SUPPLEMENTARY INFORMATION

Supplementary Figures

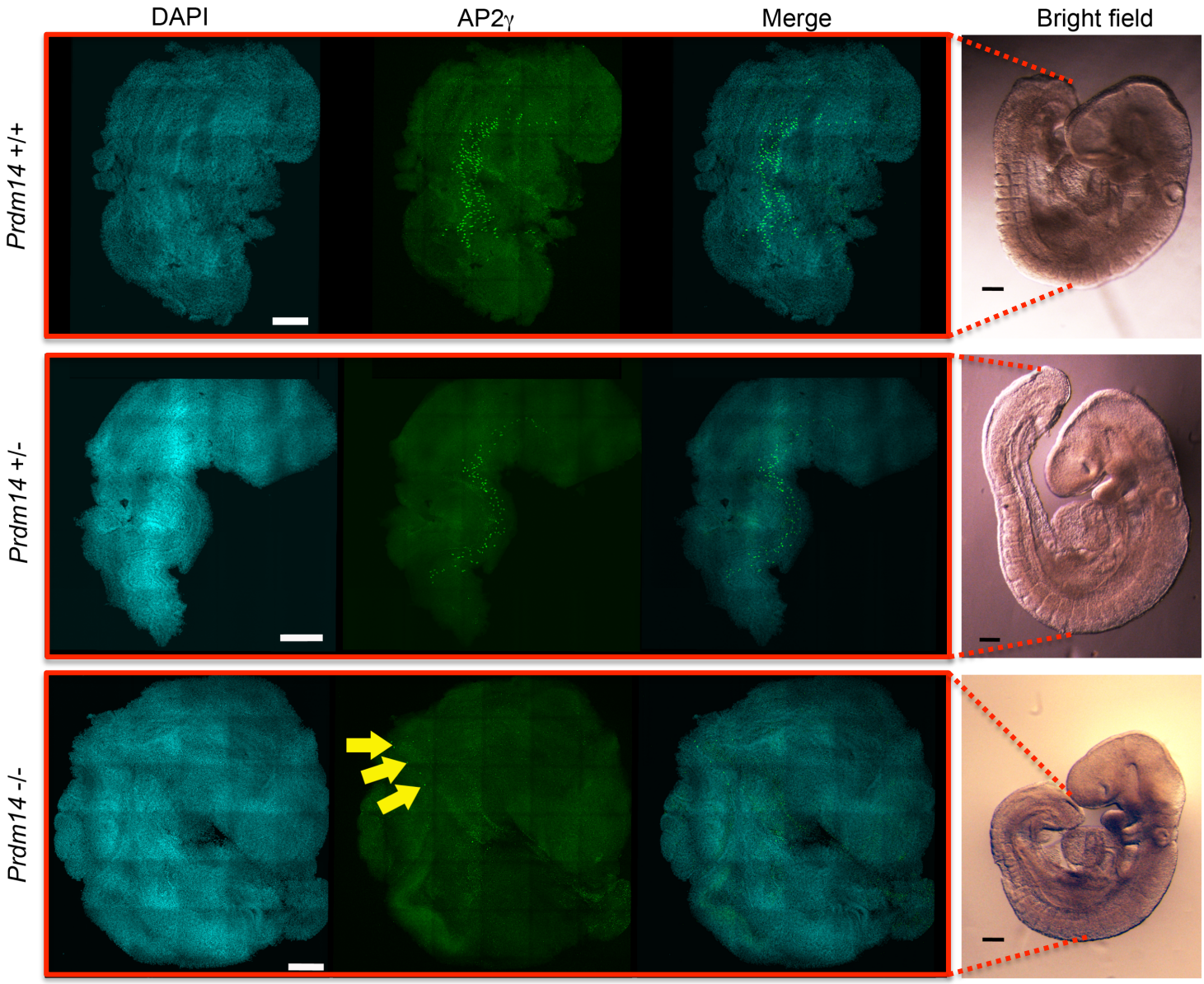

Figure S1 (related to Fig. 1). Migrating PGCs in E9.5 mouse embryos of different *Prdm14* genotypes. Representative immunofluorescence images of hindgut regions (left) and corresponding bright field images of E9.5 embryos (18-19 somites, right) after whole mount antibody staining. Migrating PGCs express AP2γ. Arrows indicate four PGCs in a *Prdm14*$^{-/-}$ hindgut. Scale bars: 250 μm.

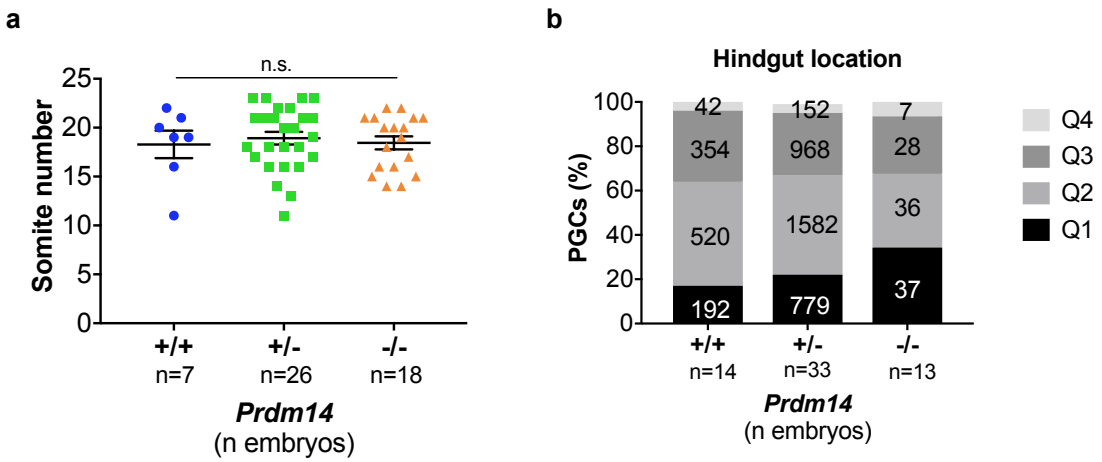

Figure S2 (related to Fig. 1). *Prdm14* genotype, developmental progression and PGC distribution during migration. **a** The *Prdm14* genotype does not affect developmental progression in E9.5 embryos (Kruskal-Wallis test, p=0.853). Somite numbers per embryo are plotted as marker of developmental progression versus *Prdm14* genotype. Mean somite number and standard error (error bars) are given for each genotype. **b** Distribution of PGCs along the hindgut across *Prdm14* genotypes. Labels in each category indicate numbers of PGCs counted.

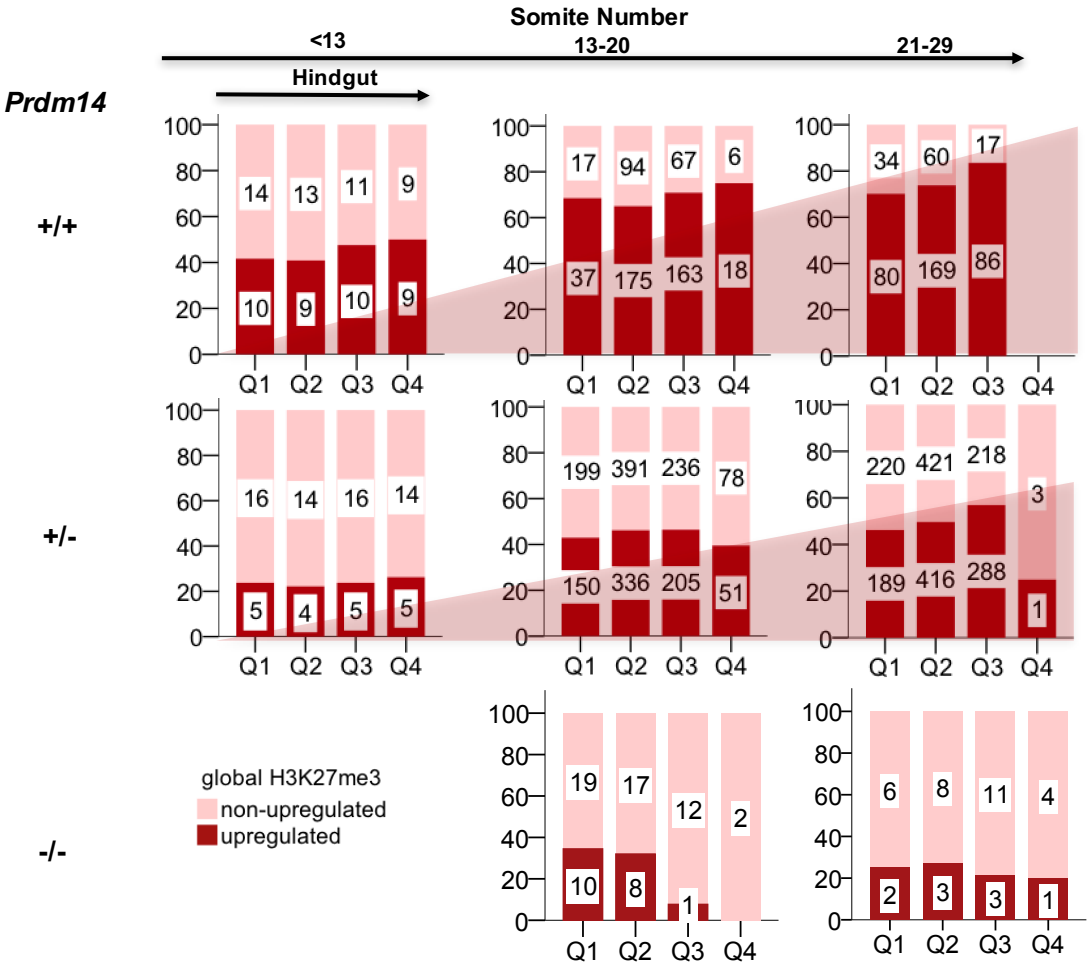

Figure S3 (related to Fig. 2). Summary of global H3K27me3 levels in PGCs across somite number, migration progression and *Prdm14* genotypes. The pink triangles symbolize the trend of increasing frequencies of PGCs with high global H3K27me3 levels with developmental progression (increasing somite number) in *Prdm14*$^{+/+}$ and *Prdm14*$^{+/-}$ (to a lesser degree than in *Prdm14*$^{+/+}$), but not in *Prdm14*$^{-/-}$ embryos.

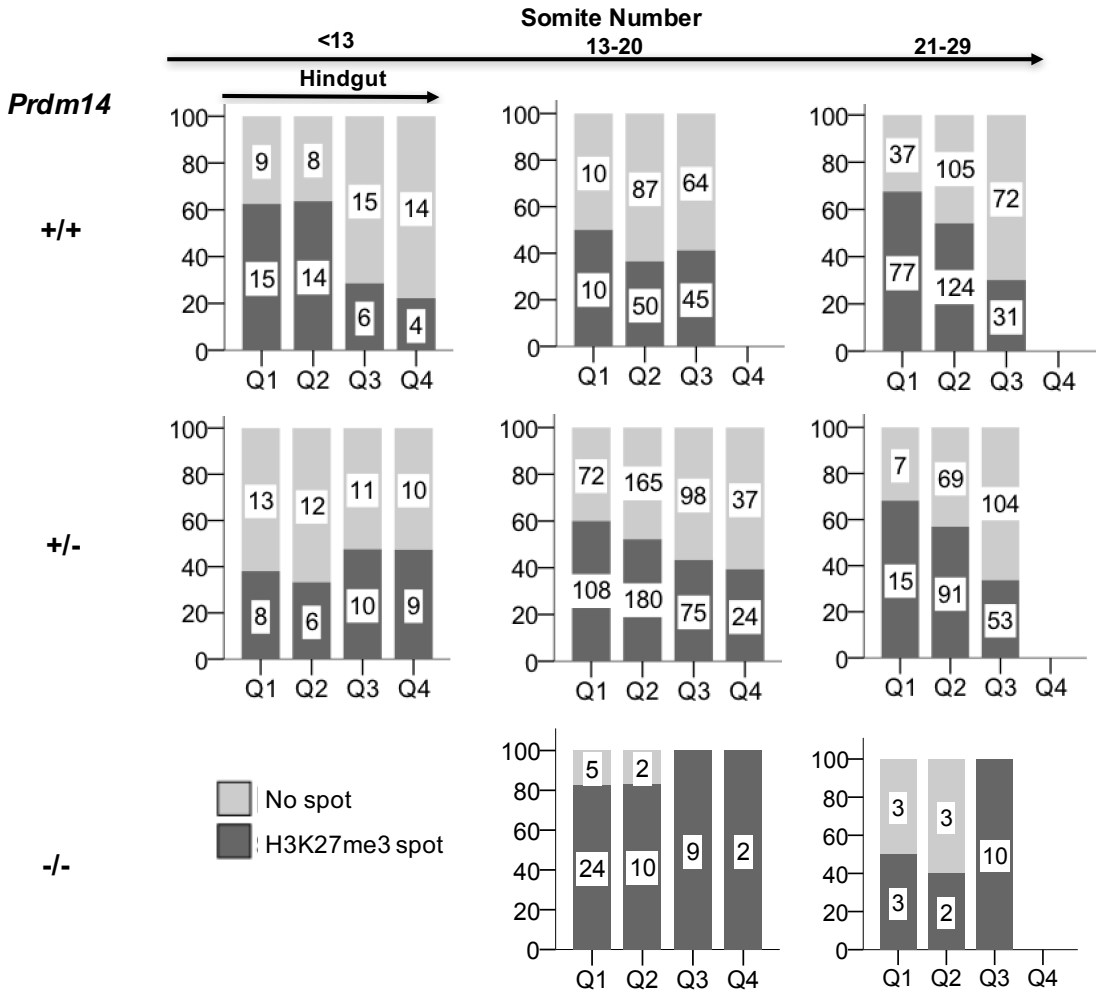

Figure S4 (related to Fig. 3). Summary of the removal of X-chromosomal H3K27me3 accumulation (spot) in PGCs across somite number, migration progression and *Prdm14* genotypes. A trend in removal of the H3K27me3 spot can be observed with progressing migration of PGCs in *Prdm14*$^{+/+}$ and *Prdm14*$^{+/-}$, but not in *Prdm14*$^{-/-}$ embryos.

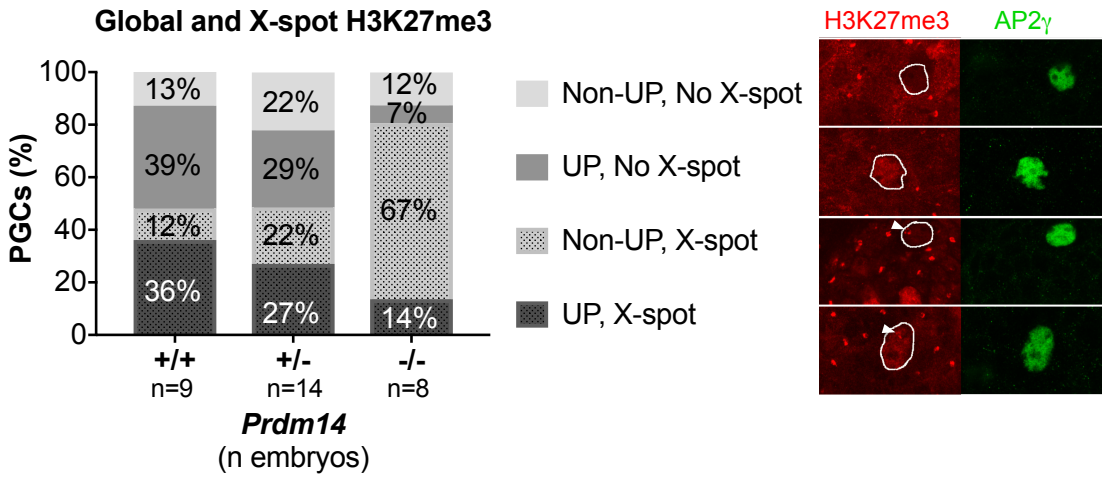

Figure S5 (related to Fig. 4). Distribution of PGCs with different global and X-chromosomal H3K27me3 status dependent on *Prdm14* genotype.

The bar chart shows the frequency of AP2γ-positive PGCs of the different H3K27me3 categories depicted in the immunostaining images on the right, in relation to *Prdm14* genotype. UP, global upregulated H3K27me3 staining in relation to surrounding somatic cells; X-spot, X-chromosomal H3K27me3 accumulation (white arrowheads).