CHAPTER I
INTRODUCTION

Nowadays, the popularity of herbal products such as drugs, food supplements and cosmetics are growing as they are considered as a part of an alternative way of healthy living. As a consequence, industries increasingly produce herbal products to support both domestic and international demands. To ensure the quality of products, every step involving with the products such as the qualitative and quantitative analysis of active compound has to be standardized and developed.

A medicinal plant, *Bacopa monnieri* (L.) Wettst (Brahmi) has great potential as a herbal food supplement or even a herbal drug. It has been used for a long time in Ayurvedic medicines as nervine tonic for promoting mental health and improving memory. Many studies have revealed its pharmacological roles as cognition enhancer (Das et al., 2002; Singh, Dhawan, 1997; Stough et al., 2001), antidepressant (Sairam et al., 2002), antioxidant (Russo et al., 2003), antiulcerogenic agent (Sairam et al., 2001), and calcium antagonist (Dar, Chana, 1999). Dammarane-type triterpenoid saponins, classified as pseudojujubogenin and jujubogenin glycosides were reported to be responsible for the cognition enhancing activity of this plant (Das et al., 2002; Stough et al., 2001).

However, only a few reports regarding to quality and quantity of active compounds in this plant has been developed. Previously, determination of pseudojujubogenin glycosides by high performance liquid chromatography (HPLC) was reported (Ganzera et al., 2004). Recently, immunoassays have become popular in recent years due to their advantages of high throughput screening purposes, potential of high sensitivity, specificity and relatively low cost. Phrompittayarat *et al.* (2007a, b) reported ELISA assay for determination of total pseudojujubogenin glycosides in *B. monnieri* using bacopaside I monoclonal and polyclonal antibodies. In this study, immunochromatographic strip test was developed for screening of pseudojujubogenin glycosides in the samples, especially plant sample, because of the rapid of the assay. Moreover, eastern blotting using monoclonal antibody against bacopaside I was

developed for determining the amount of each and total pseudojujubogenin glycosides on polyethersulphone membrane. Furthermore, an application of polyclonal antibody against bacopaside I for simple separation of pseudojujubogenin glycosides by an immunoaffinity column has been investigated. The purposes of this study are to developed immunoassay methods for determination and separation of pseudojujubogenin glycosides from *B. monnieri* using antibodies against bacopaside I.

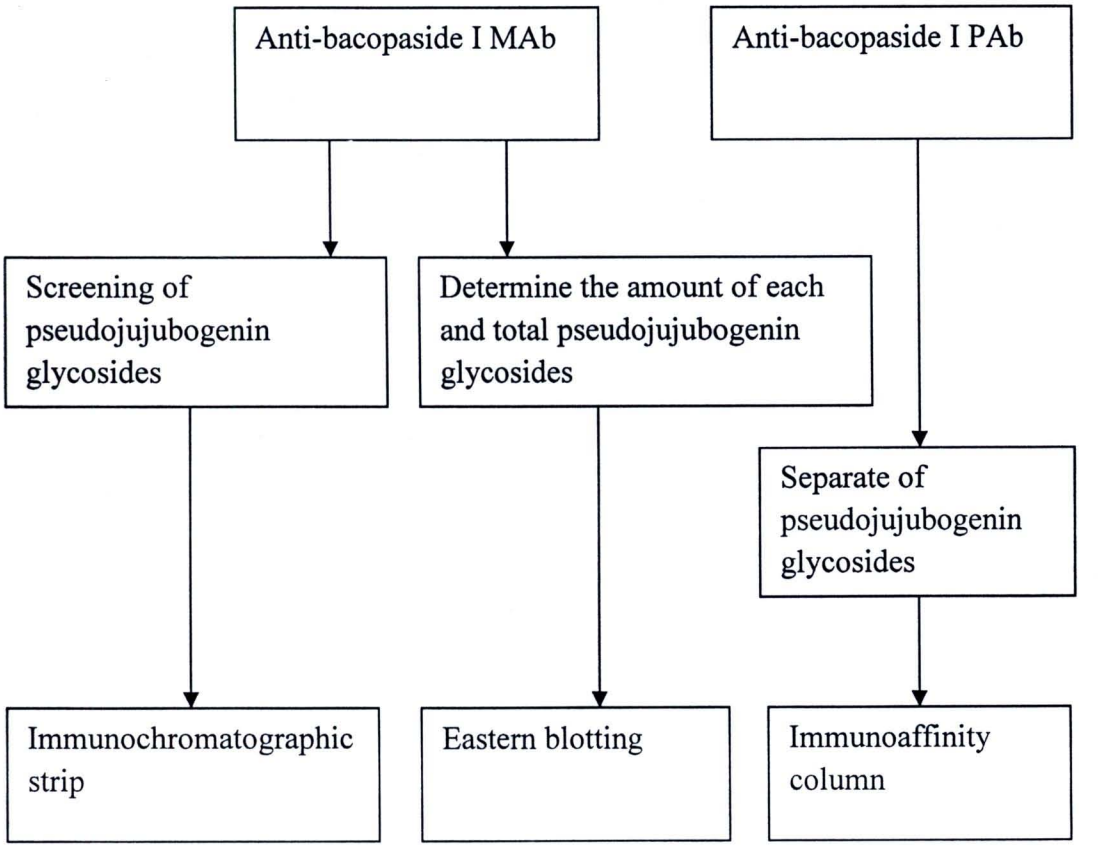

Figure 1 Scheme of thesis conceptual framework