Volume 90/Supplement 1 - 2017

Journal of Biological Research

Bollettino della Società Italiana di Biologia Sperimentale

90th SIBS National Congress on Experimental biology in basic and applied research to the environment and human health

Trapani, Italy, 27-28 October 2017

ABSTRACT BOOK

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POSTERS

GRANZYMES ROLE IN THE CELL-MEDIATED CYTOTOXIC IMMUNE RESPONSE OF FISH AGAINST NODAVIRUS

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Granzymes (Gzm) are members of the serine protease family and major components of cytotoxic granules of professional killer cells. Multiple granzymes have been identified with different substrate specificities. Although the significance of granzymes A and B in cell-mediated cytotoxicity (CMC) has been extensively investigated,[1] recent reports suggest that other granzymes may have either equal or greater importance in mediating the immune response of fish. The aim of this work has been to evaluate the potential implication of several granzymes (GzmA, GzmK, GzmG, GzmB and GzmM) in Gilthead sea bream (*Sparus aurata*) and European sea bass (*Dicentrarchus labrax*) upon infection with Nodavirus (NNV). In CMC assays we have found that the granzyme activity follows the following order: GzmA/K> GzmM > GzmB. At transcriptional level, the patter of expression followed the functional activity. This confirms previous studies in fish suggesting greater importance of granzymes A or K compared to lower GzmB in contrast to what happens in mammalian CMC response.[2]

Acknowledgements: Work partly found by grants AGL2013-43588-P y AGL2016-74866-C3-1-R (MINECO and FEDER), 19883/GERM/15 (Fundación Séneca) and NODAMED (IEO).

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OXIDATIVE STRESS RESPONSE OF RAINBOW TROUT AFTER SUBCHRONIC TONALIDE EXPOSURE

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Polycyclic musk compounds are one group of synthetic lipophilic substances that are very important for commercial use, especially for cosmetics, detergents, fabric softeners and cleaning products.[1] After their use, these substances are only partially removed by wastewater treatment leading to a long-term exposure of the aquatic communities.[2] The aim of this study was to investigate the effects of subchronic tonalide exposure on oxidative stress indices in rainbow trout. During the toxicity tests fish were fed with feed supplemented with tonalide. Control (C) and two experimental groups (854 µg/kg for low concentration – LC and 8699 µg/kg for high concentration - HC) were used. After six weeks of exposure, the selected tissue samples (liver, gills, gonads and kidney) were homogenized and used to oxidative stress examination. Oxidative stress indices including glutathione S-transferase (GST), glutathione peroxidase (GPx), glutathione reductase (GR) and lipid peroxidation were measured spectrophotometrically using Varioskan Flash Reader. According to *Habig et al. (1974)*, GST was measured. According to *Flohé and Günzler (1984)*, the catalytic concentration of GPx was determined. The lipid peroxidation in the sample was evaluated according to the TBARS test described by *Lushchak et al. (2005)*.[3-5] In our experiments, we observed moderate reduction of GR activity in all tissues, a slight reduction in activity of GST for gills and gonads parameters. These changes were not significant. Moreover, after six-week exposure both in kidneys and in gills a moderate increase of the level lipid peroxidation was observed in the experimental groups compared to the control group. Many scientific studies confirmed that tonalide could be dangerous to aquatic organisms.[2]

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XANTHOTOXIN IMPROVES SCOPOLAMINE INDUCED MEMORY IMPAIRMENT IN PASSIVE AVOIDANCE TEST IN MICE – ROLE OF ACETYLCHOLINESTERASE

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Xanthotoxin (8-methoxypsoralen, 8-MOP) is a furanocoumarin found in many medicinal plants and is used in the treatment of psoriasis, vitiligo, and cutaneous T-cell lymphoma. This drug also possesses slight antioxidative activity