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Anti-adipogenic effect of *Moringa oleifera* leaves extract in porcine bone marrow derived mesenchymal stem cells

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Moringa Oleifera leaves (MOL) extract was used as a traditional medicine. Recent year, many published studies have shown that alcohol, hydroalcohol, or water extracts of MOL possess a wide range of additional biological activities including antioxidant, anti-diabetic, and anti-obesity. Among these characteristics representing some of the hallmarks of metabolic syndrome, adipocytes also play an important role in this process through their metabolism. It is known that significant amount of adipocytes are derived from mesenchymal stem cells (MSCs) presented in bone marrow and adipose tissues. However, the studies on anti-adipogenic effects of M. oleifera leaves extract on adipogenic differentiation of bone marrow derived mesenchymal stem cells are still poorly characterized. The experiment was conducted to study the efficiency of MOL extract on adipogenic differentiation of porcine bone marrow derived mesenchymal stem cells (pBM-MSCs). pBM-MSCs were isolated and cultured in completed medium or adipogenic differentiation medium containing 0 (control group), 100, 200, and 300 µg/ml ethanolic extract of MOL to explore the anti-adipogenic differentiation ability. The results of MOL extract supplementation demonstrated that M. oleifera leaves extract inhibits the cytoplasmic lipid accumulation as well as adipogenic differentiation of preadipocytes.

Biography

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