

An Insight into Animal Models of Cell Mediated Skin Diseases - Ernst Schering Foundation

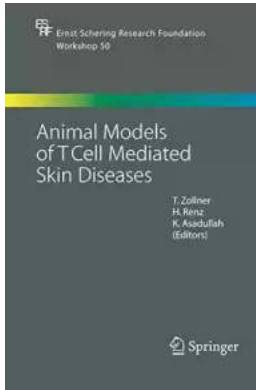
Animal models have been an invaluable tool in medical research for decades. They provide scientists with a way to study and understand complex diseases in a controlled environment. One area of research that greatly benefits from animal models is cell mediated skin diseases. These diseases, which include conditions like psoriasis and eczema, affect millions of people worldwide. The Ernst Schering Foundation has been at the forefront of funding and supporting innovative research in this field.

Cell Mediated Skin Diseases

Cell mediated skin diseases are characterized by an abnormal immune response in the skin. The immune system mistakenly identifies normal cells and tissue as foreign or harmful, leading to inflammation and tissue damage. Psoriasis and eczema are two of the most common cell mediated skin diseases.

Psoriasis: Psoriasis is a chronic autoimmune disease that affects the skin. It is characterized by red, itchy, and scaly patches that can appear anywhere on the body. These patches are caused by an accelerated growth cycle of skin cells, resulting in the buildup of thick, silvery scales. Animal models have played a crucial role in understanding the underlying mechanisms of psoriasis and testing potential treatments.

**Animal Models of T Cell-Mediated Skin Diseases
(Ernst Schering Foundation Symposium
Proceedings, 50)** by Henry Stephens(2005th Edition)



★★★★☆ 4.6 out of 5
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File size : 7808 KB
Text-to-Speech : Enabled
Enhanced typesetting : Enabled
Print length : 418 pages
Screen Reader : Supported



Eczema: Eczema, also known as atopic dermatitis, is a chronic inflammatory condition that causes itchy and inflamed skin. It often starts in childhood and can persist into adulthood. Animal models have helped researchers uncover the complex interactions between immune cells, genetic factors, and environmental triggers that contribute to the development of eczema. By studying these models, scientists can identify potential targets for therapeutic interventions.

Why Animal Models Are Essential

Animal models are essential in the study of cell mediated skin diseases for several reasons:

1. Recapitulation of Human Conditions:

Animals such as mice and rats used in research share genetic and physiological similarities with humans. By inducing similar symptoms seen in humans, researchers can study the progression and mechanisms of these diseases in a controlled environment.

2. Controlled Environment:

Animal models provide scientists with a controlled environment to study the effects of various factors on cell mediated skin diseases. Researchers can manipulate variables such as diet, genetic makeup, and exposure to environmental triggers to understand their impact on disease development and progression.

3. Testing Potential Therapies:

Animal models allow for the testing of potential therapies and treatments for cell mediated skin diseases. This step is crucial before moving on to human clinical trials. By evaluating the efficacy and safety of treatments in animal models, researchers can gather valuable data to inform human trials and improve patient outcomes.

The Role of the Ernst Schering Foundation

The Ernst Schering Foundation has been instrumental in supporting innovative research in the field of cell mediated skin diseases. Through grants and funding, the foundation has enabled researchers to explore new animal models, develop cutting-edge technologies, and collaborate on interdisciplinary projects.

The foundation has also played a vital role in fostering international collaborations among scientists and institutions. This collaboration facilitates the exchange of knowledge, ideas, and resources, leading to groundbreaking discoveries and advancements in the field of cell mediated skin diseases.

Current Advances Supported by the Foundation:

The Ernst Schering Foundation has supported numerous advancements in the study of cell mediated skin diseases through their funding initiatives. Some key areas of research include:

1. Development of Novel Animal Models:

The foundation has supported the development of animal models that closely mimic the characteristics of human cell mediated skin diseases. These models allow for more accurate testing and validation of potential therapies, leading to improved treatment outcomes for patients.

2. Genetic Studies:

Through their funding, the foundation has sponsored genetic studies aimed at identifying specific gene variants associated with cell mediated skin diseases. These studies provide valuable insights into the genetic basis of these diseases and help identify potential targets for future therapies.

3. Immunological Research:

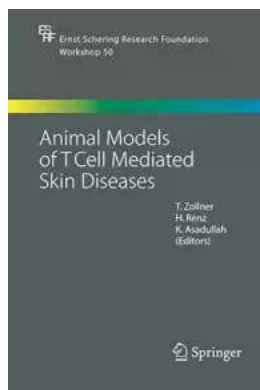
Understanding the immune responses involved in cell mediated skin diseases is crucial for developing targeted therapies. The foundation has supported research into immunological aspects of these diseases, leading to a better understanding of immune cell interactions and the development of new treatment strategies.

4. Development of Advanced Imaging Techniques:

Advanced imaging techniques play a vital role in studying the cellular and molecular events associated with cell mediated skin diseases. The Ernst Schering Foundation has funded the development of state-of-the-art imaging technologies, enabling researchers to visualize and analyze disease processes at a microscopic level.

Animal models have revolutionized the study of cell mediated skin diseases, providing invaluable insights into disease mechanisms and potential treatments. The Ernst Schering Foundation's commitment to supporting innovative research in this field has played a crucial role in advancing our understanding of these

complex diseases. Through their funding initiatives, the foundation continues to drive transformative discoveries, ultimately leading to improved care and outcomes for patients.



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Pharmaceutical companies are spending increasing amounts of money on drug discovery and development. Nevertheless, attrition rates in clinical development are still very high, and up to 90% of new compounds fail in clinical phase I - III trials, which is partially due to lack of clinical efficacy. This indicates a strong need for highly predictive in vitro and in vivo models. The "50th International Workshop of the Ernst Schering Research Foundation" focussed on "Animal Models of T Cell-Mediated Skin Diseases". Such animal models should have impact not only on inflammatory dermatoses but also on other inflammatory disorders due to their model character. The current volume summarises recent advances in animal research that are important for anti-inflammatory drug discovery.



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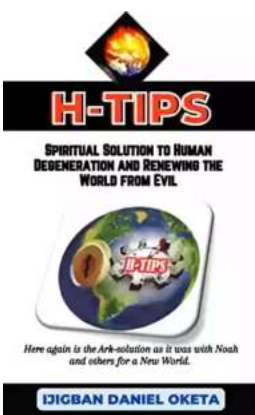
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