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## *Artemisia scoparia* inhibit adipogenesis through MAPK signaling in 3T3-L1 preadipocytes

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Obesity is a leading cause to a variety of pathological diseases and has become a serious public health problem. The regulation of energy homeostasis is a critical mechanism in obesity. Adipose tissue plays a vital role as the regulator of energy intake and expenditure. The halophyte *Artemisia scoparia* was investigated for its ability to counteract adipogenesis in 3T3-L1 preadipocytes using its crude extract and fractions (n-hexane, 85% aq. methanol, n-butanol and H<sub>2</sub>O). For adipocyte differentiation, the cells were treated with differentiation medium containing 10% fetal bovine serum, 0.5 mM 3-isobuty-1-methylxanthine, 1 μM dexamethasone and 10 μg/ml insulin for six days. Their adipogenic activities were determined by lipid accumulation and adipogenic markers. Presence of crude extract and solvent fractions decreased the lipid content, stained with Oil Red O, in differentiating 3T3-L1, and also downregulated the crucial adipogenesis markers (PPARγ, C/EBPα, and SREBP1c) and transcription factors (p-p38, p-ERK, and p-JUK). In all fractions except the H<sub>2</sub>O, the decrease of adipogenic markers in mRNA expression and protein level was observed. Among them, a portion of the n-BuOH fraction was partitioned between EtOAc and H<sub>2</sub>O. A portion of the EtOAc was subjected to preparative TLC on silica (Si) gel with the solvent EtOAc/MeOH/H<sub>2</sub>O to yield bioactive component against obesity.

### Biography

Jung Hwan Oh completed his PhD from Tokyo University of Marine Science and Technology. She has published more than 100 papers in reputed journals.

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