

# EVALUATION OF THE EFFECTIVENESS OF A BROAD-SPECTRUM DAILY CARE PRODUCT IN THE PREVENTION OF PIGMENTATION INDUCED BY MULTIPLE SUB-ERYTHEMAL EXPOSURE TO UVA-1 RADIATION IN ASIAN SKIN

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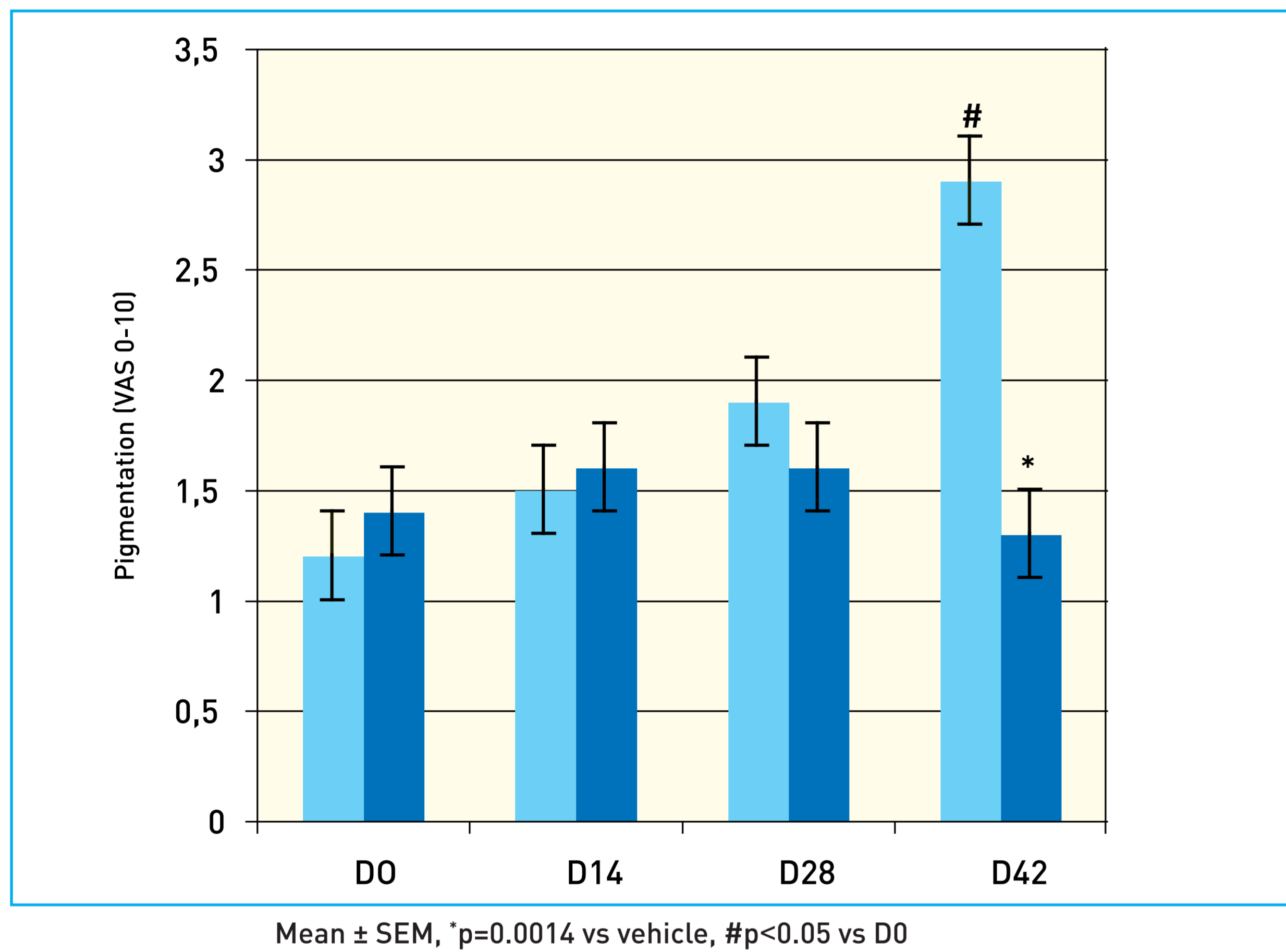
## INTRODUCTION

Sub-erythral UVA-1 exposure has important long-term consequences that include the development of pigmented skin lesions, a common sign of photoaging in Asians. The aim of this present study was to assess the protective effect of a broad-spectrum daily care product (DC) against pigmentation induced by multiple sub-erythral exposures to UVA-1 radiation (340-400nm) in Asian skin.

## MATERIAL AND METHODS

In this double-blind randomized study, 21 Japanese women, 30-45 years, skin type II (n=5) or III (n=16), with pigmented spots on the upper back and no UVA-1 photoallergy were included. Areas on the upper back, with and without spot, were exposed 3 times a week for 6 weeks using sub-erythral UVA-1 doses (5, 10 and 15 J/cm<sup>2</sup> respectively for the 1st, 3rd and 5th week) emitted by a Sellamed device equipped for UVA-1 (340-400nm). 15 minutes before each exposure, 2mg/cm<sup>2</sup> of a broad-spectrum DC (SPF50, PPD 18) or its vehicle were applied according to the randomization scheme. **15 J.cm<sup>-2</sup> is a dose that can be received easily during a spring or a summer day in Japan by an indoor worker.** Efficacy was evaluated at D0, D14, D28 and D42 (24h post exposure) via the evaluation of skin pigmentation (clinically and by chromametry (L\*, a\*, b\*)) and by performing a global assessment (10 cm VAS). Safety was assessed at D14, D28 and D42 by evaluating adverse events, global tolerance and the presence of erythema, scaling and dryness. UV light and normal light photographs were taken.

## RESULTS

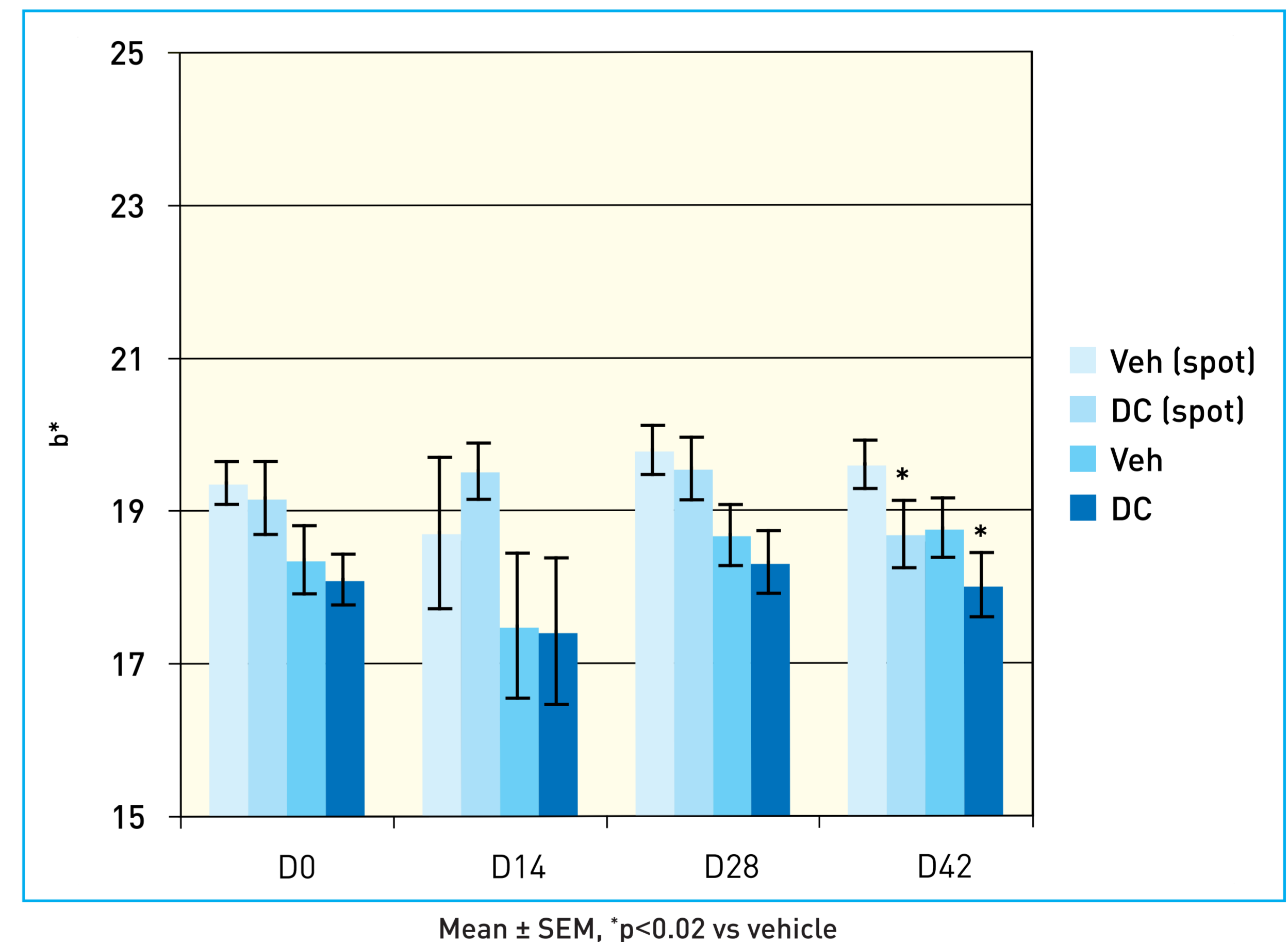
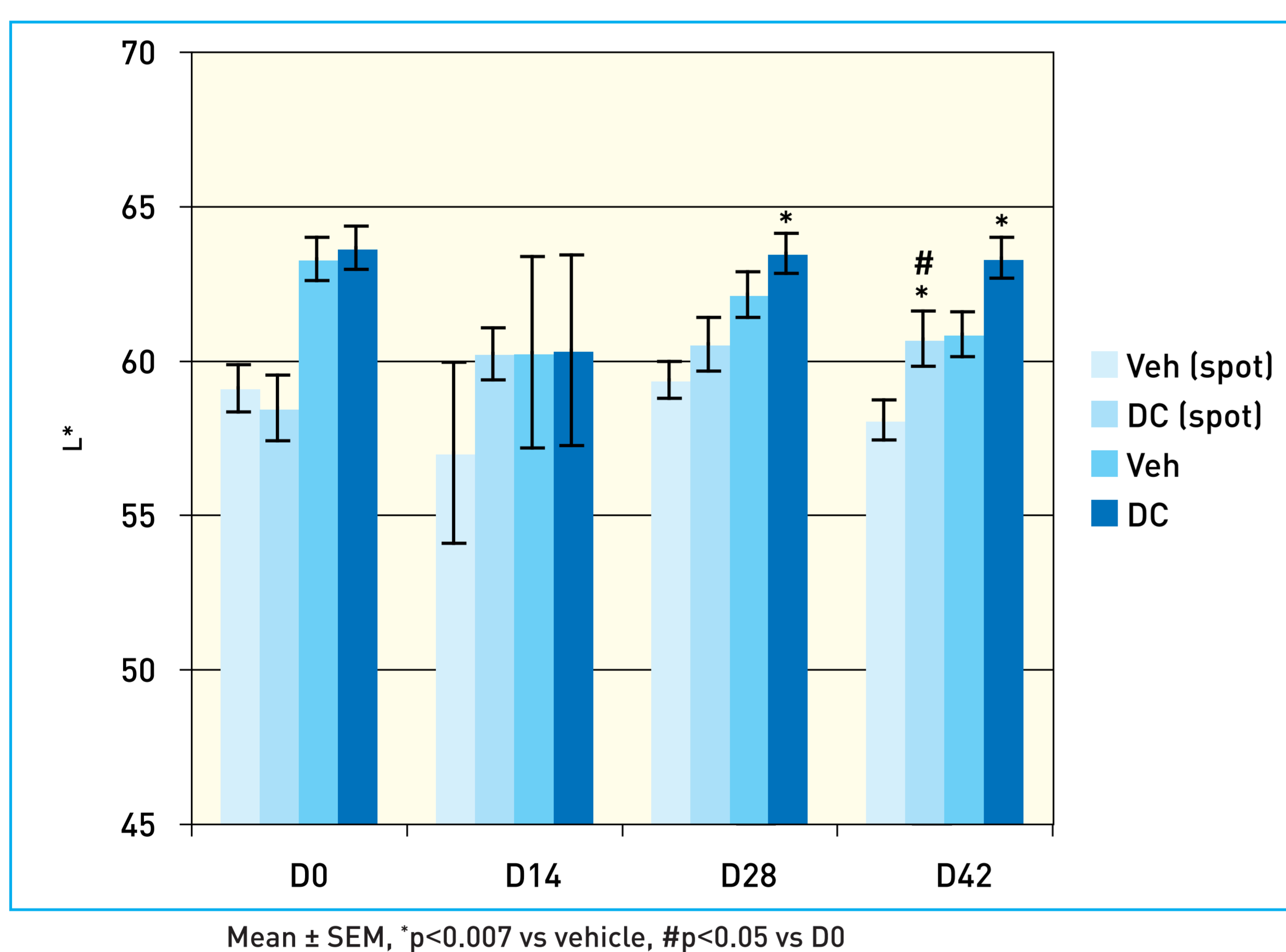


Dyschromy (Grade 0-6)	D0	D42
Vehicle (Veh)	1.4 ± 0.8 (1-3)	2.7 ± 0.7 <sup>#</sup> (1-4)
Daily Care (DC)	1.6 ± 0.9 (1-4)	1.4 ± 0.9 <sup>*</sup> (1-4)

Mean ± SED, \*p=0.0014 vs vehicle, #p<0.05 vs D0

The "excellent" tolerance of the daily care product was confirmed. The pigmentation score evaluated using a visual analog scale (0-10) was significantly lower in the daily care treated area than in the vehicle treated one at D42.

This result was confirmed by the significantly lower dyschromy (evaluated using a photonumeric scale) observed at D42 in the daily care treated area in comparison with the vehicle treated one.



The evolution of colorimetric measurements (L\*, a\* and b\*) on pigmented skin lesions and on normal skin during the 42 days of the study showed a lightening of the daily care product treated areas whereas a darkening was noticed in the vehicle treated ones.

## CONCLUSION

These results indicate that the use of a daily care product containing a broad-spectrum filtration offers an efficient protection of Japanese skin after chronic UVA-1 realistic exposure conditions. In conclusion, the tested daily care product is efficient in the prevention of the pigmentation in Japanese women.

