

Research program IZS VE 16/16

Implication of the cell-immune response towards *Coxiella burnetii* in periparturient cows leading to persistent shedding and evaluation of the risks of Q fever in the human population

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Coxiella burnetii (*C. burnetii*) is a zoonotic agent commonly present almost worldwide, that is able to infect a wide range of animal species. Domestic ruminants are considered the main epidemiological *reservoir* of Q fever.

Following two previous research projects (RC IZSVE 04/08 and RC IZSVE 11/10) focused on evaluation of serological and molecular diagnostic methods, *Coxiella* genotyping and epidemiology studies, this project aims to investigate new diagnostic and epidemiological aspects. The purposes of the study will be:

- To improve the knowledge of the mechanisms leading to chronic infection and persistent shedding of *C. burnetii* in primiparous cows, following the evolution of the humoral and cell-immune response during pregnancy, the peripartum period and during milking.
- To enhance the *Coxiella* genotype Italian data base, already implemented in previous studies, collecting human and animal samples to facilitate the inference of epidemiological links.
- To evaluate the human risk of infection in exposed and unexposed categories (exposed workers vs blood donor population).