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Editorial

Drug discovery and Clinical Treatments

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In molecular perspective, diseases are considered to be associated with functions of specific target proteins in the body being altered to abnormal states through various mechanisms including either genetic mutations or pathogens influences. Following this concept, the goal of drug discovery is to either design or “discover” drugs that could be either small molecules, antibodies, peptides or short nucleotides to interact with target proteins to modulate their abnormal functions to treat diseases. Unfortunately, effects and efficacy of drugs can’t still be entirely predicted when patients are treated with them because complexity in proteins regulations in molecular level, pharmacokinetics and pharmacodynamics in systems level has hampered the development of optimal treatments. To accomplish the goal, one has to take all of these information into account to design appropriate drugs that can specifically interact with targets and have desire pharmacokinetic and pharmacodynamic properties, develop optimal formulations and best treatment plans.

In this volume, we do not attempt to address all of these issues in different stages of drug discovery. Besides regular articles we merely present two review studies, which target two developmental stages in drug discovery, to provide the past and the current strategies to resolves issues in these two stages. First, Tuszynski et al. discussed the latest development in computer-aided drug discovery. Particularly, the article focuses on theories and methods used for predicting ligand binding sites and binding properties. Readers will obtain necessary sources regarding tools and methodologies to conduct computational biology and its applications in drug discovery from this review. Second, AlAref and Minutello discussed oral anti-platelet therapy in treating acute coronary

syndrome. They reviewed various drugs and treatments plans. They showed utilizing information of potential targets from pathways of platelet activation and aggregation and effects of various drugs used previously may lead to therapies for the treatment of unstable coronary artery disease.

We hope this volume is just a first step of **Biomedical Sciences Today**. It will continue to provide a platform to enlighten us ways to bridge different stages of drug discovery together. Hopefully, it can bring more ideas from different disciplines and lead to better drug discovery in the future.

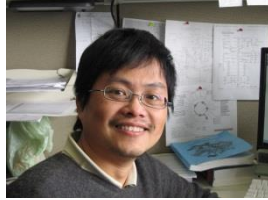


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Dr. Tseng works at MDT Canada Inc. His laboratory is focusing at foundation and applications of entropic inference in biomedical



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