

Search for hair growth-promoting compounds from edible and medicinal plants

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Hepatocyte growth factor (HGF) has mitogenic, motogenic, and morphogenic activities in epithelial cells. Induction of HGF production may be involved in organ regeneration, wound healing and embryogenesis. HGF is also known to act on human and animal hair follicles to promote hair growth. In this study, the effects of naturally occurring compounds, which were isolated from edible and medicinal plants, on HGF production in Neonatal Normal Human Dermal Fibroblasts (NHDF) were investigated. Clovamide, one of the caffeic acid derivatives significantly induced HGF production dose-dependent manner. To know the important substructure for HGF production activity, we next investigated the effect of the partial structure of these caffeic acid derivatives. From the results, clovamide showed strong activity on the promotion of HGF production. It was suggested that the caffeoyl moiety of caffeic acid derivatives such as clovamide and its related compounds is essential for accelerated production of HGF. The compound which has the caffeoyl moiety may be useful for the treatment of some intractable organ diseases in addition to hair growth activity.