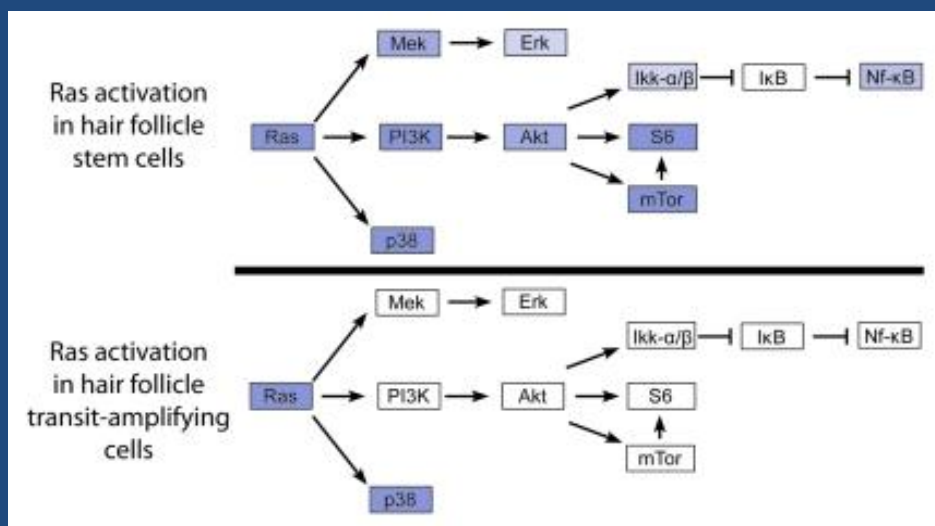


# Andrew White

Department of Molecular, Cell and Developmental Biology, and the UCLA  
Broad Stem Cell Research Center

University of California, Los Angeles



“Defining the Relationships between Epidermal Stem Cells and Squamous Cells”

Thursday, March 7, 2013

11:00-11:50 am

CCRC Auditorium



Host: Stephen Dalton

## **Presentation Abstract**

The precise identity of the cancer cells of origin and the molecular events of tumor initiation in epithelial cancers remains unclear. We used genetically defined, inducible *in vivo* models to determine whether malignancy potential is related to the developmental capacity of the initiating cancer cell for squamous cell carcinoma (SCC). This was achieved by targeting the same SCC-inducing tumorigenic stimulus directly to hair follicle stem cells or to their direct descendants, the lineage restricted transit-amplifying cells. We have identified several signaling pathways active during tumor initiation and progression of SCC, including initiators of epithelial to mesenchymal transition. We further defined a role for stem cell quiescence and activation in the initiation of SCC and determined the molecular events therein. These models demonstrate the relationship between the cancer cells of origin in the induction of SCC and suggest a means by which adult stem cells that contain mutations sufficient to initiate cancer could lay dormant for long periods.

***Dr. White is a candidate for a faculty position in the UGA Center for Molecular Medicine. He received his Ph.D. in developmental biology from Washington University under the direction of David Ornitz. During his graduate work he studied lung morphogenesis and pulmonary angiogenesis through mouse models. In 2007, Dr. White began his postdoctoral work in cancer biology of the epidermis in the laboratory of Bill Lowry at the University of California-Los Angeles.***