



CDB SEMINAR

Bertrand Pain

Ecole Normale Supérieure de Lyon

Monday, January 25, 2010

16:00~17:00 C1F CDB Auditorium

Chicken embryonic stem cells (cESC) as a non-mammalian embryonic stem cell model

Summary

Embryonic stem cells (ESC) are mainly studied in mammals, initially in mouse and then in primates and in human. Regarding the non mammalian species, we demonstrated that chicken embryonic stem cells (cESC) can be identified and amplified *in vitro* with specific ESC features. Despite the lack of complete molecular characterization, we already identified *cPouV* and *cNanog*, as two of the key actors controlling chicken pluripotency, and some of the elements controlling the germinal competency through an active role of the *Cvh* gene. The active development of molecular tools, presently available in chicken, will allow us and other to propose a gene network associated with the maintenance of the pluripotency and germline competency in chicken. These data will also open the way for various new investigations including the identification of putative chicken EpiSC and the demonstration of the presently hypothetical existence of a reprogramming process in avian species. The cESC represent a unique model to study and to bring a better understanding in the Stem cell physiology as a non mammalian species.

Host:

Hitoshi Niwa

Pluripotent Cell
Studies, CDB
niwa@cdb.riken.jp
Tel: 078-306-1930
(ext: 1461)

RIKEN CENTER for DEVELOPMENTAL BIOLOGY (CDB)