

ABSTRACT**THE EFFECT OF ANDROGRAPHOLIDE-
CHITOSAN SOLID DISPERSION SYSTEM ON
BIOAVAILABILITY OF ANDROGRAPHOLIDE****Theresa Binayu Prabhawati**

Andrographolide (ADG) is a diterpene lactone substance from *Andrographis paniculata* plants has pharmacological activities like anti-inflammatory, hepatoprotective, anticancer, and anti-malarial. Andrographolide is class 2 candidate of the *Biopharmaceutical Classification System* (BCS), it has a high cellular permeability and low solubility. Andrographolide-chitosan solid dispersion system (SDS ADG-CTS) can be used to improve solubility and dissolution of andrographolide so the bioavailability andrographolide can also increase. The aim of this study was to determine the bioavailability ($AUC_{0-\infty}$) SDS ADG-CTS prepared using the method of solubilisation and spray drying. Bioavailability test is performed using New Zealand male rabbits divided into three treatments group: ADG , ADG-CTS physical mixture, and SDS ADG-CTS with given orally. Blood samples was taken at specific interval times during 3 hours. Andrographolide concentration in plasma was determined using HPLC. The results of bioavailability test (parameter AUC_{0-180}) andrographolide-chitosan solid dispersion system increased 3.1 times compared to ADG and statistically significantly increased compared to ADG and ADG-CTS physical mixture. It can be concluded that SDS ADG-CTS was able to increase the bioavailability of ADG.

Keywords: andrographolide, chitosan, solid dispersion system, bioavailability.