



3rd INTERNATIONAL CONFERENCE ON FISH & SHELLFISH IMMUNOLOGY

June 16th-20th, 2019

LAS PALMAS DE GRAN CANARIA,
SPAIN

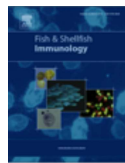
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17 α -ETHINYLESTRADIOL OR TAMOXIFEN ALTERS THE HUMORAL INNATE IMMUNE FUNCTION IN MALE GILTHEAD SEABREAM

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ABSTRACT

The presence of pharmacological compounds in the marine water have increased the concern about their unpredicted effects in aquatic organisms. 17 α -ethinylestradiol (EE2), a potent estrogenic compound, is widely used in oral contraceptive pills treatments and hormonal therapies. Tamoxifen (Tmx), an antagonist or agonist of the estrogen receptor alpha depending on the cell types, is commonly used in breast cancer therapies. Both drugs are present in aquatic environments. The gilthead seabream (*Sparus aurata*) is one of most important species in Mediterranean aquaculture and the effects of these compounds in its physiology are of especial relevance. It is demonstrated that cellular and adaptive humoral immune responses are altered by both compounds in a manner than depends on the age and the reproductive stage of fish. The innate immune function in fish is the first line of defense against pathogens and it is of great importance in poikilothermic animals. In this work we have studied the effect on different humoral innate immune responses of gilthead seabream upon dietary exposure to EE2 or Tmx at different ages and reproductive stages. Our results show that both compounds modulate the humoral innate immune response and that the exposure animals needed different times to recover control values upon the cease of the treatment depending on fish age, the reproductive stage and the length of the treatments.

Work partly funded by projects from MINECO and FEDER (AGL2014-53167-C3-2-R), *Instituto Español de Oceanografía* (NODAMED) and *Fundación Séneca* (04538/GERM/06). Y. Valero thanks *Spanish Institute of Oceanography* for her predoctoral fellowship.

KEYWORDS

17 α -ethinylestradiol, tamoxifen, innate immune system, *Sparus aurata*, males

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