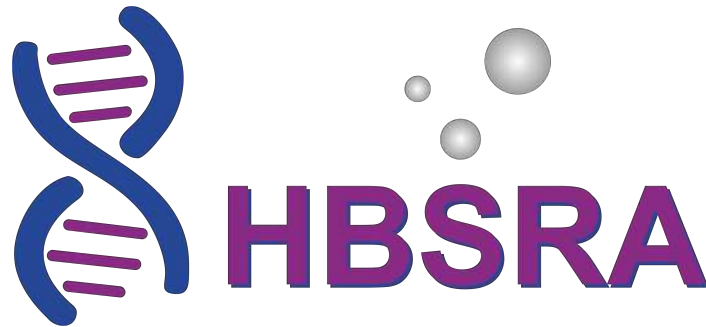


CONFERENCE PROCEEDINGS



Healthcare and Biological Sciences Research Association

**10th International Conference on Biotechnology, Bio Informatics, Bio
Medical Sciences and Stem Cell Applications (B3SC),
22-23 Feb, 2017**

Conference Venue

Flora Grand Hotel, Near Al Rigga Metro Station, Deira, Dubai, United Arab
Emirates

**10th International Conference on Biotechnology, Bio Informatics, Bio Medical Sciences and Stem
Cell Applications (B3SC), 22-23 Feb, 2017**

Flora Grand Hotel, Near Al Rigga Metro Station, Deira, Dubai, United Arab Emirates 1 

PLENARY SPEAKER



Dr. Anup Ghimire

School of Public Health and Community Medicine, B.P.Koirala
institute of Health Sciences, Dharan, Nepal

**10th International Conference on Biotechnology, Bio Informatics, Bio Medical Sciences and Stem
Cell Applications (B3SC), 22-23 Feb, 2017**

Flora Grand Hotel, Near Al Rigga Metro Station, Deira, Dubai, United Arab Emirates 2 

Narges.Hajimohamadbagher
GICHNDM1701051

BPA:Scare to death !?

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ABSTRACT

Introduction: The increasing number of women entering the workplace leads to an upward trend in non-breast-feeding. Regardless of the numerous shortcomings of formula milk, cow or other livestock's milk as compared to breast milk, plastic baby bottles and its pacifiers due to their chemical compounds has caused some concerns. Bisphenol A (BPA) is an organic chemical and a xenoestrogen family of female hormones, which is used in many plastic water bottles and baby bottles. Polycarbonate structure of this material is such that in the face of heat or even room temperature releases harmful polymers.

Methods: In this study, the dangerous effects of BPA was evaluated using the latest research published in the scientific literature databases like PubMed and SID.

Results: The findings of this study showed relation between BPA with inflammation of the lining of the gastrointestinal tract, increased sensitivity to pain, changes in the permeability of the wall of the colon, obesity, impaired testicular, breast and ovarian cancer, precocious puberty, impaired brain development, neuroblastoma, dopaminergic system disorders, diabetes and the impact of the G protein-coupled receptor (GPR30 / GPER) which it is effective in increasing breast cancer risk or its severity. The disruption of the dopamine system by in taking a lot of estrogen in children due to the use of BPA of plastic materials may cause hyperactivity in them. The interesting point is that urine BPA levels could be increased in a week by two-thirds, even by cold drinks from plastic bottles. Even at room temperature the BPA may cause endocrine disorder and wall nodes of GI tract.

Conclusion: Since the devastating effects of chemicals on infants in their growing age because of their special physiological conditions is strong, along with making alerts to mothers and families to choose BPA free bottles, these kind of products should be produced.

Keywords: Bisphenol, Baby bottles, G protein-coupled receptor



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GICHNDM1701052

**Independent nursing actions: paving the way
For community-based rehabilitation
Program for stroke survivors**

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ABSTRACT

The study aimed to strengthen the role of independent nursing actions in rehabilitation aspect of care for stroke survivors through community – based rehabilitation program. Specifically, it intended to test the effectiveness of the program in improving the knowledge and skills of nurses and carers of stroke survivors about stroke and rehabilitation, and to evaluate the said program. A mixed method of research design combining the quantitative Quasi-experimental and qualitative method was used. The study was conducted in three municipalities of Quezon Province and participated by 48 respondents chosen through purposive sampling. The program used lecture discussion and skill demonstration designed to enable the respondents to gain in-depth understanding of the essential concepts and principles related to stroke and to develop skills in rehabilitation specifically Range-of-Motion exercises. Participants were evaluated before and after the conduct of the program, and a follow-up was conducted after a week to determine retention, adoption, and application of learning. It was found out that health education and skill demonstration were found effective in improving knowledge and skills of nurses and carers which strengthened the potential merit of nursing actions in rehabilitation. The program was found to be beneficial and acceptable and its adoption by the nursing profession and its integration in the health programs being implemented in the community is strongly recommended.



ONGPOY JR., ROMEO C.


**Romeo Capistrano
Ongpoy, Jr.**
GICHNDM1701053

**Phytochemical Screening and Antimicrobial Study of the Different Leaf Extracts
of Alocasiasanderiana Bull., An Endemic Philippine Plant**

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Centro Escolar University Graduate School;
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ABSTRACT

Objectives: To investigate the phytochemical contents and evaluate the antimicrobial property of Alocasiasanderiana Bull. against a large number of pathogens.
Methods: To do this, Alocasiasanderiana Bull. was screened for qualitative phytochemical tests including thin layer chromatography. Aside from the crude extract from the Rotary evaporator, three fractions from the plant were prepared using methanol, dichloromethane (DCM) and hexane. The 4 solvent extracts were then evaluated for antimicrobial activity using disc diffusion method on 18 strains of organisms.
Results: About this study, it was found out that triterpenes, tannins and saponins are present during phytochemical screening. Zones of inhibitions during the antimicrobial tests were observed but did not reach the desired zone for antimicrobial activity. The DCM fraction produced 4 mm zone against Proteus

	<p>mirabilis, 3 mm for <i>Pseudomonas aeruginosa</i>, 1 mm for <i>Pectobacterium carotovorum</i> and 1 mm for <i>Candida albicans</i>. The methanol fraction also produced a 1 mm zone against <i>Pseudomonas aeruginosa</i>. Conclusion: The results show that <i>Alocasia sanderiana</i> Bull. leaf extracts contain polyphenolic compounds but this study shows that it exhibits non-active antimicrobial activity against the 18 strains that it was tested and may not be utilized as a potential antimicrobial drug for the said strains. Key words: <i>Alocasia sanderiana</i> Bull, Antimicrobial, Phytochemical screening</p>
 <p>DaneshiSajad GICHNDM1701054</p>	<p>Marigold and acetic acid-induced colitis: An experimental study in animal model</p> <p>Tanideh Nader, Colorectal Research Center, Shiraz University of Medical Sciences, Shiraz, Iran Department of Pharmacology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>DaneshiSajad, Young Researchers and Elite Club, Yasuj Branch, Islamic Azad University, Yasuj, Iran</p> <p>JamshidzadehAkram, Pharmaceutical Sciences Research Center, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>Sepehrimanesh Masood, Gastroenterohepatology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>Hosseinzadeh Masood, Department of Pathology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>Koochi-Hosseinabadi Omid, Laboratory Animals Center, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>NajibiAsma, Department of Pharmacology and Toxicology, School of Pharmacy, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>RaamMozhdeh, Students' Research Committee, School of Pharmacy, Shiraz University of Medical Sciences, Shiraz, Iran</p> <p>AsadiSeyedeh-Leili Student Research Committee, ShahidSadoughi University of Medical Sciences, Yazd, Iran</p> <p>ABSTRACT Background: Ulcerative colitis (UC) is a type of chronic inflammatory bowel disease with unknown etiology. The aim of this study was to evaluate healing</p>

	<p>effects of <i>Calendula officinalis</i> hydroalcoholic extract in experimentally induced UC in rat.</p> <p>Methods: Ninety six rats, weighing 200 ± 20 g, were randomly divided into eight equal groups. UC induced by 3% acetic acid and oral doses of <i>C. officinalis</i> extract, 1500 and 3000 mg/kg, and enema (gel 10% and 20%) were given. Two groups as positive controls were given asacol (enema) and oral mesalamine. Negative control groups were given normal saline and base gel. On days 3 and 7, intestinal histopathology and weight changes, plus oxidative stress indices including malondialdehyde (MDA) level and myeloperoxidase (MPO) activity were assayed. The data were expressed as means \pm SD. Differences between groups were carried out by one way ANOVA and Tukey HSD post hoc test by SPSS software (Version 20) and Excel Office program (Version 10). Differences at $P < 0.05$ were considered significant.</p> <p>Results: A significant increase in the body weight of rats was seen in the group given <i>C. officinalis</i> extract 3000 mg/kg orally, oral mesalamine, and 20% intracolonic gel form of marigold extract compared with negative control and base gel groups during the experimental period. Acute inflammation and granular atrophy after UC induction were resolved completely completely by both 20% intracolonic gel and 3000 mg/ kg orally. An increase in MPO activity and a decrease in MDA level in response to oral and intracolonic gel form of <i>C. officinalis</i> were observed 3 and and 7 days after treatment ($P < 0.05$).</p> <p>Conclusion: Our results indicate that oral and enema forms of hydroalcoholic extract of <i>C. officinalis</i> can be offered as are potential therapeutic agents for UC induced in rats.</p>
 <p>AJayi, Adesola Adetutu GICHNDM1701055</p>	<p>Clarification of Soursop (<i>Annona muricata</i> Linn) Juice with Polygalacturonase obtained from <i>Aspergillus flavus</i></p> <p>Ajayi, A.A., Department of Biological Sciences, Covenant University, Ota</p> <p>Adeogun, D.A., Department of Biological Sciences, Covenant University, Ota</p> <p>Adedeji, O.M., Department of Biological Sciences, Covenant University, Ota</p> <p>ABSTRACT</p> <p>Background</p> <p>Soursop (<i>Annona muricata</i> Linn) is of the genus <i>Annona</i> and family <i>Annonaceae</i>. It is known mostly for its edible fruits. The soursop fruit and other parts of the tree are considered to be underutilized with information on the composition, nutritional value, medicinal uses, toxicology of the soursop fruit and plant which is limited and scattered. This fruit is considered to be a functional product of great benefit to humans as it contains several group of substances that have anti-cancer and antioxidant properties that are useful in disease risk reduction. Fungi have been associated with the pre and post-harvest deterioration of ripe fruits of soursop and their effect on the nutrient composition of the fruit pulp had been investigated. However the enzymes produced from the activities of these fungi could be very useful in clarification soursop juice which has been reported to be</p>

	<p>very useful for liver disease, for increased milk secretion in breast-feeding mothers and for leprosy. This investigation therefore isolated polygalacturonase from <i>Aspergillus flavus</i> on a basal salt medium, characterized the crude enzyme and employed the polygalacturonase for clarification of soursop juice.</p>
 <p>Shreyank S Kotian GICHNDM1701057</p>	<p style="text-align: center;">Factors associated with Stress and Anxiety among students studying in BHMS college in Mangalore</p> <p style="text-align: center;">ShreyankS.Kotian, II year BHMS ,Fr, Mullers Homeopathic Medical College,Deralakatte,Mangalore,India</p> <p style="text-align: center;">ABSTRACT</p> <p>A person develops stress due to multifactorial aspects of human life, including occupational, individual, community, socioeconomic and ideological aspects. Stress decreases a person's working efficiency and productivity. Various studies across the globe have emphasised that students undertaking professional courses, such as medical and dental studies, are subjected to higher stress. Excessive stress could lead to psychological problems like depression and anxiety</p> <p>The main objective of the study is to find out the Stress and anxiety faced by the students who have entered their second year BHMS course. And To determine the probable factors responsible for stress and anxiety among these BHMS students</p> <p>Methods: The Cross sectional study was conducted at a public-sector Homeopathy medical college in Mangalore, from October to November 2016. Self-administered open-ended questionnaires were used to collect data from Second year BHMS students(2 batches) in order to study the factors associated with the new environment of clinical side . With 95% Confidence level and 80% power with referrence to (3) and having 200 finite population a total number of 120was taken for the study..</p> <p>Results: There were 120 students in the study with a mean age of 19±2.75 years. Nearly 80 % (95)of the subjects were females and 20% (25) were males</p> <p>Conclusion: Majority of undergraduate students experienced stress due to both academic and emotional factors. Hostellites had more stress than Localittes, Females comparatively had more stress than Males.</p> <p>Keywords: Medical students, Stress, Factors.</p>
<p>Dilek Yilmaz GICHNDM1701061</p>	<p style="text-align: center;">Critical Thinking Levels of First and Last Grade Nursing Students in Turkey</p> <p style="text-align: center;">Dilek Yılmaz, Uludag University, Faculty of Health Sciences, Bursa/Turkey</p> <p style="text-align: center;">YurdanurDikmen, Sakarya University, Faculty of Health Sciences, Sakarya/Turkey</p> <p style="text-align: center;">FundaErol, Sakarya University, Faculty of Health Sciences, Sakarya/Turkey</p> <p style="text-align: center;">ABSTRACT</p> <p>Aim of the study/ Purpose: This study was conducted to investigate the level of critical thinking of first and last year nursing students and the factors affecting the critical thinking.</p> <p>Introduction in brief: In each daily, theoretical and clinical fields, in the decisions which needed for implementation and maintenance; nurses need to think</p>

	<p>adequately, creative and effective in the resolution of various ethical issues they faced and think critically in providing effective nursing care.</p> <p>Procedures/ Methods: This descriptive and cross-sectional designed research, was conducted with a total of 156 first and final year nursing students which were participating voluntarily, thought to be they had a difference in their level of critical thinking and were studying at a state university which is in Turkey's western area (1ST GRADE= 70, 4TH GRADE=86). Research data was collected with student information form and the California Critical Thinking Disposition Inventory (CCTDI) which was developed by Facione (1990) and subjected to reliability and validity test by Kökdemir (2003) in Turkey. In evaluation of the data; number, percentage, mean \pm standard deviation and the Independent t test, one-way analysis of variance (ANOVA) and Pearson correlation analysis were used.</p> <p>Results: The mean age of students is 20.94 ± 1.85 (min: 18, max: 27) and 76.3% of students were female. Critical thinking disposition scale mean score of the students was found to be 192.89 ± 20.40. Among sub-dimensions of the scale, it was found that the maximum mean score was with analytical thinking (49.77 ± 5.14), the lowest was with searching true (25.63 ± 5.15). In research, it was found that the students who were last year, male and were having mothers which had level of education as high school and college had higher mean scores of critical thinking. In addition, fathers' education level of the students, the families' economic status, age and academic success were observed to not affect the level of critical thinking.</p> <p>Conclusion: As a result of this study, overall level of critical thinking of students participating in the research was found to be lower but in last year students it increased significantly.</p>
<p>Nona Casey Dela Serna Baring GICHNDM1701063</p>	<p style="text-align: center;">Through the Hands of Home: The Lived Experience of Home-cared Chronically Ill Elderly Patients</p> <p style="text-align: center;">Baring, Nona Casey D, Bihag, Blessie Marie, Puzon, Nikki Jane S., Mrs. Jillian A. Bejoc,</p> <p style="text-align: center;">ABSTRACT</p> <p>When a chronically ill patient is in a hospital, he is given a nurse, and when he is at home, he is given an angel of mercy, the ones who render care to them and attend to their needs. But how do patients really feel about being cared at home? What is it actually like when the 'young once' are now being cared by the 'young ones'? This study aimed to discover the lived experience of the home-cared chronically ill elderly patients. It was done through conducting one-on-one interviews to the patients in Cebu City. The researchers made use of the Hermeneutic phenomenology design, utilizing Van Manen's selective approach. The researchers gathered six informants through the purposive sampling technique. The Interpretative Phenomenological Analysis (IPA) method was utilized in analysing the data gathered. After thorough analysis, the gathered data was grouped into three themes, (1) Pitying me, pitying you, (2) Yearning for your care, and (3) Adjusting to the sick role. Interpretation of themes that were culled</p>


	<p>out yielded to the composition of a poem to sum up the experiences of the home-cared chronically ill elderly patients. It revealed that despite the knowledge that they were now highly dependent on their caregivers, they still longed for a sense of independence. These patients also do not wish to become a burden to their caregivers, and their whole families as well. They long for understanding of their needs which exist due to their condition, for compassionate care from their “angels” at home.</p> <p>Key words: chronically-ill, elderly, home care, hermeneutic phenomenology</p>
<p>Edward Suk-Chan Yoon GICHNDM1701064</p>	<p style="text-align: center;">Reduction of hand bacteria: the comparison between different treatments</p> <p style="text-align: center;">Edward Suk-Chan Yoon, Korea International School, Jeju South Korea</p> <p style="text-align: center;">Doyeon Kim, Korea International School, Jeju South Korea</p> <p style="text-align: center;">Eujung Nam, Korea International School, Jeju South Korea</p> <p style="text-align: center;">ABSTRACT</p> <p>Hand, most frequent transmission route that potentially leads to many infections. The purpose of this experiment is to identify which treatment is more effective in reducing the amount of bacteria in the hands between soap and sanitizer. It was hypothesized that washing with soap and water would be more effective than the sanitizer treatment in the amount of bacteria of the hands. Both treatments were incubated with sample bacterias from school facilities with 2 samples each. With the result, the soap average, sanitizer average, and control averages were calculated referencing Saint Martin’s University Biology Journal. The results for the sanitizer being more effective in reducing the amount of bacteria was unexpected with higher reduction averages, but may be explained by factors such as water that consisted with soap but that not consist with hand sanitizer treatment.</p> <p><u>We hope to identify the sanitation externalities and comparison between different types of treatments for future prevention in bacteria spreading more effectively.</u></p>
<p>Seung Hyun Kim GICHNDM1701065</p>	<p style="text-align: center;">The Effect of Microbeads on Marine Ecosystem</p> <p style="text-align: center;">Seung Hyun Kim Korea International School, Jeju</p> <p style="text-align: center;">Yeongju Lee Korea International School, Jeju</p> <p style="text-align: center;">HyunjungNam Korea International School, Jeju</p> <p style="text-align: center;">Yu Bin Park Korea International School, Jeju</p>

	<p style="text-align: center;">EunSeo Kim Korea International School, Jeju</p> <p style="text-align: center;">JuyeonNam Korea International School, Jeju</p> <p style="text-align: center;">ABSTRACT</p> <p>Human beings often consider products with microbeads are outstanding products which make silkskin or white teeth. However, many environmentalists insist that these tiny plastic particles, called microbeads, pollute oceanic environment. According to Plastic microbeads in products and the environment written by Environment Protection Authority, microbeads can transfer up food chain. Microbeads are very small so they are not feasible to be filtered. According to the research conducted by Greenpeace, most of these unfiltered microbeads flow into the ocean and micro organisms such as planktons mistake it as food and intake it. Then, according to the food chain, the microbeads shift to the higher rank organisms, affecting almost every marine organisms. Marine organisms who ingested plastic can suffer problems such as drop in energy, growth, and breeding coefficient. In order to identify the negative effects that microbeads have on marine ecosystem, we planned a research exposing marine microbeads and observing the changes that might be occurred on marine microbes. First, we are planning to extract microbeads from commonly used toothbrush. Then, we provide 5g of microbead to the experimental group everyday while not providing any to the control group. We observe the organisms for a week. We assume that the number of marine microbes exposed to the microbeads will decrease significantly. Therefore, we can conclude that microbeads have a serious negative impact on marine ecosystem.</p> <p>Keywords: Microbeads, marine ecosystem, food chain</p>
<p style="text-align: center;">Saad Alarifi GICHNDM1701067</p>	<p style="text-align: center;">Unified website for all hospitals systems include physician and Patients data and information</p> <p style="text-align: center;">Saad al-arifi</p> <p style="text-align: center;">Saleh al-Sarhan</p> <p style="text-align: center;">ABSTRACT</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Unify all hospitals systems. • Unify all hospitals physician and Patients data including files, medical history, medications, important medical note, etc. • Providing a page for physicians to communicate with each other. • Providing a page for Patients to communicate with each other. • Providing a page for communication between the physician and Patients. • Providing a page to give a medical consultations. <p>Methodology:</p> <ul style="list-style-type: none"> • Creating a website that can include a huge database by helping from the government and it will belongs to it. • Give the authority of the access to storing data for every hospitals management. • Demand from all hospitals management to Entering all physician and

	<p>Patients data to this new system.</p> <ul style="list-style-type: none"> • Activate the system and give every individual a specific ID and profile. <p>Findings & Outcomes :</p> <ul style="list-style-type: none"> • Ease of communication. • Ease of getting the Test results. • Ease of doing statistics. • Ease of transmission between a different hospitals with the same data. • Reducing the need to go to hospitals. • Exchange of experience among physician and Patients. • View the problems on the website without needing to go to hospital. • helps in avoiding harmful medical errors. <p>future scope :</p> <ul style="list-style-type: none"> • Make this website a global system. • Increase the system capabilities to do more functions. • Link this system with the other governmental systems.
<p>Mercy Eloho Sosanya GICHNDM1701068</p>	<p style="text-align: center;">Development Of An Indigenous Food Exchange List For Selected Foods Commonly Consumed In Northern Nigeria</p> <p style="text-align: center;">Sosanya Mercy Eloho, Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria</p> <p style="text-align: center;">Adeosun Funke Florence, Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria</p> <p style="text-align: center;">Okafor Dorothy Tochi, Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria</p> <p style="text-align: center;">Fadupin Grace Tanimowo, Department of Human Nutrition, University of Ibadan, Nigeria</p> <p style="text-align: center;">Mohammed Ibrahim Asmau, Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria</p> <p style="text-align: center;">Yakubu Rhoda Garba, Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria</p> <p style="text-align: center;">ABSTRACT</p> <p>Food Exchange lists are a guiding tool for people with diabetes for quantifying their diets correctly. This analytical study determined the carbohydrate content of 17 cereal, roots and tuber foods indigenous to northern Nigeria (using carbohydrate by difference method) and developed a food exchange list for 10g and 15g of carbohydrate. 100g of each raw food item was cooked using standardized recipes. The number of household measures (that is dessert spoons and milk tins) contained in 100g of the food items was also measured. The proximate composition was determined using a 5g sample obtained from each cooked food item and the carbohydrate content of the foods was determined by the difference method. The quantity of food items that yield 10g and 15g</p>

	<p>carbohydrate was computed from the results of the proximate analysis. The food exchange list for 10g and 15g carbohydrate was then compiled comprising these cooked foods as eaten. Pap (koko) had the highest (128g and 192g) and nakiya (steamed, fermented rice balls) had the lowest (12.9g and 19.3g) weights as 10 g or 15 g CHO among the cereal foods. Eba (Garri meal) and Yam porridge had the lowest (37g and 55.6g) and highest (101.9g and 152.9g) weights as 10 g or 15 g CHO respectively among the roots and tuber foods. There is need to educate persons living with diabetes and other individuals on therapeutic diets on how to utilize food exchange lists for effective diet planning to manage their disease conditions and improve variety in their diets. The study provided a tool for diet planning for persons living with diabetes in northern Nigeria.</p> <p>Key words: Food Exchange Lists, cereals, diabetes</p>
<p>Prof. Rasoul Salehi GICHNDM1701069</p>	<p style="text-align: center;">Novel approach for ABCB1/P-glycoprotein knockout and reversal of chemosensitivity in human epithelial ovarian cancer cell line using CRISPR/Cas9 genome editing technology</p> <p style="text-align: center;">RasoulSalehi, Department of Genetics and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran r_salehi@med.mui.ac.ir</p> <p style="text-align: center;">Leila Norouzi, Department of Genetics and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">Ahmad Reza Salehi Department of Genetics and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">ABSTRACT</p> <p>Ovarian cancer is one of the prevalent and life threatening cancers among women. Although 45%-60% of patients achieve complete clinical response to first-line chemotherapy treatment, around 50% of these patients relapse within 5 years and only about 10% of patients presenting with advanced stage disease achieve long-term remission. It is thought that the high relapse rate is mainly due to resistance to chemotherapy. Inhibition of P-glycoprotein, a member of ATP-binding cassette (ABC) transporters is a well-known strategy to overcome multidrug resistance in cancers.</p> <p>In the present study we investigated the efficiency and ability of CRISPR/Cas9 genome editing technology to knockout ABCB1 gene expression in Adriamycin resistant (A2780/ADR) ovarian cancer cell line and evaluated sensitivity changes to doxorubicin.</p> <p>We designed 3sgRNAs gene constructs targeting the fourth and fifth exons of human ABCB1 gene. After co-transfection of all three sgRNA in A2780/ADR cell line. The expression level of ABCB1 was detected by quantitative real time PCR (qRT-PCR). Drug sensitivity to doxorubicin was determined by the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay.</p> <p>The results showed that CRISPR/Cas9 system could significantly reduce the expression of P-gp close to zero. The sharp decline in ABCB1 gene expression was associated with increased sensitivity of the treated cells to doxorubicin.</p> <p>Based on our results it is concluded that CRISPR-based systems can be</p>

	<p>introduced as an ideal and cost-effective tool for simultaneous targeting of several important transporters and subsequently the improvement of drug sensitivity and overcoming drug resistance in ovarian cancer cell line. Key Words: Multidrug Resistance, P-glycoprotein, CRISPR/Cas9, Doxorubicin</p>
<p style="text-align: center;">Alireza Andalib GICHNDM1701070</p>	<p style="text-align: center;">Immunobioinformatic Designing For A Vegf Conserved Sequence Peptide To Apply As A Vaccine In Mice Model</p> <p style="text-align: center;">Andalib AR, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">SoltanpourGharibdousti F , Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran Department of Immunology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran</p> <p style="text-align: center;">FazeliDelshad B , Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran Department of Immunology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran</p> <p style="text-align: center;">Falak R, Department of Immunology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran</p> <p style="text-align: center;">GhanjalikhaniHakemi M, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">Kardar GA, BN Immunology, Asthma and Allergy Research Institute, Tehran University of Medical Sciences, Tehran, Iran</p> <p style="text-align: center;">ABSTRACT</p> <p>Background: tumors secrete various pro-angiogenic factors. Vascular Endothelial Growth Factor (VEGF) plays a pivotal role in neoangiogenesis of malignant tumors. Blocking of VEGF could be an attractive idea to prevent VEGF receptor activation and to reduce its multiple cellular consequences.</p> <p>MATERIAL & METHODS: after bioinformatic designing, a 4 kDa conserved sequence of VEGF was selected and ordered to be synthesis and then used for conjugated with Keyhole Limpet Hemocyanin (KLH) as a carrier, then it was applied for subcutaneous immunization of female BALB/c mice. Sera were collected in a biweekly schedule. To measure the polyclonal anti-VEGF antibody titer in mice sera, an indirect peptide-ELISA was developed.</p> <p>RESULTS: Insilico analysis of the designed hVEGF peptide, via bioinformatic tools, confirmed that the synthesized sequence could efficiently trigger humoral immune response. SDS-PAGE analysis of the conjugated molecule showed efficient coupling of the peptide with KLH. A substantial increase of the antibody</p>

	<p>titer was observed in vaccinated mice compared to controls. CONCLUSION: Our results reinforce the potential of KLH conjugated peptide for immunization and production of specific polyclonal antibodies against VEGF. Moreover, production of high titer antibodies against this autoantigen offers that this peptide may be used as an efficient vaccine to stimulate humoral immune reaction.</p> <p>Key words, VEGF, neoangiogenesis, bioinformatic</p>
 <p>Dr. Anup Ghimire GICHNDM1701058</p>	<p style="text-align: center;">Illness and Injury and its Associated Factors among Yarsagumba Collectors in Byasi Ethnic Community Darchula</p> <p style="text-align: center;">Awasthi Poonam , School of Public Health and Community Medicine, BPKIHS,Dharan, Nepal</p> <p style="text-align: center;">Bhattraisalesh , School of Public Health and Community Medicine, BPKIHS,Dharan, Nepal</p> <p style="text-align: center;">Singh Suman Bhadhur , School of Public Health and Community Medicine, BPKIHS,Dharan, Nepal</p> <p style="text-align: center;">GhimireAnup, School of Public Health and Community Medicine, BPKIHS,Dharan, Nepal</p> <p style="text-align: center;">ABSTRACT</p> <p>Background: Yarsagumba is a precious herb found in Nepal. People of Himalayan region largely depend upon it for their subsistence. Difficult terrain, high altitude, weather and other adversities make the collection job hazardous. Illnesses like Acute Mountain Sickness and diarrhea as well as injuries are most commonly seen in Yarsagumba Collectors at high altitude region.</p> <p>Objectives: To assess the magnitude of illness and injury and its associated factors among the Yarsagumba Collectors in Byasi community.</p> <p>Methods: A Cross-sectional study was carried out among 317 collectors and interviewed by using semi-structured questionnaire from Sep 2015 to Feb 2016. Acute Mountain Sickness was assessed by Lake Louise self AMS scoring system. Binary logistic regression analysis was used to identify significant protective and risk factors for illness and injury.</p> <p>Results: More than fifty percentages (54.6%) of the participants meet the criteria for AMS. Magnitude of diarrhea and injury among the Yarsagumba collectors was found to be 40.1% and 17%, respectively. Exposure to higher altitude in the past was significantly associated with AMS. Collectors who had climbed less than five times in one's lifetime for Yarsagumba search were around eight times more likely to experienced AMS than those who had climbed above ten times in one's life time (AOR=8.467, 95%CI). Hand washing after defecation, hand washing materials and covering water was the predictor for diarrhea. There was no association between injury and age, sex, alcohol intake, total times of climb in collectors lifetime</p> <p>Conclusion: A large proportion of Yarsagumba Collectors were vulnerable to illness and injury in the high altitude mountain region. Therefore to minimize this problem, pre-travel advice should be provided to collectors by concerned authority in those areas.</p> <p>Key Words: Yarsagumba Collectors, Acute Mountain Sickness, injury, diarrhea</p>



Leena Sequira
GICHNDM1701060

Effectiveness of a Disease Management Program (DMP) in controlling blood pressure and blood sugar

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ABSTRACT

Introduction: Non Communicable Diseases (NCD) are the foremost cause of death in the world, accountable for 63% deaths worldwide in 2008. A cross sectional study done among 1300 employees of a mega industry of South Gujarat shows the prevalence rate of hypertension as 24% (Kumar, Desai, & J K Kosambia, 2002). Prevalence of diabetes in Indian adult population was ranged from 5.3% in Jharkhand to 13.6% in Chandigarh (Anjana, et al., 2011).

Materials and methods

An evaluative approach with one group pretest- posttest design was selected to determine the effectiveness of a Disease Management Program among hypertensive and Diabetics. Purposive sampling technique was used for the study. The sample consisted of 88 patients with hypertension, diabetes or both for five or more years.

During the baseline observation (O1), data about age, height, weight were collected. Blood pressure and Random Blood Sugar (RBS) were also checked. After that, the intervention was given i.e., teaching about management of Hypertension and Diabetes Mellitus was done to the participant one to one basis and a leaflet about management of hypertension and Diabetes Mellitus was given to each participant. At the fourth (O2) and the eighth (O3) month after the intervention, blood pressure and RBS were assessed to know the status of blood pressure and blood sugar and teaching reinforced. At one year (O4) blood pressure and RBS were tested.

Results

Sample characteristics showed that 77 (87.5 %) of them belong to the age group of 51years and above, 45 (51.1%) of them were females, and 41 (46.6%) of them were hypertensive, duration of illness was five to ten years among 53 (73.60%) of hypertensive & 35 (74.47%) of diabetics. At baseline most of the patient's blood pressure (69%) and blood sugar (62%) were uncontrolled. At one year follow up, mean systolic blood pressure reduced by 6 mm of Hg and mean RBS by 24mg/dl.

Conclusion: Most of the patient's blood pressure and blood sugar were uncontrolled. Screening and education may aid in better control.

Key words: Hypertension, Diabetes Mellitus, Disease Management Program

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GICHNDM1701062

Risk factors of MRSA infection among hospitalized patients

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ABSTRACT


Introduction: Methicillin Resistant Staphylococcus Aureus (MRSA) is found globally. Though it is present as normal flora in many healthy individual, it has the capacity to cause mild to severe infection. The wound infected with MRSA takes a longer time for healing and increases the mortality and health care cost. Acquiring MRSA infection is multifactorial. Therefore, this study was conducted to find the risk factors of MRSA infection among hospitalized patients at a tertiary care hospital, South India.

Methodology: The descriptive cross sectional study was conducted in a multispecialty tertiary care teaching hospital. Both MRSA (130) infected and Methicillin Sensitive Staphylococcus Aureus (MSSA, 130) infected patients were recruited in the study. Wound swab was cultured and sensitivity was tested by conventional method. Risk factors of MRSA infection was collected using risk factor checklist. Ethical consideration was taken care.


Result: Age, gender, admission type (emergency/elective), presence of comorbidity (diabetes, other infection), performance of invasive diagnostic procedure, nasogastric feeding was comparable in both the groups. Though the prior use of antibiotic, surgical procedure performed, prolonged hospitalization, presence of open wound during admission and having IV lines were the risk factors, but there was no statistical significance ($p > 0.05$). Presence of surgical drain (OR 0.69; CI 0.36, 1.35; $p = 0.031$), endotracheal tube (OR 0.069; CI 0.01, 0.78; $p = 0.033$), tracheostomy tubes (OR 6.59; CI 1.98, 22.16; $p = 0.002$), presence of vascular/pressure ulcer (OR 2.55 CI 1.03, 3.32; $p = 0.04$), and recent hospitalization (OR 3.10; CI 1.70, 6.64; $p = 0.001$) were identified as risk factors of getting MRSA wound infection among hospitalized patients.

Conclusion: The risk factors such as having surgical drain, ET/TT and vascular/pressure ulcers has to be minimized in order to reduce MRSA infection among in-patients with wounds. Since the recent hospitalization is another risk of having MRSA infection, repeated hospitalization should be avoided.

	<p>Key words: MRSA, MSSA, Risk of MRSA, surgical drain, hospitalization, ET/TT.</p>
<p>Maryam Amerikhah GICB3SC1701051</p>	<p style="text-align: center;">Anticancer Properties of Amygdalin</p> <p style="text-align: center;">Maryam Amerikhah, Department of Nutrition, Faculty of Medicine, Research & Sciences Branch, Islamic Azad University, Tehran, Iran</p> <p style="text-align: center;">MassoumehNajmoddin, Department of Nutrition, Faculty of Medicine, Jondi-Shapour University of Medical Sciences, Ahvaz-Iran</p> <p style="text-align: center;">AriyoMovahedi, Assistant Professor, Department of Public Health Nutrition, Faculty of Medicine, Research & Sciences Branch, Islamic Azad University, Tehran, Iran</p> <p style="text-align: center;">ABSTRACT</p> <p>Cancer is the most horrible disease for both patients and their relatives. Among different ways to prevent, suppress or treat cancer nutrition is one the most feasible ones. One of the nutritional components, which has been claimed to have anti-cancer properties, is Amygdalin or Laetrile. It is a plant substance found naturally in raw nuts and the pips of many fruits, particularly apricot pips, or kernels. It is also present in plants such as lima beans, clover. Due to many pro and cons about anti-cancer properties of Amygdalin, the present study has tried to make a scientific summarize on this issue.</p> <p>Methods: In this study, possible anti-cancer properties of Amygdalin were investigated in a library based study using the published articles in scientific databases like PubMed, Google Scholar, Scopus, and SID from 1990 to 2015 as period of time.</p> <p>Results: Overall, despite some positive in vitro effects of amygdalin which has shown it apoptosis properties on HeLa cells by increasing in caspase-3 activity, or few in vivo studies which presented that amygdalin administration inhibited the growth of HeLa cell xenografts through a mechanism of apoptosis., no substantive benefit was observed in terms of cure, improvement or stabilization of cancer, improvement of symptoms related to cancer, or extension of life span.</p> <p>Conclusion: Even though Amygdalin has a strong pharmacological activity, only little pharmacological mechanism has been investigate and still more research needs to be done for final conclusion.</p> <p>Keywords Cancer, Amygdalin, Laetrile, Caspase</p>
<p>Dr. Nouf Abuhadi GICB3SC1701052</p>	<p style="text-align: center;">Medical college student perception for formalin exposure in anatomy lab.</p> <p style="text-align: center;">Dr. Tehseen Fatima Ali, Collage of Applied Medical Sciences, Jazan University, Jazan, KSA</p> <p style="text-align: center;">Dr. NoufAbuHadi, Collage of Applied Medical Sciences, Jazan University, Jazan, KSA</p> <p style="text-align: center;">ABSTRACT</p> <p>Introduction: Formalin as embalming agent extensively used in anatomy lab for</p>

	<p>cadaver preservation. Many types of research outline the short and long term exposure with minor to serious health effect but with a lack of parameter concentration and duration of exposure consideration.</p> <p>Purpose: Reporting symptoms of formalin exposure among student and staff of anatomy dissection lab of Jazan university with determining optimal exposure time and developing alternative safe working protocols as well elucidating perceptions of students regarding ‘sustenance of immersion in learning atmosphere’ in face of irritant effects of formalin.</p> <p>Method: Survey based inventory with questionnaire outlining monitoring, and alternate embalming agent in respect of sickness. The questionnaire will be a 5 point liker scale, close ended type.</p> <p>Result: Determine by using SPSS software. Dislike cross-tabulation showing pearson chi-square test value 463.725a with a likelihood ratio of 215 in N of Valid Cases 220.</p> <p>Difficult concentration cross-tabulation showing pearson chi-square test value 444.526a with the likelihood ratio of 237.788 in N of Valid Cases 220. Assimilation cross-tabulation showing pearson chi-square test value 501.308a with the likelihood ratio of 225.671 in N of Valid Cases 220. Monitoring of formalin cross-tabulation showing pearson chi-square test value 572.071a with the likelihood ratio of 252.752 in N of Valid Cases 220. Alternate embalming agent cross-tabulation showing pearson chi-square test value 575.993a with the likelihood ratio of 295.341 in N of Valid Cases 220.</p> <p>Conclusion: As a conclusion, we can say that student and staff member of anatomy lab of the medical college, Jazan University significantly putting more weight over to the use of an alternate embalming agent in respect of regular monitoring of formalin.</p> <p>Keywords Formalin, Embalming agent, Monitoring</p>
 <p>Hassan Mubarak Ishqi GICB3SC1701053</p>	<p style="text-align: center;">Alternatively Spliced Novel Isoforms of MYD88 Lacking Death Domain Identified in Mouse</p> <p style="text-align: center;">Hassan Mubarak Ishqi Department of Biochemistry, Faculty of Life Sciences, A.M. University, Aligarh, U.P. 202002, India.</p> <p style="text-align: center;">Mohammad Tabish Department of Biochemistry, Faculty of Life Sciences, A.M. University, Aligarh, U.P. 202002, India.</p> <p style="text-align: center;">ABSTRACT</p> <p>Myeloid differentiation primary response gene (Myd88) is an intracellular adaptor protein that has an essential role in innate immune signalling. It is used by almost all Toll like receptors (TLRs) except TLR-3 to activate transcription factor NF-kB. MYD88 consist of N-terminal death domain which is related to the cytoplasmic signalling domains found in many members of the tumor necrosis factor receptor (TNF-R) superfamily. The C-terminal domain is similar to Toll domain found in the family of Toll/interleukin-1-like receptors (IL-1R). Earlier studies have reported only one transcript of Myd88 gene in mouse. In this study, we have identified two novel transcript variants of the gene in mouse, using combinatorial approach of bioinformatics tools and molecular biology techniques</p>

	<p>involving RT-PCR, semi-nested PCR and sequencing. Both the new transcript variants (T1 and T2) arise as a result of alternative splicing of newly identified exon with the internal exons. Also, the new exon was found to be non-coding in nature due to which the conceptually translated proteins of the newly identified variants were found to lack the death domain. Western blot analysis also confirmed the existence of new isoform translated by transcript variant T1. In silico analysis of the upstream region of the new exon revealed a distinct promoter region. The new promoter region has potential signature sequences for different transcription factors suggesting complex regulation of the gene. Lack of the death domain in the newly identified isoforms indicates different possibilities along with loss of function in the cytoplasmic signalling.</p> <p>Keywords: Transcript variants, Alternative Splicing, Transcription factors, MYD88 gene.</p>
<p style="text-align: center;">Misha Ali GICB3SC1701054</p>	<p style="text-align: center;">High catalytic activity and stability of ginger peroxidase immobilized on amino functionalized silica coated titanium dioxide nanocomposite: A promising tool for bioremediation</p> <p style="text-align: center;">Misha Ali, Department of Biochemistry, Faculty of Life Sciences Aligarh Muslim University, Aligarh-202002 (UP), India</p> <p style="text-align: center;">Qayyum Husain, Department of Biochemistry, Faculty of Life Sciences Aligarh Muslim University, Aligarh-202002 (UP), India</p> <p style="text-align: center;">Nida Alam, Analytical and Polymer Research Laboratory, Department of Applied Chemistry, Faculty of Engineering and Technology, Aligarh Muslim University, Aligarh- 202002, (UP), India</p> <p style="text-align: center;">Masood Ahmad, Department of Biochemistry, Faculty of Life Sciences Aligarh Muslim University, Aligarh-202002 (UP), India</p> <p style="text-align: center;">ABSTRACT</p> <p>Improving the activity and stability of the enzyme is an important aspect in bioremediation processes. Immobilization of enzyme is an efficient approach to amend the properties of biocatalyst required during wastewater treatment. Present study was done to immobilize partially purified ginger peroxidase on amino functionalized silica coated titanium dioxide nanocomposite. Interestingly there was an enhancement in enzyme activity after immobilization on nanosupport which was evident from effectiveness factor (η) value of 1.76. Immobilized enzyme was characterized by transmission electron microscopy, scanning electron microscopy and Fourier transform infrared spectroscopy. Immobilized peroxidase exhibited higher activity in a broad range of pH and temperature as compared to free enzyme. Also, the thermostability of peroxidase was strikingly improved upon immobilization. After six repeated uses, the immobilized peroxidase retained around 62% of its dye decolorization activity. There was a 4 fold increase in V_{max} of immobilized peroxidase as compared to free enzyme. Circular dichroism spectroscopy demonstrated conformational changes in the secondary structure of enzyme, a possible reason for the enhanced</p>

	<p>enzyme activity after immobilization. Immobilized peroxidase was highly efficient in the removal of acid yellow 42 dye in a stirred batch process. Our study shows that this bio-remediating system has remarkable potential for treatment of aromatic pollutants present in wastewater. Keywords- Acid yellow 42, decolorization, ginger peroxidase, immobilization</p>
 <p>Dr. HIRAK JOSHI GICB3SC1701055</p>	<p>Development and validation of stability indicating RP-HPLC method for simultaneous estimation of Fenbendazole and Ivermectin in pharmaceutical dosage form.</p> <p>Patel.Hina, Department of Quality Assurance, Nootan Pharmacy College, SakalchandVidhyadham, Kamana cross Road, Visnagar-384315, Gujarat, India</p> <p>Joshi H. V., Department of Quality Assurance, Nootan Pharmacy College, SakalchandVidhyadham, Kamana cross Road, Visnagar-384315, Gujarat, India</p> <p>Shah U. A., Department of Quality Assurance, Nootan Pharmacy College, SakalchandVidhyadham, Kamana cross Road, Visnagar-384315, Gujarat, India</p> <p>Patel J. K., Department of Quality Assurance, Nootan Pharmacy College, SakalchandVidhyadham, Kamana cross Road, Visnagar-384315, Gujarat, India</p> <p>ABSTRACT</p> <p>Fenbendazole and Ivermectin tablet is newly approved fixed dose formulation and widely used for worm infection. Objective is to develop suitable chromatographic methods and force degradation study for this formulation. In RP-HPLC method, chromatographic separation was achieved on hypersil BDS C18 (250mm × 4.6mm) having mobile phase 0.05 M KH₂PO₄ buffer pH 4 (OPA) : Methanol (30:70). The RP-HPLC method was found to be linear over the range of 30-90µg/mL for FEN and 1-3µg/mL for IVE. The retention time of FEN and IVE was found to be 3.550 min and 5.180 min respectively. The percentage recovery of Fenbendazole and Ivermectin were found to be in the range of 98.11-98.77% and 98.08-100.89%. After acid degradation, 0.48-18.91 % degradation was observed in FEN and 2.14-16.61 % degradation was observed in IVE. After alkali degradation, 1.18-18.24 % degradation was observed in FEN and 2.83-18.56 % degradation was observed in IVE. After Oxidative degradation, 0.40-13.10 % degradation was observed in FEN and 0.09-20.78% degradation was observed in IVE. After thermal degradation, 13.55% degradation was observed in FEN and 18.95 % degradation was observed in IVE. After photolytic degradation, 14.37 % degradation was observed FEN and 18.83 % degradation was observed in IVE. The developed method was found to be simple, robust and reproducible. There was no interference of any excipients in the determination of drug in tablet formulation. So the method can be successfully applied for routine QC analysis.</p>

	Key words : Fenbendazole, Ivermectin, RP-HPLC, Validation, Force degradation study.
Maryam Khan GICB3SC1701058	<p style="text-align: center;">Graphene based magnetic nanocomposites as versatile carriers for high yield immobilization and stabilization of β-galactosidase</p> <p style="text-align: center;">Maryam Khan, Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh, 202002, U.P, India</p> <p style="text-align: center;">Qayyum Husain, Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh, 202002, U.P, India</p> <p style="text-align: center;">Alim Husain Naqvi, Centre of Excellence in Materials Science (Nanomaterials), Department of Applied Physics, Z. H. College of Engg. & Tech, Aligarh Muslim University, Aligarh, 202002, UP, India</p> <p style="text-align: center;">ABSTRACT</p> <p>The present study demonstrates an efficient method for high yield immobilization of <i>Aspergillus oryzae</i> β-galactosidase onto graphene-iron oxide nanocomposites (Gr@Fe₃O₄ NCs) by simple adsorption mechanism. The synthesized nanocomposites were characterized by X-ray diffraction and FT-Raman spectroscopy, and their super-paramagnetic behaviour was assessed by vibrating sample magnetometer. The binding of enzyme on nanocomposites was confirmed by transmission electron microscopy, scanning electron microscopy, and Fourier transform-infrared spectroscopy. The bound enzyme showed 90% immobilization yield. The adsorbed and free enzyme both exhibited same pH-optima at pH 4.5. However, the immobilized enzyme showed enhanced pH stability toward acidic and basic sides, as well as increased temperature resistance as compared to native β-galactosidase. Michaelis constant, K_m was decreased, while V_{max} was increased which indicate a higher affinity and activity retention by immobilized β-galactosidase. Moreover, the K_i of the immobilized β-galactosidase was enhanced three-folds and thus showed a greater resistance to product inhibition mediated by galactose, than the free enzyme. The bound enzyme retained 83% activity even after its 8th successive reuse. The adsorbed enzyme lost only 21% of its initial activity during storage at 4°C, while the free β-galactosidase retained only 49% activity under similar storage conditions. The genotoxicity assessment revealed that the nanocomposites showed negligible toxicity to pBR322 DNA plasmid and human lymphocytes. In view of its easy production, non-toxic nature, improved stability against various denaturants and excellent reusability, the versatile Gr@Fe₃O₄ NCs can serve as an ideal support for the immobilization of other enzymes as well, it may find its applications in constructing biosensors and producing lactose-free dairy products to feed lactose intolerant patients.</p> <p>Key words: Biosensor, β-galactosidase, graphene, genotoxicity, magnetic nanoparticles</p>

 <p>Saranya Vijay Krishnan GICB3SC1701060</p>	<p style="text-align: center;">Identification of candidate LEA proteins from Solanum lycopersicum and their role in drought tolerance by homology modelling</p> <p style="text-align: center;">Saranya Vijay Krishnan Metabolic engineering lab, Department of Biotechnology Bharathiar University, Coimbatore- 641046, India</p> <p style="text-align: center;">S.Girija Metabolic engineering lab, Department of Biotechnology Bharathiar University, Coimbatore- 641046, India</p> <p style="text-align: center;">ABSTRACT</p> <p>Plants are subjected to a wide variety of stresses as well as environmental fluctuations compared to animals because of their sessile nature of habitat. But they have evolved to combat these stresses due to their plasticity, alternatively by regulating metabolic pathways. Several types of abiotic stresses like drought, cold, salinity, osmotic, oxidative prevails. Among these drought stress is a serious threat to sustainability of crops that diminishes agricultural productivity. Tomato fruits are cardinal source of bioactive compounds, with high lycopene content and lowest calorific value. It also encompasses high vitamin A, C, K. Hence it is appraised as the protective foods owing to the above said nutritive values. Late embryogenesis abundant(LEA) proteins accumulat in response to cellular dehydration in most of the species.Late Embryogenesis Abundant protein belongs to class of non globular intrinsically unstructured proteins that combat water stress in plants. Protein-protein interactions during water stress plays a vital role in initiating signal transduction which is considered to be critical in understanding their mechanisms in stress tolerance mediated by LEA proteins. Nevertheless some class of Intrinsically unstructured proteins (IUP) participate in assembly of signalling complexes. Lea- transcription factor interaction is important in plant signalling. The current understanding on lea tomato at proteome level is very limited due to lack of characterized lea genes. We have applied a computational whole genome protocol that generate testable predictions of protein-protein interactions using cytoscape and string. String also determined the pathways involved during interactions. Here, we identified protein interactions with more than 25 proteins in tomato. Hence we have attempted to classify these proteins into six groups. This sequence based approach has identified lea_4 as an important effector protein putatively involved during interaction. These effector proteins interact with other proteins to carry out most of the biological functions like signal transduction, protein folding etc. the homology modelling of protein -protein recognition has brought new vistas in understanding the function of these classes of proteins as protectants during drought stress.</p> <p>Keywords: LEA(Late embryogenesis abundant protein), IUP(Intrinsically unstructured protein), effector proteins, Tomato, String, Signal Transduction, Protein interaction.</p>
<p>M. Nazeema GICB3SC1701061</p>	<p style="text-align: center;">Isolation And Characterization Of Cromium Tolerant Bacteria From Tannery Effluent, DindigulDistrict,Tamilnadu, India</p> <p style="text-align: center;">M. Nazeema, Research Scholar1, Principal, PG & Research Centre of Zoology, JayarajAnnapackiam College for Women</p>


	<p>(Autonomous), Periyakulam</p> <p>Dr. Sr. T. Nirmala, Research Scholar1, Principal, PG & Research Centre of Zoology, JayarajAnnapackiam College for Women (Autonomous), Periyakulam</p> <p>ABSTRACT</p> <p>Hexavalent chromium contamination in environment has become a serious problem in all over the world. The chromium, a toxic heavy metal, is a major contaminant in tannery wastes and its accumulation in soil and water is an environmental issue particularly in Tamilnadu. Dindigul is a city in the south Indian state of Tamilnadu and it is the headquarters of leather tannery industry. Tannery effluent was collected from leather industry located at Dindigul district. Bacteria having tolerance to chromium has been isolated in the present study. A total of six chromium tolerant bacteria were isolated and their minimum inhibitory concentration of all the six isolates against hexavalent chromium was determined on nutrient agar supplemented with varying concentration of chromium from 100 ppm to 600 ppm. The bacteria were characterized on the basis of morphological, cultural, biochemical analysis. They were identified as <i>Pseudomonas aeruginosa</i>, <i>Bacillus subtilis</i>, <i>Staphylococcus aureus</i>, <i>Micrococcus</i> sp, <i>Bacillus cereus</i> and <i>Bacillus licheniformis</i>. The growth responses of the bacterial isolates to different concentrations of chromium were carried out in this study. The responses of the bacteria were dependent of the chromium concentration. The analysis of the results concluded that all the bacteria showed resistance against chromium with Minimum Inhibitory Concentration (MIC) values up to 100 mg/L. Based on the MIC value of microorganism in the tannery effluent will be reduced.</p> <p>Keywords: Hexavalent chromium, microorganisms, MIC, tannery effluent, dindigul.</p>
<p>Ahmed Mohamed Zaher Shaekhon GICB3SC1701062</p>	<p>High Resolution Mass Spectrometry Based Identification Of Major Alkaloids And New Derivatives Of <i>Sceletium Tortuosum</i> In Zembrin® Powder</p> <p>Ahmed M. Zaher, Department of Pharmacognosy, Faculty of Pharmacy, Assiut University, Assiut, Egypt Department of Drug Discovery and Development, Harrison School of Pharmacy, Auburn University, 4306 Walker Building, Auburn, AL 36849, USA</p> <p>ABSTRACT</p> <p><i>Sceletium tortuosum</i> L., a psychoactive succulent sub-shrub plant, has received great interest as an antidepressant and anxiolytic ingredient in nutritional supplements. This study shows the LC-MS and LC-MS/MS fingerprinting and chemical profiling of the alkaloids of Zembrin® powder. Ten <i>Sceletium</i> alkaloids were identified based on the MS data (accurate mass measurement, molecular formula and double bond equivalent) and were confirmed by MS/MS. Six alkaloids, O-methyldehydrojoubertiamine (1), mesembrenone (2), mesembrine (3), N-demethylmesembrenol (4), mesembranol (5) and dehydrojoubertiamine (6) were known and isolated previously from <i>Sceletium</i> species. The HRMS and MS/MS data of the remaining four new alkaloids are consistent with structures that are tentatively identified as: 4-(4-methoxyphenyl)-4-[2-</p>



	<p>(acetylmethylamino)ethenyl]-cyclohexadienone (7), N-demethyl-N-formylmesembranone (8), Δ4,7-mesembradienone (9) and N-demethyl-N-formylmesembranol (10). Keywords: <i>Sceletium tortuosum</i>, LC-MS, LC-MS/MS, Zembrin® powder</p>
 <p>Fatma Abdelhamid GICB3SC1701063</p>	<p>Prenatal exposure to hormonally active chemical bisphenol A (BPA) altered gene expression in the developing rodent epididymis.</p> <p>Fatma M. Abdelmaksoud Faculty of Veterinary Medicine, Assiut University, Assiut, Egypt</p> <p>ABSTRACT</p> <p>There is an extensive evidence in the previous studies revealed impaired reproductive capacity in wildlife and laboratory species with chemical exposures. Hormonally active chemicals are found in the environment due to the industrial and manufacturing activity. In particular, bisphenol A has attracted the public interest due to their presence in several consumer products. The present study determined the effects of prenatal exposures to BPA on aspects of gene expression during epididymal development using the rat model. Timed long Evans pregnant female rats were exposed to BPA by gavage from gestational days 12 to 21. The caput epididymis was collected from groups of male offspring at 35 and 90 days of age. Epididymes were obtained after whole body perfusion of rats with 4% paraformaldehyde and prepared for immunohistochemical studies. Tissues were processed for analysis by Western blotting to identify altered patterns of gene expression affecting steroid hormone receptors (estrogen receptors and androgen receptors), Wnt4, β-Catenin, MAPK, and HOXD4. Overall, results showed that prenatal exposures to both chemical BPA modified protein expression in the developing epididymis, which was evident during the prepubertal period and persisted into adulthood.</p>
 <p>Somaiya Mateen GICB3SC1701064</p>	<p>Level of Reactive Species and Inflammatory Mediators in Rheumatoid Arthritis Patients: Correlation with Disease Severity</p> <p>Somaiya Mateen Department of Biochemistry, Faculty of Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh-202002, India</p> <p>Shagufta Moin Department of Biochemistry, Faculty of Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh-202002, India</p> <p>Abdul Qayyum Khan Department of Orthopedic Surgery, Faculty of Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh-202002, India</p> <p>ABSTRACT</p> <p>In rheumatoid arthritis (RA), impaired oxidative metabolism and imbalance between pro-and anti-inflammatory cytokines are responsible for causing inflammation and the degradation of cartilage and bone. The present study was done to evaluate the level and hence the role of reactive oxygen species (ROS),</p>


	<p>reactive nitrogen species (RNS) and inflammatory mediators in the pathogenesis of RA. The present study was performed in the blood of 80 RA patients and 60 age and sex-matched healthy controls. Patients were further divided on the basis of severity of RA. The level of ROS (in 5% hematocrit) and the plasma level of RNS and pro-inflammatory mediators were monitored in healthy subjects and RA patients. Reactive species and inflammatory cytokines were correlated with disease activity measure-Disease Activity Score for 28 joints (DAS28). The level of ROS, RNS and pro-inflammatory mediators were found to be significantly higher in RA patients as compared to the healthy controls, with the increase being more significant in patients having high disease severity. Higher ROS, RNS (indicative of impaired anti-oxidant defence system) and pro-inflammatory cytokines level in RA patients may lead to the damage of biomolecules which in turn contributes to tissue damage and hence to the development of more severe RA. The imbalance between pro-and anti-inflammatory cytokines may lead to the development of multi-system immune complications. ROS, RNS and inflammatory cytokines may also serve as a potential biomarker for assessing the disease severity.</p> <p>Keywords- Rheumatoid arthritis, reactive oxygen species, pro-inflammatory cytokines, disease activity score</p>
 <p>Saman Khan GICB3SC1701065</p>	<p>Copper chelation by 3-(bromoacetyl) coumarin derivative induced apoptosis in cancer cells: Influence of copper chelation strategy in cancer treatment</p> <p>Saman Khan, F.A. Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh 202002, Uttar Pradesh, India</p> <p>ImranaNaseem S.B. Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh 202002, Uttar Pradesh, India</p> <p>ABSTRACT</p> <p>Copper is an essential trace element required for pro-angiogenic co-factors including vascular endothelial growth factor (VEGF). Elevated levels of copper are found in various types of cancer including prostate, colon, breast, lung and liver for angiogenesis and metastasis. Therefore, targeting copper via copper-specific chelators in cancer cells can be developed as effective anticancer treatment strategy. In continuation of our pursuit to design and synthesize copper chelators, herein we opted for a reaction to incorporate di-(2-picolyl) amine in 3-(bromoacetyl) coumarin (parent backbone) for the synthesis of complex 1. We evaluated lipid peroxidation, protein carbonylation, ROS generation, DNA damage and consequent apoptosis by complex 1 in exogenously added Cu(II) in human peripheral lymphocytes (simulate malignancy condition). Results showed that Cu(II)-complex 1 interaction leads to cell proliferation inhibition, apoptosis, ROS generation and DNA damage in human lymphocytes, and these effects were abrogated by cuprous chelator neocuproine and ROS scavengers (thiourea, catalase, SOD). This indicates that complex 1 cytotoxicity is due to redox cycling of copper to generate ROS which leads to pro-oxidant cell death in cancer cells. To further confirm our hypothesis, using the rat model of diethylnitrosamine</p>

	<p>(DEN) induced hepatocellular carcinoma; we showed that complex 1 mediates DNA breakage and cell death in isolated carcinoma cells. Membrane permeant copper chelator, neocuproine and ROS scavengers inhibited the complex 1-mediated cellular DNA degradation and apoptosis. In summary, complex 1 anticancer activity is due to its copper chelation capability. These results will provide copper chelation as an effective targeted cancer treatment strategy for selective cytotoxic action against malignant cells without affecting normal cells.</p> <p>Keywords: cancer treatment, copper chelation, ROS generation, DNA damage, redox cycling, apoptosis</p>
<p style="text-align: center;">Rasoul Salehi GICB3SC1701067</p>	<p style="text-align: center;">Novel approach for ABCB1/P-glycoprotein knockout and reversal of chemosensitivity in human epithelial ovarian cancer cell line using CRISPR/Cas9 genome editing technology</p> <p style="text-align: center;">Rasoul Salehi, Department of Genetics and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">Leila Norouzi, Department of Genetics and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">Ahmad Reza Salehi Department of Genetics and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p style="text-align: center;">ABSTRACT</p> <p>Ovarian cancer is one of the prevalent and life threatening cancers among women. Although 45%-60% of patients achieve complete clinical response to first-line chemotherapy treatment, around 50% of these patients relapse within 5 years and only about 10% of patients presenting with advanced stage disease achieve long-term remission. It is thought that the high relapse rate is mainly due to resistance to chemotherapy. Inhibition of P-glycoprotein, a member of ATP-binding cassette (ABC) transporters is a well-known strategy to overcome multidrug resistance in cancers.</p> <p>In the present study we investigated the efficiency and ability of CRISPR/Cas9 genome editing technology to knockout ABCB1 gene expression in Adriamycin resistant (A2780/ADR) ovarian cancer cell line and evaluated sensitivity changes to doxorubicin.</p> <p>We designed 3sgRNAs gene constructs targeting the fourth and fifth exons of human ABCB1 gene. After co-transfection of all three sgRNA in A2780/ADR cell line. The expression level of ABCB1 was detected by quantitative real time PCR (qRT-PCR). Drug sensitivity to doxorubicin was determined by the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide (MTT) assay.</p> <p>The results showed that CRISPR/Cas9 system could significantly reduce the expression of P-gp close to zero. The sharp decline in ABCB1 gene expression was associated with increased sensitivity of the treated cells to doxorubicin.</p> <p>Based on our results it is concluded that CRISPR-based systems can be introduced as an ideal and cost-effective tool for simultaneous targeting of several important transporters and subsequently the improvement of drug sensitivity and overcoming drug resistance in ovarian cancer cell line.</p>

	Key Words: Multidrug Resistance, P-glycoprotein, CRISPR/Cas9, Doxorubicin
Aswan Al-Abboodi GICB3SC1701068	<p style="text-align: center;">The Efficacy of Malaria Protein Vaccination Using In situ Porous Hydrogel as a Delivery System</p> <p style="text-align: center;">Aswan Al-Abboodi, Department of Chemical Engineering, Monash University, Clayton VIC 3800, Australia</p> <p style="text-align: center;">Charles Ma, Department of Microbiology, Monash University, Clayton VIC 3800, Australia</p> <p style="text-align: center;">Jing Fu, Department of Mechanical Engineering, Monash University, Clayton VIC 3800, Australia</p> <p style="text-align: center;">Peggy Chan, Department of Chemical Engineering, RMIT University, Melbourne VIC 3000, Australia</p> <p style="text-align: center;">Ross L. Coppel, Department of Microbiology, Monash University, Clayton VIC 3800, Australia</p> <p style="text-align: center;">ABSTRACT</p> <p>The ability to induce an immune response with recombinant <i>Plasmodium yoelii</i>, 19-kDa C-terminal fragment of merozoite surface protein 1 (PyMSP119) encapsulated within a Gelatin-hydroxyphenylpropionic acid/carboxymethylcellulose-tyramine (Gtn-HPA/CMC-Tyr) porous hydrogel network and the efficacy of such an immune response was investigated as a new method of improving vaccination against malaria. The theory behind this work is that the slow, sustained release of the malaria antigen may induce and maintain a high level of immune response for a prolonged period. In vitro protein release studies by immunoblot were performed firstly to determine the PyMSP119 release profile for three different concentrations of Gtn-HPA/ CMC-Tyr hydrogel: 10%, 15% and 20%. It was found that the release profile followed biphasic kinetics, with slow, close to first order release for the first 8 hours followed by a faster release. These results showed that Gtn-HPA/ CMC-Tyr hydrogels could be used for the controlled release of antigens. In vivo studies were performed to measure the antibody responses elicited in mice by different hydrogel vaccine complexes which involved flagellin adjuvant (FljB). Higher serum antibody titers against PyMSP119 were observed with the administration of a complex of hydrogel/PyMSP119/FljB in three injections compared to other complexes. Robust IgG1 and total IgG response were observed after 3 injections of the hydrogel/PyMSP119/FljB complex as a result of the combination of the slow sustained release of the antigen from the hydrogel, the presence of the FljB adjuvant and the antigen boost injections. A complex of hydrogel/PyMSP119 in three injections (without adjuvant) generated moderate total IgG responses against PyMSP119 antigen, indicating the role of the hydrogel in maintaining the immune responses that lead to appropriate sustained responses. These findings support the utility of porous hydrogel-based antigen vaccine systems to induce the antibody responses that may be suitable for a diversity of diseases including</p>

	<p>malaria. Key words: Malaria vaccine, porous hydrogel, PyMSP119 protein, Plasmodium yoelii.</p>
 <p>Alireza Andalib GICB3SC1701070</p>	<p>Immunobioinformatic Designing For A Vegf Conserved Sequence Peptide To Apply As A Vaccine In Mice Model</p> <p>Andalib AR, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p>SoltanpourGharibdousti F, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran Department of Immunology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran</p> <p>FazeliDelshad B, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran Department of Immunology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran</p> <p>Falak R, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p>GhanjalikhaniHakemi M, Department of Immunology, School of Medicine, Isfahan University of Medical Sciences, Isfahan, Iran</p> <p>Kardar GA, Immunology, Asthma and Allergy Research Institute, Tehran University of Medical Sciences, Tehran, Iran</p> <p>ABSTRACT</p> <p>Background: tumors secrete various pro-angiogenic factors. Vascular Endothelial Growth Factor (VEGF) plays a pivotal role in neoangiogenesis of malignant tumors. Blocking of VEGF could be an attractive idea to prevent VEGF receptor activation and to reduce its multiple cellular consequences.</p> <p>MATERIAL & METHODS: after bioinformatic designing, a 4 kDa conserved sequence of VEGF was selected and ordered to be synthesis and then used for conjugated with Keyhole Limpet Hemocyanin (KLH) as a carrier, then it was applied for subcutaneous immunization of female BALB/c mice. Sera were collected in a biweekly schedule. To measure the polyclonal anti-VEGF antibody titer in mice sera, an indirect peptide-ELISA was developed.</p> <p>RESULTS: Insilico analysis of the designed hVEGF peptide, via bioinformatic tools, confirmed that the synthesized sequence could efficiently trigger humoral immune response. SDS-PAGE analysis of the conjugated molecule showed efficient coupling of the peptide with KLH. A substantial increase of the antibody titer was observed in vaccinated mice compared to controls. CONCLUSION: Our</p>

	<p>results reinforce the potential of KLH conjugated peptide for immunization and production of specific polyclonal antibodies against VEGF. Moreover, production of high titer antibodies against this autoantigen offers that this peptide may be used as an efficient vaccine to stimulate humoral immune reaction.</p> <p>Key words, VEGF, neoangiogenesis, bioinformatic</p>
 <p>Nimshitha Pavathuparambil Abdul Manaph GICB3SC1701071</p>	<p style="text-align: center;">Isolation and in vitro expansion of urine-derived cells</p> <p style="text-align: center;">NimshithaPavathuparambil Abdul Manaph, School of Pharmacy and Medical Sciences, Sansom Institute, University of South Australia, Adelaide, SA 5000, Australia.</p> <p style="text-align: center;">Dr. Larisa Bobrovskaya, School of Pharmacy and Medical Sciences, Sansom Institute, University of South Australia, Adelaide, SA 5000, Australia.</p> <p style="text-align: center;">Prof.Xin-Fu Zhou School of Pharmacy and Medical Sciences, Sansom Institute, University of South Australia, Adelaide, SA 5000, Australia.</p> <p style="text-align: center;">ABSTRACT</p> <p>Translational research requires donor-specific cells to avoid immunogenicity and rejection. For organ and tissue transplantation, abundant source of donor-specific cells is required. The ideal cell would be the one that can be cultured and obtained from a non-invasive donor sample. Urine beats any other sample in terms of ease of collection and isolation, irrespective of the donor's age or physical condition. This work aimed to isolate two different types of cells (referred to as human primary urine cells and urine stem cells) from the urine samples of healthy individuals and to study their growth characteristics in vitro. Our findings suggest that primary urine cells have limited and urine stem cells have unlimited expandability in vitro. The isolation method is comparatively simple without expensive substrates or reagents. As a universal sample that can be collected from any individual non-invasively, the ethical issues is also minimum. Conclusively, these two types of cells could be advantageous in terms of generating donor-derived cells to serve as a cell bank for future use or personalised therapy.</p> <p>KEYWORDS: Urine, isolation, renal cells, stem cells, growth</p>
 <p>Abbas Rezaei GICB3SC1701072</p>	<p style="text-align: center;">Different procedure for isolation and enhancement of NK cells for immunotherapy</p> <p style="text-align: center;">Abbas Rezaei Immunology, Isfahan University of Medical Sciences , Isfahan, Iran</p> <p style="text-align: center;">ABSTRACT</p> <p>NK cells are one of the most important innate immune cells that play a crucial role in immunosurveillance. These cells are able to kill the cancer cells by different mechanisms, such as releasing cytoplasmic granules containing perforin and granzymes, through antibody-dependent cellular cytotoxicity (ADCC), by death receptor-mediated apoptosis and etc... Previous studies showed the anti-tumor activity of these cells,</p> <p>But during tumor progression, tumor cells develop several mechanisms to either escape from NK-cell recognition and attack or to induce defective NK cells. Given</p>

	<p>that NK cells play critical roles in the first-line of defense against malignancies by direct and indirect mechanisms, the therapeutic use of NK cells in human cancer immunotherapy has been proposed and followed in a clinical context. For NK cell therapy, we need a source of NK cells and also we have to isolate and enhance these cells in-vitro. Best sources for NK cell therapy are peripheral blood-derived NK cells, NK cell lines and stem cells. For isolation of NK cells, we can use Immunomagnetic bead selection or NK cell lines and for enhancement (expansion), we can use cytokines such as IL-2, IL-15 or stromal cell factor (SCF) or use feeder (accessory) cells. Our study showed that using Immunomagnetic bead selection and using feeder cells such as K562 that transduced by IL-15 and 4.1 BBL (CD137) and irradiated 100Gy is the best way for isolation and enhancement of NK cells for immunotherapy.</p>
 <p>Hoorieh Soleimanjahi GICB3SC1701074</p>	<p>Evaluation of mesenchymal stem cell biology in reovirus infection</p> <p>Banijamal R, Department of Virology, Faculty of Medical Sciences, TarbiatModares University, Tehran, Iran.</p> <p>Soleimanjahi H, Department of Virology, Faculty of Medical Sciences, TarbiatModares University, Tehran, Iran.</p> <p>Soudi S, Department of Immunology, Faculty of Medical Sciences, TarbiatModares University, Tehran, Iran.</p> <p>Khorrani M, Department of Virology, Faculty of Medical Sciences, TarbiatModares University, Tehran, Iran.</p> <p>KarimiHesam, Department of Virology, Faculty of Medical Sciences, TarbiatModares University, Tehran, Iran.</p> <p>ABSTRACT</p> <p>Several treatment methods are available today to fight against cancer, the methods includes conventional surgery, chemotherapy and radiotherapy to new therapeutic methods such as Viraltherapy. Currently oncolytic viral application has efficient and successful output in cancer therapy approach. Several oncolytic viruses application in clinic have been approved and currently numerous are in different phases of clinical trials. However, these methods are based on oncolytic viruses have some elementary problems such as off target effects and neutralization by circulating antibodies in the blood.</p>

	<p>Therefore, to enhance the delivery and quality of treatment, taking advantage of carrier-based methods have been proposed and based on experimental studies due to stem cells properties such as homing in tumor tissue and sites of inflammation (target specific) and the ability to cover oncolytic viruses from circulating antibodies, that being presented as good options for the carrier.</p> <p>In this proposal, based on characteristics of oncolytic reovirus (activate proliferation in tumor tissue, low toxicity to the host and the lack of acute disease in humans, especially adults) and properties of mesenchymal stem cells in other studies and their practical outputs in researches and scientific literature, we design this examination to evaluate the performance and quality of cancer treatment based on mesenchymal stem cells loaded with oncolytic reovirus in cancerous TC1 cell culture model.</p> <p>Keywords: oncolytic reovirus, mesenchymal stem cells, TC1 cell culture model</p>
 <p>Vimala Parihar GICB3SC1701075</p>	<p>Functional Characterization of a Rice Argonaute gene, OsAGO14</p> <p>VimalaParihar, University School of Biotechnology, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, New Delhi-110078. India.</p> <p>Meenu Kapoor, University School of Biotechnology, Guru Gobind Singh Indraprastha University, Sector 16C, Dwarka, New Delhi-110078. India.</p> <p>ABSTRACT</p> <p>Argonautes (AGOs) are multidomain ribonucleases that are characterized by an N terminal PAZ, a central Mid and a C-terminal PIWI domain. In the model plant systems, rice and Arabidopsis, AGOs cluster into four subgroups MEL1, AGO1, AGO4 and ZIPPY. The founding member of the MEL1 group, OsMEL1, is essential for proper entry into and progression of meiosis in rice. Microarray expression analysis of the MEL1 family has revealed that 4 of 5 MEL1 group members express in panicle and seeds in a development-specific manner. Chromosomal localization of rice genes have shown that four genes of MEL1 family are localized on chromosome 3 and one on chromosome 7, respectively. Interestingly, OsMEL1 and OsAGO14 lie on segmentally duplicated regions of chromosomes 3 and 7. An unexpected pattern of expression of these duplicated partners was observed during reproductive development in rice plants. Microarray-based expression profiling across 22 stages of rice development showed that while OsMEL1 expressed strongly during early stages of panicle development (P1-P3), expression of its segmentally duplicated partner, OsAGO14, became detectable only during late panicle stage (P5 onwards) and extended up to differentiation of embryos in seeds (S2 stage). Cis-elements were identified in promoter region of segmentally duplicated genes, OsMEL1 and OsAGO14 that can be correlated with tissue-specific expression pattern of these genes. In the present study we have raised OsAGO14 knockdown plants that do not show any abnormality during vegetative development but were observed to be defective in panicle and seed formation</p>



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GICB3SC1701057

Diagnosing Alzheimer disease based on resting-state FMRI images and latent low rank representation

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ABSTRACT

In recent years, there has been a growing trend in diagnosing neurologic and psychiatric diseases by functional magnetic resonance imaging (FMRI). The goal of this research is diagnosing Alzheimer disease based on resting-state FMRI (rs-FMRI). In this work, the images of rs-FMRI related to 10 Alzheimer patients, 10 early Mild Cognitive Impairment (MCI) patients and 10 healthy subjects were investigated. After applying various preprocessing steps, time series of 112 anatomical regions for each patient were obtained and by applying Latent Low Rank Representation (LatLRR) method, suitable features were extracted. The next stage was to determine the class of each patient which was done by using a Support Vector Machine (SVM) classifier. Our observation showed that a SVM classifier with a Gaussian kernel function can achieve better performance. Based on experimental results, more than 93% accuracy was achieved in differentiating healthy people from Alzheimer patients and more than 90% in discriminating MCI patients from Alzheimer patients.

Keywords: rs-FMRI, Latent low rank representation, SVM classifier



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Molecular Cloning And Characterization Of Novel Gene Encoding Dehydration Responsive Element Binding (Dreb2a) Protein From African Rice (OryzaGlaberrimaSteud.)

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ABSTRACT

DREB2A genes are transcription factors (TFs) that belongs to the APPETALA2/Ethylene Responsive Element Binding Factor (AP2/ERF) and play a key role in plant response to abiotic stress. In this study, DREB2A gene was isolated, cloned and characterized (in silico) from 17 accessions of *O. glaberrima* and *O. sativa sspIndica* (used as check varieties) using Pokkali DREB2A gene specific primers. The results revealed that DREB2A gene was present in all the 17

	<p>accessions. The amplified gene was sequence from each accession and sequence submitted to NCBI database (Accession numbers; KU159741 – 759). Coding sequence of DREB2A gene (derived from cDNA) showed 100% identity with Pokkali reference sequence of the NCBI database (gi/377823847) and codes for 281 amino acid residues that has 58 amino acids at the AP2 DNA binding domain. DREB2A protein coding sequence revealed a predicted molecular weight, GRAVY, stability index and Iso-electric point of 31.579 KDa, -0.670, 44.34 (unstable) and 5.87 respectively. Multiple sequence alignments of DREB2A sequence derived from 12 rice species revealed the phylogenetic relationship and the conserved nature of the gene in <i>Oryza</i> family. Conclusively, the DREB2A gene is highly conserved among cultivated and wild relatives of rice species and thus is orthologous to <i>OsDREB2A</i> gene.</p> <p>Keywords: Molecular cloning, transcription factors, <i>Oryzaglaberrima</i>, <i>OsDREB2A</i> sequence, Pokkali</p>
 <p style="text-align: center;">Fitrah Awae GICB3SC1701075</p>	<p style="text-align: center;">“Stair Climbing” Application Development for Performing Healthy Habit</p> <p style="text-align: center;">Meihua PIAO, RN, M.Sc, College of Nursing, Seoul National University, Seoul, Korea</p> <p style="text-align: center;">Jeongeun KIM, RN, PhD, INS, College of Nursing, Seoul National University, Seoul, Korea Research Institute of Nursing Science, Seoul National University, Seoul, Korea</p> <p style="text-align: center;">ABSTRACT</p> <p>This is the methodological study to develop smartphone application based on the context-specific repetition theory for the office workers. The participants’ experience of stair climbing behavior in the routine life will be supported and monitored by the application and to evaluate the habit formation process and the habit strength diagram.</p> <p>Keywords: Health behavior, Habit, Application</p>
 <p style="text-align: center;">Saman Khan YRSB3SC1701051</p>	<p style="text-align: center;">Copper chelation by 3-(bromoacetyl) coumarin derivative induced apoptosis in cancer cells: Influence of copper chelation strategy in cancer treatment</p> <p style="text-align: center;">F.A. Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh 202002, Uttar Pradesh, India</p> <p style="text-align: center;">S.B. Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh 202002, Uttar Pradesh, India</p> <p style="text-align: center;">ABSTRACT</p> <p>Copper is an essential trace element required for pro-angiogenic co-factors including vascular endothelial growth factor (VEGF). Elevated levels of copper are found in various types of cancer including prostate, colon, breast, lung and liver for angiogenesis and metastasis. Therefore, targeting copper via copper-specific chelators in cancer cells can be developed as effective anticancer treatment strategy. In continuation of our pursuit to design and synthesize copper chelators, herein we opted for a reaction to incorporate di-(2-picoly) amine in 3-(bromoacetyl) coumarin (parent backbone) for the synthesis of complex 1. We evaluated lipid peroxidation, protein carbonylation, ROS generation, DNA</p>

	<p>damage and consequent apoptosis by complex 1 in exogenously added Cu(II) in human peripheral lymphocytes (simulate malignancy condition). Results showed that Cu(II)-complex 1 interaction leads to cell proliferation inhibition, apoptosis, ROS generation and DNA damage in human lymphocytes, and these effects were abrogated by cuprous chelator neocuproine and ROS scavengers (thiourea, catalase, SOD). This indicates that complex 1 cytotoxicity is due to redox cycling of copper to generate ROS which leads to pro-oxidant cell death in cancer cells. To further confirm our hypothesis, using the rat model of diethylnitrosamine (DEN) induced hepatocellular carcinoma; we showed that complex 1 mediates DNA breakage and cell death in isolated carcinoma cells. Membrane permeant copper chelator, neocuproine and ROS scavengers inhibited the complex 1-mediated cellular DNA degradation and apoptosis. In summary, complex 1 anticancer activity is due to its copper chelation capability. These results will provide copper chelation as an effective targeted cancer treatment strategy for selective cytotoxic action against malignant cells without affecting normal cells. Keywords: cancer treatment, copper chelation, ROS generation, DNA damage, redox cycling, apoptosis</p>
 <p>Somaiya Mateen YRSB3SC1701052</p>	<p>Level of Reactive Species and Inflammatory Mediators in Rheumatoid Arthritis Patients: Correlation with Disease Severity</p> <p>SomaiyaMateen, Department of Biochemistry, Faculty of Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh-202002, India</p> <p>ShaguftaMoin, Department of Biochemistry, Faculty of Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh-202002, India</p> <p>Abdul Qayyum Khan, Department of Orthopedic Surgery, Faculty of Medicine, Jawaharlal Nehru Medical College, Aligarh Muslim University, Aligarh, Uttar Pradesh-202002, India</p> <p>ABSTRACT</p> <p>In rheumatoid arthritis (RA), impaired oxidative metabolism and imbalance between pro-and anti-inflammatory cytokines are responsible for causing inflammation and the degradation of cartilage and bone. The present study was done to evaluate the level and hence the role of reactive oxygen species (ROS), reactive nitrogen species (RNS) and inflammatory mediators in the pathogenesis of RA. The present study was performed in the blood of 80 RA patients and 60 age and sex-matched healthy controls. Patients were further divided on the basis of severity of RA. The level of ROS (in 5% hematocrit) and the plasma level of RNS and pro-inflammatory mediators were monitored in healthy subjects and RA patients. Reactive species and inflammatory cytokines were correlated with disease activity measure-Disease Activity Score for 28 joints (DAS28). The level of ROS, RNS and pro-inflammatory mediators were found to be significantly higher in RA patients as compared to the healthy controls, with the increase being more significant in patients having high disease severity. Higher ROS, RNS (indicative of impaired anti-oxidant defence system) and pro-inflammatory cytokines level in RA patients may lead to the damage of biomolecules which in turn contributes to tissue damage and hence to the development of more severe RA. The imbalance</p>

	<p>between pro-and anti-inflammatory cytokines may lead to the development of multi-system immune complications. ROS, RNS and inflammatory cytokines may also serve as a potential biomarker for assessing the disease severity. Keywords- Rheumatoid arthritis, reactive oxygen species, pro-inflammatory cytokines, disease activity score</p>
<p>Mercy Eloho Sosanya GICHNDM1701068</p>	<p style="text-align: center;">Development Of An Indigenous Food Exchange List For Selected Foods Commonly Consumed In Northern Nigeria</p> <p style="text-align: center;">Mercy Eloho Sosanya Department of Nutrition and Dietetics, School of Science and Technology, The Federal Polytechnic, Bauchi, Bauchi, Nigeria Mohammed Ibrahim Asmau Garba1Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria Yakubu Rhoda Garba1Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria Adeosun Funke Florence Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria Okafor Dorothy Tochi Department of Nutrition and Dietetics, the Federal Polytechnic, Bauchi, Nigeria Fadupin Grace Tanimowo Department of Human Nutrition, University of Ibadan, Nigeria</p> <p style="text-align: center;">ABSTRACT</p> <p>Food Exchange lists are a guiding tool for people with diabetes for quantifying their diets correctly. This analytical study determined the carbohydrate content of 17 cereal, roots and tuber foods indigenous to northern Nigeria (using carbohydrate by difference method) and developed a food exchange list for 10g and 15g of carbohydrate. 100g of each raw food item was cooked using standardized recipes. The number of household measures (that is dessert spoons and milk tins) contained in 100g of the food items was also measured. The proximate composition was determined using a 5g sample obtained from each cooked food item and the carbohydrate content of the foods was determined by the difference method. The quantity of food items that yield 10g and 15g carbohydrate was computed from the results of the proximate analysis. The food exchange list for 10g and 15g carbohydrate was then compiled comprising these cooked foods as eaten. Pap (koko) had the highest (128g and 192g) and nakiya (steamed, fermented rice balls) had the lowest (12.9g and 19.3g) weights as 10 g or 15 g CHO among the cereal foods. Eba (Garri meal) and Yam porridge had the lowest (37g and 55.6g) and highest (101.9g and 152.9g) weights as 10 g or 15 g CHO respectively among the roots and tuber foods. There is need to educate persons living with diabetes and other individuals on therapeutic diets on how to utilize food exchange lists for effective diet planning to manage their disease conditions and improve variety in their diets. The study provided a tool for diet planning for persons living with diabetes in northern Nigeria. Key words: Food Exchange Lists, cereals, diabetes</p>
<p>Azadeh Shadmehr GICHNDM1701070</p>	<p style="text-align: center;">The Comparison of Neurocognitive Parameters in Women with and without Low Back Pain</p> <p style="text-align: center;">Azadeh Shadmehr</p>

	<p style="text-align: center;">Dept of Physiotherapy, School of Rehabilitation, Tehran University of Medical Sciences, Tehran/Iran Mahdieh Mirdamadi, Behrouz Attarbashi, Shohreh Jalaie</p> <p style="text-align: center;">ABSTRACT</p> <p>Research Objectives: Low back pain is a very common problem and may become healthcare threatening or result in disability without prompt attention. There is some evidence about cognitive impairment associated with the pain experience. The present study investigated the cognitive functions of patients with low back pain in comparison with healthy controls.</p> <p>Methodology: The participants in the current study were 15 women with LBP (average age of 32.1 years) and 15 women without LBP (average age of 28.6). The auditory choice reaction time, visual choice reaction time, auditory complex choice reaction time and visual complex choice reaction times were measured in both groups. The reaction time tests were taken from the subjects by using Speed Anticipation and Reaction Tester (SART) software.</p> <p>Findings: Results suggested that healthy controls were better in both visual reaction times compare to the LBP group ($P < 0.05$). However, no significant differences were found in both auditory reaction time tests.</p> <p>Research Outcomes: This study showed that neurocognitive changes are possible in people with LBP. Future Scope: Improving the neurocognitive factors is suggested in promotion of healthcare of the patients with LBP.</p> <p>Keywords: Low Back Pain, choice reaction time, choice complex reaction time, neurocognition</p>
<p style="text-align: center;">Vimala Parihar GICB3SC1701075</p>	<p style="text-align: center;">Vimala Parihar University School of Biotechnology, Guru Gobind Singh Indraprastha University, New Delhi, India</p>
 <p style="text-align: center;">Sajatha Brijkumar GICB3SC1701077</p>	<p style="text-align: center;">Cloning And Expression Of ZFP160 A Putative Pterin Deaminase From Aspergillus.Terreus</p> <p style="text-align: center;">Sajatha Brijkumar PHD in biotechnology, Bharthiar university Coimbatore, Tamil Nadu, India Sajatha Brijkumar J.Angaryarkanni R.Abhirami</p> <p style="text-align: center;">ABSTRACT</p> <p>Pterin deaminase is widely distributed in both prokaryotes and eukaryotes and has been reported to have antitumor and antioxidant activity. Previous studies identify extracellular pterin deaminase from <i>Aspergillus.terreus</i> as a zinc finger protein (zfp). Molecular docking studies of the only zfp sequence on UniProt database for <i>Aspergillus</i> species proves that zfp160 interacts with folic acid and belongs to the class hydrolase possessing deaminase activity. The present study aims at cloning, expression and purification of this 'ZFP 160' which will facilitate its structural and functional studies in future. The protein sequence obtained from 'UniProt' was used to construct a DNA sequence by recursive PCR, which was cloned into pEASY vector. The pEASY - Zinc finger protein clone was digested (NdeI & HindIII); released ZFP gene was then cloned into pET21a. Probable pET21a clones were screened & confirmed by restriction digestion.</p>

	<p>Single colonies were screened for checking gene expression. Positive culture was grown to an OD of 0.6 at 600nm and induced with 500μM IPTG. The expressed protein was purified using Nickel-NTA based affinity column purification with imidazole gradient elution. Expression of the desired ZFP 160 was confirmed by the 32 kda band on 12% SDS PAGE. The sample was further analyzed on the MALDI TOF/TOF ULTRAFLEX III instrument and further analysis was done with FLEX ANALYSIS SOFTWARE for obtaining the peptide mass fingerprint. The peptide mass fingerprint of the expressed protein gave a significant hit for 'zinc finger protein 160' protein from <i>Aspergillus terreus</i> after the mascot search. These results confirm that the ZFP 160 from <i>Aspergillus terreus</i> was successfully cloned expressed and purified.</p> <p>Keywords—<i>Aspergillus .Terreus, Cloning, Pterin Deaminase, Zfp160</i></p>
<p style="text-align: center;">Maryam Khan GICB3SC1701058</p>	<p style="text-align: center;">Graphene Based Magnetic Nanocomposites as Versatile Carriers for High Yield Immobilization and Stabilization of β-Galactosidase</p> <p style="text-align: center;">Maryam Khan Department of Biochemistry, Aligarh Muslim University, Aligarh, India Qayyum Husain Department of Biochemistry, Faculty of Life Sciences, Aligarh Muslim University, Aligarh, 202002, U.P, India Alim Husain Naqvi Centre of Excellence in Materials Science (Nanomaterials), Department of Applied Physics, Z. H. College of Engg. & Tech, Aligarh Muslim University, Aligarh, 202002, UP, India</p> <p style="text-align: center;">ABSTRACT</p> <p>The present study demonstrates an efficient method for high yield immobilization of <i>Aspergillus oryzae</i> β-galactosidase onto graphene-iron oxide nanocomposites (Gr@Fe₃O₄ NCs) by simple adsorption mechanism. The synthesized nanocomposites were characterized by X-ray diffraction and FT-Raman spectroscopy, and their super-paramagnetic behaviour was assessed by vibrating sample magnetometer. The binding of enzyme on nanocomposites was confirmed by transmission electron microscopy, scanning electron microscopy, and Fourier transform-infrared spectroscopy. The bound enzyme showed 90% immobilization yield. The adsorbed and free enzyme both exhibited same pH-optima at pH 4.5. However, the immobilized enzyme showed enhanced pH stability toward acidic and basic sides, as well as increased temperature resistance as compared to native β-galactosidase. Michaelis constant, Km was decreased, while Vmax was increased which indicate a higher affinity and activity retention by immobilized β-galactosidase. Moreover, the Ki of the immobilized β-galactosidase was enhanced three-folds and thus showed a greater resistance to product inhibition mediated by galactose, than the free enzyme. The bound enzyme retained 83% activity even after its 8th successive reuse. The adsorbed enzyme lost only 21% of its initial activity during storage at 4oC, while the free β-galactosidase retained only 49% activity under similar storage conditions. The genotoxicity assessment revealed that the nanocomposites showed negligible toxicity to pBR322 DNA plasmid and human lymphocytes. In view of its easy production, non-toxic nature, improved stability against various denaturants and excellent reusability, the versatile Gr@Fe₃O₄ NCs can serve as an ideal support for the immobilization of other</p>

	enzymes as well, it may find its applications in constructing biosensors and producing lactose-free dairy products to feed lactose intolerant patients. Key words: Biosensor, β -galactosidase, graphene, genotoxicity, magnetic nanoparticles

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