# Sophoraflavanone G from *Sophora pachycarpa* Enhanced the Antibacterial Activity of Gentamycin against *Staphylococcus aureus*

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In this study the enhancement effect of *Sophora pachycarpa* roots' acetone extract on the antibacterial activity of gentamycin was evaluated against *Staphylococcus aureus.* Disc diffusion and broth dilution methods were used to determine the antibacterial activity of gentamycin in the absence and presence of plant extract and its various fractions separated by TLC. A clinical isolate of *S. aureus* was used as test strain. The active component of the plant extract involved in enhancement of gentamycin's activity had $R_f = 0.72$ on a TLC plate. The spectral data ($^1$H NMR, $^{13}$C NMR) of this compound revealed that this compound was 5,7,2′,4′-tetrahydroxy-8-lavandulylflavanone (sophoraflavanone G), previously isolated from *Sophora exigua*. In the presence of 0.03 μg/mL of sophoraflavanone G the MIC value of gentamycin for *S. aureus* decreased from 32 to 8 μg/mL (a four-fold decrease). These results signify that the ultra-low concentration of sophoraflavanone G potentiates the antimicrobial action of gentamycin suggesting a possible utilization of this compound in combination therapy against *Staphylococcus aureus.*

*Key words:* Antibacterial Activity, Sophoraflavanone G, Synergism