Pharmaceutical Biology, 48(1): 23-31

# The Polyphenolics in the Aqueous Extract of Psidium Guajava Kinetically Reveal an Inhibition Model on LDL Glycations

Chen, Kuan-Chou; Chuang, Chao-Ming; Lin, Li-Yun; Chiu, Wen-Ta; Wang, Hui-Er; Hsieh, Chiu-Lan; Tsai, Tsuimin; Peng, Robert Y.

## Abstract

Guava Psidium guajava L. (Myrtaceae) budding leaf extract (PE) has shown tremendous bioactivities. Previously, we found seven major compounds in PE, i.e., gallic acid, catechin, epicatechin, rutin, quercetin, naringenin, and kaempferol. PE showed a potentially active antiglycative effect in an LDL (low density lipoprotein) mimic biomodel, which can be attributed to its large content of polyphenolics. The glycation and antiglycative reactions showed characteristic distinct four-phase kinetic patterns. In the presence of PE, the kinetic coefficients were 0.000438, 0.000060, 0.000, and -0.0001354 ABS-mL/mg-min, respectively, for phases 1 to 4. Computer simulation evidenced the dose-dependent inhibition model. Conclusively, PE contains a large amount of polyphenolics, whose antiglycative bioactivity fits the inhibition model.

Key words：Antiglycation; LDL glycation; Psidium guajava L