

## CHAPTER 3

### AIMS OF THE PRESENT STUDY

Since the CYP2A13 enzyme is an essential component in the metabolic activation of tobacco-specific N-nitrosamines especially 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK), a potent carcinogens in cigarette smoke, in the respiratory tract. Thus, the polymorphisms of *CYP2A13* gene may be important contributors to inter-individual differences in susceptibility to tobacco-related tumorigenesis in the respiratory tract. The frequency of *CYP2A13* mutations varies among different ethnic groups. However, there has been no comprehensive sequence or allele analysis of the *CYP2A13* gene for a Thai population. Therefore, the present study aimed to investigate the frequencies of distribution of the coding region (74A>G, 578C>T, 1662G>C, and 3375C>T) and non-coding 3'Untranslated region (7520C>G and 7571G>C) polymorphisms in the *CYP2A13* gene in the Northern Thai population.