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## Skin Diseases



Allergies, irritants, genetic makeup, certain diseases, and immune system problems can cause skin conditions.

#### Acne

What is acne? It is caused when blocked skin follicles from a plug caused by oil from glands, bacteria, and dead cells clump together and swell.

#### **Alopecia Areata**

What is alopecia areata? It is a condition that attacks your hair follicles (they make hair). In most cases, hair falls out in small, round patches.

## **Atopic Dermatitis**

What is atopic dermatitis? It is a skin disease causing much itchiness. Scratching leads to redness, swelling, cracking, weeping clear fluid, crusting, and scaling.

## **Epidermolysis Bullosa**

What is epidermolysis bullosa? It is a group of diseases causing painful blisters to form on the skin. These blisters can cause problems if they become infected.

## Hidradenitis Suppurativa (HS)

Hidradenitis suppurativa (also known as acne inversa) is a chronic, noncontagious, inflammatory condition characterized by pimple-like bumps or boils and tunnels or tracts on and under the skin.

#### **Ichthyosis**

What is ichthyosis? It is a disorder that causes dry, thickened skin that may look similar to fish scales.

## Pachyonychia Congenita

What is pachyonychia congenita? It is a rare disorder causing thick nails and painful calluses on the bottoms of the feet and other symptoms.

## **Pemphigus**

What is pemphigus? It is a disease where the immune system attacks healthy cells in the top layer of skin, resulting in blisters.

#### **Psoriasis**

Psoriasis is a skin disease that causes red, scaly skin that may feel painful, swollen, or hot. Learn more about the types and what causes psoriasis.

### Raynaud's Phenomenon

What is Raynaud's phenomenon? It is a disease that affects blood vessels. It causes your body to not send enough blood to the hands and feet for a period of time.

#### Rosacea

What is rosacea? It is a long-term disease that causes reddened skin and pimples, usually on the face. It can also make the skin thicker and cause eye problems.

#### Scleroderma

Scleroderma causes areas of tight, hard skin, but can also harm your blood vessels and organs. Learn the causes and treatments of this skin disease.

## **Vitiligo**

Vitiligo is a disorder that causes patches of skin to become white. It happens because cells that make color in your skin are destroyed.

## Selected Research Areas



## <u>Cutaneous Development and</u> Carcinogenesis Section

Led by Dr. Isaac Brownell, the Cutaneous Development and Carcinogenesis Section studies the signaling pathways such as Hedgehog signaling that regulate the development and maintenance of normal skin and the changes in these signals that occur during the formation of skin cancer

## **Dermatology Branch**

The Dermatology Branch conducts both clinical and basic research studying the etiology, diagnosis, and treatment of inflammatory and malignant diseases involving the skin and the host's response to these diseases.

## Scientific Publications

## <u>Chromatin Landscape Governing Murine</u> <u>Epidermal Differentiation.</u>

Nayak S, Jiang K, Hope E, Cross M, Overmiller A, Naz F, Worrell S, Bajpai D, Hasneen K, Brooks SR, Dell'Orso S, Morasso MI

J Invest Dermatol. **2023 Jul;** 143(7).

doi: 10.1016/j.jid.2022.12.020

PMID: 36708949

## <u>Identification of natural product modulators</u> <u>of Merkel cell carcinoma cell growth and</u> <u>survival.</u>

Smith EA, Hill NT, Gelb T, Garman KA, Goncharova EI, Bokesch HR, Kim CK, Wendt KL, Cichewicz RH, Gustafson KR, Brownell I, Henrich CJ *Sci Rep.* **2021 Jun 30**; 11(1).

doi: 10.1038/s41598-021-93097-9

PMID: 34193920



## **Laboratory of Skin Biology**

Led by Dr. Maria I. Morasso, the lab studies processes of epidermal differentiation, skin barrier formation and wound healing. Sharing is caring? Skin microbiome insights into staphylococci in patients with atopic dermatitis and caregivers.

Kong HH

doi: 10.1016/j.jaci.2022.07.010

PMID: 35931225

## Skin Disease News

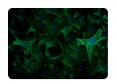


SPOTLIGHT ON RESEARCH | JUNE 22, 2023

## Research Into Naturally Occurring Hair Growth in Skin Nevi May Inform New Regenerative Therapies

An international team of researchers funded in part by NIAMS sought to understand why skin nevi grow long hair. The team determined that senescent melanocytes within nevi produce large quantities of several signaling molecules. One such molecule, called osteopontin, causes dormant hair stem cells to wake up, which increases hair growth.

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PRESS RELEASE | JUNE 1, 2023

## NIH scientists find treatment for rare genetic skin disorder

Researchers at the NIH and their colleagues have identified genomic variants that cause a rare and severe inflammatory skin disorder, known as disabling pansclerotic morphea, and have found a potential treatment.

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SPOTLIGHT ON RESEARCH | MAY 25, 2023

## NIH Researchers Survey the Genetic Diversity of Skin Microbes in Eczema Patients

Using a combination of sequencing techniques, researchers from NIAMS and the National Human Genome Research Institute (NHGRI) surveyed the skin microbiome of patients with atopic dermatitis (AD, also called eczema) to understand the genetic diversity of the bacteria present on the skin and how genetic variants may contribute to disease severity.

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SPOTLIGHT ON RESEARCH | MAY 25, 2022

## <u>Discussing Bone, Muscle, Skin, & Autoimmune Diseases: Info</u> for American Indians, Alaska Natives - audio

A conversation between Dr. David R. Wilson, director of the NIH Tribal Health Research Office, and Dr. Lindsey A. Criswell, director of NIAMS, about information and resources for American Indians and Alaska Natives related to bone, muscle, skin, and autoimmune diseases.

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SPOTLIGHT ON RESEARCH | DECEMBER 13, 2021

# <u>Researchers identify cellular pathway that regulates inflammatory hair loss</u>

NIH researchers reveal new insights about the relationship between hair and hair follicles and the skin's immune system.

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