



Figure 1. Potential of the mammalian oocyte, zygote, and blastocyst. (A) The mammalian oocyte contains maternal RNAs and proteins (maternal inheritance), which can determine early developmental events, genetic information (maternal chromosomes), and epigenetic information (DNA methylation and chromatin marks). (B) The zygote gives rise to the blastocyst with its inner cell mass (ICM) cells (blue) giving rise to ES cells in culture. The epiblast derivative of the ICM in the postimplantation blastocyst gives rise to all somatic cells and PGCs. A range of pluripotent stem cells (*top* line) can be derived from the various cell types isolated from early- and late-stage blastocysts and later primitive streak embryos. Types of stem cell include XEN, extraembryonic endoderm; ES, embryonic stem; TS, trophoblast stem; EpiSC, epiblast stem cell; EG, embryonic germ.