CHAPTER V

CONCLUSION

This study is the first report on the chemical constituents and bioactivities of *Dendrobium ellipsophyllum* Tang & Wang. Ten compounds were isolated from the crude methanol extract of this plant including 5,7-dihydroxy-chromen-4-one [**DE1**], 4,5-dihydroxy-2,3-dimethoxy-9,10-dihydrophenanthrene [**DE2**], moscatilin [**DE3**], 4,4′-dihydroxy-3,5-dimethoxybibenzyl [**DE4**], 4,5,4′-trihydroxy-3,3′-dimethoxybibenzyl [**DE5**], (2*S*)-homoeriodictyol [**DE6**], (2*S*)-eriodictyol [**DE7**], chrysoeriol [**DE8**], phloretic acid [**DE9**] and luteolin [**DE10**]. With regard to cytotoxicity, 4,5,4′-trihydroxy-3,3′-dimethoxybibenzyl [**DE5**] and luteolin [**DE10**] showed moderate cytotoxic activity against on KB oral cavity and MCF-7 breast cancer cells. Moreover, 4,4′-dihydroxy-3,5-dimethoxybibenzyl [**DE4**], 4,5,4′-trihydroxy-3,3′-dimethoxybibenzyl [**DE5**], chrysoeriol [**DE8**] and luteolin [**DE10**] exhibited apoptosis induction and anoikis sensitizing activities on H292 lung cancer cells which have never been investigated. Although anti-metastatic effect of luteolin [**DE10**] has been reported, there is no record on its anoikis sensitizing activity. 4,5,4′-Trihydroxy-3,3′-dimethoxybibenzyl [**DE5**] had the highest apoptosis activity and showed the fastest action to anoikis effect at 6 hours after exposure to the cells. For anti-HSV activity, only 4,4′-dihydroxy-3,5-dimethoxybibenzyl [**DE4**] showed weak anti-herpes simplex virus against HSV-1 and HSV-2. Finally, all the data obtained in this study should be useful for the study of the chemotaxonomy of *Dendrobium* plants. The biological activities such as cytotoxic, anti-metastatic and anti-herpes simplex virus activities of the isolated compounds could be useful for the future herbal drug development.