CHAPTER 1

INTRODUCTION

Due to, the location of Thailand is near the equator, and the most area are plain and tropical forest, so it has a diversity of animal, especially the snakes which are found commonly in rural and urban region.

By the way, poisonous snake bite remains a public health problem in Thailand. There are approximately 7,000 snake bite victims in each year, and 300-400 of them are died (Jintakune et al., 1990). Three general types of toxins are known, hemotoxins, myotoxins and neurotoxins. Cobra, king cobras, red-headed kraits and Malayan kraits are examples of snakes in Thailand that contain mainly neurotoxic venom. Furthermore, neurotoxic activity affect to neuromuscular junction. Paralyzing and stopped breathing are important symptoms for this snake bite victims. The kraits (Genus *Bungarus*) are found from Thailand to China and South Indonesia. They are members of the Family *Elapidae*, and are all of secretive habits and placid disposition. The kraits do not bite readily but the venom is generally highly lethal, so they are considered extremely dangerous. Malayan kraits (*Bungarus candidus*) which are considered to be the smallest snake in *Bungarus* species is found in the north, east and south part of Thailand (Jintakune et al., 1990). Since these snakes are nocturnal, most bites occur at night or early in the morning. Ptosis, muscular weakness, difficultly in breathing, pupillary dilation, and tachycardia are important symptoms in snake bite patients[1].

The treatment of the bite is to correctly choose antibody as appropriate with the type of snake toxin, and inject into a patient to neutralize the toxin. Although, there is not antibody of *Bungarus candidus* toxin but another way of treatment is analyzing snake venom to can be advantage for medical and pharmaceutical fields.

Objective

The objective of this work is to characterize proteins from *Bungarus candidus* venom (Malayan krait).

Scope of work

In initial work, crude *Bungarus candidus* venom and ion exchange fractions will be separated and determined the molecular weight of proteins or tryptic fragments by Matrix Assisted Laser Desorption Ionization-Time of Flight Mass Spectrometric (MALDI-TOF MS). And then, proteins in ion exchange fraction No. 6 and 8 will be sequenced by Edman degradation and Electrospray Quadrupole-Time of flight (ES Q-TOF)