



**Supplementary Fig. S1** Representative biological process analysis for the downregulated genes in cryopreserved MII oocytes compared with fresh oocytes. Eight important biological process categories were meiosis (A), the cell cycle (B), the cellular response to heat (C), microtubule-based process (D), methylation (E), ubiquinone biosynthetic process (F), the tricarboxylic acid cycle (G), and the MAPK cascade (H). Genes that were downregulated in cryopreserved oocytes are shown in red, upregulated genes are in green, and stably expressed genes are in black.