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Human embryonic stem cells as an *in vitro* model for studying the developmental origin of type 2 diabetes

Chen ACH *et al.* hESCs as a model for studying DOHaD

Andy Chun-Hang Chen, Kai Fai Lee, William Shu Biu Yeung, Yin Lau Lee

Abstract

The developmental origins of health and diseases (DOHaD) is a concept stating that adverse intrauterine environments contribute to the health risks of offspring. Since

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Aug 01, 2001 - In the current study, we used pluripotent undifferentiated human embryonic stem (hES) cells as a model system for lineage-specific differentiation. Using hES cells in both adherent and suspension culture conditions, we observed spontaneous in vitro differentiation that included the generation of cells with characteristics of insulin-producing β -cells.

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8 hours ago - INTRODUCTION. Derivation of induced pluripotent stem cells (iPSCs) from patients followed by differentiation into disease-relevant cell types holds great promise for in vitro disease modeling, drug screening, and autologous cell replacement therapy for multiple diseases (1, 2). Diabetes mellitus is caused by the death or dysfunction of insulin-producing β cells within the pancreas.

[Human pluripotent stem cells: an emerging model in ...](#)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3557771>

Feb 15, 2013 - Developmental biology has long benefited from studies of classic model organisms.

Recently, human pluripotent stem cells (hPSCs), including human embryonic stem cells and human induced pluripotent stem cells, have emerged as a new model system that offers unique advantages for



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2 hours ago · The human embryos are donated for research with consent; some of these come from eggs that were fertilised at in vitro fertilisation clinics but not used. The embryonic stem cells extracted from these embryos have the ability to develop into any type of specialised cell in the body, or can divide into more stem cells. The 14-day rule

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