

Abstract

The aim of this study was to develop cosmeceutical products for anti-grey hair and hair nourishment by using 10 plant extracts which were selected from the literature and the plant database reviews, including *Acacia concinna*, *Celastrus paniculata*, *Equisetum debile*, *Lawsonia inermis*, *Melia azedarach*, *Oryza sativa* bran oil (brown and purple rice), *Perilla frutescens*, *Sapindus rarak* and *Vernicia montana* oil. The suitable extraction methods were introduced such as cold press method, ethanol maceration and water maceration. The 10 extracts were determined for the solubility, incompatibility with various solvents, toxicity to normal cell and also the stimulation of melanin synthesis in B16F10 melanoma cell line. The *E. debile* in ethanol (EDE) showed the highest melanin synthesis stimulation activity followed by *E. debile* in water (EDW), *L. inermis* in ethanol (LIE), *M. azedarach* in water (MAW), *A. concinna* in water (ACW) and *O. sativa* oil in ethanol (OSOE), respectively. Since these 5 extracts gave higher activity than the standard theophylline, they were selected to incorporate in cosmeceutical products for anti-grey hair (hair mask and hair spray). Moreover, the *E. debile* in ethanol (EDE) and that in water (EDW) showed no toxicity on hair follicle cells and also on normal skin fibroblasts, they were added in cosmeceutical products for hair nourishment (hair mask and leave on). The cosmeceutical products from this study, 3 hair mask products, hair spray and Leave-on, showed the good stability in 4, room temperature and 45 degree Celsius and in the accelerated condition. The volunteer satisfaction, anti-grey hair and hair nourishment were tested. All developed products got in the further steps. After the consecutive 4 months of the anti-grey hair product, the more black hair was shown in volunteers with the repeat use score of 80 % of all subjects. The hair nourishment product can rejuvenate the dry hair skin to the shiny, smooth hair after use.