EFFECT OF PROBIOTICS ON THE IMMUNE SYSTEM COMPROMISED BY FATTY LIVER DISEASE DEVELOPED IN *Sparus aurata*

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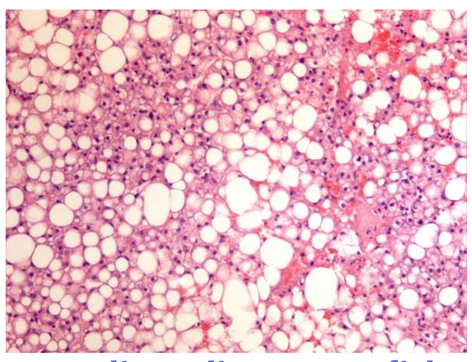
Introduction

Diet supplemented with 10% fish oil

Inactivated SPPdp11



Fatty liver disease on fish

Reduced growth
Poor feed conversion
Metabolic disease
Immune system compromised

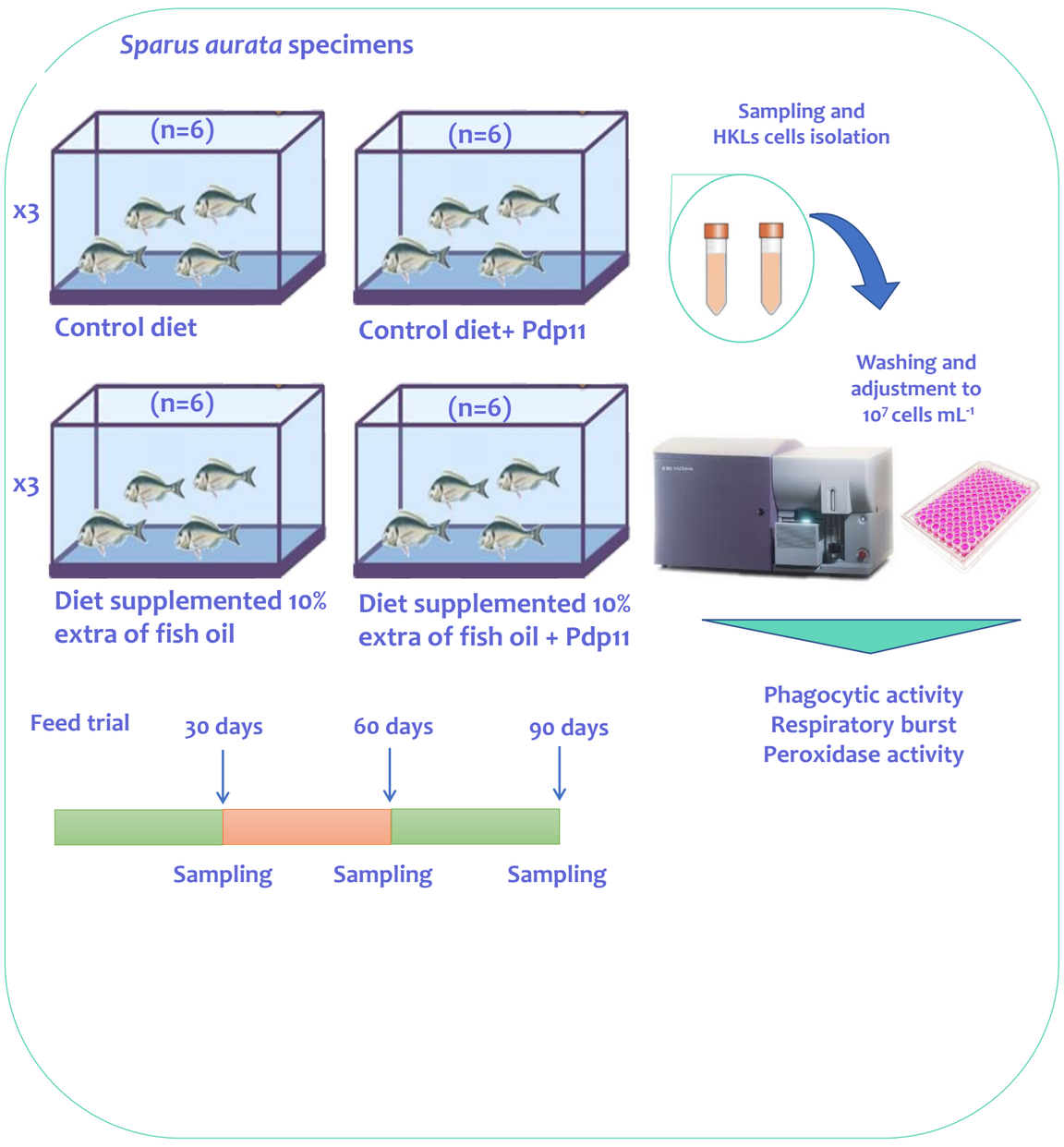
?

[1,2]

Objectives

The present work studies the way in which the different components of the probiotic SpPdp11 affect the metabolic syndrome in seabream. Two diet will be used to produce fatty liver disease on fish: Diet supplemented with an extra of 10% fish oil and the other will be Diet supplemented with an extra of 10% fish oil + inactivated pdp11. The effect on cellular response in head-kidney leukocytes (HKLs) from sea bream liver cells will be evaluated.

Material and Methods



Results

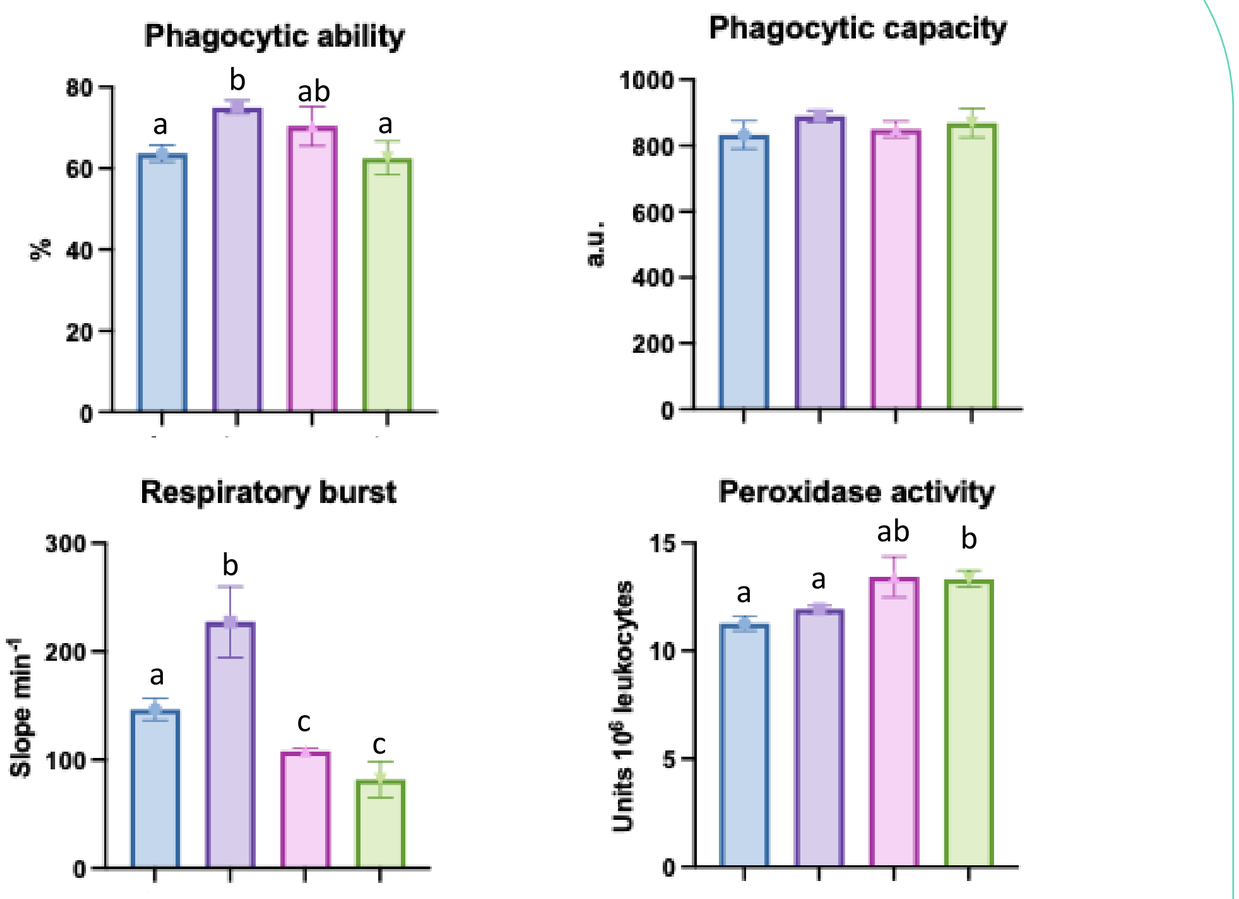


Figure 1. Cellular response in head kidney leukocytes from *Sparus aurata* after 2 months of feed trial. Phagocytic ability is expressed in percentage (%); phagocytic capacity is expressed in aleatory units (a.u.); respiratory burst is expressed in slope per minute (slope min^{-1}) and the peroxidase activity is expressed in units per 106 leukocytes. All results are represented as mean ± SEM, per triplicate. Statistical differences between the different groups are denoted by different ($p<0.05$).

Conclusions

The feed trial demonstrated that supplementation with 10% of fish oil affected to the immune system of seabream, particularly the respiratory burst.

In addition, the supplementation with Pd11 significantly increased the different parameters related to cellular response, as has been previously reported.

Overall, our results seem to indicate the Pdp11 supplementation could mediate in the metabolic syndrome caused by the unbalanced diet, as well as modulate the cellular response.

[3]

Acknowledgments

SpPdp11 supported by MA Moriñigo (University of Málaga, Spain). This study forms part of the ThinkInAzul programme and was supported by MCIN with funding from European Union NextGeneration EU (PRTR-C17.I01) and by Comunidad Autónoma de la Región de Murcia - Fundación Séneca.

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Financiado por la Unión Europea NextGenerationEU
MINISTERIO DE CIENCIA E INNOVACIÓN
Plan de Recuperación, Transformación y Resiliencia
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