

17 β -ESTRADIOL ALTERS THE SUSCEPTIBILITY TO NODAVIRUS AND THE VIRAL IMMUNE RESPONSE OF EUROPEAN SEA BASS

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In addition to their role in fish reproduction, sex steroid hormones are known to modulate the immune response in vertebrates, including fish. In teleost fish, the increase on the serum level of 17 β -estradiol (E₂) has been correlated with immunosuppression and increased disease susceptibility whilst some studies have also demonstrated stimulation of some humoral activities. This fact highlights the complexity of the role of E₂ in the regulation of the immune response and point to the necessity to make further studies to understand how pathogens modulate E₂ serum levels in order to modulate the immune system and evade the immune response. Nodavirus (NNV) is a vertical transmitted pathogen that is able to decrease or increase the E₂ serum levels of infected European sea bass (*Dicentrarchus labrax*) or gilthead seabream (*Sparus aurata*), respectively, as revealed by some data obtained in our laboratory. Taking into account that the European sea bass is very susceptible to NNV we have experimentally altered the sex steroid serum levels of European sea bass juveniles specimens by an intraperitoneal injection of E₂ concomitantly with an *in vivo* infection with in order to determine whether high levels of E₂ in serum might modify the kinetic of the infection by means of studying some humoral activities and gene expressions relevant to the innate immune response.

Financial support by grants AGL2013-43588-P (MINECO and FEDER), RYC-2009-05441 (MINECO), 04538/GERM/06 (Fundación Séneca, Región de Murcia) and fellowship to Y. Valero (Instituto Español de Oceanografía) are gratefully acknowledged.