

**Kajian Komponen Bioaktif, Aktivitas Antioksidan, dan Sitotoksisitas
Jamu Tradisional Indonesia**

*(Study of Bioactive Compounds, Antioxidant Activity, and Cytotoxicity of
Jamu : Indonesian Traditional Herbal Medicine)*

Dr. Titik Budiati, S.TP., M.T., M.Sc.

Mia Aldatus Sa'adah

Studi Program of Food Engineering Technology

Majoring of Agriculture Technology

Program Studi Teknologi Rekayasa Pangan

Jurusan Teknologi Pertanian

ABSTRACT

Jamu is an Indonesian traditional herbal medicine that is widely consumed by the public, but it is not uncommon to find side effects from consuming jamu. This can occur due to the addition of unknown plants, bioactive compounds, or contamination. This research aimed to determine the bioactive compounds, antioxidant activity, and cytotoxicity of Traditional Jamu in Indonesia on normal Vero cells. This research took the form of monitoring to compare jamu pahitan, kunyit asam, dan beras kencur with branded and gendong jamu in herbal medicine. Bioactive compounds analysis testing using GC-MS, antioxidant activity using the DPPH method, and measurement of the percentage of Vero cell viability under a microscope. Vero cells were cultured and given additional treatment with concentrations of 1000; 500; 250; 125; 62.5; 31.25; and 15.625 µg/mL. Data analysis on the results of differences in the percentage of antioxidant activity used Analysis of Variance (ANOVA) and if there is a significant difference, continue with the DMRT test. The results of GC-MS analysis showed that there were 13 active compounds in jamu pahitan and 6 types of bioactive compounds in kunyit asam and beras kencur. Jamu as traditional Indonesian herbal medicine is not toxic to normal Vero cells because the cell viability percentage is $\geq 50\%$. The results of the ANOVA test showed that the type of traditional Indonesian herbal medicine had a significant effect on antioxidant activity ($P < 0.05$). The differences can be caused by some factors, such as the addition of raw material variants, storage, and production processes that influence the bioactive content contained in branded and traditional jamu.

Keywords: *antioxidant, bioactive compound, jamu, Vero cell*