

## Accepted Manuscript

Effects of ultrasonic processing on caspase-3, calpain expression and myofibrillar structure of chicken during post-mortem ageing

Lin Chen, Xian-Chao Feng, Ying-yang Zhang, Xue-bo Liu, Wan-gang Zhang, Chun-bao Li, Niamat Ullah, Xing-lian Xu, Guang-hong Zhou

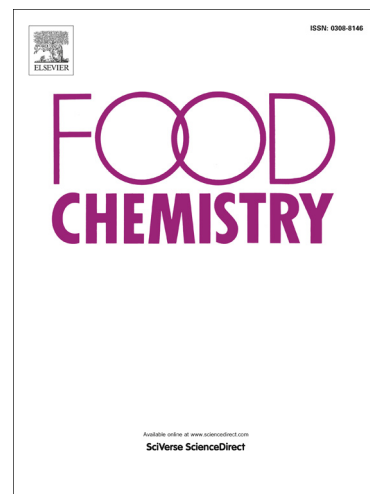
PII: S0308-8146(14)01793-2  
DOI: <http://dx.doi.org/10.1016/j.foodchem.2014.11.064>  
Reference: FOCH 16749

To appear in: *Food Chemistry*

Received Date: 8 July 2014  
Revised Date: 14 October 2014  
Accepted Date: 10 November 2014

Please cite this article as: Chen, L., Feng, X-C., Zhang, Y-y., Liu, X-b., Zhang, W-g., Li, C-b., Ullah, N., Xu, X-l., Zhou, G-h., Effects of ultrasonic processing on caspase-3, calpain expression and myofibrillar structure of chicken during post-mortem ageing, *Food Chemistry* (2014), doi: <http://dx.doi.org/10.1016/j.foodchem.2014.11.064>

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.



1 **Effects of ultrasonic processing on caspase-3, calpain expression and myofibrillar structure**  
2 **of chicken during post-mortem ageing**

3 Lin Chen<sup>1</sup>, Xian-Chao Feng<sup>1</sup>, Ying-yang Zhang<sup>2</sup>, Xue-bo Liu<sup>1</sup>, Wan-gang Zhang<sup>3</sup>, Chun-bao Li<sup>3</sup>,  
4 Niamat Ullah<sup>1</sup>, Xing-lian Xu<sup>3</sup>, Guang-hong Zhou<sup>3\*</sup>

5 <sup>1</sup>College of Food Science and Engineering, Northwest A&F University, Yangling 712100, PR  
6 China

7 <sup>2</sup>College of Food Science and Technology, Nanjing Agricultural University, Nanjing, 210095, P.  
8 R. China

9 <sup>3</sup>Synergetic Innovation Center of Food Safety and Nutrition, Key Laboratory of Meat Processing  
10 and Quality Control, Ministry of Education, College of Food Science and Technology, Nanjing  
11 Agricultural University, Nanjing 210095, PR China

12 \*Address correspondence to G. H. Zhou, Synergetic Innovation Center of Food Safety and  
13 Nutrition, Key Laboratory of Meat Processing and Quality Control, Ministry of Education,  
14 College of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, PR  
15 China. E-mail: ghzhou@njau.edu.cn

16 **ABSTRACT**

17 In this investigation, ultrasonic treatments at a frequency of 40 kHz and power of 1500 W made  
18 caspase-3 and calpain activities significantly higher in chicken muscle after slaughter during 5  
19 days storage ( $p < 0.01$ ). Additionally western blotting analysis of  $\alpha$ -spectrin showed that ultrasonic  
20 treatments caused the production of  $\alpha$ -spectrin degradation products of 120 kDa and 150 kDa  
21 more dense than the control ( $p < 0.01$ ). Degradation of calpastatin during chicken meat ageing was  
22 induced by ultrasound treatments ( $p < 0.01$ ), which suggested the ability of caspase-3 to cleave

Download English Version:

<https://daneshyari.com/en/article/7592897>

Download Persian Version:

<https://daneshyari.com/article/7592897>

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