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The drug discovery process: From target identification to clinical trials and drug registration: Lessons that we learned. A case history

A drug discovery program initiates because there is a disease or clinical condition without suitable pharmacological treatment. This unmet clinical need is the underlying driving motivation for starting a research project. Nowadays, however, the process of drug discovery is very complex, time consuming, and resource intensive, requiring multi-disciplinary expertise and innovative approaches. Recent estimates suggest that it takes up to 13.5 years and 1.8 billion US dollars to bring a new drug to the market. There is a growing urgency to identify and develop more effective, efficient, and expedient ways to bring safe and effective products to the market. The drug discovery and developmental process relies on utilizing relevant and robust tools, methods, and models that are predictive of clinical effects in terms of diagnosis, prevention,

therapy, and prognosis. Moreover, there is a growing emphasis on translational research, a bidirectional bench to the bedside approach; and in the so called “drug-repositioning process” that gives an opportunity to find new uses of existing drugs or molecules with a tremendous savings of time and money. The drug discovery pipeline will be exposed, starting from target identification to clinical trials and drug registration while illustrating a case history.

Biography

Valeria Pittalà has completed her MSc in CTF, PhD in Pharmaceutical Sciences at the University of Catania (Italy), and joined Pharmacia Corporation. There she has worked as Member of Combinatorial Chemistry Group, contributed to the discovery of Danusertib, currently under clinical investigation, being Co-Inventor of Bicyclopiprazoles class. Subsequently, she has returned to the University of Catania as Medicinal Chemistry Professor. She is highly motivated drug discovery Scientist and project Leader with proven leadership capability, interpersonal skill, and independence in achieving given objectives. She has published over 60 patents and peer-reviewed papers in reputed journals and has been serving as an Editorial Board Member of repute.

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