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• 中文摘要

本研究評估是否可利用 stdA 序列做爲監測沙門氏桿菌的標的基因。結果顯示，包含 45 種血清型的 268 株 Salmonella enterica 都含有 stdA 序列。S. bongori 及 33 種非沙門氏桿菌則無此序列。利用即時定量聚合酵素鏈鎖反應分析包括 124 雞隻屠體浸洗液、8 個豬隻內臟，20 個豬隻糞便檢體等，可檢測出 2 個雞隻屠體浸洗液及 4 個豬隻內臟檢體爲沙門氏桿菌陽性。 即時定量聚合酵素鏈鎖反應可提供快速的沙門氏桿菌方法，應繼續探討應用在更多獸醫及畜產產品檢體。

• 英文摘要

Salmonella is an important food borne pathogen of global economic and public health significance. Members of the genus Salmonella are gram-negative, facultative anaerobic rods having more than 2,300 serovars. The best way to control infection is to intercept it at the source by having precise and rapid methods to constantly monitor for Salmonella during primary animal production, at food-producing factories, at slaughterhouses, and in final products. In the present study, the feasibility of using primers and oligonucleotides internal to the stdA gene, encoding the fimbrial major subunit of std fimbrial operon in Salmonella enterica serovars Typhimurium, to detect Salmonella by real time PCR was explored. The stdA sequence was conserved among 268 S. enterica strains including 45 serovars. However, S. bongori and 33 non-Salmonella strains did not possess this sequence. Sybr Green, TaqMan probe, and molecular beacon probe analysis were applied to detect Salmonella from 124 poultry carcasses rinse samples, 20 swine fecal samples, and 8 swine organs. Two poultry carcasses rinse samples, 4 swine fecal samples were detected as positive for Salmonella, and concentration of Salmonella can be determined by comparing with the standard curve. The culture method confirmed 1 poultry carcasses rinse sample and all 4 swine organ samples. Real time PCR provides a rapid method to screen for Salmonella species and warrants further

investigation for applying to a variety of samples from veterinary medicine and animal husbandry.