Krisada Tuchinda 2008: Development of Detection Method for *Salmonella* by Dot-ELISA using Polyclonal Antibody. Master of Science (Microbiology), Major Field: Microbiology, Department of Microbiology. Thesis Advisor: Associate Professor Patcharee Sunthornandh, Ph.D. 78 pages.

Salmonella are pathogenic bacteria in gastrointestinal tract. It cause of many diseases such as typhoid fever and food poisoning. Salmonella are contaminated in many kinds of food (raw food and ready-to-eat). Detection of Salmonella in food samples by conventional method take a long times. In this study, polyclonal antibody produced from rabbit injected by Salmonella ser. Anatum and Salmonella ser. Enteritidis were used for dot-ELISA method. Antibody(IgG) were purified by using affinity chromatography and SDS-PAGE were used to check the purity. Amount of purified IgG were 625 µg/mg of sample. The IgG was used to detect Salmonella by dot-ELISA. It could detect all serovars of Salmonella representing in each group. However, it showed cross reaction with enteric bacteria (non-salmonella). Therefore, Rappaport Vassiliadis Soya (RVS) broth was selected for increase number of Salmonella but suppress number of non-salmonella. After that Salmonella were detected by dot-ELISA. This method could eliminate cross reaction. Detection of Salmonella from artificial contaminated food was compared between dot-ELISA and modified conventional method (ISO6579: 2002). The modified conventional method used RVS broth as selective enrichment medium and spread on xylose lysine deoxycholate (XLD) agar (selective and differential agar), followed by testing the important biochemical reaction of Salmonella. Using RVS broth followed by dot-ELISA showed the similar result as modified conventional method. But this detection method (culture in RVS broth and detect by dot-ELISA) took only 24 hours, which shorter than conventional method. Moreover, the method was easy and used a little amount of reagents. This method showed good sensitivity and was a good option for detection Salmonella in food samples and water.

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