

## 6.0 Conclusion

Based on the results obtained from these experiments, the following conclusion can be drawn.

- The extraction of *Ficus deltoidea* using boiling method with water followed by ammonium sulfate precipitation increases the purity of the samples.
- The antioxidant properties of the semi-purified fractions varied depending on the assays.
  - Crude samples showed to have higher total phenolic contents and better scavenging capabilities as compared to their fractions.
  - Only five samples responded towards lipid peroxidation assays suggested different mechanisms were taken place as compared to DPPH.
- Only SF fractions showed cytotoxicity effects towards cancer cells by inhibit the growth of the cells
- Among the three fractions, SF60 fraction was shown to be the best fraction in terms of the ability to inhibit cancer cell growth and promoting apoptosis in cancer cells.

This is based on the following observations:

- It has the ability to increase catalase concentration while lower GPx and SOD levels in endogenous assays. High catalase in cancer cells suggest that the cells were under stress compared to Chang Liver cells. The decreased of GPx and SOD activities indicate the potential of the fraction in the inhibition of cancer cell growth.
- DNA fragmentation following treatment showed the possibility of apoptosis in cancer cells but not in Chang Liver cells.
- The proteins expressions which have been validated with RT-PCR showed that SF60 caused minimum changes towards Chang Liver cells compared to doxorubicin.

Therefore, SF60 fraction has the potential to be further developed as anti-cancer drug. Detailed purification and isolation of the active compound(s) can be performed to investigate the components that give rise to those effects.