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Potent α -glucosidase, α -amylase, and β -glucosidase inhibitor activity of ethanol extract, 3-hydroxystigmastan-5(6)-en (terpenoid), and pyrrole-2,4-dicarboxylic acid-methyl ester from *Salacca edulis* Reinw. variety Bongkok for anti-diabetic agent

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Background: The of type 2 diabetes mellitus (T2DM) or non-insulin dependent diabetes melitus are the most prevalent form of diabetes and tend to increase especially in the developing countries. Snake fruit, *Salacca (Sallaca edulis* Reinw) variety Bongkok is one of the tropical fruits that posses bioactivity. Two new compounds belong to pyrrole and terpenoid was found in the previous study. However the antidiabetic potential of ethanol extract and that two compound from *S. edulis* have not been well characterized.

Objective: The present study was designed to evaluate the potential α -glucosidase, β -glucosidase, and α -amylase inhibitor activity of ethanol extract, 3-hydroxystigmastan-5(6)-en (terpenoid), and Pyrrole-2,4-dicarboxylic acid-methyl ester of the *S. edulis* for anti-diabetic agent.

Materials & Method: The α -glucosidase, β -glucosidase, and α -amylase inhibitor activity was performed to test the antidiabetic potential of *Salacca edulis* ethanol extract and its pyrrole and terpenoid compounds.

Results: Ethanol extract, terpenoid and pyrrole from *S. edulis* have α -glucosidase inhibitory activity in a concentration dependent manner. Pyrrole and *S. edulis* ethanol extract was the most active in inhibiting β -glucosidase activity, however terpenoid was the most active compound that inhibits α -amylase activity.

Conclusions: Ethanol extract, terpenoid and α -amylase activity in this *in vitro* study.

Biography

Afrianti, Leni Herliani. She got Bachelor of Engineering Degree from Food Technology Department, Pasundan University, Bandung, Indonesia, in 1986, and Master of Agriculture Degree in Post Harvest Agriculture of Padjadjaran University, Bandung, Indonesia in 2001, and Doctoral Degree of Pharmacology in School of Pharmacy Institute Technology Bandung in 2008, Indonesia.

In 1995, she joined Food Technology Department, Faculty of Engineering, Pasundan University, Bandung, Indonesia as lecturer. In 2012, she become chairman of Food Technology Pasundan University Bandung, Indonesia until now. She has presented several papers in different international. She has published more than 40 papers in reputed journals and proceedings. She has received research funding from the National Strategic Grant Batch II of from 2009 to 2011 and Competence Grant 2014 to 2016 from Ministry of Education (DP2M) Indonesia.

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