ABSTRACT

Agnes Laurina Sutrisno (0000000145)

ANTIDIABETIC ACTIVITY STUDY OF CINNAMON (Cinnamom burmanni), GINGER (Zingiber officinale), AND LIME (Citrus aurantifolia) HERBAL DRINK IN VITRO

(xviii + 188 pages: 41 figures, 11 tablets, 33 appendices)

Cinnamon, ginger and lime are natural ingredients which usually used by Indonesian people as additional seasoning for food product. Cinnamons, ginger and lime are also known to have good antidiabetic activities due to flavonoid and phenolic content. Thus, herbal beverage was being made by using those ingredients. Furthermore, the increase of diabetes mellitus type II become one of the reason to produce herbal beverage using those ingredients. The objective of this research was to examine the antidiabetic activities of herbal beverage made from cinnamon, ginger and lime to prevent α-glucosidase enzyme which can decrease blood sugar of people with diabetes mellitus type II. The production of this herbal beverage started with determining the temperature and brewing time of cinnamon by using α-glucosidase enzyme inhibition. The best result from this research shown that the best temperature and brewing time for cinnamon were at 90°C for 30 minute because it had the highest IC\textsuperscript{50} result (29291.31±373.52 ppm). After get the best temperature and brewing time of cinnamon, the determination of herbal beverage formula continued with the adjustment of ginger concentration (2.5%, 5% and 7.5%) and lime concentration (2.5%, 5% dan 7.5%). The adjustment of ginger concentration 2.5% and lime concentration 2.5% were the best formulation in the production of herbal beverage due to the highest result IC\textsuperscript{50} in inhibiting α-glucosidase enzyme with value 34797.37±1364.47 ppm.

Keywords : Cinnamon, ginger, lime, antidiabetic

References : 97 (1993-2016)