RESPONSE OF CELLS TO TEMPERATURE AND ABSCISIC ACID DEPENDING ON THE STAGE OF DEVELOPMENT OF A SUSPENSION CULTURE

I.A. Larskaya, O.I. Trofimova, T.S. Barysheva, A.I. Zabotin

Abstract

The use of the suspension culture of *Triticum thimopheevii* Zhuk. as an object for research made it possible to describe the response of cells to hardening temperature depending on the stage of development of the culture. On the 4th or 5th day of cultivation, the cells undergoing active cell division showed higher ability to hardening by low positive temperatures (2°C, 7 days) and responded to the action of temperature by the increased and longer activation of the cell wall hydrolytic enzymes (β-glucosidase, β-fucosidase). The addition of abscisic acid (50 mM) without cold action also led to the increase in the cold hardiness of the suspension culture cells. The maximum level of hardness was observed on the 5th day, when abscisic acid were added at the beginning of the passage, and a day later, after adding the hormone to the cells of 4-day age. It is assumed that plant hardening is determined by the subpopulation of cells undergoing a certain stage of cell cycle.

Keywords: *Triticum thimopheevii*, suspension cell culture, low-temperature adaptation, cell wall enzymes, abscisic acid.

References


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Larskaya Irina Alekseevna – PhD in Biology, Research Fellow, Kazan Institute of Biochemistry and Biophysics, Kazan Scientific Center of the Russian Academy of Sciences, Kazan Russia.
E-mail: pzlj@mail.ru

Barysheva Talmira Sergeevna – PhD in Biology, Senior Research Fellow, Kazan Institute of Biochemistry and Biophysics, Kazan Scientific Center of the Russian Academy of Sciences, Kazan Russia.

Trofimova Oksana Igorevna – PhD in Biology, Junior Research Fellow, Kazan Institute of Biochemistry and Biophysics, Kazan Scientific Center of the Russian Academy of Sciences, Kazan Russia.
E-mail: trofimova@mail.knc.ru

Zabotin Aleksei Ivanovich – PhD in Biology, Senior Research Fellow, Kazan Institute of Biochemistry and Biophysics, Kazan Scientific Center of the Russian Academy of Sciences, Kazan Russia.
E-mail: zabotinalex@mail.ru