

# IDENTIFICATION OF INNATE IMMUNE MECHANISMS OF MARINE ORGANISMS

Beatriz Novoa and Antonio Figueras

Instituto de Investigaciones Marinas (IIM). CSIC. Vigo, Spain  
E-mail: [virus@iim.csic.es](mailto:virus@iim.csic.es)

Marine organisms live in an adverse and aggressive environment, however, most of them either lack an adaptive immune system (invertebrates) or possess a very primitive one (fish). The immune defence of these animals is mainly based on strong innate system effector molecules to fight against potential pathogens. In the last years new genomic tools, such as high-throughput sequencing methods, have helped us to identify an important repertory of putative immune genes in non model animals constituting a defence system as rich and complex as that of mammals. We have focused mainly on aquacultured animals, both fish and shellfish. In spite of the relevance of aquaculture and the associated pathological process, knowledge about these animals' immune system is still fragmentary and little is known about host-pathogen interactions. The aim of our work was to increase the genomic resources of fish (turbot), and shellfish (mussel, clam) particularly the transcriptome in response to pathogen stimulations to identify the main components of their immune pathways.