



Commentary

A Recent Approaches Insights In Drug Repurposing Strategies

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Abstract

Drug repurposing (DR) (also called drug location could be a method of characteristic new therapeutic use(s) for old/existing/available medication. it's a good strategy in discovering or developing drug molecules with new pharmacological/therapeutic indications. In recent years, several pharmaceutical corporations are developing new medication with the invention of novel biological targets by applying the drug location strategy in drug discovery and development program. This strategy is extremely economical, time saving, affordable and minimum risk of failure. It maximizes the therapeutic worth of a drug and consequently will increase the success rate.

Keywords:

Drug repurposing

Introduction

Drug repurposing (DR) (also called drug location could be a method of characteristic new therapeutic use(s) for old/existing/available medication. it's a good strategy in discovering or developing drug molecules with new pharmacological/therapeutic indications. This strategy is extremely economical, time saving, affordable and minimum risk of failure. It maximizes the therapeutic worth of a drug and consequently will increase the success rate. Drug location utilizes the combined efforts of activity-based or experimental and in silico-based or machine approaches to develop/identify the new uses of drug molecules on a rational basis. It involves establishing new therapeutic uses for already famous medication, as well as approved, discontinued, abandoned and experimental medication. ancient drug discovery could be a long, laborious, extremely high-priced and high risk method.

Approaches of Drug Repurposing

Drug location has 2 different and complementary approaches, one is experiment-based approach and therefore the alternative is in silicobased approach. The experiment-based approach is additionally called activitybased location that refers to the screening of original medication for brand spanking new medical specialty indications supported experimental assays. It involves macromolecule target-based and cell/organism-based screens in in vitro and/or in vivo malady models.

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while not requiring any structural info of target proteins. Many approaches of experimental location or target screening approach, cell assay approach, animal model approach and clinical approach.

Discovery and development of recent antibiotics – problems and new approaches

Most antibiotics were developed within the Sixties and Seventies by screening natural merchandise and chemicals derived from semisynthesis with constitution screening ways [1]. Drug-resistant bacterium quickly emerged due to the in depth uses of antibiotics against varied infections, particularly the overuse and misuse of broad spectrum antibiotics [2].

Antibiotics recede effective for treatment of infections because of the rise in drug-resistant bacterium. With the advance of biological science and microorganism order analysis, target-based drug discovery developed into a significant path for antibacterial discovery within the 99 [2].

High-throughput screening of the microorganism targets was administered in several corporations. variety of lead compounds were known and optimized. However, a decade-long effort didn't turn out the expected results. solely a number of compounds derived from target-based screening campaigns advanced to late-stage development. one in all the explanations for this failure was the shortcoming of those lead compounds to cross the microorganism cell membrane. A second reason was that the slender spectrum of the antibactericidal activities of those lead compounds didn't meet the necessity for additional development. The number of antibiotics approved by the government agency has steady attenuated within the last twenty years, whereas the overall variety of recent molecular entities has remained regarding an equivalent.

The drug repurposing study is emerged as a time-efficient and cost-efficient strategy to work out new therapeutic indications for antecedently approved drug molecules.

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