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Effects of Mesembryanthemum crystallinum on the anti-oxidant, anti-wrinkle and whitening skin agents

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These days, the demands for the effective and safe whitening and anti-aging agents of the skin have increased due to the medical, pharmaceutical and cosmetic reasons. *Mesembryanthemum Crystallinum* (MC) is a facultative halophyte, adapted to extreme environmental conditions by synthesis of protective substances and antioxidant molecules such as β -cyanins and other flavonoids. MC has been reported to show anti-diabetic activity to inhibit various cancers and also shows anti-oxidation activity and promotes lipid metabolism. In this study, we investigated the effects of MC extracts (water, methanol, ethyl acetate, hexane, chloroform, buthnol and methylene chloride) on the improvement of anti-oxidant, anti-aging and whitening effects. MC-methylene chloride extract (MCMC) showed the most prominent free radical DPPH, Super Oxide Dismutase (SOD) like activities. We used mushroom and cellular tyrosinase activity and cellular secreted melanin content assays. MCMC did not exhibit any inhibitory effect on the tyrosinase activity in cell-free condition. Interestingly, the cellular tyrosinase and melanin content in B16F10 cells stimulated by α -MSH was significantly inhibited by treatment with MCMC in a dose-dependent manner. MCMC has elastase inhibitory activity, procollagen synthesis and TNF- α induced Matrix Metalloproteinase-1(MMP-1) expression in human dermal fibroblasts. At 50, 100 µg/ml concentrations, the procollagen biosynthesis effect of MCMC were 110.6 and 112.2%. However, elastase inhibitory activity and MMP-1 expression was not changed. All these findings suggested that MC extract have great potential as cosmeceutical ingredients with anti-aging and whitening effects.

Biography

Da Eun Kim has completed her MS from Chosun University of Pharmacy. She is active in research activities in the field of medicinal plants. Her several studies have been published in various journals.

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