

Tentative Outline

Special Thematic Issue for Current Pharmaceutical Biotechnology

Title of thematic issue:

Current trends in cannabinoids pharmacology, physiopathology and toxicology

Guest Editors: Prof. Vittorio Fineschi, Prof.ssa Emanuela Turillazzi, Prof. Silvio Chericoni

Aims & Scope

Cannabis represents the substance under international control most used worldwide. Despite the millennial history of recreational and therapeutic use, research and knowledge on cannabinoids have greatly increased only in recent decades with the identification of psychoactive substances, cannabinoid receptors and endogenous ligands.

To date, there is an increased attention to the public health impacts of cannabinoid use, misuse and abuse due to the growing trend towards consumption and the worrying demand for treatment of related disorders. For these reasons, several synthetic cannabinoids and phytocannabinoids have been studied in order to clarify their interactions with the endocannabinoid system.

In light of the most recent evidence, the cannabinoid system is involved in the physiology and pathology of different systems such as the nervous, cardiovascular, gastrointestinal and immune systems. Nonetheless, cannabinoids are implicated in the mechanisms of development, behavior and pain management.

Alongside studies on phytocannabinoids and the endogenous system, research on synthetic cannabinoids and their implications in the social, toxicological and forensic fields is emerging. In fact, the abuse of synthetic cannabinoids represents an epidemiologically significant phenomenon and a great challenge for public health mainly due to the identification difficulties related to rapid metabolism and generally higher effects than the natural psychoactive equivalents.

In relation to the above, the pharmacology of cannabinoids is a topic of extreme scientific relevance for the combination between implications of abuse and therapeutic potential of these substances. Authorization for medical use has led to the rapid growth of the scientific literature on the potential ubiquitous applications of cannabis products. This expansion of access to cannabinoids raises growing concerns about overly optimistic - or reductive influences on potential harm - effects on public opinion and patients.

Recent movements towards legalization emphasize the need to comprehensively understand biomedical applications, possible risks and economic impact of taking cannabis and cannabinoids. Despite the scientific fervor and the amount of results obtained, research on cannabinoids is still extremely interesting due to the persistence of several knowledge gaps both in basic sciences and in clinical medicine.

The present thematic issue aims to review the latest evidence on cannabinoids pharmacology and toxicology focusing the attention on abuse, preclinical research, clinical studies and concerns about treatment. As a secondary objective, the contributions to the collection will provide interesting food for thought and impulses to research in the fields of biochemistry, general physiology, developmental biology and addiction.

Keywords: endocannabinoids, phytocannabinoids, synthetic cannabinoids, cannabinoid receptors, addiction, cannabis-Based Medicines.

Subtopics

The subtopics to be covered within this issue are listed below:

- Cannabis, synthetic cannabinoids, and cannabinoid receptors;
- Ethical issues and regulations on cannabis and cannabinoids use;
- Controversies on cannabis-based medicine;
- Safety and efficacy of cannabinoids-based therapies;
- Therapeutic targeting of endocannabinoid receptor system;
- Epigenetic effects of cannabinoids use;
- Forensic implication of cannabinoids abuse;
- Cannabinoids in post-mortem toxicology;
- Cannabinoids-related deaths.

Schedule

- Manuscript submission deadline: August 31st, 2021
- Peer Review Due: September 31st, 2021
- Revision Due: October 30th, 2021
- Announcement of acceptance by the Guest Editors: November 15th, 2021
- Final manuscripts due: November 31st, 2021

Contacts

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Tentative list of contributors

The tentative titles of the articles and list of contributors are listed below:

1. **Elisabetta Bertol**, Department of Health Sciences, University of Florence, Italy; *Integrated methods to investigate driving ability in cannabinoids users.*
2. **Stefano D'Errico**, Department of Legal Medicine, University of Trieste, Italy; *Ethical concerns and regulations on cannabinoids use and administration.*
3. **Olaf Drummer**, Department of Forensic Medicine, Monash University, Australia; *Bioanalytical and methodological challenges in toxicological investigation of synthetic cannabinoids.*
4. **Stefano Ferracuti**, Department of Human Neurosciences, Sapienza University of Rome, Italy; *Risks and benefits of cannabinoids use in mental disorders.*
5. **Alessandro Santurro**, Department of Anatomical, Histological, Forensic and Orthopaedic Sciences, Sapienza University of Rome, Italy; *Cannabinoids and Sudden Cardiac Death.*
6. **Steven B Karch**, School of Medicine, University of Nevada, United States of America; *Methods of quantification of cannabinoids and metabolites.*
7. **Nikolas P Lemos**, Department of Laboratory Medicine, University of California, San Francisco, United States of America; *Cannabis-related fatalities.*
8. **Stefano Materazzi**, Department of Chemistry, Sapienza University of Rome, Italy; *Chemometric analysis of cannabinoids.*
9. **Ferdinando Nicoletti**, Department of Physiology and Pharmacology, Sapienza University of Rome, Italy; *Updates on pharmacodynamics and pharmacokinetics of cannabinoids.*
10. **Cristian Palmiere**, University Center of Legal Medicine, Lausanne University Hospital, Switzerland; *Cannabinoids stability in post-mortem specimens.*
11. **Marco Di Paolo**, Department of Surgical Pathology, Medical, Molecular and Critical Area, University of Pisa, Italy; *Cardiovascular effects of cannabinoids.*
12. **Margherita Neri** *Department of Morphology, Surgery and Experimental Medicine, Section of Legal Medicine and LTIA Centre, University of Ferrara, Italy; Histopathological findings in cannabis-related death.*