



## ***Agrobacterium*-mediated transformation of tomato with the *ICE1* transcription factor gene**

J.X. Juan<sup>1,2</sup>, X.H. Yu<sup>1,2</sup>, X.M. Jiang<sup>1,2</sup>, Z. Gao<sup>3</sup>, Y. Zhang<sup>4</sup>, W. Li<sup>1,2</sup>, Y.D. Duan<sup>5</sup> and G. Yang<sup>5</sup>

<sup>1</sup>Key Laboratory of Biology and Genetic Improvement of Horticultural Crops, Northeast Region, Ministry of Agriculture, The Northeast Agriculture University, Harbin, China

<sup>2</sup>Collaborative Innovation Center for Development and Utilization of Forest Resources, Harbin, China

<sup>3</sup>Harbin Baidu Science and Technology Development Co., Ltd., Northeast Agricultural University, Harbin, Heilongjiang, China

<sup>4</sup>Heilongjiang Academy of Sciences Natural and Ecological Research Institute, Xiangfang District, Harbin, Heilongjiang, China

<sup>5</sup>Berries Research Institute, Heilongjiang Academy of Agricultural Sciences, Suiling, Heilongjiang, China

Corresponding authors: X.H. Yu / X.M. Jiang

E-mail: yxh100@sohu.com / jxm0917@163.com

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**ABSTRACT.** *ICE1* genes play a very important role in plants in cold conditions. To improve the cold resistance of tomato, the *ICE1* gene of *Arabidopsis thaliana* was used to construct the plant expression vector p3301-*ICE1*, and was overexpressed in tomato through *Agrobacterium*-mediated transformation. Five strains of resistant plants were obtained. PCR and half-quantitative results showed that the *ICE1* gene was transferred to tomato; three strains tested positive. After low-temperature stress treatment, praline content and peroxide and catalase

activities in the transgenic tomato plants were higher compared with non-transgenic controls, while malondialdehyde content was clearly lower.

**Key words:** Cold transcription factor; *ICE1* gene; Tomato; Plant expression vector