

# Modulations of the interactions between pacific cupped oyster *Crassostrea gigas* and *Vibrio* according to bacterial virulence and to genetic and physiological status of the host.

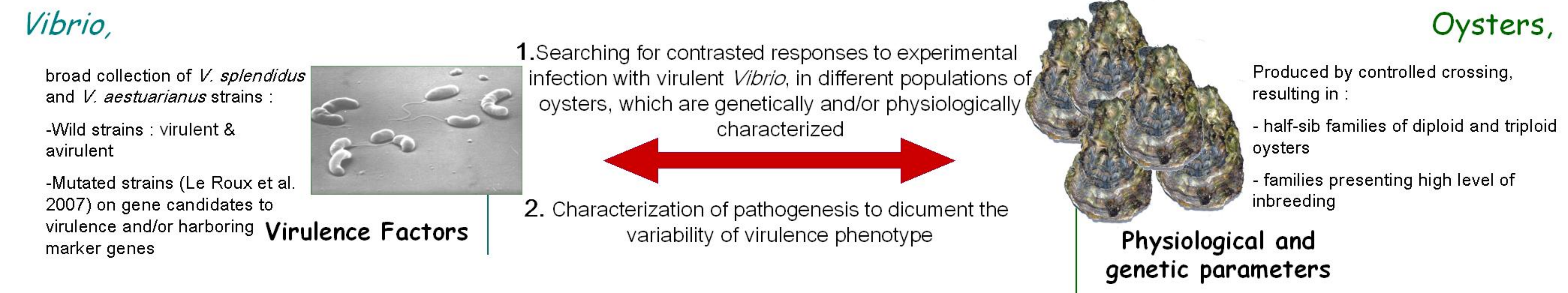
## Methodology and first results.

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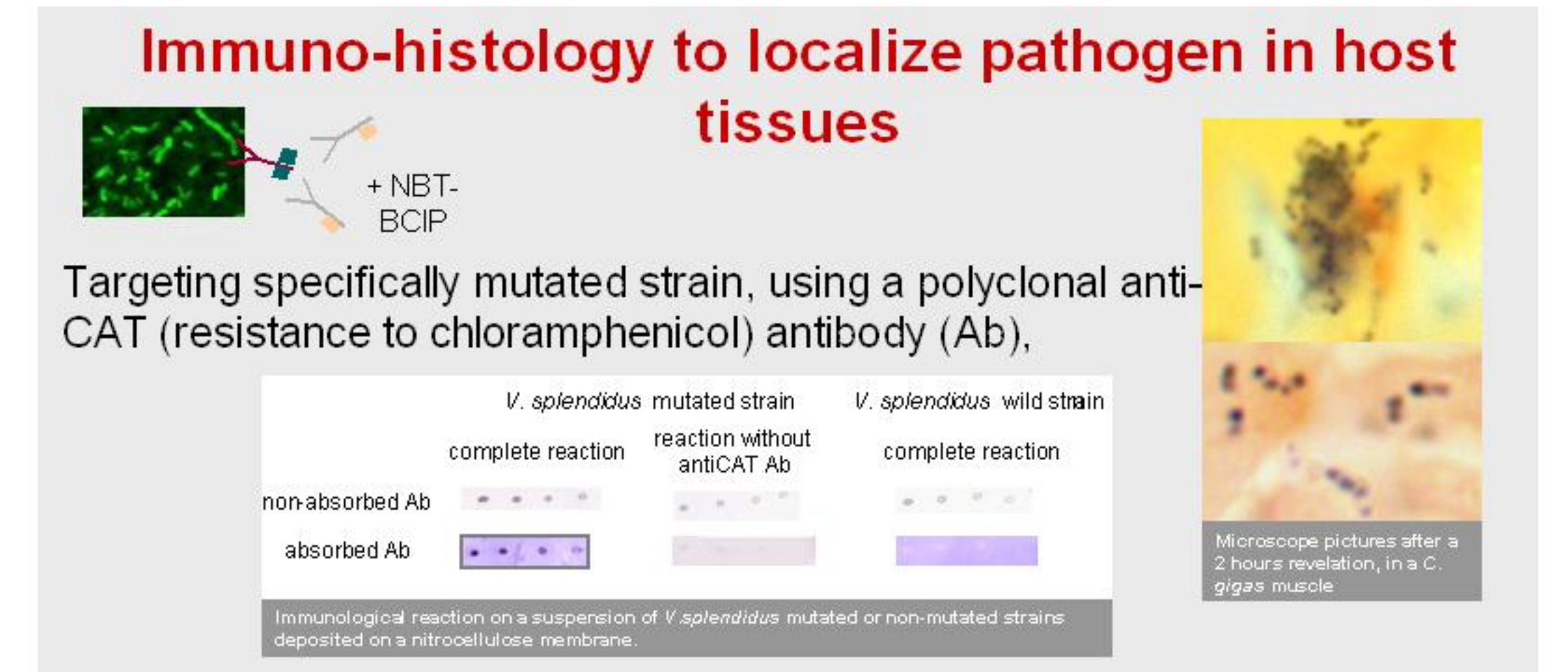
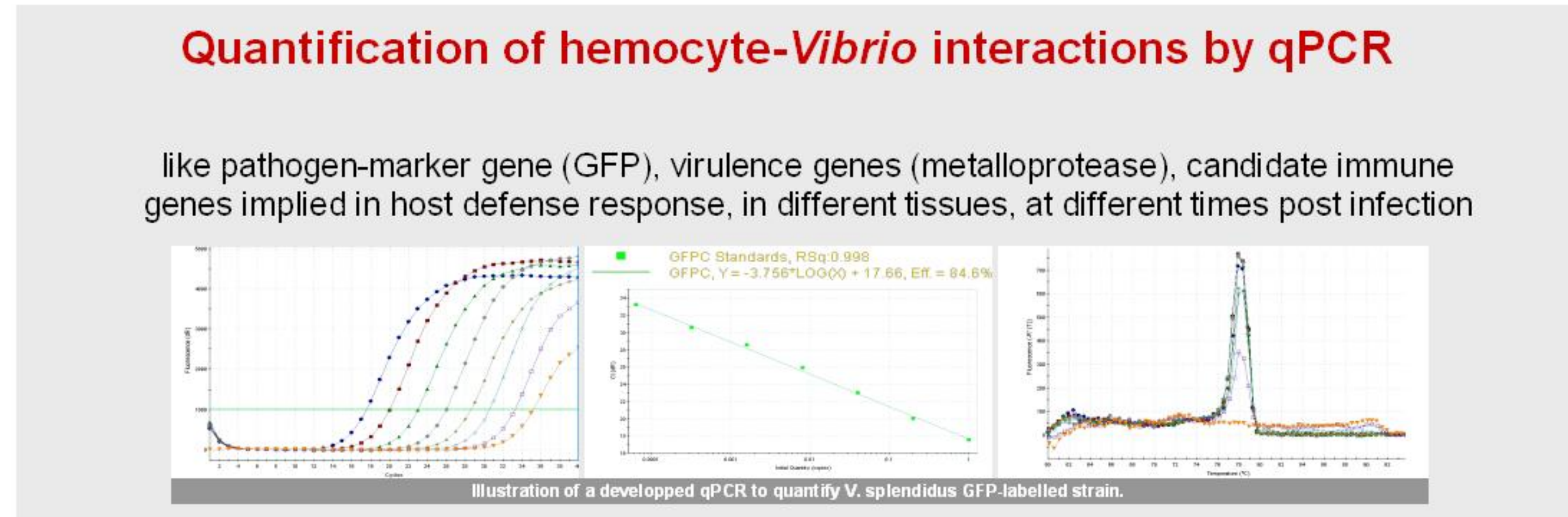
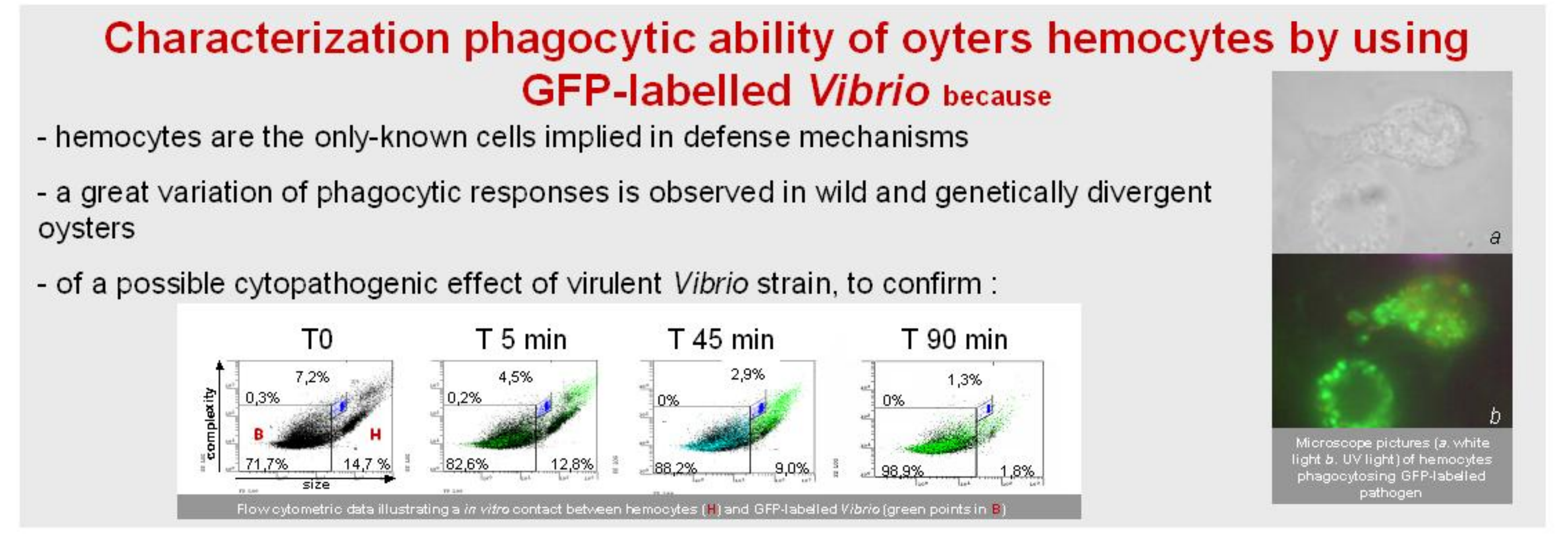
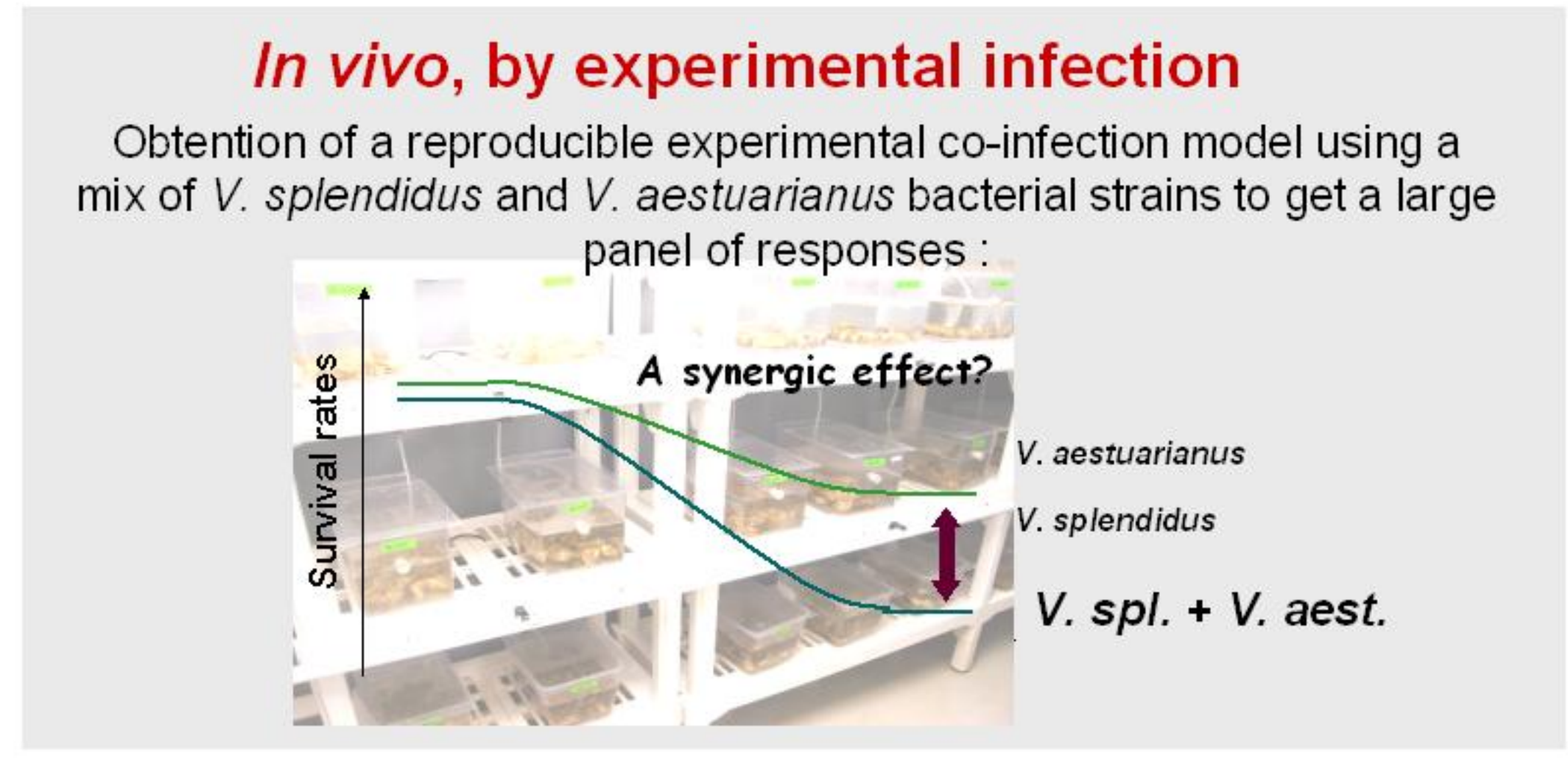


Rearing of *Crassostrea gigas* is the most economically important aquaculture activity in France. If *Vibrio* are often documented as pathogenic of farmed marine species (Paillard, 2004), it represents about 30 % of the oyster natural flora (Vasconcelos, 1972). Since several decades, two *Vibrio* species, *V. splendidus* and *V. aestuarianus*, were associated with many cases of mortality events in reared *C. gigas* spat and juvenile oysters, frequently during summer (Gay, 2004; Garnier, 2007). This summer mortality syndrome has been well documented as the result of complex interactions between pathogens, host and environmental conditions. **This work aims to study the *Vibrio*-oyster interactions and their modulations according to the virulence of pathogens and the genetic and/or physiological parameters of the host.**

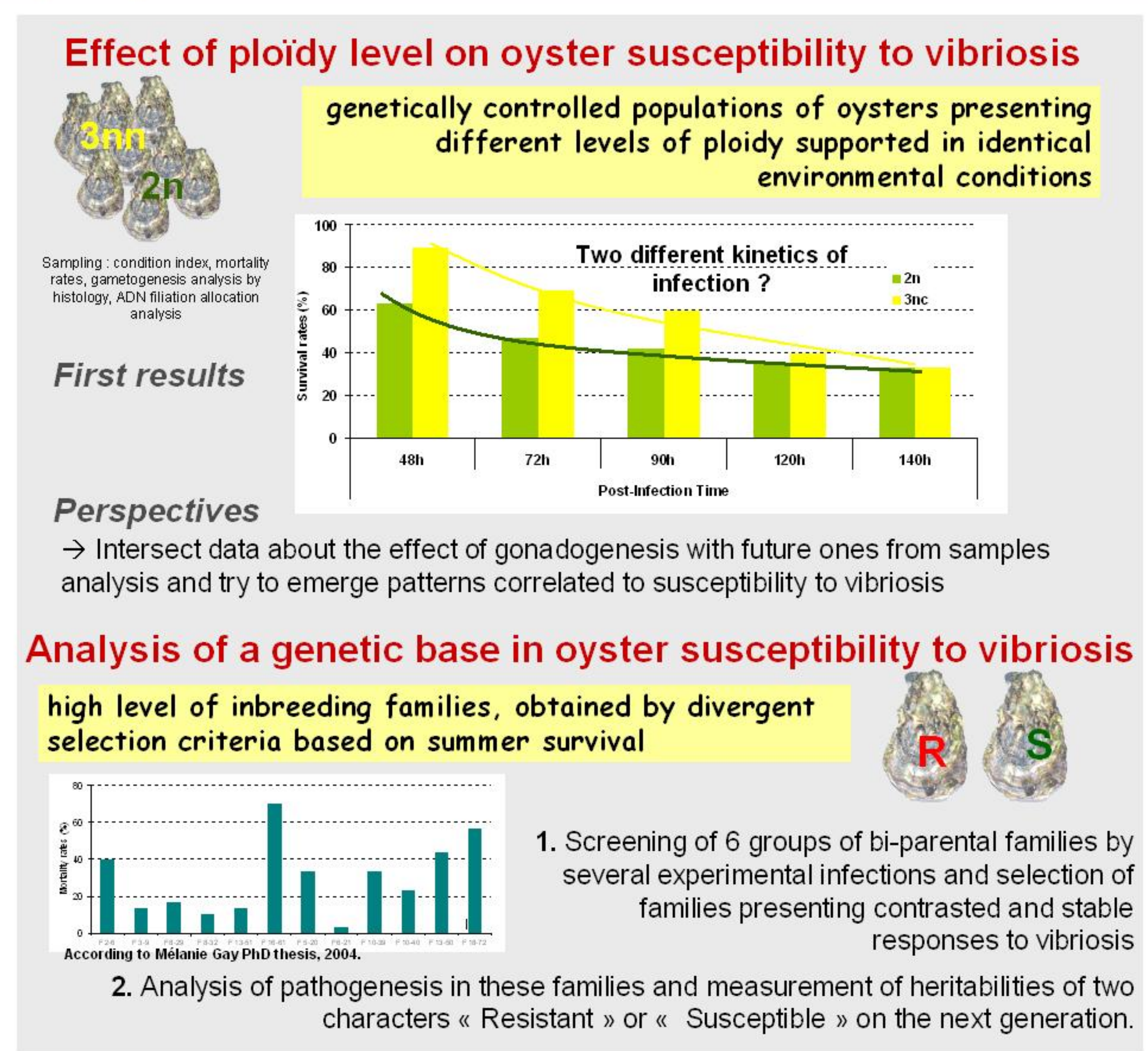
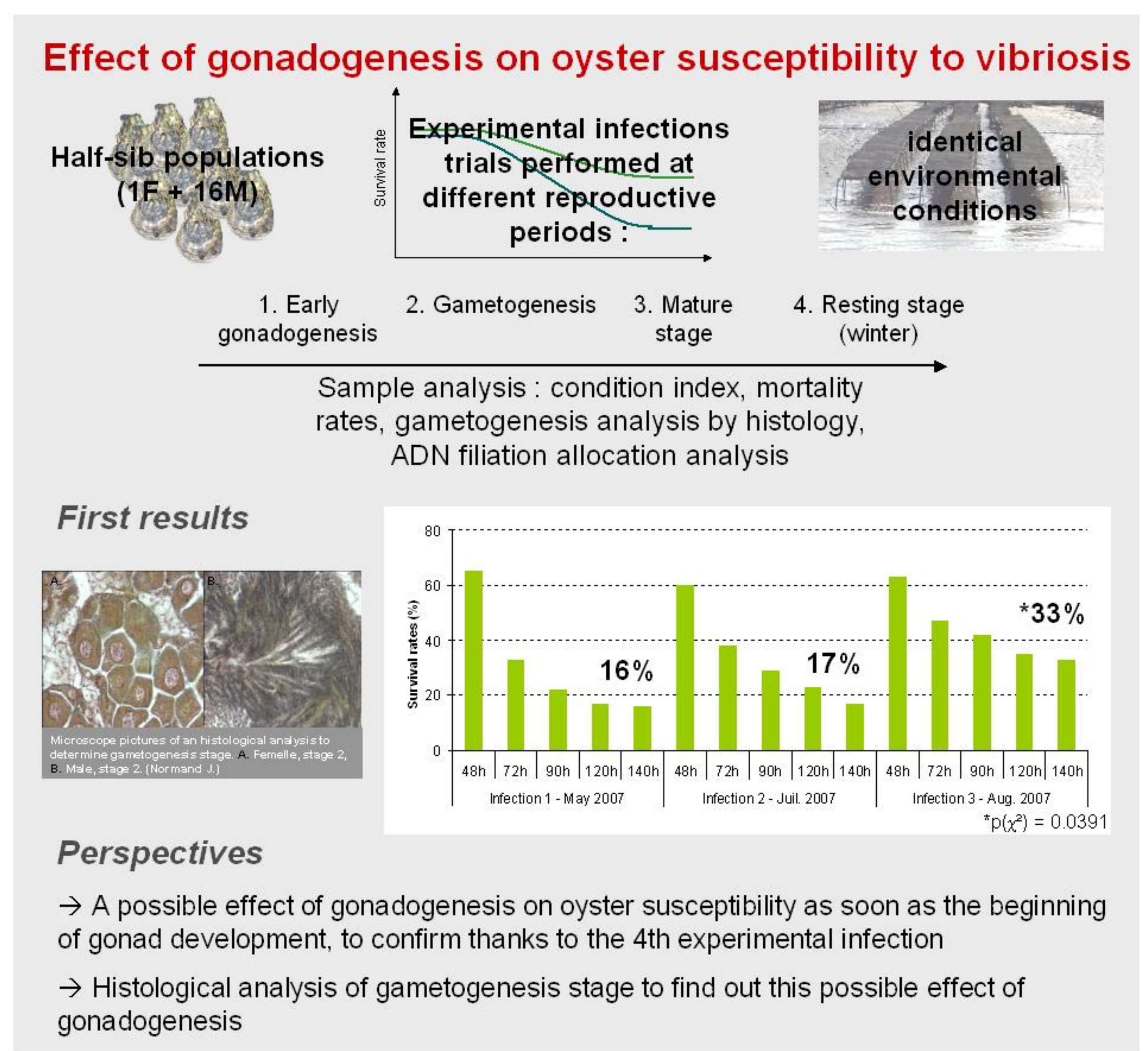
## Methodological approach



## Technical tools



## First results and perspectives



References :

Garnier M., Labreuche Y., Garcia C. Robert M. Nicolas J. L. (2007). Evidence for the Involvement of Pathogenic Bacteria in Summer Mortalities of the Pacific Oyster *Crassostrea gigas*. *Microb Ecol*. 53 (187-196).

Gay M., Berthe F. C., Le Roux F. (2004). Screening of *Vibrio* isolates to develop an experimental infection model in the Pacific oyster *Crassostrea gigas*. *Dis Aquat Organ* 59(1): 49-56.

Gay M. (2004) Experimental infection in *Crassostrea gigas*: study of two pathogenic strains related to *Vibrio splendidus*. PhD thesis.

Le Roux F., Binesse J., Saulnier D. and Mazel D. (2007) Construction of a *Vibrio splendidus* Mutant Lacking the Metalloprotease Gene *vsm* by Use of a Novel Counterselectable Suicide Vector. *Applied and Environmental Microbiology* p. 777-784, Vol. 73, No. 3.

Paillard P., Le Roux F., Borrego J.J. (2004). Bacterial disease in marine bivalves, a review of recent studies : trends and evolution. *Aquat. Living Resour.* 17 (2004) 477-498.

Vasconcelos G. J. & Lee J. S. (1972). Microbial flora of Pacific Oysters (*Crassostrea gigas*) subjected to ultraviolet-irradiated seawater. *Applied Microbiology* 23 (1972) 11-16.