

## 7)-Characterization of the interferon pathway in the European sea bass after nodavirus infection

Yulema Valero<sup>1</sup>, Elena Chaves-Pozo<sup>1</sup>, María A. Esteban<sup>2</sup>, José Meseguer<sup>2</sup>, Francesco Buonocore<sup>3</sup>, Alberto Cuesta<sup>2</sup>

1) Instituto Español de Oceanografía

2) University of Murcia

3) Tuscia University

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### Abstracts:

One of the most powerful innate immune responses against virus is mediated by type I interferon (IFN). We searched the presence of genes involved in the IFN pathway in European sea bass (*Dicentrarchus labrax*) and evaluated their regulation by nodavirus (VNNV) infection in brain and gonad of infected specimens as well as in a new sea bass cell line (DLB-1), derived from brain. We identified genes encoding MDA5 (Melanoma Differentiation Associated gene 5), LGP2 (Laboratory of Genetics and Physiology 2), MAVS (mitochondrial antiviral signaling protein), TRAF3 (tumour necrosis factor receptor-associated factor 3), TANK (TRAF family member-associated NF- $\kappa$ B activator), TBK1 (TANK binding kinase 1), IRF3 (IFN regulatory factor 3), IRF7 and PKR (dsRNA dependent protein kinase receptor). Thus, in the susceptible species European sea bass, we found that *mda5*, *lgp2* or *irf3* gene expression in brain was up-regulated by VNNV infection, as *ifn*, *mx* and *pkrg* genes at different sampling times. Strikingly, most of the genes were up-regulated in gonad. In DLB-1 cell line, most of them were up-regulated by VNNV infection but in lower level than the induction provoked by poly I:C treatment. Further studies will be conducted to characterize the IFN pathway in sea bass and their role in the immune response against VNNV.

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