

Introduction to the JID Symposium Supplement
53rd Annual Montagna Symposium on the Biology of Skin
“Keratinocyte and Melanocyte Cancers of the Skin: Interacting Pathways”
Salishan Lodge, Gleneden Beach, Oregon, Oct. 15–19, 2004

This year, the 53rd Annual Montagna Symposium on the Biology of Skin moved back to Oregon and to Salishan Lodge. Held October 15–19, 2004, it was as a joint meeting with the 6th International Skin Carcinogenesis Conference. The joint meeting brought a record turnout, being fully subscribed with approximately 140 participants. We also had both long and short talks, while still following the tradition established in 1950 by Dr. William Montagna, who established a forum where basic cutaneous biologists and clinically trained scientists met to discuss a single major topic in cutaneous biology. The topic for the 53rd Annual Montagna Symposium was “Keratinocyte and Melanocyte Cancers of the Skin: Interacting Pathways.” As in past symposia, the flow of presentations was designed to lead the discussion from the basic aspects of skin biology to potential clinical applications.

We began the Symposium with two *keynote* talks on Friday night. Brian Drucker shared the steps from target idea to molecular-based cancer remission in human mesenchymal tumors and Meenhard Herlyn described networks of communication between melanocytes and melanoma cells. Over the next three and a half days, we had seven sessions with very lively discussions, a breakout session where we all discussed where cancer research should go in the future and possibilities for translating the research to the bedside, and a final wrap-up session in which G. Tim Bowden highlighted keratinocyte cancer paths and the questions for the future and Meenhard Herlyn highlighted melanoma paths, challenges and directions for the future.

Multistage Carcinogenesis: In the sessions concerning multistage carcinogenesis, it was clear that the models of choice were humanized mice. To highlight a few of the talks, John DiGiovanni used expression of STAT3 in the suprabasal cells to mimic the human melanomas. Jim Rheinwald showed that we need to suppress p16 in order to prevent squamous cell carcinoma (SCC). Glenn Merlino tied these talks together by showing that p16 was also a melanoma suppressor. Petra Boukamp discussed the role of telomerase in carcinogenesis and showed that the telomere localization appeared to be disarranged in tumors.

Basal Cell/Metastatic Paths: In the first session about basal cell metabolic paths, several signaling pathways were highlighted, including sonic hedgehog by Andrzej Dlugosz and NF κ B by Rune Töftgard. In the second session, PKC pathways and immunosuppression were discussed as risk factors for skin cancer, and Susan Fischer highlighted prostaglandins and their role in skin carcinogenesis.

Intra/Intercellular Signaling: After an invigorating hike through forest to a magnificent Pacific coast ridge view, we discussed intracellular and intercellular signaling. A few highlights were Brian Nickoloff sharing the new information that notch-2 is overexpressed in melanoma and benign nevi; Stuart Yuspa showing that CLIC4, a chloride channel, is downregulated in carcinoma cells; and Xiao-Jing Wang demonstrating that her knockout model of SMAD3 resisted 2-stage chemical carcinogenesis.

Growth/Differentiation/Apoptosis/p53: Several talks in this session highlighted the role of p63, a p53 isoform. Dennis Roop and Frank McKeon debated the role that p63 plays in the maintenance of epidermal progenitor cells and epithelial stratification.

Prevention and Therapeutics: In the clinical sessions concerning prevention, several potential preventive agents were discussed, including a novel telomere-based DNA strategy described by Barbara Gilchrest.

Etiology/Interactive Paths: In the final session several interactive paths between keratinocyte and melanocyte carcinogenesis were discussed, including importance of cell size regulation by Brandt Schneider, p53 family pathways and common gene expression changes between mouse models and human skin cancer by Molly Kulesz-Martin, and ultraviolet-A by Tim Bowden.

Overall, the general consensus was that the pace of basic research in skin cancers mechanisms has accelerated, but we need to translate these advances into new molecular therapies. A wish list was developed for what is needed in the future for cancer research: better imaging; optimum balance and connections between individual researchers and consortia, genomic and proteomic databases; new directions for repair of DNA damage in skin after sun exposure; better animal models in which to conduct cancer research strategies; and more meetings like this one, that bring together groups who study various cancers.

As in the previous year, the Eugene M. Farber family generously provided support for outstanding young investigators to travel to the 53rd Montagna Symposium to present their research.

The 2004 Eugene M. Farber Young Investigator Research Award Winners:

Neil F. Box, Baylor College of Medicine, Houston, Texas
The Sooty Foot Ataxia mouse: A new model for p53 pathway melanoma?

Christophe Cataisson, National Cancer Institute, Bethesda, Maryland

Targeting overexpression of PKCa to the epidermis of transgenic mice enhances tumor formation independent of the inflammatory response

Mark S. Eller, Boston University School of Medicine, Boston, Massachusetts

A Role for WRN in Generating Telomere-Based DNA Damage Responses

Laura A. Hansen, Creighton University School of Medicine, Omaha, Nebraska

Chemoprevention of ultraviolet light-induced skin tumorigenesis by inhibition of the epidermal growth factor receptor

Yinling Hu, University of Texas MD Anderson Cancer Center, Smithville, Texas

IKKa functions as a potential suppressor in skin carcinogenesis

Eve Kandyba, University of Glasgow, UK

Gap junctional intercellular communication and Cx43 expression in human melanocytes and melanocytic lesions

Guanqun (Allen) Li, Oregon Health & Science University, Portland, Oregon

Smad3 knockout mice exhibit a resistance to skin chemical carcinogenesis

Maria Teresa Mancuso, ENEA CR-Casaccia, Rome, Italy

Susceptibility to BCC induction by radiation in Ptch1neo6-7/+ mice is hair growth cycle- dependent

Kathleen L. Tober, The Ohio State University, Columbus, Ohio

The role of the EP prostanoid receptor, EP1 in acute UVB-mediated inflammation and tumor development

Sun Yang, University of California Irvine Medical Center, Orange, California

Alterations in Activating Protein-1 (AP-1) Composition Correlated with Phenotypic Differentiation Changes of Human Melanoma Induced by Resveratrol

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Information about content and support of past symposia and the next Montagna Symposium on the Biology of Skin can be found at <http://www.montagnasyposium.org/>.

Jackie R. Bickenbach (The University of Iowa)

Molly Kulesz-Martin (Oregon Health & Science University, 2004 Program Chair)

Co-Chairs, Montagna Symposium on the Biology of the Skin