

CURRENT RESEARCH TOPICS IN PHARMACY:

An Overview of Novelties in Cancer Treatment

February 15th, 2024



FIRST SESSION

10:00-11:30 AM

Moderator:

*Betül
OKUYAN*

Welcome

Prof. Hatice Kübra ELÇİOĞLU

*Natural products mediated targeting
of deregulated signaling pathways for
chemoprevention of carcinogenesis
and metastasis*

Prof. Ahmed Ammad Farooqi

Mesoporous silica nanoparticles: A
smart tool for biomedical applications
Assoc. Prof. Fahima Dilnawaz

Phytosomes: A Dynamic Innovation in
Cancer Treatment
Assist. Prof. Dhanashree Sanap

SECOND SESSION

13:00-14:30 PM

Moderator:

*Ceyda EKENTOK
ATICI*

Increased awareness of sex and
gender as modulators of cancer risk
and outcome is required among
cancer researchers

Assoc. Prof. Berna Özdemir

*Management of oral chemotherapy-
related problems in cancer patients*
Pharmacist Elif Aras Atik

Cervical Cancer Treatment and HPV
Vaccination: Preventive Priority for
Future Generations

Assist. Prof. Sneha Agrawal

THIRD SESSION

15:30-17:00 PM

Moderator:

Esra TATAR

Exploring new drug delivery avenues
for targeted and localized cancer
therapy through advanced
nanotherapeutics
Assist. Prof. Monika Dwivedi

Plectranthus: A Valuable Source of
Bioactive Compounds for Therapeutic
Applications

Assoc. Prof. Patricia Rijo

Targeted delivery of ligand-displaying
exosomes using RNA
nanotechnology for breast cancer
Dr. Burcu Üner

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PLECTRANTHUS: A VALUABLE SOURCE OF BIOACTIVE COMPOUNDS FOR THERAPEUTIC APPLICATIONS

Patrícia RIJO ^{1,2*}

¹ Center for Research in Biosciences & Health Technologies (CBIOS), Universidade Lusófona de Humanidades e Tecnologias, Lisboa, Portugal;

² Instituto de Investigação do Medicamento (iMed.U LISBOA), Faculdade de Farmácia, Universidade de Lisboa, Portugal.

patricia.rijo@ulusofona.pt

*Corresponding and presenting author

Plectranthus spp., commonly used in folk medicine, stands as a significant source of bioactive abietane diterpenoids with a broad spectrum of biological activities, supported by recent scientific studies.

Herein, it is reported several approaches using these bioactive lead molecules obtained from *Plectranthus* spp. for therapeutics applications, such as Parvifloron D (ParvD) isolated from *P. ecklonii*, or 7 α -acetoxy-6 β -hydroxyroyleanone (Roy) isolated from *P. grandidentatus*. A particular example is the patented diterpenoid benzoylroyleanone (RoyBz), prepared from natural Roy. RoyBz was identified as a PKC-selective activator with potent anti-proliferative activity in colon cancer by stimulating a PKC-dependent mitochondrial apoptotic pathway. Notably, the PKC δ -dependent anticancer activity was recapitulated in vivo using xenograft mouse models of control and PKC δ -knockdown human colon cancer cells. We further investigate the molecular mechanism underlying the reported antitumor activity of Roy-Bz, and herein, we investigated the impact of Roy-Bz on glucose metabolism of colon cancer cells. This work provides insights into the role of PKC in tumor cell metabolism. Moreover, it strongly supports the ability of Roy-Bz to target both ATP producing pathways of glucose metabolism in cancer cells, thereby reinforcing its potential as an anticancer agent.

Keywords: Natural products; Plectranthus; Abietane diterpenoids; PKC activators

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