

**Table S2** The distributions of genotypes and anatomic sexual phenotypes in progeny from six litters

Parents		$XY^{Sry(tm1)} \times XY^{Sry(d11Rlb)};Tg(Sry)2Ei$						
Progeny	Genotype	$XY^{Sry(d11Rlb)};$ $Tg(Sry)2Ei$	$XY^{Sry(tm1)};$ $Tg(Sry)2Ei$	$XX;$ $Tg(Sry)2Ei$	$XY^{Sry(d11Rlb)}$	$XY^{Sry(tm1)}$	$XX$	$Y^{Sry(tm1)}Y^{Sry(d11Rlb)}$ , $OY^{Sry(d11Rlb)}$ , $Y^{Sry(tm1)}Y^{Sry(d11Rlb)};$ $Tg(Sry)2Ei$ , or $OY^{Sry(d11Rlb)};$ $Tg(Sry)2Ei$
	Anatomic sex	Male	Male	Male	Female	Female	Female	N/A
	Number (total = 22)	5	5 <sup>a,b</sup>	1 <sup>a</sup>	4	2 <sup>a,b</sup>	5 <sup>a</sup>	Not viable

From the age of ~2 months, each of seven  $XY^{Sry(tm1)}$  females was housed with a single  $XY^{Sry(d11Rlb)};Tg(Sry)2Ei$  male for 5-7 months. The result was that three  $XY^{Sry(tm1)}$  females gave birth to a total of eight litters (two eaten at birth). It has been reported that, in XY female meiosis, the X and Y chromosomes do not pair efficiently and segregate randomly, leading to sex chromosome aneuploidy in the offspring of XY females<sup>1,2</sup>. <sup>a</sup>These mice may carry either one or two X chromosomes. <sup>b</sup>These mice may also carry  $Y^{Sry(d11Rlb)}$ .

## References

1. Lovell-Badge, R. & Robertson, E. XY female mice resulting from a heritable mutation in the primary testis-determining gene, *Tdy*. *Development* **109**, 635-646 (1990).
2. Eicher, E.M. & Washburn, L.L. Genetic control of primary sex determination in mice. *Annu Rev Genet* **20**, 327-360 (1986).