

|                         |  |
|-------------------------|--|
| 1. Record Nr.           | UNINA9910830670103321  |
| Autore                  | Reilly Conor   |
| Titolo                  | The nutritional trace metals [[electronic resource] /] / Conor Reilly  |
| Pubbl/distr/stampa      | Oxford, OX, UK ; ; Ames, IA, USA, : Blackwell Pub., 2004   |
| ISBN                    | 1-280-21319-1<br>9786610213191<br>0-470-79631-6<br>0-470-77478-9<br>1-4051-4811-X  |
| Descrizione fisica      | 1 online resource (258 p.)   |
| Disciplina              | 613.2<br>613.28<br>613.285   |
| Soggetti                | Trace elements in nutrition<br>Trace elements in the body  |
| Lingua di pubblicazione | Inglese  |
| Formato                 | Materiale a stampa   |
| Livello bibliografico   | Monografia   |
| Note generali           | Description based upon print version of record.  |
| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Contents; 3.6 Zinc homeostasis; Preface; 1 Introduction; 1.1 The role of metals in life processes -a belated recognition; 1.1.1 Bioinorganic chemistry; 1.1.2 A brief review of the metals; 1.1.2.1 What are the metals?; 1.1.2.2 Chemical properties of the metals; 1.1.2.3 Representative and transition metals; 1.1.2.4 The biological functions of trace metals; 1.2 The metal content of living systems; 1.2.1 Metals in human tissue; 1.2.2 Essential and non-essential elements; 1.2.3 The essentiality of trace metals; 1.3 Metals in food and diets; 1.3.1 Variations in metal concentrations in foods<br>1.3.1.1 Chemical forms of metals in food<br>1.3.1.2 Determination of levels of trace metals in foods; 1.3.3 How do metals get into foods?; 1.3.3.1 Metals in soils; 1.3.3.2 Soil as a source of trace metals in plants and in human diets; 1.3.3.3 Effects of agricultural practices on soil metal content; 1.3.3.4 Uptake of trace metals by plants from soil; 1.3.3.5 Accumulator plants; 1.3.4 Non-plant sources of trace metal nutrients in foods; 1.3.5 Adventitious sources of trace metals in foods; 1.3.6 Food fortification; 1.3.7 Dietary supplements; 1.3.8 Bioavailability of trace |

metal nutrients in foods

1.3.9 Estimating dietary intakes of trace metals  
1.3.9.1 A hierarchical approach to estimating intakes; 1.3.9.2 Other methods for assessing intakes; 1.3.10 Recommended allowances, intakes and dietary reference values; 1.3.10.1 The US RDAs of 1941; 1.3.10.2 Estimated Safe and Adequate Daily Dietary Intakes; 1.3.11 Modernising the RDAs; 1.3.11.1 The US Dietary Reference Intakes for the twenty-first century; 1.3.11.2 The UK's Dietary Reference Values; 1.3.11.3 Australian and New Zealand Nutrient Reference Values; 1.3.11.4 Other nutrient intake recommendations; 2 Iron; 2.1 Introduction  
2.2 Iron chemistry  
2.3 Iron in the body; 2.3.1 Haemoglobin; 2.3.2 Myoglobin; 2.3.3 Cytochromes; 2.3.3.1 Cytochrome P-450 enzymes; 2.3.4 Iron-sulphur proteins; 2.3.5 Other iron enzymes; 2.3.6 Iron-transporting proteins; 2.3.6.1 Transferrin; 2.3.6.2 Lactoferrin; 2.3.6.3 Ferritin; 2.3.6.4 Haemosiderin; 2.4 Iron absorption; 2.4.1 The luminal phase of iron absorption; 2.4.1.1 Inhibitors of iron absorption; 2.4.1.2 Effect of tannin in tea on iron absorption; 2.4.1.3 Dietary factors that enhance iron absorption; 2.4.1.4 Non-dietary factors that affect iron absorption  
2.4.2 Uptake of iron by the mucosal cell  
2.4.3 Handling of iron within the intestinal enterocyte; 2.4.4 Export of iron from the mucosal cells; 2.4.5 Regulation of iron absorption and transport; 2.5 Transport of iron in plasma; 2.5.1 Iron turnover in plasma; 2.6 Iron losses; 2.7 Iron status; 2.7.1 Methods for assessing iron status; 2.7.1.1 Measuring body iron stores; 2.7.1.2 Measuring functional iron; 2.7.2 Haemoglobin measurement; 2.7.3 Iron deficiency; 2.7.4 Iron deficiency anaemia (IDA); 2.7.4.1 Consequences of IDA; 2.7.4.2 Anaemia of chronic disease (ACD); 2.7.5 Iron overload  
2.7.5.1 Haemochromatosis

---

## Sommario/riassunto

The Nutritional Trace Metals covers the roles played by trace metals in human metabolism, a relatively neglected area of human metabolism and nutrition. The book focuses its attention on the vital roles played by the relatively small number of trace metal nutrients as components of a wide range of functional proteins. Its structure and content are largely based on the approach adopted by the author, Professor Conor Reilly, during more than 30 years of teaching nutrition to a wide range of undergraduate and postgraduate students. The introductory chapter covers the roles of metals in life

---