

## CHAPTER V

### CONCLUSIONS

The chemopreventive effect and mechanism of action of sericin in cell culture and animal models were observed in the present study. Cell culture model, according to different sizes of sericin, small sizes sericin (sericin B and C) has anti-proliferative effect for SW480 human colon carcinoma cells. Inhibition of SW480 cells by sericin-induced cell apoptosis which are associated with increase caspase-3 activity and decrease in Bcl-2 anti-apoptotic protein. Moreover, sericin did not show the cytotoxic effect on FHC normal colonic cells and it accelerates the cell proliferation in normal condition. Moreover, the effect of sericin on DMH-induced colon tumorigenesis in rats is in line with our previous results in cell culture model. Sericin suppresses the tumor and ACF formation as well as crypt multiplicity, suggesting its ability to reduce both initiation and promotion stage of colon carcinogenesis. Thus, sericin is one of the interesting food supplements exhibiting various beneficial effects for human health, particularly to prevent colon tumorigenesis. In addition, Thailand is one of sericulture countries successfully recycling or utilizing sericin from cocoon waste may significantly increase the income of silk agriculture and industry.