

The Effects of Terrein: A Secondary Metabolite from *Aspergillus terreus* as Anticancer and Antimetastatic Agent on Lung Cancer Cells

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Abstract : Lung cancer or pulmonary carcinoma is the uncontrolled growth of abnormal cells in one or both of the lungs. These abnormal cells can spread to other organs of the body through lymphatic system or bloodstream which is called metastatic stage that leading cause of cancer death. Terrein (C₈H₁₀O₃; MW= 154.06 kDa) is a secondary bioactive fungal metabolite, which was isolated from the *Aspergillus terreus*. In this study, we investigated the effects of terrein on the inhibition of human lung cancer cell proliferation and metastasis. The A549 human non-small cell lung cancer cell line was used as a model. Terrein significantly inhibited lung cancer cell proliferation measuring by a colorimetric MTT assay (IC₅₀ 0.32 mM) and significantly inhibited metastatic processes including migration, invasion, and adhesion that determined by wound healing assay, transwell assay, and adhesion assay, respectively. These findings indicate that terrein could be a potential therapeutic agent for lung cancer.

Keywords : terrein, lung cancer, anticancer, antimetastatic

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