

## CHAPTER I

### INTRODUCTION AND AIMS

Influences of FN on cardiovascular functions have been reported in various species cat (Achari and Downman, 1969, 1970 ; Miura and Reis, 1969, 1970, 1971) Achari, al-Ubaidy and Downman, 1973 ; Lutherer and Williams, 1986 ; Bradley, et al., 1987 ; Williams, et al., 1989 ; Huang, Peng and Shieh, 1989), Dog (Dormer and Stone, 1976 ; Dormer, Foreman and Stone, 1977 ; Foreman and Ohata, 1982 ; Dormer, et al., 1986). rabbit (Bradley, Paton and Spyer, 1986 ; Bradley, et al., 1987) rat (Del bo Sved and Reis ; 1983 ; Del bo, et al., 1983) and monkey (Sudsuang, et al., 1990). These were demonstrated by the significant increase in ABP and HR after electrical stimulation in the rostral area of the nucleus. Similarly, the stimulation induced the release of catecholamine from adrenal medulla, renin from the kidney and vasopressin from the pituitary gland. The results seemed to be resulted from activation of fibers originating from the intrinsic neurons within the nucleus and those passed through the area since chemical stimulation of perikarya by glutamate (Bradley, et al., 1987) failed to demonstrate cardiovascular response. However, the response was shown in chemical lesioned of perikarya by the cytotoxic agent kainic acid followed electrical stimulation within the nucleus (Henry and Cornor, 1989).

Most studies have been performed in non-primate animal ; only a fragment of evidence was obtained from monkey. Present data indicated that non specific areas in the rostral part of the nucleus attribute to function. There is no substantial reports in primate which close to human. Moreover mechanisms of the function and neuronal circuits responsible for the modulation of electrical signal from the nucleus to brain stem are still unresolved. Thus, this study

was aimed to reveal the specific area of the nucleus that influence ABP and HR increase. Thus, will disclose the detailed functions of the nucleus which enhance the better understanding of its role in human-being. The better understanding of this matter may lead the way to the understanding of blood pressure regulation mechanism.