



Characteristics of Cyclin B and its potential role in regulating oogenesis in the red claw crayfish (*Cherax quadricarinatus*)

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ABSTRACT. Cyclin B is a regulatory subunit of maturation-promoting factor (MPF), which has a key role in the induction of meiotic maturation of oocytes. MPF has been studied in a wide variety of animal species; however, its expression in crustaceans is poorly characterized. In this study, the complete cDNA sequence of Cyclin B was cloned from the red claw crayfish, *Cherax quadricarinatus*, and its spatiotemporal expression profiles were analyzed. Cyclin B cDNA (1779 bp) encoded a 401 amino acid protein with a calculated molecular weight of 45.1 kDa. Quantitative real-time PCR demonstrated that Cyclin B mRNA was expressed mainly in the ovarian tissue and that the expression decreased as the ovaries developed. Immunofluorescence analysis revealed that the Cyclin B protein relocated from the cytoplasm to the nucleus during oogenesis. These findings suggest that Cyclin B plays an important role in gametogenesis and gonad development in *C. quadricarinatus*.

Key words: Cyclin B; cDNA cloning; Cellular localization; Spatiotemporal expression profile; Oogenesis; *Cherax quadricarinatus*