

## Development of Melanocyte-containing Bioartificial Skin Model for Validation of Depigmenting Effect

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### Abstract

Melanocytes produce melanin which is responsible for skin color and protection against UV irradiation.<sup>1)</sup> The response to UV irradiation and several hormones such as  $\alpha$ -MSH and ACTH includes increase in the number of melanocytes, melanin biosynthesis and the transfer of pigment granules to surrounding keratinocytes.<sup>2)</sup> Melanogenesis is also generally inhibited by numerous depigmenting agents. Melanocyte-containing bioartificial skin (MBS) produced in the laboratory provides useful model for validation of depigmenting effect as alternatives method to animal test. After irradiating UVB on MSB, we investigated the depigmenting effect of arbutin, Oil soluble licorice (glycyrrhiza) extract by using MBS. We observed that melanocytes in MSB reacted to exterior stimulus such as UVB irradiation and depigmenting agents through H/E and Fontana-Masson staining. Consequently, we identified the establishment of melanocyte-containing bioartificial skin can be used for a useful model in order to validate the effectiveness of depigmenting agents *in vitro*.

### References

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