DEVELOPMENT INSTANT READY-TO-DRINK SOURSOP LEAVES EXTRACT WITH ADDITION OF ANTI-OXIDANT

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STATEMENT BY THE AUTHOR

I hereby declare that this submission is my own work and to the best of my knowledge, it contains no material previously published or written by another person, nor material which to a substantial extent has been accepted for the award of any other degree or diploma at any educational institution, except where due acknowledgement is made in the thesis.

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ABSTRACT

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The soursop leaves (*Annona muricata*) contain a lot of chemical constituents, such as *Annonaceous* acetogenins which are the alkaloid compounds. These compounds have cytotoxic properties against tumor cell lines. Garlic (*Allium sativa*) and white turmeric (*Curcuma mangga*) are spices that used for enhance flavor in food. Several studies showed that they could inhibit the proliferation of cancer cells. They inhibit the protein used for the growth of cancer cells. Moreover, they are free radical scavenger by increasing anti-oxidant activity the body. The general objective of this research was to produce an instant-ready-to-drink soursop leaves extract with addition anti-oxidant from *Allium sativa* and *Curcuma mangga*. They were extracted by ethanol and distilled to remove any alcohol. NADH oxidation enzyme inhibition was performed to support the research. The results found that the inhibition of NADH oxidation enzyme when soursop leaves and *Allium sativa* extract combined was the best with 31.09% and soursop leaves added *Curcuma mangga* extract was also the best with 39.67%. However, when three of them were combined the inhibition increased to 65.84%. The result showed that there was synergically between the combination of soursop leaves, *Curcuma mangga* and *Allium sativa* extract in inhibition of NADH oxidation enzyme. In addition, BSLT was conducted to see how the bioactivity of extract. The LC_{50} of the combination of three extract was 85.48 ppm.

Keywords: Soursop leaves, NADH inhibition activity, Allium sativa, Curcuma mangga, anti-cancer activity.

DEDICATION

I dedicate this thesis work for certain people or groups that have inspired me while doing the thesis.

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