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**Genetic analysis of the role of the reprogramming gene LIN-28 in human embryonic stem cells**

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LIN-28, a recently identified gene, has been found to play a role in the transformation of somatic cells into induced pluripotent stem cells. While our prior research indicated a high expression of LIN-28 in human embryonic stem cells (HESCs), its specific function within these cells remained unexplored. Our latest findings reveal that LIN-28, akin to OCT4, SOX2, and NANOG, experiences a decrease in expression during the differentiation of HESCs into embryoid bodies. Furthermore, we investigated LIN-28's role in HESCs by manipulating its expression levels. Overexpression of LIN-28 hindered the ability of cells to grow at clonal densities, primarily due to increased differentiation and reduced cell division. Analysis of cell differentiation under these conditions showed a pronounced inclination towards the extraembryonic endoderm lineage. Interestingly, our research also observed high levels of Lin-28 in the extraembryonic endoderm during early mouse development, both in vitro and in vivo, suggesting that elevated LIN-28 levels may direct cells toward an extraembryonic endoderm fate. However, it's worth noting that LIN-28 appears to be dispensable for HESC self-renewal, as its downregulation neither impairs their proliferation nor triggers differentiation. Instead, LIN-28 seems to influence the decision of HESCs to transition from self-renewal to the differentiation process.