

**PROGETTI DI “RICERCA CORRENTE 2018”**  
**RELAZIONE FINALE**

**N. identificativo progetto: IZS LT 03/18 RC**

**Progetto presentato da:**

**ISTITUTO ZOOPROFILATTICO SPERIMENTALE**

**LAZIO E TOSCANA “M. ALEANDRI”**

**Area tematica: Sanità animale**

**Titolo del progetto: Prevenzione e trattamento di patologie batteriche delle specie ittiche marine allevate: approccio a strategie innovative per modelli di allevamento nazionali**

Ricerca finanziata dal Ministero della Salute

**Responsabile Scientifico: Dr.ssa Teresa Bossù**

## SUMMARY

### *Prevention and treatment of bacterial diseases in marine farmed fish: innovative strategies for national aquaculture .*

Key words: Aquaculture, vaccines, bacteriophages, Vibrio, Aeromonas

Aquaculture is an important zootechnic sector in Italy, concerning both marine and freshwater species. Furthermore, it is a crucial source of proteins for the whole humanity. One of the challenges that nation and global aquaculture must face is the disease management with a focused and limited use of antimicrobials, which are responsible of antimicrobial resistance. This occurrence makes the usage of antimicrobials self-limiting, and it represents a threat for the global human health, because it reduces the efficiency to treat various infections.

This research deals with those problems with a double approach: developing a vaccine against vibriosis (responsible of huge losses in marine farms) and investigating the potential of phagic therapy.

The results are the development of an autologous vaccine, authorized and available for the farms, and the isolation of two different bacteriophages lytic against two species of *Aeromonas*, bacterium often occurring in freshwater farming.