Joint Meeting of the Skin Club and Stem Cell Club

Date: September, 20th, 2007 (Thursday)
Time: 6:00 pm
Venue: Creation, Level 4, Matrix

Host: Birgit Lane, IMB

Time	Title	Speaker
6:00-7:00	***Regulation of tissue regeneration from keratinocyte stem and progenitor cells by pericytes***	***Pritinder Kaur*** *Peter McCallum Cancer Centre, Melbourne, Australia*
7:00 -	Dinner and Wine	

Regulation of tissue regeneration from keratinocyte stem and progenitor cells by pericytes.

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Epithelial Stem Cell Biology Laboratory**,** Peter MacCallum Cancer Centre, Melbourne, Australia

Epidermal stem and progenitor cells of the skin interact with their stromal microenvironment to regulate epithelial tissue renewal and maintenance. However, the precise molecular and cellular components that form the microenvironment of keratinocyte stem cells and their progeny remain poorly defined. Recent studies in our laboratory have provided insight into the role of the extracellular matrix component laminin-10/11 in promoting skin tissue regeneration. In addition we identified a functionally relevant subset of human dermal cells identified by the antibody HDF-1, (HDF-1^{bri} cells), which secrete soluble factors that promote human skin regeneration. In this study we have sought to determine the identity, location and molecular profile of HDF-1^{bri} cells using microarray technology with the specific goal of identifying functional molecular regulators provided by these cells that may act to promote skin regeneration, while providing new markers for this functionally relevant subset of dermal cells. The gene expression profiling data reveal that HDF-1^{bri} cells preferentially express various mediators of epithelial-mesenchymal interactions at the m-RNA level, including growth factors, extracellular matrix proteins and signalling molecules including the Notch pathway recently implicated in stem cell regulation. Further, new cell surface markers that identify the HDF-1^{bri} cells have also been identified. These data provide the basis for the functional analyses of molecular regulators that promote the proliferative and tissue regenerative ability of keratinocyte stem cells and their progeny with the long-term aim of developing improved therapeutics for human skin replacement.