

〈一般論文〉

微生物代謝阻害による体臭制御

——キョウニンエキスのアンドロステノン発生抑制作用の解析——

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Regulation of Body Odors by the Inhibition of Microbial Metabolism

——Analysis of the Suppressive Effect of Apricot Kernel Extract on 5α -androst-16-en-3-one
Generated by Microbial Metabolism——

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Abstract

Recently, it was reported that 5α -androst-16-en-3-one (androstenone: ASN) was a key compound in body malodors and that female subjects were more sensitive than male subjects to ASN. ASN was generated by the skin-resident microorganism, *Corynebacterium xerosis* (*C. xerosis*), and apricot kernel extract (AKE) effectively suppressed the generation.

In this study, we devised a cell-free system on ASN generation to investigate the mechanism of AKE on the ASN regulation. 5α -androstan- 3α -ol-17-one sulphate, sodium salt (androsteron sulphate: ASRS) in *C. xerosis* was converted to ASN via 5α -androstan- 3α -ol-17-one (androsterone: ASR) and AKE did not influence ASR generation through the system. These results suggested that the effect of AKE on the regulation of ASN was based on the inhibitory action on the metabolic pathway leading to ASN from ASR in *C. xerosis*.

In addition, the suppressive effect of AKE on ASN generation was compared to the effect of chemical bactericides under culture conditions in *C. xerosis*. AKE exhibited superior effect than the bactericides in the same concentration. Furthermore, ASN continued to generate after the sufficient treatment with the bactericide, isopropylmethylphenol (IPMP), to markedly decrease the number of viable cells.

These results show that the regulation of microbial metabolism, such as the effect of AKE, is important and could lead to the development of a novel deodorant system.

Key words: volatile steroids, 5α -androst-16-en-3-one, androstenone, apricot kernel extract, *Corynebacterium xerosis*, inhibition of metabolism, bactericide, deodorant.