Introduction

Salmonella serotyping is an important tool for the classification of strains, identification of sources of contamination and epidemiological purposes. In addition, regulations require monitoring of certain serotypes. Serotyping is based on the Kauffmann-White antigen-antibody scheme. Application of this method is limited by the high costs, deviations in quality of sera, time-consumption and presence of non-typable isolates. Therefore, Check-Points BV and DSM have developed a general fast functional bacterial typing system based on DNA chips from ClonDx, for the molecular serotyping of Salmonella. A set of generic markers has been selected with the purpose of yielding unique microarray hybridization profiles to identify S. enterica subsp. enterica serovars. This new procedure, Premi®Test Salmonella (PTS) can be performed directly on animal, food or environmental samples after the enrichment and isolation steps. The aim of this study was to evaluate the performance of the PTS on a large diversity of serotypes and to define the specificity of the test on a variety of Salmonella and non-Salmonella isolates.

Materials & Methods

The PTS method was able to recognize all the subspecies of S. enterica except one salarue strain, which was identified as S. Abony. Surprisingly, the Abony antigenic formulae was closed to this one’s. Moreover, the species bongori was also well detected.

Results

The PTS method was able to recognize all the subspecies of S. enterica except one salarue strain, which was identified as S. Abony. Surprisingly, the Abony antigenic formulae was closed to this one’s. Moreover, the species bongori was also well detected.

Conclusion

The study has evaluated the PTS assay in comparison to the classical serotyping and concluded that the system offers a valuable alternative method for routine identification of the common Salmonella serovars (3.4).

The next step of the evaluation will be to test the feasibility and repeatability of the method in different labs through a European multicentric study.