This definitive volume will provide the reader with up to date information and the most recent science of the fast-evolving area of nanobiotherapeutic-based blood substitutes. Long studied, there are recent updates that make their use in patients more promising, and with one product approved for human use, many more in the pipeline. These include 2nd generations and even third generation ones, the later with enhancement of red blood cell functions. In addition, there are carefully written and referenced updates on the recent history and products in the field, complete with pathophysiologic and pharmacologic studies to validate and verify the efficacy and safety of many of these new products.

**Readership**

Highly interdisciplinary area of interest to: (1) Researchers in blood substitutes, oxygen carriers, carbon dioxide transport, antioxidants, nanobiotechnology, Nanomedicine; (2) Clinicians from Cardiology, Critical Care, Anesthesiology, Surgery, Immunology, Hematology, Transfusion Pediatrics, Trauma, Blood Bankers, Emergency Medicine, Toxicology, Nurses; (3) Administrators and decision makers especially those in Hospital, Government health department, University, Heads of Biomedical departments, Blood Bank.
Contents

- Unlimited Potential of Nanobiotechnology Based Blood Substitutes, Artificial Cells and Nanobiotherapeutics (TMS Chang)
- General:
  - Development and Future of Chinese Transfusion Medicine and Blood Substitutes (J Liu and C Yang)
  - The Clinical Impact of Red Blood Cell Storage: What have the RCTs Told Us? (CP Stowell)
  - Rational, Evidence-Based Transfusion: A Physiologist’s Perspective (GP Biro)
- Hemoglobin-based Oxygen Carriers, Volume Expansion, Fluid Management and Anemia (TN Estep)
- Hemoglobin-Based Oxygen Carriers:
  - Biotechnology-based Oxygen Carriers (TMS Chang)
  - Immune Safety Evaluation of Polymerized Porcine Hemoglobin (pPolyHb) — Potential Red Blood Cell Substitutes (H Zhu, K Yan, X Dang, H Huang, E Chen, B Chen, Chen Luo, TMS Chang, P Dai and C Chen)
  - Hemoglobin-Based Oxygen Carriers and Inhaled Nitric Oxide (B Yu and WM Zapol)
  - Hemoglobin-Based Oxygen Carriers and Myocardial Infarction: Assessment of Potential Mechanisms (TN Estep)
  - Insights into the Possible Mechanisms of Hemoglobin-based Oxygen Carrier-Mediated Bradycardia and Adverse Cardiac Effects Observed in Clinical Trials (HW Kim)
  - Modulation of Oxygen Affinity in Hemoglobin-based Oxygen Carriers (EAM Alomari, L Ronda, S Bettati, A Mozzarella and S Bruno)
  - Cysteine Mutations in Recombinant Fetal Hemoglobin Influence Oxidative Side-Reactions (K Kettisen and L Bließlich)
  - Analysis of Dimeric AB Subunit Exchange between Bis-PEGylated and Native Hemoglobin (T Matsuhira, K Yamamoto and H Sakai)
  - Ring-Opening Polymerization of Hemoglobin Based on Supramolecular Chemistry (T Matsuhira, K Yamamoto and H Sakai)

- Hemoglobin-Based Oxygen Carriers with Antioxidant Activities:
  - Unraveling of Hemoglobin Oxidative Toxicity: Thirty Years of Investigation (AI Aloyash)
  - A Nanobiotechnologic Therapeutic that Transport Oxygen and Removes Oxygen Radicals (TMS Chang)
  - Effects of Crosslinked Polyhemoglobin-superoxide Dismutase-Catalase on Blood-Brain Barrier and Brain Edema in a Hemorrhagic Shock Transient Global Ischemia Rat Model (DD Powanda and TMS Chang)
  - Strategies to Decrease the Oxidative Toxicity of Hemoglobin-Based Oxygen Carriers (L Zhao)
  - Enhancing the Stability of Lumbricus terrestris Erythrocytornin (Ltc) for Use as a Blood Substitute (B Timm and J Elmer)
  - Dual Antioxidant and Pro-Oxidation Effects of Ascorbic Acid on Bovine Hemoglobin (G Chan and TMS Chang)

- Hemoglobin-Based Oxygen Carriers with Enhancement in Both Antioxidant Functions and Carbon Dioxide Transport:
  - Soluble Nanobiotherapeutics with Enhancements of All Three Major Red Blood Cell Functions (TMS Chang)
  - A Novel Nanobiotherapeutic Poly-(Hemoglobin-Superoxide Dismutase-Catalase-Carbonic Anhydrase) with No Cardiac Toxicity for the Resuscitation of a 90-minute Sustained Severe Hemorrhagic Shock Rat Model with Two-third Blood Volume Loss (Y Bian and TMS Chang)
  - Long Term Safety and Immunological Effects of a Nanobiotherapeutic, Bovine Poly-(Hemoglobin-Catalase-Superoxide Dismutase-Carbonic Anhydrase). After Four Weekly 5% Blood Volume Toploading Followed by a Challenge of 30% Exchange Transfusion (G Chen and TMS Chang)
  - Extraction of Superoxide Dismutase, Catalase and Carbonic Anhydrase from Stroma-free Red Blood Cell Hemolsate for the Preparation of the Nanobiotechnological Complex of PolyHemoglobin-superoxide Dismutase-Catalase-Carbonic anhydrase (C Guo, M Gynn and TMS Chang)
  - Temperature Stability of Poly-(hemoglobin-superoxide Dismutase-Catalase-Carbonic anhydrase) in the Form of a Solution or In the Lypophilized Form During Storage at -80°C, 4°C, 25°C and 37°C or Pasteurization at 70°C (Y Bian, C Guo and TMS Chang)

- Biodegradable and Lipid Membrane Nanoencapsulated Nano-Artificial Cells:
  - Nanotechnology-based Complete Artificial Red Blood Cells (TMS Chang)
  - Analysis of Polyethylene-Glycol-Polylactide Nano-Dimensional Artificial Red Blood Cells in Maintaining Systemic Hemoglobin Levels and Prevention of Methemoglobin Formation (TMS Chang, DD Powanda D and WP Yu)
  - Effects of PEG-PLA-Nano Artificial Cells Containing Hemoglobin on Kidney Function and Renal Histology in Rats (ZC Liu and TMS Chang)
  - Long Term Effects on the Histology and Function of Livers And Spleens in Rats after 33% Toploading of PEG-PLA Nano-Artificial Red Blood Cells (ZC Liu and TMS Chang)
  - Polyacrylate-Polylethylene Membrane Nanoencapsulated Polyhemoglobin-superoxide Dismutase-Catalase-Carbonic anhydrase, Nano-Artificial Red Blood Cells that Act as O2 and CO2 Carriers with Enhanced Antioxidant Activity (W Gao, Y Bian and TMS Chang)
  - Possibility of Pre-Hospital Resuscitation using Hemoglobin Vesicles for Trauma Hemorrhagic Shock with Coagulopathy — Our Resuscitation Strategy (M Kinoshita and K Hagiwara)
  - Translational Research of Hemoglobin Vesicles (Artificial Red Cells) for a Transfusion Alternative and O2/CO Therapeutics (H Sakai, H Azuma, H Horinouchi and K Kobayashi)
  - Hemoglobin Vesicles as a Transfusion Alternative for Perioperative Hemorrhage in Thoracic Surgery (M Kohno, R Hashimoto, H Onozawa, K Oiwa, H Horinouchi, H Sakai, K Kobayashi and M Iwazaki)
  - Prevention of Methemoglobin Formation in Artificial Red Cells (Hemoglobin-Vesicles) (H Sakai and M Yamada)

- Carbon Monoxide-Bound Hemoglobin-Vesicles: Current Facts and Potential Medical Applications (K Taguchi, K Matsuzomo, H Sakai, T Maryama and M Otagiri)
- Influence of Hemoglobin Vesicles on Immune Function (H Azuma, M Fujihara and H Sakai)

- Cells, Tissues and Organs Preservation:
  - Development of a New HBOC for Liver Allograft Preservation in Combination with Machine Perfusion — Clearing the Wait List (KD Vandegriff, A Malavalli and WR Light)
  - OxYVitat HB: A Step Forward in Delivering Oxygen Carrying Capacity for Therapeutic Applications (H Wollock, J Harrington, JS Javer, K Steier and J Wollock)
  - Functionality of Albumin-Derived Perfluorocarbon-Based Artificial Oxygen Carriers in the Langendorff Heart (KB Ferenz and M Kirsch)
  - Nanobiotherapeutics as Preservation Fluids for Organs and Cells (TMS Chang, W Jiang, F D’Agnillo and S Razack)

- Platelet:
  - Polyhemoglobin-Fibrinogen: A Novel Oxygen Carrier with Platelet-like Properties in a Hemodilution Setting (NSW Wong and TMS Chang)
  - Megakaryocytes and Platelets from Novel Human Adipose Tissue-Derived Mesenchymal Stem Cells: Development of Cell-based Regenerative Medicine (Y Ono-Uruga, K Tazawa, Y Ikeda and Y Matsubara)

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