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欧文概要EZ（ワープロ作成原稿の切り貼りで結構です。）

In this study, we analyzed the relationship between epigenetic reprogramming and induction of germ cell-specific genes in primordial germ cells. Firstly, to identify the role of PRDM14, which is specifically expressed in primordial germ cells, in epigenetic reprogramming, we established PRDM14-overexpressing ESCs (PRDM14 OE. ESCs) and analyzed gene expression profile using by microarray analysis. In this result, we observed upregulation of many germ cell-specific genes in PRDM14 OE. ESCs. Next, to determine whether upregulation of germ cell-specific genes were induced by DNA demethylation, we compared gene expression profile between PRDM14 OE. ESCs and *Dnmts* triple KO ESCs. In this result, about 35% (371/1052) of upregulated genes in *Dnmt1/Dnmts* TKO ESCs were upregulated in PRDM14 O.E. ESCs, implicating that PRDM14 overexpression derepresses at least about half of genes repressed by DNA demethylation in ESCs. Interestingly, gene ontology annotation of upregulated genes both in PRDM14 OE. ESCs and *Dnmts* TKO ESCs showed a significant enrichment for ontology terms related to meiosis and gametogenesis. Finally, we observed hypomethylation on promoter region of germ cell-specific genes in PRDM14 OE. ESCs, indicating that PRDM14 induces expressions of germ cell-specific genes mediated by DNA demethylation.