

CHAPTER V

CONCLUSIONS

V. cinerea extracts (VE) significantly reduced total abstinence signs in mice especially rearing both in the first and 7th days after nicotine withdrawal. VE significantly reduced locomotor activity compared to NW group at the 7th day after nicotine withdrawal. However, VE had no effect in changing on anxiety-like behavior. The receptor displacement study revealed that VE compete radioligand binding to nicotinic and muscarinic receptor with $IC_{50} = 1.145$ and 2.487 mg/ml respectively. Specific detection of $\alpha 7$ nicotinic and M5 muscarinic receptors in mouse brains using western blot showed no significant differences in all treatment groups and muscarinic receptor levels in NAcc, hippocampus, and VTA of mice measured by the autoradiographic study had no alteration with VE treatment as well as other treatments.

The results suggest that VE have possible properties to be used as therapeutic agent for smoking cessation and reduction of nicotine withdrawal symptoms. However, VE might be involved with reduction of nicotine withdrawal symptoms in other mechanisms which are not be related to nicotinic and muscarinic receptors. Therefore, further studies need to be performed in order to find out mechanism of action involved with reduction of nicotine withdrawal symptoms such as alteration in dopaminergic or glutamatergic activities.