Phytochemical Composition, in Vitro Antioxidant Activity and Antibacterial Mechanisms of Neolamarckia Cadamba Fruits Extracts-2018

Comparative Analysis of the In-vitro Antioxidant Activity and Bioactive Compounds of Flaxseed in China According to Variety and Geographical Origin- 2018

In Vitro Antioxidant Activity of Thiazolidinidione Derivatives of 1, 3-thiazole and 1, 3, 4-thiadiazole- 2018

Phenolic Composition and In-vitro Antioxidant Activity of Prunes and Prune Juice-Jennifer Lyn Donovan 1997

Antimicrobial and Antioxidant Activity of a Medicinal Plant-Rahila Hamid 2012 Medicinal plants are being used in traditional treatments to cure variety of diseases from thousands of years. Screening of antimicrobial and antioxidant activities performed on Elsholtzia densa crude extracts which is traditionally used as herb shows that they are endowed with potentially usable antimicrobial and free radical scavenging activity. Accordingly, this implies the inhibition of microbial pathogenesis and cellular oxidation that is linked to pathological incidents such as heart disease, aging and cancer. It was seen that the ethylacetate extract showed the maximum inhibitory effects against both bacterial and fungal growth. This may be due to the presence of such ingredients in the said extracts like flavonoids, terpenes, tannins, polyphenolic compounds, alkaloids, etc. The crude extracts of the plant possess radical scavenging activity as estimated by in vitro antioxidant assays like DNA damage assay, lipid peroxidation assay, DPPH assay, FTC assay, etc. Hence, Elsholtzia densa extracts could be used as an easy accessible source of natural antioxidants and antimicrobial agent.

In Vitro and in Vivo Antioxidant Activity and Hypocholesterolemic Effect in Extracts of Agrocybe Aergetia-Yuk Fan Ng 2005

Antioxidant Properties of the Leaves and Stems of Aristolochia Indica-Priya Vijayamani 2011-04 Aristolochia indica is a traditionally used medicinal plant claimed to possess antioxidant, anti-diabetic and anti-inflammatory activity. The present study was conducted with the purpose to evaluate the in vitro antioxidant activity in leaves and stem of Aristolochia indica. The enzymic antioxidants such as catalase, peroxidase, super oxide dismutase, glutathione reductase, glutathione s-transferase and non-enzymic antioxidants (ascorbic acid, polyphenols, carotenoids, tocopherol, and flavonoids) were analysed. The free radical scavenging activity (inhibition of nitric acid, super oxide generation and in vitro lipid peroxidation and DPPH free radical scavenging and hydrogen peroxide radical scavenging activity) of different extracts of Aristolochia indica was also observed. The results obtained in the present study indicated that the Aristolochia indica might be a good source of natural antioxidant.*

Phytochemical Screening and In Vitro Antioxidant Activity-Kareti Srinivasa Rao 2016-09-27

Assessment of the Chemical Composition and in Vitro Antioxidant Activity of Mentha Rotundifolia (L.) Huds Essential Oil from Algeria- 2016

In-Vitro Antioxidant Activity of Leaves Extract of Rumex Dentatus-Jitender Malik 2012-05 The aim of this work is to standardise the plant Rumex dentatus by performing the phyto-chemical investigations & estimation of sugar, starch, tannins, phenolics, flavonoids & performing fluorescence analysis, ash & extractive value for powdered leaves of Rumex dentatus. The fluorescence analysis, drug shows vast colors in different reagents in day light, 254nm & 365nm, the ash value was found to be 20.45%, Water soluble ash value and Acid insoluble ash value were found to be 9.7% & 5.2% respectively the extractive value in hexane, alcohol, & water soluble extract was found to be 6.75%, 9.58%, 15.55%. The sugar and starch content in powdered leaves of Rumex dentatus was found to be 0.37% & 5.76%. The UV spectrscopic estimation of tannins, phenolics, flavonoids content in powdered leaves of Rumex dentatus was found to be 1.15%, 56.008%, 0.353%. TLC and HPTLC were performed for quantitative estimation of emodin in different extracts.

Hypoglycemic Effect and in Vitro Antioxidant Activity of the Dichloromethane Fraction from the Leaves of Ficus Odorata (blanco) Merr. (moraceae)-jasmin V. Degolado 2013 According to WHO, in 2012 there were approximately 347 million people globally who suffer from diabetes and it is predicted to become the seventh leading cause of death in 2030. Oxidative stress plays a major role in the pathogenesis of diabetes. This has impelled researchers to use antioxidants as a complementary therapy for diabetes. Hence, this study aimed to evaluate the hypoglycemic and in vitro antioxidant activity of the DCM fraction from the leaves of Ficus odorata. The methanolic crude extract was fractionated by liquid-liquid partitioning using organic solvents with increasing polarity. Four fractions were obtained such as, hexane, DCM, ethyl acetate and water. Of the four fractions tested, DCM fraction yielded the highest amount of flavonoid content at 335.63 mg QE/g sample. The same fraction was further subjected to Thin Layer Chromatography (TLC) and Reverse phase HPLC analyses. TLC plates produced eight spots using chloroform and methanol (5:1) as solvent. One of these spots corresponded to quercetin (mean Rf value = 0.39 ± 0.02). On one hand, HPLC analyses revealed also the presence of quercetin. In acute oral toxicity test using OECD guidelines 425 main test, out of five rats, zero mortality was observed after 14 days of treatment. Gross necropsies of all rat organs were normal. Histopathological analyses of liver and kidneys were unremarkable. In hypoglycemic study, induction of diabetes was successfully completed in 28 days using single dose of streptozotocin (30 mg/Kg body weight) and high fat diet (Srinivasan et al., 2005). Daily oral administration of DCM fraction from the leaves of Ficus odorata at a dose of 50 mg/Kg (low dose) and 200 mg/Kg (high dose) bodyweight were given for 14 days. Results showed that at a dose of 50 mg/Kg (p

Flavonoid Interactions with Iron and Iron Complexes-Mark David Engelmann 2003

Reflectance of Botanical, Production and Geographical Origin on the Unique Compositional Traits of Purple Grape Juices- 2016

In Vitro Antioxidant and Antibacterial Activity of Twenty-one Northern Ontario Medicinal Plants-Haider Mohammad Hassan 2013 *Aboriginal [First Nations, Native peoples] communities in the northern Ontario region utilize an abundance of locally grown medicinal plants. However, no prior documentation or phytochemical studies on the northern Ontario medicinal plants existed in literature. This prompted me to exploit the ethnobotanical resources in this region towards the study of antibacterial bioactivity and alleviation of oxidative stress. Oxidative stress plays a fundamental role in the pathogenesis of many major human illnesses, such as cancer, cardiovascular diseases, diabetes and Alzheimer’s syndrome. Also, infectious diseases are a major concern in our society due to the advent of multiple drug resistant strains of bacteria that cause

In Vitro and In Vivo Antioxidant Activity of Natural Carotenoid Mixtures-Sotiriou Kikias 2002

Effect of Sorghum Type and Processing on the Antioxidant Properties of Sorghum [sorghum Bicolor (L. Moench)]-Buwifolia

In-vitro Evaluation of Antioxidant Activity of Monotheca Buxifolia by employing some in-vitro contemporary methods. The antioxidant activity was evaluated through the DPPH (2,2-diphenyl-1-picrylhydrazyl), ABTS (2,2'-azino-bis(3-ethylbenzothiazoline-6-sulphonic acid) diammonium salt), ORAC (Oxygen Radical Absorbance Capacity), and EC 50 (half maximal effective concentration) assays. The total phenolic content of medicinal plants was also determined.

Antioxidant Activity of Extracts from Stems Alyxia Reinwardtii-2004

In a search for antioxidant compounds from Thai medicinal plants, we isolated two dichloromethane and ethyl acetate crude extracts from the stems of Alyxia reinwardtii (chaloid in Thai) showed potent antioxidant activity, as guided by scavenging effect on the stable radical, 2,2-diphenyl-1-picrylhydrazyl (DPPH). These crude extracts were isolated to afford eight compounds, namely coumarin (1), 3-hydroxycoumarin (2), 6-hydroxyemarin (3), 6-hydroxymalonumbic acid (4), scopoletin (5), 7-hydroxylaugust emitter (6), and p-hydroxybenzoic acid (8). The structures of all compounds were characterized by means of NMR, MS, chemical analysis, and comparison with the literature data. The structure of compound 7 was also confirmed by X-ray crystallography. In terms of antioxidant activity, the isolated compounds were evaluated by various in vitro model assays, which include the DPPH radical scavenging activity, xanthine oxidase-related activity (Superoxide scavenging activity and inhibitory effect on xanthine oxidase), and lipid peroxidation inhibitory activity. The free radical scavenging activity on DPPH indicated that compound 7 (IC(subscript 50) = 0.19 mM) showed the highest activity, followed by 6 (IC(subscript 50) = 0.31 mM), 2 (IC(subscript 50) = 0.61 mM), 3 (IC(subscript 50) = 3.17 mM), and 4 (IC(subscript 50) = 7.15 mM), respectively. 

Extractability Profiling and Antioxidant Activity of Flavonoids in Sorghum Grain and Non-grain Materials-Nengo Lynda Azefor

Ontario medicinal plants, I selected 21 plants based on their documented properties. These plants were separated into leaf, flower, stem and root tissues and extracted with ethanol. In total, 43 extracts were assayed for antioxidant activity and antibacterial activity in this study. The antioxidant activity was evaluated through the DPPH (2,2-diphenyl-1-picrylhydrazyl), ABTS (2,2'-azino-bis(3-ethylbenzothiazoline-6-sulphonic acid) diammonium salt), ORAC (Oxygen Radical Absorbance Capacity), and EC 50 (half maximal effective concentration) assays. The total phenolic content of medicinal plants was also determined.

Antioxidant and Anticancer Activity of Cissus Quadrangularis L.-Stem

Krunal Nagani 2013 C. quadrangularis L. belongs to the family Vitaceae, a edible plant found in India. It is commonly known as ‘bone setter. The stems of C. quadrangularis are reported to have great medicinal value. Considering above, in the present work antioxidant, anticancer and

Protocol for in Vitro Analysis of Antioxidant Activity-Schaich

2009-05-29 With food and nutraceutical producers increasingly demanding documented quantitative activities of natural materials that they purchase as ingredients, suppliers and analytical labs must develop expertise in the most-publicized assays. Recognizing the continuing confusion about antioxidant assays, Protocols for in Vitro Analysis of Antioxidant Activity provides the most up-to-date knowledge and standardized protocols for in vitro antioxidant assays. This valuable resource offers scientists, antioxidant researchers, and analytical chemists a base from which different materials and results from different labs can be compared reproducibly and legitimately.

In-vitro Evaluation of Antioxidant Activity of Monotheca Buxifolia-Sidra Farid 2012-02 The chemistry of antioxidants has developed rapidly. Natural and synthetic antioxidants found their various applications in petrochemical industry, cosmetics, food industry, and rubber industry and in medicines. This book will be of immense value to students, practicing professionals and others to learn something about the importance of antioxidants. This book is unique in this sense that it elucidates the role of spectrophotometry in evaluating the antioxidant potential of natural and synthetic compounds. In addition, it will give you an idea to identify the class of natural products by simple phytochemical screening tests. The present study aimed to investigate the antioxidant potential of Monotheca buxifolia by employing some in-vitro contemporary methods. The results

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Antioxidant Mechanisms and Bioactivity of Phenolic Compounds Found in Dioscorea Bulbifera-Patricia Elizabeth Rees 2018 Accumulation of oxidative damage has been implicated in numerous diseases bringing antioxidant investigations and plant phenolics to the forefront of medicinal research. The species Dioscorea bulbifera has been used in both traditional and modern medicinal systems and has good overall antioxidant capacity. Yet little work has been done to assess which chemical components may contribute to this action. The goals of this study were to investigate the antioxidant activity of individual phenolic compounds in the plant D. bulbifera; to compare the in vitro antioxidant assays with human cell studies; for this information to contribute to future investigations in treating human disease. Methanolic extracts of the D. bulbifera bulbs were analyzed using HPLC-MS/MS and NMR. Positively identified compounds were used for in vitro antioxidant assays (Ferric Reducing Antioxidant Power (FRAP), iron chelation, and Oxygen Radical Absorbance Capacity (ORAC), followed by human cell assays. Several phenolic species were tentatively identified. (+)-catechin was positively identified and used for further testing. In vitro assays showed potential for electron transfer antioxidant activity but not iron chelation. The hydrogen transfer mechanisms could not be assessed due to assay complications. Cell assays also suffered complications rendering them inconclusive.

Thermal Processing Effects on Total Phenolic Content, Antioxidant Activity, Trypsin Inhibitor Activity and In-vitro Protein Digestibility of Lentils-Yamuna Sampathkumar 2011 Heat pre-treatment of nutrient-rich lentil seeds prior to their processing into flour may enhance its use by reducing processing and preparation times in value added products. In this study, changes in trypsin inhibitor content, total phenolic content, antioxidant activity, and protein digestibility of the raw materials were evaluated from hulled red lentils and unhulled green lentils were determined subsequent to various processing methods such as oven roasting (OR), boiling and microwave heating (MH). The increasing interest in the phenolic content of plant based food-stuffs made us to assess two different lentil cultivars processed under fixed temperature and time combination. Total phenolic content and antioxidant activity (TAC) of 70% acetone lentil extracts were assayed spectrophotometrically at 760nm using Folin-Ciocalteu and DPPH (1,1-diphenyl-2-picrylhydrazyl) radical scavenging activity methods, respectively. Significant differences in phenolic content and ...
Mechanisms of Ascorbic Acid Antioxidant Activity in Vitro and in Vivo-Kent Y. Chen 1999

Phytoconstituents & Antioxidant Activity of Actinopteris Radiata Linn-Sunandana Rao Nandyala 2012 During the last few decades, research into chemistry of natural products has advanced tremendously thanks to contributions from the fields of chemistry, life sciences, food science and material sciences. Comparisons of natural products from microorganisms, lower eukaryotes, animals, higher plants and marine organisms are now well documented. This book provides the detail study of isolation, structure elucidation and In-vitro antioxidant activity of Actinopteris radiata Linn. In this, the chemical constituents isolated from different extracts of Actinopteris radiata (whole plant) namely, Stigmasterol, -sitosterol, palmitate, hexirioctanal, -sitosterol, Quercetin and rutin. Further these extracts were screened for antioxidant activity, from which ethylacetate extract and isolated compound RUTIN shows significant response of antioxidant activity. This book is dedicated to new and important research in the field of phytochemistry which is in the strict sense of the word the study of phytochemicals.

Antioxidants in Cocoa-Dorota Żyżelewicz 2021-04-07 This Special Issue comprises articles related to the effects of genotype and processing conditions on the phenolic compound profile and antioxidant activity of cocoa-derived products, isolation and characterization of antioxidant compounds such as polyphenols and melanoids from cocoa beans, and assessment of the antioxidant, antioxidative stress and anti-inflammatory effects of cocoa beans and cocoa-derived products. The results of these studies show that it is possible to maintain or increase the biological activity of cocoa beans and their derived products (cocoa powder and chocolate) by choosing appropriate processing conditions and cocoa genotype and origin. The papers published in this Special Issue confirm that cocoa beans and cocoa by-products can be considered as an attractive source material for manufacturing of functional foods and nutraceuticals. This is because they contain many bioactive compounds, mainly polyphenols, including flavonoids (proanthocyanidins, monomeric flavan-3-ols, and anthocyanins) and phenolic acids, as well as melanoids. Finally, the in-vitro and in vivo studies demonstrate the importance of cocoa antioxidants for the prevention of oxidative stress and inflammation.

Development of an In Vitro Method for the Assay of Antioxidant Activity of Melatonin- 2000

Measurement of Antioxidant Activity and Capacity- Renat Apak 2018-02-20 A comprehensive review for assessing the antioxidant potential of foods and essential techniques for developing healthy food products Measurement of Antioxidant Activity and Capacity offers a much-needed resource: Offers suggestions for assessing the antioxidant potential of foods and their components Includes strategies for the development of healthy functional food products Contains information for identifying antioxidant activity in the body Presents the pros and cons of the available antioxidant determination methods, and helps in the selection of the most appropriate method. Written for researchers and professionals in the nutraceutical and functional food industries, academia and government laboratories, this text includes the most current knowledge in order to form a common language between research groups and to contribute to the solution of critical problems existing for all researchers working in this field.

Evolution of Antityrosinase and Antioxidant Activities of Raphanus Sativus Root Extract for Cosmetic Applications-Rattanamanee Jakmatakul 2006 Anti-tyrosinase agent. The antioxidant properties of the two extracts were also tested for their scavenging effect on DPPH radical, superoxide anion and singlet oxygen and compared with those of Trolox® and L-ascorbic acid. Freeze-dried water extract exhibited higher potency than methanol extract (IC50 = 0.643 and 1.248 mg/ml for antioxidant activity against DPPH, 4.20 and 6.28 mg/ml for superoxide anion scavenging activity and 1.42 and 2.40 mg/ml for singlet oxygen scavenging activity) but generally lower than other reference antioxidants. The in-vitro cytotoxicity of the two extracts was determined by LDH assay. Both the freeze-dried water extract and methanol extract showed mild cytotoxicity even at high concentrations. Considering its various properties, the inexpensive and easily available freeze-dried water extract has potential for use in both the pharmaceutical and cosmetic applications.

Ethnopharmacological Profile of Garden Rue: Role in Inflammation-Manjir Sarma Kataki 2014-09-11 The book describes a protocol to evaluate anti-inflammatory activity in popular animal models along with biochemical and molecular pharmacological investigations. The present work evaluated the anti-inflammatory and antioxidant activity of the methanol extract of Ruta graveolens leaves (RG-M) in various in vivo and in vitro models. For the anti-inflammatory activity evaluation, RG-M was administered by the oral route (p.o.) in carrageenan-induced paw edema model and by the intraperitoneal route (i.p.) in edutative inflammation model. In vitro inhibition of cyclooxygenase and lipooxygenase enzymes was also investigated. In vitro anti-inflammatory activity was also evaluated. Endogenous antioxidant status was further screened by ferric reducing ability of plasma model. The extract showed maximum inhibition of carrageenan - induced edema and in edutative inflammation model, significant reduction in leukocyte migration and protein exudation were observed. RG-M also revealed inhibition of COX-1 and COX-2 as well as 5-LOX. Antioxidant activity was found to be significant along with improved endogenous antioxidant status.

Antioxidant Activity of Polyphenolic Plant Extracts-Dimitrios Stagos 2021-03-19 "Antioxidant Activity of Polyphenolic Plant Extracts" is a collection of scientific articles regarding polyphenols, that is, substances occurring naturally in plants and exhibiting many beneficial effects on human health. Among polyphenols' interesting biological properties, their antioxidant activity is considered the most important. This book brings together experts from different research fields on topics related to polyphenols, such as their isolation and purification, assessment of their antioxidant activity, prevention from oxidative stress-induced diseases and use as food additives. The polyphenols used in the present studies are derived from a great variety of plants, ranging from well-known species to rare ones that are only found in specific regions. Moreover, some of the studies provide evidence that polyphenols may be used for the prevention and treatment of common diseases such as diabetes mellitus, Alzheimer's disease, cardiovascular and intestinal diseases. Importantly, in several of the studies "green extraction methods" for the isolation of polyphenols were developed using modern technologies, where few or no organic solvents were used, in order to minimize environmental and health impacts.