

Evaluation of possible cosmeceutical effects of Turkish plants

Fatma Sezer Senol Deniz and Ilkay Erdogan Orhan

Department of Pharmacognosy, Faculty of Pharmacy, Gazi University, Ankara, Turkey.

*E-mail: fseaser@gmail.com

Cosmeceuticals contain synthetic, plant-, and animal-derived materials. However, use of herbal ingredients in cosmetic formulations are on increase mostly due to side effects of synthetic compounds. Dermis, which is the middle layer of the skin consisting of connective tissue components, provides flexibility and resistance to skin. Elastin and collagen, two important proteins being the main components of the connective tissue, are responsible for resistance and elasticity of the skin. Hydrolysis of them through elastase and collagenase triggered by free oxygen radicals cause wrinkle formation accompanied by skin aging. Reactive oxygen species are not stable and cause a huge level of physiological damage, while they are associated with cell damage in various tissues in addition to many diseases. Antioxidant compounds are the substances that may scavenge harmful free radicals produced in the body by different reasons. Tyrosinase is a copper-containing melanogenic enzyme that is present in microorganisms, plant, and animal tissues. Recently, search on reliable and potent tyrosinase inhibitors have gained importance for skin-bleaching purpose in hyperpigmentation therapy. In the light of this information, approximately 99 herbal extracts and propolis were investigated for their elastase, collagenase, and tyrosinase inhibitory effects using ELISA microtiter assays in a large screening, while their antioxidant effect was determined using various *in vitro* methods. Based on our results we selected *Cotinus coggyria* Scop. (Anacardiaceae) and *Maclura pomifera* (Raf.) C. K. Schneid. (Moraceae) for future studies.