1. Record Nr. UNINA9910138970203321

Titolo	Therapeutic Fc-fusion proteins / / edited by Steven M. Chamow [and three others]
Pubbl/distr/stampa	Weinheim : , : Wiley-VCH Verlag GmbH, , [2014] ©2014
ISBN	3-527-67527-2 3-527-67528-0 3-527-67529-9
Descrizione fisica	1 online resource (400 p.)
Altri autori (Persone)	ChamowSteven Mark
Disciplina	613.5
Soggetti	Proteins - Therapeutic use Protein drugs
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Therapeutic Fc-Fusion Proteins; Contents; Preface; List of Contributors; 1 Introduction: Antibody Structure and Function; 1.1 Introduction to Antibodies; 1.2 General Domain and Structure of IgG; 1.2.1 Structural Aspects Important for Fc Fusion(s); 1.2.1.1 Fc Protein-Protein Interactions; 1.2.1.2 Fc Glycosylation; 1.2.1.3 Hinge and Interchain Disulfide Bonds; 1.3 The Neonatal Fc Receptor; 1.3.1 FcRn Function and Expression; 1.3.2 Species Difference in FcRn; 1.3.3 Engineering to Modulate Pharmacokinetics; 1.3.3.1 Fc Engineering 1.3.3.2 Other Engineering Efforts to Modify PK of an IgG or Fc Fusion1. 4 Introduction to FcgR- and Complement-Mediated Effector Functions; 1.4.1 Cell Lysis and Phagocytosis Mediation; 1.4.2 FcgR-Mediated Effector Functions; 1.4.2.1 FcgR Biology; 1.4.2.2 Expression Profiles; 1.4.2.3 Therapeutic Relevancy; 1.4.3 Complement; 1.4.3.1 C1q Biology; 1.4.3.2 Therapeutic Relevancy; 1.4.4 Modifying Effector Functions; 1.4.4.1 FcgR-Dependent Effector Function; 1.4.4.2 Engineering; 1.4.4.3 Glycoengineering; 1.4.4.4 Reducing and Silencing Effector Function; 1.5 Current Trends in Antibody Engineering 1.5.1 Bispecific1.5.2 Drug Conjugates; References; Part One: Methods of Production for Fc-Fusion Proteins; 2 Fc-Fusion Protein Expression

Technology; 2.1 Introduction; 2.2 Expression Systems Used for Fc-Fusion Proteins; 2.2.1 Expression Using Mammalian Cell Lines; 2.2.1.1 Host Cells; 2.2.1.2 Codon Optimization; 2.2.1.3 Vectors; 2.2.1.4 Stable versus Transient Expression; 2.2.1.5 Viral Transduction and Transfection Methods; 2.2.2 Expression Using Prokaryotic Cells; 2.2.2.1 Vectors; 2.2.3 Expression Using Baculovirus/Insect Cells; 2.2.3.1 Host Cells; 2.2.3.2 Vectors
2.2.3.3 Additional Considerations2.3 Summary; References; 3 Cell Culture-Based Production; 3.1 Introduction; 3.2 Basic Aspects of Industrial Cell Culture; 3.2.1 The Central Role of the Production Cell Line; 3.2.2 Production Systems; 3.2.3 Production Mode: Fed-Batch or Perfusion?; 3.2.4 Scale-Up; 3.2.5 Raw Materials and Process Control; 3.2.6 How to Develop or Optimize a Culture Production Process for Fc-Fusion Molecules; 3.3 Speci.c Process Considerations for Fc-Fusion Molecules; 3.3.1 Product Quality Challenges; 3.3.2 Process Strategies and Process Parameters
3.3.2.1 Temperature and Misfolding3.3.2.2 Other Process Parameters; 3.3.2.3 Glycosylation; 3.4 Case Studies; 3.4.1 LTBr-Fc (Baminercept); 3.4.2 rFVIIIFc; 3.5 Conclusions; References; 4 Downstream Processing of Fc-Fusion Proteins; 4.1 Introduction and Overview of Fc-Fusion Proteins; 4.2 Biochemistry of Fc-Fusion Proteins; 4.3 Purification of Fc-Fusion Proteins from Mammalian Cells; 4.3.1 Platform Approaches for Downstream Purification; 4.3.2 Comparison of Protein A Chromatography, Viral Inactivation, and Polishing Steps; 4.4 Purification of Fc-Fusion Protein from Microbial Systems
4.5 Future Innovations in Fc-Fusion Protein Downstream Processing

Sommario/riassunto

Edited by three pioneers in the field, each with longstanding experience in the biotech industry, this is the first book to cover every step in the development and production of Fc-fusion proteins -- from choosing the right design on a molecular level to batch optimization during production to quality control. The whole of the second part is devoted to case studies detailing the most important commercially available products and includes a chapter on promising new developments for the future. An invaluable resource for professionals already working on Fc-fusion proteins and a must for