

**Supplementary information, Table S1.** Phenotypic analysis of F0 mice with Y-chromosome gene deletions generated by C-CRISPR

Gene	Sample	Concentration (M/mL)	Testis/body weight (g)	Motile Sperm (%)	Progressive Sperm (%)	Reproduction	Genotype
WT	#1	9.1	0.403	76	64		WT
WT	#1	15.4	0.376	74	59		
WT	#2	22.5	0.360	80	67		WT
WT	#2	9.2	0.339	70	61		
<i>Eif2s3y</i>	#1	0.5	0.061	0.0	0.0		Pure KO
<i>Eif2s3y</i>	#1	0.4	0.057	0.0	0.0		
<i>Eif2s3y</i>	#2	2.3	0.053	0.0	0.0		Pure KO
<i>Eif2s3y</i>	#2	3.3	0.052	0.0	0.0		
<i>Eif2s3y</i>	#3	2.7	0.052	0.0	0.0		Pure KO
<i>Eif2s3y</i>	#3	1.9	0.048	0.0	0.0		
<i>Eif2s3y</i>	#4					Infertility	Pure KO
<i>Eif2s3y</i>	#4						
<i>Eif2s3y</i>	#5					Infertility	Pure KO
<i>Eif2s3y</i>	#5						
<i>Eif2s3y</i>	#6					Infertility	Pure KO
<i>Eif2s3y</i>	#6						
<i>Zfy1</i>	#1	20.6	0.318	70	62		Pure KO
<i>Zfy1</i>	#1	8.2	0.269	68.0	55.0		
<i>Zfy1</i>	#2	26.5	0.322	78	64		Pure KO
<i>Zfy1</i>	#2	14.0	0.333	76	64		
<i>Zfy1</i>	#3	14.7	0.333	75	63		Pure KO
<i>Zfy1</i>	#3	19.5	0.309	73	61		
<i>Zfy1</i>	#4					Fertility	Pure KO
<i>Zfy1</i>	#4						
<i>Zfy1</i>	#5					Fertility	Pure KO
<i>Zfy1</i>	#5						
<i>Zfy1</i>	#6					Fertility	Pure KO
<i>Zfy1</i>	#6						
<i>Ube1y1</i>	#1	6.6	0.338	64	50		Pure KO
<i>Ube1y1</i>	#1	22	0.349	74	59		
<i>Ube1y1</i>	#2	23.1	0.311	70	57		Pure KO
<i>Ube1y1</i>	#2	23.1	0.330	61	48		
<i>Ube1y1</i>	#3					Fertility	Pure KO
<i>Ube1y1</i>	#3						
<i>Ube1y1</i>	#4					Fertility	Pure KO
<i>Ube1y1</i>	#4						
<i>Ube1y1</i>	#5					Fertility	Pure KO
<i>Ube1y1</i>	#5						

<i>Kdm5d</i>	#1		0.230					
<i>Kdm5d</i>	#1		0.264					Pure KO
<i>Kdm5d</i>	#2		0.231					Pure KO
<i>Kdm5d</i>	#2		0.246					
<i>Kdm5d</i>	#3	14.7	0.292	73.0	60.0			Pure KO
<i>Kdm5d</i>	#3	14.7	0.306	75.0	62.0			
<i>Kdm5d</i>	#4	19.9	0.280	69.0	55.0			Pure KO
<i>Kdm5d</i>	#4	9.2	0.321	61.0	48.0			
<i>Kdm5d</i>	#5	24.3	0.329	72.0	58.0			Pure KO
<i>Kdm5d</i>	#5	10.8	0.335	74.0	61.0			
<i>Kdm5d</i>	#6	8.5	0.276	73.0	63.0			Pure KO
<i>Kdm5d</i>	#6	19.3	0.253	68.0	55.0			
<i>Kdm5d</i>	#7	4.1	0.220	77.0	69.0			Pure KO
<i>Kdm5d</i>	#7	1.6	0.223	55.0	48.0			
<i>Kdm5d</i>	#8	13.3	0.255	75.0	58.0			Pure KO
<i>Kdm5d</i>	#8	6.4	0.241	75.0	63.0			
<i>Kdm5d</i>	#9							Fertility
<i>Kdm5d</i>	#9							Pure KO
<i>Kdm5d</i>	#10							Fertility
<i>Kdm5d</i>	#10							Pure KO
<i>Kdm5d</i>	#11							Fertility
<i>Kdm5d</i>	#11							Pure KO
<i>Ddx3y</i>	#1	14.4	0.294	73.0	61.0			Pure KO
<i>Ddx3y</i>	#1	13.3	0.293	75.0	62.0			
<i>Ddx3y</i>	#2	4.1	0.224	56.0	44.0			Pure KO
<i>Ddx3y</i>	#2	7	0.214	58.0	48.0			
<i>Ddx3y</i>	#3	0.3	0.056	0	0			Pure KO
<i>Ddx3y</i>	#3	2	0.054	0	0			
<i>Ddx3y</i>	#4	4.8	0.244	80	71			Pure KO
<i>Ddx3y</i>	#4	10.6	0.236	74	65			
<i>Ddx3y</i>	#5	9	0.252	81	64			Pure KO
<i>Ddx3y</i>	#5	8.9	0.227	77	62			
<i>Ddx3y</i>	#6							Fertility
<i>Ddx3y</i>	#6							Pure KO
<i>Ddx3y</i>	#7							Fertility
<i>Ddx3y</i>	#7							Pure KO
<i>Ddx3y</i>	#8							Fertility
<i>Ddx3y</i>	#8							Pure KO
<i>Usp9y</i>	#1	18.3	0.323	70.0	56.0			Pure KO
<i>Usp9y</i>	#1	16.4	0.306	72.0	59.0			
<i>Usp9y</i>	#2	5.8	0.361	72.0	61.0			Pure KO
<i>Usp9y</i>	#2	24.1	0.358	76.0	60.0			

<i>Usp9y</i>	#3	22.1	0.343	72.0	60.0	Pure KO
<i>Usp9y</i>	#3	14	0.347	69.0	57.0	
<i>Usp9y</i>	#4	24	0.328	73.0	59.0	Pure KO
<i>Usp9y</i>	#4	17.2	0.354	73.0	60.0	
<i>Usp9y</i>	#5					Fertility
<i>Usp9y</i>	#5					
<i>Usp9y</i>	#6					Fertility
<i>Usp9y</i>	#6					
<i>Usp9y</i>	#7					Fertility
<i>Usp9y</i>	#7					

WT, wild type.

Pure KO, mice with complete knockout mutations.

Related to Figure 2.