

Accepted Manuscript

Identification of microRNAs with heat stress responsive and immune properties in *Marsupenaeus japonicus* based on next-generation sequencing and bioinformatics analysis: Essential regulators in the heat stress-host interactions

Jinbin Zheng, Jiawen Cao, Yong Mao, Yongquan Su, Jun Wang



PII: S1050-4648(18)30299-7

DOI: [10.1016/j.fsi.2018.05.030](https://doi.org/10.1016/j.fsi.2018.05.030)

Reference: YFSIM 5311

To appear in: *Fish and Shellfish Immunology*

Received Date: 31 March 2018

Revised Date: 9 May 2018

Accepted Date: 16 May 2018

Please cite this article as: Zheng J, Cao J, Mao Y, Su Y, Wang J, Identification of microRNAs with heat stress responsive and immune properties in *Marsupenaeus japonicus* based on next-generation sequencing and bioinformatics analysis: Essential regulators in the heat stress-host interactions, *Fish and Shellfish Immunology* (2018), doi: 10.1016/j.fsi.2018.05.030.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

**Identification of microRNAs with heat stress responsive and immune properties
in *Marsupenaeus japonicus* based on next-generation sequencing and
bioinformatics analysis: essential regulators in the heat stress-host interactions**

Jinbin Zheng^b, Jiawen Cao^c, Yong Mao^{a, b}, Yongquan Su^b, Jun Wang^b

^a State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen
361102, China

^b College of Ocean and Earth Sciences, Xiamen University, Xiamen 361102, China

^c College of the Environment and Ecology, Xiamen University, Xiamen 361102,
China

Corresponding author:

Professor. Yong Mao

College of Ocean and Earth Sciences, Xiamen University

South Xiang'an Road

361102 Xiamen, China

Tel.: +86 18059846192

E-mail addresses: maoyong@xmu.edu.cn

Abstract

Summer mortality syndrome is one of the most serious issue for *Marsupenaeus japonicus* aquaculture in China. Since it causes massive economic loss and threatens sustainability of *M. japonicus* aquaculture industry, thus, there is an urgent desire to reveal the heat stress-host interactions mechanisms that lead to mass mortalities of *M. japonicus* in hot summer months. MicroRNAs (miRNAs) are small noncoding RNAs that involved in regulation of diverse biological processes, including stress and immune response, and might serve as potential regulators in the heat stress-host interactions. In the present study, miRNAs with heat stress responsive and immune properties were identified and characterized in *M. japonicus* by small RNA sequencing and bioinformatics analysis. In total, 79 host miRNAs were identified, among which 15 miRNAs were differentially expressed in response to heat stress. Target genes prediction and function annotation revealed that a variety of host cellular processes, such as signal transduction, transcription, anti-stress response, ribosomal

Download English Version:

<https://daneshyari.com/en/article/8498147>

Download Persian Version:

<https://daneshyari.com/article/8498147>

[Daneshyari.com](https://daneshyari.com)