Tissue Maintenance: the Basics of Disease

Valerie Horsley
Associate Professor, Molecular, Cellular, and Developmental Biology

CURRENT RESEARCH

Understanding skin regeneration tackles key areas of medicine

The human body is constantly producing brand-new skin cells and shedding old ones. In fact, every day, the body expels 30,000 to 40,000 old skin cells meaning that the skin you have now will be gone in nearly a month. Dr. Valerie Horsley, Associate Professor of Molecular, Cellular, and Developmental Biology at Yale University, is interested in how the skin regenerates and furthermore, how the cells within tissues work together to promote regeneration. In short, she and her team study how the cells of the skin interact to generate and maintain a functional organ. Dr. Horsley's research tackles key areas of medicine including aging, wound healing, diabetes, and obesity as she defines how wound healing occurs to try to improve the process over time.

Regeneration is how our bodies are able to maintain themselves for a long period of time; in fact, without regeneration, aging and disease occur. With the strong belief that "dysfunctional tissue maintenance is the basis of disease," Dr. Horsley is motivated to understand the fundamental biological processes behind skin regeneration in order to make a true impact on health. She and her team of graduate students and postdoctoral fellows work with several other groups at Yale, in addition to experts in other fields. Thus, they are able to merge their lab's expertise with others to create innovative projects at the forefront of a variety of fields. With a focus on cells that have not been analysed in the skin, such as adipocytes and immune cells, Dr. Horsley and her team provide a novel approach to identifying the remarkable regenerative potential of skin.

Current research includes:

- Skin Development: Using embryonic stem cells to...

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AFFILIATION

Yale University

EDUCATION

- Ph.D., in Pharmacology, 2003 , Emory University

AWARDS

- Rosalind Franklin Young Investigator Award, Genetics Society of America
- Presidential Early Career Award (PECASE)
- Maxine F. Singer '57 Endowed Assistant Professor
- Pew Scholar Award
- Blavatnick Award, NY Academy of Sciences

RESEARCH AREAS

Health & Wellness, Wellness, Aging Research

FUNDING REQUEST

Your contributions will support the continued research of Dr. Valerie Horsley, of Yale University, as she identifies the remarkable regenerative potential of skin. Donations will fund the necessary $1.5M required for her research with a majority of the costs supporting personnel and the remaining costs for maintaining the mice needed for her studies and supplies. In choosing to donate, you will play a role in understanding how wounds heal and improving therapeutics for the aging population as well as those that are sick.