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Compartmentalisation of T cells expressing *CD8α* and *TCRβ* in developing thymus of sea bass *Dicentrarchus labrax* (L.)

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Abstract
Eggs, larvae, post-larvae and sexually immature juveniles of the teleost *Dicentrarchus labrax* (L.) were assayed for the expression of genes encoding the T cell receptor β and CD8α. RT-PCR of RNA extracted from larvae revealed *TCRβ* transcripts from day 25 post-hatching (ph) and *CD8α* transcripts from 26 days later.
At day 51 ph, *CD8α* and *TCRβ* mRNAs were localised by in situ hybridisation in thymocytes of the outer and lateral zones of the thymic paired glands. From day 75 ph onwards the signal was mainly detected in the outer region, drawing a cortex–medulla demarcation.
In 1-year-old fish, CD8α$^+$ and TCRβ$^+$ thymocytes almost filled the cortex and extended in large cords in the medulla. A CD8α$^-$TCRβ$^+$ subcapsular lymphoid zone was evident near the septa coming from the inner connective capsule that delimited the thymus.
The localisation of *CD8α* and *TCRβ* transcripts demonstrated a compartmentalisation of the juvenile thymus due to distinct localisation of thymocytes at different developmental stages.

1. Introduction

The major role of thymus in more evolved vertebrates is to provide the appropriate microenvironment where T cells can mature. Mammalian MHC class Ia and IIa molecules mediate the acquisition of a T cell repertoire by participating in the positive and negative selections of CD8$^+$ and CD4$^+$ T cells in the thymus [1].

The localisation of bilateral thymic glands of teleostean bony fish is related to the developmental pattern of

Abbreviations: MGG, May–Grünwald/Giemsa; PCR, polymerase chain reaction; ph, post-hatching; TCR, T cell receptor; TECs, thymic epithelial cells.

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