

〈シンポジウム〉

「毛包脂腺系を科学する—毛髪のサイエンスと新しい育毛剤へのアプローチ」

細胞成長因子による発毛の制御

坪井 良治*

Hair Growth Regulation by Growth Factors

Ryoji TSUBOI*

Abstract

Recent reports provided evidence that some growth factors are involved in hair growth and morphogenesis. Hair follicle growth was found to be inhibited by FGF-2 and TGF- β , while such growth was stimulated by KGF and IGF-I. Homozygous null mice lacking the FGF-5 gene caused abnormally long hair, while those lacking the FGF-7 and/or TGF- α gene caused a rough and/or wavy hair coat, respectively. Hepatocyte growth factor (HGF) is a multifunctional polypeptide which has recently been shown to stimulate the hair follicle growth of mouse vibrissae *in vitro*. The effect of cutaneous injections of HGF on hair follicle growth was analyzed using mice in different hair cycle stages. The HGF-injected skin of newborn mice had histologically longer and larger hair follicles. Administration of HGF to second anagen mice delayed the transition from anagen to telogen. Furthermore, administration of HGF to second telogen mildly induced anagen hair follicles.

Key words: growth factor, paracrine factor, hepatocyte growth factor, hair growth.