A 014

Development of a nested PCR for the detection of *Salmonella typhi*

Typhoid fever is a febrile illness caused by *Salmonella typhi*. It is one of the most common diseases in the developing countries and a disease frequently notified in Sri Lanka. Early and definitive diagnosis of the diseases is not only important in relieving patients suffering but also critical in avoiding fatal complications such as perforation of the intestines. It is also important for specific treatment.

Although various diagnostic tests have been used, blood culture and SAT are the most common. The main disadvantages are poor sensitivity and specificity. Moreover, they take an unduly long time to give a reliable result. There is evidence that molecular diagnostics can overcome these disadvantages. The objective of this preliminary study is to develop a sensitive and specific nested PCR for the detection of *Salmonella typhi*.

We have designed two sets of primers from the nucleotide sequence encoding Vi antigen (STBLP1, STBRP2, STSLP3, and STSRP4) of *Salmonella typhi*. Primer pairSTSLP,3 STSRP4 (product size 260 dp) is internal to primer pair STBLP1, STBRP2 (product size 500dp). The PCR was optimized in relation to Taq polymerase, deoxyribonucleotides, primers and $MgCl_2$. The specificity of the primers were examined using Vi positive, Vi negative, related and non-related bacterial species. The primers were found to be highly specific for *Salmonella typhi*.