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The ancient role for GATA2/3 transcription factor homolog in the hemocyte production of oyster

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Abstract

Hemocytes, the cellular component of invertebrate hemolymph, are essential for invertebrate immunity, but the hematopoiesis and regulation mechanism are still largely unknown. In the present study, a conserved haematopoietic transcription factor *Cg*-GATA2/3 was identified in Pacific oyster *Crassostrea gigas*, which was evolutionarily close to the vertebrate GATA1/2/3. *Cg*-GATA2/3 was mainly distributed in the immune organs, such as gill, hemocytes, and mantle. After *Cg*-GATA2/3 was interferenced by dsRNA, the mRNA expressions of hemocytes specific gene (EcSOD) and haematopoietic transcription factor (C-Myb) were all significant down-regulated, and the hemocyte renewal rates also decreased both in hemolymph and gill. During the larval developmental stages, the mRNA transcripts of

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