# CHAPTER V

## CONCLUSIONS

The fermented soybean inoculated with *Aspergillus* showed higher β-glucosidase enzyme and isoflavone contents in comparison with those of control, indicating the higher antioxidative activities. Particularly, soybean fermented with *Aspergillus oryzae* BCC 3088 had the most potent antioxidative activities among the 33 soybean fermented with *Aspergillus* and possessed enchanced ABTS radical-scavenging effect, ferric reducing ability power, DPPH radical scavenging effect, lipid peroxidation inhibition, plasmid relaxation inhibition, protein oxidation inhibition, and higher amount of total phenolic contents, total flavonoid contents and the potent antioxidative substances, isoflavone aglycones (daidzein and genistein). Furthermore, the formation of o-dihydroxyisoflavones especially 8-OHG was observed. It is clear that the enchanced effect on antioxidative activity depend on the starter organism. Our results also suggested that the great antioxidative activity of fermented soybean by using *Aspergillus* that are capable of producing β-glucosidase. In this research, the findings of antioxidant properties of fermented soybean could inevitably expand its application and consumption. In addition, fermented soybean was superior in most antioxidant properties and might be potential antioxidants for application in food products. However, for application in the food industry or further study, the mechanism and the essential biofactors contributing to the antioxidative activity remained to be further clarified.