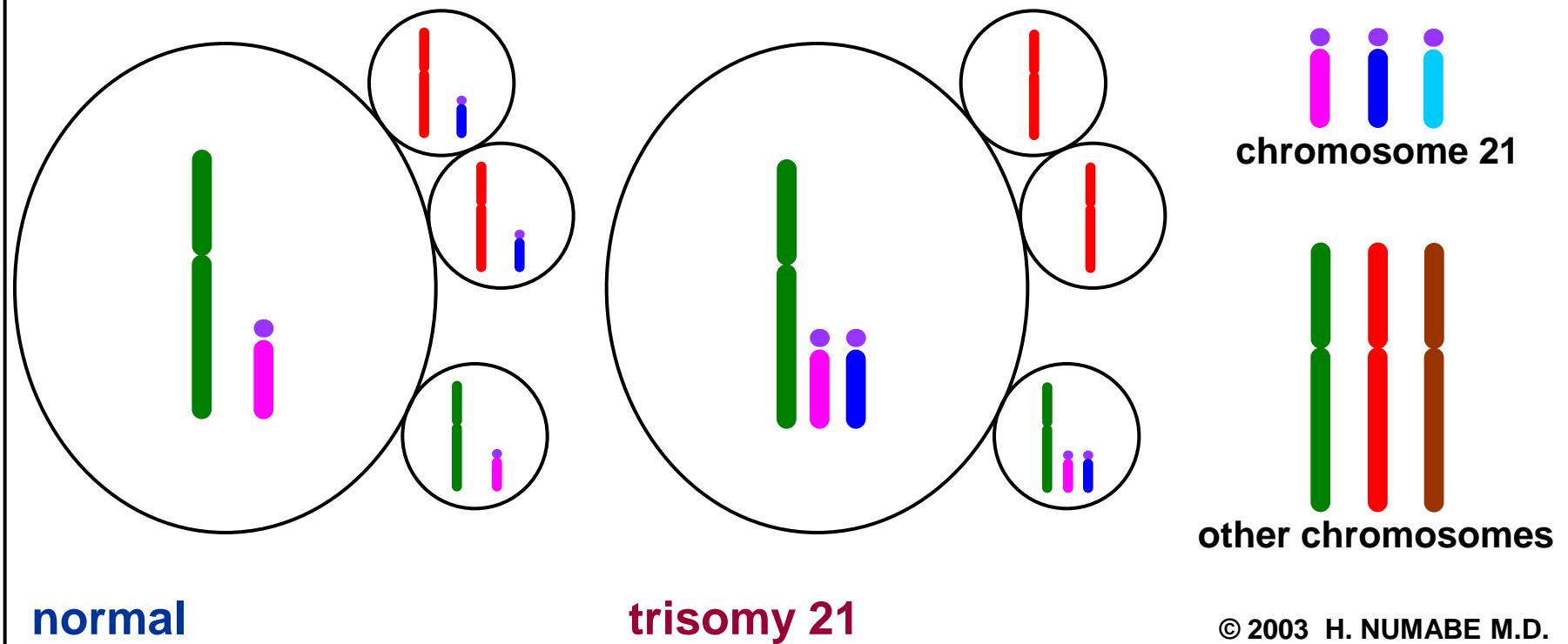
trisomy 21

© 2003 H. NUMABE M.D.

## second meiotic division: second polar bodies



## second meiotic division: second polar bodies

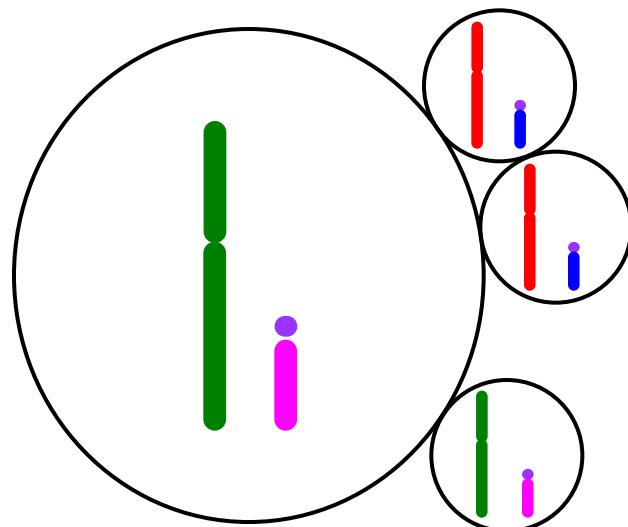


normal

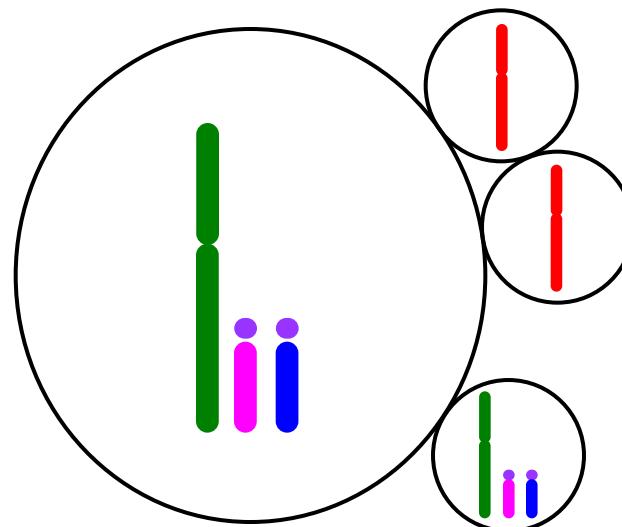
trisomy 21

© 2003 H. NUMABE M.D.

## second meiotic division: second polar bodies



normal

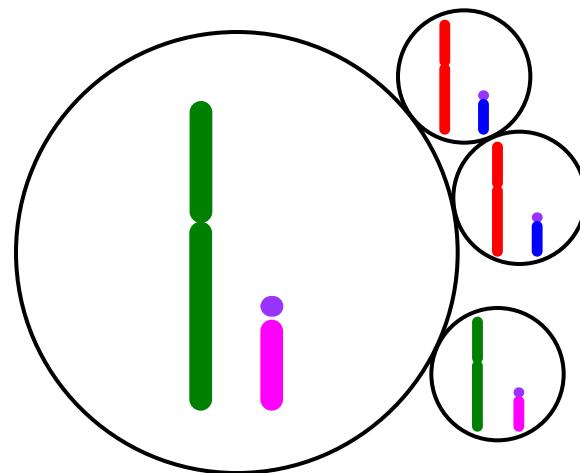


trisomy 21

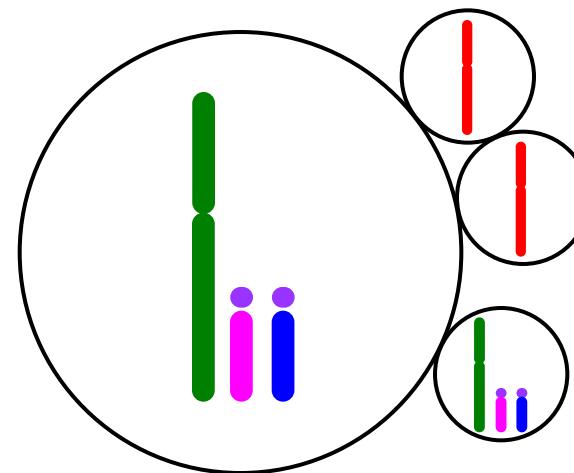
chromosome 21

other chromosomes

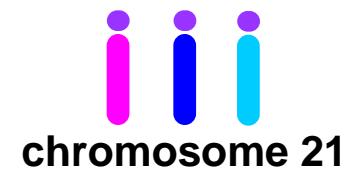
## second meiotic division: second polar bodies



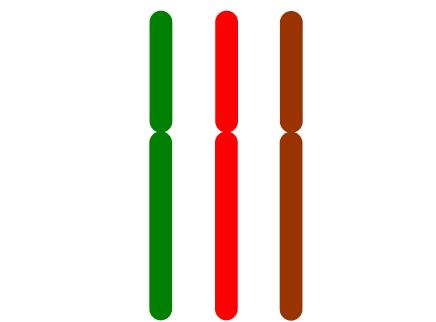
normal



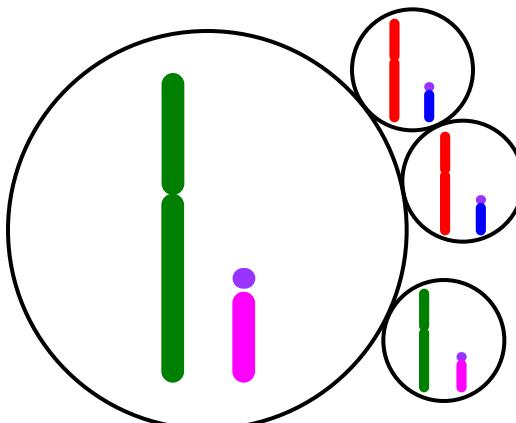
trisomy 21



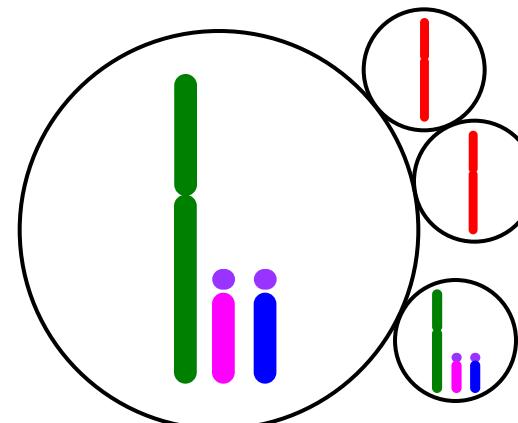
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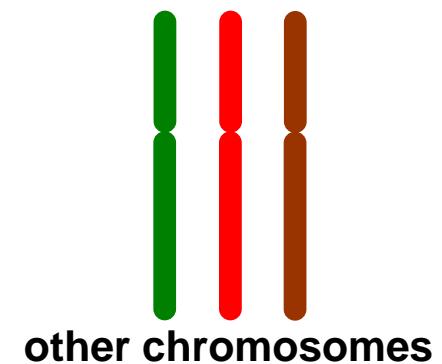
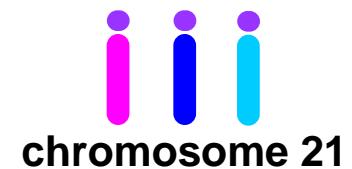
## second meiotic division: second polar bodies



normal

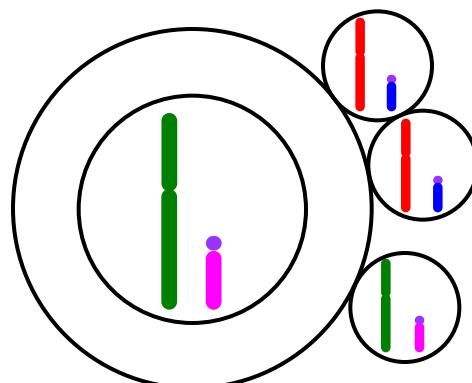


trisomy 21

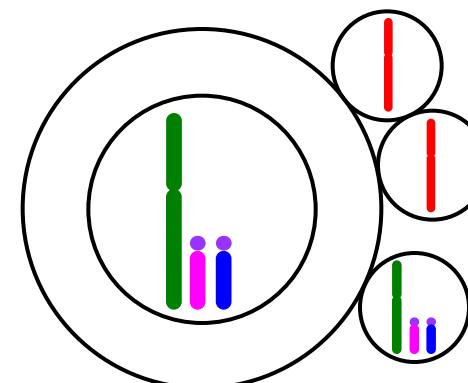


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## second meiotic division: second polar bodies

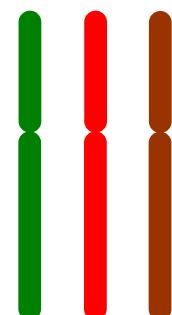


normal

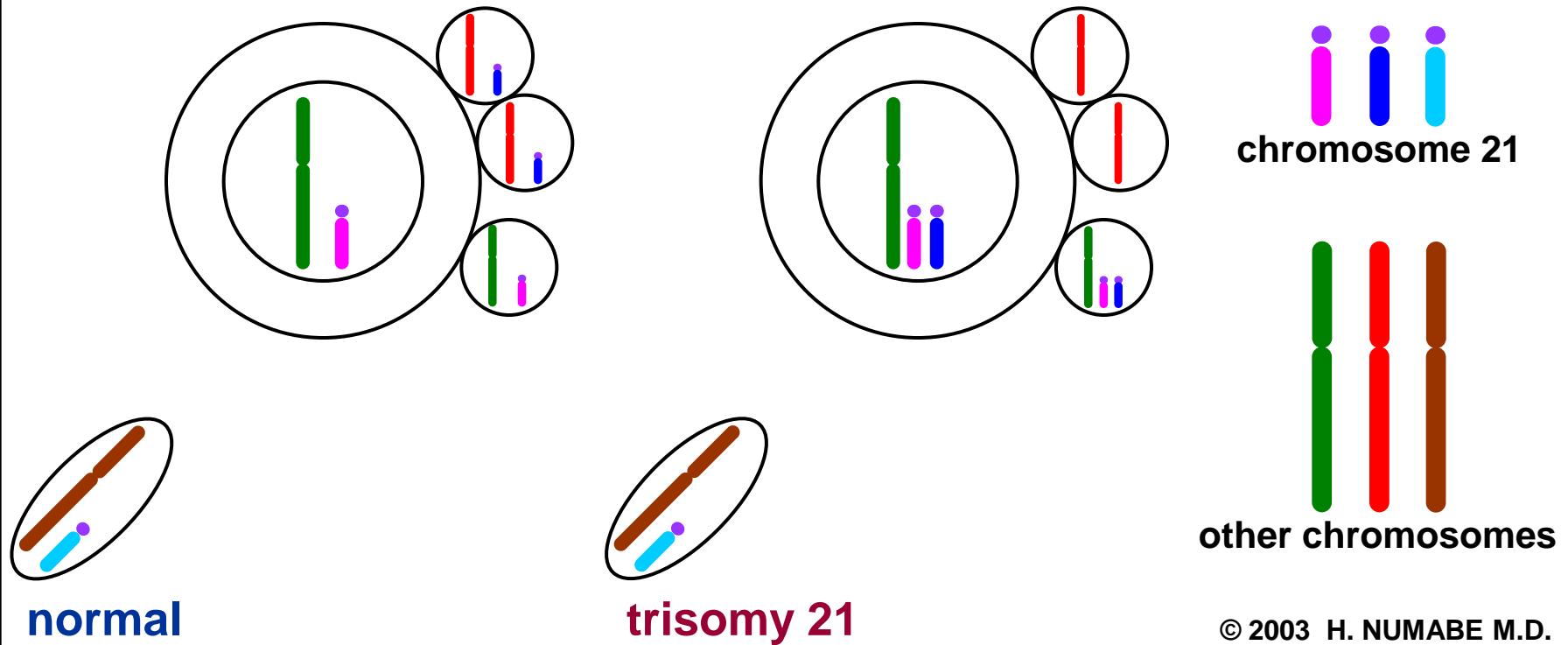


trisomy 21

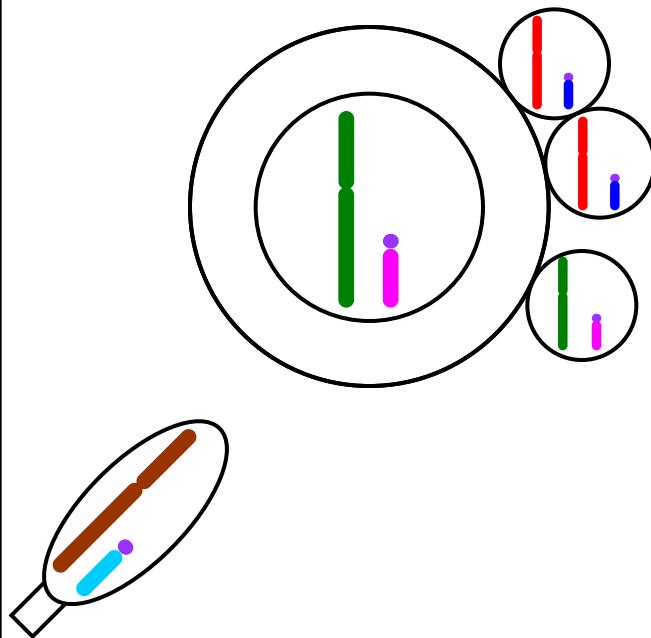
 chromosome 21

 other chromosomes

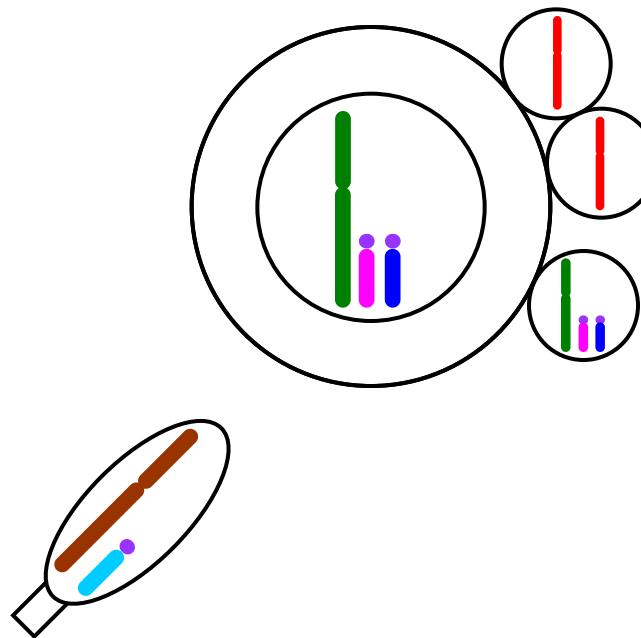
# fertilization



# fertilization

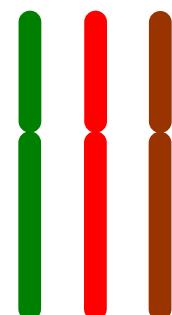


normal

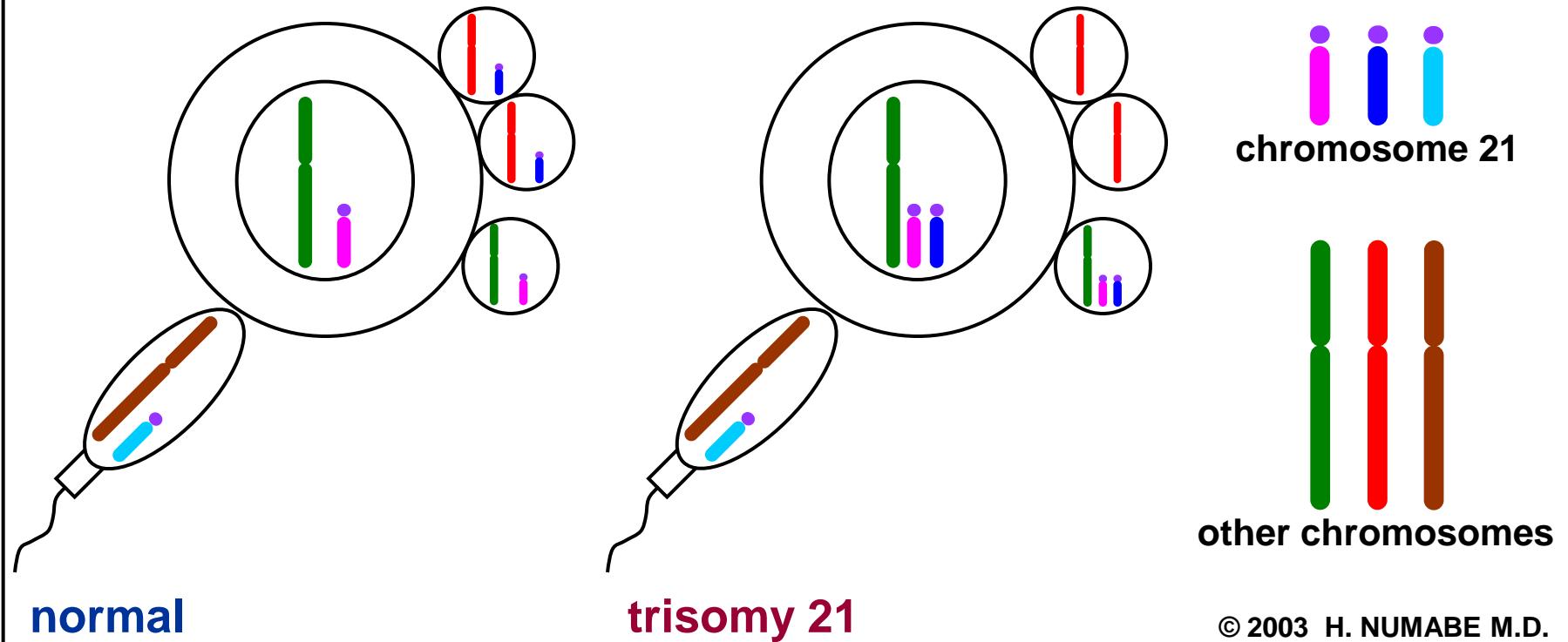


trisomy 21

 chromosome 21

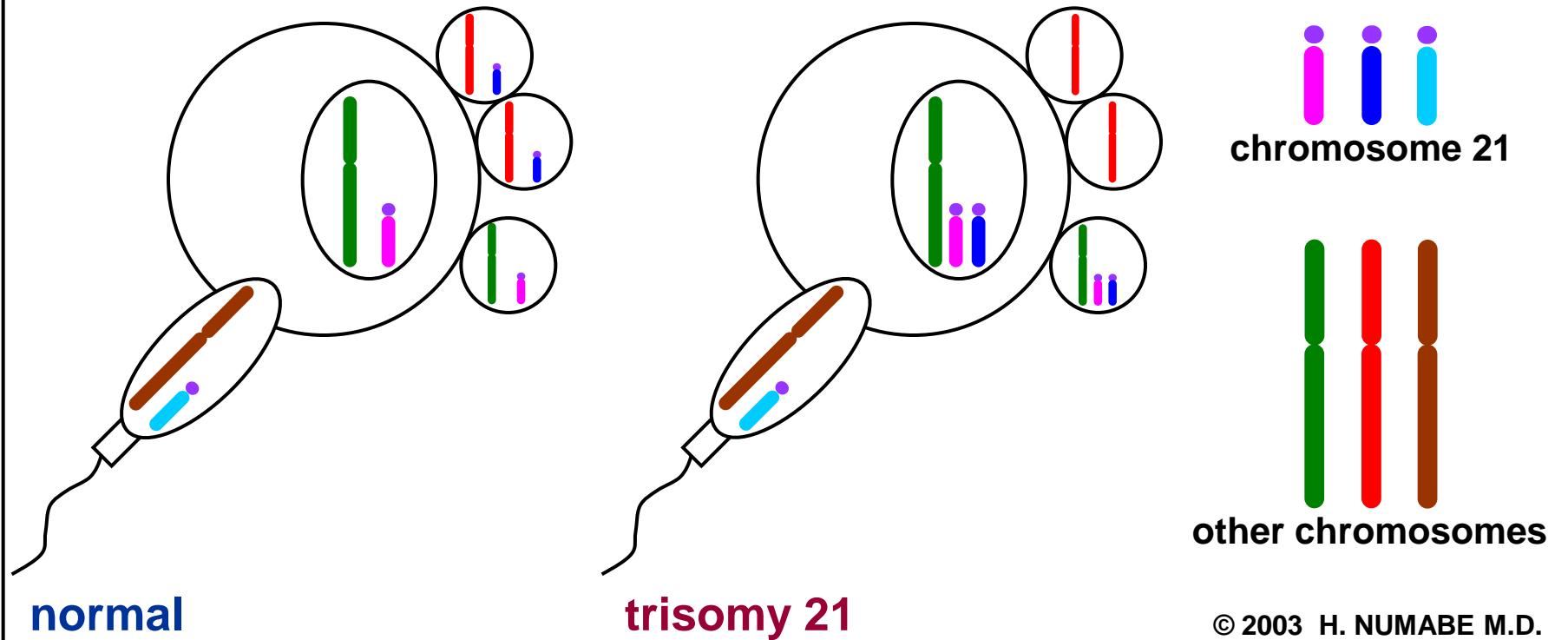
 other chromosomes

# fertilization



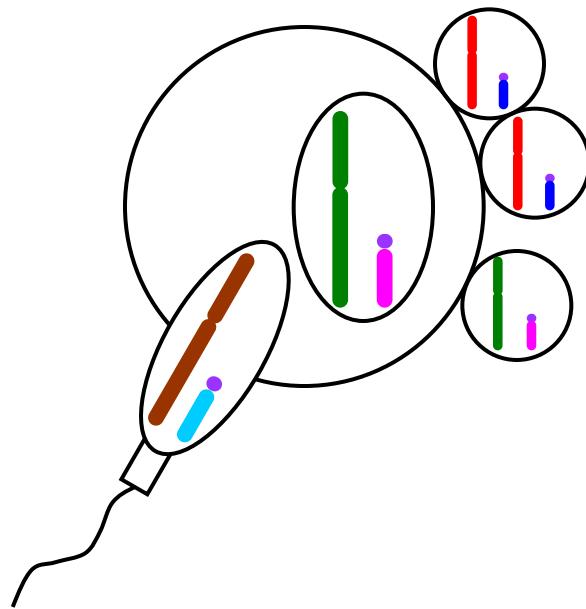
© 2003 H. NUMABE M.D.

# fertilization



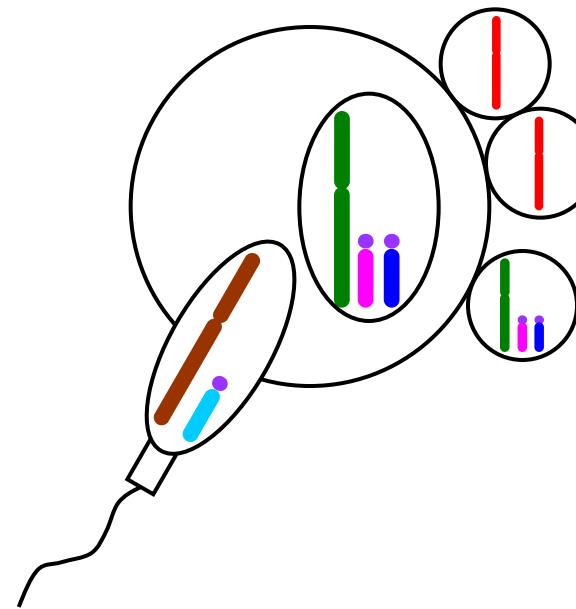
© 2003 H. NUMABE M.D.

# fertilization



normal

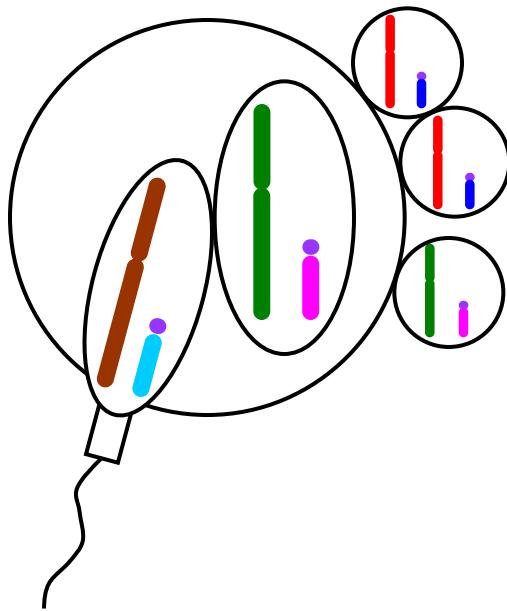
trisomy 21



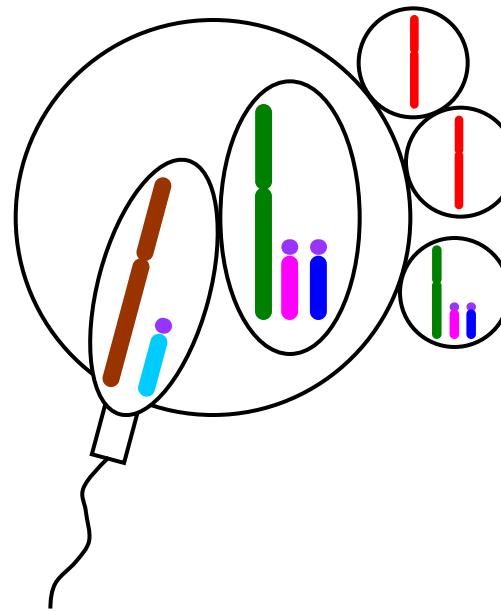
chromosome 21

other chromosomes

# fertilization



normal

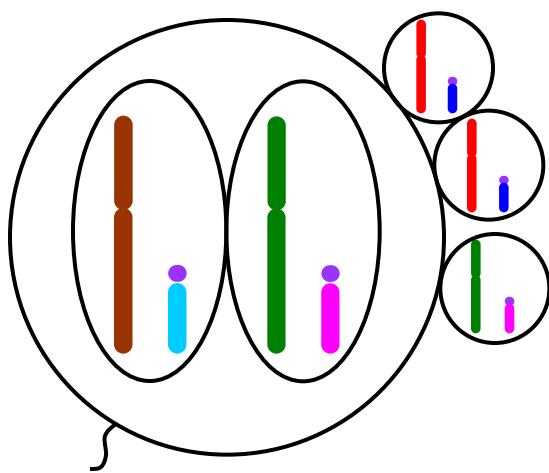


trisomy 21

**chromosome 21**

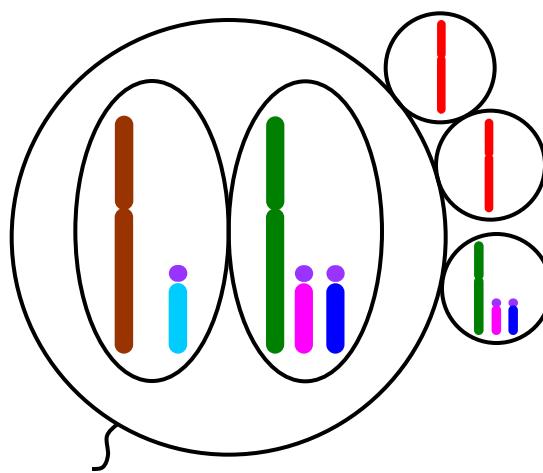
**other chromosomes**

# fertilization



normal

trisomy 21

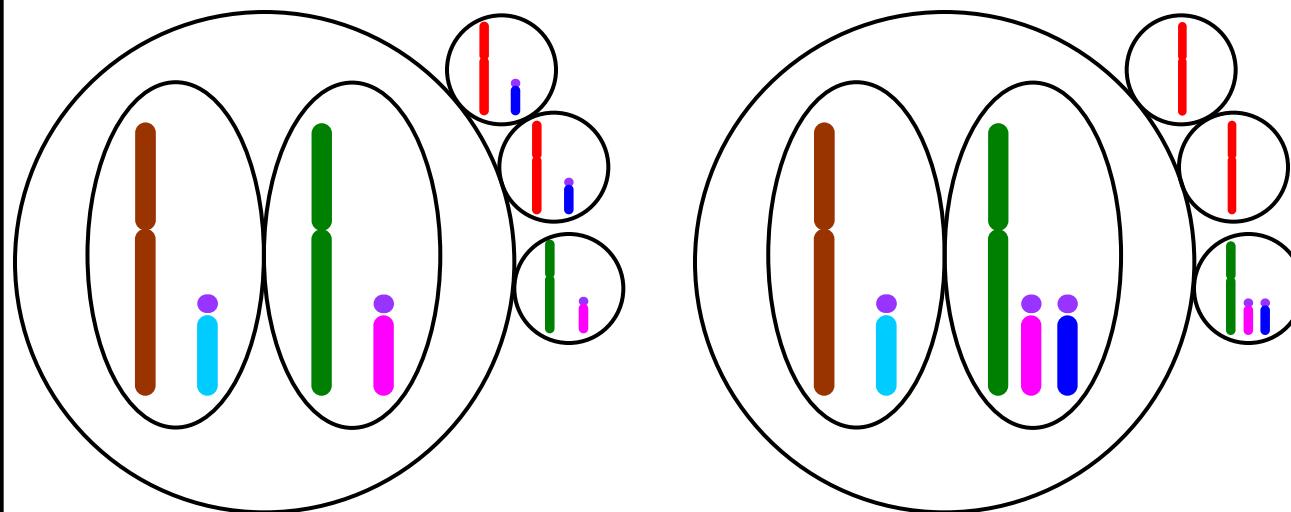


chromosome 21

other chromosomes

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# fertilization



normal

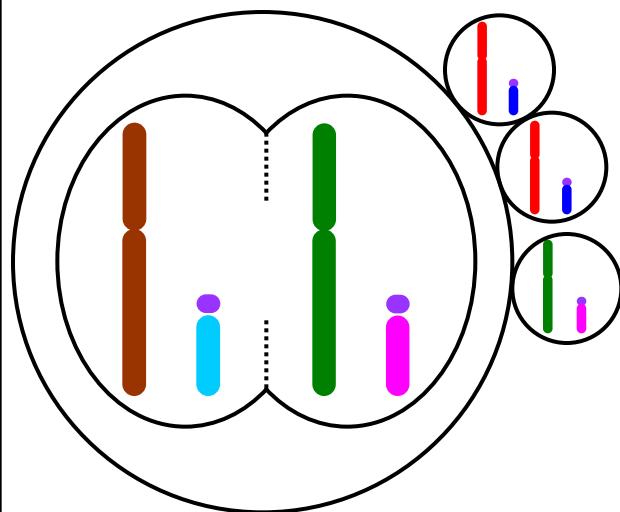
trisomy 21

chromosome 21

other chromosomes

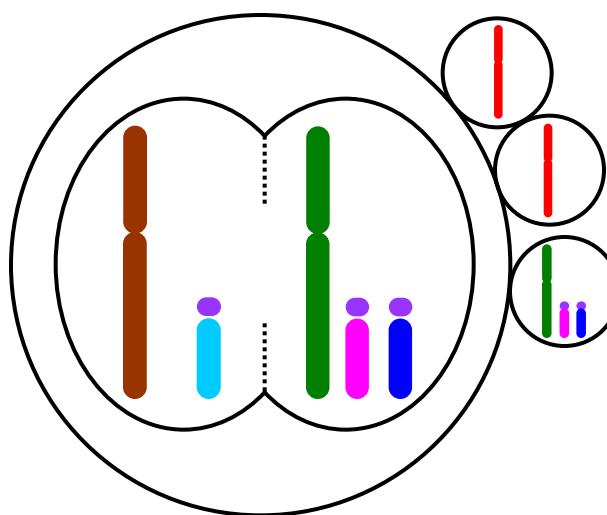
© 2003 H. NUMABE M.D.

# fertilization

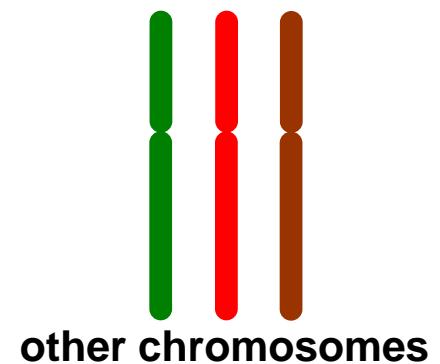


normal

trisomy 21



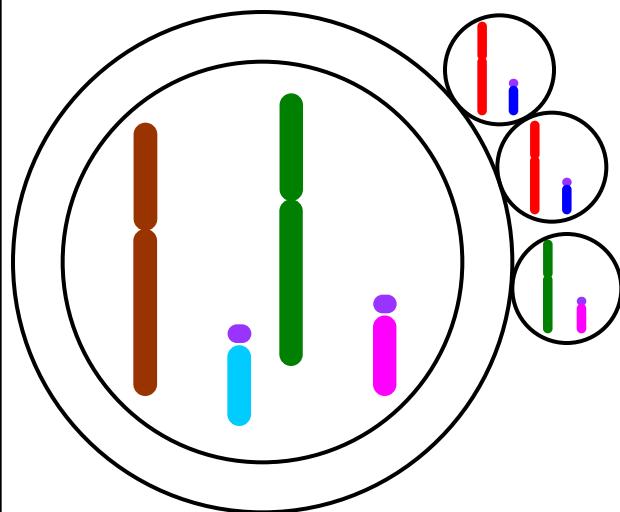
chromosome 21



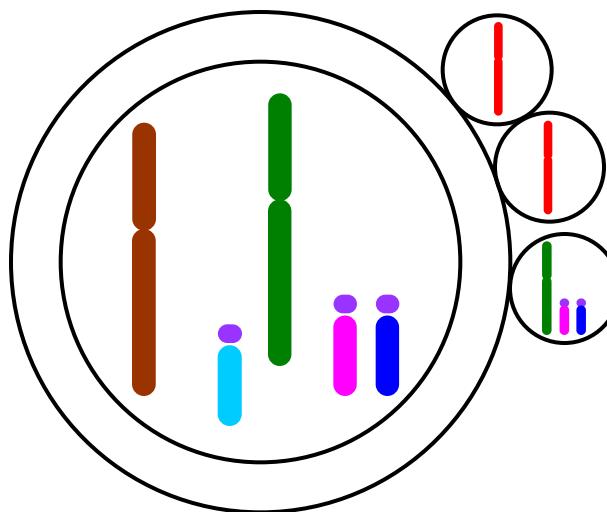
other chromosomes

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# fertilization



normal

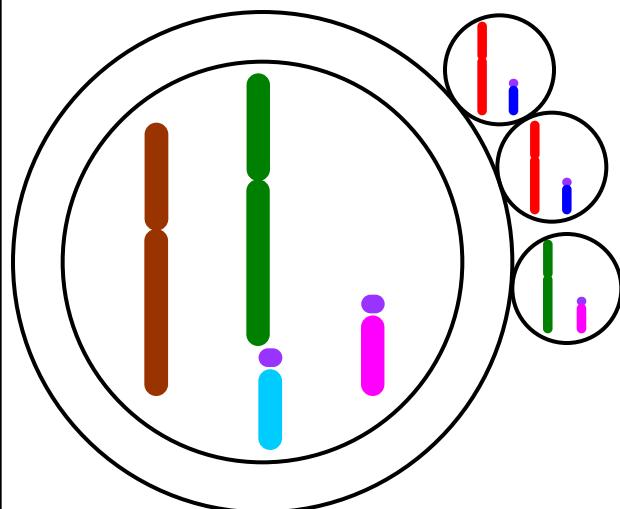


trisomy 21

chromosome 21

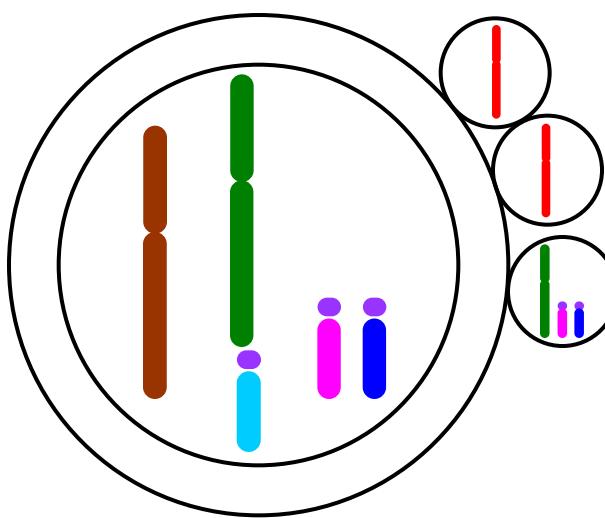
other chromosomes

# fertilization

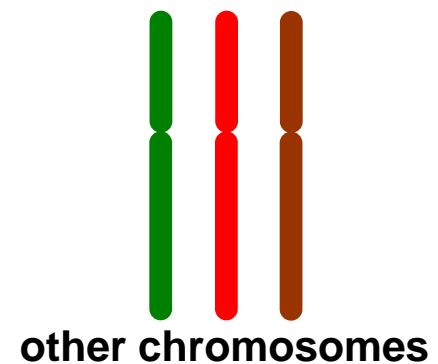


normal

trisomy 21



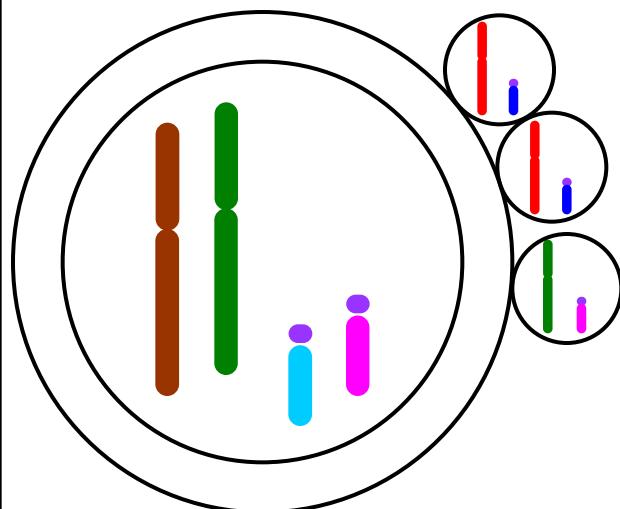
chromosome 21



other chromosomes

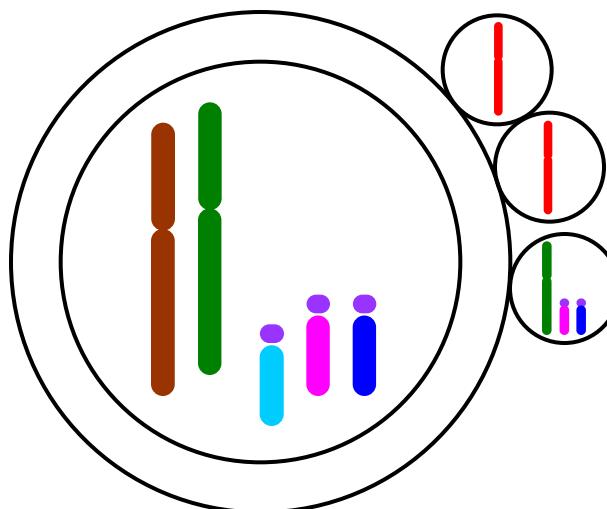
© 2003 H. NUMABE M.D.

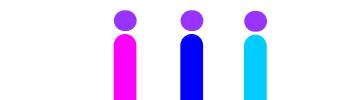
# fertilization

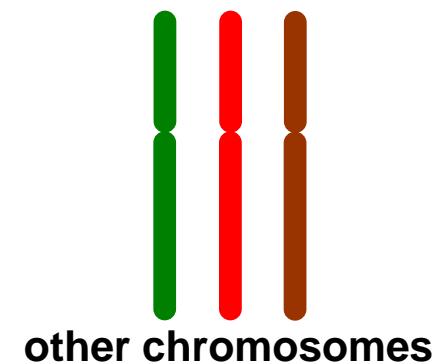


normal

trisomy 21



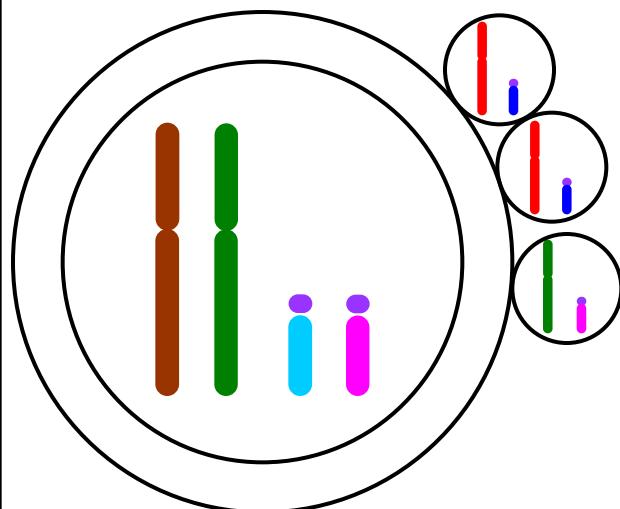
  
chromosome 21



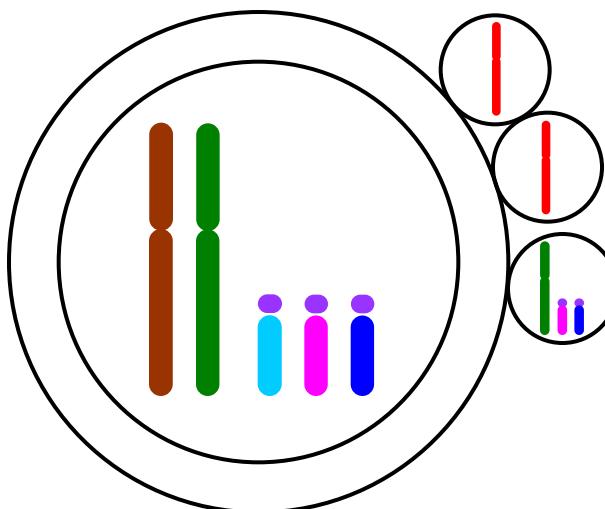
other chromosomes

© 2003 H. NUMABE M.D.

# fertilization



normal



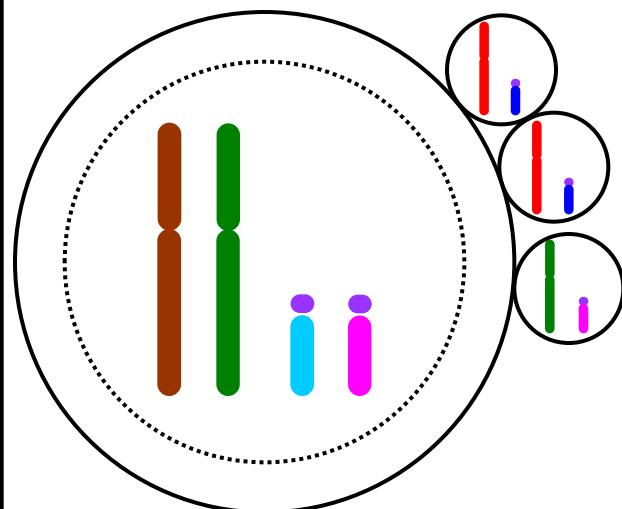
trisomy 21

chromosome 21

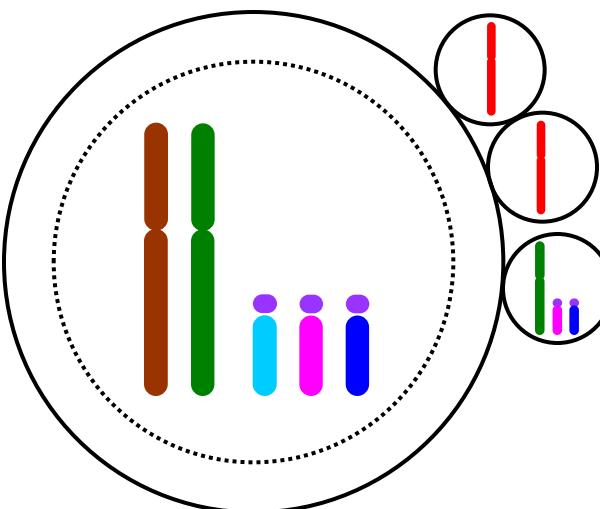
other chromosomes

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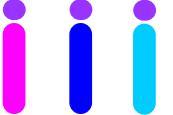
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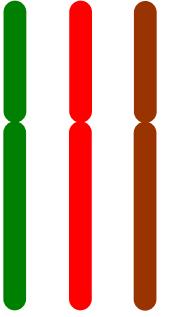


normal

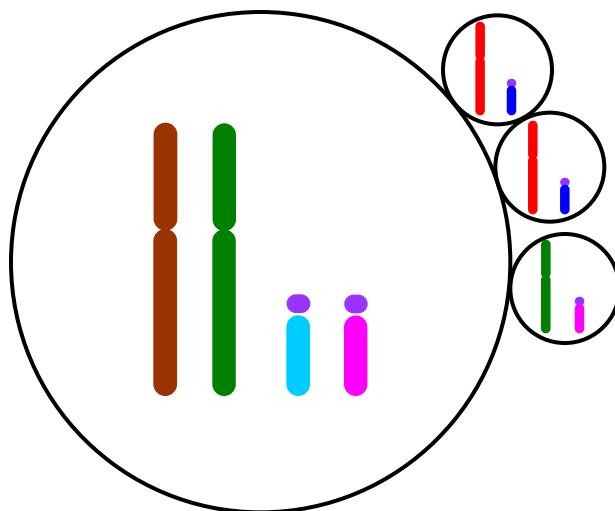


trisomy 21

  
chromosome 21

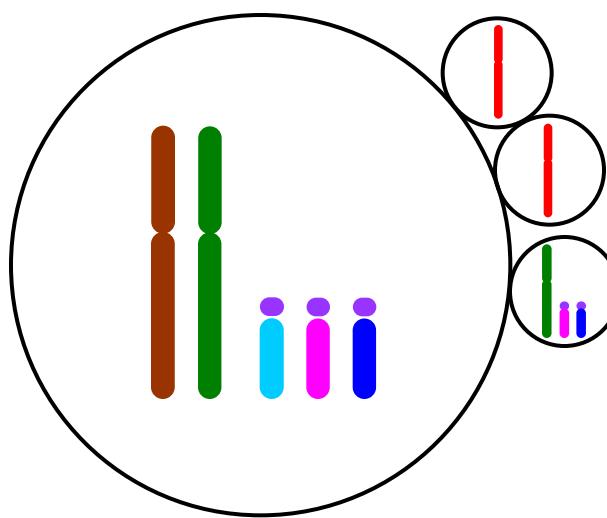
  
other chromosomes

## cleavage (mitosis): prophase

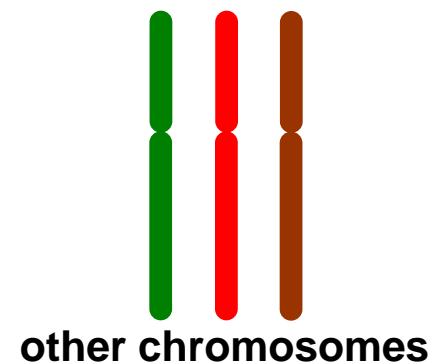


normal

trisomy 21



chromosome 21



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