CHAPTER VII

CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION

Lactic acid bacteria were successfully isolated from fermented foods. A total of 135 LABs isolates were isolated from different Malaysian fermented foods. Two LBAs isolated from belacan, and pekasam were identified by (API 50CHL) and confirmed by the sequence analysis of 16S rDNA gene as *P. acidilactici* SH, and *L. paracasei* CF1. These isolates produced extracellular enzyme that can coagulate milk casein. Casein at 0.5% (w/w) enhanced the production of MCE media in enzyme production media compared to tryptophan, trypticase peptone and tryptone soya. Both enzymes produced by *P. acidilactici* SH and *L. paracasei* CF1 were neutral enzymes. The enzyme obtained from *P. acidilactici* SH can be considered as a themophilic with optimum MCA temperature of 50 °C, while the enzyme produced by *L. paracasei* CF1 was mesophilic enzyme with optimum MCA temperature of 40°C. Calcium chloride at 0.02 mM significantly influenced the MCA of the enzyme activity for both isolates. The enzyme from *P. acidilactici* SH completely degraded κ- casein, but *L. paracasei* CF1 degraded κ-casein and slightly α-casein. Using 10% of enzyme concentration from *P. acidilactici* SH resulted in good gel formation with very low synerisis for dadih made from goat milk and skim milk. Therefore, the extracellular milk clotting enzyme produced by *P. acidilactici* SH could be used to produce soft gel as in dadih.

7.2 RECOMMENDATIONS

Based on the results of this work, other aspects have resurfaced and require a closer attention in order to properly assess and understand the complex interactions of MCE produce by LAB. The areas that could be further studied are as follows:

1. To use soy protein as nitrogen source for the production of extracellular MCE that would be specific for soy milk to produce soy milk dadih.
2. To determine stability of the enzyme during storage for commercial application.
3. To evaluate the production yield and properties for up-scale production of the MCE produced by *P. acidilactici* SH.