

## เอกสารอ้างอิง

1. กล้านรงค์ ศรีรอด และเกื้อกูล ปิยะจอมขวัญ, 2546, เทคโนโลยีของแป้ง, พิมพ์ครั้งที่ 3, สำนักพิมพ์มหาวิทยาลัยเกษตรศาสตร์, หน้า 303.
2. ทรงศักดิ์ วัฒนชัยเสรีกุล, 2543, อาหารสัตว์จากกาลมันสำปะหลังหมัก, วิทยานิพนธ์ปริญญา วิศวกรรมศาสตร์ มหาบัณฑิต สาขาวิศวกรรมเคมี คณะวิศวกรรมศาสตร์ มหาวิทยาลัยเกษตรศาสตร์, หน้า 4-5.
3. เบญจพร บัวบาน, 2542, การผลิตและสมบัติของเอนไซม์อะไมเลสบ่อบยแป้งดินจากเชื้อเยื่อสต์, วิทยานิพนธ์ปริญญาวิทยาศาสตร์ มหาบัณฑิต สาขาวิชาจุลชีววิทยา คณะวิทยาศาสตร์ มหาวิทยาลัยเกษตรศาสตร์, หน้า 85.
4. อรวรรณ เทสุขเจริญ, 2529, คุณสมบัติบางประการในการนำไปใช้ประโยชน์ของแป้งต่างๆ, วิทยานิพนธ์ปริญญาวิทยาศาสตร์ มหาบัณฑิต สาขาวิทยาศาสตร์การอาหาร คณะวิทยาศาสตร์ มหาวิทยาลัยเกษตรศาสตร์, หน้า 2-14.
5. Bayer, E.A., Shimon, L.J.W., Shoham, Y. and Lamed, R., 1998, “Cellulosome – structure and ultrastructure”, Journal of Structural Biology, Vol. 124, pp. 221-234.
6. Bertoldo, C. and Antranikian, G., 2002, “ Starch-hydrolyzing enzymes from thermophilic archaea and bacteria”, Current Opinion Chemistry and Biology, Vol. 6, pp. 151-160.
7. Bourne, Y. and Henrissat, B., 2001 “Glycoside hydrolases and glycosyltransferases: families and functional modules. Current Opinion Structural Biology, Vol. 11, pp. 593-600
8. Chotineeranat, S., Praditsuwana, C., Siritheerasas, P. and Tantratian, S., 2004, “Reducing sugar production from cassava pulp using enzymes and ultrafiltration I: enzymatic hydrolyzation”, Journal of Scientific Research Chulalongkorn University, Vol. 29, pp. 119-128.
9. Chiou, S.Y. and Jeang, C.L., 1995, “Factor affecting production of raw-starchdigesting amylase by the soil bacterium *Cytophaga* sp.” Applied Biochemistry, Vol. 22, pp. 377-384.
10. Demain, A.L., Newcomb, M. and Wu, H.D., 2005, “Cellulase, clostridia, and ethanol,” Microbiology and Molecular Biology Review, Vol. 69, pp. 124-154.
11. Desvaux, M., 2005, “*Clostridium cellulolyticum*: model organism of mesophilic cellulolytic clostridia”, FEMS Microbiology Reviews, Vol. 29, pp. 741-764.
12. Doi, R.H., Kosugi, A., Murashima, K., Tamaru, Y. and Han, S.O., 2003, “Cellulosome from mesophilic bacteria”, Journal of Bacteriology, Vol. 185, pp. 5907-5917.
13. Doi, R.H. and Kosugi, A., 2004, “Cellulosomes: plant-cell-wall-degrading enzyme complexes”, Nature Reviews Microbiology, Vol. 2, pp.541-551.

14. Fennema., O.R., 1976, "Principles of food science", Food Chemistry, Marcel Dekker, Inc., New York, p. 791.
15. Fukumoto, J., Yamamoto, T. and Tsuru, D., 1958, Proc. Intern. Symp. Enzyme Chem. Kyoto: Marugen. Cited in Windiah, W. W. and Mhatre, N.S. (1965) Microbial amylase, Advances in Applied Microbiology, Vol. 7, p. 288.
16. Fogarty, W.M. and Kelly, C.T., 1980, "Amylase, amyloglucosidase and related glucanases", Microbial Enzyme and Bioconversion, Vol. 5, pp. 116-158.
17. Gal, L., Pages, S., Gaudin, C. and Belaich, A. 1997, "Characterization of the cellulolytic complex (cellulosome) produce by *Clostridium cellulolyticum*", Applied and Environmental Microbiology, Vol.63, pp. 903-909.
18. Goto, M., Semimaru, T., Furukawa, K. and Hayashida, S., 1994, "Analysis of the raw starch-binding domain by mutation of a glucoamylase from *Aspergillus awamori* var. *kawachi* expressed in *Saccharomyces cerevisiae*", Applied and Environmental Microbiology, Vol. 60, pp. 3926-3930.
19. Hoster, F., Daniel, R. and Gottschalk, G., 2001 "Isolation of a new *Thermoanaerobacterium thermosaccharolyticum* strain (FH1) producing a thermostable dextranase" Journal of Applied Microbiology, Vol. 47, pp. 187-192.
20. Jiang, Z.Q., Deng, W., Li, X.T., Ai, Z.L., Li, L.T. and Kusakabe, I., 2005, "Characterization of a novel, ultra-large xylanolytic complex (xylosome) from *Streptomyces olivaceoviridis* E-86", Enzyme and Microbial Technology, Vol. 36, pp. 923-929.
21. John, P., 1992, "Starch", In: John, P.(ed.), Biosynthesis of major crop products, Chichester, John Wiley and Sons, pp. 32-54.
22. Kerr, R.W., 1950, Chemistry and industry of starch, Academic Press, New York, p. 691.
23. Kimura, A. and Robyt, J.F., 1995, "Reaction of enzyme with starch granules: kinetics and products of the reaction with glucoamylase." Carbohydrate Research, Vol. 277, pp.87-107.
24. Laemmli, U.K., 1970, "Clavage of structural protein during the assembly of the head of Bacteriophage T4", Nature (London), Vol. 227, pp. 680-685.
25. Lin, L., Chyau, C. and Hsu, W.H., 1998, "Production and properties of a raw-starch-degrading amylase from the thermophilic and alkaliphilic *Bacillus* sp. TS-23", Biotechnology and Applied Biochemistry , Vol. 28, pp. 61-68.
26. Liu, H., Zhang, T. and Fang, H.H.P., 2003 "Thermophilic H<sub>2</sub> production from a cellulose-containing wastewater", Biotechnology Letters, Vol. 25, pp. 365–369.

27. Lowry, O.H., Roasebrough, N.J., Fan, A.L. and Randail, R.S., 1951, "Protein measurement with the Folin phenol reagent", *Journal of Biological Chemistry*, Vol. 193, pp. 265-275
28. Mohand-Qussaid, O., Payot, S., Guedon, E., Youyoy, A. and Petitdemange, H., 1999, "The extracellular xylan degradative system in *Clostridium cellulolyticum* cultivated on xylan: Evidence for cell-free cellulosome production", *Journal of Bacteriology*, Vol. 181, pp. 4035-4040.
29. Orten, J. M. and Neuhaus, O.W., 1970, "Chemistry of the carbohydrate", *Biochemistry* 8<sup>th</sup> ed. , pp. 167-169.
30. Pason, P., Kyu, K.L. and Ratanakhanokchai, K., 2006, "*Paenibacillus curdlanolyticus* strain B-6 xylanolytic-cellulolytic enzyme system that degrades insoluble polysaccharides," *Applied and Environmental Microbiology*, Vol. 72, pp. 2483-2490.
31. Planchot, V., Colonna, P., Gallant, D.J., and Bouchet, B., 1995, "Extensive degradation of native starch granules by  $\alpha$ -amylase from *Aspergillus fumigatus*." *Journal of Cereal Science*, Vol. 21, pp. 163-171.
32. Ratanakhanokchai, K., Kaneko, J., Kamio, Y. and Izaki, K., 1992, "Purification and properties of a maltotetraose- and maltotriose-producing amylase from *Chloroflexus auranticus*", *Applied and Environmental Microbiology*, Vol. 58, pp. 2490-2494.
33. Ratanakhanokchai, K., Kyu, K.L. and Tanticharoen, M., 1999, "Purification and properties of xylan-binding endoxylanase from *Bacillus* sp. K-1", *Applied and Environmental Microbiology*, Vol. 62, pp. 694-697.
34. Rawn, J. D., 1983, "Carbohydrate", *Biochemistry*, pp. 306-309.
35. Reese, E.T., Sui, R.G.H. and Levinson, H.S., 1950, "The biological degradation of soluble cellulose derivatives and its relationship to the mechanism of cellulose hydrolysis", *Journal of Bacteriology*, Vol. 59, pp. 485-497.
36. Rodríguez-Sanoja, R., Oviedo, N. and Sánchez, S., 2005, "Microbial starch-binding domain", *Microbiology*, Vol. 8, pp. 260-267.
37. Sanchez, C.R., Peres, C.S. and Barbosa, H.R., "Growth and endoglucanase activity of *Acetivibrio cellulolyticus* grown in three different cellulosic substrates", *Revista de Microbiología*, Vol.30, pp. 310-314.
38. Schwarz, W.H., 2001, "The cellulosome and cellulose degradation by anaerobic bacteria", *Applied Microbiology Biotechnology*, Vol.56, pp. 634-649.

39. Shoham, Y., Lamed, R. and Bayer, E.A., 1999, "The cellulosome concept as an efficient microbial strategy for the degradation of insoluble polysaccharides", Trends in Microbiology, Vol. 7, pp. 275-281.
40. Somogyi, M., 1952, "Notes in sugar determination", Journal of Biological Chemistry, Vol. 195, pp. 19-23.
41. Sorimachi, K., Le Gal-Coe" ffet, M.F., Williamson, G., Archer, D.B. and Williamson, M.P., 1997, "Solution structure of the granular starch binding domain of Aspergillus niger glucoamylase bound to  $\beta$ -cyclodextrin.", Structure, Vol. 5, pp.647-661.
42. Southall, S.M., Simpson, P.S., Gilbert, H.J., Williamson, G. and Williamson, M.P., 1999, "The starch-binding domain from glucoamylase disrupts the structure of starch", FEBS Letter, Vol. 447, pp. 58-60.
43. Srinorakutara, T., Kaewvimol, L. and Saengow, L., 2006, "Approach of cassava waste pretreatments for fuel ethanol production in Thailand", Journal of Scientific Research Chulalongkorn University, Vol. 31, pp. 77-84.
44. Sriroth, K., Chollakup, R., Chotineeranat, S., Piyachomkwan, K. and Oates, C.G., 2000, "Processing of cassava waste for improved biomass utilization", Bioresource Technology, Vol. 71, pp. 63-69.
45. Sujka, M. and Jamroz, J., 2007, "Starch granule porosity and its changes by means of amylolysis", International Agrophysics, Vol. 21, pp. 107-113
46. Swamy, M.V., Sai Ram, M. and Seenayya, G., 1994, " $\beta$ -Amylase from Clostridium thermocellum SS8 - A thermophilic, anaerobic, cellulolytic bacterium", Letters in Applied Microbiology, Vol. 18, pp. 301-304.
47. Tomme, P., Werren, R.A.J. and Gilkes, N.R., 1995, Advances in Microbial Physiology: Cellulose hydrolysis by bacteria and fungi, Academic Press Limited, Vol. 37, pp. 1-81.
48. White, A., Handler, P. and Smith, E.L., 1973, "The Carbohydrate II", Principles of Biochemistry 5<sup>th</sup> ed., McGraw-Hill Kogakusha, LTD., Japan, pp. 47-51.
49. Williams, A.G. and Withers, S.E., 1982, "The effect of the carbohydrate growth substrate on the glycosidase activity of hemicellulose-degrading rumen bacterial isolates", Journal of Applied Bacteriology, Vol. 52, pp. 389-401.
50. Wurzburg, O.B., 1986, "Chemical structure of starch", In Modified Starch: Properties and Uses, CRC Press, Inc., Boca Raton, Florida, pp. 4-10.

## ผลงานตีพิมพ์

1. Tachaapaikoon, C., Tesnum, A., Pason, P., Kyu, K. L. and Ratanakhanokchai, K. (2009) Raw starch-binding enzymes from *Thermoanaerobacterium thermosaccharolyticum* NOI-1 for cassava pulp degradation. *Agricultural Science Journal* 40 (Suppl.), 293-296.
2. Tesnum, A., Chimtong, S., Soontorngun, N., Kyu, K. L., Tachaapaikoon, C. and Ratanakhanokchai, K. (2009) Study on amylase from thermophilic bacterium *Thermoanaerobacterium* sp. strain NOI-1 and sugar production from raw starch and cassava pulp. Presented at the 47<sup>th</sup> Kasetsart University Annual Conference, Kasetsart University, 17-20 March, 2009, pp. 36-44.



