



GREEN MOUNTAIN
BIOTECH

Botaniplex™ GUARD 3

GUARD against viruses
going viral!



Sanguisorba officinalis
(Great Burnet)



Chrysanthemum indicum
(Chrysanthemum)



Rheum palmatum
(Rhubarb)



BOTANIPLEX™ GUARD 3

Botaniplex™ GUARD 3 is expertly formulated to provide comprehensive care against Herpes simplex virus (HSV), responsible for oral herpes (cold sores) and genital lesions. Powered by a unique botanical blend with anti-inflammatory, antioxidant, and antiviral properties, it supports skin health and helps manage outbreaks. With added antimicrobial benefits, it also offers protection against infections, whether occurring independently or alongside herpetic lesions.

Triple Action:

1 Defends against Herpes simplex virus (HSV), the cause of cold sores and genital lesions.

2 Calms excessive immune response.

3 Combats co-infections with *Candida* spp. and *Staphylococcus* spp.

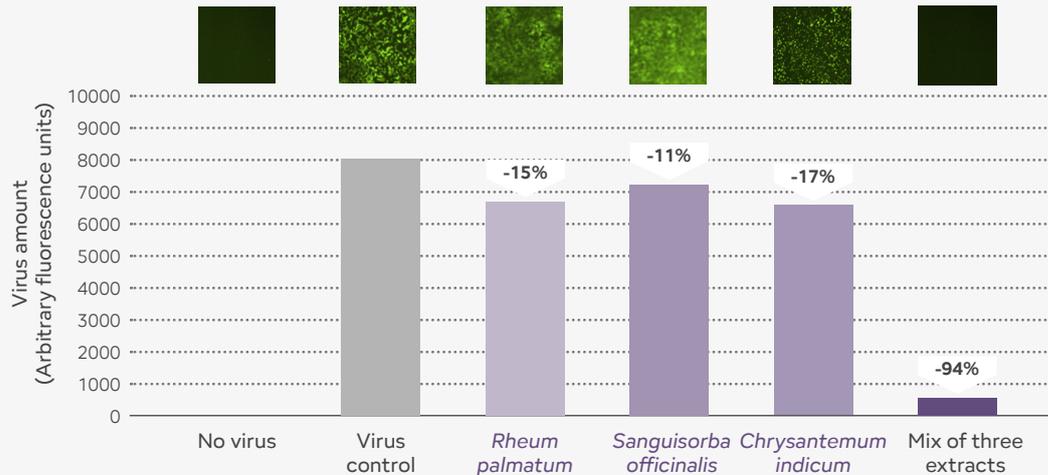


ANTI-VIRAL ACTIVITY

In vitro efficacy

Synergistic HSV-1 inhibition

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.



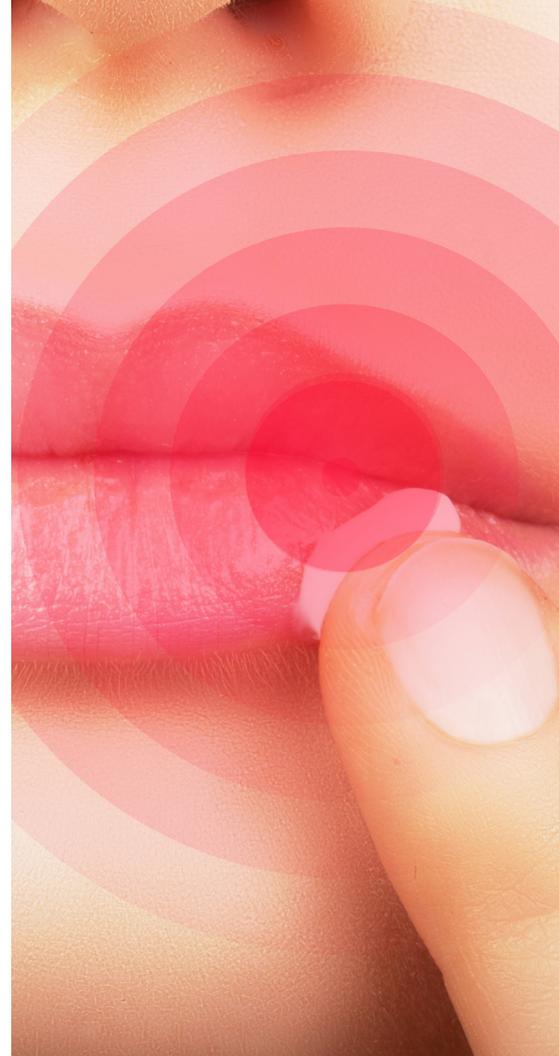
BREAKING THE CYCLE:

Inflammation and oxidative damage in herpes sores

Genital and cold sores, caused by the Herpes simplex virus (HSV), are often accompanied by a cascade of inflammation and oxidative stress. A key player in this process is **Prostaglandin E2 (PGE2)**, a lipid mediator that drives inflammation and modulates immune responses. Elevated PGE2 levels during HSV outbreaks exacerbate redness, swelling, and discomfort, while also influencing the immune system's ability to manage the virus effectively.

Alongside immune responses, oxidative stress from free radicals can further damage skin cells, impair healing, and intensify inflammation. Antioxidants play a critical role in countering this stress, protecting cells, and promoting recovery. By reducing oxidative damage and regulating PGE2, antioxidant activity supports the immune system in breaking the inflammatory cycle and restoring skin health.

A balanced approach that targets inflammation, bolsters immune resilience, and enhances antioxidant defenses is key to soothing herpes sores and promoting faster, healthier recovery.

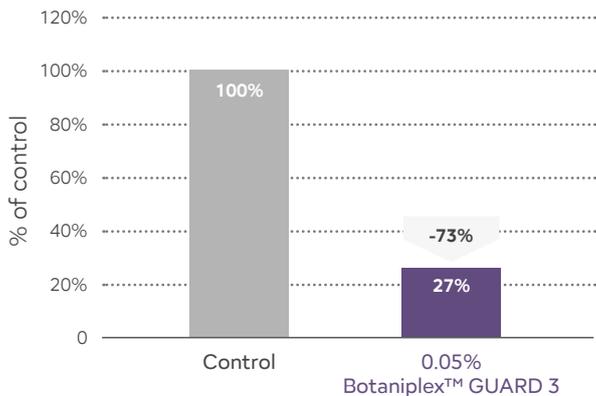


IMMUNE SUPPORT

In vitro efficacy

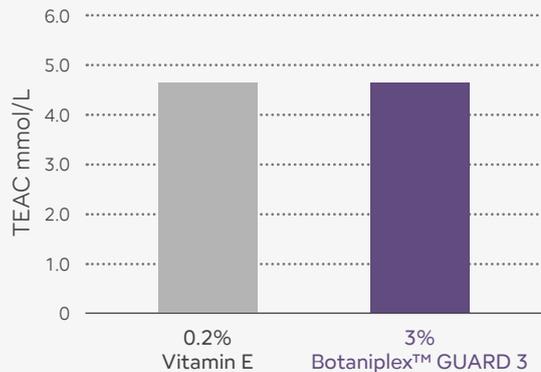
Anti-inflammatory

Botaniplex™ GUARD 3 decreases secretion of pro-inflammatory mediator marker prostaglandin E2 (PGE2) from keratinocytes exposed to UVB radiation.



Anti-oxidative

Antioxidative capacity of 3% **Botaniplex™ GUARD 3** is equivalent to 0.2% Vitamin E used in cosmetic products



*Anti-oxidant activity model, using DPPH radical scavenger (indicator of anti-oxidant activity).

TEAC - Trolox (Vitamin E derivative) Equivalent Antioxidant Capacity.

BACTERIAL AND FUNGAL CO-INFECTIONS

Skin and mucosal membranes, whether affected by cold sores or intimate care concerns, are vulnerable to secondary infections caused by bacteria and fungi. Two common culprits, *Staphylococcus aureus* and *Candida spp.* can exacerbate symptoms and delay recovery.

Staphylococcus aureus is an opportunistic bacterium that infects compromised skin, such as cold sores, causing inflammation, redness, swelling, and discomfort. Its toxins can further damage tissue and impede healing.

Candida spp. naturally part of the microbiota, can overgrow on disrupted skin or mucosa, leading to irritation, itching, and impaired healing in both intimate areas and cold sore sites.

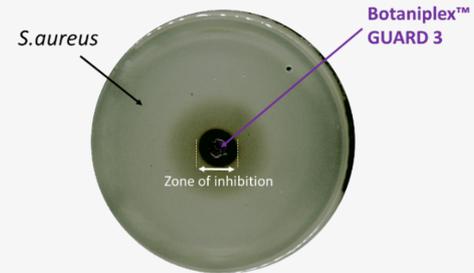
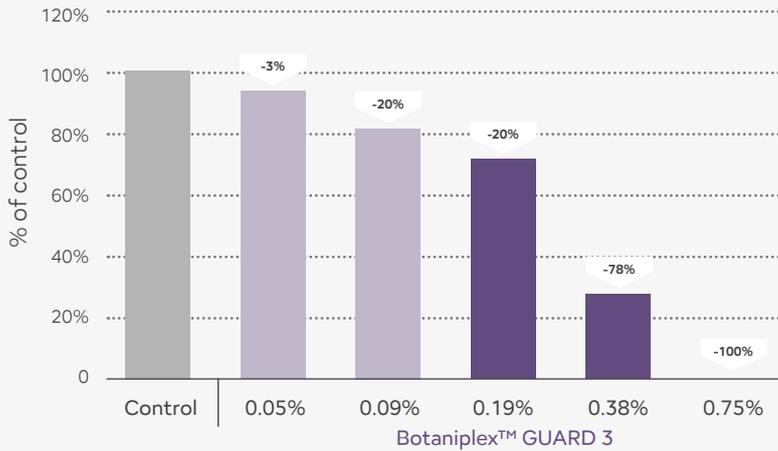
Managing these co-infections is essential for maintaining healthy skin and mucosal balance.



ANTIBACTERIAL EFFECT

In-vitro efficacy

Botaniplex™ GUARD 3 inhibits growth of *Staphylococcus aureus*, one of the most common pathogenic bacteria to infect skin lesions



Inhibition zone: 1.2 cm diameter

ANTI-FUNGAL EFFECT

In-vitro efficacy - Results

Botaniplex™ GUARD 3 inhibits growth of *Candida albicans*:

- Co-infecting pathogen in Herpes lesions
- Common pathogen in genital infections



COLD SORE MANAGEMENT

In-vivo efficacy – Preliminary results

Objective:

Clinical evaluation of Herpes (Cold Sore) gel containing **3% Botaniplex™ GUARD 3**

Study Population:

10 adult volunteers (age ≥ 18) during a breakout of oral herpes

Application:

Apply gel three times daily

Results:

- All volunteers experienced complete or partial relief of oral herpes symptoms
- Following 3-6 applications over 1-2 days, no further development or a marked reduction in pain, swelling, redness, and wound severity was observed
- No adverse effects were observed



Day 0



Day 1,
3 applications

MARKETING CLAIMS



Relives pain on chapped lips



Soothes redness and itchiness



Helps alleviate lip/genital irritation



Microbiome balance



Immune support



Anti-oxidant



APPLICATIONS



Lip Care:

Dry, cracked, red lips cream
Perioral (cold sore) cream



Intimate Care:

Wash and treatment gel (Herpes,
Candida)



TECHNICAL INFORMATION



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

Suggested use level: 1 - 3%

Formulation: Water miscible
Incorporation during the cooling phase (<40°C)
Temperatures of up to 60°C for a short time do not affect the stability

Patent: Granted: "Herbal extracts for treatment of herpesvirus infections"
WO2019135215

BENEFITS

Aqueous herbal extracts

100% natural origin

Preservative-free

Easy to formulate

High quality

Established safety

Multifunctionality

Proven efficacy

Sustainability

COSMOS approved

ISO 9001

China compliant



THE BOTANIPILEX™ SYSTEMS



Botaniplex™ BALANCE SC

- Improves microbiome balance
- Assists in reducing redness and irritation
- Regulates sebum secretion



Botaniplex™ BALANCE SA

- Improves microbiome balance
- Assists in reducing of redness and irritation
- Stimulates the skin's natural defense mechanisms



Botaniplex™ CALM 4

- Reduces dryness, wrinkling and fragility in aging skin
- Helps slow skin pigmentation associated with aging
- Reduces and soothes redness and irritation



Botaniplex™ CLEAR

- Clears spots, pimples and blemishes
- Reduces redness and irritation
- Improves microbiome balance



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