

A New Alpha-Amylase Inhibitor Isolated from the Stem Bark of *Anthocleista Djalensis*

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Abstract : Diabetes is a major degenerative disease of global concern and it is the third most lethal disease of mankind, accounting for about 3.2 million deaths annually. Lowering postprandial hyperglycemia by inhibition of carbohydrate hydrolyzing enzyme such as alpha-amylase is one of the therapeutic approaches to treat Type 2 Diabetes. Alpha-amylase inhibitors from plants have been found to be effective in managing postprandial hyperglycemia. In continuation of our anti-diabetic activities of this plant, bioassay-guided fractionation and isolation using 0.1-1.0 mg/mL furnished djalonenol, a monoterpene diol with a significant 53.7% α -amylase inhibition ($p < 0.001$) from the stem bark which was comparable to acarbose which gave a 54.9% inhibition. Spectral characterization using Infra-red, Gas Chromatography-Mass spectrometry, 1D and 2D NMR of the isolated compound was done to elucidate the structure of the compound.

Keywords : alpha-amylase inhibitor, hyperglycemia, postprandial, diabetes

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020