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Titolo	Chemistry and Biochemistry of Oxygen Therapeutics [[electronic resource] ] : From Transfusion to Artificial Blood
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Descrizione fisica	1 online resource (476 p.)
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Altri autori (Persone)	BettatiStefano
Disciplina	615.8/36 615.836
Soggetti	Hemoglobins - therapeutic use Hemoglobins -- therapeutic use Nitric oxide - Physiological effect Nitric oxide -- Physiological effect Oxigen - Physiological effect Oxigen -- Physiological effect Oxygen - blood Oxygen -- blood Oxygen Consumption Oxygen Inhalation Therapy - methods Oxygen Inhalation Therapy -- methods Oxygen therapy SCIENCE / Life Sciences / Biochemistry Oxygen therapy - Physiological effect Oxygen - Physiological effect Nitric oxide Metabolic Phenomena Respiratory Therapy Investigative Techniques Body Fluids Globins Chalcogens Blood Proteins Gases Therapeutics Fluids and Secretions

Elements  
Hemeproteins  
Inorganic Chemicals  
Proteins  
Amino Acids, Peptides, and Proteins  
Anatomy  
Oxygen  
Blood  
Hemoglobins  
Methods  
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Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di contenuto	<p>Chemistry and Biochemistry of Oxygen Therapeutics; Contents; List of Contributors; Preface; 1. Introduction; References; Part I. Oxygen: Chemistry, Biochemistry, Physiology and Toxicity; 2. Hemoglobin Reactivity and Regulation; 2.1 Introduction; 2.2 Oxygen Loading and Transport; 2.3 NO Reactivity with Hb; 2.4 Hb Oxidation; 2.5 Nitrite Reactivity with Hb; 2.6 Amino-acid Determinants of Hb Reactivity: Natural and Engineered Hbs; 2.6.1 Modulation of Oxygen Affinity and Cooperativity; 2.6.2 NO Reactivity and Oxidation; 2.7 Conclusion; Acknowledgments; References</p> <p>3. The Major Physiological Control Mechanisms of Blood Flow and Oxygen Delivery3.1 Introduction; 3.2 Autoregulation of Blood Flow to Changes in Perfusion Pressure; 3.3 Metabolic Regulation of Blood Flow; 3.4 O<sub>2</sub> Transport; 3.5 O<sub>2</sub> Delivery; 3.6 Endothelial Control of Vasomotor Tone; 3.7 Effect of Cell-free Hb on Endothelial Function; 3.8 Hypoxic Hypoxia; 3.9 Carbon Monoxide Hypoxia; 3.10 Anemia; 3.11 Conclusion; References; 4. The Main Players: Hemoglobin and Myoglobin; Nitric Oxide and Oxygen; 4.1 Introduction; 4.2 Role of Mammalian Mb in O<sub>2</sub> Homeostasis</p> <p>4.3 WhatLfs Missing in the Mb Knockout Mouse4.4 Evolutionary Origins of Mb and the Nitrogen Cycle; 4.5 Human Hb: Evolved Sensor of pO<sub>2</sub> and Redox; 4.6 Broad Reactivity and Influence of NO: Lessons from the Microcosm Hb; 4.7 Some Fish Demonstrate a Fundamental "Need" for Hb-dependent NO Cycling, as in Humans; 4.8 Reactions of NO with Hb that Preserve NO Bioactivity; 4.9 Mammalian RBC/Hb.NO Interactions; 4.10 A Mutant Mouse Challenges the SNO-Hb Hypothesis, but does not Overthrow it; 4.11 Signaling by Hb-derived SNO: A Metabolically Responsive, Regulated Pathway</p> <p>4.12 Signaling by Hb-derived SNO: Pathway Complexity Revealed by Multiple Defects in Disease States4.13 Therapeutic Implications of the Hb.NO Signaling System; 4.14 HBOCs, NO, and SNO; 4.15 Other Gaseous Hb Ligands of Potential Therapeutic Significance; 4.16 NO-related Enzymatic Activities of Hb: Reconciling Nitrite Reductase and SNO Synthase Functions; 4.17 Measuring Biologically Relevant Hb.NO</p>

Adducts; 4.18 Conclusion; Acknowledgments; References; 5. The Role of Reactive Oxygen and Nitrogen Species in Ischemia/Reperfusion Injury; 5.1 Introduction  
5.2 Redox System and Free Radicals in Biological Systems5.3 Pathophysiology of Ischemia/Reperfusion Injury; 5.3.1 Cell Death; 5.3.2 The Inflammatory Response; 5.4 Protection Against I/R Injury; 5.4.1 Ischemic Pre- and Post-conditioning; 5.4.2 Pharmacological Conditioning; 5.4.2.1 The Protective Role of ROS and Antioxidants; 5.4.2.2 The Protective Role of NO; 5.4.2.3 NO-based Therapies for I/R Injury; 5.5 Conclusion; Acknowledgments; References; Part II. Medical Needs for Oxygen Supply; 6. Acute Traumatic Hemorrhage and Anemia; 6.1 Introduction; 6.2 Blood Transfusion in Trauma  
6.2.1 Massive Transfusion

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## Sommario/riassunto

Human blood performs many important functions including defence against disease and transport of biomolecules, but perhaps the most important is to carry oxygen - the fundamental biochemical fuel - and other blood gases around the cardiovascular system. Traditional therapies for the impairment of this function, or the rapid replacement of lost blood, have centred around blood transfusions. However scientists are developing chemicals (oxygen therapeutics, or "blood substitutes") which have the same oxygen-carrying capability as blood and can be used as replacements for blood transfusion or to t

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2. Record Nr.	UNISALENTO991002704309707536
Autore	Villari, Luigi Antonio
Titolo	I tempi, la vita, i costumi, gli amici le prose e poesie scelte di Francesco Saverio Arabia : studio sulla Napoli letteraria dal 1820 al 1860 / Luigi Antonio Villari
Pubbl/distr/stampa	Firenze : Successori Le Monnier, 1903
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