

Storey, K.B. (ed.): **Environmental Stress and Gene Regulation.** - BIOS Scientific Publishers Ltd., Oxford 1999. 181 pp. GBP 65.00. ISBN 1 85996 057 X.

This book represents a set of contributions to the symposium "Environmental Stress and Gene Regulation" at the 1998 meeting of the Society for Experimental Biology in York. The symposium was dedicated to the study of different forms of environmental stress (low or high temperature, freezing, oxygen limitation, oxyradical toxicity). The volume also includes other studies, not originally presented to the symposium, but strongly related to the main theme of the book - gene expression responses to stress.

The volume comprises ten contributions. Six chapters deals with cold stress-induced gene expression. This problem is studied in several animal models such as turtles, fish, crustacea, and mammals. Particular attention is paid to antifreeze proteins and small heat shock proteins. One study represents analysis of cold-induced

genes in barley. In the regulation of the molecular response to hypoxia plays an important role hypoxia-inducible factor (HIF-1). Its detailed description is given in the second chapter, and the following chapter deals with the role of reactive oxygen species produced during hypoxia, namely hydrogen peroxide, in the regulation of response to hypoxia. The last chapter describes the mechanisms of programmed cell death in plants in response to environmental cues.

The book is intended for advanced undergraduates, and to graduates and researchers in environmental physiology, comparative animal biochemistry, plant biochemistry and thermal biology. The studied problems are also relevant for the fields of organ transplantation or cryopreservation.

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