

Granactive Oligopeptide-10

Granactive ACNE

Clear Healthy
Skin Products



New Approach to Treating Acne

The unique combination of botanicals and anti-microbial peptide offers a gentle approach to treating the symptoms of acne.

Patent Pending Antimicrobial Oligopeptide-10 Botanical Complex for Acne Treatment

Granactive ACNE is botanical complex containing a patented antimicrobial peptide for use in products associated with treating acne symptoms. This product can be formulated with an approved OTC acne ingredient, like salicylic acid or simply used in a toner or other product for maintenance of the skin. Oligopeptide-10 is an anti-microbial peptide derived from plant amino acids that is highly synergistic with salicylic acid. This allows salicylic acid to be effectively formulated at 0.5%, the lowest permissible level as defined in CFR Vol. 56, No.159 §333.310c, the monograph for acne treatments. In comparison, other products formulated near the 2% salicylic acid level are more irritating. Salicylic acid is comedolytic as it opens up the infected pores to allow oxygen in. This action allows access of oligopeptide-10 into the pores for a maximum bacteriostatic effect. Oligopeptide-10 has broad-spectrum activity against many types of organisms, including the *p. acne* bacterium. Rice bran, boswellia serrata and honey botanical extracts are included to soothe and smooth the skin.

Oligopeptide-10

A short bioactive peptide consisting of fifteen naturally occurring amino acids that provides anti-microbial activity against p-acne bacterium

INCI Name:

Water (and) Butylene Glycol (and) Oryza Sativa (Rice) Bran Extract (and) Boswellia Serrata extract (and) Honey Extract (and) Oligopeptide-10

Use Level: 5%

Patent Status:

Patent Pending Application

Safety:

Non-cytotoxic, Non-mutagenic,
Non-irritating, Non-sensitizing

Availability: Globally

Applications:

Anti-acne* therapy products in serum, gel cream and lotion forms.

Formulation:

Water Dispersible

Maximum Bacteria (*P. acne*) Kill

Including antibiotic resistant bacterium

Non-drying, Fast acting

Aesthetically Pleasant Coverage

Non-comedogenic

Targeted Effect and Delivery

Human skin is comprised of two major classes of innate immunity peptide, β -defensins and cathelicidins (LL-37).

Inflammation is often associated with skin conditions that have bacterial involvement, which is in part due to lipopolysaccharide (LPS) released from the outer membrane of gram-negative bacteria, and lipotechoic acid (LTA) released from gram-positive bacteria.

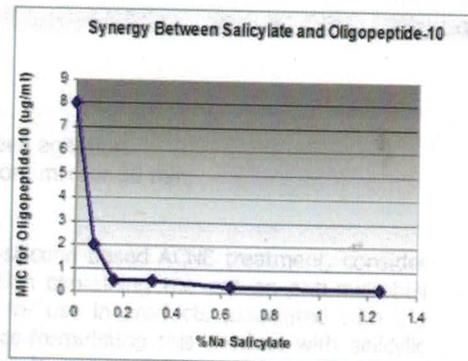
Innate immunity peptides such as defensins and LL-37 are known for binding and neutralizing bacterial debris.

This effect down regulates pro-inflammatory cytokines, thereby reducing irritation potential.

Consistent with this LL-37 has also been shown to modulate the toll-like receptor (TLR) mediated inflammatory response. Oligopeptide-10 is a synthetic peptide designed to bind LTA.

Synergy Between Salicylate and Antimicrobial Peptide

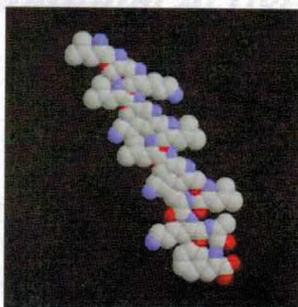
A study of sodium salicylate added to oligopeptide-10 solutions found the salicylate was instrumental in synergistically lowering the minimum inhibitory concentration requirement for the peptide. In other words, 0.5% salicylate is all that is required to meet the FDA guidelines and still cause an 8X decrease in the amount of peptide required to kill over 50% of the bacteria. This study exhibits the efficacy and value possible in using salicylates with a peptide level of >2 ug/ml.



*must be co-formulated with an approved anti-acne active as subject to regional codes and laws.

Granactive Oligopeptide-10

Anti-Acne and
Daily Wear



Oligopeptide-10 (the peptide INCI name) is a short bioactive peptide consisting of naturally occurring amino acids that provides anti-microbial activity against p-acne bacterium

Features and Benefits:

- Ready to dilute into an active containing water phase or improving an existing o/w emulsion
- Immediate perceptible difference in skin feel – smooth feeling initial then transitions to powdery soft "Gransil Touch"
- Contains Oligopeptide-10, an antimicrobial peptide originally designed as a co-ingredient for healing and acne treatments
- Cold processable in water based high performance systems

INCI Name:

Cyclopentasiloxane (and) Dimethicone (and) Water (and) Polysilicone-11 (and) Butylene Glycol (and) Decyl Glucoside (and) Oligopeptide-10

Recommended Use Levels:

10 - 30 %

Safety:

Non-irritating, Non-sensitizing
Non-mutagenic

Availability:

Globally

Applications:

- Anti-Acne*
- Daily Wear
- Toners

Formulation Advice:

Easily formulated in water systems at 60°C or below.

High Performance Polymer Matrix For Anti-acne

Granactive Oligopeptide-10 is a silicone-elastomer matrix featuring a patented anti-microbial peptide from plant amino acids. **Granactive Oligopeptide-10** can be formulated with an approved OTC acne ingredient, like salicylic acid, or simply used in a toner or other product for healthy maintenance of the skin. While it has excellent activity against the p-acne bacterium, it was found to be highly effective in combination with salicylic acid. This allows salicylic acid to be synergistically formulated near the 0.5% level, the lowest permissible use level for ACNE treatment. In comparison, other products formulated near the 2% salicylic acid level are much higher in irritation. Salicylic acid is comedolytic, opening up the infected pores to allow oxygen in. This action enables Oligopeptide-10 free access into the pores for a maximum bacteriostatic effect. Promotes healthy skin tone while treating the consumer to a sophisticated skin feel.

Oligopeptide-10 Acne Treatment Formula

Part	Ingredient	INCI Name	wt %
	Deionized Water	Water	59.05
	Natrosol 250M	Hydroxyethylcellulose	0.10
	Butylene Glycol	Butylene Glycol	15.00
	Tween-20	Polysorbate 20	0.15
	Plantaren 2000	Decyl Glucoside	0.20
	Salicylic Acid	Salicylic Acid	0.50
	Diocide	Caprylyl Glycol (and) Phenoxyethanol (and) Hexylene Glycol	0.50
	Granthix APP	Isohexadecane (and) Ammonium Polyacryloyldimethyl Taurate (and) Polysorbate 80	4.50
B	Granactive Oligopeptide-10	Cyclopentasiloxane (and) Dimethicone (and) Water (and) Polysilicone-11 (and) Butylene Glycol (and) Decyl Glucoside (and) Oligopeptide-10	20.00
Total:			100.00

Procedure:

1. Add ingredients of part A, mix with side sweep agitation.
2. Add part B to part A with side sweep agitation, mix for 30 min.

Note: If you are interested in a non-silicone based ACNE treatment, consider **Granactive ACNE**, an aqueous solution containing the proven anti-microbial peptide (INCI name oligopeptide-10) for use in products associated with the treatment of acne. We recommend co-formulating this product with salicylic acid and **InvisaSkin® DS** for optimal performance, delivery and treatment.

*must be co-formulated with an approved anti-acne active as subject to regional codes and laws.