

**Table S1. Genotype distribution of offsprings from heterozygous intercrosses**

Number of matings	+/+ pups	+/- pups	-/- pups
132	228	343	0

**Table S2. Ratio of blastocyst to two-cell embryos from the mating between  $Mp^{+/-}$  and  $Mp^{+/+}$  mice**

Mating	Number of pairs	Blastocyst/two-cell embryos (%)	Hatched blastocyst/two-cell embryos (%)
+/+ F $\times$ +/+ M	3	74/81 (91.4%)	68/81 (84.0%)
+/- M $\times$ +/- F	4	97/106 (91.5%)*	90/106 (84.9%) <sup>†</sup>

Statistical analysis was carried out by comparing the ratios between maspin heterozygous mating with that of wild-type mating.

\* $P > 0.425$ .

<sup>†</sup> $P > 0.297$ .