Isolasi dan elusidasi struktur kimia senyawa hasil fermentasi mikroba endofit dari tanaman cinchona pubescens, vahl.

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Abstrak

The higher plants are hospes for one or more endophytic microbes.Microbes can make one or more biological compounds that predicted as aconsequence from coevolution or transferred genetic to microbes in themutualism simbiosis to parasitism. Microbes can also produce secondarymetabolites similar with their hospes.Endophytic microbes have been known to be potential as the sourcesof active compound for medicines by growing in Phoma media. In the future,prospectively the active compound for medicines not have to extract from thetree or chemical synthesis. Khamir isolated (Fn) from Cinchona pubsscens,Vahl had been identified as Sporidiobolus salmonlcolor will produce theactive compounds similar to their hospes.This study was aimed to isolate and elusidate the chemical stucture ofcinchona alkaloid from the fermentation product of endophytic microbes InPhoma media. The study has been carried out at Natural ProductLaboratory, Research Centre for Biotechnology, Indonesian Institute ofSciences, Ciblnong, Bogor from March - December 2002.The Isolated the khamir (Fn or Sporidiobolus salmonicolor) wasIncubated In Phoma media for 14 days. The fermentation culture wasseparated between biomass and supematan and extracted with CHCI3 anddried. Purification carried out by column chromatography (Si02, CHCI3 - CH3OH), and the obtained chinchona alkaloid was identified by HPLC.Determination of chemical structure was based on Ultraviolet-visible (UV-VIS)spectra, Fourier transform Infra red spectrometry (FTIR), Gaschromatography-mass spectrometric (GC-MS) and data Nuclear magneticresonance spectra (^H and ^^C-NMR, DEPT, 'H-^H COSY ; COSY)The Fermentation results that production of cinchona alkaloids optimalat eighth days and yielded cinchona alkaloids 32,81 mg/L.