

Title	Antimicrobial Activity and Antioxidant Compositions of <i>kwao krua</i> Extracts	
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ABSTRACT

Crude extracts of *Pueraria mirifica* Airy-Shaw et Suvatabandhu, *Butea superba* Roxb. and *Mucuna macrocarpa* Wall. were prepared by sequential extraction using three different solvents: hexane, ethyl acetate and methanol, and used to test for their antimicrobial activity using the disc diffusion method. It was showed that only the *P. mirifica* extracts prepared from ethyl acetate exhibited antimicrobial activities against *Bacillus cereus*, *B. subtilis*, *Escherichia coli*, *Micrococcus luteus*, *Proteus mirabilis*, *Pseudomonas fluorescens*, *Saccharomyces cerevisiae*, *Salmonella typhimurium*, *Serratia marcescens*, *Staphylococcus aureus*, *S. epidermidis*, *Streptococcus faecalis* and *S. lactis*. The minimum inhibitory concentration (MIC) of this extract was determined and these values were between 15 and 50 mg/ml depending on the microbes tested. The thin layer chromatography (TLC) technique was subsequently introduced to separate chemical compounds of the *P. mirifica* extracts derived from ethyl acetate. When tested against *B. cereus*, there were only two fractions with the R_f values of 0.51 and 0.60 capable of inhibiting the *B. cereus* cells.

In addition, the *kwao krua* extracts were screened for antioxidants using HPLC. The results showed that all *kwao krua* had daidzin, genistin, daidzein and genistein in which the *P. mirifica* extracts obtained from ethyl acetate showed highest amounts of these antioxidant compounds (0.045% of daidzin, 0.037% of genistin, 0.049% of daidzein and 0.060% of genistein).

Keywords: *kwao krua* / *Pueraria mirifica* / *Butea superba* / *Mucuna macrocarpa* / antimicrobial activity / antioxidants

