

dostupnost zdrojových organismů pro získání většího množství k uspokojení nabídky (9).

Postupně se ale daří tyto technologické nástrahy překonat a v budoucnu lze očeká-

vat rozšíření stávajících principů fotoprotekce a spektra prostředků k prevenci stárnutí kůže.

LITERATURA

1. Teng Y, Huang Y, Danfeng X, et al. The Role of Probiotics in Skin Photoaging and Related Mechanisms: A Review. Clin Cosmet Investig Dermatol. 2022;2455-2464.
2. Chrpová Maulenová T. Mikrobiom pohledem dermatologa. Česká dermatovenerologie. 2022;12:20-24.
3. Chrpová Maulenová T. Microbiome and probiotics in the context of dermatology. Dermatol. Praxi. 2022;16:22-27.
4. Davani-Davari D, Negahdaripour M, Karimzadeh I, et al. Prebiotics: Definition, Types, Sources, Mechanisms, and Clinical Applications. Foods. 2019;8:92.
5. Souak D, Barreau M, Courtois A, et al. Challenging Cosmetic Innovation: The Skin Microbiota and Probiotics Protect the Skin from UV-Induced Damage. Microorganisms. 2021;9:936.
6. Burge S, Martin R, Wallis D. Oxford Handbook of Medical Dermatology, second edition, 2nd ed., 2017. doi:10.1111/ced.13140.
7. Patra V, Gallais Sérézal I, Wolf P. Potential of Skin Microbiome, Pro- and/or Pre-Biotics to Affect Local Cutaneous Responses to UV Exposure. Nutrients 2020;12:1795.
8. Gilchrist BA. Actinic Injury. Annu Rev Med. 1990;41:199-210.
9. Sánchez-Suárez J, Coy-Barrera E, Villamil L, Díaz L. Streptomyces-Derived Metabolites with Potential Photoprotective Properties – A Systematic Literature Review and Meta-Analysis on the Reported Chemodiversity. Molecules 2020;25:3221.
10. Krause M, Klit A, Blomberg Jensen M, et al. Sunscreens: are they beneficial for health? An overview of endocrine disrupting properties of UV-filters. Int J Androl 2012;35:424-436.
11. Suh S, Pham C, Smith J, Mesinkovska NA. The banned sunscreen ingredients and their impact on human health: a systematic review. Int J Dermatol. 2020;59:1033-1042.
12. Lee H, Hong Y, Kim M. Structural and Functional Changes and Possible Molecular Mechanisms in Aged Skin. Int J Mol Sci. 2021;22:12489.
13. Ghosh K, Capell BC. The Senescence-Associated Secretory Phenotype: Critical Effector in Skin Cancer and Aging. Journal of Investigative Dermatology. 2016;136:2133-2139.
14. Soeur J, Belaidi J-P, Chollet C, et al. Photo-pollution stress in skin: Traces of pollutants (PAH and particulate matter) impair redox homeostasis in keratinocytes exposed to UVA1. J Dermatol Sci. 2017;86:162-169.
15. Burns EM, Ahmed H, Isedeh PN, et al. Ultraviolet radiation, both UVA and UVB, influences the composition of the skin microbiome. Exp Dermatol. 2019;28:136-141.
16. Ngoc, Tran, Moon, et al. Recent Trends of Sunscreen Cosmetic: An Update Review. Cosmetics 2019;6:64.
17. Jugé R, Rouaud-Tinguely P, Breugnot J, et al. Shift in skin microbiota of Western European women across aging. J Appl Microbiol. 2018;125:907-916.
18. Li Z, Bai X, Peng T, et al. New Insights Into the Skin Microbial Communities and Skin Aging. Front Microbiol. 2020;11. doi:10.3389/fmicb.2020.565549.
19. Kang Y-M, Hong C-H, Kang S-H, et al. Anti-Photoaging Effect of Plant Extract Fermented with Lactobacillus buchneri on CCD-986sk Fibroblasts and HaCaT Keratinocytes. J Funct Biomater. 2020;11:3.
20. França K. Topical Probiotics in Dermatological Therapy and Skincare: A Concise Review. Dermatol Ther (Heidelb) 2021;11:71-77.
21. Im A, Lee B, Kang D, Chae S. Protective effects of tyndallized Lactobacillus acidophilus IDCC 3302 against UVB-induced photodamage to epidermal keratinocytes cells. Int J Mol Med 2019. doi:10.3892/ijmm.2019.4161.
22. Lim HY, Jeong D, Park SH, et al. Antiwrinkle and Antimelanogenesis Effects of Tyndallized Lactobacillus acidophilus KCCM12625P. Int J Mol Sci. 2020;21:1620.
23. Chen H, Li Y, Xie X, et al. Exploration of the Molecular Mechanisms Underlying the Anti-Photoaging Effect of Limosilactobacillus fermentum XJC60. Front Cell Infect Microbiol. 2022;12. doi:10.3389/fcimb.2022.838060.
24. Tlaskalová Hogenová H, Jirásková Zákostelská Z, Petanová J, Kverka M. Microbiota, immunity and immunologically-mediated diseases. Vnitr Lek. 2019;65:98-107.



ČASOPISY

SUPPLEMENTA
REPRINTY



KNIHY

EDUKAČNÍ MATERIÁLY
BROŽURY

TIŠTĚNÁ FORMA

SOLEN
MEDICAL EDUCATION

**Komunikujeme
s lékaři všemi
směry**

INTERNET

OSOBNÍ KONTAKT

E-SHOP, ARCHIV ČLÁNKŮ,
ON-LINE VZDĚLÁVÁNÍ

ON-LINE

SEMINÁŘE
AKCE NA KLÍČ

KONGRESY

