THE METHANOL EXTRACT FROM *Garcinia latissima* Miq.

Neneng Siti Silfi Ambarwati
Faculty of Engineering, Universitas Negeri Jakarta, Jl. Rawamangun Muka, Pulogadung, Jakarta Timur, DKI Jakarta, 13220, Indonesia

### Introduction
Previous research had been conducted on *G. latissima* Miq. stem bark methanol extract that the extract (20,000 ppm) was active against *B. subtilis* bacterium with inhibition zone diameter was 10.70=0.638 mm and the inhibition zone diameter against *S. aureus* was 10.38=0.653 mm [1]. The MIC and MBC values of the extract against *B. subtilis* were 625 and 5,000 ppm [1]. The MIC and MBC values of the extract against *S. aureus* were 2,500 and 5,000 ppm [1]. To continue this research, fractionation was done and tested the fractions against *B. subtilis* and *S. aureus* bacteria. Research on natural antioxidants in food has become popular these days, and the choice and availability of natural antioxidants is still limited [4]. Therefore, an antioxidant test was performed on extract and fractions of *G. latissima* Miq. stem bark.

### Objectives
This study aimed to get completed information about the antioxidant and antibacterial against *B. subtilis* and *Staphylococcus aureus* activities of the fractions from *G. latissima* Miq. stem bark methanol extract.

### Methods
Fractionation was performed by column chromatography. The antibacterial activities of the fractions from *Garcinia latissima* Miq. stem bark were assayed by inhibition zone technique. Their antioxidant activity were evaluated using DPPH (2,2-diphenyl-1-picrylhydrazyl) and FRAP (Ferric Reducing Antioxidant Power) methods.

### Results
Stem bark methanol extract had higher antioxidant activity (% inhibition = 95.68%) than ethyl acetate extract and n-hexane stem bark extract of *G. latissima* Miq. The stem bark methanol extract obtained 10 fractions. The strongest antibacterial fraction against *B. subtilis* (ATCC 6633) was fraction D with inhibition zone diameter value of 7.500=0.300 mm. The strongest antibacterial fraction against *S. aureus* (ATCC 25923) was fraction G with inhibition zone diameter value of 7.433=0.153 mm. The highest antioxidant activity fraction by DPPH method was fraction G which has 93.39% inhibition percentage and IC50 value of 5.10 μg/mL. The second method (FRAP method) showed that the highest ferric ion equivalent antioxidant activity (FeEAc) was fraction G too (1189.649 μmol FeE/ɡ fraction). Phytochemical screening showed that fraction G contains flavonoid and tannin.

### Tables / Pictures
![Table](image)

From the table above showed that the largest fraction zone inhibition diameter against *B. subtilis* was the fraction D (7.500± 0.300 mm) and the largest fraction zone inhibition diameter against *S. aureus* was fraction G (7.433±0.153 mm)

### Reference