

ABSTRACT

EFFECT OF HPMC K4M CONCENTRATION ON RELEASE OF *Lactobacillus casei* FNCC 0090 FROM COPOLYMER METHACRYLIC ACID L TYPE MATRIX MICROPARTICLE (Spray Drying Method)

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Microencapsulation is a process by which an active substance (core) surrounded by a thin layer of film which protect the core from extreme environment condition. Microencapsulation can increase stability, protect probiotic through gastrointestinal tract and release it into intestine as a target organ. Morphology of microparticle is one of the factors which can affect the release of active substance. HPMC have a high viscosity to improve morphology of microparticle which can affect the release of *Lactobacillus casei* FNCC 0090 from microparticle. The aim of this study is to determine the effect of HPMC K4M concentration on release of *Lactobacillus casei* from microparticle using copolymer methacrylic acid type L matrix. In this study, *Lactobacillus casei* FNCC 0090 as active substance was made into microparticle by spray drying method with combination of HPMC K4M 0%; 0,2%; 0,3%; 0,4% and copolymer Methacrylic acid type L 1%. The effect of HPMC K4M concentration on *Lactobacillus casei* FNCC 0090 release efficiency from microparticle determined by using four formulation with different concentration of HPMC K4M. The result showed that the presence of HPMC K4M increased release efficiency of *Lactobacillus casei* from microparticle. The Release efficiency data was analyzed using *One Way* ANOVA of FI and FII that contain 0% and 0,2% HPMC K4M found to be statistically different.

Keywords: Microparticle, *Lactobacillus casei* FNCC 0090, HPMC K4M, Copolymer Methacrylate acid Type L, Release Efficiency