# Safety of Tazarotene 0.045% Lotion and Hyperpigmentation Improvements in Black Participants With Moderate-to-Severe Acne

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## SYNOPSIS

- Acne is one of the major causes of post-inflammatory hyperpigmentation (PIH) in patients with skin of color[1]
- PIH may be more distressing than the acne itself, and patients with higher skin phototypes may be impacted more greatly than those with lower skin phototypes[2]
- Topical retinoids, a mainstay of acne treatment, can also reduce hyperpigmentation via multiple mechanisms, including downregulation of cell proliferation and inflammation[3]
- In a review of studies including patients with PIH and/or acne, tazarotene treatment led to significant reductions in hyperpigmented lesions[3]
  - For example, significant reductions in the severity, intensity, and/or extent of hyperpigmented lesions were observed after 16–18 weeks of treatment with tazarotene vs adapalene or vehicle[4,5]
- To minimize skin irritation and other skin reactions associated with tazarotene gel and cream formulations, a hydrating, lower-dose tazarotene 0.045% lotion formulation was developed utilizing proprietary polymeric emulsion technology to allow for more efficient delivery of tazarotene into dermal layers

## OBJECTIVE AND METHODS

- The objective of this pooled, post hoc analysis was to evaluate the safety of tazarotene 0.045% lotion and its effect on hyperpigmentation in Black individuals with acne
- In two identical phase 3 randomized, double-blind, vehicle-controlled studies (NCT03168321; NCT03168334), participants aged ≥9 years with moderate-to-severe acne (score of 3 or 4 on the Evaluator's Global Severity Score) were randomized (1:1) to once-daily tazarotene 0.045% lotion or vehicle lotion for 12 weeks
  - CeraVe® hydrating cleanser and CeraVe® moisturizing lotion (L'Oreal, NY) were provided as needed for optimal moisturization/cleaning of the skin
- Safety evaluations included reports of treatment-emergent adverse events (TEAEs) and investigator-assessed hyperpigmentation (graded on a 4-point scale from 0 [none] to 3 [severe])
- Post hoc analyses were based on participants' self-identification of race, including 'Black or African American' (herein referred to as Black)

## RESULTS

### Participants

- The pooled intent-to-treat population included 1614 participants, of whom 262 (16.2%) self-identified as Black; the safety population included 253 Black participants
- At baseline, over three-fourths of Black participants in the study were female and ~95% had an EGSS score of 3 ('moderate')

### Hyperpigmentation

- Rates of investigator-assessed hyperpigmentation in Black participants were high at baseline; approximately 40% of participants in both the tazarotene 0.045% lotion and vehicle arms had mild or moderate hyperpigmentation (mild [score=1]: tazarotene=28.1%, vehicle=22.7%; moderate [score=2]: tazarotene=11.6%, vehicle=13.6%)
- Rates of hyperpigmentation decreased by week 12 with tazarotene treatment (from 40.5% to 31.4%), but remained relatively unchanged with vehicle (37.9% to 37.2%) (**Figure 1**)
- Images depicting hyperpigmentation improvement in tazarotene-treated Black participants are shown in **Figure 2**

### Safety

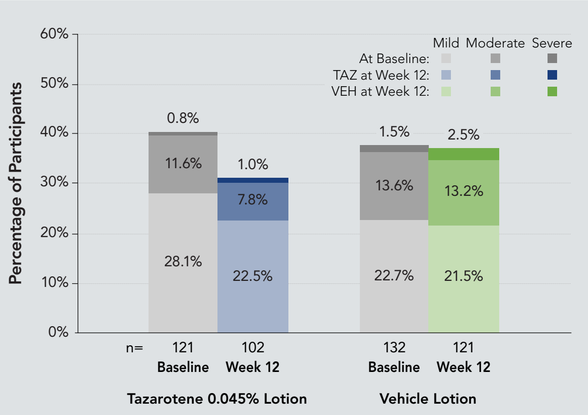
- TEAEs were mild to moderate in severity in almost all Black tazarotene-treated participants (**Table 1**)
- The most common TEAEs with tazarotene 0.045% lotion were at the application site: pain (6.6%), exfoliation (5.0%), dryness (3.3%), and pruritus (2.5%)
- No Black participants reported application site irritation or dermatitis with tazarotene 0.045% lotion
- A full report on safety and tolerability of tazarotene 0.045% lotion in Black participants has been published[6]

TABLE 1. **Black Participants Reporting any Treatment-Emergent Adverse Event (Safety Population, Pooled)**

| | TAZ 0.045% Lotion (n=121) | Vehicle Lotion (n=132) |
|---|---|---|
| **Any TEAE** | 30 (24.8) | 17 (12.9) |
| **Any SAE[a]** | 1 (0.8) | 1 (0.8) |
| **Severity of TEAEs** | | |
| Mild | 22 (18.2) | 8 (6.1) |
| Moderate | 7 (5.8) | 7 (5.3) |
| Severe | 1 (0.8) | 2 (1.5) |
| **Most common TEAEs[b]** | | |
| Application site pain | 8 (6.6) | 0 |
| Application site dryness | 4 (3.3) | 0 |
| Application site exfoliation | 6 (5.0) | 0 |
| Application site pruritus | 3 (2.5) | 0 |
| Viral upper respiratory tract infection[a] | 6 (5.0) | 2 (1.5) |

[a]No instances were considered by the investigator to be treatment related.
[b]Reported in ≥2% of participants in any treatment arm.
SAE, serious adverse event; TAZ, tazarotene; TEAE, treatment-emergent adverse event.

FIGURE 1. **Rates and Severity of Hyperpigmentation in Black Participants (Safety Population, Pooled)**




Data for "none" are not shown.
TAZ, tazarotene 0.045%; VEH, vehicle.

## CONCLUSIONS

- Maximizing efficacy while mitigating irritation is a key goal in managing acne in patients with skin of color, given the higher risk of pigmentary alterations in melanin-rich skin[2,7]
- Tazarotene 0.045% lotion was safe and well tolerated, with no reports of application-site irritation or dermatitis in Black participants after 12 weeks of once-daily treatment
- Tazarotene treatment led to improvements in hyperpigmentation, an inflammation-associated sequela of acne
- As PIH can persist for up to 12 months,[1] additional improvement in hyperpigmentation may be expected with continued tazarotene use

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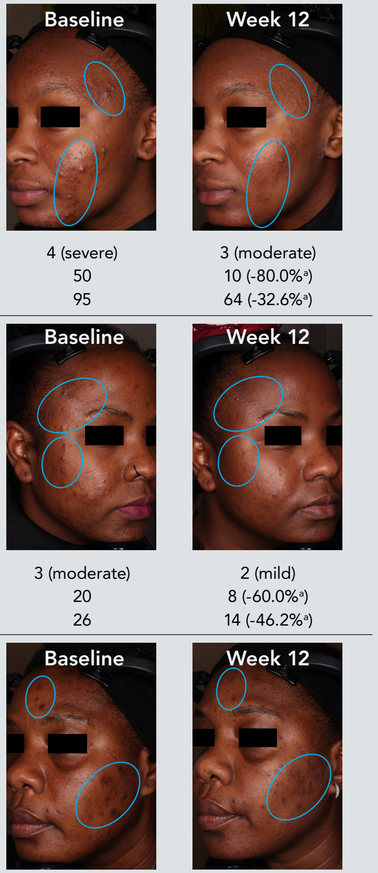
### AUTHOR DISCLOSURES

Fran E Cook-Bolden has served as consultant, speaker, investigator for Galderma, LEO Pharma, Almirall, Cassiopea, Ortho Dermatologics, Investigators Encore, Foamix, Hovione, Aclaris, and Cutanea. Linda Stein Gold has served as investigator/consultant or speaker for Ortho Dermatologics, LEO Pharma, Dermavant, Incyte, Novartis, AbbVie, Pfizer, Sun Pharma, UCB, Arcutis and Lilly. Hilary Baldwin has served as advisor, investigator, and on speakers' bureaus for Almirall, Cassiopea, Foamix, Galderma, Ortho Dermatologics, Sol Gel, and Sun Pharma. Valerie Callender has served as an investigator, consultant, or speaker for AbbVie, Galderma, L'Oréal, Ortho Dermatologics, and Vyne. Andrew Alexis has received Grants (funds to institution) from LEO Pharma, Novartis, Almirall, Bristol-Myers-Squibb, Amgen, Vyne, Galderma, Bausch Health, Cara, Arcutis, Dermavant, Abbvie, and Castle; Advisory board/Consulting from LEO Pharma, Galderma, Pfizer, Sanofi-Regeneron, Dermavant, Beiersdorf, Ortho Dermatologics, L'Oreal, BMS, Bausch Health, UCB, Vyne, Arcutis, Janssen, Allergan, Almirall, Abbvie, Sol-Gel, Amgen, VisualDx, Eli Lilly, Swiss American, Cutera, Cara, and EPI; Speaker fees from Regeneron, SANOFI-Genzyme, Pfizer, and BMS; and Royalties from Springer, Wiley-Blackwell, and Wolters Kluwer Health. Neal Bhatia has served as advisor, consultant, and investigator for AbbVie, Almirall, Biofrontera, BI, Brickell, BMS, EPI Health, Ferndale, Galderma, InCyte, ISDIN, J&J, LaRoche-Posay, LEO Pharma, Ortho Dermatologics, Regeneron, Sanofi, SunPharma, Verrica, and Vyne. Joshua A Zeichner has served as advisor, consultant, or speaker for AbbVie, Allergan, Dermavant, Dermira, EPI Health, Galderma, Incyte, Johnson and Johnson, L'Oreal, Ortho Dermatologics, Pfizer, Procter and Gamble, Regeneron, Sun Pharma, UCB, Unilever, and Vyne. Emil A Tanghetti has served as speaker for Novartis, Ortho Dermatologics, Sun Pharma, Lilly, Galderma, AbbVie, and Dermira; served as a consultant/clinical studies for Hologic, Ortho Dermatologics, and Galderma; and is a stockholder for Accure. Eric Guenin is an employee of Ortho Dermatologics and may hold stock and/or stock options in its parent company.

FIGURE 2. **Hyperpigmentation Improvements in Black Participants Treated With Tazarotene 0.045% Lotion**




[a]Indicates percent change from baseline.
All three participants self-reported ethnicity as not Hispanic/Latino. Fitzpatrick skin types were assessed post hoc from participant photographs. Individual results may vary.
EGSS, Evaluator's Global Severity Score for acne; IL, inflammatory lesions; NIL, noninflammatory lesions.

ACKNOWLEDGEMENTS: Medical writing support was provided by Prescott Medical Communications Group (Chicago, IL) with financial support from Ortho Dermatologics; Ortho Dermatologics is a division of Bausch Health US, LLC • *Presented at the PA & NP Fall Clinical Dermatology Conference* • *June 9-11, 2023* • *Orlando, FL*