

Role of Animal Models in Drug Discovery and Research Development

Prabhakar Reddy Veerareddy*

University College of Pharmaceutical Sciences, Palamuru University,
Mahabubnagar, Telangana, India

***Corresponding Author:** Prabhakar Reddy Veerareddy, University College of
Pharmaceutical Sciences, Palamuru University, Mahabubnagar, Telangana, India.

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Animal models for drug discovery and research development have played a significant role in the drug objective identification, evaluation, pharmacokinetics, pharmacodynamics and efficacy [1]. As per the Animal Rule, the United States Food and Drug Administration (US FDA) depends on the efficacy data from studies to conduct in animal models for the effectiveness of the drugs [2]. Drug breakdown is suboptimal preclinical data generated in animal models for a small number of indications to bridge the translational space connecting the preclinical and clinical studies [3]. In rats, cognitive impulsivity correlates with voluntary ethanol intake [4] and displays of impulsivity in monkeys predict the patterns of ethanol drinking [5]. Animal models will contribute effectively to the drug discovery and Medicine. Test compounds in relatively high-throughput animal models increased and it becomes gradually easier to design, synthesize, and screen the molecules with elevated affinity and selectivity for the biological activity [6]. United States of America (USA) was focusing on cognitive deficits which are useful in the industry, academia and government to address a large number of unmet medical needs. Development of translational science for the Central Nervous System disorders was the design of the advanced measures with joint construct validity between the preclinical and clinical research in confirmation of the animal models [7]. Development of the new genetic animal models has established exclusive useful in the dissection of neurobiological basis of anxiety behavior and avenues for the cure of anxiety disorders [8]. Clinical understanding of the underlying pathophysiology of the anxiety disorders was fundamental in the preclinical research and the Identification of suitable anxiety endophenotypes [9]. The animal models are used for learning or memory as analogues of human cognitive processes and the tests can be induced in normal or healthy animals by administration of drugs [10].

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