

Biochemistry and Physiology of Living Organisms

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Editor's Note

It is my great privilege to introduce the OMICS's Biochemistry & Physiology: Open Access (Biochem Physiol) Volume 5 Issue 3. Over various previous issues Biochem Physiol Journal has covered wide range of molecular and biochemical pathway in all forms of life and has been continuously pushing the boundary to publish quality science work. Articles that are published in Biochem Physiol journal include short commentary, brief communication, reviews, mini reviews, case reports, and research paper. This peer-reviewed journal has been frontier in the publication of articles in the field of molecular biology and genetics, therapeutic drug monitoring and toxicology, pharmacology, laboratory immunology clinical chemistry, toxicology, nanotechnology in biotherapeutics and other related field.

Current issue of Biochem Physiol cover broad range of current topics from protein phosphorylation, integrative system biology, phytohormones in plant developmental biology, nanotechnology in biotherapeutics, integrin biochemistry in yellow catfish and pathogenesis in type II diabetics.

Article's characterization

Heidari discussed new emerging molecular imprinting polymers (MIPs) techniques for biochemical and pharmacodynamics study of antibiotics such as Vancomycin, Teicoplanin, Oritavancin, etc. [1].

Balbaa has written a short communication about protein phosphorylation, discussing its role as positive and negative regulator in cellular functioning [2].

El-Eswai and El-Ballat discussed integrative system biology application for biological data integration, bioinformatics, statistical analysis in the field of genomics, transcriptomics, metabolomics and proteomic studies [3]. Advancement in the area of whole genome sequencing and clinical testing has also led to parallel evolution of integrative system biology.

El-Eswai has also published an editorial on role of phytohormones in plant biology [4]. El-Eswai has elaborated role of Jasmonic acid (JA) and its precursor jasmonate in plants development and defence mechanism. This article describes the biosynthetic pathway, signal transduction and host defence mechanism under biotic and abiotic stress in relation to JA and jasmonate.

Sierra et al. in their research article reported synthesis of carbon nanotube (CNTs) to control the adhesion of low density lipoprotein (LDL) [5]. Author has described a chemical route to synthesize CNTs, which are doped with aluminum sulfate, boric acid, carboxylic acid, and glucosamine, thereby giving CNTs varying degree of surface charge. Sulfate and carboxylic group exhibited an increase in load density and load co-operativity of LDL, compared to boric acid and glucosamine where adhesion of LDL was less.

Han et al. did research on role of integrin in innate immune response in *Pelteobagrus fulvidraco* (Yellow catfish) [6]. After confirmation of integrin- β from host specie by cloning and sequence analysis, a phylogenetic analysis was performed. Tissue expression of integrin- β genes were also studied by quantitative real-time PCR and

both the integrins ($\beta 1$ and $\beta 3$) were found to be expressed in all the major tissues. Both the integrins were also studied post infection with *E. column* in gill and liver by qRT-PCR. It was observed that both the integrins were upregulated at 24 h post infection. This study has paved a path to understand the mechanism of integrin- β genes during pathogen infection.

El-Mousalamy et al. research article describes the effect of palm date against diabetic nephropathy in type II diabetes mellitus (DM) [7]. Authors were able to show that rats treated with aqueous or methanolic extract of fruits or seed showed a statistically significant improvement in studied parameters (Lipidomics, blood sugar level, lipid peroxidation marker and antioxidant) compared to the rats with type II DM. Histopathology of kidney also showed a marked improvement ($p < 0.001$) in the rats treated with extracts compared to the DM group. In the end it was shown that fruit extract was more powerful than seed extract and improvement in glucose and lipid homeostasis and the antioxidants properties were associated with contents such as p-coumaric acid, ferulic acid, caffeic, quercetin and chlorogenic acid.

Chen et al. have elaborated on the role of cytokines Interleukin (IL)-17 in the pathogenesis of type 2 DM [8]. IL-17 capable of inducing the expression of proinflammatory cytokines such as TNF- α , IL-1 β , IL-6 was found to have increased serum levels and mRNA levels in patients with newly diagnosed type 2 DM. IL-17 is suggested to be involved in promotion of inflammatory state in patients, and plays a major role in the pathogenesis of type 2 DM.

In the end I would personally like to acknowledge all the authors for their hard work and contribution to the journal of biochemistry and physiology.

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