

Advances in Biosynthesis of Peptide Drugs: Technology and Industrialization

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Abstract

Peptide drugs are developed from endogenous or synthetic peptides with specific biological activities. They have advantages of strong target specificity, high efficacy and low toxicity, thus showing great promise in the treatment of many diseases such as cancer, infections and diabetes. Although an increasing number of peptide drugs have entered market in recent years, the preparation of peptide drug substances is yet a bottleneck problem for their industrial production. Comparing to the chemical synthesis method, peptide biosynthesis has advantages of simple synthesis, low cost, and low contamination. Therefore, the biosynthesis technology of peptide drugs has been widely used for manufacturing. Herein, we reviewed the development of peptide drugs and recent advances in peptide biosynthesis technology, in order to shed a light to the prospect of industrial production of peptide drugs based on biosynthesis technology.

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