

〈原 著〉

## ジアセチルゲンチシン酸のメラニン生成抑制作用に関する研究

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### Inhibitory Effect of Diacetyl Gentisic Acid on Melanogenesis

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#### Abstract

Gentisic acid is widely known as substance generally contained in the root of *Gentiana lutea* Lin., also exists in the living body as a metabolic intermediate of tyrosine and phenylalanine. We prepared diacetyl gentisic acid (DAGA), an acetylated derivative of this gentisic acid and assessed its inhibition of melanin production using cultured pigment cells and a guinea pig. The inhibitory mechanism of the melanin production was also investigated. DAGA decreased tyrosinase activity significantly in cultured B16 mouse melanoma cells and normal human melanocytes in a concentration-dependent manner, however DAGA showed no inhibition of tyrosinase activity in a test tube. Topical treatment of white petrolatum containing 1% DAGA alleviated significantly the pigmentation induced by UV irradiation. SDS page profiles showed that DAGA decreased tyrosinase isozymes synthesized in B16 cells. These findings suggested that inhibitory effect of melanin production of DAGA was occurred through inhibition of intracellular tyrosinase synthesis.

**Key words:** melanin, tyrosinase, B16 melanoma, melanocyte, gentisic acid.