

산양삼의 조골세포 활성화에 미치는 영향

정진부*

안동대학교 생약자원학과, 교수

Effects of Wild Simulated Ginseng on the Proliferation, Differentiation and Mineralization of Osteoblastic MC3T3-E1 Cells

Jin Boo Jeong*

Professor, Department of Medicinal Plant Resources, Andong National University

Panax ginseng C.A. Meyer (*P. ginseng*) is known to exert a wide range of pharmacological effects both in vitro and in vivo. Although studies on ginsenoside, antioxidant activity, and anticancer effect of wild simulated ginseng (WSG) have been conducted, there is little research on the effect of WSG on bone metabolism. In this study, we investigated the potential anti-osteoporotic properties of WSG on the growth and differentiation of MC3T3-E1 cells. WSG significantly increased the viability and proliferation of MC3T3-E1 cells. WSG activated intracellular alkaline phosphatase (ALP) activity in MC3T3-E1 cells. In addition, WSG increased the mineralized nodules in MC3T3-E1 cells. Furthermore, WSG increased the expression of genes such as Runx2, ALP, OPN and OCN associated with osteoblast growth and differentiation in a dose-dependent manner.

Key words: Osteoporosis; Osteoblast differentiation; Wild simulated ginseng

[This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF-2019R1D1A3A03103685 and NRF-2018 R1A6A1A03024862).]

*(Corresponding author) E-mail: jjb0403@anu.ac.kr, Tel: +82-54-820-7757