



CDB SEMINAR

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Monday, November 20

17:00~18:00 C1F CDB Auditorium

Identification of factors that generate pluripotent stem cells from fibroblast culture

Summary

Differentiated cells can be reprogrammed to an embryonic-like state by transfer of their nuclear contents into oocytes or by fusion with embryonic stem (ES) cells. Little is known about the factors that induce this reprogramming. Here we show that the combination of four factors can generate pluripotent cells directly from mouse embryonic or adult fibroblast cultures. These cells, which we designated RS (reprogrammed stem) cells, exhibit the morphology and growth properties of ES cells and express ES cell marker genes, including Oct3/4 and Nanog. Subcutaneous transplantation of RS cells into nude mice resulted in tumors containing a variety of tissues from all three germ layers. Following injection into blastocysts, RS cells were able to contribute to mouse embryonic development. These data demonstrate that pluripotent cells can be directly generated from fibroblast cultures by the addition of only a few defined factors.

Host:

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Note: Time has been changed from 16:00 to 17:00. Updated November 13, 2006

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