

# Comprehensive Dermatological and Ophthalmological Evaluation of a High Tolerance Sunscreen: Clinical Benefits in Rosacea Patients with Sensitive Skin Across Light to Dark Phototypes in a Brazilian Study

Helena Polena<sup>1</sup>, Audrey Gerstel<sup>1</sup>, Elodie Valin<sup>1</sup>, Elodie Prestat-Marquis<sup>1</sup>

<sup>1</sup> NAOS (BIODERMA), Aix-En-Provence, France

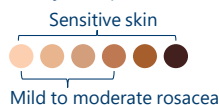
## INTRODUCTION

Rosacea patients frequently require **consistent photoprotection** to prevent symptom exacerbation triggered by ultraviolet exposure, heat and visible light. However, sunscreen use remains challenging in this population due to frequent cutaneous intolerance, sensory discomfort and ocular irritation, particularly in individuals with sensitive skin, which may compromise adherence. Moreover, rosacea is clinically assessed mainly in lighter phototypes, while in darker phototypes the condition is less visible and requires complementary evaluation through sensitivity-related and functional parameters. The aim of this study was to assess the **dermatological and ophthalmological tolerance** and **clinical and functional efficacy of a sunscreen specifically formulated for sensitive skin**, including subjects presenting rosacea, under real-use conditions, in women and men representing all skin phototypes.

## MATERIALS & METHODS

The clinical study was conducted in **Rio de Janeiro** (Brazil) from May to June (5 to 7 hours of sunshine per day), for 28 days.

**31** adults (women and men aged 18 to 65 years old) with all skin types (from dry to oily) and various **phototypes (I to VI)** completed the study and were analyzed. All phototypes had **skin sensitivity, particularly to the sun**, and, additionally, phototypes I to IV (18 subjects) presented with **mild to moderate rosacea**.



Application of **investigational sunscreen** on face, neck and periocular area at least twice daily (reapplication in case of prolonged sun exposure).

Assessments (for each phototypes group)	D0	D0 <sub>Timm</sub> *	D14	D28
Cutaneous tolerance by dermatologist	●●●●●	●●●●●	●●●●●	●●●●●
Ocular tolerance by ophthalmologist	●●●●●	●●●●●	●●●●●	●●●●●
Investigator Global Assessment of Rosacea Severity Score (IGA-RSS)	●●●●		●●●●	●●●●
Clinical grading using a 5-point scale	●●●●		●●●●	●●●●
Sensitive Scale 10 (SS-10)	●●●●●		●●●●●	●●●●●
Instrumental colorimetric analysis from facial image (ColorFace® and Cross Polarization lighting)	●●●●●		●●●●●	●●●●●
Flushing questionnaire	●●●●		●●●●	●●●●
Rosacea Quality of Life (RosaQoL) questionnaire	●●●●		●●●●	●●●●
Subjective evaluation questionnaire			●●●●●	●●●●●

\*D0<sub>Timm</sub>: 15-20 min after single application

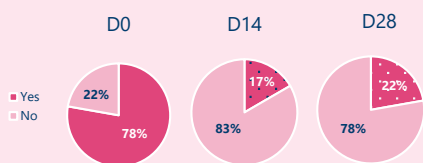
## RESULTS

### Dermatological and ophthalmological tolerance

- No worsening** in dryness, erythema, oedema, burning sensation, stinging, tingling related to study product.
- No discomfort** was observed in relation to ocular parameters (burning sensation, blurred vision, eyes/eyelids dryness, stinging, itching and swelling, photophobia, foreign body sensation, blepharitis, hyperemia, keratitis, uveitis and translucent coloration).

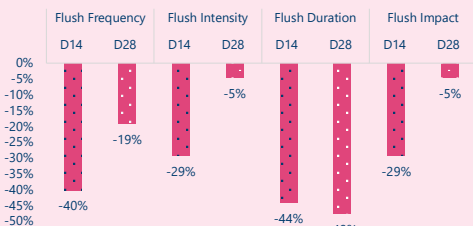
### Flushing Questionnaire

Graph 1: Subjects experiencing flushing under sun exposure the last two weeks



Among the subjects answering **yes**, evolution in individual flushing elements were observed:

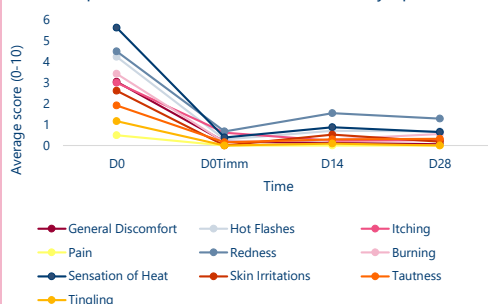
Graph 2: Evolution in flushing parameters versus baseline\*



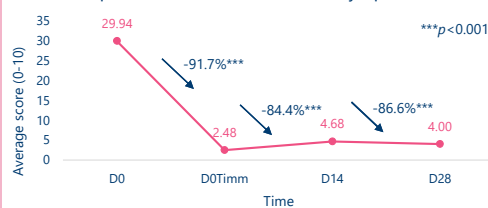
\*Statistical analysis not conclusive due to the progressive decrease of declared flushing.

### SS-10

Graph 3: Evolution of individual SS-10 symptoms



Graph 4: Evolution of SS-10 total symptoms



### Illustrative photographs



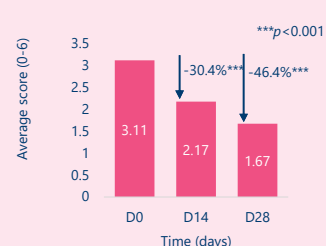
Figure 1: Face photographs of phototype I subject, presented with rosacea, on D0 (left) and D28 (right)



Figure 2: Face photographs of phototype II subject, presented with rosacea, on D0 (left) and D28 (right)

### IGA-RSS

Graph 5: Evolution of IGA-RSS

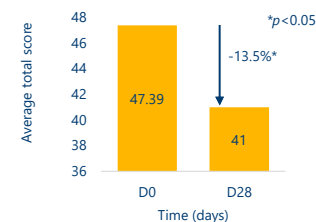


### Clinical Grading for redness

Significant improvement in clinical grading for **redness** was observed with decrease regarding baseline of **-24.1%** ( $p < 0.05$ ) on D28.

### RosaQoL

Graph 6: Evolution of RosaQoL total score



### Subjective Evaluation Questionnaire

After 14 and 28 days of application, most subjects (>60%) showed agreement regarding product's **efficacy** and **cosmeticity** (comfort and soothing effect).

## CONCLUSION

This study demonstrated that the investigational sunscreen, provides **clinically and functionally significant benefits** regarding rosacea related signs and sensitive skin with a decreased skin discomfort and a better overall quality of life. It was also **very well tolerated** on the cutaneous and ophthalmological levels, regardless of phototype or gender. These results support the use of this sunscreen as a **regular photoprotective solution** for **sensitive** and **rosacea** prone skin.