



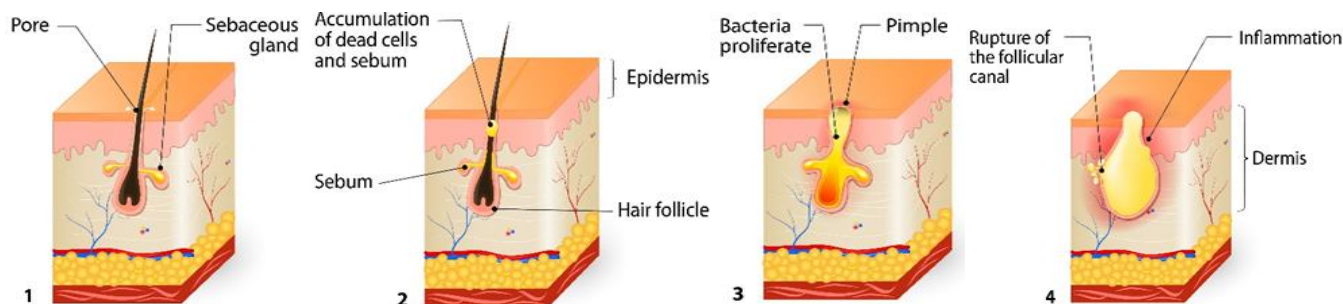
PEPTI-acne

Acne affects 50 million Americans annually. Estimates state that at least 85% of individuals experience some form of breakout between the ages of 12-24. There are five primary contributors to the acneic condition.

Acne's Contributing Factors

- 1) Overactive Sebaceous Glands
- 2) P.acnes bacteria
- 3) Hormonal Influence
- 4) Hyperkeratinization -keratin plugging
- 5) Inflammation

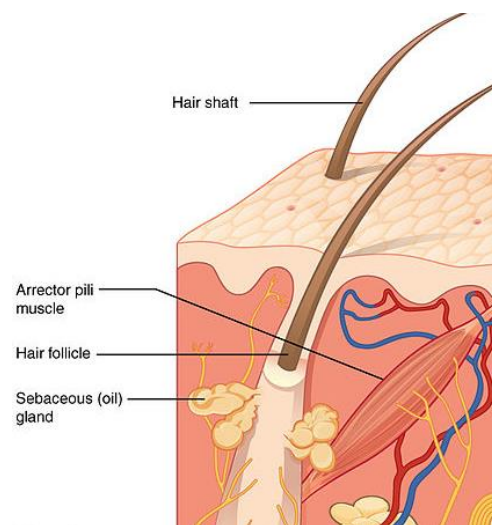
ACNE FORMATION



PILOSEBACEOUS UNIT

Pilosebaceous Unit Disorder

- Acne is a disorder of the pilosebaceous unit which consists of the hair and it's follicle, the arrector pili muscles, and the sebaceous gland.
- Studies have shown an increased amount of sebum in acne patients. Male hormone influence contributes to the increased sebaceous activity.
- Next, the dead cells of the stratum corneum (corneocytes) shed into the hair follicle instead of desquamating correctly. This buildup of dead cells eventually forms a plug, blocking oxygen from entering the pore.
- We now have an anaerobic area that attracts and breeds bacteria. The dead cells have combined with sebum and other cellular fluids to create food for bacteria. Propionibacterium (p.acnes) migrates and proliferates under the plug creating a pustule and inflammation.
- Bacteria thrives in this environment with a food source and by producing a protective molecule structure to guard against the immune system.



AMPs – Anti-microbial Peptides



VIKTORIA DEANN
PEPTIDE COSMECEUTICALS

Fortunately, the body does have an attack mechanism for bacteria in the form of AMPs (anti-microbial peptides). AMPs allow the body to fight off bacterial attacks aggressively. They are an excellent protective mechanism.

AMPs are a novel innovative approach in the treatment of acne. There are multiple types of AMPs each communicating a specific message to assist the body in its battle with bacteria.

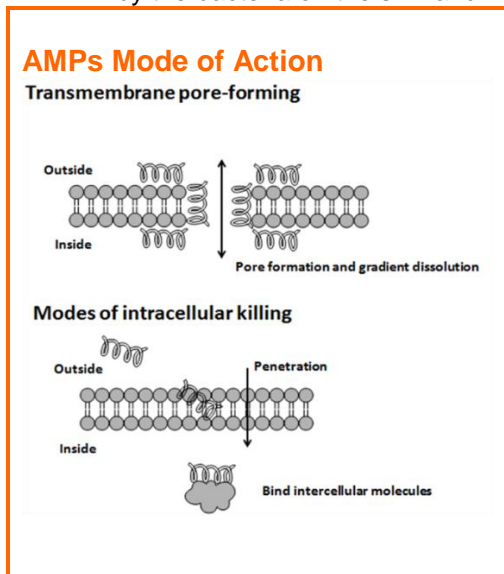
- ✓ One AMP is effective in modulating quorum signaling. A quorum is the minimum amount of bacteria present that is necessary to meet a threshold. Once the threshold or quorum is reached the bacteria colonies know they have proper supplies and population to multiply. The purpose of the antimicrobial peptide is to interfere with the message of the bacterial colonies communicating that a quorum has been obtained. The confusion prevents the quorum from being reached and, in turn, prevents bacteria from dividing and multiplying as quickly as initially intended because it does not have the proper supplies or support present to survive. By interrupting these signals, you are confusing bacteria to hold off on growth, as they perceive their environment as hostile due to a lack of necessary quorum signal from surrounding "allies" (other bacteria). The body's immune responses can then gain the upper hand in fighting the bacteria, destroying it naturally.
- ✓ Other AMPs send signals to promote and support a healthy microflora (in the skin's barrier) to prevent the over proliferation of bad bacteria while encouraging the growth of beneficial bacteria.
 - Epidermin (Staphylococcin 1580)
 - Pep5
 - Epilancin K7

These three peptides belong to a unique group of AMPs known as **lantibiotics** (gene-encoded peptides) because they contain the thioether amino acids lanthionine or methyllanthionine.

- ✓ Staphylococcus epidermidis also produces the phenol-soluble protein toxins PSMγ and PSMδ, which are AMPs that selectively exhibit bactericidal activity against skin pathogen including :
 - Staphylococcus Aureus
 - Group A Streptococcus
 - Escherichia Coli

Interestingly enough, these toxins are not active against Staphylococcus epidermidis, their host.

- ✓ New studies show many other potent and selective AMPs are secreted on the epidermal surface by the bacteria on the skin and may be both diagnostically and therapeutically useful.



PEPTI-acne key ingredients:

- A Pro Peptide** • Assists the skin's natural defenses
- C Pro Peptide** • Calms minor breakouts
- N Pro Peptide** • Negotiating quorum communication
- E Pro Peptide** • Encourages a healthy microflora (barrier)



Ingredients: Water, Propanediol, Glycerine, Arginine, Aspartic Acid, Glutamic Acid, Glutamine, Glycine, Histidine, Isoleucine, leucine, Methionine, Proline, Phenylalanine, Tyrosine, Valine, Diazolidinyl Urea, Iodopropynyl Butylcarbamate, Xanthan Gum

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