

JOINT EVENT

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## Pinosylvin decreases matrix metalloproteinase-2 expression and suppress oral cancer cell invasion and migration

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Oral squamous cell carcinoma (OSCC) is the most common primary malignancy occurring in the head and neck. It is the fourth most common male cancer and the fourth leading cause of male cancer death in Taiwan. Metastatic tumors are extremely common in the late stages of cancer. Treatment for metastatic cancer aims to decelerate the growth or spread of cancer. The extracellular matrix degradation involves various proteases such as matrix metalloproteinase (MMPs), are calcium-dependent zinc-containing endopeptidases. MMP-2 is type-IV collagenases of MMPs, and correlated with lymph node metastasis and advanced tumor stage groups. Pinosylvin, a preinfectious stilbenoid toxin, is used to study its properties as a fungi toxin and therapeutic agent. Pinosylvin is used as a representative stilbene to study its biological actions and therapeutic value in processes such as cell survival, apoptosis and cell mobility. However, the pharmacological activities of pinosylvin in anti-metastasis remain unclear. In this study, we used wound closure assay and transwell assay to determine the effects of pinosylvin on oral cancer cell migration and invasion. Pinosylvin treatment significantly inhibited the migration and invasion abilities of oral cancer cells *in vitro*. Gelatin zymography results revealed that pinosylvin inhibited MMP-2 activity. In addition, pinosylvin suppressed carcinoma-associated epithelial–mesenchymal transition in oral cancer cells. Pinosylvin inhibits the invasion of human oral cancer cells and is a potential chemopreventive agent against oral cancer metastasis.

### Biography

Mu Kuan Chen is currently the Superintendent of Changhua Christian Hospital. He is a prolific author in Head and Neck Medicine. He has served on numerous Editorial Boards of several international journals, been invited to be the book chapter writer. His main interests are focused on development of new techniques of minimally invasive surgery in otorhinolaryngology, head and surgery including endoscopic skull base surgery, endoscopic nasopharyngectomy, endoscope assisted parotidectomy and ablation of submandibular gland, and endoscopic sinonasal tumor excision. Besides, he has published many articles which focused on basic research of oral cancer and nasopharyngeal cancer.

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