

A top-down photograph of various pieces of laboratory glassware, including beakers, flasks, and test tubes, some containing liquids, arranged on a light-colored surface. The image is used as a background for the title text.

The Rise of Cleanical Beauty

Blurring the lines between **clinically proven** products with a
focus on **clean and sustainable** ingredients



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Our Speakers

Agenda

Defining Cleanical Beauty

**Formulate for the Trends:
a Focus on Ingredients**

Products We Love



A Transition to Cleanical Skincare

Functional naturals and “clean chemicals” combine to deliver the best of clean and clinical beauty to consumers



Clean Beauty

A Continued Shift to Conscious Consumerism

- Interest in clean beauty shows no signs of slowing
 - Averages **32.4K monthly consumer searches** and expected to grow another **16% over the next 12 months**, according to data from Spate
 - Continues to outpace growth in other beauty categories, especially during the height of the Covid-19 pandemic, according to data from Nielson IQ
- Serves to bring together the need for ingredient transparency, ethical sourcing and labor practices, and environmental responsibility
- Fueled by an increased interest in wellness, both individual and of the environment, and a rise in skin sensitivities

Cleaning up Clean Beauty



A Need for Definition

- Terms like “clean” and “natural” have no set definition
- Through greenwashing, brands can position themselves as being “eco-friendly” or “natural” without having to be accountable for supporting these claims

A Lack of Regulation

- Cosmetics and beauty industry is one of the least regulated markets in the United States
- The US currently has about thirty ingredients banned from use in the cosmetic space compared to the EU’s 1300
- Consumers left to do their own research on the safety of ingredients

Navigating the Landscape

- Commonly used ingredients have come under scrutiny from consumers for fears of being carcinogenic, causing endocrine disruption, and negatively impacting the environment
- Brands such as Credo, Follain, Sephora, and Detox Market have adapted their ingredient lists to offer consumers transparency



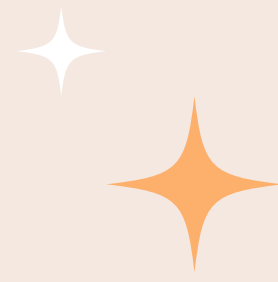
The Rise of Cleanical Skincare

Clean Beauty Concepts with Clinically-Tested Ingredients

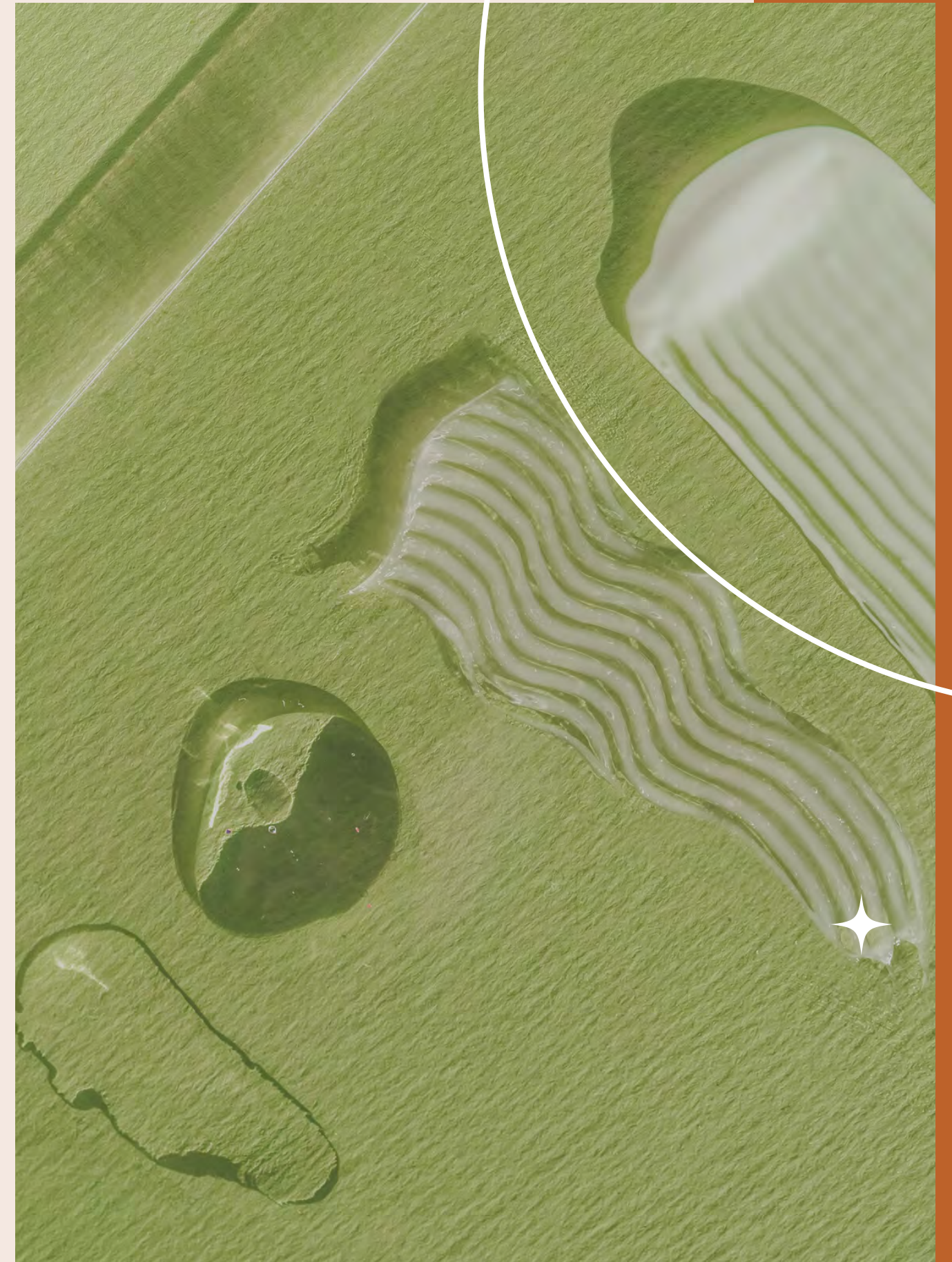
- Consumers recognize that just because ingredients are natural does not mean that they are efficacious
 - Increased focus on finding multitasking products with multiple actives to effectively address their skin concerns
 - Surge in microtrends such as Skanimalism
- Just as interest in clean beauty has increased, so has an interest in medical-grade skincare
 - Products centered around a greater concentration of active ingredients specifically formulated to target certain skin conditions
 - Ingredients have been evaluated and proven effective for their skin concerns
- Desire for increased efficacy with clean ingredients has led to the emergence of the concept of cleanical skincare



A Focus on Ingredients



- Formulations focused on clean ingredients combined with scientific innovation will be a focus for consumers as the cleanical trend advances
- Cleanical skincare products center around claims such as fragrance-free, paraben-free, sulfate-free, dye-free, and gluten-free so consumers can avoid ingredients they have come to be most cautious of
- Safe synthetics and natural-like ingredients gain favor with consumers
 - Can be a safer alternative to some of their natural counterparts to avoid skin irritation
 - Can cut down on the environmental impacts of some ingredients due to issues such as over-farming or deforestation

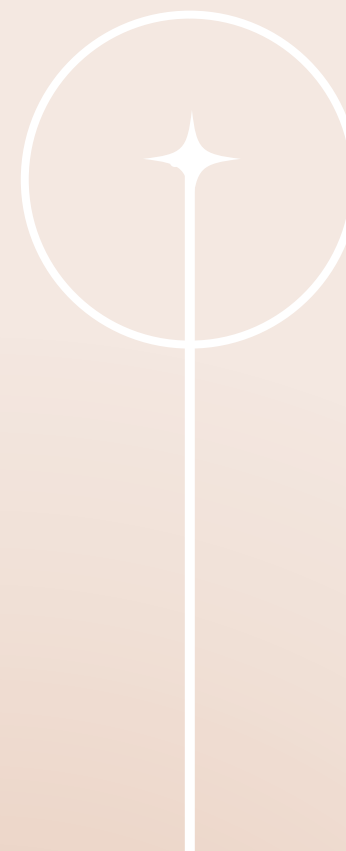




Formulate for the Trend



Formulations centered on clean ingredients combined with scientific innovation will be a focus for consumers as the cleanical trend advances



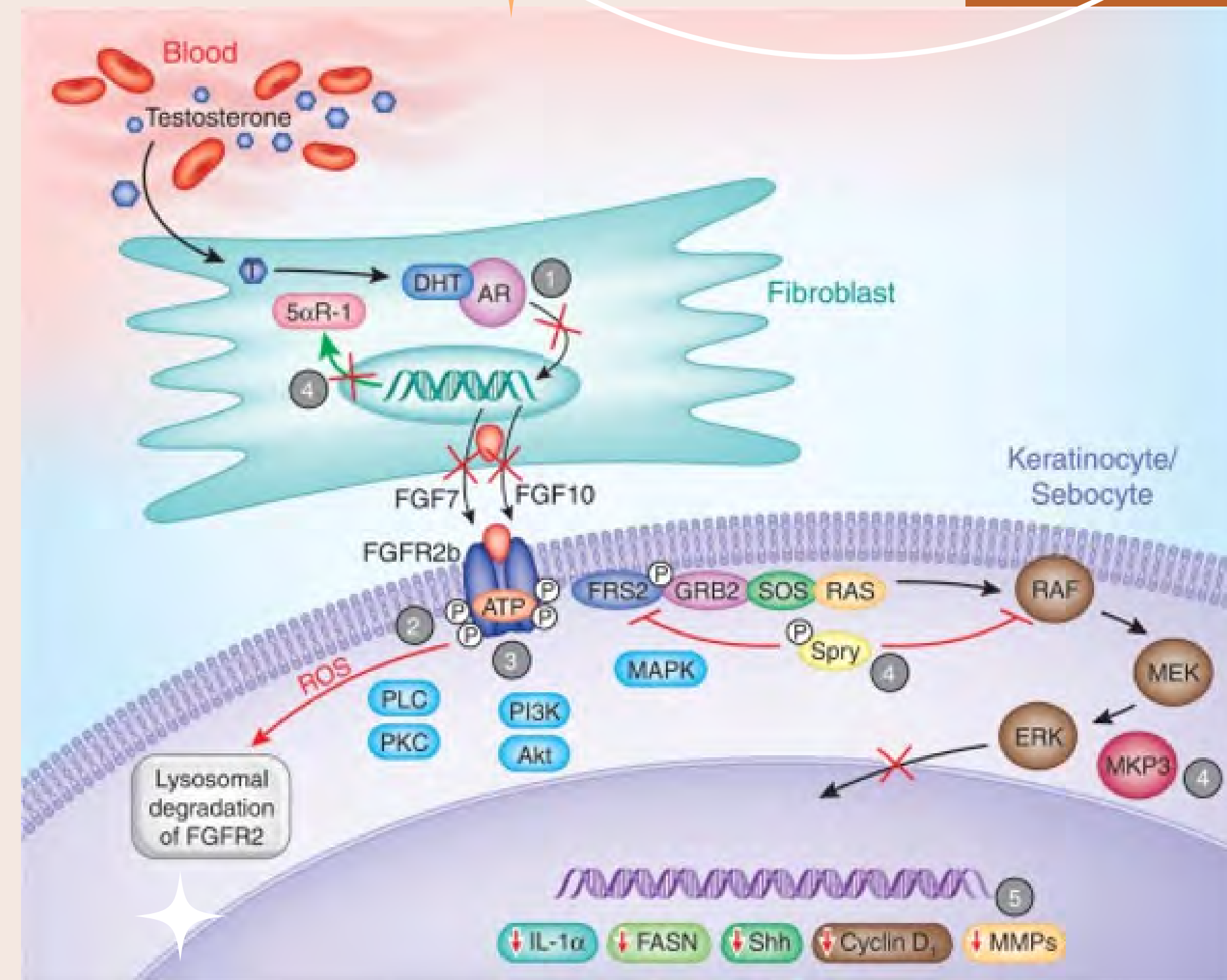


Azelaic Acid

- Favorite of dermatologists and gaining popularity with consumers for its effectiveness and gentleness for all skin types
- Keratolytic and works deep within pores to gently exfoliate skin and remove dead cells
- Antibacterial properties help fight acne-causing bacteria to keep breakouts at bay
- Has been shown to increase cell turnover, making it an excellent anti-aging ingredient
- Comedolytic and serves as a natural alternative to salicylic acid

Azelaic Acid for Acne Treatment

- Azelaic acid 15% foam could serve as a viable treatment option for facial acne
- Combined SA 20% and AA 20% are recommended at an early stage of treatment if patients have more inflammatory lesions
- Azelaic acid 15% foam was effective in treating moderate truncal acne and facial acne
- Innovative topical treatment for acne with AzA-loaded poly-DL-lactide/glycolide copolymer nanoparticles
- FGFR2 signaling plays a major pathogenic role in follicular hyperkeratinization and sebaceous gland hypertrophy in acne and azelaic acid inhibits mitochondrial ATP formation required for receptor tyrosine kinase phosphorylation
- AzA modifies follicle hyperkeratinization to unplug comedones
- AzA targets P. acnes



Hashim PW, Chen T, Harper JC, Kircik LH. The Efficacy and Safety of Azelaic Acid 15% Foam in the Treatment of Facial Acne Vulgaris. *J Drugs Dermatol*. 2018 Jun 1;17(6):641-645.



Formulating with Azelaic Acid

- Use level up to 10%
- Eliminate direct association of azelaic acid with water as it demonstrates poor water solubility
- Soluble in the presence of ether, acetates, and alcohols
- Heating is required to ensure solubilization

Mechanism of Action

- Skin exfoliation
- Increase in keratinocyte differentiation.
- Inhibition of hyperkeratinization and hyperpigmentation
- Stimulation of hair growth in conjunction with zinc ions
- Inhibition of tyrosinase
- Antimicrobial properties
- Inhibits UV-induced oxidation

Botaniplex Balance

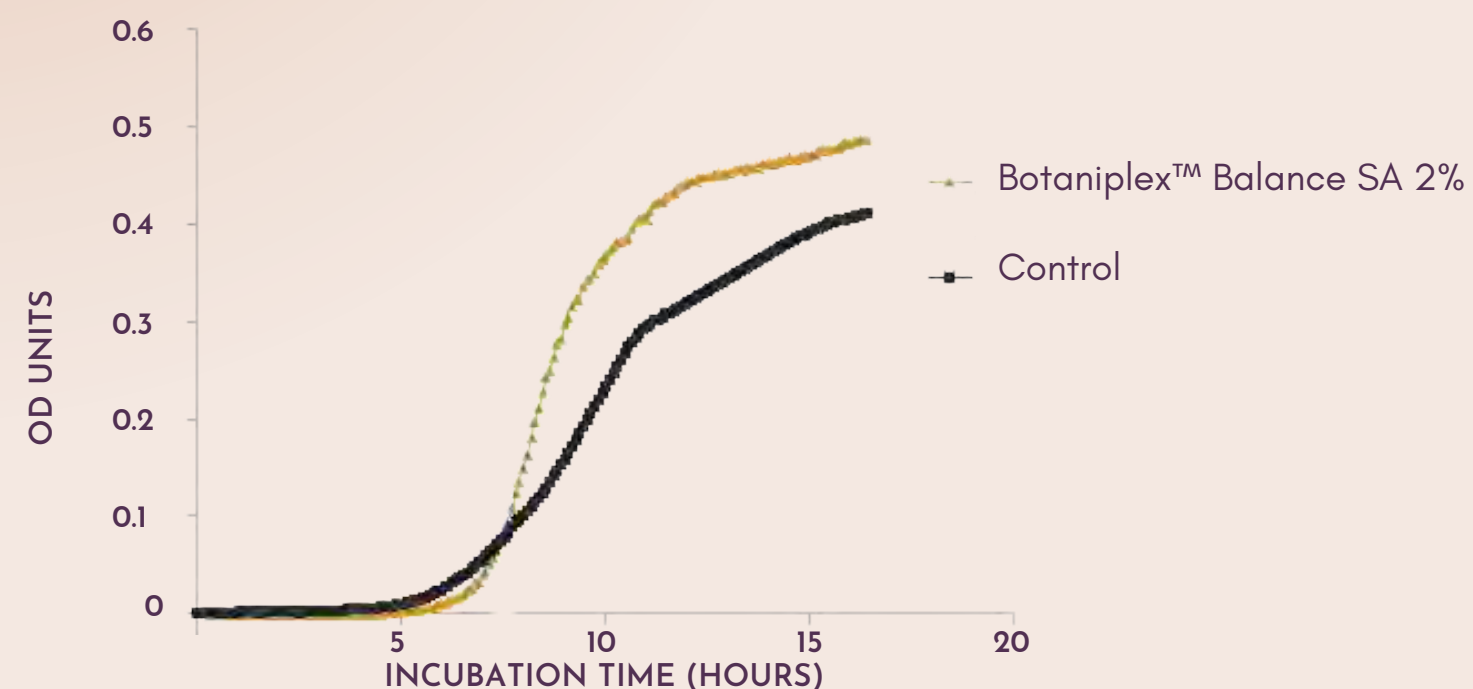
- Contains botanical extracts that help restore balance, preventing the growth of harmful bacteria and fungi while encouraging the growth of beneficial ones
- By stimulating natural defense mechanisms, the extract blends help to combat the invaders and transform the skin back to its healthiest condition
- Manufactured through a proprietary procedure that enhances the bio properties of specific phytoactives that are contained within each plant



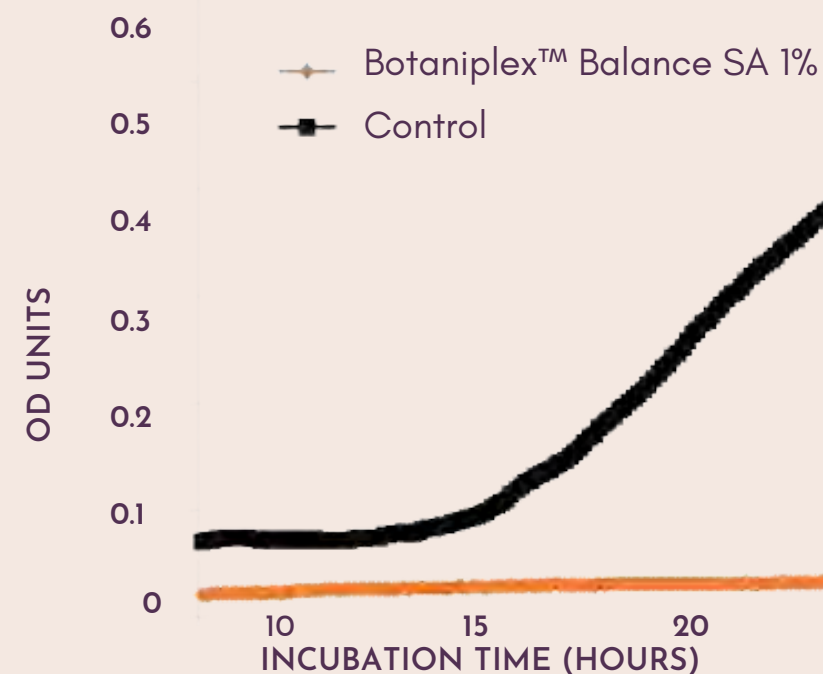
Dual Effect on Microbial Growth

Botaniplex™ Balance SA

Prebiotic effect on *S. epidermidis* - Growth of *S. epidermidis* over time

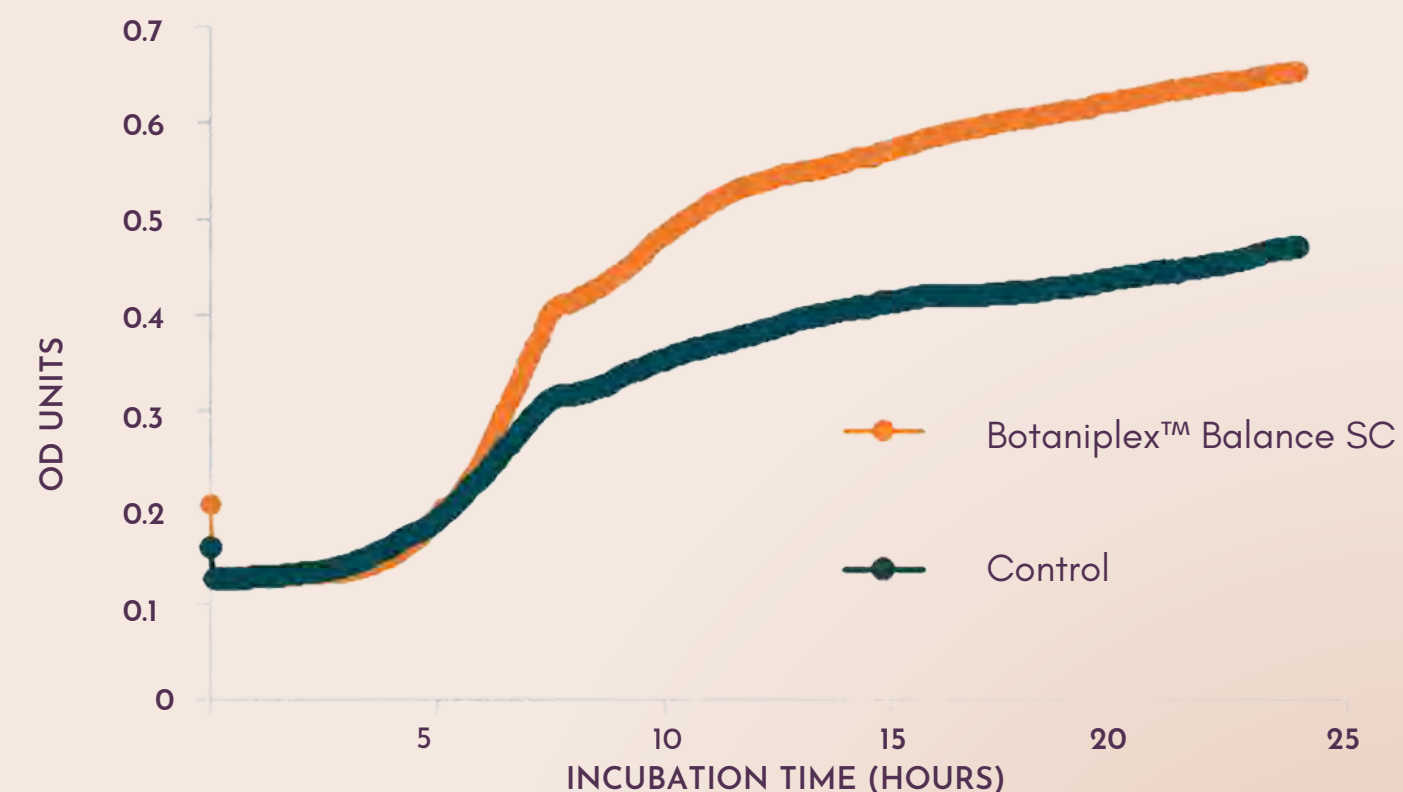


Inhibition of *S. aureus* - Growth of *S. aureus* over time



Botaniplex™ Balance SC

Growth of *S. epidermidis* over time



Formulation Tips

Formulating with Botaniplex™ Balance SA

- Use level of 0.2 – 1%
- Extracts are in a glycerine base
- Should be added once the batch temperature is reduced to below 40°C
- Uniform mixing is critical to ensure even distribution
- Extracts are least sensitive to formula pH
- Color change observed is characteristic of the product

Mechanism of Action

- Prebiotic effect
- Anti-microbial activity
- Anti-inflammatory properties
- Supports innate immunity
- Anti-oxidative properties





Formulating with Botaniplex™ Balance SC

- Use level of 2 – 5%
- Extracts are in a glycerine base
- Should be added once the batch temperature is reduced to below 40°C
- Uniform mixing is critical to ensure even distribution
- Extracts are least sensitive to formula pH
- Color change observed is characteristic of the product

Mechanism of Action

- Prebiotic effect
- Anti-microbial activity
- Anti-inflammatory properties
- Anti-oxidative properties

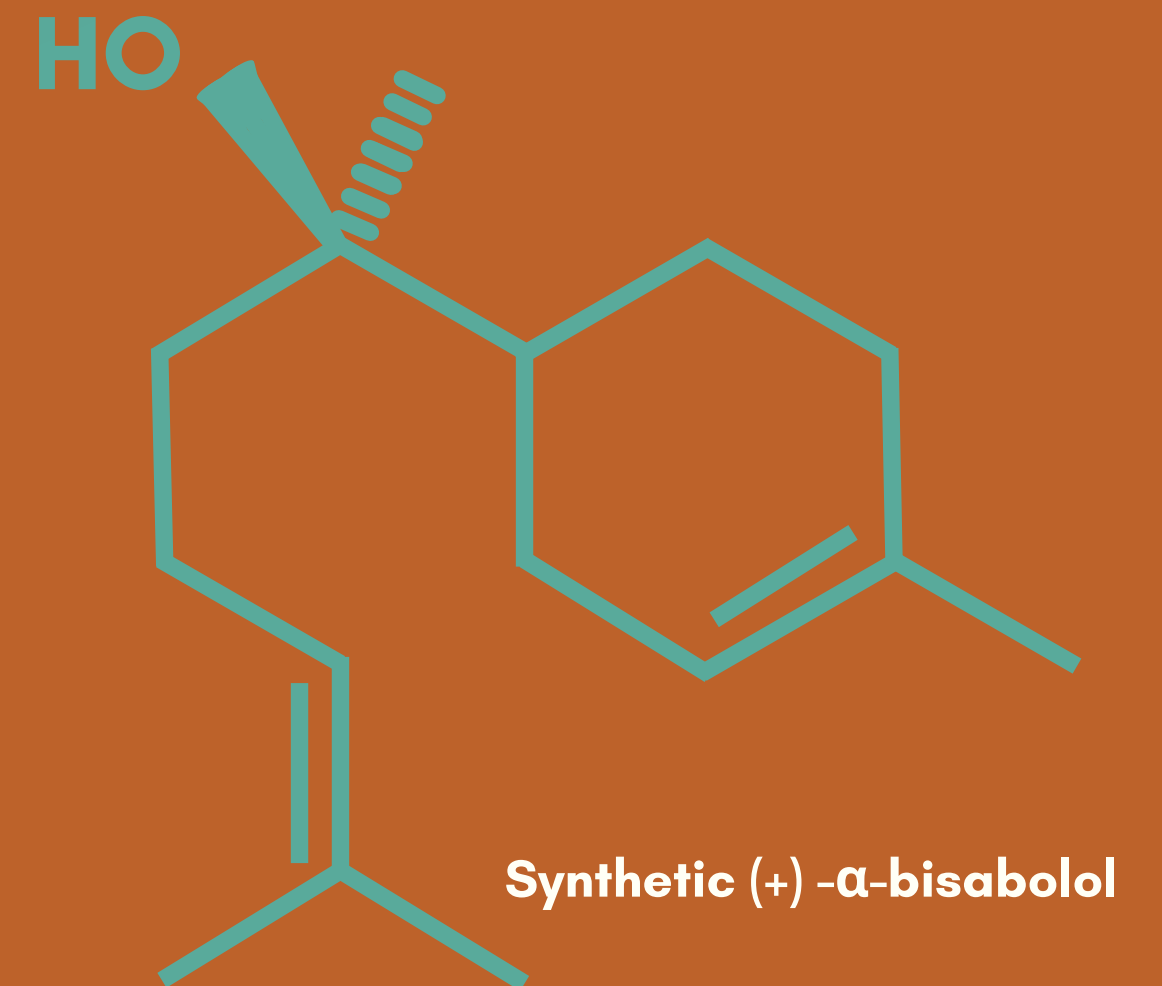
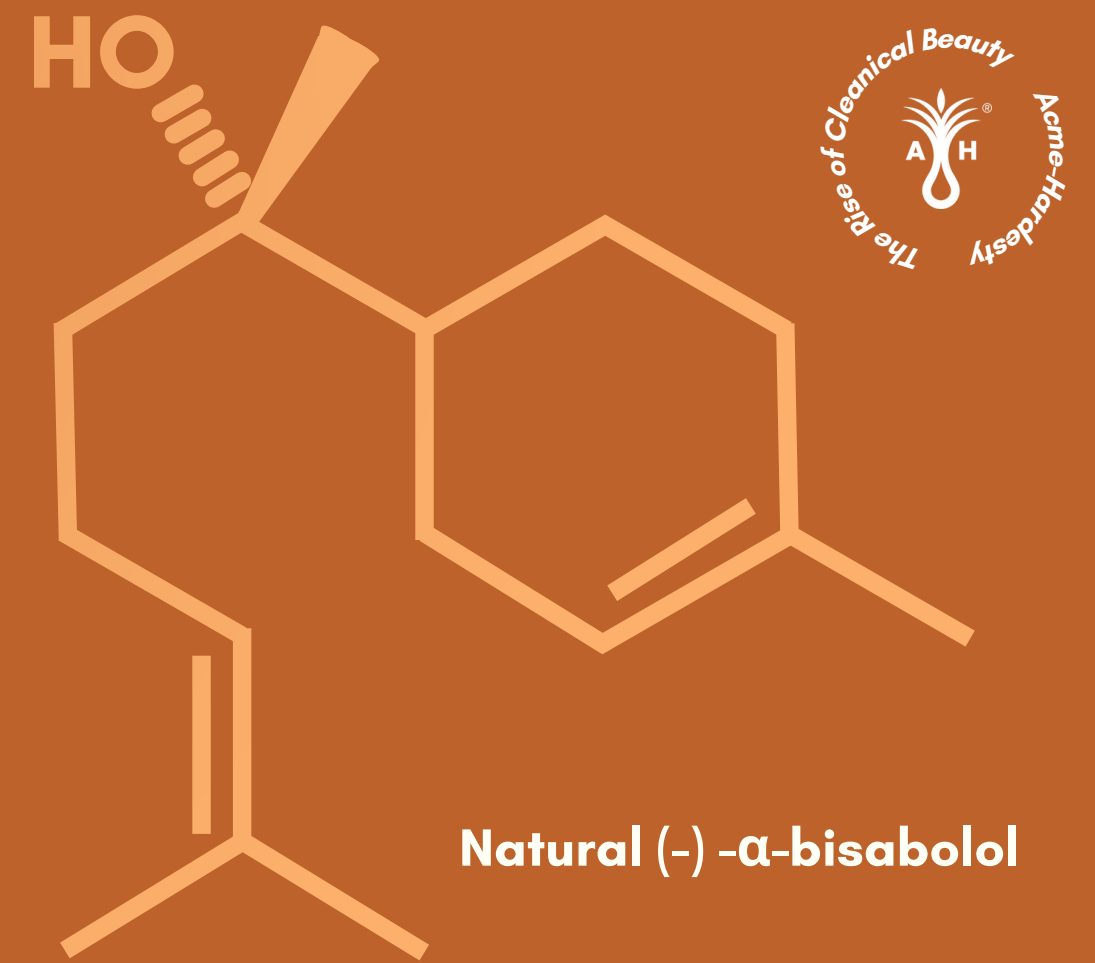


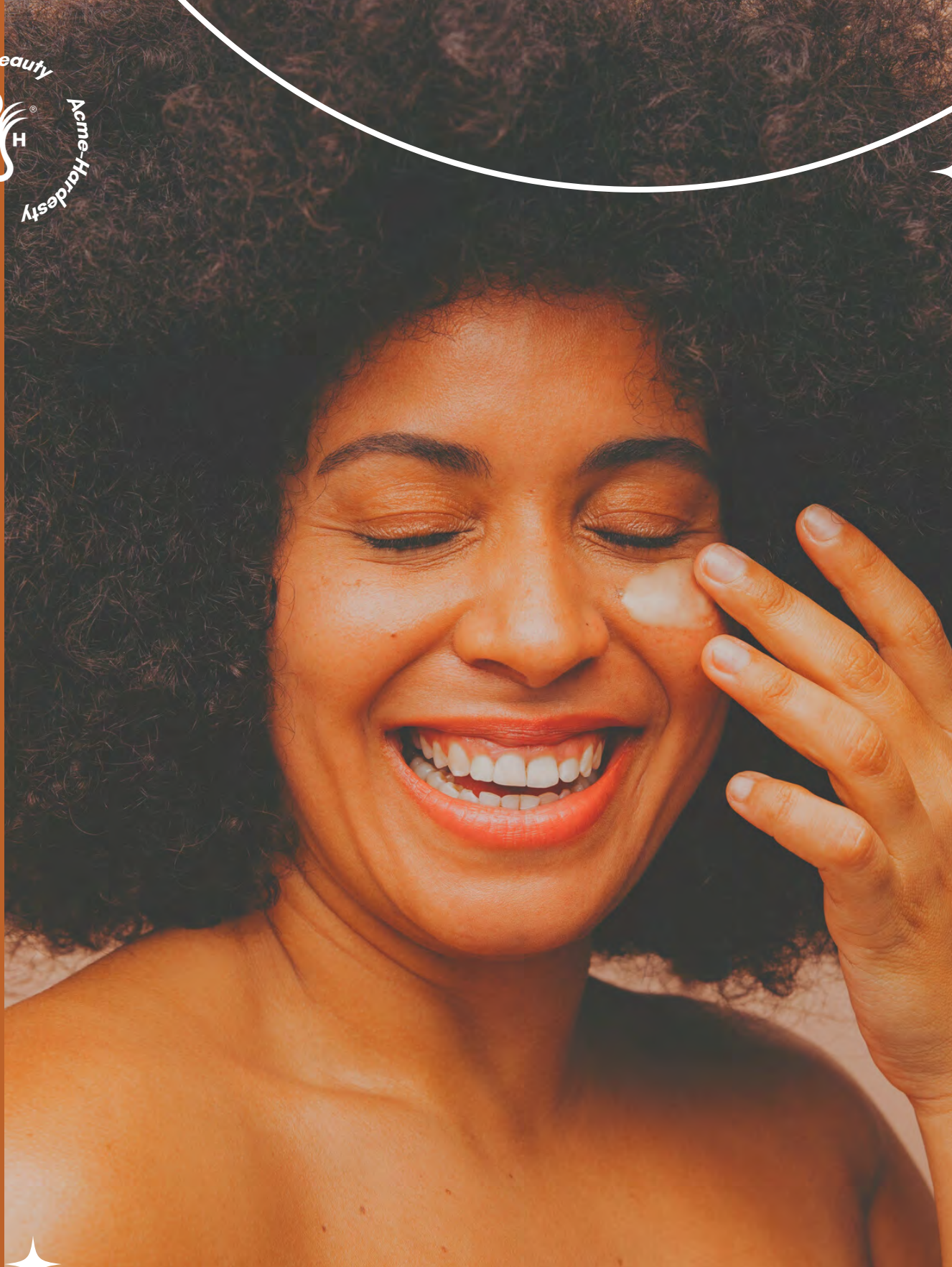
Citrus Bisabolol

- Natural natural α -bisabolol obtained from the Candeia tree native to Brazil
- Effective anti-irritant and can prevent irritation caused by other ingredients present in formulations
- Anti-inflammatory, antimicrobial, anti-bactericidal, and soothing properties
- Free of any synthetic contaminant and produced to the highest quality standards

Natural vs. Synthetic Bisabolol

- Natural (-) - α -bisabolol which contains 99.5% of a unique optic isomer known as Levomenol
 - Synthetic (+) - α -bisabolol contains a racemic mixture
- Anti-inflammatory effect of natural (-) - α -bisabolol is due to the inhibition of inducible NO synthase enzyme and the genes of COX-2, which, together, trigger the inflammatory cascade
- Synthetic (+) - α -bisabolol showed anti-inflammatory potency equivalent to approximately 25% of natural (-) - α -bisabolol





Formulating with Citrue Bisabolol

- Use level of 0.7 – 1%
- Has limited solubility in water
- Readily soluble / miscible in oil, esters, and hydrocarbons
- Can easily be emulsified into a water based system using an emulsifier

Mechanism of Action

- 100% composed of the bioactive isomer (–) – α -bisabolol, while the synthetic version contains only 50%
- 100% natural anti-inflammatory activity, acts on the inhibition of lipxygenase and cyclooxygenase
- Blocks the biosynthesis of leukotrienes and prostaglandins, which are important chemical mediators of inflammation
- Acts synergistically in regenerative, healing, and soothing processes
- Effective action as an anti-irritant and antimicrobial

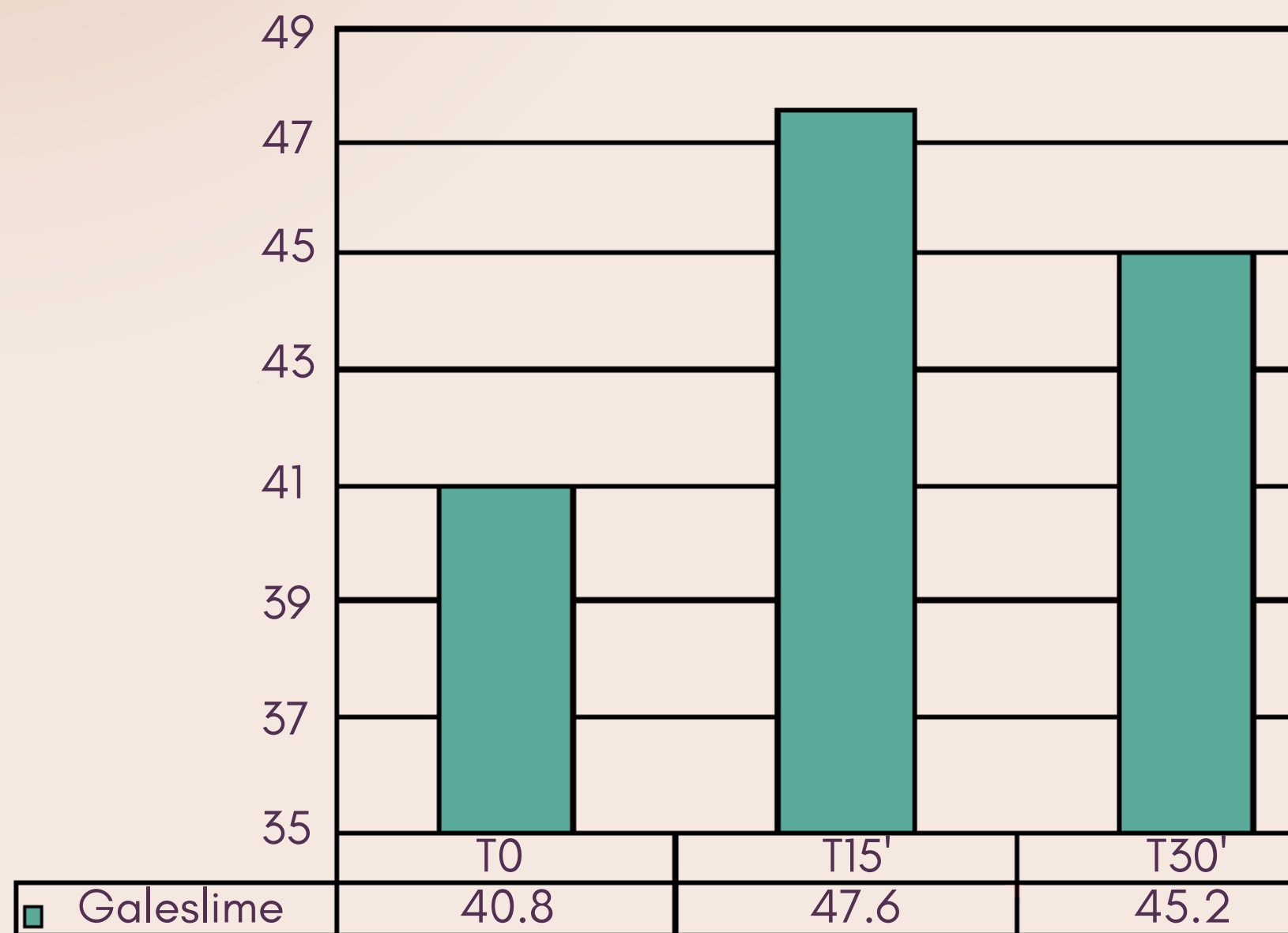
GALESKIME[®] COSMOS

- Rich in allantoin, elastin, collagen, glycolic acid, vitamins, and essential amino acids
- Seals moisture into the skin to prevent dryness
- When paired with other actives it allows for deeper penetration into the skin
- Harvested through a no-stress method for slime production, making it suitable for cruelty-free formulations



Short-Term Efficacy

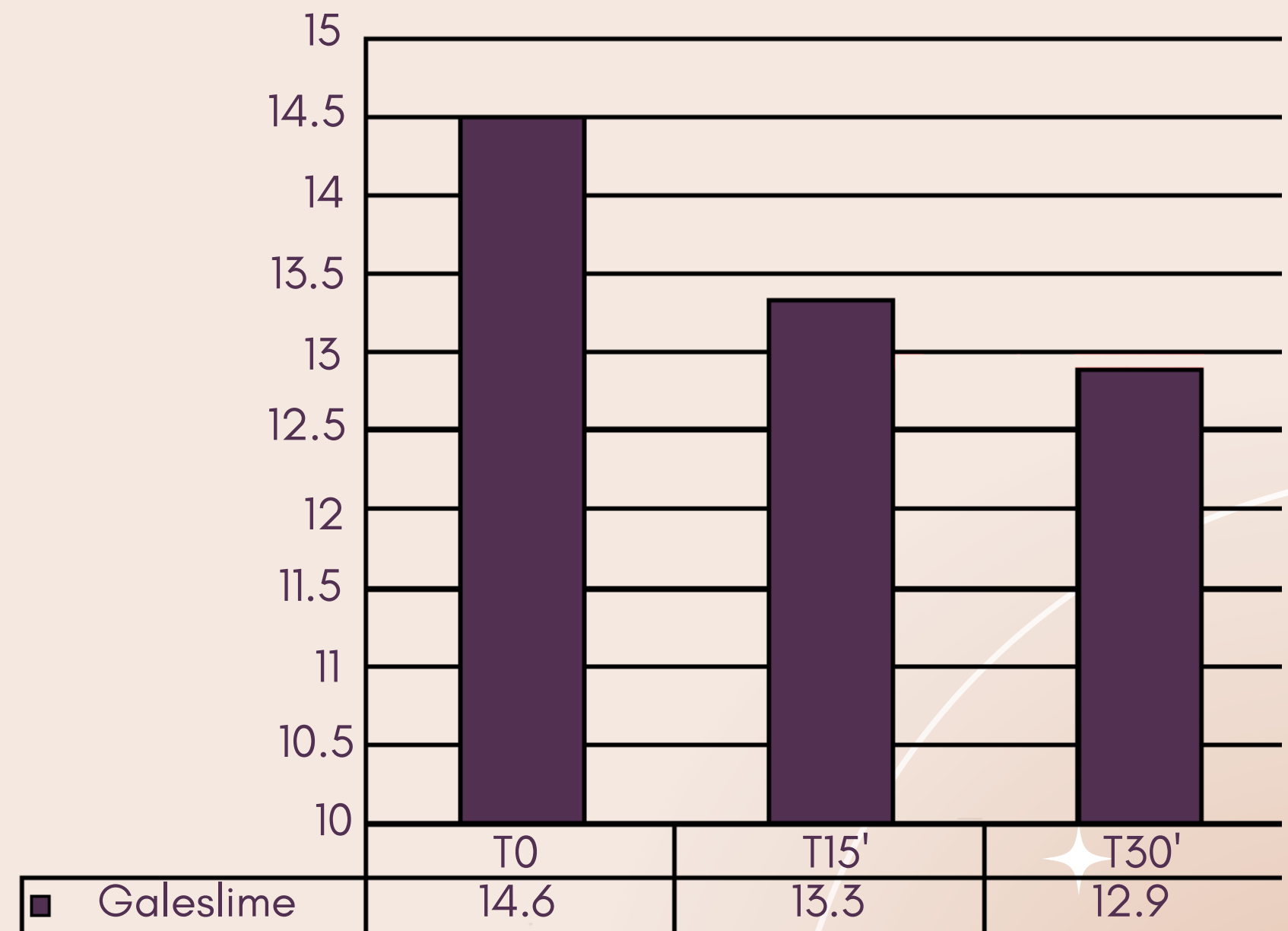
Short-Term Skin Moisturization



Immediate skin moisturization improves:

- 17%, 15 minutes of product use (statistically significant)
- 11%, 30 minutes of product use (statistically significant)

Short-Term TEWL (g/h m²)

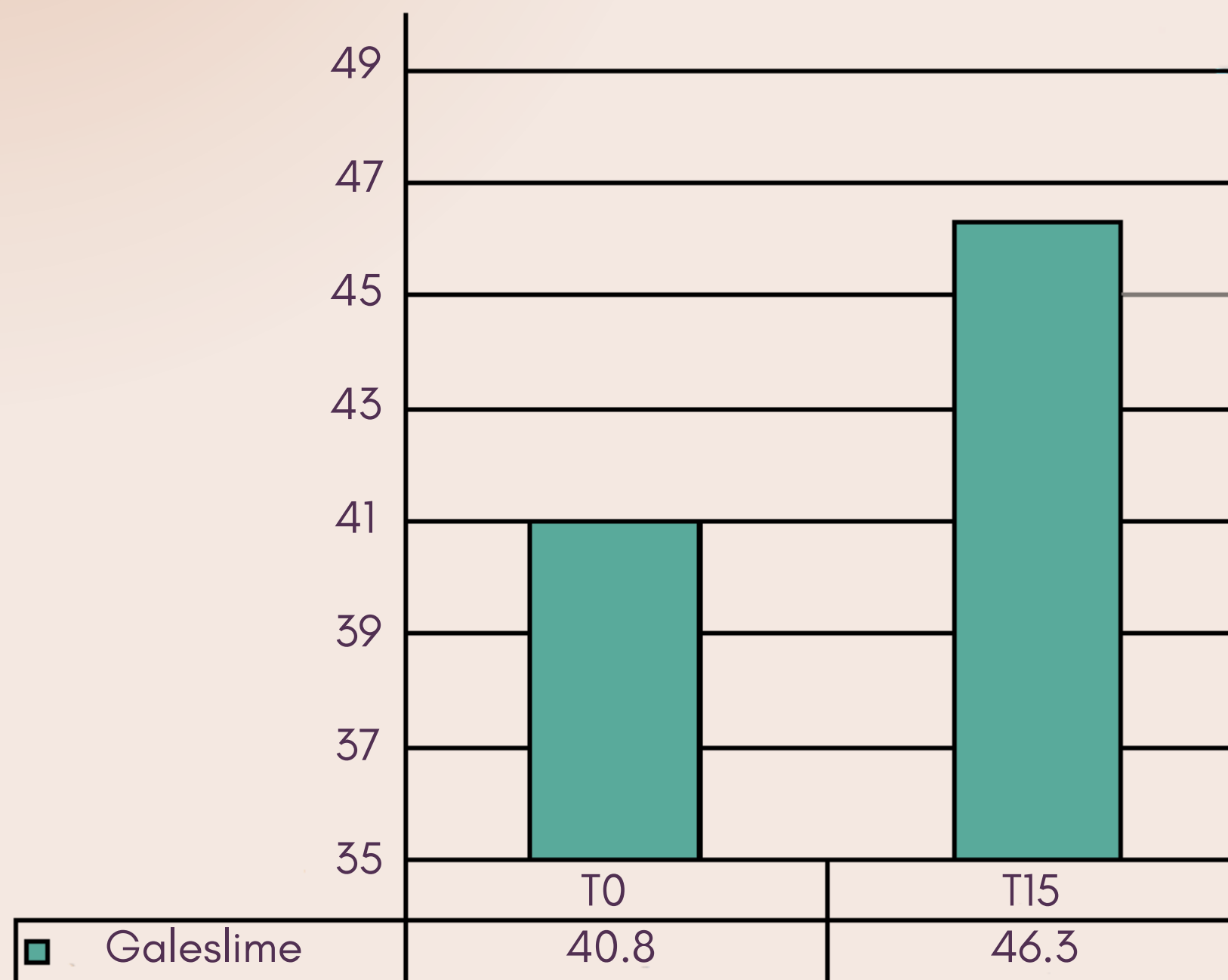


Immediate TEWL improves:

- 8%, 15 minutes of product use (statistically significant)
- 12%, 30 minutes of product use (statistically significant)

Long-Term Efficacy

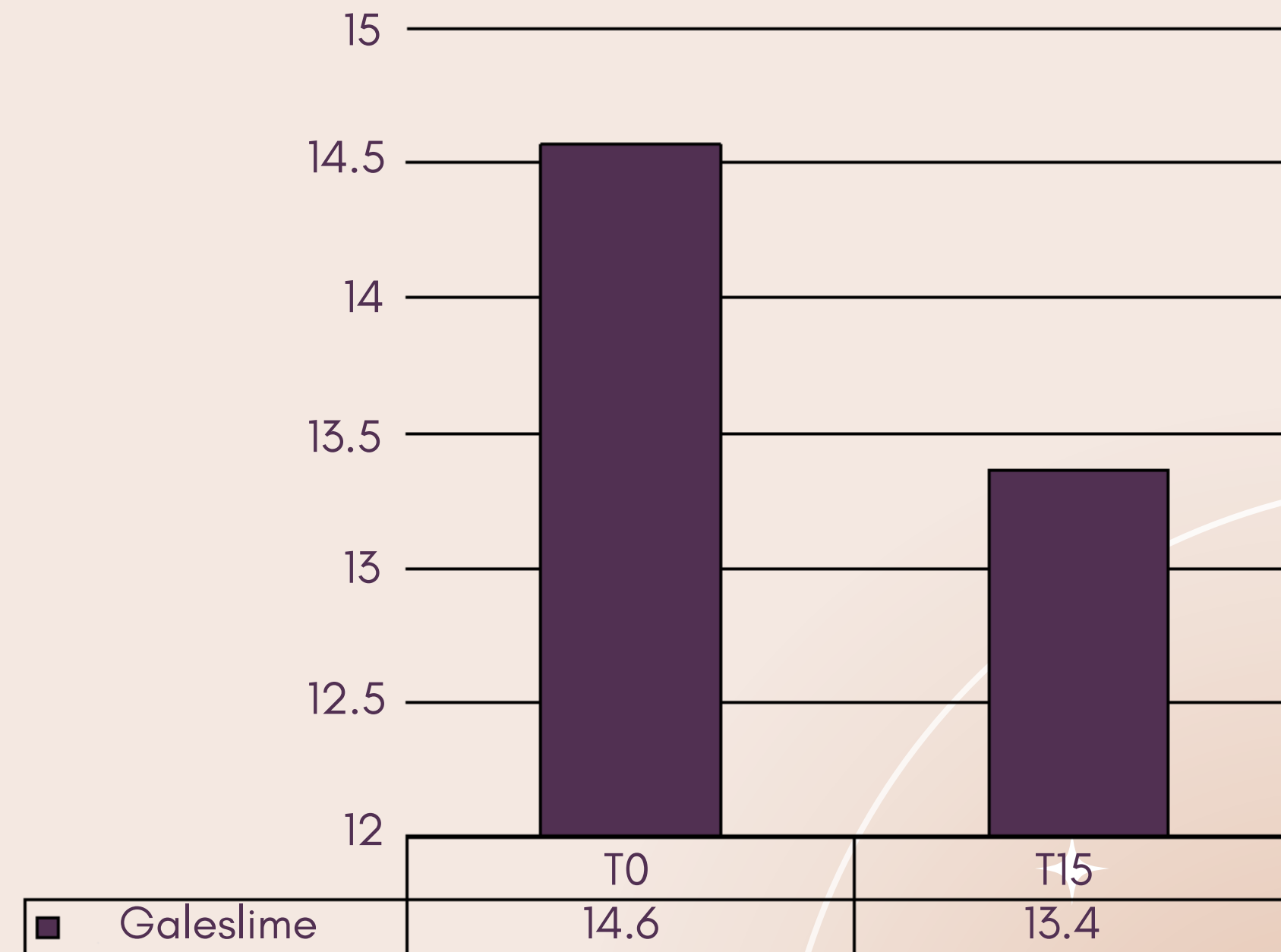
Long-Term Skin Moisturization



Skin moisturization improves:

- 13% after 15 days of product use (statistically significant)

Long-Term TEWL (g/h m²)



Immediate TEWL improves:

- 8% after 15 days of product use (statistically significant)

Formulation Tips

Formulating with GALESLIME® COSMOS

- Use level of 2 – 10%
- Completely water soluble
- Insoluble in vegetal oils
- Dispersible in O/W emulsions
- Limited compatibility with ethilic alcohol

Mechanism of Action

- Skin hydrating
- Exfoliant, renewing, brightening
- Nourishing
- Oxygenating
- Healing, anti-acne
- Elasticity and tonicity
- Wrinkles attenuation



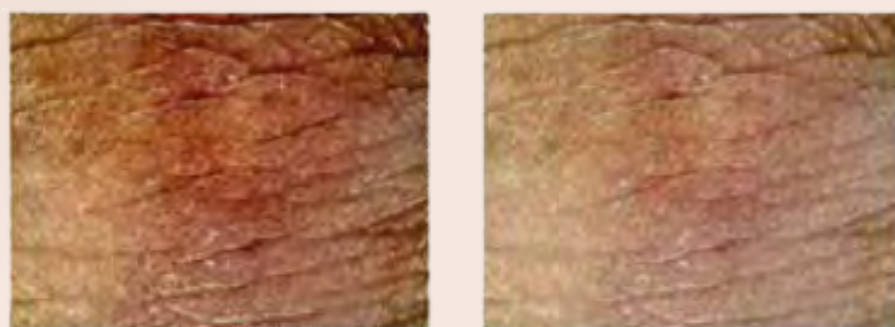


Epin'Derm

- Plant-based active that reactivates natural processes for skin integrity
- Stimulates the production of collagen and elastin, essential fibers for skin support
- Natural bioactives reactivate the skin's protective processes, restoring elasticity and improving texture
- Exclusive β -High Response technology stimulates fibroblast and keratinocyte activity while preserving extracellular matrix integrity and skin appearance
- 100% natural active which has no side effects and is a sustainable alternative to synthetic actives

Clinical Evaluation of Epin'Derm

Visual Improvement of Skin Texture/Morphology



Participant 37 years old / Phenotype IV



Participant 65 years old / Phenotype III



Participant 34 years old / Phenotype III

The effects of β -High Response mechanism on the dermis and epidermis become visible in just 30 days. The strengthened barrier leads to a reversal of skin stress.

Evaluation of Anti-Wrinkle Efficacy by Image Analysis



Texture and Wrinkles



Painless Filling



Suitable for young people and 60+ in menopause



Wrinkle Depth



Formulating with Epin'Derm

- Use level of 0.75 – 3%
- Recommended pH of 3 – 10
- Apply to oil phase before emulsification or at the end of formulation process
- Apply directly into anhydrous formulations

Mechanism of Action

- Increased synthesis and polymerization of collagen and elastin fibers
- Water retention in the dermis and epidermis
- Greater volume of dermal extracellular matrix secretion and organization of collagen and elastin fibers
- Formation of a soothing film on the epidermis, in addition to strengthening the skin barrier to prevent water loss.
- Retinol-Like Performance

SHARROSENSE™ PLUS 181-N

- Preservative solution is based on natural Maltol, a naturally occurring organic compound
- High efficacy natural preservation offering better protection at a low use level
- Free from parabens, formaldehyde donors, halogens, isothiazolinones, and phenoxyethanol
- Natural Origin Index ISO 16128 of 99.6%
- RCI index (Renewable Carbon index) 99.32%





SHAROSENSE™ PLUS 181-N

Antimicrobial Efficacy



Antimicrobial Efficacy

Minimum Inhibition Concentration (ppm)

Microorganism	Type	ATCC	Minimum Inhibition Concentration (MIC)
Staphylococcus aureus	Gram +	6538	480
Escherichia coli	Gram -	8739	480
Pseudomonas aeruginosa	Gram -	9027	1200
Aspergillus Brasiliensis	Mold	16404	960
Candida albicans	Yeast	10231	600

Antimicrobial Challenge Test

Conclusion: SharoSENSE™ Plus 181-N meets the USP/EP for category 1 products

Microorganism Time of Reading	E. coli ATCC 8739	S. aureus ATCC 6538	P. Aeruginosa ATCC 9027	C. Albicans ATCC 10231	A. Brasiliensis ATCC 16404
Inoculum	1.1x10 ⁶	1.1x10 ⁶	1.1x10 ⁶	1.1x10 ⁵	1.1x10 ⁵
2 days	<10	<10	<10	<10	4.3x10 ⁴
7 days	<10	<10	<10	<10	6.7x10 ³
14 days	<10	<10	<10	<10	3x10 ¹
21 days	<10	<10	<10	<10	2x10 ¹
28 days	<10	<10	<10	<10	<10

Facial cream, leave-on nonionic emulsion, preserved with **SharoSENSE™ Plus 181-N** at 0.5% level of use (CFU/g)

Formulation Tips

Formulating with SHAROSENSE™ PLUS 181-N

- Use level ~0.5% for broad spectrum protection
- Non pH dependent
- Compatible with cationic and anionic formulations
- Powder form & water soluble – ideal for a wide range of applications, including color cosmetics and waterless products

Mechanism of Action

- Free from parabens, formaldehyde donors, halogens, isothiazolinones, and phenoxyethanol
- Reduced level of use
- Superior antimicrobial activity



Products We Love

Formulations centered on clean ingredients combined with scientific innovation will be a focus for consumers as the cleanical trend advances



Biossance Squalane + Probiotic Gel Moisturizer

What It Is

A weightless, ultra-hydrating gel moisturizer infused with squalane and probiotic technology shown to help balance complexion and improve skin clarity

Why We Love It

- Reduces the effects of daytime stressors, leaving skin visibly brighter and more balanced
- Formulated with sugarcane-derived, sustainable squalane oil

Ingredient Recommendations

- Citrue Bisabolol
- Botaniplex™ Balance SA





What It Is

A clear, lightweight cleansing gel that incorporates a balance of bio-nutrients, antioxidants, and mild resurfacing ingredients. Thoroughly cleanses the surface and pores of the skin without stripping essential natural oils

Why We Love It

- Resurfacing, clearing, and deep-cleansing
- Cleanser, toner, and makeup remover
- Great for all ages, genders, skin types

Ingredient Recommendations

- Green CAPB-B
- Optigel WX

is Clinical
Cleansing Complex

Eighth Day Skincare The Regenerative Serum

What It Is

A blend of high-potency, nutrient-rich ingredients designed to stimulate your cells toward healing, repair, and renewal. Leaves a slight skin-tightening film on the skin

Why We Love It

- Addresses dehydration and improves uneven skin tone and texture
- Formulated with a proprietary blend of peptides, growth factors, and immunostimulants that mimic the molecules found in human skin cells

Ingredient Recommendations

- GALESLIME® COSMOS
- EpiDerm





What It Is

A moisturizing neck and face cream powered by technology to target the 8 signs of aging: reduce deep wrinkles, deminish fine lines, firm skin, plump skin, improve elasticity, brighten dark spots, boost hydration, enhance radiance.

Why We Love It

- Ideal for dry or oily skin, including sensitive skin
- Contains hyaluronic acid to help hydrate dry skin, even skin tone and smoothen out wrinkles and fine lines
- Fully recyclable packaging designed using recycled plastic and glass, more respectful of the planet

Ingredient Recommendations

- Botaniplex™ Balance SC
- Azelaic Acid

Caudalie Premier Cru Anti-Aging Cream Moisturizer

Macrene Actives High Performance Lip Filler

What It Is

A lip filler is packed with organic plant oils, hyaluronic acid, and antioxidants that heal and smooth chapped lips while simultaneously filling and plumping for boosted color and injection-free plushness

Why We Love It

- Plumps, moisturizes, and fights against free radical damage while boosting lip thickness
- Clean, vegan, plant-based formula that contains no parabens, phthalates, sulfates, gluten, mineral oils, petrolatum, fragrance, or animal by-products

Ingredient Recommendations

- ALPHAVELVETY
- Buriti Oil





What It Is

A fast-absorbing, non-greasy lotion is both a daily moisturizer and natural mineral shield to provide complete broad-spectrum protection against environmental and sun stressors

Why We Love It

- SPF and EPF protection
- Blue light protection
- Fights sun damage
- Fights past environmental damage
- Boosts skin health

Ingredient Recommendations

- SharoSENSE™ Plus 184
- Pracaxi Oil



ACME-HARDESTY

THANK YOU.

For your time and attention



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