

〈シンポジウム〉

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香粧品分野における共同研究講座制度を活用したオープンイノベーション

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Open Innovation through Joint Research Chairs in Cosmetic Science

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Abstract

Recently open innovation between universities and industries has become more important system for cosmetic science in Japan. For this open innovation, joint research chairs in universities is available not only for industries but also for universities because of its propulsive force. Therefore, Mandom Corporation and Osaka University established the joint research chair in Osaka University in 2015. So far, we succeeded in isolation of sweat gland stem cells possessing the ability to regenerate sweat gland-like structures *in vitro* and visualization of the three-dimensional structure of the sweat gland, which regulates body temperature. Through these findings, we also succeeded in establishing an evaluation method for thermoregulatory sweat glands by visualizing and quantifying perspiratory contractions. In addition, quantifying the amount of sebaceous matter produced in human sebaceous gland and establishment of a new evaluation method were succeeded. Through collaboration with the National Institutes of Biomedical Innovation, Health and Nutrition, we confirmed for the first time in Japan that TRPM4, a cell sensor, controls inflammatory reactions in keratinocytes. In this review, brief summary of these research findings and explanation for benefits of join research chair are mentioned.

Key words: open innovation, cosmetic science, joint research chairs, sweat gland, TRPM4.