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ABSTRACT BOOK

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Female vaccination against nodavirus increases the production of NK-lysin in their progeny

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The nervous necrosis virus (NNV), a single stranded RNA virus, produces the viral encephalopathy and retinopathy (VER) disease that is considered one of the most serious viral diseases in marine aquaculture, being the European sea bass (*Dicentrarchus labrax*) one of the most susceptible species, especially, during larval development. Female vaccination has been claimed as a potential management tool to increase fish larval resistance as maternal transfer of several immune activities has been previously described. Previous data obtained in our laboratory point to maternal transfer of bactericidal activity. Thus, the aim of this work was to evaluate the transfer of several proteins related to bactericidal activity responses in European sea bass progeny upon female vaccination. To do this, European sea bass females (1,518±85 g body weight) were intramuscularly injected twice with a DNA vaccine against NNV (RGNNV strain) and their progeny were sampled at different time points through development and processed for protein levels analysis by ELISA using in-house produced polyclonal specific antibodies. Our results show that all the proteins analyzed were present in eggs from 0 days post-fertilization (dpf) onwards. Interestingly, NK-lysin reached higher levels in the progeny of vaccinated females than controls through development. In conclusion, our data demonstrated that some innate immune proteins are present in European sea bass eggs. Although these protein levels were not enhanced by female's vaccination in the broodstock, they did in the subsequent development of their fry, producing high levels of some of these proteins through their development. (Support: Grants AGL2013-43588-P and AGL2016-74866-C3-1-R (MINECO and FEDER), FONDECYT 1140797 (Chile) and 19883/GERM/15 (*Fundación Séneca de la Región de Murcia*, Spain) are gratefully acknowledged. Y. Valero was supported by *Banco Santander* for the funding grant program *Becas Iberoamérica. Santander Investigación* in 2016/2017).

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