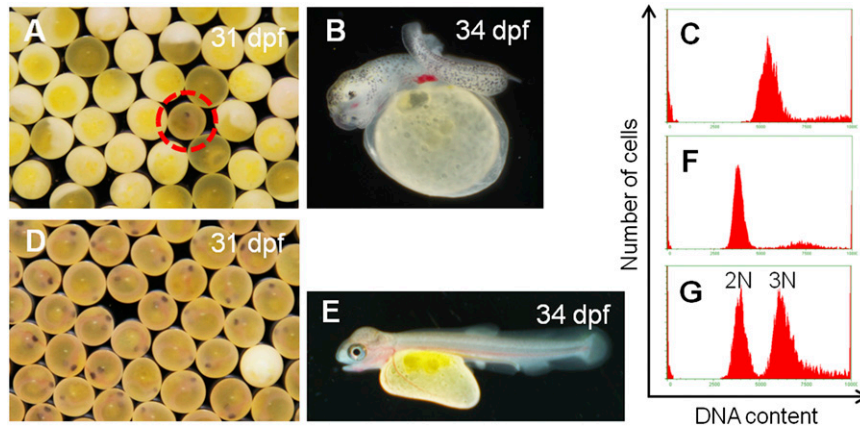


# Supporting Information

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**Fig. S1.** F1 hatchlings generated from a triploid male trout without transplantation and their DNA content. (A–C) An eyed-stage egg (dashed circle) developed from a triploid male without transplantation (A), a hatchling at 34 d postfertilization (B), and its DNA content (C). (D–F) Eyed-stage eggs developed from a WT diploid trout (D) as a control of A, hatchling at 34 d postfertilization (E), and its DNA content (F). (G) DNA content of a diploid and triploid WT control.

**Table S1. Development of F1 juveniles produced by triploid male trout that had not undergone transplantation**

Group/male trout	Age, y	Milt volume, mL	Sperm number, $\times 10^7$	Total eggs	Fertilized, %	Eyed, %	Hatched, %	Swim-up, %
<b>Triploid*</b>								
T no. 1	4	1.16	6.8	97	40.0	0	0	0
T no. 2	4	0.84	1.2	94	0	0	0	0
T no. 3	4	2.47	67.2	100	40.0	4.0	1.0	0
T no. 4	4	0.76	2.3	90	20.0	1.1	0.0	0
<b>Control†</b>								
C no. 1	4	NE	19.0	105	100.0	86.7	81.0	78.1
C no. 2	4	NE	19.0	91	90.0	85.7	80.2	78.0
C no. 3	4	NE	19.0	107	100.0	96.3	90.7	88.8

NE, not examined.

\*WT triploid rainbow trout that did not undergo transplantation.

†WT diploid rainbow trout that did not undergo transplantation. Milt obtained from diploid rainbow trout was adjusted using the average sperm number ( $19.0 \times 10^7$ ) of triploid males before insemination. Eggs obtained from WT female trout were divided into seven groups and used for insemination with milt from T nos. 1–4 and C nos. 1–3.

**Table S2. Appearance rate of donor-derived haplotypes among F1 offspring of female transplant recipients**

Group/female recipient/age	Total juveniles	Orange color (%)	GFP positive (%)*
<b>CP 98<sup>†</sup></b>			
No. 1			
3 y	754	373 (49.5)	94 (47.0)
4 y	2,503	1,214 (48.5)	103 (51.5)
No. 2			
3 y	1,502	732 (48.7)	96 (48.0)
4 y	1,481	740 (50.0)	89 (44.5)
No. 3			
3 y	855	382 (44.7)	101 (50.5)
4 y	1,408	694 (49.3)	105 (52.5)
No. 4			
3 y	1,630	801 (49.1)	97 (48.5)
4 y	3,050	1,473 (48.3)	86 (43.0)
No. 5			
3 y	491	241 (49.1)	95 (47.5)
4 y	697	356 (51.1)	99 (49.5)
No. 6 <sup>‡</sup>			
3 y	595	295 (49.6)	89 (44.5)
No. 7 <sup>§</sup>			
4 y	2,206	1,054 (47.8)	93 (46.5)
Mean			
3 y	971	471 (48.5)	95 (47.7)
4 y	1,891	922 (49.2)	96 (47.9)
<b>Control<sup>¶</sup></b>			
No. 8			
3 y	887	441 (49.7)	96 (48.0)
4 y	784	387 (49.4)	88 (44.0)
No. 9			
3 y	686	341 (49.7)	87 (43.5)
4 y	2,072	972 (46.9)	96 (48.0)
No. 10 <sup>‡</sup>			
3 y	1,774	878 (49.5)	104 (52.0)
No. 11			
3 y	1,098	507 (46.2)	82 (41.0)
4 y	3,129	1,533 (49.0)	98 (49.0)
No. 12			
3 y	417	192 (46.0)	100 (50.0)
4 y	1,094	543 (49.6)	106 (53.0)
No. 13			
3 y	599	308 (51.4)	86 (43.0)
4 y	1,205	602 (50.0)	92 (46.0)
No. 14			
3 y	1,757	875 (49.8)	102 (51.0)
4 y	2,975	1,461 (49.1)	90 (45.0)
Mean			
3 y	1,031	506 (48.9)	94 (46.9)
4 y	1,877	916 (49.0)	95 (47.5)
<b>WT<sup>  </sup></b>			
WT no. 1			
3 y	1,798	0	0
4 y	2,079	0	0
WT no. 2			
3 y	2,365	0	0
4 y	3,295	0	0
WT no. 3 <sup>‡</sup>			
3 y	1,842	0	0
WT no. 4 <sup>§</sup>			
4 y	2,714	0	0
Mean			
3 y	2,002	0	0
4 y	2,696	0	0

\*Phenotype of *vasa-GFP* was examined from 200 randomly selected F1 juveniles within each group.

<sup>†</sup>Recipients received testicular cells taken from whole testes cryopreserved for 98 d.

<sup>‡</sup>Fish dead subsequent to spawning at age 3 y.

<sup>§</sup>Fish initially matured at age 4 y.

<sup>¶</sup>Recipients received freshly prepared testicular cells.

<sup>||</sup>WT diploid trout that did not undergo transplantation.

**Table S3. Appearance rate of donor-derived haplotypes among F1 offspring of male transplant recipients**

Group/male recipient/age	Total juveniles	Orange color (%)	GFP positive (%)
CP 98*			
No. 1			
2 y	139	71 (51.1)	74 (53.2)
3 y	271	124 (45.8)	131 (48.3)
4 y	267	129 (48.3)	122 (45.7)
No. 2			
2 y	184	93 (50.5)	90 (48.9)
3 y	275	137 (49.8)	140 (50.9)
4 y	260	127 (48.8)	124 (47.7)
No. 3 <sup>†</sup>			
2 y	166	87 (52.4)	84 (50.6)
No. 4			
2 y	112	53 (47.3)	57 (50.9)
3 y	255	121 (47.5)	127 (49.8)
4 y	265	126 (47.5)	122 (46.0)
No. 5 <sup>†</sup>			
3 y	260	111 (42.7)	125 (48.1)
4 y	262	128 (48.9)	115 (43.9)
No. 6 <sup>†</sup>			
3 y	259	113 (43.6)	121 (46.7)
4 y	238	103 (43.3)	120 (50.4)
No. 7 <sup>†</sup>			
3 y	270	138 (51.1)	130 (48.1)
4 y	263	132 (50.2)	131 (49.8)
No. 8 <sup>†</sup>			
3 y	258	117 (45.3)	114 (44.2)
4 y	257	125 (48.6)	118 (45.9)
No. 9 <sup>†</sup>			
3 y	263	139 (52.9)	124 (47.1)
4 y	254	130 (51.2)	126 (49.6)
No. 10 <sup>†</sup>			
4 y	276	135 (48.9)	138 (50.0)
Mean			
2 y	150	76 (50.3)	76 (50.9)
3 y	264	125 (47.3)	127 (47.9)
4 y	260	126 (48.4)	124 (47.7)
Control <sup>§</sup>			
No. 11			
2 y	151	75 (49.7)	78 (51.7)
3 y	277	132 (47.7)	137 (49.5)
4 y	263	130 (49.4)	129 (49.0)
No. 12			
2 y	158	79 (50.0)	78 (49.4)
3 y	274	156 (56.9)	138 (50.4)
4 y	244	119 (48.8)	116 (47.5)
No. 13			
2 y	186	91 (48.9)	88 (47.3)
3 y	273	123 (45.1)	144 (52.7)
4 y	260	126 (48.5)	123 (47.3)
No. 14			
2 y	162	80 (49.4)	73 (45.1)
3 y	273	138 (50.5)	147 (53.8)
4 y	267	133 (49.8)	137 (51.3)
No. 15			
2 y	114	55 (48.2)	54 (47.4)
3 y	210	105 (50.0)	99 (47.1)
4 y	230	117 (50.9)	113 (49.1)
No. 16 <sup>†</sup>			
2 y	146	76 (52.1)	72 (49.3)
No. 17 <sup>†</sup>			
3 y	270	121 (44.8)	135 (50.0)
4 y	265	126 (47.5)	129 (48.7)

Table S3. Cont.

Group/male recipient/age	Total juveniles	Orange color (%)	GFP positive (%)
No. 18 <sup>‡</sup>			
3 y	262	120 (45.8)	132 (50.4)
4 y	251	124 (49.4)	116 (46.2)
No. 19 <sup>‡</sup>			
3 y	264	142 (53.8)	151 (57.2)
4 y	246	119 (48.4)	107 (43.5)
No. 20 <sup>‡</sup>			
3 y	265	132 (49.8)	128 (48.3)
4 y	237	120 (50.6)	122 (51.5)
No. 21 <sup>‡</sup>			
3 y	266	118 (44.4)	132 (49.6)
4 y	249	125 (50.2)	105 (42.2)
No. 22 <sup>‡</sup>			
3 y	279	132 (47.3)	138 (49.5)
4 y	252	131 (52.0)	120 (47.6)
Mean			
2 y	153	76 (49.7)	74 (48.3)
3 y	265	129 (48.7)	135 (50.8)
4 y	251	125 (49.6)	120 (47.6)
WT <sup>¶</sup>			
WT no. 1 <sup>†</sup>			
2 y	165	0	0
WT no. 2 <sup>‡</sup>			
3 y	255	0	0
4 y	272	0	0
WT no. 3			
2 y	145	0	0
3 y	273	0	0
4 y	274	0	0
WT no. 4			
2 y	157	0	0
3 y	267	0	0
4 y	262	0	0
WT no. 5			
2 y	261	0	0
3 y	268	0	0
4 y	277	0	0
Mean			
2 y	182	0	0
3 y	265	0	0
4 y	271	0	0

\*Recipients received testicular cells taken from whole testes cryopreserved for 98 d.

<sup>†</sup>Fish dead subsequent to maturation at age 2 y.

<sup>‡</sup>Fish initially matured at age 3 or 4 y.

<sup>§</sup>Recipients received freshly prepared testicular cells.

<sup>¶</sup>WT diploid trout that did not undergo transplantation.