NovoBliss Research

Advancing Dermatology: UV Exposure Methods for Skin Tanning | Anti-Tanning Agent Evaluation

NovoBliss Research is at the forefront of dermatological innovation with the development and validation of advanced methods to induce and measure skin tanning. Leveraging both natural sunlight and artificial UV-lamp exposure, this groundbreaking study establishes a robust framework for inducing tanning and erythema while evaluating the efficacy of anti-tanning agents. By ensuring precision, safety, and accuracy, NovoBliss is setting new benchmarks in the scientific assessment of skin tanning prevention products, driving skincare innovation forward.

In a recent methodology validation study, NovoBliss employed an open-label, two-arm study design to evaluate UV-induced skin tanning and anti-tanning agent efficacy. The study involved six healthy adults aged 18 to 55 years, who were exposed to either natural sunlight or artificial UV light (365 nm) under closely controlled conditions.

To ensure diversity and accuracy in efficacy assessment, participants were selected based on Fitzpatrick skin types III to V or a Skin Colorimetric ITA° value between 20° and 41° at the forearm application site. Strict inclusion and exclusion criteria were maintained—individuals with active skin conditions (e.g., eczema or psoriasis) or those using photosensitizing medications were excluded to ensure reliable and consistent results.

This study marks a significant advancement in dermatological testing, providing a validated methodology to assess the performance of anti-tanning agents. By combining scientific rigor with innovation, NovoBliss Research continues to lead the way in skincare product evaluation and safety assurance.

Participants underwent controlled UV exposure, with specific dosages and durations tailored to either natural sunlight or artificial UV sources:

- Natural Sunlight: Exposure intensity set at 7600 $\mu W/cm^2$ for 20, 35, and 50 minutes.
- UV Lamp: Dosages set at 78, 97.5, and 117 mJ/cm^2.

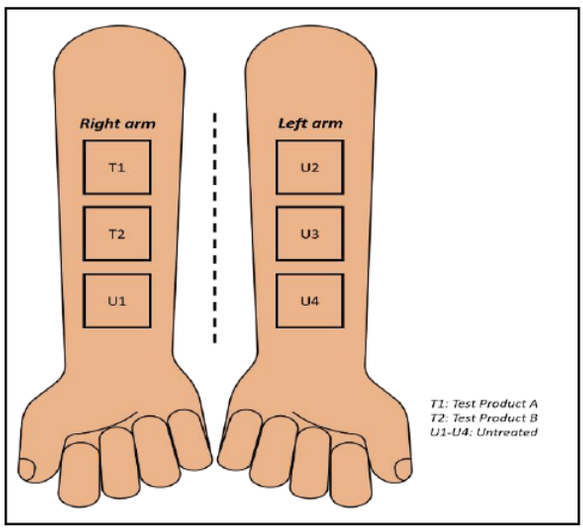

Figure Site Marking on both the arms

This exposure protocol was designed to consistently and reproducibly induce skin tanning and erythema across varying skin tones, enabling precise evaluations of product efficacy. Dermatologists conducted skin assessments using the Draize scale, providing qualitative insights into skin reactions and any adverse effects, while quantitative measurements of skin tan and erythema were taken using the Mexameter® MX-18 probe on days 1, 3, and 7 post-exposure. This device, developed by Courage + Khazaka Electronic GmbH, provided objective data on melanin and skin redness levels—key indicators of anti-tanning efficacy.

In the study, two test products (A and B) were applied to marked sites on the left forearm, while untreated control sites were designated on the right forearm. This design allowed for direct comparison, revealing measurable differences in pigmentation between treated and untreated areas. Key findings included:

- Consistency of Tanning and Erythema: Controlled UV dosages reliably induced targeted levels of skin tanning and erythema across participants.
- Anti-Tanning Product Efficacy: Mexameter® data demonstrated variable protective effects of products A and B, with clear differences in pigmentation levels compared to untreated sites.
- Safety Profile: Dermatological assessments indicated no significant adverse reactions, highlighting the safety of the products under controlled UV exposure.

This validated methodology provides a reliable framework for inducing and measuring UV-induced skin tanning, enabling consistent and reproducible results in dermatological product testing. NovoBliss Research's standardized process represents a critical step forward in skincare research, offering a robust tool for evaluating products designed to prevent tanning and enhance skin protection.

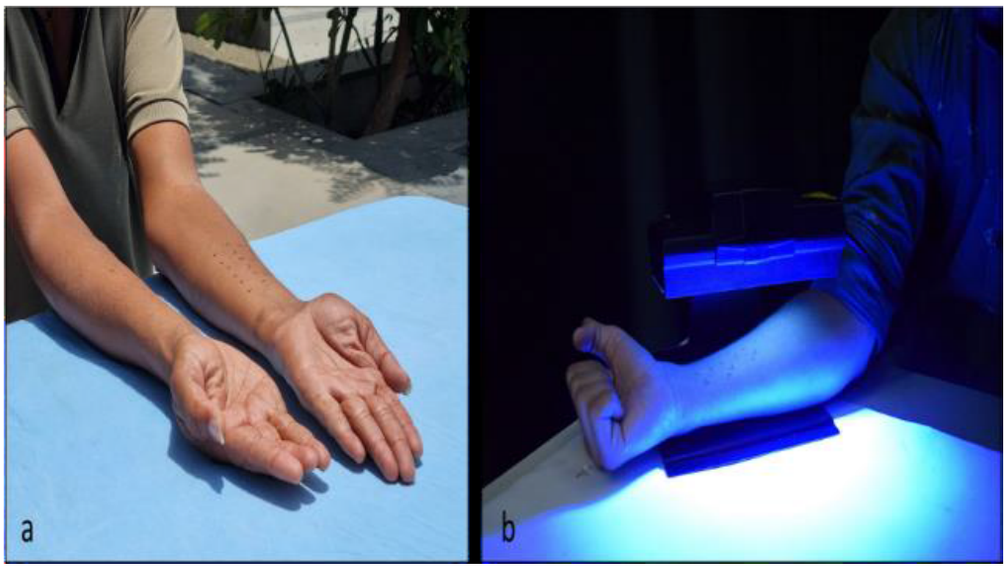

Figure (a) Direct sun exposure to the test sites (b) UV radiation exposure using a UV curing lamp.

About NovoBliss Research!

Headquartered in Ahmedabad, India, NovoBliss Research® is a leading Contract Research Organization (CRO) specializing in scientifically validated clinical safety and efficacy studies. With expertise spanning diverse industries—including Nutraceuticals, Natural Health Products, Dietary Supplements, Food products, OTC products, Ayurvedic products, Dermatology, Cosmetics, and Personal Care, Consumer Care items—NovoBliss ensures the highest standards of safety, quality, and compliance in clinical research.

We excel in Real World Evidence Studies, Safety and Efficacy claims substantiation, ensuring adherence to regulations. Founded by Dr. Nayan Patel and Dr. Maheshvari Patel, our commitment to ethical standards and global clinical research advancement drives us.

Access NovoBliss Research by clicking on this link www.novobliss.in

Access full article for Method Development and Process Validation in Dermatology: Assessing Methods of UV Exposure for Inducing Skin Tanning and Efficacy Evaluation of Anti-Tanning Agents by clicking on this link: https://www.ijord.com/index.php/ijord/article/view/1895/1056