Record Nr. UNINA990007943690403321 Autore Mendo, Susana Titolo Vamos / Susana Mendo Roma: Clitt, ©2000 Pubbl/distr/stampa **ISBN** 88-8788-02-07 Descrizione fisica 240 p.: fig.; 27 cm 465 Disciplina Locazione **BFS** Collocazione 465 MEN 1 Lingua di pubblicazione Spagnolo **Formato** Materiale a stampa Livello bibliografico Monografia 2. Record Nr. UNINA9911015970603321 **Autore** Hussain Zahid **Titolo** Cell Membrane Engineering for Advancing Cell-Based and Nanotechnology-Based Therapies / / edited by Zahid Hussain, Renjun Pei Pubbl/distr/stampa Cham:,: Springer Nature Switzerland:,: Imprint: Springer,, 2025 **ISBN** 3-031-93425-3 Edizione [1st ed. 2025.] Descrizione fisica 1 online resource (664 pages) Collana Biomaterials, Bioengineering and Sustainability, , 2731-7528; ; 6 Altri autori (Persone) PeiRenjun Disciplina 620.19 Soggetti Biomaterials Cells Biomedical engineering Membranes (Biology) Nanotechnology

Medicine - Research Biology - Research Biomaterials-Cells

Biomedical Engineering and Bioengineering

**Biological Membranes Biomedical Materials** Biomedical Research

Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

## Nota di contenuto

-- Biological Membrane Engineering for Unlocking Therapeutic Potential of Membrane-Based Platforms. -- Engineering Cell Membrane-Derived Nanovesicles for Advanced Biomedical Applications. -- Engineered Bacterial Membrane Vesicles for Advanced Biomedical Applications. -- Hybrid Cell Membrane Engineered Platform for Theranostic Application. -- Functional Biomaterials used for Cell Membrane Engineering and their Functional Aspects. -- Genetically Mediated Cell Membrane Engineering Strategies and Their Scope in Biomedical Applications. -- Biomaterial-Based Cell Membrane Engineering Strategies and Their Scope in Biomedical Applications. --Harnessing Cell Surface Engineering for Tissue Engineering and Regenerative Medicine. -- Harnessing Biomaterial-Mediated Single-Cell Nanoencapsulation for Enhanced Cellular Therapies. --Harnessing Engineered Probiotics for Gastrointestinal Diseases Therapy. -- Cell Membrane Engineering for Advancing Cancer Immunotherapy. -- Cellular Membrane Engineering Platform for Capturing and Neutralizing Circulating Tumor Cells. -- Engineered Mammalian Cell and Bacterial Membrane-Based Nanovaccines and Nanoplatforms for Cancer Therapy and Infectious Disease . -- Cell Membrane Engineering for Advancing Precision Drug Delivery for Cancer Therapy. -- Cell Membrane Engineering for Advancing Drug Delivery Against Infectious Diseases. -- Cell Membrane Engineering for Advanced Drug Delivery Against Neurodegenerative and Inflammatory Diseases.

## Sommario/riassunto

The battle against complex diseases and tissue defects drives innovation in treatment and medical research. The cell membrane plays a fundamental role in biological processes and serves as a promising platform for diagnostic and therapeutic advancements due to its diverse receptors and ligands. Recent advances in bioengineering, synthetic biology, and biomimetic nanotechnology have enabled the development of engineered cell membrane-based platforms, including surface-engineered cells, extracellular vesicles, bacterial membrane vesicles, membrane-coated nanoparticles, and hybrid nanomaterials, offering improved therapeutic and diagnostic potential over their natural counterparts. This book provides a comprehensive exploration of essential cell surfaceome components, detailing state-of-the-art surface engineering strategies and advancements in engineered cells and membrane-based therapeutic nanoplatforms. It examines the transformative applications of these platforms in immune engineering, gastrointestinal disease management, cancer therapy, tissue engineering, circulating tumor cell capture, theranostics, and the treatment of neurodegenerative, inflammatory, and infectious diseases. Significant topics, many at the forefront of scientific research, are examined in depth, allowing academics, clinicians, and biomedical researchers to understand the latest advancements in cell membrane engineering and address unmet clinical needs. Furthermore, this interdisciplinary book is highly relevant to modern healthcare and provides instructional content for graduate students in chemical biology, pharmacology, biomaterials science, biomedical engineering, immune engineering, nanobiotechnology, regenerative medicine, and translational medicine. This book brings together pioneering research

to inspire a broad scientific audience and drive innovation in disease monitoring, precision treatment, and biomedical applications.