

## Novel Specific Probes of *Salmonella enterica* serovar Typhimurium, Typhi and Multiplex PCR for Pathogenic *Salmonella*

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*Salmonellae* are divided taxonomically into two species, *Salmonella enterica* and *Salmonella bongori*. *Salmonella* subspecies I consist of 1500 serovars and most infections in warm-blooded animals are caused by *S. enterica* strains belonging to subspecies I. Among subspecies I, serovar Typhimurium are the most frequently isolated serovar from food-borne outbreaks, and serovar Typhi is the most prevalent cause of typhoid fever of human with serovar Paratyphi A. Therefore, rapid detection and identification method of these *Salmonella* serovar is necessary in food industry and epidemiology. In this study, whole ORFs of *S. enterica* serovar Typhimurium LT2 and Typhi CT18 were compared with nr database of NCBI and 11 genome sequences of *Salmonella* strains. Based on the comparison of genome sequences, genes expected specific to serovar Typhimurium and Typhi were selected and primer sets were constructed to evaluate the specificities from various *Salmonella* strains. In addition, the multiplex PCR designed for the simultaneous detection of *Salmonella*, *Salmonella* subspecies I, *S. enterica* serovar Typhimurium, Typhi, Enteritidis was performed and evaluated. These multiplex PCR results showed rapid and convenient method for identification of the *Salmonella* serovars without serological test.