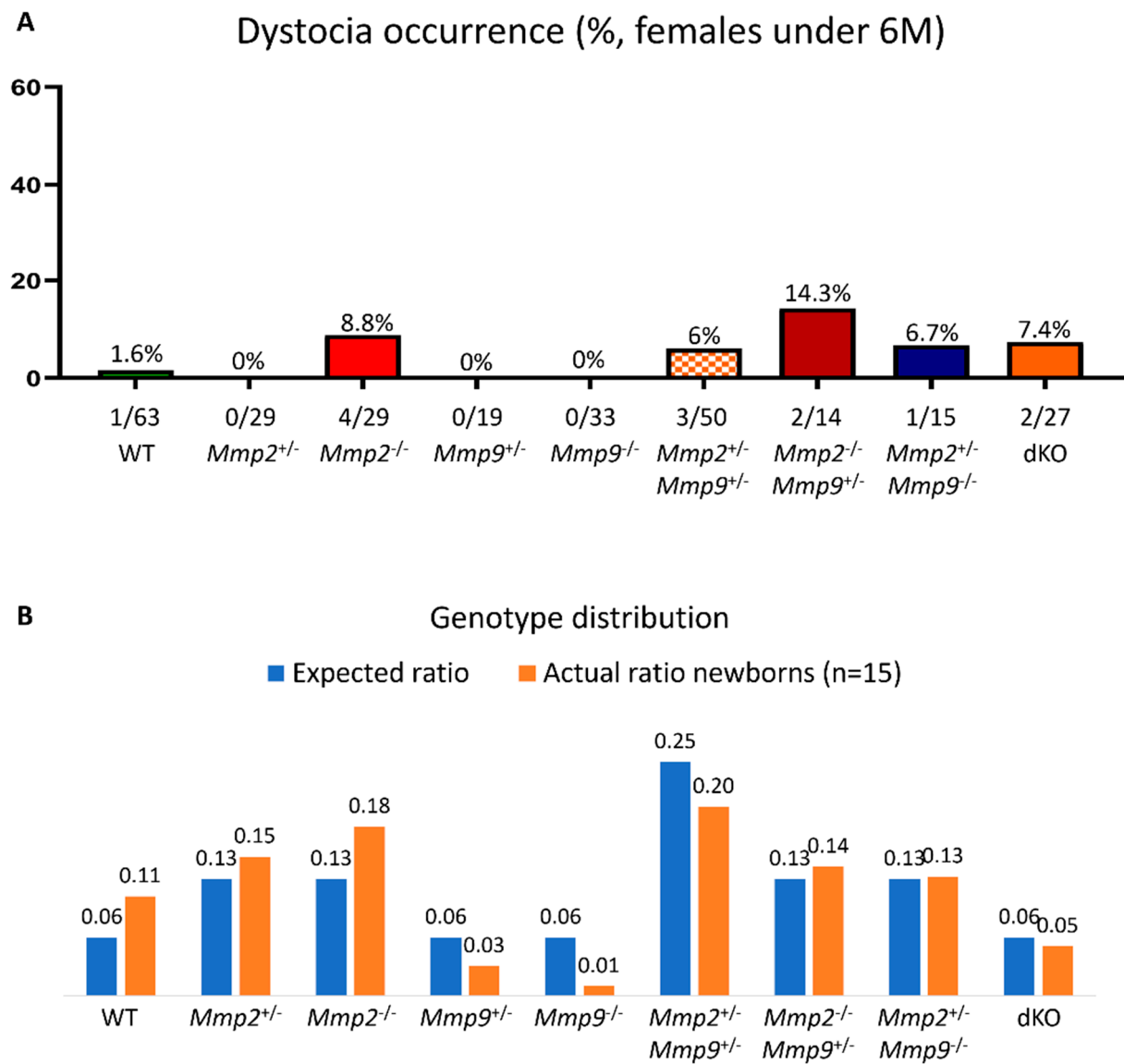
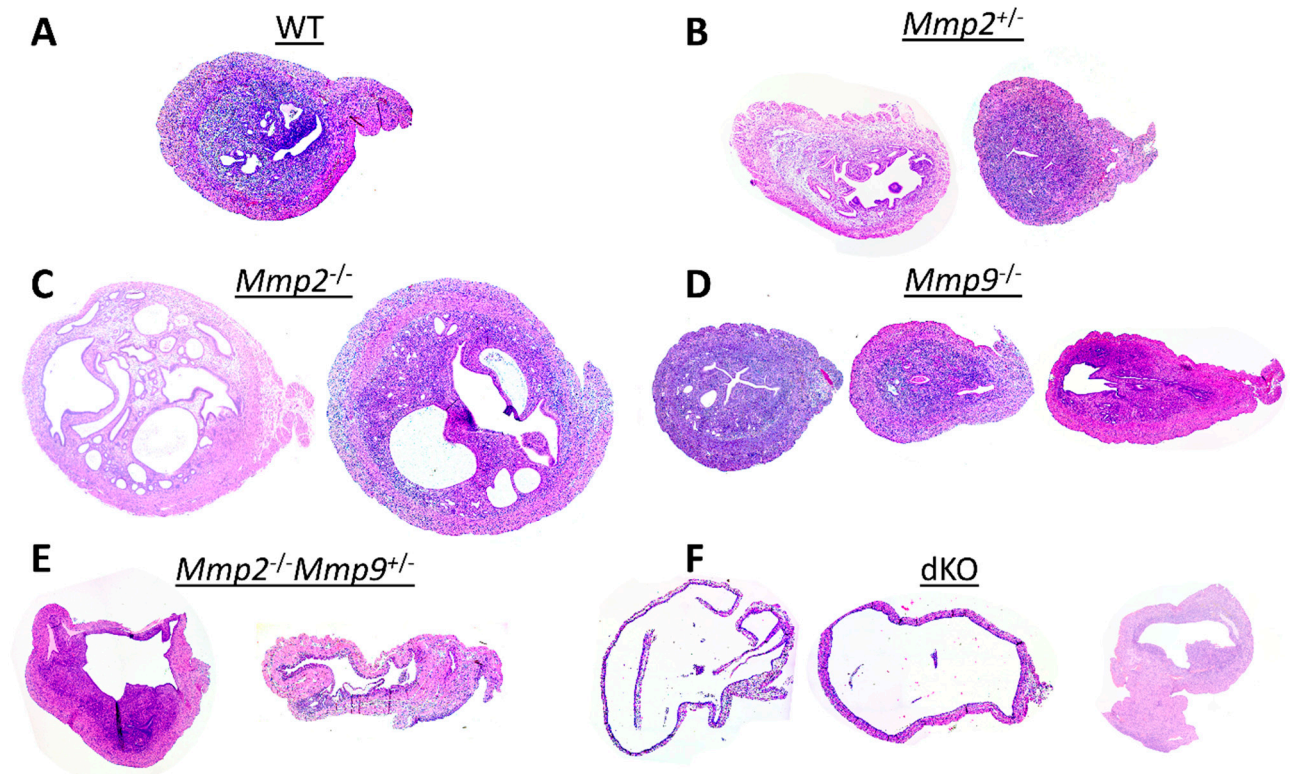


**Mmp2 deficiency leads to defective parturition and high dystocia rates in mice**

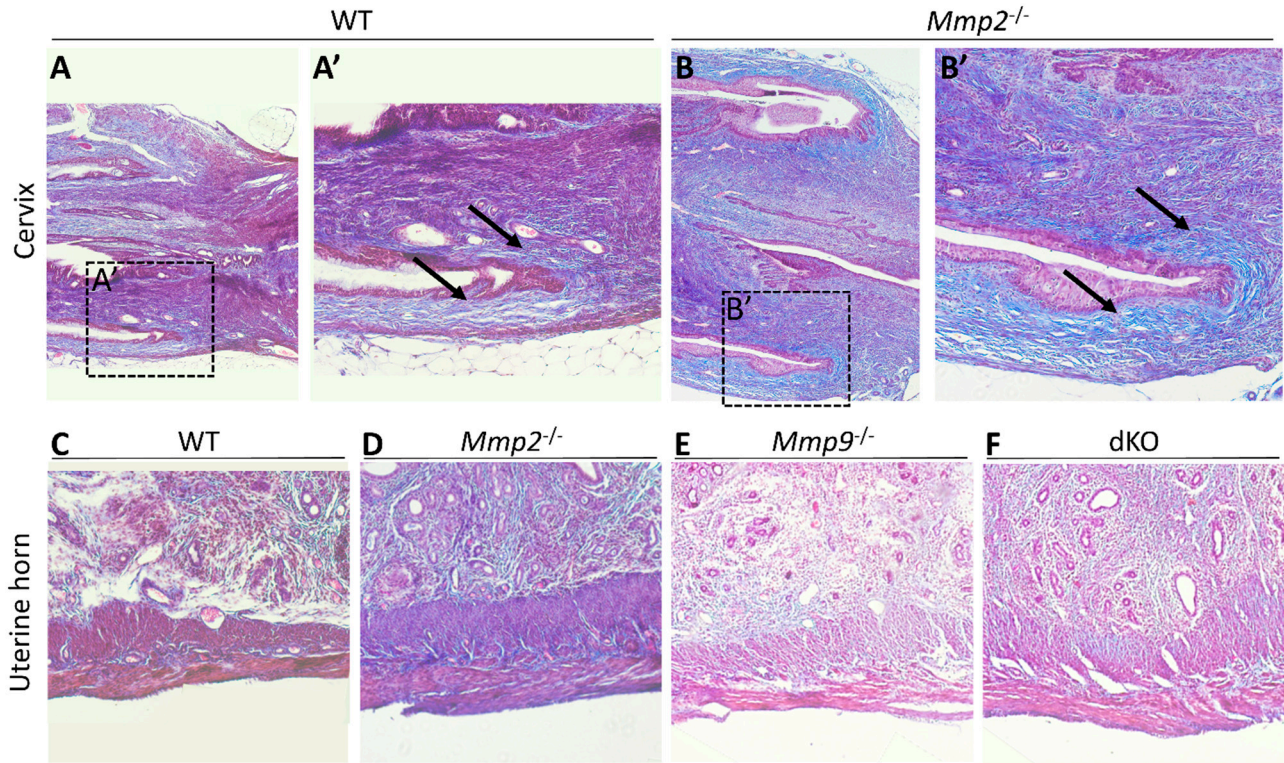
**Supplemental data**



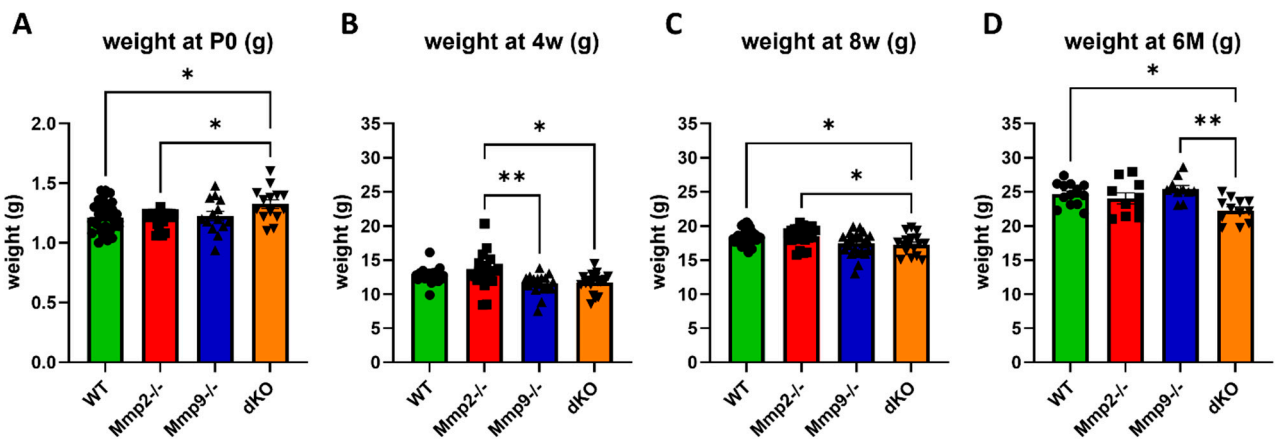
**Figure S1. Dystocia occurrence in females younger than 6M and genotypic distribution.** (A) Dystocia percentages in females younger than 6 months old. (B) Genotype distribution of newborns born to *Mmp2*<sup>+/-</sup>*Mmp9*<sup>+/-</sup> males and females (orange) compared to expected ratio according to Mendelian law (blue), n=15 litters.



**Figure S2. Nulliparous uterine histology at 12M.** Uterine histology in *Mmp2*<sup>+/-</sup> and *Mmp9*<sup>-/-</sup> is normal compared to WT (compare B and D to A, respectively); but significantly abnormal in *Mmp2*<sup>-/-</sup>, *Mmp2*<sup>-/-</sup>*Mmp9*<sup>+/-</sup> and dKO compared to WT (compare C, E and F to A, respectively).



**Figure S3.** *Mmp2*<sup>-/-</sup> nulliparous females show accumulation of collagen fibrils in their uterine and cervix compared to WT. (A-B) Sagittal section in the cervix of *Mmp2*<sup>-/-</sup> (B-B') females show accumulation of collagen fibrils compared to WT (A-A'). (C-F) Transverse sections of uteri from *Mmp9*<sup>-/-</sup> (E) and dKO (F) females show no increase in collagen accumulation, compared to WT (C), in contrast to *Mmp2*<sup>-/-</sup> (D).



**Figure S4.** Weight measurements at P0, 4w, 8w, and 6M show not difference between *Mmp2*<sup>-/-</sup> to WT animals. (A) weight measurements of P0 newborns show that dKO pups weigh significantly more compared to other genotypes. (B-D) weight measurements at 4w, 8w and 6M, respectively, show no difference between *Mmp2*<sup>-/-</sup> and WT females. n>10 in each genotype and each measurement.