

Accepted Manuscript

Deficiency of dietary niacin impaired intestinal mucosal immune function via regulating intestinal NF- κ B, Nrf2 and MLCK signaling pathways in young grass carp (*Ctenopharyngodon idella*)

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PII: S1050-4648(15)30273-4

DOI: [10.1016/j.fsi.2015.12.015](https://doi.org/10.1016/j.fsi.2015.12.015)

Reference: YFSIM 3736

To appear in: *Fish and Shellfish Immunology*

Received Date: 31 August 2015

Revised Date: 10 December 2015

Accepted Date: 12 December 2015

Please cite this article as: Feng L, Li S-Q, Jiang W-D, Liu Y, Jiang J, Wu P, Zhao J, Kuang S-Y, Tang L, Tang W-N, Zhang Y-A, Zhou X-Q, Deficiency of dietary niacin impaired intestinal mucosal immune function via regulating intestinal NF- κ B, Nrf2 and MLCK signaling pathways in young grass carp (*Ctenopharyngodon idella*), *Fish and Shellfish Immunology* (2016), doi: 10.1016/j.fsi.2015.12.015.

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3 **carp (*Ctenopharyngodon idella*)**

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18 **Running title: niacin deficiency impaired intestinal mucosal immune function in**
19 **fish**

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