

Tentative Outline

Special Thematic Issue for the journal "Current Applied Materials"

Title of the Thematic Issue: PROTACs a novel paradigm for targeted Therapy

Guest Editor: Dr. Neeraj Mishra

- **Scope of the Thematic Issue:**

Targeted protein degradation (TPD) has emerged as an exciting new era in chemical biology and drug discovery. PROteolysis-Targeting Chimeras (PROTACs) exploit the intracellular ubiquitin-proteasome system to selectively degrade target proteins. Recently, small-molecule PROTACs with high potency have been frequently reported. Foremost, PROTACs can degrade proteins regardless of their function. This includes the currently "undruggable" proteome, which comprises approximately 85% of all human proteins. Other beneficial aspects of protein degradation include the ability to target overexpressed and mutated proteins, as well as the potential to demonstrate prolonged pharmacodynamics effect beyond drug exposure. Over the last 5 years, numerous studies have expanded our understanding of the unique mode of action and advantages of PROTACs, which has in turn spurred interest in both academia and industry to explore PROTACs as a novel therapeutic strategy. Impressive preclinical in vitro and in vivo PROTAC data have been published, and these data have propelled the development of clinically viable PROTACs. The outstanding advantages over traditional small-molecule drugs and the promising preclinical data suggest that small-molecule PROTAC technology has the potential to greatly promote the development of targeted therapy drugs.

Keywords: PROTACs, targeted therapy, protein degradation, precision medicines

Sub-topics:

- PROTACs: A new approach for protein degradation
- PROTACs: For targeted cancer management
- Importance of PROTAC in drug discovery
- Role of PROTACs in neurological disorders

Tentative titles:

- Targeting micro-environmental pathways by PROTACs a new adjunctive therapeutic approach
- Integral Membrane Protein Degradation a novel paradigm by PROTAC technology
- Protein degradation by PROTAC and other effective approaches
- PROTAC- A novel approach in precision medicine
- Past, Present and future opportunities of PROTAC as targeted therapy
- Drug development and PROTAC-Future progress
- PROTAC therapy as a new targeted therapy for lung cancer

Schedule:

- Thematic issue submission deadline: 30 June 2023

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