



EFFICACY STUDY
UNIVERSITY CLINIC BERLIN

EXTRACT

Analysis of penetration of BYAS Hyaluron-Serum
using BYAS iontophoresis

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Introduction

Hyaluronic acid (HA) is an essential component of human skin. It acts like a sponge essentially to bind largely and thus plumps up the skin. HA gradually breaks down with increasing age. This loss of HA is one of the causes of wrinkle formation. Replacing the skin's own HA by means of a cream is possible only to a limited extent, as the stratum corneum (SC) acts as a barrier, impeding to a great degree the passage of high-molecular substances into the skin. In addition, it is known that antioxidants can prevent premature aging of the skin by neutralizing free radicals.

The current study examined the penetration of an anti-aging serum (BYAS Hyaluron Serum) used as a cosmetic and its components (high percentage of hyaluronic acid plus various antioxidants) through the use of iontophoresis by means of the BYAS Face Lifter. This occurred in a half-side comparison. Untreated skin was tested as a control.

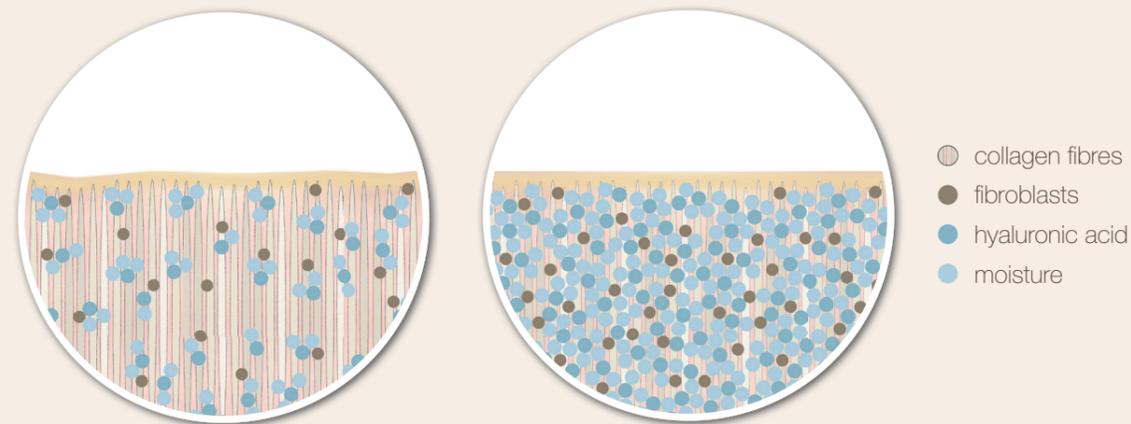


Fig. 1: Before BYAS treatment

Fig. 2: After BYAS treatment
Up to 900 % greater proportion of hyaluronic acid after 3 treatments in 1 week

Results

The penetration profile of the serum reveals the existence of a highly significant difference between treated and untreated patches of skin. Serum values approximately **8 times higher** were found in the skin 30 minutes after a single application of the serum by iontophoresis. Analyses performed 30 minutes after the third treatment confirmed those tests with an increase of up to a **factor of up to 10** compared to untreated skin.

Summary

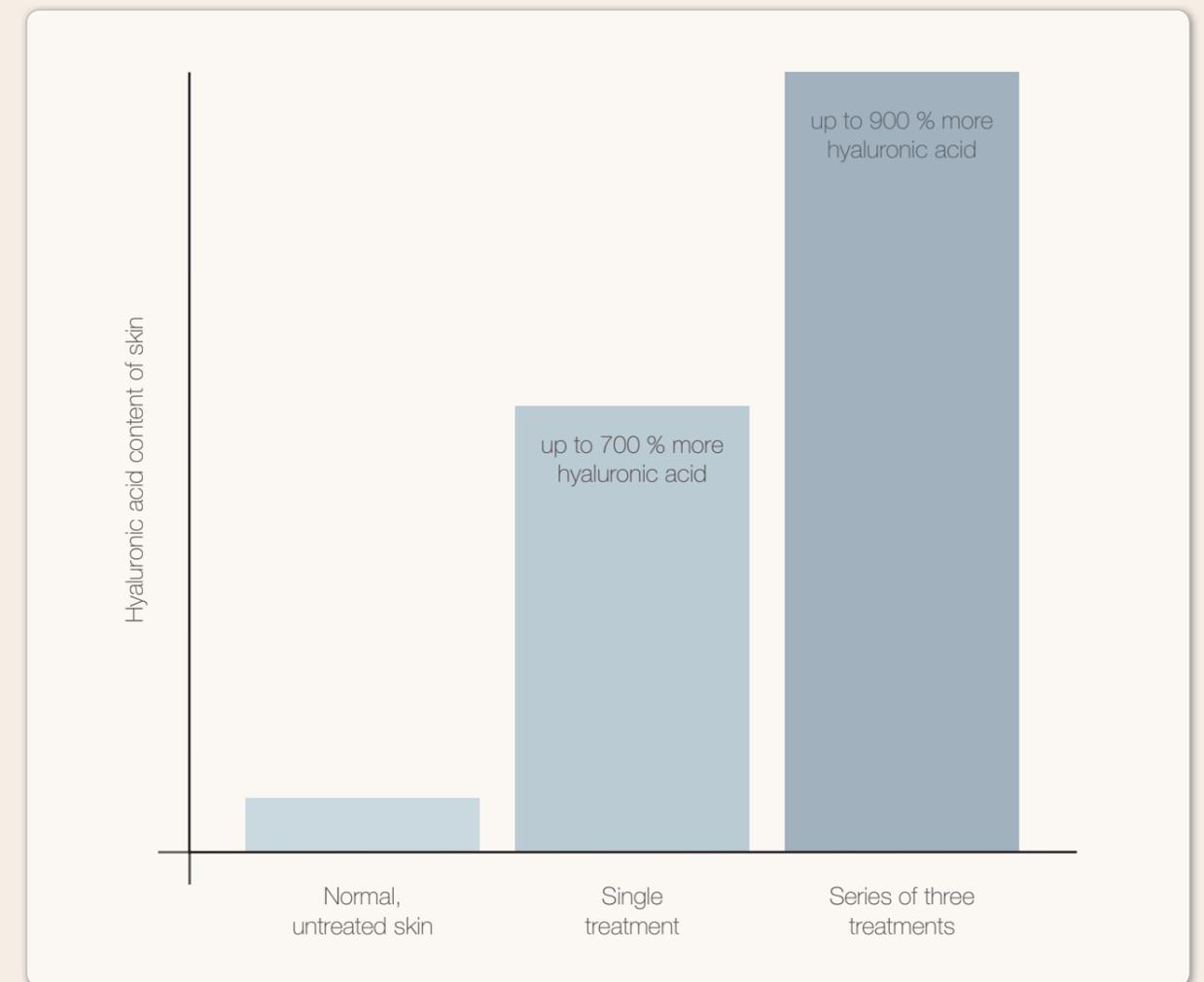


Fig. 3: Hyaluronic acid content of the skin after treatments with **BYAS Hyaluron Serum** and the **BYAS Face Lifter**

Conclusion

It was possible to track penetration of BYAS Hyaluron Serum into the epidermis following infiltration by means of the BYAS Face Lifter by using Raman microscopy, and large amounts **up to ten-times greater** in quantity of the serum's components were detected. This suggests that BYAS is very well suited for remediation of age-related hyaluronic acid deficiency.