

**Table S1a** Analysis of the segregation modes in D3 cleavage stage embryos derived from female carriers of various types of RTs based on the FISH method.

Chromosome segregation mode	Type of Robertsonian translocation						
	der(13;14)	der(13;22)	der(13;15)	der(15;22)	der(14;22)	der(14;15)	der(14;21)
Alternate	128	2	3	3	5	2	2
Adjacent	115	4	1	2	2	0	1
3:0	8	2	0	2	0	0	0
Other	152	1	0	2	2	6	6
<b>Total number of embryos</b>	<b>403</b>	<b>9</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>8</b>	<b>9</b>

**Table S1b** Analysis of the segregation modes in D5/D6 embryos derived from female carriers of various types of RTs based on the aCGH method.

Chromosome segregation mode	Type of Robertsonian translocation	
	der(13;14)	der(14;22)
Alternate	23	3
Adjacent	13	3
3:0	2	0
Other	33	2
<b>Total number of embryos</b>	<b>71</b>	<b>8</b>

**Table S2a** Analysis of the segregation modes in D3 cleavage stage embryos derived from male carriers of various types of RTs based on the FISH method.

Chromosome segregation mode	Type of Robertsonian translocation				
	der(13;14)	der(14;21)	der(14;15)	der(13;15)	der(15;21)
Alternate	99	20	15	5	1
Adjacent	57	9	12	3	0
3:0	6	4	3	0	0
Other	76	26	13	0	5
<b>Total number of embryos</b>	<b>238</b>	<b>59</b>	<b>43</b>	<b>8</b>	<b>6</b>

**Table S2b** Analysis of the segregation modes in D5/D6 embryos derived from male carriers of various types of RTs based on the aCGH method.

Chromosome segregation mode	Type of Robertsonian translocation		
	der(13;14)	der(14;21)	der(14;22)
Alternate	33	8	3
Adjacent	4	1	0
3:0	0	0	0
Other	25	4	2

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<b>Total number of embryos</b>	<b>62</b>	<b>13</b>	<b>5</b>
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**Table S3** The incidence of aneuploidies for the chromosomes involved in RTs\* in D3 and D5/D6 embryos.

Type of Robertsonian translocation	Day of embryo development	Chromosome segregation mode						Total number of embryos
		Adjacent				3:0		
		Genetic unbalance						
		trisomy A	trisomy B	monosomy A	monosomy B	trisomy A+B	monosomy A+B	
Chromosome constitution of carrier's gamete								
A+der(A;B)	B	B+der(A;B)	A	A+B+der(A;B)	none			
XX,der(13;14)	3	26	31	25	33	3	5	123
XX,der(14;21)	3	0	1	0	0	0	0	1
XX,der(13;15)	3	0	0	0	1	0	0	1
XX,der(13;22)	3	0	0	1	3	0	2	6
XX,der(14;22)	3	0	1	0	1	0	0	2
XX,der(15;22)	3	0	0	0	2	0	2	4
XX,der(13;14)	5	2	4	3	4	1	1	15
XX,der(14;22)	5	0	1	0	2	0	0	3
<b>Total (female carriers)</b>		<b>28 (18,1%)</b>	<b>38 (24,5%)</b>	<b>29 (18,7%)</b>	<b>46 (29,6%)</b>	<b>4 (2,6%)</b>	<b>10 (6,5%)</b>	<b>155 (100%)</b>
XY,der(13;14)	3	7	20	17	13	2	4	63
XY,der(14;21)	3	3	0	2	4	3	1	13
XY,der(14;15)	3	4	1	1	6	0	3	15
XY,der(13;15)	3	0	0	1	2	0	0	3
XY,der(13;14)	5	1	0	1	2	0	0	4
<b>Total (male carriers)</b>		<b>15 (15,3%)</b>	<b>21 (21,4%)</b>	<b>22 (22,4%)</b>	<b>27 (27,6%)</b>	<b>5 (5,1%)</b>	<b>8 (8,2%)</b>	<b>98 (100%)</b>

\*Respective unaffected partners' gametes were considered euploid for the chromosomes involved in Robertsonian translocations.

**Table S4a** The genetic status of the embryos derived from female carriers of RTs based on female age ( $\leq 35$  years/ $\geq 36$  years).

Type of Robertsonian translocation	Genetic status according to chromosomes involved in Robertsonian translocation				
	Balanced		Unbalanced		Other
	Genetic status according to other chromosomes				
	Euploid	Aneuploid	Euploid	Aneuploid	Other
<i>D3 cleavage stage embryos, FISH method</i>					
XX,der(13;14)	65/20	62/19	50/11	67/26	65/18
XX,der(13;22)	0/2	0/0	0/4	0/2	0/1
XX,der(13;15)	2/0	1/0	1/0	0/0	0/0
XX,der(15;22)	2/0	1/0	2/0	2/0	2/0
XX,der(14;22)	4/0	1/0	0/0	2/0	2/0
XX,der(14;15)	0/2	0/6	0/0	0/0	0/0
XX,der(14;21)	2/0	2/0	1/0	3/0	1/0
<b>Total number of embryos (%)</b>	<b>75 (22,1)/ 24 (21,6)</b>	<b>67 (19,7)/ 25 (22,5)</b>	<b>54 (15,9)/ 15 (13,5)</b>	<b>74 (21,8)/ 28 (25,2)</b>	<b>70 (20,6)/ 19 (17,2)</b>
<i>D5/D6 blastocyst stage embryos, aCGH method</i>					
XX,der(13;14)	13/10	11/12	3/13	3/4	1/1
XX,der(14;22)	0/3	0/1	0/3	0/1	0/0
<b>Total number of embryos (%)</b>	<b>13 (41,9)/ 13 (27,1)</b>	<b>11 (35,5)/ 13 (27,1)</b>	<b>3 (9,7)/ 16 (33,3)</b>	<b>3 (9,7)/ 5 (10,4)</b>	<b>1 (3,2)/ 1 (2,1)</b>
<b>Sum of D3, D5/D6 embryos (%)</b>	<b>88 (23,7)/ 37 (23,3)</b>	<b>78 (21,0)/ 38 (23,9)</b>	<b>57 (15,4)/ 31 (19,5)</b>	<b>77 (20,8)/ 33 (20,8)</b>	<b>71 (19,1)/ 20 (12,5)</b>

**Table S4b** The genetic status of the embryos derived from male carriers of RTs based on female age ( $\leq 35$  years/ $\geq 36$  years).

Type of Robertsonian translocation	Genetic status according to chromosomes involved in Robertsonian translocation				
	Balanced		Unbalanced		Other
	Genetic status according to other chromosomes				
	Euploid	Aneuploid	Euploid	Aneuploid	Other
<i>D3 cleavage stage embryos, FISH method</i>					
XY,der(13;14)	68/5	41/1	30/2	48/7	23/13
XY,der(14;21)	11/4	13/0	5/0	11/4	11/0
XY,der(14;15)	8/2	4/1	3/1	5/5	11/3
XY,der(13;15)	0/2	0/3	0/0	0/3	0/0
XY,der(15;21)	1/0	2/0	0/0	3/0	0/0
<b>Total number of embryos (%)</b>	<b>88 (29,5)/ 13 (23,2)</b>	<b>60 (20,1)/ 5 (8,9)</b>	<b>38 (12,8)/ 3 (5,4)</b>	<b>67 (22,5)/ 19 (33,9)</b>	<b>45 (15,1)/ 16 (28,6)</b>
<i>D5/D6 blastocyst stage embryos, aCGH method</i>					

XY,der(13;14)	19/12	4/15	1/3	0/3	4/1
XY,der(14;21)	8/0	0/0	1/0	0/0	4/0
XY,der(14;22)	0/3	0/0	0/1	0/0	0/1
<b>Total number of embryos (%)</b>	<b>27 (65,9)/ 15 (38,5)</b>	<b>4 (9,8)/ 15 (38,5)</b>	<b>2 (4,8)/ 4 (10,3)</b>	<b>0 (0)/ 3 (7,6)</b>	<b>8 (19,5)/ 2 (5,1)</b>
<b>Sum of D3, D5/D6 embryos (%)</b>	<b>115 (33,9)/ 28 (29,4)</b>	<b>64 (18,9)/ 20 (21,1)</b>	<b>40 (11,8)/ 7 (7,4)</b>	<b>67 (19,8)/ 22 (23,2)</b>	<b>53 (15,6)/ 18 (18,9)</b>

**Table S5** The segregation products in male carriers with oligozoospermia/asthenozoospermia.

Segregation mode	Carriers with normal sperm count	Carriers with oligozoospermia	p-value
Alternate	25	49	0,098
Adjacent	14	25	0.560
3:0	3	3	0.976
Other	18	9	0.005
<b>Total number of embryos</b>	<b>60</b>	<b>86</b>	
Segregation mode	Carriers with normal sperm motility	Carriers with asthenozoospermia	p-value
Alternate	28	46	0,048
Adjacent	24	15	0,045
3:0	4	2	0,555
Other	12	15	0,974
<b>Total number of embryos</b>	<b>68</b>	<b>78</b>	