INTRODUCTION

Andrographis paniculata or sambiloto is one of the most widely used medicinal herbs in Indonesia. This plant also grows in many other Asian countries such as China, India, Thailand, and Sri Lanka. It is particularly known for its extremely bitter properties and is used traditionally as a remedy against common cold, fever, inflammation, etc. The main bioactive chemical constituent, andrographolide, has been reported to have various pharmacological activities including anti-inflammatory via different mechanisms (Chiou et al., 2000; Shen et al., 2002; Satyanarayana et al., 2004; Xia et al., 2004; Abu-Ghefreh et al., 2009; Levita, et al., 2010), anticancer and antitumour (Satyanarayana et al., 2004; Shen et al., 2009). Besides its function for medical purposes, sambiloto herbs infusion is frequently used to maintain health.

Andrographolide, an active component of Andrographis paniculata, is the major labdane diterpenoidal constituent in this plant, which has an α-alkylidene γ-butyrolactone, two olefin bonds at C8(17) and C12(13), and three hydroxyl groups at C3, C19, and C14 (Nanduri et al., 2004).

Bioavailability of drugs refers to the extent and rate at which the active moiety (drug or metabolite) enters systemic circulation, thereby accessing the site of action. Pharmacological response is related with drug concentration at the receptor, therefore bioavailability of drug is an important element a clinical pharmaceutical effects (Chereson, 1996).

Previous study on the determination of bioavailability parameters of andrographolide