

Templeton, D.M. (ed.): **Molecular and Cellular Iron Transport**. – Marcel Dekker, New York – Basel 2002. ISBN 0-8247-0621-8. 827 pp., USD 235.00.

Iron is certainly a very important mineral element, without which no life could exist. Iron containing substances are inevitable for metabolism, including the biologically basic one, *i.e.* photosynthesis. Iron availability is also important for metabolic activity of whole ecosystems, *e.g.* production of biomass in seas. Successful transport of iron from environment to living cells and their structures deserves a special attention. This is why I was interested in this fairly voluminous manual. Unfortunately, the information connected with plants, algae, and photosynthetic bacteria is very scarce and not easily found in the text.

The majority of 33 chapters of the book is devoted to animal and human metabolism and diseases. They form four parts arranged according to the topics: Molecular aspects of iron transport, Cellular iron transport, Physiology of iron transport, and Disorders of iron transport. The chapters were written by 62 scientists, who work mostly in departments of medicine in Australia (4), Austria (1), Canada (6), England (4), France (5), Germany (2), Israel (6), Italy (4), Sweden (1), and the U.S.A. (29).

For students and researchers in plant sciences an interesting information is in chapter 1 (Iron chemistry) dealing with electronic configurations of iron(II) and iron(III) (iron porphyrin complexes), magnetic properties, electronic spectra, complexation equilibria, electrochem-

istry, and ligand-exchange reactions. Nevertheless, I did not find here the cytochromes functioning in photosynthesis. Chapter 2 is on transferrins and includes expression systems for recombinant transferrins (present also in filamentous fungi and yeasts). In chapter 5 (Ferritins) the respective compounds of plants are briefly mentioned. Chapter 14 deals with two strategies of iron acquisition in plants, within-plant iron transport, and iron storage. The roles of root, xylem, phloem, and transporters are underlined. Chapters 15 and 16 deal with iron uptake in yeast and bacteria, respectively. Generally interesting is chapter 22 (Novel methods for assessing transport of iron across biological membranes) that includes also some model systems.

Every chapter is supplemented with a list of references (in a few cases over 200 items) present in full form, with tables and illustrations (often easily understandable graphic presentation of models). Unfortunately, no author index is supplemented. Somebody who is not familiar with plant sciences prepared the subject index, and therefore items such as plant, ferredoxin, or rubredoxin are not included.

It is good to know that such manual exists even if researchers in photosynthesis will not find there much information for their work.

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