PENENTUAN KADAR INULIN DALAM EKSTRAK BUAH PISANG *(Musa paradisiaca, Linn.)* SEBAGAI PREBIOTIK DENGAN METODE KLT - DENSITOMETRI

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ABSTRACT

Banana is one of prebiotic resource food which is duitable nutrition for bactery either bifidobacterium, eubacterium or lactobacillus, but it is not suitable for bad bactery such as clostridium, shigella, and veillonella. The advantages of prebiotic come from Inulin which is a polimer compound comes from fructose units.This research aimed to develop a Thin Layer Chromatography – Densitometry method of inulin analysis in Banana. Separation of inulin from the sample was performed using Silica Gel F254 with isocratic elution system using acetonitrile : acetone: acetate acid (5:5:4) as mobile phase and detected by using UV detector at wavelength 366 nm . This method validation showed a good linearity with correlation coefficient (r) of 0.9979 while the coefficient of variation of the regression function (Vx0) was 2%. The limit of detection (LOD) and the limit of quantification (LOQ) of the method were respectively 6,86 ng and 20,59 n,. The mean absolute recovery of inulin from the simulation sample was 99,50 % ± 1,75 and the method precision was less than 1,97%. The proposed method applied to the determination of inulin in the banana showed concentration 2,10% ((w/w). So, the proposed TLC- Densitometry method is rapid, simple, and selective for routine analysis.

Key words: *inulin, banana, TLC-Densitometric.*

PENDAHULUAN

Pisang merupakan salah satu makanan sumber prebiotik yang mampu membantu kekebalan tubuh dalam masa pertumbuhan, menjadikan anak tahan dalam menghadapi demam, nyeri tenggorokan, dan diare. Prebiotik merupakan nutrisi yang sesuai bagi bakteri baik seperti *bifidobacterium*, *eubacterium*, dan *lactobacillus*, tapi tidak cocok bagi bakteri jahat semisal *clostridium*, *shigella*, dan *veillonella (*Modler, 1990).

Manfaat prebiotik tersebut berasal dari inulin yaitu suatu senyawa polimer dari unit-unit fruktosa. Inulin bersifat larut dalam air, tetapi tidak dapat dicerna oleh enzim-enzim dalam sistem pencernaan mamalia sehingga

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