

ABSTRACT**THE RELEASE OF *p*-METHOXYCINNAMIC ACID IN SOLID LIPID NANOPARTICLES (SLN) SYSTEM FROM HPC-H GEL BASE
(System of SLN APMS- 10% Stearic Acid- 12% Tween 80)**

p-methoxycinnamic acid is a compound with aspirin like drugs characteristic. The supply of the good topical analgesic is the one which can give quickly on set of action with long duration of action without giving irritation. One of the efforts to get the preparation of analgesic which is wanted with *p*-methoxycinnamic active substance is to formulate the *p*-methoxycinnamic in SLN (Solid Lipid Nanoparticles) system. In SLN system is used lipid and surfactant. 10% Stearic acid and 12% Tween 80 are used for this research. The aim of this research is to determine the influence of SLN system formation with stearic acid towards profile and rapid liberation of *p*-methoxycinnamic acid with the HPC-H gel base preparation.

For the research of *p*-methoxycinnamic acid release in HPC-H gel preparation uses diffusion cell and selofan membrane, buffer phosphate pH $7.4 \pm 0,05$ with temperature $32 \text{ }^\circ\text{C} \pm 0,5 \text{ }^\circ\text{C}$ for 6 hours. The result of this research is flux. Flux is the cumulative amount of *p*-methoxycinnamic acid release per cm^2 per minute^{1/2}. Then the cost of release (flux) *p*-methoxycinnamic acid is analyzed with one-way ANOVA and continued with HSD test to understand weather there is a significance different among research supply or not. The result of this research shows that there is significance different between formula I as the control with formula II and III where there is additional SLN composer component though in SLN system.

Keywords : *p*-methoxycinnamic acid, SLN (solid lipid nanoparticles), HPC-H, release, flux, stearic acid, Tween 80