The Skin We Move In

A story of Ts, Bees, and Wax

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Skin is the body’s largest organ

8 pounds

20 ft²
Roadmap

1. What does skin do?
2. How bee venom stirs up a buzz
Roadmap

1. What does skin do?
   1. Skin lipids and skin immunity
   2. How bee venom stirs up a buzz
Keeps our insides in and the outside out

- Helps regulate temperature
- Protects from Damage
- Controls our ‘bugs’
Communicates with our environment

Absorbs water and other stuff

Controls moisture

Senses pressure, heat and cold

B. Braun | Sharing Expertise.
Sweat glands let the water out
Lipids keep moisture in
Lipids coat the surface of our skin

Healthy Skin

Dry and Damaged

Epidermis

Dermis
What are skin lipids anyway?

- triglycerides
- wax esters
- fatty acids
- ceramides
- oils
- cholesterol
What are skin lipids anyway?

Squalene

Phosphatidylcholine

Triacylglycerol
Questions?
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T cells are immune cells that recognize lipids and protein.
There are 20 billion T cells in your skin
When a T cell gets activated, it does 2 things:

1. Makes A LOT more of itself
2. Sends a message to tell other cells what to do
Questions?
Roadmap

1. What does skin do?

1. Skin lipids and skin immunity

2. How bee venom stirs up a buzz
Immunology of a Bee Sting
Bee venom cuts skin lipids into pieces

A skin lipid

Free Fatty Acid

Lyso-lipid
T cell

Antigen Presenting Cell

Lipid

Activation

Weak

Stronger

Strongest!
Bee venom activates skin T cells by increasing the lipids that strongly activate them.
Bodies in Motion

Our skin is pretty active too!
Thank you!

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People allergic to bee stings have more of these cells.
These cells stop acting like T cells after allergy treatments