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Nota di contenuto	Preface -- Prominin-1 (CD133): Molecular and Cellular Features Across Species -- Prominin-2 and Other Relatives of CD133 -- Prominin-1-containing Membrane Vesicles: Origins, Formation and Utility -- Prominent Role of Prominin in the Retina -- Gene Regulation of Prominin-1 (CD133) in Normal and Cancerous Tissues -- Prominin-1 (CD133) and the Cell Biology of Neural Progenitors and Their Progeny -- CD133-Positive Hematopoietic Stem Cells: From Biology to Medicine -- New Insights into the Renal Progenitor Cells and Kidney Diseases by Studying CD133 -- CD133 Expression Strongly Correlates with the Phenotype of Very Small Embryonic/Epiblast-like Stem Cells -- New Insights into the CD133 (Prominin-1) Expression in Mouse and Human Colon Cancer Cells -- Prominin-1 (CD133) Expression in the Prostate and Prostate Cancer: A Marker for Quiescent Stem Cells -- Prominin-1 (CD133) Reveals New Faces of Pancreatic Progenitor Cells and Cancer Stem Cells: Current Knowledge and Therapeutic Perspectives -- Prominin-1 (CD133) and Metastatic Melanoma: Current Knowledge and Therapeutic Perspectives -- CD133-Positive Cells for Cardiac Stem Cell Therapy: Current Status and Outlook -- CD133+ Cells for the Treatment of Degenerative Diseases: Update and Perspectives -- Index.

Sommario/riassunto

Since its first description fifteen years ago as a novel antigen of neural and hematopoietic stem cells, prominin-1 (alias CD133) has emerged concomitantly with stem and cancer stem cell research as an essential cell surface marker allowing identification and isolation of cells with stem cell properties. Although the physiological function of prominin-1 and the other members of prominin family remains elusive, its study has revealed new biological features regarding stem cells, cancer stem cells and photoreceptors. The latter cell type is illustrated by the association of mutations in prominin-1 (PROM1) gene with retinal degenerations including Stargardt-like macular dystrophy and retinitis pigmentosa. This book discusses these issues with contributions from leading experts in molecular and cellular biology, stem cells and tissue engineering. It also covers the potential role of prominin-1-positive stem cells in regenerative medicine, and its use as a biomarker of cancers originating from various organ systems and/or molecular target in cancer stem cell therapy. This book is an essential concise guide to the latest discoveries on prominin-1 and the applications in various medical research fields such as stem and cancer stem cells. Denis Corbeil holds a PhD in Biochemistry (University of Montreal, Canada). He is head of Tissue Engineering Laboratories, Biotechnological Centre (BIOTEC), Technische Universität Dresden, Dresden, Germany.
