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Nota di contenuto	Extracellular fine fiber-induced carcinogenesis and its prevention -- Toward Digital Bioanalysis of Extracellular Vesicles -- Mechanisms of asymmetrical exosome release from polarized epithelial cells: implications for the molecular basis of exosomal heterogeneity -- Control of the particle trafficking and dynamics of the lymphatic system and of the cellular microenvironment -- Elucidation of the mechanisms that regulate the quantity and quality of exosomes un cancer -- Membrane dynamics of exosomes as revealed by sin-gle-molecule imaging -- Glycan remodeling by small extracellular vesicles -- Analysis of immune responses induced by inhaled fine particulates -- Harnessing DNA and Energy Cargo: Unveiling the Active Biogenesis and Applications of Bacterial Extracellular Vesicles -- Macropinocytosis and the related actin-driven cellular uptake pathways for extracellular fine

	particles -- Relationship between bio-distribution of environmental particles and induction of biological and immune response in the respiratory system -- Direct observation of biological fine particles in water by scanning electron assisted dielectric microscopy -- Pathways to repair or remove lysosomes damaged by extracellular fine particles -- Neurodegenerative disorder and fine particulate matter -- Extracellular vesicle isolation and analysis using nanowires -- Particulars of Oral Cavity -- High dimensional cytometry for studying heterogeneous small particles -- Magnetic nanoparticles for diagnostics and therapy -- Engineered and artificial exosomes for non-viral drug delivery nanocarriers.
Sommario/riassunto	This open access book elucidates new biological phenomena caused by extracellular fine particles and highlights the development of base technologies for their control. In this book, the latest knowledge is collected on the principles of extracellular fine particles recognition, action, and biological responses. In addition, the base technologies for their detection, separation, measurement, and analysis are discussed. It also presents the treatment of endogenous and exogenous fine particles and analytical methods as well as functions of extracellular fine particles. This book is useful for undergraduate and graduate students engaged in research on extracellular fine particles, academic and corporate researchers, as well as national think tanks and national policy makers to understand the basics and applications of extracellular microparticles.