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EC PHARMACOLOGY AND TOXICOLOGY

Opinion

Pharmaceutical Development of Bio-Molecules

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Received: March 09, 2022; **Published:** March 31, 2022

Abstract

Biotherapy is increasingly utilized in the clinic. However, most biological agents have shortcomings in clinical applications. Pharmaceutical modifications play key role for drug utilities. This Article gives a brief panorama of pharmaceutical development of bio-agents.

Keywords: *Pharmaceutical Modification; Bio-Molecules; Drug Bioavailability; Drug Characteristics*

Introduction

90% of drugs are chemical agents. They are stable and high-bioavailability in human bodies. However, most chemical drugs can not cure human diseases because they are not real components of human bodies. With the great development of biotechnology, biotherapy is increasingly used in the treatment of different types of human diseases, such as diabetes, cancer, osteoporosis and others in the clinic [1-14]. Correspondingly, biotherapy will be a therapeutic convention in the future.

Medical problems

Nonetheless, most of biomolecules are short-live in human body. It will cost a lot if we use bio-molecule in its original states. More recently, biomolecules are pharmaceutically modified to stable drug concentrations and avoid immune system targets in human bodies [15].

Pharmaceutical pathways for biotherapy

So far as we know, this key aspect of pharmaceutical science has a great potentiality. A great variety of new biological drugs may come into the bedside with low toxicity and specificity of drugs.

- Chemically modifying to elongate drug concentrations in patients' blood and tissues
- Stable bio-molecules to avoid immune-attacks from human bodies
- Ligands to nanoparticles that can reduce drug volumes and penetrate to damaged cells or organs
- Peroxisome, liposomes and capsules to deliver biomolecules to disease sites in relatively higher levels [16-23].

Key characters

Apart from pharmaceutical approaches, several other subjects are associated with bio-drug development and clinical applications:

- Molecular biology
- Pharmacology
- Toxicology
- Clinical therapeutics
- Mathematics.

By integrating these different subjects, bio-agents should be improved greatly.

Conclusion

Though there is a long way to go for this pharmaceutical development, stabling biomolecules and avoiding immune-attacks from human beings. Building biomolecules delivery systems has enormous usefulness in drug development and clinical applications. Present, it is only a beginning.

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Volume 10 Issue 4 April 2022