

## Research project RF-2010-2314989

**Innovative molecular platform for tick-borne diseases: suspension array and pyrosequencing for the rapid, accurate and cost-effective multi-pathogen detection in ticks and biological samples**

**Principal investigator: Gioia Capelli**

Single molecular platform for surveillance, diagnosis and subtyping of TDBs causing pathogens will be developed. Furthermore, sequences of genomic regions of interest of ticks pathogens collected in recent years in Italy will also be made available.

Based on the results of this project, it will be possible to develop and validate simple molecular laboratory tests targeting the pathogens of major interest to be used in laboratories of the National Health System on routine basis. The results of the project are also expected to enhance the awareness for double and multiple infections, which is usually low, thus leading to insufficient diagnosis and inappropriate clinical treatment.

To the best of our knowledge, this is first time that a comprehensive, multi-pathogen detection system is proposed for tick-borne pathogens combining suspension array and pyrosequencing.