CHAPTER VI

CONCLUSION

The findings in this present study could be concluded that BM extract could improve the cellular viability of the normal neuronal cells and apoptotic-induced neuronal cells, especially at low concentration. This is the first study reporting that BM extract could abate both the amount of total Tau (Tau 5) and phosphorylated Tau (at Tau-1 site) expression in apoptotic-induced neuronal cell models, NGF-deprived PC12 cells and differentiated SH-SY5Y cells. Additionally, BM extract at both 50 and 100 μg/ mL concentrations could reduce the 3R tau mRNA expression in differentiated SH-SY5Y cells, apoptotic-induced by camptothecin at the late 48 and 72 hr of the experiment.

These properties of BM extract may attribute to its prominent putative antioxidant capability, reported by several studies both *in vivo* and *in vitro*. Further study should be performed by using the Bacoside A, an active ingredient of the BM extract, for approving this study. Moreover, a study on the precise mechanisms of BM extract should be done in order to elucidate how the extract increase the survival rate of the apoptotic neuronal cells and to attenuate the expression of the amount of total Tau, the amount of phosphorylated Tau, and the 3R isoform of Tau mRNA.

These data could support the capability of BM extract to protect neuronal cells from cell death process, attributed to the neurodegerative effect of Tau protein. BM extract could be beneficial for not only cell survivability, especially at low dose, but also Tauopathy protectant by reducing Tau level in early and deleterious Tau isoform in late phase. Additionally, this information may again be a supportive document advocating to the benevolent property of BM extract to be an alternative therapy for neurodegenerative diseases including Alzheimer's disease.