

**Radical Scavenger and *In Vitro* Anti-cancer Activity
of Bangle Extract and Food Ingredient
(Aktivitas Penangkapan Radikal dan Antikanker Ekstrak
dan Ingredien Pangan Rimpang Bangle)**

Elmeizy Arafah¹, Nura Mahalayati¹, Eliza²

¹ Technology of Agricultural Products Faculty of Agriculture, Universitas Sriwijaya

ABSTRACT

Bangle is Zingiberaceae family which is used as traditional healing in Indonesia. The objectives of this research were to determine the total phenolic phytochemicals constituent, the radical scavenger and anti-cancer activities of ethyl acetate extract, dried powder, dried juice and food ingredient of bangle rhizome. The radical scavenger activity was analyzed by using DPPH method as percentage of Electron Donating Ability (% EDA) and the anti-cancer activity level was determine by using cancer cell line p388 *in vitro*. The result of this research were the ethyl acetate extract had the highest of total phenolic content (6.78 ± 0.2 mg/g TAE) and scavenger activity was 75.00 ± 0.31 (% EDA). The ethyl acetate extract had the highest cytotoxic effect (IC_{50}) of cancer cell line p388 *in vitro* (12.6 μ g/mL). While the bangle ingredient food had the lowest of total phenolic content (0.23 ± 0.1 mg/g TAE), radical scavenger activity (10.11 ± 0.16 % EDA) and anticancer activity *in vitro* (IC_{50} 87.5 μ g/mL). It can be concluded that ethyl acetate extract has potential as radical scavenger and anti-cancer.

Key word: *anti-cancer, bangle extract, food ingredient, radical scavenger, total phenolic*