

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: RNA-seq data for sorted NANOS3-tdTomato⁺AP⁺ hPGCLCs and AP⁺ hESCs. 2 auxin-sensitive clones (cl11 and cl21), as well as the parental control lacking TIR1 were differentiated with or without IAA for 4 days. For hESCs, the same cell lines were grown for 1 passage (3 days) with or without IAA.

File Name: Supplementary Data 2

Description: Comparative differential expression analysis of PRDM14 depletion in hPGCLCs (from Supplementary Data 1) and *TFAP2C*^{-/-} or *PRDM1*^{-/-} hPGCLCs (Kojima et al., 2017; Tang et al., 2015). RNA-seq data were re-normalised together to obtain an integrated gene expression table.

File Name: Supplementary Data 3

Description: ChIP-seq data for hPGCLCs and hESCs. 2 PRDM14-AID-Venus clones (cl11 and cl21), as well as the parental control cell line were used. Immunoprecipitation was carried out using the ChIP-grade anti-GFP antibody validated in Supplementary Figure 7A.

File Name: Supplementary Data 4

Description: Comparative differential expression analysis of PRDM14 depletion in hPGCLCs and hESCs (from Supplementary Data 1) and the transcriptome of mouse *Prdm14*^{-/-} cells (mPGCLCs and mESCs) from Shirane et al., 2016. RNA-seq data were re-normalised together to obtain an integrated gene expression table.

File Name: Supplementary Data 5

Description: Oligos used in the study.

File Name: Supplementary Data 6

Description: Gene ontology (GO) analysis on hPGCLC RNA-seq from Supplementary Data 1.