Research project RF-2010-2315184

Molecular determination of Salmonella serovars by using microsphere-based suspension array

Principal investigator: Lisa Barco

The main expected result for this project is the development of a molecular method based on microsphere SA aimed at detecting the widest possible range of relevant Salmonella serotypes circulating at national level. The method developed could find an application as screening tool in laboratories involved in Salmonella surveillance.

For the great majority of strains tested, the serovar should be recognized by this alternative method. Strains presenting serovars that are not included in the targets of the SA, and resulting negative at the screening, should be tested through traditional serotyping. This approach would allow Salmonella serotyping, at least for the most relevant serovars, becoming available to standard molecular biology laboratories, rather than remaining limited to the reference laboratories.

Any introduction of new diagnostic technologies should include careful consideration of cost and benefits of different strategies before their implementation. Hence, the project will allow obtaining a precise assessment of the microsphere SA assays developed in comparison to traditional serotyping considering multifaceted issues, such as diagnostic accuracy, costs, advantages and disadvantages of the two methods. The information collected will be essential to evaluate the capabilities of this alternative method and its future applicability.