Accepted Manuscript

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PII: S1050-4648(18)30549-7

DOI: 10.1016/j.fsi.2018.09.013

Reference: YFSIM 5534

To appear in: *Fish and Shellfish Immunology*

Received Date: 30 June 2018

Revised Date: 26 August 2018

Accepted Date: 5 September 2018

Please cite this article as: Qu C, Yang W, Xu Q, Sun J, Lu M, Wang Y, Liu C, Wang W, Wang L, Song L, A novel effector caspase (Caspase-3/7-1) involved in the regulation of immune homeostasis in Chinese mitten crab *Eriocheir sinensis*, *Fish and Shellfish Immunology* (2018), doi: 10.1016/j.fsi.2018.09.013.

A novel effector caspase (Caspase-3/7-1) involved in the regulation of immune homeostasis in Chinese mitten crab *Eriocheir sinensis*

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Abstract

Caspases are a conserved family of cysteine proteases characterized by specificity for aspartic acid and play an essential role in cell apoptosis. In the present study, a novel effector caspase (designated as *Es*Caspase-3/7-1) was identified from Chinese mitten crab *Eriocheir sinensis*. The open reading frame of *Es*Caspase-3/7-1 cDNA was of 972 bp, encoding a polypeptide of 323 amino acids. *Es*Caspase-3/7-1 contained an N-terminal prodomain and a conservative C-terminal CASc domain, with the conserved active site “QACRG”. The mRNA transcripts of *Es*Caspase-3/7-1 were constitutively expressed in all the examined tissues with high expression level in hemocytes, hepatopancreas and gill. The *Es*Caspase-3/7-1 protein was mainly