



#### Volume 37 Supplement 2 March 2023







# INTEREST & EFFICACY

of Two Plant Extract Active Ingredients, Myrtacine® & Celastrol,

### IN ACNE MANAGEMENT:

#### >>> From Research >>> to Clinic

(2)

Recent advances in understanding inflammatory acne: Deciphering the relationship between *Cutibacterium acnes* and Th17 inflammatory pathway

#### Review article

#### KEY RESULTS

Close link between *C. acnes* and activation of **Th17 immuno-inflammatory** pathway at acne initiation

Acne development is linked to loss of *C. acnes phylotype diversity*: predominance of pro-pathogenic phylotype IA1, contributing to induction of Th17-mediated immunoinflammatory response involving skin cells (e.g. keratinocytes, monocytes, sebocytes)

The ability of **C. acnes to self-organize in a biofilm** associated with a more virulent activity

Traditional topical antibiotic treatment induces cutaneous dysbiosis and anti-microbial resistance

Future treatments no longer aim to "kill" *C. acnes*, but to **maintain the skin microbiota balance**  Myrtus communis and Celastrol enriched plant cell culture extracts control together the pivotal role of *Cutibacterium acnes* and inflammatory pathways in acne Original

article

In vitro study evaluating pharmacological properties of *Myrtus communis* (**Myrtacine**<sup>®</sup>) **and Celastrol** enriched plant cell culture (CEE) extracts on the *C. acnes*/Th17 pathway

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**Myrtacine**<sup>®</sup>: significant and strong inhibition of expression of virulence factor genes by 60%–95% vs untreated controls

**Myrtacine® and Celastrol:** significant inhibition of proinflammatory cytokine (IL-6, IL-8, IL-12p40 and TNF-α) production by monocyte-derived dendritic cells in response to *C. acnes* phylotype IA1, synergistic inhibition of IL-6, IL-12p40, and IL-8

**Celastrol**: inhibitory effect on IL-17 release by Th17 lymphocytes in a *C. acnes*-stimulated sebocyte 2D culture and by Th17-lymphocytes integrated in a 3D skin model

Myrtacine<sup>®</sup> and Celastrol specifically act on acne Th17 immuno-inflammatory pathway indicating their potential therapeutic benefits

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Change in *Cutibacterium acnes* phylotype abundance and improvement of clinical parameters using a new dermocosmetic product containing *Myrtus communis* and Celastrol enriched plant cell culture extracts in patients with acne vulgaris

Original article

Exploratory study to evaluate efficacy of a new dermocosmetic product containing **Myrtacine® and Celastrol** on *C. acnes* phylotype abundance and clinical parameters in subjects with mild to moderate acne vulgaris after 57 days of treatment

#### **KEY RESULTS**

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Confirmation of a link between *C. acnes* phylotypes and acne severity

The **product** was linked to a **positive impact on** *C.* **acnes phylotypes**: a significant decrease in pro-pathogen phylotype IC and increase in nonpathogen phylotype IB observed in the nonlesional areas of acne on D57 compared to D1

Significant **decrease in inflammatory and comedonal acne lesions** at D57

Significant improvement in acne severity according to the GEA score at D57

A new dermocosmetic product containing Myrtacine<sup>®</sup> and Celastrol rebalances *C. acnes* phylotype abundance and improves acne severity 4

The usefulness of a dermocosmetic containing Myrtus communis extract and azelaic acid for maintenance phase of adult female acne: Results from a randomized exploratory investigator-blinded comparative study

Short

report

Multicentre, randomized, investigator-blinded trial to evaluate efficacy and tolerance of a product containing **Myrtacine**<sup>®</sup> and azelaic acid vs a light moisturizing cream (control group) in adult females, with clear or almost clear facial acne after anti-acne treatment (n=26 in test group, n=27 in control group)

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Over 16 weeks, acne relapse was more than double in control group vs test product group (8 vs. 3 subjects)

No statistical difference in the evolution of mean IGA (Investigator's Global Assessment) from baseline between groups; however, 85% of subjects were assessed as clear or almost clear in the test group vs 67% in control group

This study shows a trend to limit acne relapses with a dermo cosmetic product containing Myrtacine<sup>®</sup> and azelaic acid showing it's interest for maintening long term remission

## Fiche technique

Acné infographie

Police : Poppins

Couleur :

Etude : Poppins bold 10pt Objectif : Poppins regular 10pt Key message : Poppins regular 10pt Conclusion : Poppins bold 10pt