

In silico and Toxicity Study of the Combination of Roselle (*Hibiscus sabdariffa* L.) and Garlic (*Allium sativum* L.) as Antihypertensive Herbs

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Abstract : Hypertension is a disease with a high prevalence in Indonesia. The prevalence of hypertension in Indonesia is based on the Basic Health Research (Riskesdas) in 2013 which amounted to 25.8%. Medicinal plants have been widely used to treat hypertension including roselle (*Hibiscus sabdariffa* L.) and garlic (*Allium sativum* L.) by a mechanism as angiotensin converting enzyme (ACE) inhibitor. The purpose of this research is to analyze the in silico (molecular studies) of pharmacological effects and toxicity of roselle (*Hibiscus sabdariffa* L.) and garlic (*Allium sativum* L.) as well as a combination of both are used as antihypertensive herbs. The results of study showed that roselle (*Hibiscus sabdariffa* L.) and garlic (*Allium sativum* L.) have great potential as antihypertensive herbs based on the affinity and stability of active substances to specific receptor with a much better value than a of antihypertensive drugs (lisinopril). Toxicity values determined by the method of AST, ALT and ALP in which the three values obtained indicate the presence of acute toxic effects that need to be considered in determining the dose of the extract of roselle and garlic as antihypertensives.

Keywords : *Allium sativum*, antihypertensive, *Hibiscus sabdariffa*, in silico, toxicity

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