



Department of Biological Sciences Seminar Announcement

Conventional and Contemporary Approaches to Understanding Mammalian Embryonic Pluripotent Cells

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The population of cells comprising the inner cell mass (ICM) and the early epiblast, present in the mouse from embryonic day 3.5 to 5.0, represents a unique cell type that gives rise to all tissues of the embryo proper (pluripotent) as well as being the source of embryonic stem (ES) cells. To better understand these pluripotent cells at the molecular level we are employing expression profiling, bioinformatics, and conventional molecular techniques. Expression profiling of the ICM and the cell types that are spatial and temporal neighbours to the ICM are currently in progress. Our bioinformatics approach utilizes a Sox/Oct cis-element consensus sequence, known to be important in driving ICM-specific transcription, to search the mouse and human genomes to identify further targets of the Sox2 and Oct4 transcription factors. To date, this approach has identified some interesting candidate genes. Using more conventional molecular techniques we have identified a region within the proximal promoter of the PECAM-1 (CD31) gene that, at least in part, is responsible for the ICM-specific expression of this gene. Continued progress on these three fronts will provide a better understanding of the biology of the ICM/early epiblast and the ES cell.

Date: 7 February 2003, Friday
Time: 4 - 5pm
Venue: LT20
Host: Dr Chan Woon Khiong

All are welcome