

Tentative Outline

Special Issue for CCB

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Tentative Title: An Overview on Proteins of Biomedical Importance in targeted therapy of Cancer, Duchenne Muscular Dystrophy and Protein Misfolding associated Neuropathy: Structure Function Relationship, Mechanism of action, Role of small molecule antagonist and Future Perspective.

Aims & Scope:

Human life has been under continuous threat imposed by myriad devastating diseases like Cancers, Diabetes, Duchenne Muscular Dystrophy and Protein Misfolding Associated Neuropathy since last few decades. Continuous research is going on in quest of remedies to refute this and protein targets implicated in each type of clinical discord have been unraveled. The mechanistic pathway behind inactivation or modulation of target protein, structure function relationship, mode of action of small molecule antagonist in each disease related therapy have been retrospectively examined in this thematic issue. Development of Hedgehog Pathway Inhibitors in the treatment of medulloblastoma, liver, pancreatic cancer is based on monoclonal antibody treatment, miRNA-siRNA based silencing or use of small molecule inhibitors of Hh pathway like cyclopamine, IPI-926, GDC-0449, SANTs and GANTs. Telomerase highly activated in more than 90% tumor cells albeit absent in somatic cells becomes a pivotal target for cancer treatment. Cytoskeletal protein tubulin and microtubule has been a target against cancer with plethora of small molecule inhibitors affecting microtubule dynamics. MMPs are subject of research for a wide variety of diseases and broad-spectrum metalloproteinase inhibitors have been developed to address the involvement of MMPs in various diseases as potential therapeutics. Occurrence of neuromuscular disorder namely Duchenne Muscular Dystrophy (DMD) affecting 1 in every 3500 males worldwide has been conceived from the dysfunction of dystrophin and can be ameliorated in mouse model by upregulation of utrophin, an autosomal homologue of dystrophin. Stress induced protein misfolding evident in various neuropathies, ion channel misfolding diseases and selective parasitic maladies can be addressed with the aid of molecular chaperones like Hsp 70 alone or in combination with its co-chaperones, Hsp40

(J-proteins), Hsp110 (NEF's) or Hsp104. This issue will be enriched with elaborate illustrations of pros and cons of a number of diseases with the proposed therapy as well.

Subtopics:

1. Development of Hedgehog Pathway Inhibitors (HPI) in the Treatment of Cancer
2. Delineation of Current Development of Antimitotic Compounds targeting Cytoskeletal Protein Tubulin and Microtubule in the cancer therapy
3. A Retrospect on Telomerase Biology and Novel Therapeutic Strategies Targeting Telomerase in the Treatment of Cancer
4. Developing Effective Therapy for Duchenne Muscular Dystrophy (DMD): Challenges and Promises
5. Insights into the world of Matrix Metalloproteinases and Tissue Inhibitor of Metalloproteinases in Health and Disease
6. Cellular strategies to combat protein misfolding: Intricate role of Hsp70 in stress management

Schedule:

Manuscript submission deadline: December, 2014

Peer Review Due: December, 2014

Revision Due: January, 2015

Notification of acceptance by the Guest Editor: January, 2015

Final manuscripts due: March, 2015