



MULTIFUNCTIONAL HERBAL BLENDS FOR SKIN HEALTH



Botaniplex™

Multifunctional herbal blends for skin health

Botaniplex™ products are high-quality, potent, multifunctional blends of herbal extracts developed to address specific skin conditions, treating them efficiently and safely.

The products are blended from herbal extracts produced at ISO9001 facility. The herbal raw materials, obtained from reliable suppliers, originate in regions of China that grow the best quality medicinal herbs. After incoming Quality Control (QC) tests, the herbal material is subjected to our own proprietary extraction and purification steps. This results in liquid, easy to formulate extracts enriched in the desired phytochemicals and depleted of unwanted plant materials and contaminants. The extracts are subjected to rigorous QC tests before blending and further checks after formulation into Botaniplex™ products.



Botaniplex™ BALANCE SA

Rebalancing the skin inside & out

Rejuvenates dry skin by restoring microbial and immune balance, effectively combating microbial invaders such as *Staphylococcus aureus*, while stimulating natural defense and repair mechanisms to restore the skin's barrier function.



INCI Name: Glycerin, Water, *Ailanthus altissima* bark extract, *Sanguisorba officinalis* root extract

Patent: **Granted:** "Synergistic herbal compositions with prebiotic properties for treatment of skin infections, allergies and inflammation" US20180169171A1

Dose of Use: 0.2-1%

Solubility: Water miscible

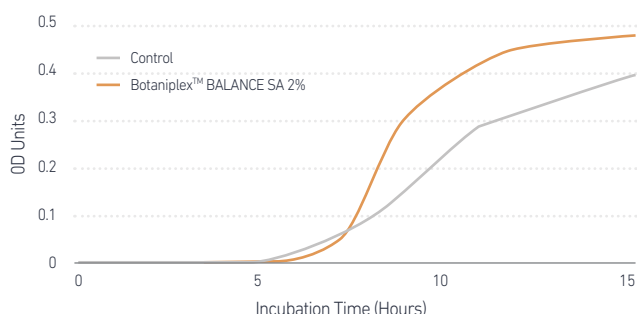
Preservative free

100% natural origin

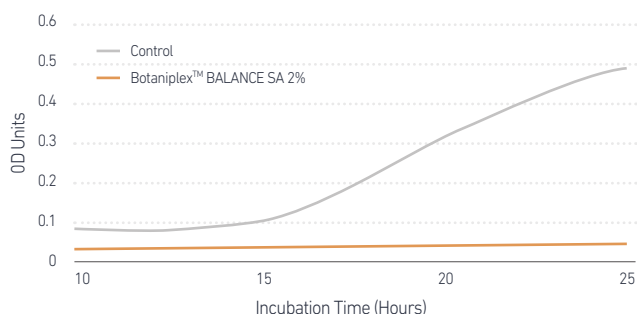
Microbiome balance

When the skin is damaged or infected, both immune dysregulation, and microbial dysbiosis that favors *Staphylococcus aureus* overgrowth, diminish the effectiveness of the skin barrier leading to itch, redness, swelling, scaling, dehydration and infection. By reducing pathogen growth while at the same time promoting growth of the beneficial bacteria *Staphylococcus epidermidis*, Botaniplex™ BALANCE SA protects the skin and keeps it balanced and healthy.

Prebiotic effect on commensal bacteria *S. epidermidis*

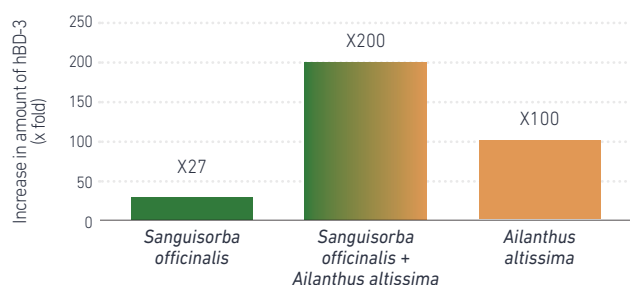


Antibiotic effect on pathogenic bacteria *S. aureus*



Supports the immune system

Botaniplex™ BALANCE SA stimulates production of defensin (AMP - Anti Microbial Peptide) and reduces defensin-suppressing cytokines like IL-4 and IL-13. In so doing, it breaks the cycle of inflammation associated with these conditions, stimulating innate immunity, and providing for better-balanced, resilient skin.



Claims:

- Microbiome balance
- Immune balance
- Anti-oxidant
- Anti-itch

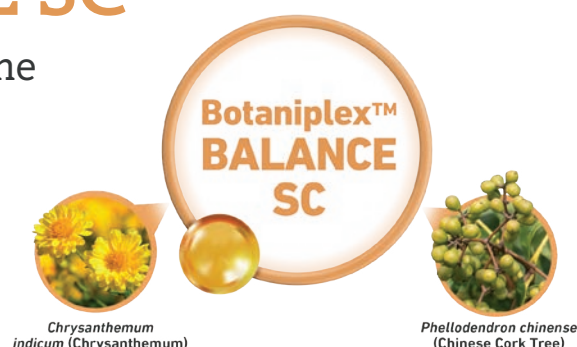
Possible Applications:

- Skin care: Cream and cleanser for dry skin and irritated skin (Atopic eczema, Maskne)
- Scalp care: Shampoo and lotion for dry scalp
- Baby skin care: Cleanser and lotion

Botaniplex™ BALANCE SC

Rebalances the skin's protective microbiome

Restores healthy balance to irritated, unbalanced, oily skin and scalp damaged by acne, fungal acne, dandruff and seborrheic dermatitis associated with *Staphylococcus capitis*, *Cutibacterium acnes* and *Mallasezia* yeast pathogenesis.



INCI Name: Glycerin, Water, *Phellodendron chinense* bark extract, *Chrysanthemum indicum* flower extract

Patent: **Granted:** "Synergistic herbal compositions with prebiotic properties for treatment of acne" WO2018087766 A1

Dose of Use: 2 - 5%

Solubility: Water miscible

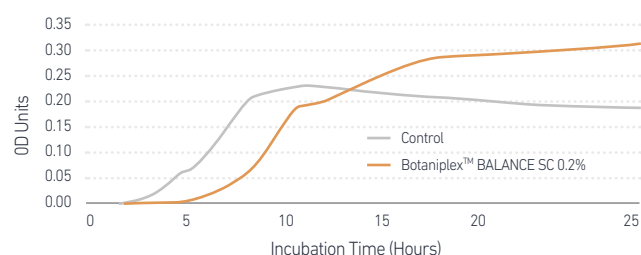
Preservative free

100% natural origin

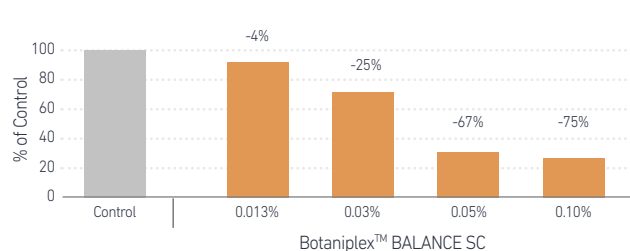
Microbiome balance

Acne and some types of dandruff result from an increase in sebum production that eventually leads to inflammation. In dandruff, *Malassezia* spp. and *Staphylococcus capitis* are two of the organisms whose overproliferation is thought responsible; in acne, excessive growth of *Cutibacterium acnes* is implicated. The overgrown pathogens overwhelm beneficial organisms such as *Staphylococcus epidermidis* that protect the skin, throwing the skin microbiome out of balance. **Botaniplex™ BALANCE SC** has prebiotic and antimicrobial activities to restore microbiome balance, and additional bioactivities to alleviate both acne and dandruff.

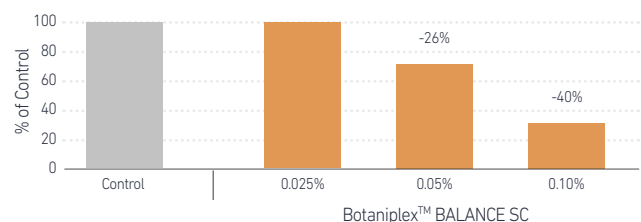
Prebiotic effect. Enhancement of *S. epidermidis* growth in presence of 0.2% Botaniplex™ BALANCE SC



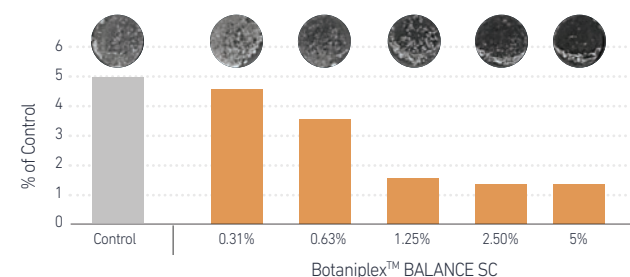
Antibacterial effect of Botaniplex™ BALANCE SC on *S. capitis* growth



Antibacterial effect of Botaniplex™ BALANCE SC on *C. acnes* growth



Anti-fungal effect of Botaniplex™ BALANCE SC on *Malassezia furfur* growth



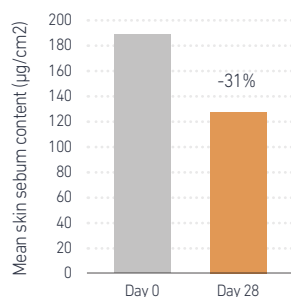
Effective sebum reduction

Oily skin is characterized by excessive sebum production from the sebaceous glands. While sebum is crucial for moisturizing healthy skin, sebum overproduction can lead to conditions such as acne, dandruff, and cosmetic challenges like uneven texture, excessive shininess and makeup smudging.

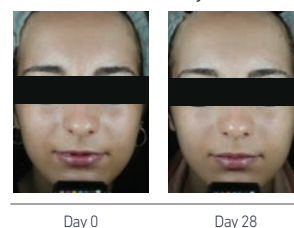
Objective: Efficacy and tolerability of Face Gel for oily skin containing 3% **Botaniplex™ BALANCE SC**.

Study Population: 10 healthy female adults (age ≥18) with oily to combination skin.

Sebum content measurement by Sebumeter® at Day 0 (before treatment) and at Day 28 (after treatment) showed significant reduction in skin sebum content.



Oiliness was visibly reduced in most of the subjects.



Satisfaction with the treatment was reported by 8 out of 10 subjects after 28 days of treatment.

Q1: I am satisfied with the overall performance of the sebum reduction treatment.

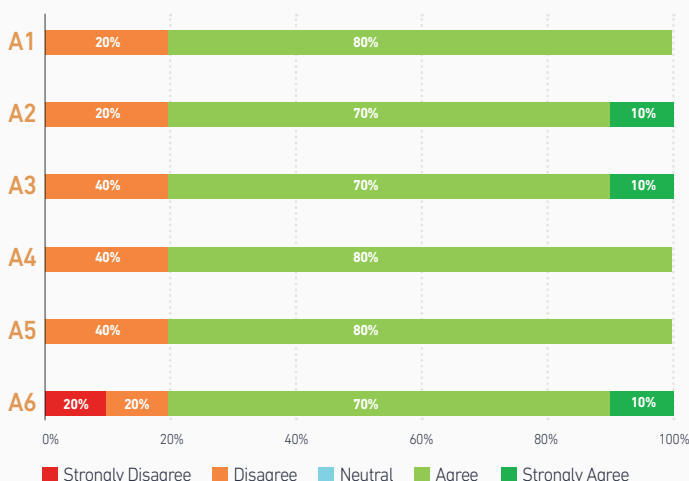
Q2: The treatment has improved the overall texture of my skin, making it smoother and less oily.

Q3: My skin feels less greasy after using the treatment.

Q4: Since using the product, I have noticed a visible reduction in shine on my skin.

Q5: Oiliness is eliminated quickly.

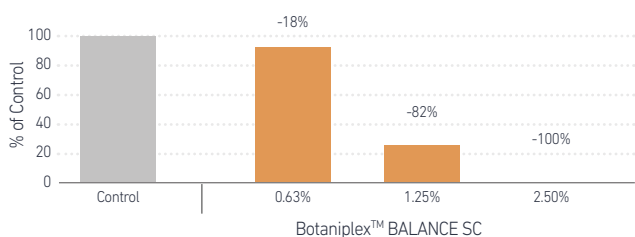
Q6: The product effectively reduces oiliness on my skin.



Oral care

Botaniplex™ BALANCE SC can be used for oral care, as it inhibits the growth of *Streptococcus mutans*, bacteria associated with tooth decay.

Antibacterial effect of Botaniplex™ BALANCE SC on *S. mutans* growth



Claims:

- Microbiome balance
- Sebum regulation
- Anti-oxidant
- Assistance in redness reduction

Possible Applications:

- Scalp care: Shampoo or lotion for oily, flaky, irritated scalp (Dandruff, Seborrheic dermatitis)
- Skin care: Cream or lotion for acne (including fungal acne)
- Oral care: Toothpaste, mouth wash
- Pet care: Shampoo, lotion

Botaniplex™ CLEAR

Face the world again with CLEAR skin!

Acne vulgaris is one of the most common skin conditions in the world. The cause is multifactorial and includes pathophysiologic mechanisms related to altered sebaceous gland activity, induction of inflammation cascades, increased androgen production and microbial dysbiosis etc.

Botaniplex™ CLEAR is a potent herbal blend for treating acne lesions and pustular boils arising from bacterial and fungal infections. It has strong anti-inflammatory and antimicrobial properties.

Available in selected territories

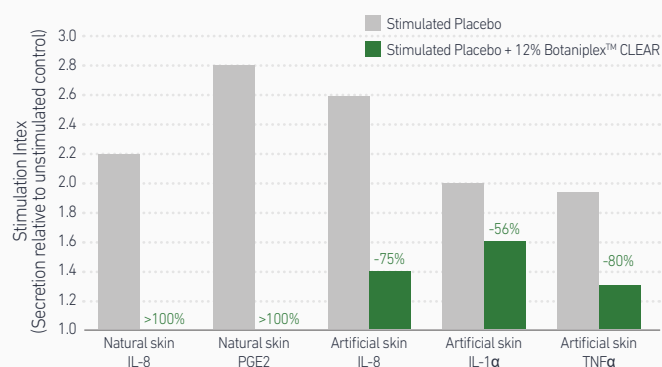


| | |
|---------------------|---|
| INCI Name: | Glycerin, Water, <i>Phellodendron chinense</i> bark extract, <i>Sanguisorba officinalis</i> root extract, <i>Rheum palmatum</i> root extract, <i>Portulaca oleracea</i> extract, <i>Chrysanthemum indicum</i> flower extract, <i>Scutellaria baicalensis</i> root extract |
| Patent: | Granted: "Synergistic herbal compositions with prebiotic properties for treatment of acne" WO2018087766 A1 |
| Dose of Use: | 1-12% |
| Solubility: | Water miscible |
| Preservative free | |
| 100% natural origin | |

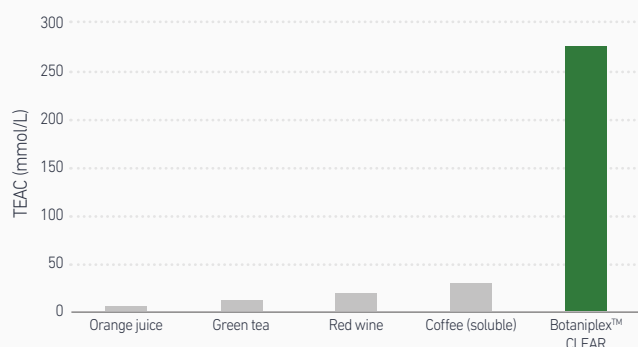
Inflammation

3D skin inflammation models

Botaniplex™ CLEAR decreases secretion of pro-inflammatory mediators from natural and artificial skin subjected to inflammation-inducing stimulus



Botaniplex™ CLEAR has greater antioxidative capacity than other recognized natural antioxidants



In vivo efficacy - Reduction in visible acne

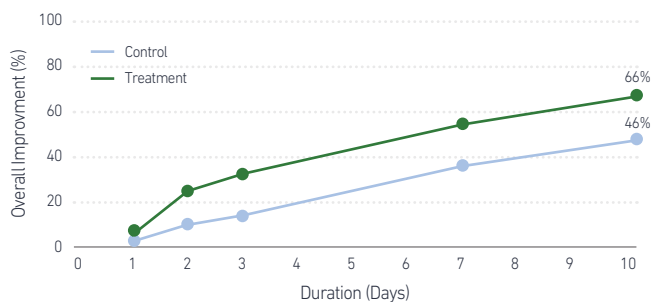
Objective: Efficacy and safety of Acne spot Treatment gel containing 12% **Botaniplex™ CLEAR**.

Study Population: 24 adult volunteers with mild to moderate acne.

Design: Split-face study. One side was randomly selected to receive Acne Spot Treatment gel.

Overall improvement of inflamed lesions

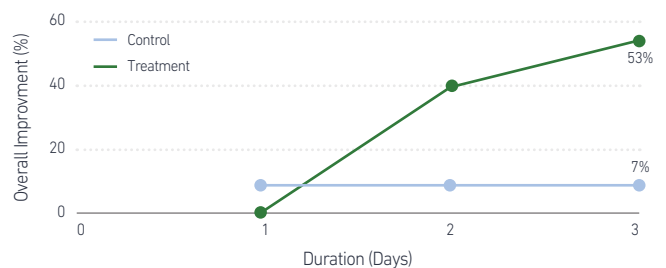
Total population, N=24



Results:

- Effective after just 5 applications (36 hours/ 1.5 days).
- Dramatic reduction of visible acne.
- Reduction of redness (erythema), especially in inflammatory lesions.

Females under 18, N=5



Botaniplex™ CLEAR patch quickly resolves acne

Objective: Efficacy and Safety of Acne Patch containing 3% **Botaniplex™ CLEAR**

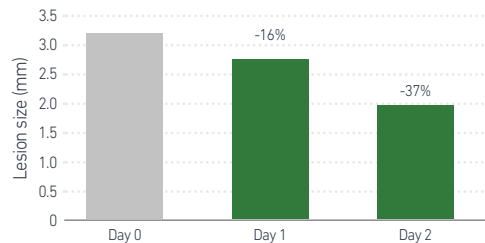
Study Population: 10 volunteers with acne.

Results:

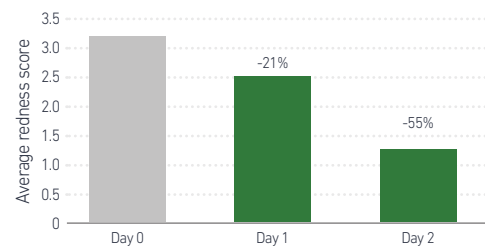
- Single application of patch containing 3% **Botaniplex™ CLEAR** is effective and safe in treating inflammatory lesions just after one and two days.
- 100% satisfaction with the product.



Lesion size reduction



Redness reduction



Claims:

- ☞ Clears spots and pimples
- ☞ Reduces redness and irritation
- ☞ Microbiome balance

- ☞ Anti-oxidant
- ☞ Anti-pigmentation

Possible Applications:

- ☞ Face & body care: Gels and lotions
- ☞ Facial care: Masks & patches

Botaniplex™ GUARD

GUARD against viruses going viral!

Herpes simplex virus (HSV), a member of the double-stranded-DNA herpesviridae family, is widespread throughout the world. It is known to cause oral herpes (cold sore) and genital lesions. In some cases, herpetic lesions are co-infected with microbes, predominantly *Candida* spp. and *Staphylococcus* spp.

Botaniplex™ GUARD blends are endowed with strong anti-HSV activity, as well as anti-microbial and anti-inflammatory activities.

INCI Name:

Botaniplex™ GUARD 2

Glycerin, Water, *Chrysanthemum indicum* flower extract, *Rheum palmatum* root extract

Botaniplex™ GUARD 3

Glycerin, Water, *Chrysanthemum indicum* flower extract, *Sanguisorba officinalis* root extract, *Rheum palmatum* root extract

Patent:

Granted: "Herbal extracts for treatment of herpesvirus infections" WO2018135215 In vitro

Dose of Use:

1-3%

Solubility:

Water miscible

Preservative free

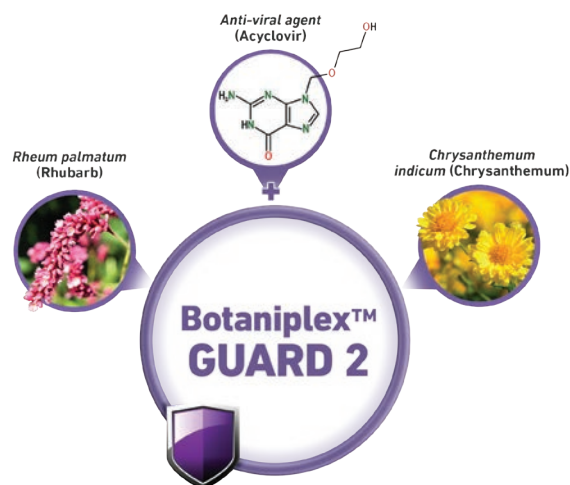
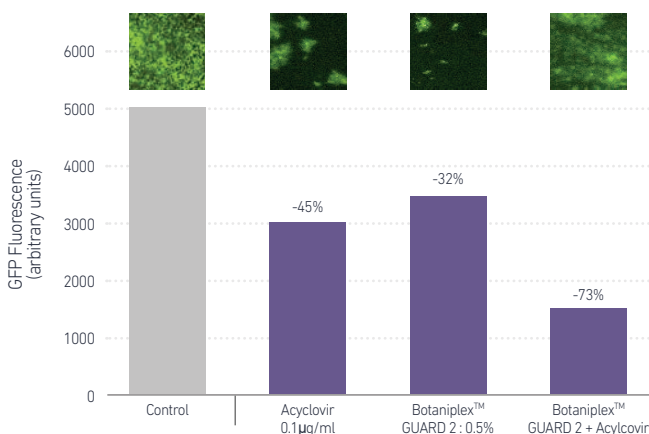
100% natural origin

Botaniplex™ GUARD 2

In vivo efficacy Synergistic anti-HSV-1 effect

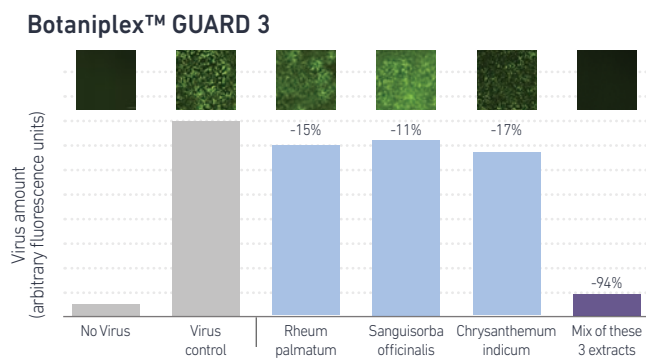
Synergistic inhibition of HSV-1 infection by herbal extracts. Host cells were infected with HSV-1 that carries a gene for a fluorescent protein (GFP). Growth of the virus was monitored by fluorescence microscopy and using a plate reader.

Botaniplex™ GUARD 2 + Acyclovir



Botaniplex™ GUARD 3

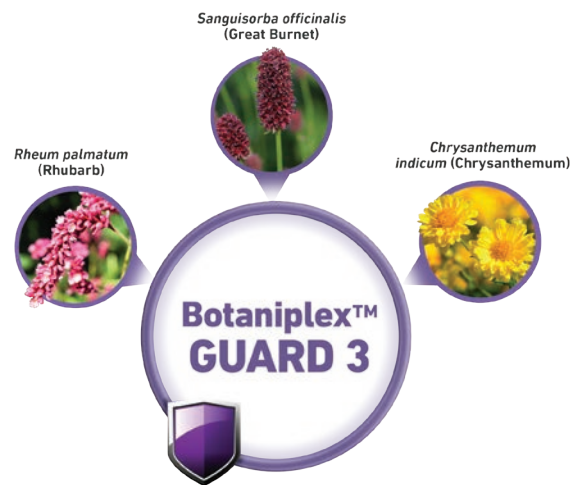
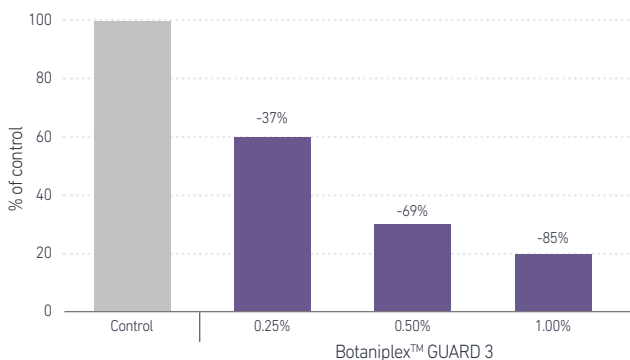
In vitro efficacy Synergistic anti-HSV-1 effect



- The multiple mechanisms for the action of herbal anti-viral activity are currently under intensive investigation in cooperation with Prof. Kobiler – researcher at Tel Aviv University.

Antifungal effect

Inhibitory effect on growth of pathogenic fungi *Candida albicans*

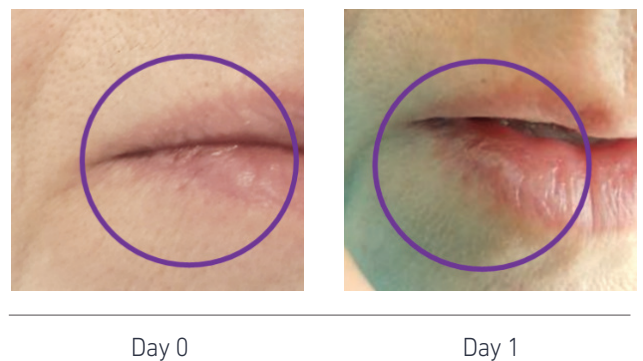


In vivo efficacy Cold sore relief with Botaniplex™ GUARD 3

Objective: Effect of 3% Botaniplex™ GUARD 3 on cold sore.

Study Population: 10 adult volunteers with breakout of oral herpes

Results: All volunteers experienced complete or partial relief of oral herpes symptoms. Elimination or significant reduction of further pain, swelling, redness, wound development after 3-6 applications over 1-2 days. No adverse effects were observed.



Claims:

- Relieves lip-sore discomfort
- Soothes redness and itchiness
- Alleviates lip/genital irritation
- Microbiome balance
- Anti-oxidant

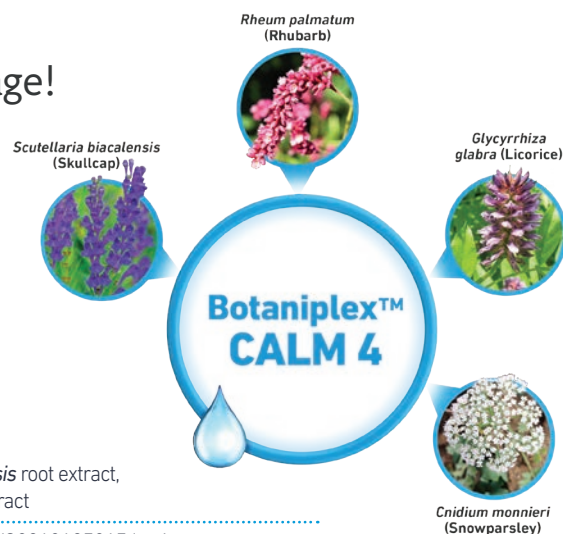
Possible Applications:

- Lip care: Cream for dry, cracked, red lips
- Lip care: Perioral (cold sore) cream
- Intimate care: Wash and treatment gel

Botaniplex™ CALM 4

Keep CALM, love your skin whatever your age!

Aging of skin is a complex process depending on both intrinsic physiology (inflammation, autoimmunity etc.) and extrinsic factors (mechanical, sunlight, oxidants and other pollutants, pathogens). As we age, skin growth and repair slow, and clinical manifestations of aging increase markedly, expressed as wrinkling, fragility, dryness, pigmentation, dermatitis and poor wound healing.



INCI Name: Glycerin, Water, *Rheum palmatum* root extract, *Scutellaria baicalensis* root extract, *Glycyrrhiza glabra* (Licorice) root extract, *Cnidium monnieri* fruit extract

Patent: Pending: "Herbal extracts for treatment of herpesvirus infections" WO2018135215 In vitro

Dose of Use: 1-4%

Solubility: Water miscible

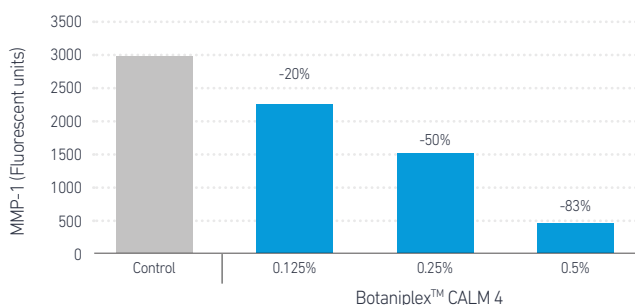
Preservative free

100% natural origin

In vitro efficacy

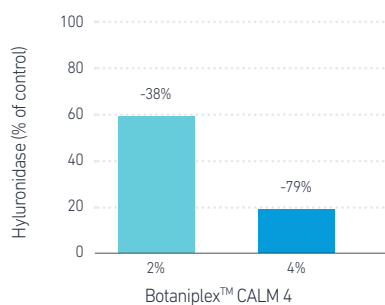
Skin integrity retention

Matrix Metalloproteinase -1 (MMP-1) is a collagenase, an intrinsic enzyme that digests collagen, an important skin structural protein. **Botaniplex™ CALM 4** helps preserve skin structure by inhibiting MMP-1.



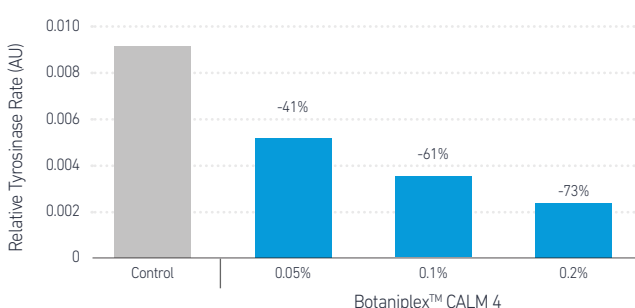
Moisture preservation

Hyaluronidase is an intrinsic enzyme that digests hyaluronic acid, a polysaccharide lubricant that occurs naturally in the skin. **Botaniplex™ CALM 4** inhibits hyaluronidase, helping to keep the skin moist and supple.



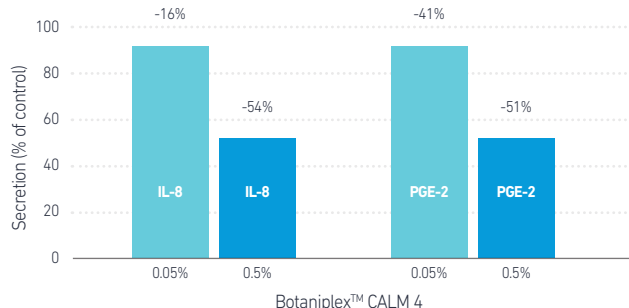
Lightening

Tyrosinase is an intrinsic enzyme responsible for synthesis of melanin, the pigment that causes dark patches on the skin. **Botaniplex™ CALM 4** is a strong inhibitor of tyrosinase.



Redness reduction

Botaniplex™ CALM 4 decreases secretion of pro-inflammatory mediators from keratinocytes subjected to UV-inflammation-inducing stimulus.



In vivo efficacy

Significant and visible reduction in signs of aging

Objective: Efficacy evaluation of face gel containing 4% Botaniplex™ CALM 4 to reduce aging-related appearance of the skin.

Study Population: 42 adult volunteers with aging skin.

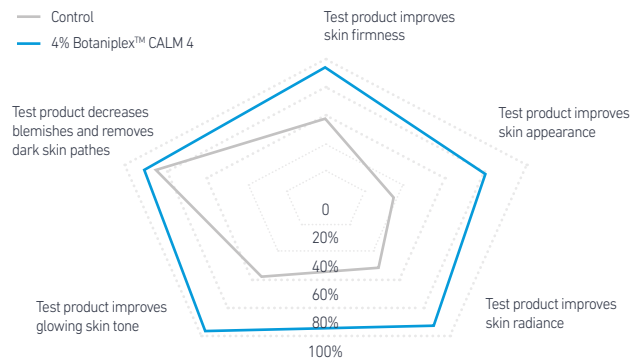
Design: Randomized, double-blind, placebo-controlled study.

Results:

- Reduction of fine lines and wrinkles
- Improvement in skin tone and glossiness
- Dryness reduction

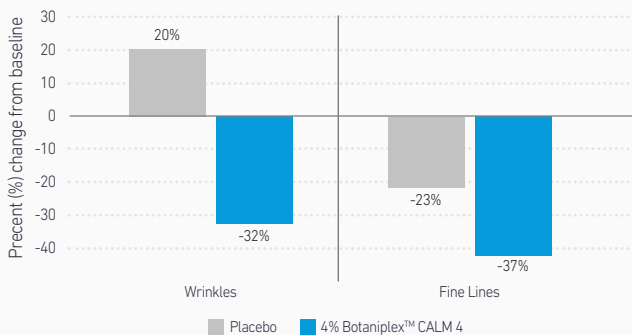
Percentage of satisfied volunteers

More than 50% were **very satisfied** with anti-pigmentation effect of the **Botaniplex™ CALM 4** product compared to only 5% with the placebo.



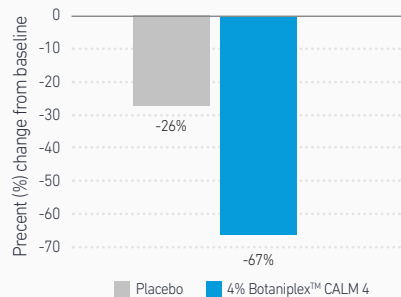
Wrinkles reduction

Visioscan assessment of wrinkles in the Crow's feet area reveals that **Botaniplex™ CALM 4** results in superior wrinkle reduction compared to the placebo.



Skin brightening effect

Using a pigmentation scoring scale, a superior improvement in skin brightness was observed following the application of **Botaniplex™ CALM 4** as compared to placebo. The result was supported by Colorimeter analysis.



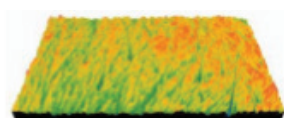
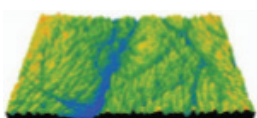
Visible Improvement in wrinkles

Image-Pro Software Analysis of Area and Intensity of Wrinkles and facial photographs demonstrate a visible reduction in wrinkles following the treatment with **Botaniplex™ CALM 4** gel.



Day 0

Day 60



Claims:

- Skin integrity retention
- Moisture preservation
- Anti-pigmentation
- Fine line & wrinkle reduction
- Redness reduction

Possible Applications:

- Face & Body care: Moisturizing products
- Face & Body care: Anti-aging products
- Skin care: After sun products

Quality & Sustainability

Green Mountain Biotech is committed to minimizing its impact on the environment by sustainable sourcing and responsible use of resources. This includes awareness of the importance of plant biodiversity and conservation, and sensitivity to the communities who grow the medicinal herbs. In our own operations,

we use manufacturing and packaging materials as efficiently as possible, recycling solvents, and disposing of waste in an environmentally appropriate manner. Botaniplex™ products are COSMOS approved as genuine natural cosmetics produced to the highest feasible sustainability standards.

Also available from Green Mountain Biotech

GMB Herbal Extracts.
Multifunctional botanical extracts to
address skin concerns



Angelica polymorpha sinensis
root extract

Supports blood flow (microcirculation)



Glycyrrhiza glabra (Licorice)
root extract

Promotes graceful aging



Chrysanthemum indicum flower
extract

Inhibits excessive, pollution-related
skin responses



Sapindus mukorossi
fruit extract (Soap Nut)

Multifunctional agent for skin cleaning



Portulaca oleracea extract
(Purslane)

For skin burns

