

1. Record Nr.	UNINA9910482984603321
Titolo	Oxygen Transport to Tissue XLII // edited by Edwin M. Nemoto, Eileen M. Harrison, Sally C. Pias, Denis E. Bragin, David K. Harrison, Joseph C. LaManna
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2021
ISBN	3-030-48238-3
Edizione	[1st ed. 2021.]
Descrizione fisica	1 online resource (XVI, 412 p. 166 illus., 95 illus. in color.)
Collana	Advances in Experimental Medicine and Biology, , 2214-8019 ; ; 1269
Disciplina	572.47
Soggetti	Medicine - Research Biology - Research Oxygen Biomedical Research Oxigen en l'organisme Teixits (Histologia) Fisiologia humana Congressos. Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I. Oxygen Metabolism and Health Monitoring -- Chronic Ketosis Modulates HIF1 Mediated Inflammatory Response in Rat Brain -- Event Related NIRS and EEG Analysis for Mental Stress Monitoring -- Simulation Study of Breast Cancer Lipid Changes Affecting Membrane Oxygen Permeability -- Updated Evaluation of Cholesterol's Influence of Oxygen Permeability -- Systems biology model of cerebral oxygen delivery and metabolism during therapeutic hypothermia: application to the piglet model -- Effect of Adrenaline on Cerebral Blood Oxygenation Measured by NIRS in a Rat Asphyxia Cardiac Arrest Model -- Two consecutive invasive surgeries utilizing Zymogen Protein C (ZPC) that enhanced patient safety and reduced costs -- Scanning Tissue-Oxygen Needle-Probe -- Transcranial photobiomodulation of clearance of beta-amyloid from the mouse brain: the effects on meningeal

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Oxygen-sensing Paramagnetic Probes for Clinical Oximetry -- Evaluation of the Quality of Chest Compression with Oxy-hemoglobin Level by Near-infrared Spectroscopy in a Rat Asphyxia Cardiac Arrest Model -- Altered Behavioural Performance in the Neuron-specific HIF-1 and HIF-2 deficient mice following Chronic Hypoxic Exposure -- Effect of Adrenaline on Cerebral Blood Oxygenation Measured by NIRS in a Rat Asphyxia Cardiac Arrest Model -- Addition of Drag Reducing Polymers to Colloid Resuscitation Fluid Enhances Cerebral Microcirculation and Tissue Oxygenation after Traumatic Brain Injury Complicated by Hemorrhagic Shock -- Effects of 20-minute intensive exercise on subjects with different working memory bases -- Supine cycling exercise enhances cerebral oxygenation of motor-related areas in healthy male volunteers -- Keynote Lecture - What is the Meaning of an Oxygen Measurement? Analysis of methods purporting to measure oxygen in targeted tissues -- Part IV. Brain Oxygenation and Function -- Assessment of Cerebral Blood Oxygenation by Near-Infrared Spectroscopy before and after Resuscitation in A Rat Asphyxia Cardiac Arrest Model -- Effect of 3-Day and 21-Day Hypoxic Preconditioning on Recovery following Cerebral Ischemia in Rats -- Time Series Tracking of Cerebral Microvascular Adaptation to Hypoxia and Hyperoxia Imaged with Repeated in vivo Two-Photon Microscopy -- Environmental Enrichment Improved Cognitive Performance in Mice under Normoxia and Hypoxia -- Effect of Prolonged Pressure on Hemodynamics of Sacral Tissues Assessed by Diffuse Optical Imaging: A Pilot Study -- In-phantom Validation of Time-Domain Near-Infrared Optical Tomograph Pioneer for Imaging Brain Hypoxia and Hemorrhage -- Online Non-invasive Assessment of Human Brain Death by Near-infrared Spectroscopy with Protocol of O₂ Inspiration -- Not removing the glossy white cover from adhesive INVOS neonatal sensors affects the oxygenation measurement -- Probe design optimization for time-domain NIROT 'Pioneer' system for imaging the oxygenation of the preterm brain -- Effect of blood flow on hemoglobin and myoglobin oxygenation in contracting muscle using near infrared spectroscopy -- Magnetoresistance Properties of Red Blood Cells in Plasma Combined with Several Magnetic Beads Passing Two Cu Electrodes -- Measurement of Tissue Oxygen as a Novel Approach to Optimizing Red Blood Cell Quality Assessment -- Prox-1 and Hif-1a Genes Expression of Primo Vessel in Rabbit's Lymphatic Vessel -- On the Feasibility of Pulse Wave Velocity Imaging for Remote Assessment of Physiological Functions -- Index.

Sommario/riassunto

This book presents cutting-edge papers and perspectives on the transport of oxygen to tissues by scientists in a multitude of disciplines such as biochemistry, engineering, mathematics, medicine, physics, physiology, veterinary and complementary medicine. The book is composed of the following 6 parts: Brain Oxygenation and Function, Tumor Oxygenation and Metabolism, Muscle Oxygenation and Sports Medicine, Cell Metabolism and Tissue Oxygenation, Methodology of O₂ Measurements, and Special Topics. The articles in this book have been presented at the 42nd annual meeting of the International Society on Oxygen Transport to Tissue (ISOTT 2019) held in Albuquerque, New Mexico, USA, from July 28 to July 31, 2019. Academics, clinical and industry researchers, engineers, as well as graduate students who are interested in oxygen transport to tissue will find this book a great reference and a useful learning resource. The chapters "Near-Infrared Spectroscopy Measured Cerebral Blood Flow from Spontaneous Oxygenation Changes in Neonatal Brain Injury", "Developing a Model to Simulate the Effect of Hypothermia on Cerebral Blood Flow and Metabolism" and "Broadband NIRS Cerebral Evaluation of the

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