Restriction of cloning potential in agarose of early chick embryonic cells as development progresses.

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Abstract

Early chick embryonic cells, prior to the formation of the primitive streak, form colonies when cultured in soft agarose [Mitrani, E.: Exp. Cell Res. 152, 148-153 (1984)]. The present work is an attempt to determine at which stages of development this ability is expressed and which areas of the chick embryo harbour the colony-forming cells. We found that the capacity to form colonies decreases as development progresses and cells enter alternative differentiation pathways. At pre-primitive streak stages, the capacity is concentrated to the peripheral areas of the embryo and decreases towards the centre. With the onset of hypoblast formation only cells from Area Opaca and, to a lesser degree, the Marginal Zone, can form colonies in agarose. At post-primitive streak stages only extra-embryonic cells can form colonies in agarose. By 48 h of incubation all cells of the chick blastoderm seem to have lost the capacity to form colonies in agarose.

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