

ABSTRACT**RNA ANALYSIS OF STY 4530, STY 4656, AND STY 3695 GENES AS MOLECULAR TEST TO IDENTIFY AND VIABILITY OF *Salmonella enterica serotype typhi*****Dadik Raharjo****Background:**

Typhoid fever is a systemic infection caused by bacterium *Salmonella enterica serotype typhi*. This is a global health problem. The real impact is difficulties to estimate because the clinical picture is confused with those of many other febrile infections and laboratory diagnosis which has lots of obstacle. We need to develop accurate diagnosis technique which can detect typhoid fever much better.

Objective:

Analysis of STY 4530, STY 4656, and STY 3695 genes to get sensitive and specific primer to identify and to viability test against *Salmonella enterica serotype typhi* as a trigger of typhoid fever.

Method:

The study consist of seven stages. The first stage was screening isolates from stock for identified *Salmonella enterica serotype typhi* with the salmonella shigella agar, biochemical test and PCR test used primer *prt* and *tyv*. The second stage were performance test for primers topB, TviE and 3695 that developed in this study against isolates of *Salmonella enterica serotype typhi*. The third stage was RNA isolation from bacteria then continued at fourth stage to made cDNA. The fifth step were performed test for topB, TviE and 3695 primers againts cDNA of *Salmonella enterica serotype typhi*. The sixth stage was bacteria viability test using topB, TviE and 3695 primer and the seventh stage was identifying bacteria using topB, TviE and 3695 primers.

Result:

On the first stage, 17 isolate from 98 old stock isolate and 10 isolate from 50 new isolate of *Salmonella enterica serotype typhi* were collected from blood samples. The three primers which was develop has proved to identify and to determine viability againts *Salmonella enterica serotype typhi* bacteria, to identify sensitivity and specificity of TviE primer: 100% and 100%, topB primer: 100% and 86,6% also 3695 primer : 100% and 92%.

Conclusion:

RNA of STY 4530, STY 4656, and STY 3695 genes were analysed by TviE, TopB and 3695 primers can be used to identify and viability test in a molecular manner to *salmonella enterica serotype typhi*. Identification result from these 3 primers have 100% sensitivity, meanwhile the specificity from TviE, 3695 and TopB in a series were 100%, 92,9% and 86,6%.

Keywords:

RNA, Primers, *Salmonella enterica serotype typhi*, Identification, Viability.

