Effect of Cinnamomum osmophloeum Kanehira Extracts on Cell Proliferation and Melanin Formation

陳鈞浩、李世傑、李泰林

E-mail: 364821@mail.dyu.edu.tw

ABSTRACT

Melanin is the major pigment for the color of human skin. It is secreted by melanocytes in the basal layer of the epidermis. Melanin may be overproduced on chronic sun exposure, melasma, or other hyperpigmentation diseases.. Tyrosinase, a copper- containing monooxygenase, is the key enzyme that catalyzes of synthesis melanin in melanocytes. Cinnamomum zeylanicum has been reported to inhibit the activity of tyrosinase. Cinnamomum osmophloeum Kanehira, a Taiwan endemic plant, is known as antioxidant. The potential in skincare of C. osmophloeum Kanehira extracts is studied. The experiment applied three sources with different chemical types, those are G2, P3 and TFA that respresent cinnamaldehyde- cinnamylacetate, mixed and uncharacterized chemical structure respectively. Adding 20ng/mL of ethanol extracts to B16-F10 cell that did not cause growth retardation or cell death, the G2 and the P3 extracts can suppress 24~25% tyrosinase activity and reduced melanin accumulation in the B16-F10 cell. At the same time, the mRNA for tyrosinase was down-regulated. Administration cinnamon extracts to cell before or after exposure to UV, in both conditions more cell survived from the UV damage. In conclusion, all the three cinnamon extracts benefit cells in terms of reducing melanin accumulation and reducing UV caused cell death. This seems imply that cinnamon is a good candidate for skin care in protection and melanin inhibition.

Keywords : Cinnamomum osmophloeum、Tyrosinase、Melanin、Whitening

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