ANTI-OBESITY EFFECT OF BEE VENOM: FROMIN VITRO AND IN VIVOSTUDY

[1]SE-YUN CHEON, [2]YEA-JIN PARK, [3]HYO-JIN AN, [4]YUN-YEOP CHA

Department of Pharmacology, College of Oriental Medicine, Sangji University, Wonju-si, Gangwon-do 220-702, Republic of Korea

Abstract - BV has been used traditionally treatment for the relief of pain and chronic inflammatory diseases. In addition, BV inhibited proliferation of carcinoma cells via induction of apoptosis. In spite of large use, there is a shortage of documented evidence to demonstrate its medicinal utility against obesity. In this study, the inhibitory effect of BV on adipocyte differentiation was assessed using 3T3-L1 preadipocytes, in which several markers involved in lipid metabolism were examined. In addition, we demonstrated the inhibitory effects of BV on adipogenesis in high fat diet (HFD)-induced obese mice. Male C57BL/6 mice fed a HFD for 8 weeks to induced obesity, and BV (0.1 mg/kg or 1 mg/kg) or saline were injection in the last 4 weeks. BV significantly inhibited preadipocyte differentiation by attenuating lipid accumulation without cytotoxicity in 3T3-L1 cells. BV also reduced the body weight gain compared to saline-injected mice.Notably, BV inhibited adipogenesis by down-expression of transcription factors, CCAAT/enhancer-binding proteins (C/EBPs) and peroxisome proliferator-activated receptor gamma (PPAR-γ) in 3T3-L1 cells and HFD-induced obese mice. In conclusion, BV can be proposed as a potential the rapeutic agent for obesity. This work was supported by Basic Science Research Programthrough the National Research
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