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**The Effect Of Green Tea on Epidermal Melanocytes in Ultraviolet B-Irradiated Mice**

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We induced the activation of melanocytes in the epidermis of C57BL/6 mice by ultraviolet B (UVB) irradiation and observed the effect of green tea extract (GTE) on the formation, and decrease of UVB-induced epidermal melanocytes. C57BL/6 mice were irradiated by UVB 80 mJ/cm<sup>2</sup> (0.5 mW/sec) daily for 7 days, and GTE was intraperitoneally or topically applied pre- or post-irradiation. For the estimation of change of epidermal melanocytes, light microscopic observation with dihydroxyphenylalanine (DOPA) stain was performed. Split epidermal sheets prepared from the ear of untreated mice exhibited 11-13 melanocytes/mm<sup>2</sup>, and one week after UV irradiation, the applied areas show an increased number of strongly DOPA-positive melanocytes with stout dendrites. But intraperitoneal or topical treatment with GTE before each irradiation interrupted UVB-induced pigmentation and resulted in a marked reduction in the number of epidermal melanocytes as compared to the number found in UVB-irradiated, untreated control skin. The number and size of DOPA-positive epidermal melanocytes were also significantly decreased in intraperitoneally injected or topically applied group after irradiation with GTE at 3rd and 6th weeks after irradiation. The present study suggests the GTE as inhibitor of UVB-induced pigmentation and depigmenting agent.

**Keyword:** Ultraviolet, Melanocyte, Green tea