1. Record Nr. UNINA9910144563203321 Production of recombinant proteins [[electronic resource]]: novel **Titolo** microbial and eukaryotic expression systems / / edited by Gerd Gellissen Weinheim, : Wiley-VCH, c2005 Pubbl/distr/stampa **ISBN** 1-280-51972-X 9786610519729 3-527-60367-0 3-527-60441-3 Descrizione fisica 1 online resource (432 p.) Altri autori (Persone) GellissenGerd 660.63 Disciplina Soggetti Recombinant proteins Recombinant microorganisms Genetic vectors Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Production of Recombinant Proteins; Preface; Foreword; Contents; List of Contributors; 1 Key and Criteria to the Selection of an Expression Platform: 2 Escherichia coli: 2.1 Introduction: 2.2 Strains. Genome, and Cultivation; 2.3 Expression Vectors; 2.3.1 Replication of pMB1-derived Vectors; 2.3.2 Plasmid Partitioning; 2.3.3 Genome Engineering; 2.3.4 E. coli Promoters; 2.4 Regulation of Gene Expression; 2.4.1 Negative Control; 2.4.2 Positive Control; 2.4.2.1 L-Arabinose Operon; 2.4.2.2 L-Rhamnose Operon; 2.5 Transcription and Translation; 2.5.1 Translation Initiation; 2.5.2 Codon Usage 2.5.3 Translation Termination 2.5.4 Transcription Termination and mRNA Stability; 2.6 Protein Production; 2.6.1 Inclusion Body Formation; 2.6.1.1 Chaperones as Facilitators of Folding; 2.6.1.2 Fusion Protein

Technology; 2.6.2 Methionine Processing; 2.6.3 Secretion into the Periplasm; 2.6.4 Disulfide Bond Formation and Folding; 2.6.5 Twin Arginine Translocation (TAT) of Folded Proteins; 2.6.6 Disulfide Bond Formation in the Cytoplasm; 2.6.7 Cell Surface Display and Secretion

across the Outer Membrane; 2.7 Examples of Products and Processes; 2.8 Conclusions and Future Perspectives; Appendix References3 Pseudomonas fluorescens; 3.1 Introduction; 3.2 Biology of Pseudomonas fluorescens; 3.3 History and Taxonomy of Pseudomonas fluorescens Strain Biovar I MB101; 3.4 Cultivation; 3.5 Genomics and Functional Genomics of P. fluorescens Strain MB101; 3.6 Core Expression Platform for Heterologous Proteins; 3.6.1 Antibiotic-free Plasmids using pyrF and proC; 3.6.2 Gene Deletion Strategy and Reusable Markers; 3.6.3 Periplasmic Secretion and Use of Transposomes; 3.6.4 Alternative Expression Systems: Anthranilate and Benzoate-inducible Promoters

3.7 Production of Heterologous Proteins in P. fluorescens3.7.1 Pharmaceutical Proteins; 3.7.2 Industrial Enzymes; 3.7.3 Agricultural Proteins; 3.8 Conclusions; Appendix; References; 4 Staphylococcus carnosus and other Gram-positive Bacteria; 4.1 Introduction; 4.2 Major Protein Export Routes in Gram-positive Bacteria: 4.2.1 The General Secretion (Sec) Pathway; 4.2.2 The Twin-Arginine Translocation (Tat) Pathway: 4.2.3 Secretion Signals: 4.3 Extracytosolic Protein Folding: 4.4 The Cell Wall as a Barrier for the Secretion of Heterologous Proteins 4.5 Degradation of Exported Proteins by Cell-associated and Secreted Proteases 4.6 Staphylococcus carnosus; 4.6.1 General Description; 4.6.2 Microbiological and Molecular Biological Tools; 4.6.3 S. carnosus as Host Organism for the Analysis of Staphylococcal-related Pathogenicity Aspects: 4.6.4 Secretory Production of Heterologous Proteins by S. carnosus; 4.6.4.1 The Staphylococcus hyicus Lipase: Secretory Signals and Heterologous Expression in S. carnosus; 4.6.4.2 Use of the Prepro-part of the S. hyicus Lipase for the Secretion of Heterologous Proteins in S. carnosus

Sommario/riassunto

While the choices of microbial and eukaryotic expression systems for production of recombinant proteins are many, most researchers in academic and industrial settings do not have ready access to pertinent biological and technical information since it is normally scattered throughout the scientific literature. This book closes the gap by providing information on the general biology of the host organism, a description of the expression platform, a methodological section -- with strains, genetic elements, vectors and special methods, where applicable -- as well as examples of proteins produced wi

4.6.4.3 Process Development for the Secretory Production of a Human

Calcitonin Precursor Fusion Protein by S. carnosus