



CDB SEMINAR

Speaker: Dr. Mahendra Rao

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**Title: “Dopaminergic neuron differentiation
from human embryonic stem cells”**

Date:	Tuesday, December 6
Time:	12:00 P.M. ~13:00 P.M.
Place:	1F Auditorium of Building C, CDB

Summary:

The adult brain has a limited capacity to regenerate new neurons, particularly those of the substantia nigra, spinal cord, and cortex. In contrast, glial cells can be regenerated at low numbers throughout the adult life span and the numbers generated increase substantially after injury. Despite the ability of the adult brain to undergo neurogenesis and glial genesis, a deficiency in adequate neural replacement after cell death by disease or injury results in a variety of debilitating neurological conditions. In particular, neurological disorders associated with loss of specific neural cell types, such as oligodendrocytes or dopaminergic neurons, has led to a search for disease treatments including mobilization of endogenous stem/precursor cells to generate suitable replacement cells, development of methods to deliver or induce secretion of trophic molecules to prevent cell loss, and transplantation of cells for localized repair.

Multiple classes of cells have been considered for cell therapy including neural stem cells (NSCs), glial restricted precursor (GRP) cells, embryonic stem cells (ESCs), mesenchymal stem cells, and transdifferentiated cells. In each case questions concerning the character of the transplanted population, signals directing differentiation, and specificity of differentiation have been raised. In my talk I will discuss our studies on identifying different classes of stem cells in the nervous system and their potential role during development and disease.

Host: Tony Perry <Mammalian Molecular Embryology, CDB>
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