

Assessment of cathepsin mRNA expression and enzymatic activity during early embryonic development in the yellowtail kingfish *Seriola lalandi*

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© 2017 Elsevier B.V. In pelagic species such as *Seriola lalandi*, survival of both the eggs and embryos depends on yolk processing during oocyte maturation and embryo development. The main enzymes involved in these processes are the cathepsins, which are essential for the hydration process, acquiring buoyancy and nutrition of the embryo before hatching. This study aimed to investigate the mRNA expression profiles of cathepsins B, D and L (catb, catd and catl) and the activity of these enzymes during early development in *S. lalandi*. We included previtellogenic oocytes (PO). All three enzymes were highly expressed in PO, but the expression was reduced throughout development. Between PO and recently spawned eggs (E1) the transcript to catb and catd decreased, unlike catl. Cathepsin B activity, showed stable levels between PO until blastula stage (E4). High activities levels of cathepsins D and L were observed in E1 in comparison with later developmental stages. Cathepsin L activity remaine