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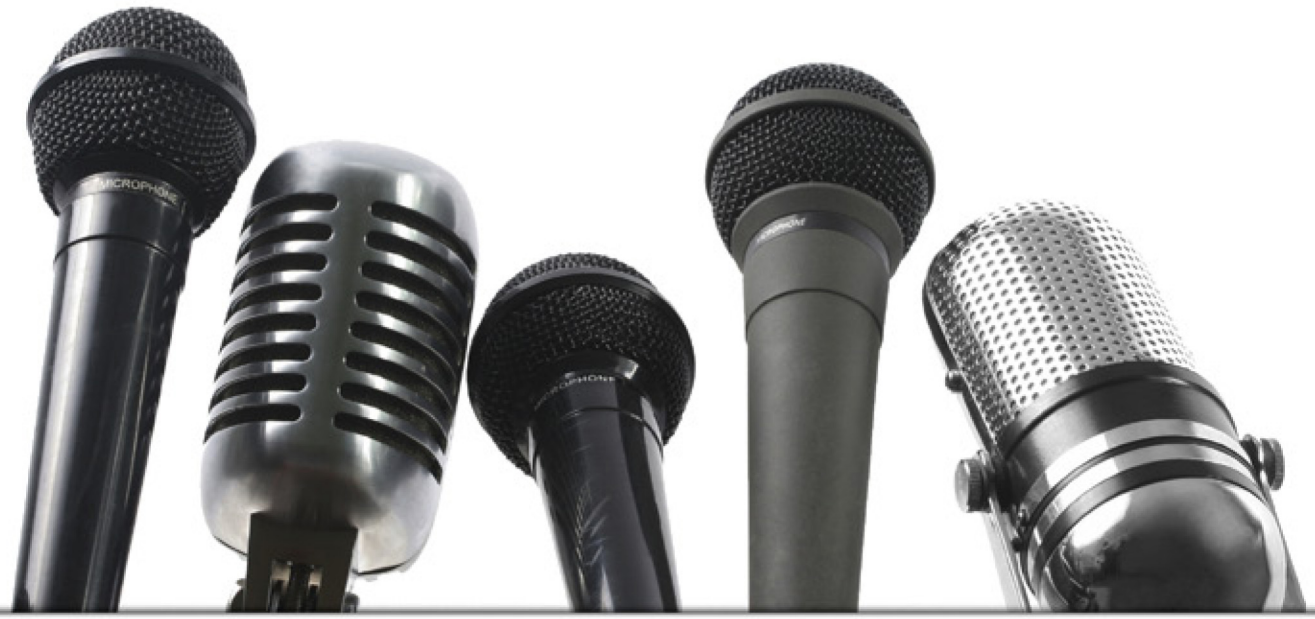

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2nd Global Summit on Pharmaceutics and Drug Delivery Systems

29th-30th , June 2017 at Singapore

Dr. Gian Carlo Tenore

Department of Pharmacy - University of Naples "Federico II"

Abstract

Nutraceuticals define a new category which shades the frontier between drugs and food. As per its definition, a nutraceutical is “a food or part of a food that provides benefits health in addition to its nutritional content”. Active substances eitherway extracted fromplants (phytocomplexes) or of animal origin,when extracted, concentrated and administered in a suitable pharmaceutical form, can create a very promising toolbox useful to prevent and/or support the therapy of some pathologic conditions given their proven clinical efficacy. It is worldwide recognized that diet and lifestyle are essential to promote and maintainwell-being and nice-being condition, other than help to prevent diseases possible onset. Both non-correct dietary habits and lifestyle can in fact determine pathological conditions. The metabolic syndrome, a worldwide epidemic threat, can be named an outstanding example. This syndrome is characterized by a cascade of cardio metabolic risk factors which include obesity, insulin resistance, hypertension, and dyslipidemia. Prevention is the key strategy for an effective proactive medicine, in which efforts are addressed to prevention and, consequently, to lower the risk connected to somelifestyle related diseases reducing, at the same time, any National Health Systems cost needed to guarantee the proper therapeutic approach based on pharmaceuticals. Nutraceuticals use in prevention is a proactive reverse approach tool to preclinical health conditions.

They can be effectively used, by including in the daily diet, in an area which shades in the range "beyond the diet, before drugs", since they combine both nutritional and beneficial healthy properties of food extracts with the healing properties of natural active compounds.

Keywords
Nutraceuticals; health; prevention; phytocomplex; diet; proactive medicine; pharmaceutical; metabolic

Biography
Dr. Gian Carlo TENORE graduated in 1999 in Medicinal Chemistry at the Department of Pharmacy, University "Federico II" of Naples. He received in 2003 the PhD degree in "Pharmacologically Active Natural Substances" at the Department of Pharmacy. He has been Research Assistant in Organic Chemistry, from 2003 to 2009, at the Department of Pharmacy. In 2009, Dr. TENORE is deignated PhD Researcher and Assistant Professor of Food Chemistry at the Department of Pharmacy. In 2016, Dr. TENORE is designated Associate Professor of Food Chemistry and Scientific Responsible of the NutraPharmaLabsTM laboratories at the Department of Pharmacy. The research activity field of Prof. TENORE deals with Food Chemistry and Nutraceutical Sciences. The results from his studies have been the object of 80 scientific publications on international journals with impact factor.

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2nd Global Summit on Pharmaceutics and Drug Delivery Systems

29th-30th , June 2017 at Singapore

Professor Gautam Sethi

Department of Pharmacology, National University of Singapore, Singapore

Pharmacological Development Of Tocotreinols For Cancer Therapy

Abstract

Gamma-tocotrienol, a member of Vitamin E superfamily has attracted great attention of late for its anti-proliferative and anti-carcinogenic potential against different cancers. For example, our group has recently reported that anti-proliferative and chemosensitizing effects of □-tocotrienol are associated with its ability to suppress activation of signal transducers and activator of transcription 3 (STAT3), a pro-inflammatory transcription factor that plays a pivotal role in the survival, proliferation, angiogenesis and chemoresistance of hepatocellular carcinoma. However, the potential of gamma-tocotrienol to overcome chemoresistance in gastric cancer, which is one of the deadliest cancers in Asia-pacific region, has never been explored before. Hence, we investigated the efficacy of gamma-tocotrienol in combination with capecitabine to modulate tumor growth and survival in xenograft mouse model. Gamma-tocotrienol also inhibited expression of various oncogenic proteins, induced PARP cleavage and inhibited NF-κB activation in gastric cancer cells. In vivo studies using xenograft model of human gastric cancer demonstrated that gamma-tocotrienol alone suppressed tumor growth and this effect

was further potentiated in conjunction with capecitabine. As compared to the vehicle control, gamma-tocotrienol further suppressed the NF-κB activation and expression of cyclin D1, COX-2, ICAM-1, MMP-9 and survivin in tumor tissues obtained from treatment groups. Additionally we noted, that gamma tocotrienol can function as a potent inhibitor of angigogenesis in both HUVEC and HCC cells. Overall our results suggest for the first time that gamma-tocotrienol can potentiate the effects of chemotherapy through modulation of multiple biomarkers of proliferation, and angiogenesis in diverse cancers.

Biography

After completion of his postdoctoral training at University of Texas MD Anderson Cancer Center, Dr. Gautam Sethi joined Department of Pharmacology, Yong Loo Lin School of Medicine, National University of Singapore in 2008 as an Assistant Professor and was promoted to Associate Professor in 2015. The focus of his research over the past few years has been to elucidate the mechanism (s) of activation of oncogenic transcription factors such as NF-kB/STAT3 by carcinogens and inflammatory agents and the identification of novel inhibitors of these proteins for prevention of and therapy for cancer. The findings of his research work have so far resulted in more than two hundred scientific

publications in high impact factor peer reviewed journals (with h index = 67) and several international awards. He currently serves as an Academic Editor for PLOS, editorial board member of Scientific Reports, Cancer Letters, Pharmacological Research, Frontiers in Pharmacology, Frontiers in Oncology, and ad-hoc reviewer for several prestigious international journals.

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Bitter Apple Fruit [Citrullus colocynthis]: Phytochemistry, Pharmacology, TraditionaL uses and Nutritional Potential

Abstract

Bitter apple (Citrullus colocynthis), a member of family Cucurbitaceae, is a high valued medicinal plant, distributed in many tropical and subtropical countries. Bitter apple fruits usually recognized based on their medicinal and nutritional properties especially in Asian countries. Bitter apple fruit has been valued as a nutritious fruit as it provides a good source of fatty acids, protein and minerals elements. As a rich source of functionally important bioactives and therapeutics such as polyphenols,

triterpenes, sterols, and glycosides, the fruit has been widely used for the treatment of rheumatism, paronychia, ulcer, malaria, and cardiovascular and degenerative diseases in the native medicine system of Asia. A number of medicinal properties such as antioxidant, anticancer, anti-diarrheal, anti-obesity, anti-ulcer, and anti-inflammatory have been ascribed to this fruit of high economic value. The aim of the present work is to present comprehensive information of the cultivation, nutritional and chemical composition, as well as medicinal and therapeutic properties of this multipurpose fruit, as one of the potential sources of bioactives for functional food and nutraceutical applications.

Biography

In 2009, I managed to obtain my doctoral degree in Analytical Chemistry from the University of Agriculture Faisalabad and the University of Ulster Coleraine, UK (Split Program). Availing TWAS-USM Postdoc Fellowship, I completed my one year Post-doctorate research at the School of Pharmaceutical Sciences, University Sains Malaysia, Penang, Malaysia in 2012. Currently I am working as Associate Professor of Chemistry. I have so far supervising eighteen PhD/MPhil and 22 master students and I am PI of some research projects. I have published more than 80 research papers and secured > 80 IF.

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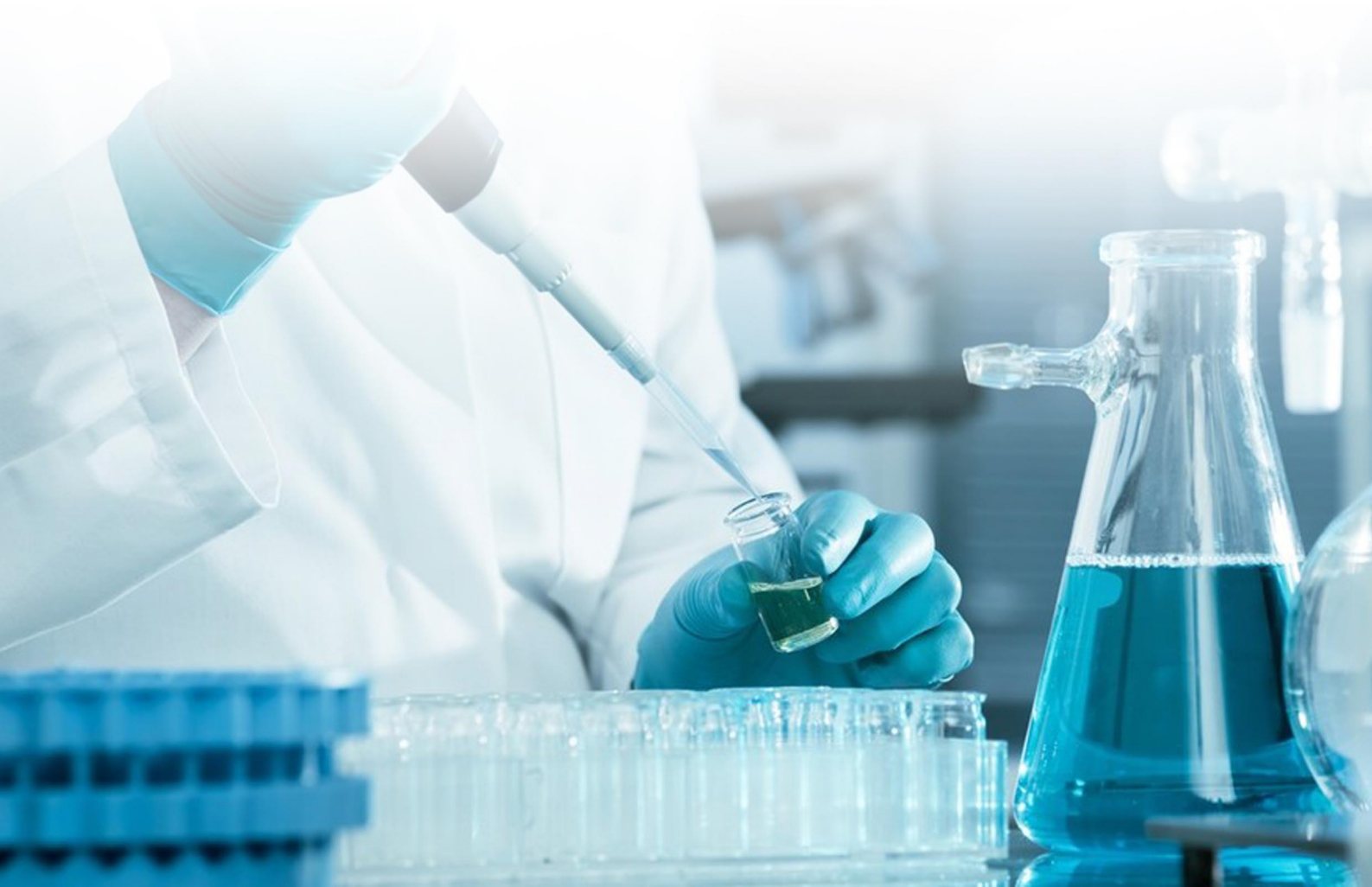

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Natural Phenolic Acids: A Potential Skin Whitening Agents

Abstract

There are different types and tones of skin like lighter tone, darker tone etc. mostly depend upon the geographical condition of area. Several compounds including hydroquinon, azelic acid, kojic acid used to lighter skin tone and other skin disorders. Moreover these compounds are also reported to cure several diseases including melisma, mutagenicity and hyper pigmentation. Phenolic compounds including phenolic acids and flavonoids have important functions in plants. polyphenols exhibit a series of biological properties that influence the human in a health-promoting manner. Present study was designed to study the effect of selected natural phenolic acids through skin application, because they

can alleviate symptoms and inhibit the development of various skin disorders. The selected phenolic compounds are a promising tool in eliminating the causes and effects of skin aging, skin damage and other skin diseases. Phenolic acids were isolated from berries fruits using solvent extraction. RP-HPLC analysis was performed to the identification and quantification of targeted phenolic acids. Total phenolc acid contents (TPC) were also measure spectrophotometrically. DPPH radical scavenging capacity and antioxidant activity of selected phenolic acids were determined and results were compareable with synthetic antioxidant, BHT and BHA. Results reported that Strawberry and blue berry contained maximum TPC followed by mulberry. The major phenolic acids detedted were p-hydroxy benzoid acid, synapic acid, caffeic acid. Application against skin diseases proved that the selected phenolic acid have potential against skin aging and pigmentation.

Keywords
Phenolic acids, Antioxidant, DPPH radical scavenging potential

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2nd Global Summit on Pharmaceutics and Drug Delivery Systems

29th-30th , June 2017 at Singapore

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A Novel Bactericidal Surface Developed To Stop Hospital Infections Spreading

Abstract

As antibiotic resistance continues to threaten the treatment of various infections, the aim of this work concerns the design of a new coating film containing light activated antimicrobial chemicals and nanoparticles to avoid microbes spread across hospitals. This work involves developing research areas that did not exist previously, such as the light activated polymers which have been studied at Chemistry Department UCL and in some cases commercialized. It is well known that methicillin-resistant Staphylococcus aureus (MRSA) is a substantial public health problem not restricted to any geographic area, but worldwide. The same is true for the opportunistic pathogen Pseudomonas aeruginosa. Micro-organisms selected for this study were Epidemic MRSA 4742 representative of a Gram-positive epidemic bacteria isolated at UCL Hospital and Pseudomonas aeruginosa PAO1 as well as the clinical strand isolated at UCL representative of Gram-negative bacteria resistant to the majority of currently used antibiotics. Concerning this one a complementary study of its biofilm-mediated resistance to antibiotics has been followed. To satisfy the target the dye selected was crystal violet or gentian violet because it has been demonstrated that in vitro it can disrupt Pseudomonas aeruginosa biofilms and it can kill MRSA. The nanoparticles used for this study were silver ions because the antimicrobial activity of Ag+ ions is well documented and reviewed. The antimicrobial

polyurethane coating films produced were tested against these micro-organisms to demonstrate their efficacy. It has been also studied the critical importance of the presence of silver nanoparticles to improve the functional property of the inanimate surface.
In particular, at present, these coating films produced were tested against MRSA and PAO1 for 5 hours at 500 lux. MRSA was completely killed by the treated PU with CV and CV + Ag NPs solutions while PAO1 growth was mainly reduced by PU with Ag NPs solution.

Biography

Alessandra Piccitto is a registered Pharmacist in the United Kingdom. She received her MPharm degree from the University of Turin (Italy) after completing a research project at Durham University (UK) in 2010. She has been teaching human anatomy and chemistry in high schools of the north of Italy. She started her PhD at Politecnico of Turin (Italy) and she is currently continuing it at University College London to develop a novel bactericidal surface with a strong activity against MSRA and P. aeruginosa.

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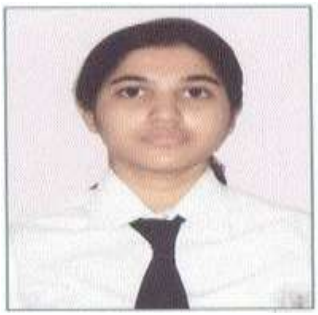

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Biogenic synthesis and characterization of gold nanoparticles by Marsilea quadrifolia extract and its Glucose Utilization in 3T3-L1 Adipocytes

Abstract

This study aims mainly for understanding the effect of glucose utilization efficiency of biogenic gold nanoparticles (GNPs) synthesized through the mediation of Marsilea quadrifolia methanol extract

on 3T3-L1 adipocytes. The biosynthesized GNPs were characterized by UV visible spectrophotometry, FTIR. The nature, stability, and morphological characteristics were analyzed by XRD, TG-DTA, SEM-EDS, HRTEM, and SAED. The results of characterization studies were confirmed properties of GNPs.

The In vitro cytotoxicity screening indicates that, 100µM of biogenic GNPs were resulted in 71.23±1.56% of cellular viability in 3T3-L1 adipocytes cells. Further increased glucose utilization of biosynthesized GNPs based on dose dependent manner on 3T3-L1 has been demonstrated. The effect of GNAPs (30µg) on glucose uptake was higher than that of Insulin, and Metformin. Moreover, the observed results highlighted that the biogenic GNPs have higher efficiency of glucose utilization in 3T3-L1 adipocytes with lower toxicity.

Keywords
Marsilea quadrifolia; 3T3-L1 adipocytes; glucose, gold nanoparticles, cytotoxicity

Biography
Mrs. Anindita Chowdhury is a doctoral student at Jadavpur University. She has majored in Bioprocess engineering during her post graduation at Jadavpur University under the guidance of Dr. Chiranjib Bhattacharjee in the year 2014. Currently she is pursuing her PhD programme from Jadavpur University under the same guidance with co-supervisor as Dr.K.Selvaraj. She has participated in several conferences and published her work in international journals. Her research area focuses on the separation and isolation of bioactive components from natural resources and synthesis of nanoparticles.

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A Short Review on The Effect of Functional Group in Methylxanthine (Caffeine) Class of Drugs

Abstract

In general, drugs play a vital role in our day today life to heal several diseases. However, higher doses of drug which initiates the side effect and leads to chronic disease. Among the drugs, Methylxanthine which occupies a unique position because of its own functional properties and it is also the largely consumed psychoactive alkaloid drugs which includes caffeine (C8H10N4O2),Theophylline(C7H8N4O2),Paraxanthine(C7H8N4O2),Pentoxifylline(C13H18N4O3),Theobromine(C7H8N4O2),Aminophylline(C16H24N10O4),andIBMX-3-Isobutyl-1-methylxanthine(C10H14N4O2) and it has been stimulating particular parts of the nervous system in the human body. Especially this drug is consumed in the name of coffee more than 80% of people all over the world without knowingly or unknowingly the impact of caffeine. The particular drug contains different type of functional groups that make different roles. This paper deals with the effect of functional groups of Methylxanthine having -NH2, -C=O, -CONH2.

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Evaluation of Diuretic Activity of Methanolic Extract of Syzygiumcumini

Abstract

In this study, methanolic extract of bark of Syzygiumcuminiwas tested in Wistar albino rats to evaluate for its diuretic activity. The animals were divided into three groups of six animals each. The methanolic extract was administered orally at a dose of 500 mg/kg. Furosemide was used as standard drug for diuretic which was administered at a dose of 10 mg/kg i.p. The diuretic activity was evaluated by determination of urine volume and urinary electrolyte concentrations of sodium, potassium and chloride ions.The findings revealed that extract of Syzygiumcumini showed an increase in total urine output and increased the excretion of the electrolyte concentrations of sodium and potassium ions significantly. The study concluded that methanolic extract of Syzygiumcumini possesses diuretic activity.

Keyword
Syzygiumcumini, diuretic activity,potassium, chloride, urine output.

Biography
Currently, working as anAssistant Professor in P.E.S's Rajaram and TarabaiBandekar College of Pharmacy, affiliated to Goa University, India. He received PhD (Pharmacy) from Bhagwant University, Ajmer, India. Hisresearch interests are pharmacognosy/ biotechnology/ pharmacological activities on animal study. His recent research focused on diuretic and nephroprotective activity on medicinal plants. He has 3 research articles published in international journals of repute (Indexed/ included in Scopus, PubMed Central., etc.). He has actively involved in teaching, research and administration for past 6 years.

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Adriamycin Mediated Impaired Hepatic Lipid Homeostasis in Rodent Model

Abstract

Adriamycin is a highly effective anti-neoplastic drug used to treat different types of cancers but utilization of this drug is comprised due of its side effects. Adriamycin shows elevated serum glucose and triglyceride levels. Arunachalam et al., hypothesized Adriamycin causes lipotoxicity

through inhibition of adipogenesis by down-regulating PPARγ. The up-regulation of ATGL, CGI -58, HSL shows that there is an increasing lipolysis in adipose tissue. This indicates that there is a

disruption in lipid metabolism during Adriamycin treated condition. Liver is one of the major vital organs which has many different functions and also it is affected by Adriamycin. Among that function lipid metabolism and transportation plays an important role in pathogenic condition. The ligand - dependent transcriptional regulator PPARγ, AHR, PXR plays an important role in lipid metabolism. Our objective is to elucidate the role of transcripitonal regulators and genes which is responsible for lipid metabosim during Adriamycin treatment. Rattus norvegicus are divided into 3 groups. Group 1- Control (treated with saline); Group 2 – Low dosage (1.5mg/kg for 5weeks cumulatively); Group 3 – High dosage (15mg/kg for 5weeks cumulatviely). After 5 weeks of treatment, we sacrificed and isolate liver and analyzed the genes using RT-PCR. The transcriptional analysis shows that there is a down-regulation of PPAR γ, PXR and lipid metabolizing gene such as CD36, ATGL, ACOX, APO B, LPL and upregulation of ligand lipid transcriptional regulator AHR. During Adriamycin treated condition, there is a dysregulation of lipid transcriptional regulators such as PPARγ, AHR, PXR and also other genes which is involved in lipid metabolism are CD36, ATGL, ACOX, APOB and LPL. This outcome supports the hypothesis that Adriamycin causes impaired hepatic lipid homeostasis.

Keywords
Adriamycin, liver, lipid metabolism, PPARγ

Biography
He is working as an Assistant Professor in the Department of Biotechnology, Kalasalingam University, Krishnankoil, Tamilnadu. He received his PhD degree in 2012 from Chonbuk National University, Jeonju, South Korea. His area of research is adverse drug reactions. He is working on an anti-cancer drug Doxorubicin. Though a potential anti-cancer drug it also causes life-threatening cardiomyopathy. In his early career, he discovered that the drug at very low concentrations inhibited adipogenesis in vitro. Remarkably he identified that doxorubicin treatment mimics type 2 diabtes. He has authored 12 scientific research articles in international journals.

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Synthesis and Antituberculosis activity of 1-(2-(6-(4-substituted benzyl)-2-amino-5-carbamoylpyrimidin-4-yloxy)acetyl) thiosemicarbazide and semicarbazide

Abstract

A series of 1-(2-(6-(4- substituted benzyl)-2-amino-5-carbamoylpyrimidin-4-yloxy)acetyl) thiosemicarbazide (S 1-25) 1-(2-(6-(4- substituted benzyl)-2-amino-5-carbamoyl pyrimidin-4-yloxy)acetyl) semicarbazide (R 1-25) were developed using different aromatic aldehydes, urea and thiourea. The synthesized compounds were characterized by IR, 1H-NMR and mass spectrometry. The antitubercular activities performed by using six different concentrations, namely 0.97, 1.95, 3.90, 7.81, 15.62 and 31.25 µg/mL were used and the data of screening reveals that the compounds S3, S12, R12, R18 and R24 were inactive R all concentrations against M. tuberculosis H37Ra strain. In the MABA screening, amongst the tested compounds, R3 was active R 1.95 µg/mL, S18 was active R 3.90 µg/mL,

R25 was active R 7.62 µg/mL and S24, S25 were active R 7.81 and 15.62 µg/mL concentrations respectively.

Keywords
Pyrimidine, semicarbazide, thiosemicarbazide, biological activities.

Biography
Is working as a Research Faculty in International Research Centre, Kalasalingam University, Krishnankoil, Tamilnadu. He received his PhD degree in 2013 from Acharya Nagarjuna University, Guntur, India and he earned Young Faculty Award 2014 from EET CRS presents Academic Brilliance Award-2014, Noida and has 10 years of teaching experience, scientific research and development. He has published 21 Books and 56 scientific research articles in international and national journals. His research has focused on the Graph Theoretical Analysis, Density Functional Theory, Insilico Modeling, Optimization, Synthesis, Formulation and Analytical/Biological Screening of Novel Nanocomposites.

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Identification and characterization of molecular targets of Tris DBA [Tris(dibenzylideneacetone)dipalladium(0)] for cancer therapy

Abstract

Cancer is complex disease involving complex genetic and epigenetic heterogeneity making it the second leading cause of mortality globally after cardiovascular disorders. While conventional treatments like surgery, radiotherapy, chemotherapy remain principal treatment strategies, the focus is gradually shifting towards anti-cancer therapies that can target multiple oncogenic pathways simultaneously. In the present report, we hypothesized that Tris DBA, an organopalladium compound, might inhibit proliferation, invasion, migration, and induce apoptosis in multiple myeloma (MM) and hepatocellular carcinoma (HCC) cells, thereby potentially exhibiting a broad spectrum of anticancer effects. Our preliminary results indicate that Tris DBA could substantially inhibit both constitutive and IL-6 inducible STAT3 activation and abrogate proliferation/survival of MM/HCC cells without displaying any adverse side effects in nu/nu mice. In future work, we aim to investigate the possible molecular targets of Tris DBA and further characterize the molecular mechanism(s) underlying its STAT3 inhibitory effects in both MM and HCC cells.

Keywords

Tris DBA, STAT3, signaling pathways, apoptosis, anti-cancer, organo-palladium

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Design and in silico modeling of *Dunaliella bardawil* extract encapsulated succinyl-chitosan nanoparticles for effective anticancer activity

Abstract

The drugs with enhanced effectiveness and least side effects is a major task in current drug discovery. To achieve this immense target the succinyl-cytosan and bioactive compounds from Dunaliella bardawil extract were chosen to formulate nanoparticles (NPs). The specific drug delivery is a core path to produce significant biological activity, in this connection, the current study was designed to produce high stable NPs and their characterization such as encapsulation of bioactive compounds from Dunaliella bardawil extract, nature, molecular shape, particle size, stability and polydispersity index by FTIR, XRD, SEM, TEM and Zetasize analyzer. The prepared NPs were around ~51 nm size, majorly spherical in shape, crystalline nature, and average particle size of 50±5.6 nm, zeta potential to be -26±2.7 mV and polydispersity index of 0.51±0.02. Based on review report, the drug targets 521P and 5P21 were chosen to perform in silico study. Interestingly, the observed in silico study reports shows the strong interaction of NPs and binding pockets of H-Ras P21 protooncogene. In this view, the attracted attention of NPs encouraged and prompted us to study the in vitro anticancer activity by cancer cell line. At 50 µg/mL concentration NPs displayed 95.60% cytotoxicity in HeLa cell line. The obtained results showed the active NPs enhancing controlled, site specific drug delivery and it can serve as a novel nanodrug in the management of cancer.

Keywords
chitosan, Protooncogene, Multidrug resistance, H-Ras P21, Docking

Biography
Currently, he is working as a research faculty in Sir CV Raman-KS Krishnan International Research Center, Kalasalingam University, India. He received PhD (Chemical Engineering) from Jadavpur University, Kolkata, India. His research interests are health care/pharmaceutically important biomaterial separated from environmentally dumped waste human hair, waste biological materials like fish shells, crab shells. The isolated biomaterial applied to convert nanoparticles or nanovehicles or nanocarriers for degenerative diseases therapeutic formulations for overcoming multi drug resistance, targeted drug delivery and improve bioavailability. His recent research focused on targeted drug delivery system focusing on degenerative diseases using waste human hair protein based nanoparticulate formulations. This research work is expected to be published -Manuscript titled "Design, in silico modeling and biodistribution of rutin and quercetin loaded-stable human hair keratin nanoparticles intended for targeted drug delivery on anticancer activity" submitted to ACS Nano Journal. His published work deals with optimization, preparation and characterization of rutin-quercetin dual drug loaded keratin nanoparticles for biological applications. Apart from this I had published more than 20 research articles in international journals of repute (published by Elsevier, Springer, Thieme, American Chemical Society., etc.). He has actively involved in teaching, research and administration in the field of Biotechnological and Biopharmaceutical research for past 10 years. Apart from these, he has done post doctoral research work under the guidance of Prof. Maciej Gliwicz, Department of Biological Chemistry, University of Warsaw, Poland.

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29th-30th , June 2017 at Singapore

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QA/QC in Pharmaceutical Industry: Role of Analytical Techniques

Abstract

The supply of essential medicines of good quality has been identified as one of the prerequisites for the delivery of health care system of any country as poor quality medicines can harm or even kill consumers. The presence of unwanted chemicals in a particular medicine, even in extremely small quantities, may influence its efficacy and safety. Hence, quality of pharmaceuticals has been a concern of the people of the whole world, andis now receiving critical attention from regulatory authorities [1].The recent changes in the European Pharmacopoeia (EP), the United States Pharmacopoeia (USP) and the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) regulations for inorganic impurities and new strategies require companies to adopt new strategies for heavy metal analyses [2]. The proposed new Guideline, Q3D, would provide clarification on 24 elemental impurity (Cd, Pb, As, Hg, Co, V, Ni, Tl, Au, Pd, Ir, Os, Rh, Ru, Se, Ag, Pt, Li, Sb, Ba, Mo, Cu, Sn, and Cr) requirements are specified with their toxicity limits, defined as maximum permitted daily exposure (PDE) levels in µg/day for the four major drug delivery

categories. Some of the metals such as Pb, As, Pd and Pt even at low concentrations are toxic and harmful to humans [3].Nowadays, it has become necessary to provide not only purity profile but also impurity profile of a particular pharmaceutical product because of national and international regulations. This review presents the international approaches to assessment of the content of genotoxic impurities (residual solvents and various inorganic and organic impurities) in pharmaceuticals. These aspects along with significance of the quality, efficacy and safety of pharmaceuticals, including the source of impurities, kinds of impurities, role of different analytical techniques in controlling these impurities and regulatory aspects are discussed.

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Characterization of Nutritionally Essential Minor Saccharides in Escalating Cultivars of Daucus Carota By Hplc-Ri Detector

Abstract

Carbohydrates in Daucus carota prove its legitimacy, sensory and nutritional properties. The objective of present study was to quantify the minor sugars, in addition to major saccharides in new lines of D. carota by developing and validating a simple analytical method using high performance liquid chromatography with refractive index detector (HPLC-RI). Sample preparation

required only water-blending, filtration, demineralization and degassing prior to injection. The concentration ($p < 0.05$) of total sugars in terms of fructose, glucose, maltose, maltotriose and maltodextrin in selected cultivars (DCW, DCY, DCP, T29, DCR, DC3 and DC90) were 4.511, 5.165, 6.311, 5.281, 4.912, 5.099 and 4.448g/100g of fresh weight (FW) respectively. The sugars types and concentrations were confirmed by retention times and peak areas of standards. Validation parameters proved that developed method is efficient state of art having correlation coefficients (> 0.999). Limits of detection and quantification are consistent which were in the range of 48.13 to 59.45 mg/L and 49.36 to 178.23 mg/L respectively. Recovery of sugars was > 90%. Developed method was applicable to quantify all types of sugarsinD. carota. DCP cultivar contained higher concentration of sugars, it may be recommended in process industries for the extraction of dietary sugars of vegetal origin.

Key words
sugars, D. carota, cultivars, HPLC-RI, maltose, maltotriose, maltodextrin

Biography
Dr Chatha was born in Hasilpur, Pakistan, in 1980. He received the M.Sc., M.Phil and PhD degrees in Analytical Chemistry from the University of Agriculture Faisalabad, Pakistan, in 2004, 2006 and 2011, respectively. He got his Post Doctorate from The University of Western Onario, Canada in 2016.. In 2006, he joined the Department of Chemistry, Government College University Faisalabad, Pakistan, as a Lecturer, and in 2011 was promoted to Assistant Professor. During his stay at Government College University Faisalabad, he has proved his abilities on different administrative position (Student Advisor 2008-2014, Additional Senior Tutor 2012-2015, Deputy Chief Security Officer 2014-2015) in addition to his responsibilities of teaching and research. His current research interests include Natural Products Chemistry, Food Chemistry and Textile/Environmental Chemistry. He has 52 National/International research publications and more than 13 professional talks at different national/International scientific forums to his credit. Dr. Chatha is Member Executive Council, The Chemical Society of Pakistan; Member, American Oil Chemist Society and Affiliated Member, International Union of Pure and Applied Chemistry. He has organized more than 13 Scientific Conferences as conveners and member of organizing committees. He was awarded University Merit Scholarship during his postgraduate study at University of Agriculture Faisalabad. He has many awards and certificates of honors in the field of Sports and Singing completions to his credits. He was the recipient of award for Productive Scientist of Pakistan in 2009 to 2014 for his contributions to the field of research innovation by Pakistan Council for Science and Technology

2nd Global Summit on Pharmaceutics and Drug Delivery Systems

29th-30th , June 2017 at Singapore

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A statistical Mechanical Model for Drug Release:Investigations on Size and Porosity

Abstract

A lattice gas model is proposed for investigating the release of drug molecules in capsules covered with semi-permeable membranes. Release patterns in one and two dimensional systems are obtained with Monte Carlo simulations and adjusted to the semi-empirical Weibull distribution function. An analytical solution to the diffusion equation is used to complement and guide simula- tions in one dimension. Size and porosity dependence analysis was made on the two semi-empirical parameters of the Weibull function, which are re- lated to characteristic time and release mechanism, and our results indicate that a simple scaling law occurs only for systems with almost impermeable membranes, represented in our model by capsules with a single leaking site [1].

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Jui-Yang Lai
University/Organization: Chang Gung University

AntioxidantBiodegradable in Situ Gelling Polymersas Potential Antiglaucoma Drug Delivery Systems

Abstract

Given that glaucoma is a chronic disease occurring in elderly patients and requiring lifelong treatment, the development of antiglaucoma formulation is of high clinical importance. In addition to ocular hypertension, oxidative stress has been considered as one of the causes of glaucoma although disease progression is usually associated with poorly understood pathophysiology. In this study, to enhance the therapeutic efficacy of pilocarpine-containing biodegradable in situ gelling copolymers, the functionalization of biomaterial carriers with gallic acid (GA) is attempted to improve the total antioxidant status in glaucomatous eyes. The GA-functionalized gelatin-g-poly(N-isopropylacrylamide) (GN) biodegradable in situ gelling copolymers were synthesized by redox technique. Structure and function of a series of GNGA polymers can be controlled via adjusting the reaction time and temperature.The findingsof present work suggest that the GA content in the multifunctional polymers may have a profound influence on the delivery performance and therapeutic efficacy of cytoprotectiveantiglaucoma drug carriers.

Biography

Dr. Jui-Yang Lai obtained his Ph.D. in Chemical Engineering from the National Tsing Hua University, Taiwan. Since 2014, he is a Professor of the Institute of Biochemical and Biomedical Engineering, Chang Gung University, Taiwan. Dr. Lai's primary research activities are centered on the development of functional biomaterials for ophthalmic use, particularly on tissue engineering and drug delivery. Dr. Lai has published 70 international SCI journal papers. He also serves as editorial board membersand peer reviewers for several international academic journals.

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Bioassay-Directed Isolation of Hypotensive Alkaloids from Holarrhenapubescens

Abstract

Holarrhenapubescens belongs to the family Apocynacea, commonly known as “kurchi” is highly reputed in traditional medicine as a remedy for amoebic dysentery and other intestinal ailment. Bioassay-directed fractionation [1] of the ethanolic extract of Holarrhenapubescensresulted in the isolation of steroidal alkaloids i.e. Holamide and Pubscinine. Holamide showed a three proton doublet at 1.45 (J=6.56 Hz) and two AB doubles at 3.17 and 3.00 each for on proton (J=12.06 Hz) in the 1H NMR spectrum suggested that it belongs to conanine series of alkaloid (A class of compound with the steroid nucleus and a five members heterocyclic ring with nitrogen). In contrast Pubscinine showed one methyl at 1.28 while the doublet is missing a three proton singlet was observed at 2.28 due to a vinylic methyl indicated a double bond in the 18,20 – epimino ring of the conanine series of alkaloids.

In anaesthetized rats, the Holamide and Pubscinine caused a fall in blood pressure in a dose-dependent manner. Pretreatment of animals Atropine completely abolished the hypotensive response of Acetycholine; whereas hypotensive effect of Holamide and Pubscinine were not modified by Atropine [1]. Similarly Acetylcholine produced contractile effect in guinea-pig ileum, which was antagonized by

atropine, however both (Holamide and Pubscinine) failed to produced any stimulant response on guinea-pig ileum. These data indicate that the steroidal alkaloids i.e. Holamide and Pubscinine from Holarrhenapubescensmediated hypotensive response through a mechanism different to that of Acetycholine.

Biography

Khalid Aftab, Ph.D. male, Pharmacologist, graduated from department of Pharmacology, faculty of Pharmacy, University of Karachi, Pakistan in 1995. He worked for Pharmaceuticals industry as quality control & quality assurance professional and was actively involved in research & development of Pharmaceutical preparations.

He has worked in few Medical & Dental Colleges & Universities as Assistant, Associate and became full Professor Pharmacology in 2006 and worked as visiting Professor in different Universities & research institutions. From 2009 - 2011, he worked in Kingdom Saudi Arabia as a full Professor Pharmacology and currently working as Professor &HoD Pharmacology in IM&DC, University of Health Sciences, Pakistan.

Only Pakistani Pharmacologist who has got membership of American College of Clinical Pharmacology. Now he has published more than 45 papers in scientific journals of international repute and presented many lectures & poster presentations throughout the world, most awards to him was for the science and technology success. He was involved in drug discovery and the scientific evaluation of traditional remedies used in different disorders. His group has developed expertise in a wide range of activities and made valuable contributions on medicinal value of plants by providing pharmacological basis for their usefulness as antihypertensive, cardio-tonic, laxative, antispasmodic and anti-diarrheal.

In recent year, he focused on the biodiversity & pharmacological activities of marine organisms and got some important success.

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Engineering of Mannosylated Gold Nanoparticles for Targeted Delivery of an Anticancer Drug To Tumor- Associated Macrophages

Abstract

In the present study, we have explored one-pot synthesis of mannan sulphate capped mannosylated gold nanoparticles (MS-AuNPs). It was further investigated as a novel carrier for targeted anticancer drug delivery in cancer microenvironment. The synthesized stable and non-cytotoxic MS-AuNPs exhibited surface plasmon resonance (SPR) at 520 nm, with a spherical shape with 18 nm particle size and -37.50 mV zeta potential values. The targeting potential of MS-AuNPs for doxorubicin (MS-AuNPs-DOX) drug delivery in cancer cells and macrophages was explored. In vitro cellular uptake and apoptosis potential was visualized by confocal microscopy and quantified through atomic absorption spectroscopy. The in vivo biodistribution of MS-AuNPs was performed in Wistar rats to determine its targeting potential. These findings can be further utilized for cancer therapy as well as imaging via targeting tumour-associated macrophages.

Biography

Megha Mugade is the PhD research fellow at Department of Pharmaceutics, Bharati Vidyapeeth University, Poona College of Pharmacy, India. She has completed undergraduate and post-graduate in pharmaceutical education and received university gold medal for both courses. She is a nationally recognized scholar, who has received numerous awards from government agencies that include the 2009 national merit award, GATE national fellowship, doctoral research fellowship from Department of Science and Technology-INSPIRE unit of Government of India. Her current research area focuses on design and development of nanoparticulate drug delivery system. She has published one patent and many research papers in international journals.

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"Evaluation of Alpinia Galanga Essential Oil forAnti Asthmatic Activity in Animal Models."

Abstract

Aim

The aim of the present study was to evaluate antiasthmatic activity of Alpinia galanga essential oil by using various animal models.

Material & Methods

Essential oil of Alpinia galanga was procured from GR herbals, Indore & Chemical analysis was carried out through GC-MS. In present study we investigated the contraction inhibition activity on tracheal chain using histamine (10 µg/ml). For in vivo studies PCD time was observed in 0.1% histamine exposed guinea pigs. The treatment drugs viz. dexamethasone standard (2mg/kg), A.galanga essential oil lower dose (200mg/kg) & higher dose(400mg/kg) were administered 30 min before of

exposure. Whereas ovalbumin (OVA) sensitization in albino mice was done with 50µg OVA (i.p.) with 1 mg alum. Treatment was done with drugs mentioned above and simultaneously challenged with 1% OVA & after final exposure of OVA investigate the leukocyte count in BALF, AEC in blood, IgE level in serum, histopathology of lungs in mice.

Results

Chemical analysis of A.galanga essential oil showed the presence of various flavonoids. In vitro studies showed 57.6% inhibition of contraction at 100 µg/ml concentration of A.galanga oil. In histamine bronchospasm studies there was significant($P<0.001$) increased PCD time in dexamethasone group and significant($P<0.001$, $P<0.01$) increases the time with the dose of A.galanga 200mg/kg & 400mg/kg respectively. Whereas OVA sensitization in mice showed significant ($P<0.001$) decreases leukocyte count, significant($P<0.001$) decreases AEC in blood and IgE level in serum in treatment groups as compared to asthmatic group. Histopathological investigation showed depletion of proteinaceous debris, thickening of the alveolar walls, hyaline membrane, neutrophil infiltration and goblet cell hyperplasia in treatment groups as compared to asthmatic group.

Conclusion

The present study suggest that it significantly decrease the airway inflammation induced by ovalbumin hence the present study proved that A.galanga essential oil bearing antihistaminic, anti-inflammatory effect which has essential to treat asthma & was concluded that, it possess antiasthmatic activity.

Key Words

Alpinia galanga, Essential oil, Ovalbumin(OVA), Histamine, Pre-convulsion dyspnoea (PCD), Absolute Eosinophil Count(AEC).

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Integrative Clinical Trials: Holistic and Tissue Engineering

Abstract

Any holistic medicine, if it is to be truly "holistic", cannot possibly take the policy of escapism from Clinical Trials. The intention to design experimental trials on animals before coming over to humankind has been focused on to procreate the most state-of-the-art clinical trials for human holistic medicine. Thus, split-plots [and even: split-split plots] are brought at work to employ the full efficiency of Bayesian statistics for purposes of holistically infer posterior likelihood in cases of predictions based on "priors". This spells that on the on the one hand clinical trials are not necessarily to be of randomized nature. On the other hand, the basic ideas of HCT [Holistic Clinical Trials] and ICT [Integrative Clinical Trials] by means of incorporating Algebraic-Topologic notions (rather than simple numerically crunched data analysis) into the main body of any trial of clinical essence, thence, emerges to be the most applicable handy clinical trials of near-future medicine.

Regarding the relationship between the functionality and the geometrical shaping of cells, we two have --for the last 4 years-- been examining the topology of normal/stem/cancerous cells whereby the induction has been made that: the Atiyah-Hirzebruch spectral sequence has its (even if narrow) application in predicting the topological properties of tumor microenvironments. This in itself makes it possible for the early diagnosis of some types of cancer possibly even without leveling cultures [say, through Immunocytochemistry tagging].

The whole process revolves around the idea that the cohomology either through K-theory or by means of C-algebra not only differentiates in between normal and abnormal growth, but also {by adding on the application of CW-complexing} brings about the likelihood of discerning those sub-spaces in which stem cell structuration could be manipulated. This even goes to the extent of molally/molecularly designing for culturing those tissues which are mostly regarded to be entelechially non-regenerable, though our success has not been --at least experimentally-- as remarkable in this latter field as it has been in early cancer diagnosis and/or minutely tailoring regenerable tissues all through the assistance of the said

branches of mathematics. We have our own methodology for morphological landscaping in non-human cellular networks, too.
Employing a personalized strategy by taking into account the patient's specific conditions, Integrative Medicine (IM) endeavours to apply all appropriate interventions from a whole set of science branches to bring back health. However, this does not remain fully without its own challenges from almost all sides. Complementary and Alternative Medicine (CAM) on the one hand, and: Evidence Based Medicine (EBM), on the other, have their own rightful say in the affair. In order to be able to check up and down on the modalities of research as far as unforeseen challenges into the future are concerned (let alone those already extant), we have devised some a priori vs a posteriori systematology whereby experimental subjects are [constantly] "re-shuffled": then, groupings of instantiations are posed one onto the other so that a certain RCT could approximately represent (without necessarily presenting) another run of a similar RCT.

Keywords

HCT (Holistic Clinical Trials) and ICT (Integrative Clinical Trials), Semi-randomization, Holistic medicine, Systematology, Randomized Control Trial (RCT), Research modality, a priori presentation, a posteriori representation

Biography

He has been born in Shiraz, Southern Iran--Fars in 1971. Having been baby-sitted by native English speaking nurses up to (at least) the age of five, he turned out to be a man of letters in full command of three languages of Persian, Arabic, and English [he picked up Arabic in native Arab speaking states]. Having finished the high school period with an O-Level degree in mathematics and exact sciences, and A-Level diploma in Biology and Natural sciences, he went for three quarters of theoretical physics college education before he shifted to starting a full 5-year period of eleven semesters for receiving his agronomic engineering degree. As for "Master", he was honored by a degree in PHilosophy of SCience(s). He is a specialist in comparing the philosophy of technology and applied sciences with that of theoretical sciences. All throughout the proceedings of the Iranian National Conference on "The Comprehensive Psycho-physical Health Agenda", Reza Saanayæ acted as the Governing Scientist to the debate panels of the said seminar where he received the certificate with the doctoral degree for his concentration during the three years prior to (and inclusive of) 2011 on a variety of novel designs for clinical trials integrating mind and body ailments' investigations.Despite the fact that he has almost always preferred to stand at the arrowhead of designing research and investigation in various circles of humanities and science, he also has under his belt many years of teaching linguistics, languages, pure philosophy, philosophy of science, philosophy of medicine, psychology, psychoanalysis, and experimental designs.