



Testing of Antibacterial Activity of Ethanol Extracts of Papuan Herbs as a *Chemical Library* of the Bacterium *Salmonella typhimurium*

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Abstract : Diversity of plants in Indonesia as *Chemical library*, has long been used as a medicine. Interaction of chemical compounds to a target molecule is one step in a series of studies for drug discovery. This research was conducted in order to determine whether there is an interaction between ethanol extracts of herbs with *Salmonella typhimurium* bacteria (that cause disease 'like typhoid' in mice), both at the cell and molecular level. Previous research has been able to demonstrate their interaction with DNA ethanol extracts of herbs *Salmonella typhimurium* through HPLC method. In this study the interaction is not solely between the ethanol extract of herbs and DNA alone but more thorough ie the components of bacterial cells *Salmonella typhimurium*. To achieve these objectives have been carried interaction at the cellular level by looking at the growth of bacteria on a petri dish; and molecular level by way of lysis of the bacteria. Observations at the cellular level, carried out by culturing the bacteria on solid media herbs that have various concentrations and volume variations, the analysis shows the growth of bacteria in all media. Bacteria growth on media have visitors showed interaction at the cellular level is not observed as previous research. The interaction at the molecular level that has been done by way of bacterial lysis, followed by immobilization on the membrane components with the aid of UV light and then incubated in the ethanol extract of herbs, showed a peak of HPLC chromatogram of ethanol extracts of herbs are missing. Their peak chromatograms with Rf 0.931 were missing in the second experiment gives a strong presumption that there is interaction between herbal extracts and molecules *Salmonella typhimurium* bacteria. Based on this research can be concluded that the ethanol extract of herbs not only interact with DNA, but also with other molecules *Salmonella typhimurium*.

Keywords: Ethanol extracts of herbs, *Salmonella typhimurium*, antibacterial activity, chemical library, and HPLC analysis.

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