Studies on the Activity of Some Biocompounds Relevant in Food and Clinical Domain

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Editor Note

Researches devoted to the bioactivity of various key metabolites or plant extracts are important in several pathologies, such as degenerative or infectious diseases. This type of researches is published in volume 6 issue 3. Nutritional quality investigation, as well as the minutuous evaluation of factors influencing health status, requires the use of different biorecognition elements and the application of techniques based on various detection mechanisms, such as spectrometrical or electrochemical.

Secondary metabolites of Rosa laevigata Michaux (polysaccharides, flavonoids, steroids, tannins, laevigatins E, F, G, triterpenoids, 11α-hydroxytormentic acid, 2α-methoxyursolic acid, 6-methoxy-β-glucopyranosyl ester, tormentic acid and 5α-diol 3-O-β-d-glucopyranoside) were reviewed with respect to their therapeutic attributes of chronic obstructive pulmonary disease. Hence, oxidative stress markers like malonaldehyde and protein carbonyl proved directly correlated with surfactant protein-D in chronic obstructive pulmonary disease [2].

Mineral assay of cucumber cultivated in Rivers State (Nigeria) resulted in highest calcium and magnesium content, whereas cucumber cultivated in Plateau State was characterized by highest potassium, copper, manganese, sodium and zinc content [3].

Saturated hydrocarbons from cuticular wax of Tactona grandis L act as physical barrier to micro-organisms and are also endowed with a significant defending potential, exerted against a number of pathogens [4].

Nanoparticles with commercial lactate dehydrogenase originating from rabbit muscle were covalently immobilized on a graphite electrode to develop an amperometric lactate biosensor with very good analytical characteristics, a linear analytical range of 0.001 μM-45 mM, and validation by application in serum assay [5].

Another study focused on the assay of heavy metals content as correlated to human health risk, via consumption of vegetables from several markets in Bayelsa State, Nigeria. It was concluded that frequent consumption of vegetables from the studied markets could contribute to the heavy metal burden among consumers [6].

Liver dysfunction investigation in diabetic and non-diabetic patients diagnosed with tuberculosis and hospitalized in a Western Cameroon referral hospital, showed high levels of liver enzymes in both types of patients, with no significant differences between the studied groups [7].

In another study, it was proved that dichlorofluorescence in preloaded mitochondria has the potential to act as viable probe, to assess the effects of calcium ion transport on reactive oxygen species occurrence. The rate of reactive oxygen species generation under steady-state conditions, showed linear correlation with respect to the rate of Ca2+-cycling and Ca2+-stimulated respiration [8].

The role of L-cysteine was studied during papain-catalyzed oligomerization of l-lysine, arginine, glutamine and asparagine. It was reported that this sulphur-containing aminoacid promoted oligomer synthesis in a three phase system (n-octane/decafluorpentane/water), as well as in an acetonitrile/water mixture [9].

Extracts obtained from Aloe pirottiae and Brassica nigra proved efficacious in Anopheles arabiensis Patton repellency, so it was inferred that these extracts could be used in malaria vector regulation [10].

The relationship between soybean and thyroid health constituted the focus of another study. It was found that isoflavones from soybean exerted no significant influence on thyroid stimulating hormone, triiodothyronine and thyroxine levels of albino rats [11].

The studies published in the present issue are characterized by an excellent quality of biochemical assay and biomedical investigation. The comparative and critical analysis is complemented by high quality presentation.

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