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| Nota di contenuto | Preface -- 1 Cell line development -- 2 Transient recombinant protein expression in mammalian cells -- 3 Hybridoma technology for the in vitro production of therapeutic antibodies -- 4 Bioreactors for mammalian cells -- 5 Mass Transfer and Mixing Across the Scales in Animal Cell Culture -- 6 Hydrodynamic Damage to Animal Cells -- 7 Monitoring of cell culture -- 8 Serum and protein free media -- 9 Glycosylation in Cell Culture -- 10 Modelling of mammalian cell cultures -- 11 Mammalian Cell Line Selection Strategies for High-Producers -- 12 Building a Cell Culture Process with Stable Foundations: Searching for Certainty in an Uncertain World -- 13 Perfusion Processes -- 14 Single-use bioreactors for animal and human cells -- 15 An Overview of Cell Culture Engineering for the Insect Cell-Baculovirus Expression Vector System (BEVS) -- 16 Metabolic flux analysis: a powerful tool in animal cell culture -- 17 Cell |

immobilization for the production of viral vaccines -- 18 Cell Engineering for Therapeutic Protein Production -- 19 Proteomics in Cell Culture: From genomics to combined ‘omics for cell line engineering and bioprocess development -- 20 Metabolomics in animal cell culture -- 21 Process Analytical Technology and Quality-by-Design for Animal Cell Culture -- 22 Biosafety recommendations on the handling of animal cell cultures -- 23 Biopharmaceutical products from animal cell culture -- Index.

Sommario/riassunto

Animal cells are the preferred “cell factories” for the production of complex molecules and antibodies for use as prophylactics, therapeutics or diagnostics. Animal cells are required for the correct post-translational processing (including glycosylation) of biopharmaceutical protein products. They are used for the production of viral vectors for gene therapy. Major targets for this therapy include cancer, HIV, arthritis, cardiovascular and CNS diseases and cystic fibrosis. Animal cells are used as in vitro substrates in pharmacological and toxicological studies. This book is designed to serve as a comprehensive review of animal cell culture, covering the current status of both research and applications. For the student or R&D scientist or new researcher the protocols are central to the performance of cell culture work, yet a broad understanding is essential for translation of laboratory findings into the industrial production. Within the broad scope of the book, each topic is reviewed authoritatively by experts in the field to produce state-of-the-art collection of current research. A major reference volume on cell culture research and how it impacts on production of biopharmaceutical proteins worldwide, the book is essential reading for everyone working in cell culture and is a recommended volume for all biotechnology libraries.