

Studies on the bioactive chemical constituents of
Lespedeza cuneata

Cheng-I Wu (吳政毅)¹, Yu-Ling Huang (黃鈺玲)², Chia-Chuan Chang (張嘉銓)³

¹Institute of Genome Sciences, National Yang-Ming University

²Division of Chinese Medicinal Chemistry

³School of Pharmacy, National Taiwan University

Neovascularization plays a role in several pathological conditions, including tumor growth, arthritis, and choroidal neovascularization. Preliminary *in vitro* Matrigel angiogenesis assays on the EtOH extracts of Chinese herbal medicine revealed that the hexane layer of *Lespedeza cuneata* was active against the formation of tube-like structures on Matrigel. *L. cuneata* is a perennial legume distributed in Korea, China, India, Australia and Taiwan and used as folk anti-inflammatory medicine. By anti-angiogenetic activity-guided silica gel chromatography of the hexane layer, a low-polarity fraction containing polyunsaturated fatty acids with IC₅₀ of 8μg/ml was obtained. It had been proved that long chain n-3 polyunsaturated fatty acids have anti-angiogenic effect in intestinal microvascular endothelium. We also isolated and identified 3 triterpenes (**LC-3** & **4**) among which stigmasterol and β-sitosterol had been reported to have anti-inflammatory properties along with two other compounds, salicylic acid (**LC-1**) and (65,7*E*)-vomifoliol (**LC-2**).