Serbian Biochemical Society

President: Marija Gavrović-Jankulović
Vice-president: Suzana Jovanović-Šanta
General Secretary: Milan Nikolić
Treasurer: Milica Popović

Organizing committee

Natalija Polović
Milan Nikolić
Milica Popović
Karla Ilić Đurđić
Dragana Robajac
Romana Masnikosa
Nataša Simin
Aleksandra Stefanović
Jelena Brkljačić
Isidora Protić-Rosić
Ana Simović
Snežana Spasić
Vladimir Mihailović
Ana Miltojević
Srđan Miletić

Scientific committee

Marija Gavrović-Jankulović
Mihajlo B. Spasić
Vesna Niketić
Ivan Spasojević
Dejana Mokranjac
Neda Mimica-Dukić
Snežana Đorđević
Suzana Jovanović-Šanta
Melita Vidaković
Snežana Marković
Olgica Nedić
Ivanka Karadžić
Vesna Spasojević-Kalimanovska
Tanja Ćirković Veličković
Ivan Gržetić
Goran Brajušković
Vesna Vučić
Niko Radulović

Proceedings

Editor: Ivan Spasojević
Cover design: Zoran Beloševac
Publisher: Faculty of Chemistry, Serbian Biochemical Society
Printed by: Colorgrafx, Belgrade

Serbian Biochemical Society
Ninth Conference

with international participation

University of Belgrade – Kolarac Endowment
14-16.11.2019. Belgrade, Serbia

"Diversity in Biochemistry"

Impact of high temperature on the accumulation of eEF1A in different cereal varieties

Stefan M. Marković[1*], Nevena H. Djukić[1], Desimir Knežević[2], Danijel Pantelić[3]

[1]*Department of Biology and Ecology, Faculty of Science, University of Kragujevac, Kragujevac,Serbia*
[2]*Faculty of Agriculture, University of Priština, Kosovska Mitrovica-Lešak, Kosovo and Metohija, Serbia*
[3]*Institute for Biological Research "Siniša Stanković", University of Belgrade, Belgrade, Serbia*

[*]*e-mail: stefan.markovic@pmf.kg.ac.rs*

High temperature stress is one of the most important environmental factors that influence cereal's growth, development and yield processes. For this reason, it is important to identify proteins involved in heat stress response of cereals and develop varieties tolerant to high temperatures.Recent studies haveshown that accumulation of eukaryotic elongation factor 1A (eEF1A) plays a role in heat tolerancein wheat.The aim of this research was to examine the impact of heat stress on accumulation of eEF1A in several cereals and to compare relative abundance of eEF1A in different cereal varieties.Flag leaves of four cereal varieties were sampled and used for research. After the isolation of proteins, immunoblot analysis was conducted foreEF1A quantification[1].The results showed differences among analyzed cereal varieties according to accumulation of eEF1A. Heat-induced accumulation of eEF1A was shown inthree investigated cereal varieties.The highest accumulationof eEF1A underheat-stress condition was found in wheat variety Anapurna. On the other hand, a decline in the relative abundance of eEF1A was shown in wheat variety Avenu under the stress condition. According to these findings, we can recommend wheat variety Anapurna for breeding new wheat with improved adaptability to high temperatures.

Acknowledgements

This study was supported by Ministry of Education, Science and Technological Development of the Republic of Serbia, Project Grant No. TR 31092.

References

1. Momcilovic I, Ristic Z. Expression of chloroplast proteinsynthesis elongation factor, EF-Tu, in two lines of maize withcontrasting tolerance to heat stress during early stages of plantdevelopment. J Plant Physiol 2007;164:90–9.