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Nota di contenuto	Use and perspectives of animal cell culture / Roland Wagner, Hansjorg Hauser -- Generation of cell lines and biotechnological applications / Christoph Lipps, Tobias May, Dagmar Wirth -- Cho history, cho evolution and cho genomics : an unsolvable enigma? / Florian Wurm -- Cell lines for vaccine production / Ingo Jordan, Volker Sandig -- Molecular cytogenetics characterization / Roderick A.F. MacLeod, Hans G. Drexler -- Cross-contamination and microbiological contaminations / Wilhelm G. Dirks, Cord C. Uphoff -- Cell line evolution and engineering / Hitto Kaufmann -- Gene amplification and chromosomes / Takeshi Omasa, Kyoungho Lee -- Synthetic mammalian designer cells / David Auslander, Martin Fussenegger -- Rational approaches for transgene expression : targeted integration and episomal maintenance / Natascha Kruse, Shawal Spencer, Dagmar Wirth -- Manipulation of cell growth, metabolism and product quality attributes / Hans Henning von Horsten, Karsten Winkler, Volker Sandig -- Control of biotherapeutics glycosylation / Sandra V. Bennun, Kelley M. Heffner, Emily Blake, Andrew Chung, Michael J. Betenbaugh -- Manufacturing of complex protein products / Lore Florin, Søren K. Rasmussen, Torben P. Frandsen, Anne B. Tolstrup -- Physiology and metabolism of animal cells for production / Venkata Tayi, Michael Butler -- Functional omics for cell lines and processes / Karina Brinkrolf, Raimund Hoffrogge,

Matthias Hackl, Andreas Tauch, Martina Baumann, Thomas Noll, Alexander Goesmann, Alfred Puhler, Nicole Borth -- Nutrient media for cell culture technology / Claudia Altamirano, Julio Berrios, Mauricio Vergara -- Bioreactors for animal cell culture / Detlef Eisenkraetzer -- High cell density cultivation processes / Natalia Ceaglio, Mariela Bollati-Fogolin, Marcos Oggero, Marina Etcheverrigaray, Ricardo B. Kratje -- Industrial cell culture process scale-up strategies and considerations / Weiwei Hu, Kelly Wiltberger -- Extraction and purification of biologics from cell culture / Nuno Fontes, Jens Vogel -- Concepts and technologies for advanced process monitoring and control / John Paul Smelko, Thomas Ryll, Dethardt Muller -- Analytical techniques and quality control of protein therapeutics / Amy Hong Que, Yang Wang, Steven Ziyi Kan -- Process characterization for upstream and downstream development / Vijay Janakiraman, Matt Westoby, Lin Conley -- Spatiotemporally controlled delivery of biopharmaceuticals / Balder Rebmann, Peter van Hoogevest, Matias Zurbriggen, Wilfried Weber.

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Sommario/riassunto

This book introduces fundamental principles and practical application of techniques used in the scalable production of biopharmaceuticals with animal cell cultures. A broad spectrum of subjects relevant to biologics production and manufacturing are reviewed, including the generation of robust cell lines, a survey of functional genomics for a better understanding of cell lines and processes, as well as advances in regulatory compliant upstream and downstream development. The book is an essential reference for all those interested in translational animal cell-based pharmaceutical biotechnology.

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