Editorial

Several approaches for anticancer drug development progress

Abstract

Anticancer drug development is facing increasingly challenge. Much more chemicals or bio-agents are required to be evaluated every year. High-quality and speediness of drug evaluation requires joint-efforts between chemists and pharmacologists. This Editorial provides this area of anticancer drug discovery, development and licensing.

Keywords: anticancer drug development, phytochemistry, biotechnology, experimental models

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Introduction

Cancer is a mystery malignant disease that costs life of 9.6 millions annually worldwide. Current cancer therapeutics is lack of effective anticancer drugs and drug selective systems in the clinic.[1–5] over the past two decades, anticancer drug developments improved slowly.[6–9] Several approaches can help drug evaluation and development.[10–13] This Editorial discusses this important topic.

Methods

Major pathways

Tumor model innovation.[14]

1. Technical advances (3-dimentional cell culture, organoids, genetic-modified cells and others.[15–19]
2. High-throughput and miniature screening.[20–22]
3. Cancer metastatic models in vivo.[23–28]
4. Nano-drugs or drug delivery.[29–30]
5. Phytochemistry and herbal medicine.[31–37]
6. Drug combination study (mechanisms and clinical strategies)[38–40]
7. Personalized medicine or clinical drug selection and dosing.[41–43]
8. Mathematical or computational supports.[44–47]
9. Palliative therapeutics.[48–50]

Results and discussion

Above-mentioned pathways are important scientific disciplines for drug develop promotion. To do this drug development transition, hard pharmaceutical or pharmacological work is indispensable.[51–53] Among this wide-range of topic, antimetastatic drug develop is the most important one because 60-90% cancer deaths come from neoplasm metastasis. Good selection and large scale in vivo drug evaluation is the important way. New pharmacological studies are the common interests and discipline for anticancer drug development.

Conclusion

To facilitate anticancer drug discovery and development, pharmacological updating can make a difference. But we shall have a long way to go.

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