Marine biological resources

GAMETOGENES

THE GENOMICS OF GAMTEOGENSIS IN THE PACIFIC OYSTER (CRASSOSTREA GIGAS)

This project aims to improve knowledge about the physiology and genetics of reproduction in Pacific oysters (*Crassostrea gigas*). Due to this species' high fertility rates, gametogenesis has a major impact on many physiological functions based on genetic and phenotypic compromises between reproduction and survival.

This project has benefited from the recent acquisition of a large volume of genomic data (see Sigenae website http://sigenae.org/ and GigasDatabase).

The genes specifically expressed during the various stages of gonad development will be identified using high-throughput transcriptomic techniques (DNA chips). This will enable the researchers to define markers of reproductive investment as well as processes by which sex is determined in this hermaphrodite species with irregular protandry. QTL (Quantitative Trait Loci) research into zones of the genome linked to this characteristic will allow them to determine reproductive allocation. This is possible due to the density of the genetic maps and the linkages which will be possible using a new physical map, thanks to the construction of a RH panel (radiation hybrid cells).

In order to explore the function of specific genes involved in reproduction, RNA interference (RNAi), inverse endocrinology and pharmacological approaches were implemented. The results will help increase knowledge about a species which is very important to aquaculture.

Partners

Research centers

UMR 100 « Physiologie et Écophysiologie des Mollusques Marins », Ifremer Centre de Bretagne / Université de Caen Basse-Normandie, Caen et Brest [Project Developer]
Laboratoire Ifremer de Génétique et Pathologie, La Tremblade
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