

Biotechnology-based pharmaceutical products

ABSTRACT

Biotechnology-based pharmaceutical products as an essential portion of the marketed therapeutic agents are continuously evolving due to the increased number of approved products as well as products entering clinical trials. Biotechnology involves the use of a living organism or their products for human use including medical purposes. Production of therapeutic agents through biotechnology is a complex multistep process that requires careful considerations in various aspects. Therefore it is essential to understand the differences between biotechnology-based drugs and conventional drugs. Currently, different classes of therapeutic agents are produced via biotechnology, such as antibiotics, enzymes, vaccines, and monoclonal antibodies. In this chapter, the general production process of biotechnology-based pharmaceutical products is discussed along with their pharmacokinetic properties with particular emphasis on the common problems associated with these products. Finally, biotechnology-based therapeutic approaches such as gene therapy and pharmacogenomics are also briefly discussed.

Keyword: Pharmaceutical biotechnology; Biotechnology products; Recombinant DNA technology; Biomolecules pharmacokinetics