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Scientific Tracks & Abstracts (Day 1)

Yuying Gao, Clin Exp Pharmacol 2018, Volume 8
DOI: 10.4172/2161-1459-C3-034

Value of pharmacometrics analyses in drug development

Yuying Gao
Certara China, USA

The process of drug development is extremely time consuming and costly. It takes approximately 10-12 years and costs hundreds of millions or billions dollars. Pharmacometrics is the scientific discipline that uses mathematical models based on biology, pharmacology, physiology, and disease for quantifying the interactions between drugs and patients. Its purpose is to reduce cost and shorten development time by optimizing the clinical assessment of efficacy and safety. This presentation highlights the value of pharmacometric analyses in drug development through selected examples.

Biography

Yuying Gao is a trained anesthesiologist and clinical pharmacologist with more than 100 published books, manuscripts and abstracts and 20 years of modeling and simulation experience in optimizing treatment and bridging strategies, trial designs and drug development decision-making. In 2006, she joined Certara (formerly Quantitative Solutions) in its infancy and served as director of the Drug Development Consulting Services, general manager of Asia-Pacific region, and vice president, most recently as President and CEO of Certara Strategic Consulting China. Prior to joining us in 2006, she was senior scientist at the Pharsight Corporation (now Certara) from 1999 to 2006. During her career in both medical and consulting services, she has established herself as a thought expert in the field of anesthesiology and pharmacometrics. She has worked with more than 60 pharmaceutical companies and modeled more than 150 compounds in clinical development. Her work covers all therapeutic areas with recent focus on cardiovascular disease, oncology and neuroscience.

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Notes:

Mohamad Samer Mouksassi, Clin Exp Pharmacol 2018, Volume 8
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PK/PD modeling and trial simulation for everyone

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Nowadays it is rare to see any FDA submission package without a Pharmacokinetics/Pharmacodynamics modeling component where some clinical trials were designed based on simulation. The current workflow is that an expert modeler provide model outputs and simulation about scenarios that he thinks are important to emulate future trials and decisions. Then, the decision maker might then ask for new more relevant scenarios to the current situation. This decision process is iterative where one simulated scenario might warrant another question/scenario that need to be tested until we reach a satisfactory decision. As such this involves sveral cycles of back and forth. All this results in bottlenecks cycles where the decision maker is waiting for simualtion results and where simulation scientists are waiting for decision maker to give them more scenarios to test. Why is this ? The simulation workflow is so complicated that only the person who built the underlying models and simulation scenarios can get useful answers. However, recent technological advances has enabled simulation scientists to build specialized user interfaces that enable decision makers to be part of the design team and ask questions and get answers on the fly. Today this is possible using web based responsive user interface A successful simulation exercice involve a mathematical modeler (e.g.pharmacometrician), a clinical trial expert, a therapeutic area expert (or a clinician) a computational/web developer expert and the clinical development decision maker. An example of the development of such an app for Tuberculosis will be demoed.

Biography

Mohamad Samer Mouksassi is an established pharmacometrician providing solutions for optimizing drug development and health care problems. He holds a clinical degree PharmD (Lebanese University), and postgraduate degrees in Biostatistics, Epidemiology and Pharmacokinetics Modeling and Simulation from University of Montreal, PQ, Canada. During his industry experience Samer's team successfully obtained several regulatory approvals for several therapeutic indications namely in pediatrics and rare diseases. More recently, Samer was the key analyst that led the efforts to successfully qualify an imaging biomarker for polycystic kidney disease. He continues to specialize in bringing therapeutic options for neglected diseases and vulnerable populations.

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Notes:

Azrifitria Amiruddin et al., Clin Exp Pharmacol 2018, Volume 8
DOI: 10.4172/2161-1459-C3-034

Potential nutritional and *in vitro* inhibitory effects on α-glucosidase of sea hare *(Dolabella auricularia)*

Azrifitria Amiruddin, Benny Manullang and Sri Purwaningsih
Syarif Hidayatullah State Islamic University Jakarta, Indonesia

Dolabella auricularia, also known as sea hare, is a marine gastropod that it found in the waters of Indo – Pacific. The aims of this research were to explore the potential of nutritional content of the species and *in vitro* anti-diabetic activity of sea hare extract. The composition of fatty acid was measured by gas chromatography, amino acids were measured by high performance liquid chromatography and mineral was measured by atomic absorption spectrophotometer. *In vitro* anti-diabetic activity of the sea hare extracts was evaluated by measuring their inhibitory effect on alpha-glucosidase level. The sea hare contained nine essential amino acids and six non-essential amino acids. Total saturated fatty acids was at 5.33% (g /100g), MUFA at 2.11% (g/ 100g), PUFA at 4.1% (g/100g). Calcium was at 68100 mg/kg, potassium at 10000 mg/kg, sodium at 8200 mg/kg, and carbohydrate at 1.52%. Sea hare ethyl acetate extract has in vitro anti-diabetic activity better than methanolic extract. The ethyl acetate extracts inhibited alpha-glocosidase activity *in vitro*, in a concentration dependent manner (IC_{50}=25.76 mg/mL). The present study confirms that sea hare had a rich source of nutritional and their inhibitory effects on alpha-glucosidase.

Biography

Azrifitria has completed her PhD at the Indonesia University School of Medicine. She is the Head of Pharmacy Department at Syarif Hidayatullah State slamic University Jakarta, Indonesia. She has published several papers in reputed journals and get some course at pharmacy field at Tokushima Bunry Japan.

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Notes:

Alaa Alqahtani et.al., Clin Exp Pharmacol 2018, Volume 8
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Novel bufadienolide glycoside and a homoisoflavonoid from *Rhodocodon campanulatus* (Asparagaceae)

Alaa Alqahtani[1,2] Moses K[1,2], Dulcie A Mulholland[1,2] and Wolfgang Wetschnig[3]
[1]University of Surrey, UK
[2]Umm-al-Qura University, Saudi Arabia
[3]University of Graz, Austria

Rhodocodon campanulatus is a member of the bulbous Urgineeae tribe of the Scilloideae subfamily of the expanded Asparagaceae family (formerly Hyacinthaceae). Plants of the Urgineeae tribe are used as traditional remedies for the treatment of several ailments, such as infections, rheumatism, inflammation and disorders associated with the central nervous system. The Urgineeae tribe is distributed from South Africa to the Mediterranean, Saudi Arabia, India and Myanmar. The chemical constituents of plants of the *Rhodocodon* genus are not documented and hence the plant was investigated for chemo-taxonomical reasons. In this study we report the isolation of a novel bufadienolide glycoside and a known homo-isoflavonoid from the ethanol extract of the bulbs of *Rhodocodon campanulatus*. The major compounds were novel bufadienolide glycoside, 1, 3β-(O-β-D-glucopyranoside)-14β-hydroxybufa-20,22-dienolid-19-al, and the known homo isoflavonoid, 2, 5,7-dihydroxy-3-(3-hydroxy-4-methoxybenzyl) chroman-4-one, previously isolated from the South African *Scilla kraussi*. The structures of 1 and (2, 2a-b) (figure 1) were determined by the analysis of their NMR and MS spectra. The absolute configuration at C-3 for 2 was determined in this study as S on the basis of its electronic circular dichroism study. A positive Cotton effect at 290 was in agreement to those reported for homo isoflavonoid with H-3 in β position. Compound 1 was screened against NCI60 cancer cell lines and did not show any significant growth inhibition. Compound 2-2a-b was tested for anti-angiogenic inhibition ability. Compound 2b was found to be effective against the angiogenesis of human retinal micro vascular endothelial cells (HRECs) with GI_{50} values of 128 μM.

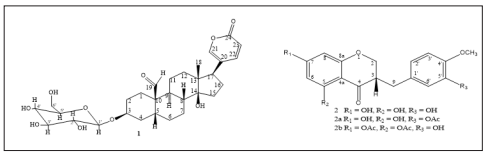

Figure 1: The structure of compounds isolated from *Rhodocodon campanulatus.*

Recent Publications

1. Schwikkard Sianne, Alqahtani Alaa, Knirsch Walter, Wertschnig Wolfgang, Jaksevicius Andrius, Opara Elizabeth, Langat Moses K and Mulholland Dulcie (2017) Phytochemical investigations of three *Rhodocodon* (Hyacinthaceae *sensu* APG II) species. *J. Nat. Prod*; 80: 30-37.

References

1. Goel A, Ram V J, (2009) *Tetrahedron*; 65: 7865-7913.
2. Koorbanally N A, Koorbanally C, Harilal A, Mulholland D A, Crouch N R (2004) *Phytochem*; 65: 3069-3073.
3. Crouch N R, Mulholland D A (1999) *Phytochem*; 51: 943-946.
4. Adinolfi M, Barone G, Corsaro M M, Mangoni L (1988) *Tetrahedron*; 44, 15: 4981-4888.

Biography

Alaa Alqahtani is an Assistant Professor in Pharmaceutical Chemistry Department at Umm Al- Qura University. She has completed her Graduation from Umm Al-Qura Universityand Master's in Chemistry with Biological Chemistry from University of Hull, UK. She completed her PhD from Surrey University, UK in the field of Natural Products Chemistry (Pharmaceutical Chemistry). Her research focuses on the discovery of novel drugs from traditional medicinal plants, marines and their determination of their absolute stereo structures using electronic circular dichroism. Her areas of expertise includes, isolation, identification and quantification of compounds from natural sources, synthesis of bioactive molecules and examine the possible biological activities of these compounds.

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Safinaz Ibrahim Khalil, Clin Exp Pharmacol 2018, Volume 8
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A study of CYP2C19*2, *3 and *7 in different Sudanese ethnic groups and their response to Omeprazole based triple therapy in Khartoum, Sudan 2016-2017

Safinaz Ibrahim Khalil
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Background: Pharmaco-genetics is an important branch of pharmacology and should be applied to assist the clinical usage of medicines which has a strong relation with enzyme activity of certain genes and alleles known through the literature. CYP2C19 is known to affect the activity of omeprazole and this will result in different responses to treatment. The commonest alleles through the literature are CYP2C19*2 and CYP2C19*3 which vary according to different ethnicity of different populations.

Methodology: A purposeful convenient sampling; in which patients with peptic ulcer disease and treated with omeprazole were reviewed and the PCR is used to differentiate the CYP2C19 different alleles in patients presenting from February 2016 to January 2017.

Results: In the present study we investigated the distribution of three common gene variants affecting the omeprazole treatment of peptic ulcer disease and *H. pylori* eradication namely to CYP2C19*2, *3 and *7. The CYP2C19*2 mutation was found among all seven ethnic groups of Sudan, Arabs mostly 17 (139) followed by Darfurians 9 (139), Beja 6 (139) and Nilotes 6 (139), Nuba 5 (139) then Nubians 3 (139) and Fulani 1 (139), p=0.048 which is significant. Regarding CYP2C19*3 mutation of this allele is found in certain ethnic groups Arabs 6 (139), Nubians 6 (139) and Nuba 2 (139), p=0.043 significant. There is no mutation found among different Sudanese ethnic groups in CYP2C19*7. Arabs are normal homozygotes 6 (139) and Darfurians 1 (139). Nuba 1 (139) was found to be heterozygotes in this allele p=0.038 significant. Treatment of *H. pylori* with omeprazole-based triple therapy was used in 110 (139) and no significant correlation found with the different ethnic groups of Sudan.

Conclusion: These data indicate that Sudanese seven ethnic groups showed activity of CYP2C19*2, CYP2C19*3 were they took omeprazole based triple treatment and some of them showed activity to CYP2C19*7.

Biography

Safinaz Ibrahim Khalil has her expertise in evaluation and passion in improving the health and wellbeing. Her open and contextual evaluation model based on responsive constructivists creates new pathways for improving healthcare. She has built this model after years of experience in research, evaluation, teaching and administration both in hospital and education institutions.

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Notes:

Zilhadia Anwar Hasibuan et al., Clin Exp Pharmacol 2018, Volume 8
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Physicochemical and pharmaceutical properties of gelatin extracted from goat skin: The new excipient in pharmaceutical and food dosage form

Zilhadia Anwar Hasibuan[1], Yahdiana H[2], Irwandi J[3] and Effionora A[2]
[1]Syarif Hidayatullah State Islamic University, Indonesia
[2]University of Indonesia, Indonesia
[3]International Islamic University Malaysia, Malaysia

Generally the gelatin used in pharmaceutical and food dosage form was obtained from bovine and porcine. This research explored the new alternative source of gelatin, namely goat skin. Goat skin was soaked in hydrochlorid acid and then gelatin was extracted using warm water. Their physicochemical and pharmaceutical properties were investigated. A yield of 12.74±0.87 g/100 g skin sample on the basis of wet weight was obtained. Organoleptic of goat gelatin powder is a vitreous, brittle solid faintly yellow in color, nearly tasteless and odorless. The result of physicochemical properties exhibited the following: sulfide content of 7.18±0.68 ppm, lead, zinc and copper were not detected. % transmittance of goat gelatin solution revealed clarity value was 56.9±0.95. pH, moisture and ash content were 5.11±0.9, 9.23±0.9 and 0.18±0.16, respectively. The results of pharmaceutical properties including emulsion activity index, foaming properties, gel strength and viscosity were 77.23±23, 118.87±0.12, 307.67±2.64 and 25.5±1.83, respectively. The microbial assay showed microbes were not detected. All of these physicochemical and pharmaceutical properties of goat skin gelatin indicated that it meets the defined requirements of a good gelatin and could use as alternative material in pharmaceutical and food dosage form.

Biography

Zilhadia Anwar Hasibuan has completed his PhD from Faculty of Pharmacy University of Indonesia. She is a Lecturer and the Director of Pharmacy Medicine Laboratory Syarif Hidayatullah State Islamic University. She has published several papers in reputed journals and as presenter in several international conferences.

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Notes:

Rajan Radhakrishnan, Clin Exp Pharmacol 2018, Volume 8
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Common reasons for rejection of scientific manuscripts in pharmacology

Rajan Radhakrishnan
Mohammed Bin Rashid University of Medicine and Health Sciences, UAE

A significant number of manuscripts submitted to international scientific journals are from China, India, Pakistan and other developing countries. However, the acceptance rates of manuscripts from these countries are much lower than the average acceptance rates of manuscripts in these journals. Major reasons for rejection are: (1) Flawed study design, (2) inappropriate data analysis methods, (3) lack of study justification, (4) lack of novelty/data duplication, (5) lack of chemical fingerprinting/standardization of extracts, (6) study conclusions without supporting data and (7) poor writing style, language, formatting. This presentation will focus on the details of common reasons for rejection and suggestions for improvement.

Biography

Rajan Radhakrishnan is a Pharmacologist and a US-registered pharmacist, currently serving as a professor of pharmacology at the Mohammed Bin Rashid University College of Medicine in Dubai. He has more than 20 years of combined experience in teaching, research, and academic administration. He received his BPharm degree from the University of Kerala, India; MSc in pharmacology from the University of Strathclyde, UK; and PhD in pharmacology from the National University of Singapore (NUS). He did his postdoctoral fellowship in pain neurobiology at the University of Iowa, USA. He has taught pharmacology to pharmacy, medical and dental students in different universities in Malaysia, USA and UAE. He has also served as the Academic Affairs Dean at the Schools of Pharmacy in Roseman University and University of Charleston in the USA. Dr. Radhakrishnan is an active member of the American Association of Colleges of Pharmacy (AACP), American Pain Society (APS), and Society for Neuroscience (SFN). He has published 40 peer-reviewed research articles, 5 book chapters and several abstracts. He is one of the editors of *Phytotherapy Research* (Wiley), Section Editor of *Inflammopharmacology* (Springer) and Editorial Board Member of *Journal of Pain* (Elsevier). He is also in the reviewer panel of more than 15 International scientific journals. His current research interests are pain neurobiology, herbal medicine, and scholarship of teaching and learning (SoTL).

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Notes:

Nurmeilis Nurdjaman Pujianto et al., Clin Exp Pharmacol 2018, Volume 8
DOI: 10.4172/2161-1459-C3-034

In vivo anti-inflammatory activity of ethanol extracts of the parijoto fruit (*Medinilla speciosa* Blume)

Nurmeilis Nurdjaman Pujianto, Puteri Amelia and Fitrahtunnisa
Syarif Hidayatullah State Islamic University Jakarta, Indonesia

Parijoto *(Medinilla speciosa* Blume*)* is traditionally plant that used on diarrheal diseases, inflammation and cancer sores and potentially as anti-hyperlipidemia and anti-bacterial that have been tested *in vivo* and *in vitro*. Based on research, parijoto fruit contains secondary metabolites such as flavonoids, tannins, saponins and glycosides. The purpose of this study was to determine the anti-inflammatory activity of the ethanol extract parijoto by using Carrageenan-Induced Paw Edema method. Sprague Dawley rats were divided into five groups: Negative control (Na CMC 0.5% b/v), positive control (Diclofenac sodium 5.14 mg/kg BW), ethanol extract parijoto fruit in various doses of 100, 200 and 400 mg/kg body weight. The test substances are given orally before induction with 0.2 mL carrageenan 1%. Measuring of the volume of rat's paw is conducted every hour for five hours after carrageenan induction by using plethysmometer. The results showed that rats which were given ethanol extract of 100, 200 and 400 mg/kg BW have significantly different percentage of edema compared to the negative control group ($p \leq 0.05$). The percentage of edema inhibitions within the subjects group with doses of 100, 200 and 400 mg/kg BW are 74.58%, 72.88%, dan 50.85%, respectively. This result suggested that extract ethanol parijoto fruits are able to inhibit edema of rat's paw which is indicated that this extract has a potency to be developed as the anti-inflammatory agent.

Biography

Nurmeilis Nurdjaman Pujianto has completed her PhD from Faculty of Pharmacy University of Indonesia in 2016. She is a Lecturer in Pharmacology since 2005 at Pharmacy Department Faculty of Medicine and Health Sciences Syarif Hidayatullah State Islamic University (UIN) Jakarta, Indonesia. She is currently (since 2016) the Head of Pharmacy Department. She has published several paper in both international and national journal also presentation as oral presenter in international conference.

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Scientific Tracks & Abstracts (Day 2)

Indra Prasad Pandey, Clin Exp Pharmacol 2018, Volume 8
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Diversity of medicinal plants their scientific uses and conservation in Alaknanda valley, Uttarakhand, India

Indra Prasad Pandey
Journal of Phyto-chemistry and Ayurvedic Heights, India

This study is very important for future generations because the medicinal plants used in various traditional systems for the traditional medicines in the valley of Alaknanda of Uttarkhand Dev Bhumi, India. An ethno-medicinal survey was done in the year 2012-14 in various areas of Alaknanda valley, the information on ethno-medicinal importance of the different plant species were collected through interviews and discussions with the local people living in the Valley. Total 101 plant species are generally used for medicinal purposes were recorded in the survey. In the most of the cases, the underground plants (roots/rhizomes/tubers) 25% are used for medicinal purposes, 20% leaves, the whole plant 16%, barks 11%, fruits 9%, flowers 7%, stems 5% and seeds 7% of the plants. It is observed that some commercially important medicinal plant species are facing great threat due to habitat degradation, over exploitation and unscientific harvesting in the study areas.

Biography

Indra Prasad Pandey has Completed PhD in from HNB Garhwal Central University Published 225 papers in national and international Journals. Total no. of Ph.D and D.Sc. conferred are 65 under the guidance. Presently he is the Professor Emeritus, coordinator and Jt. Editor of Universities 'Journal of Phyto-chemistry and Ayurvedic Heights'.

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Yogeeswari Perumal, Clin Exp Pharmacol 2018, Volume 8
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Multiple crystal structure modeling in structure-based drug discovery: Case studies on successful diverse lead identification

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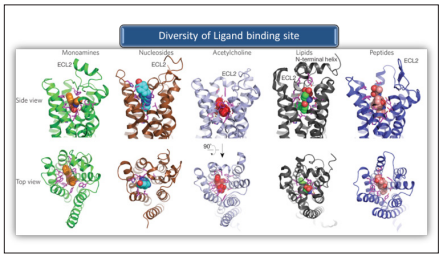

Structure-based drug design has played significant role in the design of various drug candidates. The most studied targets include the HIV protease, dihydrofolate reductase, beta secretase etc. for which there are number of crystal structures available in the protein databases (pdb). Our drug discovery research group initiated the strategy of utilizing multiple crystal structures in the design of diverse ligands of human beta secretase and was successful. In continuation to our efforts in this field, we report here the discovery of diverse ligands for various therapeutic classes utilizing structure-based design for those proteins where more than hundred crystal structures were available in the pdb. We rationalized the selection of crystal structures bound with different ligands based on the resolution of the structure, no mutation and only the wild type. About nine to 10 crystal structures were employed in the structure-based drug design to develop energy-based pharmacophore (e-pharmacophore) hypothesis based on the ligand interaction with the protein residues. Multiple e-pharmacophores were generated and validated using enrichment factor calculation. The validated pharmacophore hypothesis was utilized for filtering commercial database with pharmacophore fitness above 1.0. A high throughput screening combined with docking, analysis of binding amino acid residues and ADME parameters led to the identification of some potential diverse scaffolds that could be developed as novel inhibitors of HIV protease.

Recent Publications

1. J T Patrisha, D Manvar, S Kondepudi, M B Battu, D Sriram, A Basu, P Yogeeswari, N K Basu (2014) Multiple e-pharmacophore modeling, 3D-QSAR and High-throughput virtual screening of Hepatitis C Virus NS5B polymerase Inhibitors. *J. Chem. Inf. Model*; (ACS), 54: 539-552.
2. P Ravichand, D Sriram, P Yogeeswari, R Vadrevu (2013) Multiple E-Pharmacophore Modeling combined with High-Throughput Virtual Screening and Docking to Identify Potential Inhibitors of Beta Secretase. *Mol. Informatics*; 32: 2-15.

Biography

Yogeeswari Perumal is currently working as a Professor and Associate Dean (Sponsored Research and Consultancy Division), Department of Pharmacy, Birla Institute of Technology and Science, Pilani, Hyderabad Campus. She is the Founder of the Yogee'S Bioinnovations Pvt. Ltd, which is a drug discovery unit.

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Notes:

Noon Abubakr Abdelrahman Kamil et al., Clin Exp Pharmacol 2018, Volume 8
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Development of spectrophotometric methods for the analysis of nicotinamide in bulk and dosage forms

Noon Abubakr Abdelrahman Kamil, Shaza W. Shantier, Elrasheed A. Gadkariem
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This study was aimed to develop simple, sensitive and accurate zero (0D), first (1D) and second (2D) order derivative spectrophotometric methods for the analysis of nicotinamide in bulk and dosage forms. Methods: The zero-order spectrum of nicotinamide aqueous solution was measured at 262 nm against its blank. This spectrum was differentiated instrumentally to generate the first and second derivative spectra which were measured at 272 nm and 278 nm, respectively. The developed methods were validated as per ICH guidelines.The absorbance ratio of nicotinamide absorbance values at 214 nm and 262 nm was also determined. Regression data of the developed methods obeyed Beer's law over the concentration range 10-50 µg/ml with a good correlation coefficient (not less than 0.998). The developed methods demonstrated good inter-day and intra-day precision at the three modes. The obtained recovery percentage (99.2 ± 2.6%, n=3) reflected freedom from interference by the excipients. The absorbance ratio for nicotinamide at 214 nm and 262 nm was found to be in the range between 2.8- 3.2 which can be used as identification test for Nicotinamide (qualitative analysis).

Conclusion: The statistical validation at 95% confidence level proved the sensitivity, accuracy and precision of the developed methods

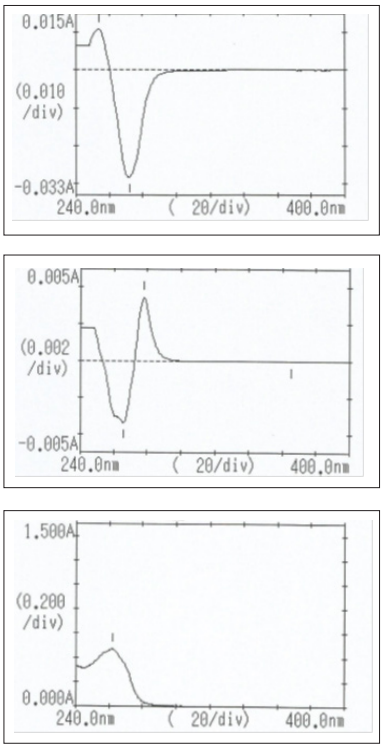

Figure 1-3: ^{2}D, ^{1}D, 0D spectrum of NIC solution (20 µg/ml)

Recent Publications (minimum 5)

1. Noon K, Shaza S, Elrasheed G (2018) Development of Spectrophotometric Methods for the Analysis of Nicotinamide in Bulk and Dosage Forms. International journal of pharmaceutical research and bio-sciences Volume 7(3): 1-10.
2. Elrasheed G, Noon K, Al Obeid H (2009) A new spectrophotometric method for the determination of methyldopa. Saudi Pharmaceutical Journal 17, 289– 293

Biography

Noon Abubakr Abdelrahman Kamil has her expertise in pharmaceutical chemistry drug analysis and passion in research and pharmacy education. Her research on drug analysis creates new methods of drug analysis using simple and accurate ways. She has more than ten years of teaching pharmacy students.

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Notes:

Chaitra Harsha et.al., Clin Exp Pharmacol 2018, Volume 8
DOI: 10.4172/2161-1459-C3-034

Evaluation of ayurvedic formulation against chemical induced chronic pancreatitis in rats

Chaitra Harsha, Pradeep, Kumaraswamay and Sasikumar
Vipragen Bioscience Private Limited, Mysore

Chronic pancreatitis is characterized by inflammation, fibrosis, and loss of exocrine (acinar cells) and endocrine (islets) tissue. In this study, L-arginine induced chronic pancreatitis model has been developed and the effect of Amar, an ayurvedic formulation on the chronic pancreatitis was studied in male Wistar rats. Animals were treated with vehicle control, Amar (25, 50 and 100 mg/kg/day) and methylprednisolone for a maximum period of 21 days and observed for general clinical parameters, clinical pathology parameters, anti-oxidant levels, inflammatory cytokines and pathological changes. oral (gavage) administration of Amar upto 100 mg/kg/day ameliorated the L-arginine induced changes in Chronic pancreatitis model in male Wistar rats. The treatment of Amar reduced the oxidative stress, the level of inflammatory cytokines levels and structural changes in pancreas. The results showed that antioxidant and anti-inflammatory properties of Amar could be the possible reason for its amelioration effect in L-arginine induced chronic pancreatitis model in male Wistar rats.

Biography

Chaitra Harsha is a Medical Doctor with PhD from Indian Institute of Science, India. She has also received Management degree from Indian Institute of Management, Bangalore, India. She is the Managing Director of Vipragen since 2015 and heads a team of 38 highly skilled scientific personnel.

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Notes:

Payam Peymani, Clin Exp Pharmacol 2018, Volume 8
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Social pharmacy as a social aspect of Pharmaco-epidemiology: Now more than ever

Payam Peymani
Shiraz University of Medical Sciences, Iran

Since pharmacy is increasingly assuming the role of 'primary and secondary health care professionals', rather than being solely dispensers of medicines and suppliers of medical appliances, pharmacy students and researchers require new proficiencies as communicators, problem-solvers and advisers. 'Social, behavioral and cognitive science' has been identified as having a significant contribution to make in the educational training of pharmacists. In this lecture we are concerned specifically with the application of sociology to the practice of pharmacy. Social pharmacy is a file riven by social demands. By studying the relationship between pharmaceutical sciences, society and humanistic perspectives, particularly through case studies, the impact of medication and changes in societal expectation of them, as well as through historical background studies and surveys of current movement, this field acts to determine the roles of pharmacists and pharmacies expected by society. Social pharmacy requires a basic knowledge of pharmaceutical science, but an understanding from socio-economic viewpoints of the current status and structures in which healthcare functions is important as well. So far, social pharmacy has played a vital and necessary role in training curriculum for community-based pharmacists. Social pharmacy may be seen as including of all social indicators influencing the use of a particular drug, like drug-related beliefs, regulations, policy, knowledge, attitudes, practice, medicine information, ethics and behavior. Social pharmacy programs in pharmacy curricula are becoming more crucial and essential because of the various factors that can affect the health of a society. Social pharmacy deals with the study of community and human act and as a behavioral science is often related with disciplines that deal with individuals as well as large and small groups, including psychology, sociology and anthropology. So it can be discussed that social pharmacy begins with a rationale of social, cognitive and behavioral sciences to educational course for pharmacists and its inclusion in the curriculum and also establish of departments, centers and journals of social pharmacy, which is a prerequisite for the development of the concept of social pharmacy and its further implementation in real world evidence and practice.

Biography

Payam Peymani is currently an Assistant Professor and Director of Pharmacoepidemiology and Pharmacoeconomics Group, Health Policy Research Center of Shiraz University of Medical Sciences. Also, He is a Director of Accreditation and Ranking Directorate, Vice Chancellery for Global Strategies and International Affairs, Shiraz University of Medical Sciences Shiraz, Iran. He is the author of more than 40 peer review papers, and participated and gave presentation in more than 34 international Congress and symposia and has been a reviewers of various international scientific journals. He is a Member of Pharmacoepidemiology Committee of Shiraz University of sciences. He is an Editorial Manager and Associated Editor of the Social Pharmacy Journal. Dr. Peymani has a more than 6 years' experience of designing and conducting clinical trials, Pharmacoepidemiology , population Based and social pharmacy Study. Dr Peymani obtained his MPhil of Health Policy and PhD of Clinical Pharmacology (Pharmacoepidemiology) from Health Policy Research Center, Shiraz University of Medical Sciences in 2013 and 2016 respectively. He received his Pharmacy Doctorate (Pharm.D) degree in Pharmaceutical Sciences from Faculty of Pharmacy, Shiraz University of Medical Sciences in 2010.Currently, His is involved in Pharmacoepidemiology, Pharmacovigilance and population Based study and his main research interest is in the design and conduct Clinical Trial and Pharmacoepidemiology / drug safety evaluation.

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Heba Moustafa Mohamed, Clin Exp Pharmacol 2018, Volume 8
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Towards disposable sensors, recent developments and pharmaceutical applications of screen printed electrodes

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The combination of modern electrochemical systems along with screen printing technology give an amazing chance for the introduction of potential and powerful analytical tools for efficient monitoring and analysis of pharmaceuticals, biomarkers and metabolites, environmental and food pollutants. Screen-printed electrodes (SPEs) can successfully address the time constraints associated with the conventional laboratory analysis. The adaptability and low-cost of this technology is accountable for its nonstop expansion and the continuous grow within the SPEs field to discover new areas of applications. Their improvements mainly will depend on incorporating new printed materials, new ligands, new polymers, further nanostructure materials and new supports. Recently, SPEs are coupled to biomolecules with the assistance of modern electroanalytical techniques and offers an excellent chance for therapeutic drug monitoring. In this work, detailed description of the elementary fabrication principles, the different designs of SPEs and the different analytical methods that are based on SPEs will be presented. Special emphasis is given on the electrochemical application of SPEs in pharmaceuticals analysis, their recent designs and the future perceptions.

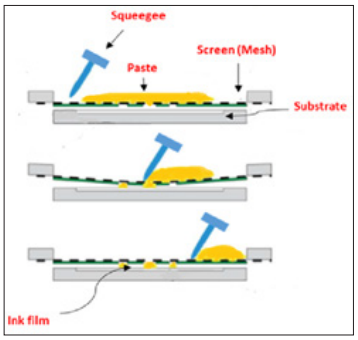

Figure 1. Schematic diagram of the screen printing basic process for electrodes manufacturing

Biography

Heba Moustafa has her demonstrated research expertise in pharmaceutical analysis, passionate to work at the interface of chemistry and biology towards better patients' health and safety. Strong technical skills in analytical techniques; spectroscopy (Mass spectroscopy, NMR, spectrophotometry), chromatography (LC/MS/MS, UPLC-MS/MS, HPTLC, HPLC) and electrochemical methods, in addition to educational research. She completed her MSc and PhD degrees in pharmaceutical analysis from faculty of Pharmacy, Cairo University-Egypt. She has published more than 25 papers in highly reputed international journals and has been serving as reviewer for many highly esteemed journals and participated in different international conferences.

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[6]-gingerol as a natural scavenger of chemical carcinogens: A computational approach

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Cancer is a major cause of death in developed countries, second after cardiac disease. In most of the cases, carcinogenesis is associated with chemical modification of DNA. Therefore, exogenous chemical carcinogens are indeed implicated in the aetiology of an increasing number of cancer types. The focus of the current contribution was to examine [6]-gingerol from ginger as a natural scavenger of nine ultimate chemical carcinogens: aflatoxin B1 exo-8,9-epoxide, β-propiolactone, 2-cyanoethylene oxide, ethylene oxide, chloroethylene oxide, glycidamide, propylene oxide, styrene oxide and vinyl carbamate epoxide. To evaluate [6]-gingerol efficiency, we expanded our research with an examination of glutathione - the strongest endogenous scavenger of chemical carcinogens in human cells. *Ab initio* calculations of activation free energies were performed at the Hartree-Fock level of theory in conjunction with three flexible basis sets. Our results obtained with implicit solvation imply that glutathione cannot efficiently protect us from all studied chemical carcinogens, meaning that additional protection is required for prevention of chemical carcinogenesis. According to our results, [6]-gingerol proved to be a universal and extremely efficient natural scavenger of all chemical carcinogens of the epoxy type. Therefore, additional protection could be assured by [6]-gingerol prophylaxis. Moreover, the obtained results present strong evidence in favor of the validity of the proposed SN2 reaction mechanism for the alkylation reactions of [6]-gingerol and glutathione with chemical carcinogens of the epoxy type and point to the applicability of quantum chemical methods to studies of early chemical carcinogenesis. The results of our study identified a novel natural scavenger, namely [6]-gingerol, that could efficiently prevent DNA alkylation damage by covalently binding to all studied ultimate carcinogens via a lower activation barrier. Therefore, we strongly believe that this research represents the basis for further computational, experimental and clinical studies of anti-carcinogenic properties of [6]-gingerol and for development of novel selective dietary supplements.

Biography

Veronika Furlan has received a Bachelor's Degree in Chemistry in 2015 and Master's Degree in Chemistry in 2017 under the supervision of Prof. Dr. Urban Bren at the Faculty of Chemistry and Chemical Technology, University of Maribor, Slovenia. Her Master's Thesis was focused on the examination of polyphenol [6]-gingerol from ginger and three-peptide glutathione as natural scavengers of ultimate chemical carcinogens. She was awarded for her Master's Thesis in 2017. In 2017 she also started her PhD work in Chemistry at the Faculty of Chemistry and Chemical Technology, University of Maribor and joined Prof. Dr. Urban Bren's laboratory. In her current projects, Veronika is applying quantum-mechanical simulations to identify the most potent blocking agents from various natural sources for cancer prevention and for the development of novel dietary supplements. She is also focused on applying molecular docking as well as molecular dynamics simulations to understand the binding mechanism of suppressing agents to enzymes associated with carcinogenesis.

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Nigella sativa and thymoquinone ameliorate memory impairment and neuro-inflammation in Aβ-induced rat model of Alzheimer's disease

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Alzheimer's disease (AD) currently is one of the major healthcare issues worldwide. Unfortunately current therapies for Alzheimer's disease do not modify the course of disease. *Nigella sativa* and its active constituent Thymoquinone (TQ) may have anti-neuro=-inflammatory actions. The aim of the present study was to investigate possible protective effects of *Nigella sativa* oil (NSO) and TQ on $A\beta_{42}$-induced AD models of rats. Intrahippocampal injection of Aβ42 peptide provides glial cell responses and causes neuro-inflammation. NSO and TQ were orally administered daily for 7 days before and for 10 days after bilateral intrahippocampal Aβ injection. To investigate whether NSO or TQ improve cognition, Passive Avoidance (PA) and Morris Water Maze (MWM) behavioral tests were performed 10 days later Aβ injection to asses learning and memory of rats. After the probe test the brain tissues were collected. Immunohistochemical staining with Iba1, GFAP and Caspase-3 antibody and ELISA analysis of TNF-α and IL-1β levels on hippocampal tissue were performed. The oral treatment with NSO or TQ significantly reduced cognitive impairments in behavioral tests both MWM and PA. Immuno-staining results revealed that both NSO and TQ reduced microglial and astrocytic activation increased with Aβ injection. Measurements of pro-inflammatory cytokines in hippocampal tissue of Aβ-injected rats showed an elevation of TNF-α and IL-1β levels. These changes were significantly reversed by NSO and TQ treatment. In conclusion results represent that NSO and TQ can improve Aβ-induced cognitive impairments by inhibiting neuro-inflammation. NSO and TQ recommended as a candidate for further investigation in treatment of AD.

Biography

Saliha Aysenur Cam has completed his Graduation from Hacettepe University, Faculty of Pharmacy. He is pursuing his PhD in Pharmacology Department at Ankara Yildirim Beyazit University. He currently works as a Lecturer at Ankara Yildirim Beyazit University. His primary area of interest is neuropharmacology.

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