



## OXY® Skin Care: Benzoyl Peroxide and Prebiotics

### EFFECTIVE YET GENTLE

Benzoyl Peroxide (BPO) is a FDA approved active ingredient in over-the-counter (OTC) topical acne drug products when used in concentrations of 2.5% to 10%. Benzoyl Peroxide works to treat and prevent acne through its comedolytic and antibacterial properties. The OXY® line contains both Benzoyl Peroxide washes and Benzoyl Peroxide leave-on treatments. The Benzoyl Peroxide used in these products is a micronized form of BPO, achieved via a milling process, which enhances penetration into pores and thereby provides optimal kill of acne causing bacteria. Clinical studies conducted by an independent lab show that the OXY® BPO Spot Treatment products kill 99.9% of *C. acnes* bacteria at 8 hours after application as well as reduce skin redness at 4 hours after application. The OXY® BPO washes have also been clinically proven to kill acne-causing bacteria.

The OXY® BPO products are highly effective while still remaining gentle to the skin. Results from clinical Repeated Insult Patch Tests (RIPT) shows that none of the products indicate potential for dermal irritation or allergic contact sensitization. Furthermore, a clinical study of the OXY® 2.5% BPO Total Care Daily Facial Moisturizer shows a statistically significant decrease in skin irritation, skin dryness, edema and sebum production after 2 and 4 weeks of use as well as an increase in moisturization.

The OXY® products are uniquely formulated with select inactive ingredients to provide these soothing and restoring attributes:

- Hydroxyphenyl Propamidobenzoic Acid is a synthetic ingredient based on the avenanthramides present in oats that help reduce the feelings of itch and irritation.
- Portulaca Oleracea Extract is from the succulent plant Purslane, which provides anti-inflammatory and anti-irritation properties.
- Hydrolyzed Soy Protein helps promote a healthy skin barrier and rejuvenates the skin.
- Low molecular weight Hyaluronic Acid, boosted with Silanetriol, provides moisturization and an improved skin barrier.

### PREBIOTICS & THE SKIN MICROBIOME

The skin microbiome is composed of resident viruses, bacteria, fungi and parasites that collectively are responsible for skin health and protection. The skin microbiome is constantly changing and can be influenced by both external and internal factors such as age, gender, ethnicity, diet, exercise and use of prescription drugs or personal care products. Dramatic shifts in the skin's microflora can lead to various skin diseases including acne. Using the prebiotic *Rhodomyrtus Tomentosa* Fruit Extract in the OXY® line helps rebalance the skin microbiome and promotes healthy skin.

## CUTIBACTERIUM ACNES PHYLOTYPES

*Rhodomyrtus tomentosa*, commonly called Rose Myrtle, is a shrub originating from South-East Asia and it has been clinically shown to limit proliferation of *C. acnes* while maintaining a balanced microbiome. *Cutibacterium acnes* (*C. acnes*) strains are divided into 6 main phylotypes: IA1, IA2, IB, IC, II and III. Dagnelie et al., (2018) reported that inflammatory severe acne is associated with diversity loss of *C. acnes* phylotypes and a high predominance of phylotype IA1. A study conducted by Boutot et al., (2020) shows that after 28 days volunteers treated with a formula containing Rose Myrtle exhibited a decrease in the harmful Phylotype IA1 that causes acne, an increase in Phylotype II (which is related to healthy skin) and overall helped to recover better balance between the *C. acnes* phylotypes.

*Cutibacterium granulosum*, abundant in comedones and pustules, is possibly more aggressive than *C. acnes* and displays stronger virulence than *C. acnes*. Rose myrtle helps control the proliferation of this species as well.

## SHANNON DIVERSITY INDEX

Although Benzoyl Peroxide is effective in killing *C. acnes* there is data from a study conducted by Ahluwalia et al., (2019) that shows BPO does not disrupt or cause an imbalance in the other bacterial species on the skin. The study was conducted on preadolescent girls who used a BPO Wash nightly. Both acne lesions and the skin microbiome were analyzed. Shannon Diversity analysis shows that Benzoyl Peroxide can effectively reduce acne lesions while not significantly impacting the number of different bacterial species on the skin and the evenness of how those species are distributed.

## SUMMARY

OXY® BPO products deliver the active anti-acne pharmaceutical ingredient BPO as well as select inactive ingredients to reduce the harmful strains of *C. acnes* while maintaining positive skin flora, improving barrier function and reducing acne lesions and skin inflammation. In clinical studies, subjects responded positively to the effects of consistent use of OXY® BPO products.

## BIBLIOGRAPHY

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