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### VISION

To build a humane society through excellence in education and health care.

### MISSION

To develop Nitte University as a centre of excellence, imparting quality education, generating competent, skilled manpower to face the scientific and social challenges with a high degree of credibility, integrity, ethical standards and social concern.

*'For Private Circulation Only'*



# The NGSMIPS Herald

The Official news letter of the Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, Mangalore



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*Happy New Year 2017*



## NGSM Institute of Pharmaceutical Sciences

(A constituent Institution of Nitte University)

Placed under Category "A" by MHRD, Govt. of India

Accredited with Grade "A" by NAAC

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## *From the Editor's desk*



**Dear Colleagues and Students,**

As we end one year and look forward to another, I wish all my colleagues, students and readers of NGSMIPS Herald, a very happy and prosperous New Year 2017.

Our Pharma and Healthcare sector should focus on using innovative materials and nanotechnology to develop technologies to support four major theme areas- Prevention, Diagnosis, Treatment and Formulations. Prevention is better than cure. In our daily life, things we touch and the air we breathe in are the two major sources that can affect our acute health. We are targeting these two causes in our scientific research and have a number of patentable inventions, such as nanofiber air filter for air-borne particulates as well as durable antimicrobial coating and built-in biocide-free germ-repellent plastics for solid surfaces, which can prevent cross contamination and thus minimize the chance of acquiring serious infectious diseases. So, here nanotechnology can play a pivotal role. It is critical to have a fast diagnosis of an acute health condition so that healthcare providers can prescribe the most appropriate treatment timely. Our researchers should put efforts to develop simple, fast-react diagnostic tools and more sophisticated lab-on-chips for point-of-care applications. This involves the design of software component (biomarker chemistry) as well as the hardware model (diagnostic chips). Currently, we focus on applications in infectious diseases and food safety on public health. These core technologies will have a great impact across a platform of public

healthcare sectors. Nanotechnology in medicine offers some exciting possibilities. There are few technologies we have already experienced, while others are at various stages of testing. Currently, researchers are investigating the use of nanoparticles to deliver vaccines, techniques like nanosponges, coated carbon nanotubes, bismuth nanoparticles, nanocapsules are under review. Whatever it may be, the use of nanotechnology in the field of medicine could revolutionize the way we detect and treat damage to the human body and disease in the future.

In future, it is highly difficult to predict the significance of nanotechnology in our life with so many uncertainties and uncontrollable factors, but nanotechnology have the huge potential to enhance the power of medicine and also to bring revolution in our everyday lives. We hope that in coming years nanotechnology will explore a new horizon for the treatment of lethal disease like cancer and AIDS. The NGSM Institute of Pharmaceutical Sciences, Nitte University, has already set up an advanced nanotechnology laboratory which definitely will help researchers to develop nano-advanced drug delivery systems. Therefore, we hope in future our research programs would receive fund by different funding agencies from Government of India to develop better facilities. I, personally believe that nanotechnology will play a huge role on all of our lives in almost everything ranging from clothes to medicine.

**Dr. Akhilesh Dubey**  
Executive Editor

### **A one day seminar in Department of Pharmaceutical Chemistry at NGSMIPS**



### **Guest lectures at NGSMIPS**



## CAMPUS BUZZ

### Seminar on “Perspectives on New drug Discovery” in Pharmaceutical Chemistry

A one day seminar on “Perspectives on New Drug Discovery” was organized by Department of Pharmaceutical Chemistry, NGSM Institute of Pharmaceutical Sciences, Paneer campus, on 3<sup>rd</sup> November 2016. The seminar was sponsored by Nitte University, Deralakatte, Mangaluru. Dr. B.S. Jayashree Professor, Department of Pharmaceutical Chemistry, MCOPS, Manipal spoke on “Historical perspectives of rationale drugs and their molecular evaluation and also bio-isosteric modifications on benzopyrones and exploring them as novel targets in anticancer drug discovery”. Dr. K.K. Srinivasan, Professor & Head Department of Chemistry, Shri MV Institute of Technology & Management, Bantakal, spoke on “Proven natural products for the treatment for Type 2 Diabetes Mellitus” and Mr. Aravind Pai, Assistant Professor, Department of Pharmaceutical Chemistry, MCOPS, Manipal spoke on “Design and Development of anticancer agents targeting Tan-kyrase”. Dr. Indrani Karunasagar, Director R&D, Nitte University inaugurated the seminar. Dr. K. Ishwar Bhat, HOD, Pharmaceutical Chemistry and convener of the seminar welcomed the gathering and introduced the speakers. He also highlighted the importance of the seminar. Principal Dr. C.S. Shastry, gave a glimpse of the latest developments in this field. Dr. Jane Mathew proposed the vote of thanks and Ms. Sonal D’Souza anchored the program.

### Annual Sports meet of NGSMIPS

The annual sports meet of NGSM Institute of Pharmaceutical Sciences was held on 19<sup>th</sup> November, 2016 at the Mangalore University stadium. The chief guest Gerald Santosh D’Souza, Deputy Director of Physical Education, Mangalore University declared the meet open. The Principal Dr. C.S. Shastry welcomed the gathering and called upon the students not only to give their best, but also exhibit sportsmanship spirit and fair play. The physical Director of the college Mr. Rajaram Shetty honored the dignitaries with floral bouquets.



### Industrial Tour

Final Year B. Pharm students visit Pharmaceutical Industries in Goa. Every year, the students of Final Year B. Pharm make a tour of some pharmaceutical industries as part of their curricular activities to visit pharmaceutical industry. This year, the students had the opportunity to visit Blue cross Laboratories Pvt Ltd, Indoco Remedies Ltd. and Colorcon Asia Pvt. Ltd. Students have been given an ample opportunity to view technological processes involved in the manufacturing of tablets, capsules, parenterals, semi solids etc. Students were accompanied by Vice Principal Dr. Narayana Charyulu.



Dr. Narayana Charyulu with the students in Goa

### Guest Lectures

- Mr. Rakshith Shetty, Senior Research Scientist, Formulation Development at Steer Life India Pvt. Ltd., Bangalore delivered a guest lecture on 1<sup>st</sup> October 2016 for the IV Year B. Pharm students on the topic, “Indian Pharmaceutical Industry: Development and Future Prospects”. Guest lecture was organized by Department of Pharmaceutics.

- Curriculum Development Directorate, Nitte University organized a half a Hands-on Training Workshop for 2<sup>nd</sup> year M. Pharm Students and teaching staff of NGSM Institute of Pharmaceutical Sciences, Paneer Campus on 5<sup>th</sup> October 2016 by Dr. P.S. Sree Cumar, Department of Orthodontics. Hands-on Workshop on different Software applications like MS Office, PowerPoint, Excel and Google Online applications required for making efficient presentation and to carry out and write thesis. This unique workshop was attended by 40 postgraduate students and almost all faculty members which was very well appreciated.
- Dr. Shrinath Baliga, Senior Scientist, Father Muller Research Centre, Mangalore delivered a guest lecture on 6<sup>th</sup> October 2016 for the teaching staff and PG students. Dr. Baliga gave a brief picture of research in cancer. Guest lecture was organized by Department of Pharmaceutical Chemistry.
- Mr. Raghavendra Prabhu, Assistant Manager of Indoco Remedies Ltd., Goa delivered a talk on "Opportunities for freshers in Pharmaceutical Companies". The Guest lecture was organized by Department of Pharmaceutics to create awareness for the job prospects in Pharmaceuticals.
- Dr. Murali Badanthadka, Professor, Department of Pharmacology, NGSMIPS was invited as a resource person, in National Seminars at Pushpagiri College of Pharmacy, Tiruvalla, Kerala & Mangalore University, Mangalagangothri.
- Dr. Uday Venkat Mateti, Department of Pharmacy Practice, NGSMIPS, delivered a talk on the topic entitled "Evidence-Based Decision-Making in Health Outcomes Research" in the 1<sup>st</sup> International Conference on Health Economics and Outcomes Research held on 14<sup>th</sup> December 2016 at Manipal University, Manipal.

### Conferences Attended

- "APTICON-2016" 21<sup>st</sup> Annual national conference of Association of Pharmaceutical Teachers of India (APTI), conducted on the occasion of its golden jubilee, organized by Manipal University from 14-16 October 2016 held at Manipal college of Pharmaceutical Sciences, Manipal. Dr. C.S Shastri, Dr. R. Narayana Charyulu, Dr. Pankaj Kumar, Dr. Abhishek Kumar, Mr. Srinivas Hebbar, Mr. Ravi and many PG students had attended and presented papers in the conference.
- Dr. Himanshu Joshi attended one week training programme for CPCSEA nominee, from 24-28<sup>th</sup> October 2016, organized by National Institute of Animal Welfare, Ministry of Environment, Forests and Climate Change,

Government of India, held at Ballabhgarh, Faridabad (Haryana), India.

- Dr. B.C. Revanasiddappa presented a paper (Oral and poster) at DST-SERB sponsored seminar organized by JSS College of Pharmacy, Ooty held on 4-5<sup>th</sup> November 2016.
- "World congress on Drug Discovery and Development 2016" an International conference was conducted by Biogenesis health cluster on 23<sup>rd</sup>-25<sup>th</sup> November 2016 held at Indian Institute of sciences (Iisc), Bengaluru. Dr. Marina Koland and Dr. Akhilesh Dubey, Department of Pharmaceutics, had attended and presented papers. Both the faculty members bagged best oral presentation award in the conference.
- Ms. Amritha C.L presented a paper at the national seminar organized by Puspagiri college of Pharmacy, Tiruvalla held on 22<sup>nd</sup> November 2016. She bagged best poster award in the conference.

### Appointments

**Dr. Anoop Narayanan V** has been appointed as Assistant Professor with effect from 12<sup>th</sup> November 2016.

### Ph.D Awarded



**Mr. Rajesh K S**, Assistant Professor, Department of Pharmacy Practice, NGSM Institute of Pharmaceutical Sciences, Mangaluru, Karnataka, was awarded Doctor of Philosophy in Pharmaceutical Sciences for his thesis entitled, "Study on anti-venom property of root extract of Coix lachrymajobi for the treatment of Indian

poisonous snake venoms" by the Nitte University, Mangalore, under the guidance of Dr. Dr Ishwar Bhat K, Head & Professor, Department of Pharmaceutical Chemistry and Co-guidance of Dr. Vaman Rao C, Professor, Department of Biotechnology engineering, NMAMIT, Mangaluru.



**Mr. Javed Sharif**, Assistant Professor, Department of Pharmacy Practice, NGSM Institute of Pharmaceutical Sciences, Mangaluru, Karnataka, was awarded Doctor of Philosophy in Pharmaceutical Sciences for his thesis entitled, "Impact of clinical pharmacist interventions in diabetes mellitus disease

management program in a tertiary care teaching hospital" by the Nitte University, Mangalore, under the guidance of Dr. Jennifer Fernandes, Professor, Department of Pharmaceutical Chemistry and Co-guidance of Dr. Laxminarayana Samaga, Professor & Unit Head IV, K.S Hegde Charitable Hospital, Mangaluru.

## DEPARTMENT ACTIVITIES

### RESEARCH/REVIEW PUBLICATIONS/PRESENTATIONS/ PAPER REVIEWED

#### DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

##### Paper Presented

1. Dr. Abhishek Kumar, presented a poster on the research paper entitled, "Synthesis, Antioxidant and Cytotoxic Studies of Some Novel Pyrazoline Incorporated 2-Quinolones", in the 21<sup>st</sup> Annual National Convention of APTI at Manipal University, Manipal on 14<sup>th</sup>-16<sup>th</sup> October, 2016.
2. Dr. Pankaj Kumar, presented a poster on the research paper entitled, "Synthesis and Antimicrobial Evaluation of Substituted Oxazolidinone Moieties", in the 21<sup>st</sup> Annual National Convention of APTI at Manipal University, Manipal on 14<sup>th</sup>-16<sup>th</sup> October, 2016.
3. Dr. B.C. Revanasiddappa, presented a paper (Oral and poster) at DST-SERB sponsored seminar organized by JSS College of Pharmacy, Ooty held on 4-5<sup>th</sup> November 2016.

##### Paper Reviewed

##### Dr. Abhishek Kumar

Reviewed a research article entitled 1, 1'-Carbonyldiimidazole (CDI) mediated syntheses of coumarin-3-carboxamide derivatives and evaluation of their antimicrobial activity in International Journal of Biochemistry research & Review. (Nov-2016)

##### Dr. B.C Revannasiddapa

- 1 Reviewed a paper entitled, "Synthesis and evaluation of anti-inflammatory Activity of chlorinated chalcone derivatives and using the semi-empirical methods to measure the linked physico-chemical parameters". Advances in Research. (Nov. 2016)
- 2 Reviewed a paper entitled, "Evaluation of Antifungal and Antibacterial Activity of some new Benzimidazole Derivatives". Anti-Infective Agents (AIA), Bentham Science. (Nov. 2016)
- 3 Reviewed a paper entitled, "Synthesis, Reactions and Biological Activity of Some New Derivatives of Fused [1, 2, 4] triazino [5, 6-b] indole". Letters in Organic Chemistry, Bentham Science. (Nov. 2016)

#### DEPARTMENT OF PHARMACEUTICS

##### Research Publications

Akhilesh Dubey. Nanostructured Lipid Carriers for the Topical Delivery of Tretinoin. Eur J Pharm Bio Pharm 2016; 108C: 253-61.

##### Paper Presented

- 1 **Dr. Narayana Charyulu** presented a poster on the research paper entitled, "Formulation and development of melt in mouth films containing almotriptan".
- 2 **Mr. Srinivas Hebbar** presented a poster on the research paper entitled, "Investigation of Chitosan prazosin beads by Ionotropic gelation method" in the 21<sup>st</sup> Annual National Convention of APTI at Manipal University, Manipal on 14<sup>th</sup>-16<sup>th</sup> October, 2016. Mr. Srinivas Hebbar also presented paper as co-author in the World congress on Drug Discovery and Development on 23<sup>rd</sup>-25<sup>th</sup> November 2016 held at Indian Institute of Sciences (IISc), Bengaluru.
- 3 **Mr. Ravi** presented a poster on the research paper entitled, "Development of Miconazole Nitrate Buccal Patch for Oral Candidiasis" in the 21<sup>st</sup> Annual National Convention of APTI at Manipal University, Manipal on 14<sup>th</sup>-16<sup>th</sup> October, 2016.
- 4 **Dr. Marina Koland** delivered an oral presentation entitled, "Design and investigation of anti-dandruff topical formulation contain solid lipid nanoparticles of ketoconazole" in the World congress on Drug Discovery and Development on 23<sup>rd</sup>-25<sup>th</sup> November 2016 held at Indian Institute of Sciences (IISc), Bengaluru.
- 5 **Dr. Akhilesh Dubey** delivered an oral presentation entitled, "Investigation of Nano Lipid Vesicles of Lornoxicam for Targeted Drug Delivery" in the World congress on Drug Discovery and Development on 23<sup>rd</sup>-25<sup>th</sup> November 2016 held at Indian Institute of Sciences (IISc), Bengaluru. Dr. Akhilesh Dubey also presented poster as co-author in two poster presentations in the 21<sup>st</sup> Annual National Convention of APTI at Manipal University, Manipal on 14<sup>th</sup>-16<sup>th</sup> October, 2016

#### DEPARTMENT OF PHARMACOLOGY

##### Paper Presented

**Ms. Amritha C.L** presented a paper at the National seminar organized by Puspagiri college of Pharmacy, Tiruvalla held on 22<sup>nd</sup> November 2016.

#### DEPARTMENT OF PHARMACY PRACTICE

##### Research Publications

1. Uday Venkat Mateti, Pramitha Prabhakaran, TS Sanal. Utilization patterns of benzodiazepines in psychiatric patients in a tertiary care teaching hospital. Asian Pacific Journal of Clinical Trials: Nervous System Diseases 2016; 1: 196-201.
2. Uday Venkat Mateti. A systemic review on lifestyle interventions to reduce blood pressure. J Health Res Rev 2016; 3(1): 1-5.

3. Shareef J, J Fernandes J, Samaga LN, Bhat ML. Development, Quality and Readability Assessment of Patient Information Leaflet for Diabetes Mellitus. *Diabetes Obesity Int J* 2016; 1(6):1-5.

### BEST ORAL PRESENTATION AWARDS



Dr. Marina Koland



Dr. Akhilesh Dubey

### BEST POSTER PRESENTATION AWARD



Ms. Amrutha C. L

## ADVANCEMENTS IN HERBAL TREATMENT

**Mr. Srinivas Hebbar**

Assistant Professor  
Department of Pharmaceutics

The use of herbal medicines dates back to time immemorial. The gradual learning process by trial and error over generations resulted in the evolution of a Medicare system which helped man from combat diseases with unique formulations based on plant parts. According to world health organization (W.H.O) 80 % of the population of developing countries for their primary health care needs to depend on traditional medicines out of which mostly are plant drugs. In recent decades the use of herbal drugs has significantly increased which is evident from the increased global market of herbal medicines. Different scientific approaches are being developed these days to deliver herbal medicines. Novel formulations including nanoparticles have been developed for the effective delivery of herbal drugs. Nano particulate formulations such as polymeric nanoparticles, liposomes, proliposomes, solid lipid nanoparticles and micro emulsions present potential to deliver herbal medicines effectively. Herbal nano particle improves the selectivity, drug delivery, effectiveness and safety and thereby reduces dose and increases patient compliance.

**Development of different herbal medicine incorporated nano/microparticle formulations:**

**Nano Particles/Nano vesicular systems:** These are colloidal systems with particles varying in size from 10 nm to 1000 nm. They are in solid state and are amorphous or crystalline, able to absorb or encapsulate a drug, thus protecting it against chemical and enzymatic degradation. These are colloidal and spherical vesicles composed of a bilayer membrane entrapping an aqueous core. There are constructed with polar lipids/surfactants which are made up of

lipophilic and hydrophilic group on the same molecules. Enhance product performance by increased solubility, bioavailability, targeting at site of action and prolonged release of drug. Transfersomes, stealth liposomes, ethosomes are the future prospects of this segment.

**Microspheres:** It consists of spherical particles of size ideally 1-300 um. Each particle is matrix of the drug dispersed in the polymer and drug is released as a first order process. Polymers used for fabrication of micro particulate carriers such as albumin, gelatin, modified starch, polypropylene, dextran.

**Phytosomes:** It is an emerging trend in delivery of herbal drugs and nutraceuticals. It is a formulation that incorporates standardized plant extracts or water soluble phyto constituents into phospholipids to produce lipid compatible molecular complexes. It improves absorption and bioavailability of herbals. It is useful as in case of flavanoids, tannins, and terpenoids. E.g. Green tea phytosome used as systemic antioxidant. Grape seed phytosome as cardio protective. Curcumins phytosomes used as antioxidants and anti-cancer.

**Micro Emulsion:** These are multiple emulsions having the size range of several microns. Useful in trans dermal delivery system, Non-toxic and non-irritant, Nano emulsions are useful in delivering drugs to cell culture, cancer therapy and as disinfectants. It increases solubility and bioavailability of the drug.

**Polymeric Micelle:** Polymeric micelle consists of an inner hydrophobic core capable of solubilizing lipophilic substances and an outer hydrophilic corona which serves as the stabilizing interface. It is used to carry a number of drugs like Artemisinin from *Artemisia annua* L and Curcumin from the roots of *Curcuma longa* L are used as Antimalarial drug.

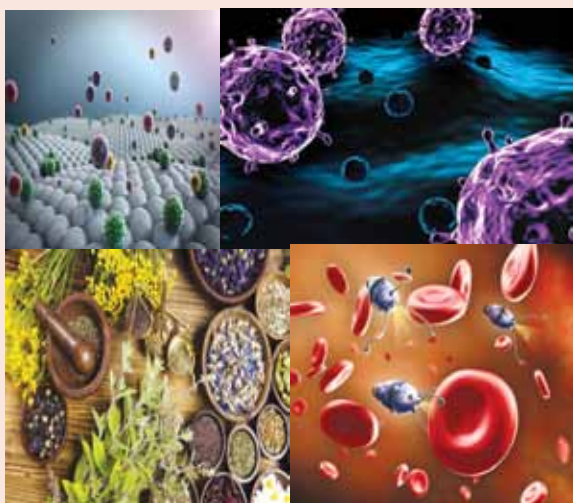
**Transdermal Delivery:** These are the devices in which drug present in the formulation permeates into the systemic circulation by diffusion to stratum corneum and further to the effected organ. These devices use polymer matrix, adhesive bandage and permeation enhancers. Transdermal deliveries of herbal drugs are to increase the penetration and sustained action.

**Implants:** It is used for controlled and sustained action of the drug. Devices are directly placed in the body fluids/cavities by mean of a microsurgery. They are fabricated by using biodegradable polymers e.g. chitosan and gelatin.

**Micropellets:** These are used for the delivery of drugs (1-1000 µm) to specific sites and for the extended period of time. Used for the delivery of the two incompatible drugs simultaneously. Pellets are used for the coating and taste masking of the formulations. Pectin-hydroxypropyl methylcellulose (HPMC) coated curcumin pellets were prepared for delivery of the curcumin in the colon to treat the inflammatory disease. Pectinolytic enzymes helps in releasing drug in the colon, and avoids vomiting, loss of appetite and nausea.

**Complexation:** It is the association between two or more molecules to form a non-bonded entity with well-defined stoichiometry. Various complexing agents such as EDTA, cyclodextrins and polymers have been used for the complexation. The solubility of the curcumin was increased by the formation of the Curcumin soya lecithin complex and evaluated for the hepato-protective activity.

Herbal drugs have been recently getting more attention because of their potential to treat almost all diseases. However, several problems such as poor solubility, poor bioavailability, low oral absorption, instability and unpredictable toxicity of herbal medicines limit their use. In order to overcome such problems, nanoparticles can play a vital role. Hence, different nanoparticles including polymeric nanoparticles, liposomes, Proliposomes, solid lipid nanoparticles and micro emulsions showcase potential utilization to deliver herbal medicines with better therapy.



## EMERGING ROLE OF FOX GENES IN CURRENT DIABETIC AND CANCER RESEARCH

Mr. M. Vijay Kumar

Research Scholar

Department of Pharmaceutical Chemistry

The fork head box, or Fox, gene family of transcriptional regulators is an evolutionarily ancient gene family that is named after the *Drosophila melanogaster* gene fork head (fkh). Mutations in fkh cause defects in head fold involution during embryogenesis, resulting in a characteristic spiked head appearance in adult flies. Hundreds of Fox genes have been identified in species ranging from yeasts to humans, and have been classified into subfamilies, such as Fox A and Fox P. The evolutionary conservation of the crucial DNA-binding domain between orthologous members of the Fox gene family is remarkable; for example, there is 90 % amino acid similarity between the *D. melanogaster* Fork head and the human FOXA1 protein. Several Fox genes are mutated in human disease, with phenotypes ranging from defective T cell differentiation to speech impediments.

In Diabetes:

The Fox genes play a pivotal role in the regulation of metabolism and in the differentiation of metabolic tissues such as the endocrine pancreas, liver, and adipose tissue. The Fox transcription factors bind to cis-regulatory elements in hundreds of genes encoding gluconeogenic and glycolytic enzymes, serum proteins, and hormones. Whereas the Fox a genes are essential for the proper differentiation of pancreatic  $\beta$ -cells, the Fox o genes mediate the transcriptional response to the insulin signal in hepatocytes and  $\alpha$ -cells. Finally, Foxc2 is essential in adipocytes to control obesity and diet-induced insulin resistance. Insulin regulates the transcriptional activity of hundreds of genes involved in glucose and lipid metabolism in the liver. In vitro DNA-binding assays and transfection experiments showed that both mammalian Fox O and Fox A proteins can bind to this IRS and mediate transcriptional activation. On the cell surface insulin initiates phosphatidylinositol 3-kinase (PI3K) and Akt activation, followed by Fox O phosphorylation and nuclear exclusion. This nuclear exclusion then results in the deactivation of Fox O targets, which in the liver includes the genes that encode gluconeogenic enzymes. Furthermore, when Foxo1 was conditionally ablated in

mouse hepatocytes, stimulation of hepatic glucose production by both glycogenolysis and gluconeogenesis was impaired. Simultaneous ablation of *Irs1* and *Irs2*, which are major mediators of insulin and IGF1-receptor signaling. Other Fox O target genes have been shown to play a role in glucose metabolism, cellular differentiation, muscle atrophy, and even energy homeostasis.

**In Cancer:**

In addition to their role in the regulation of glucose homeostasis, Fox O genes also have a crucial role in human cancer. Fusion proteins of Fox O1 and PAX 3 or PAX 7 are found in rhabdomyosarcoma, and fusion proteins of Fox O3 or Fox O4 with the MLL. (mixed lineage leukemia) gene are found in acute lymphocytic leukemia. In these fusion proteins, juxtaposition of the strong transcriptional activation domains of the Fox O proteins with the DNA-binding domains of the Pax proteins results in the inappropriate activation of a whole battery of proliferative genes and, ultimately, cancer. Interestingly, however, the level of fusion protein expression also matters; if expression is too high, growth suppression ensues. In addition, in genetic studies in mice, ablation of Foxo1, Foxo3 and Foxo4 led to a tumour-prone condition and the development of thymic lymphomas and haemangiomas, indicating that the Fox O proteins are tumour suppressors.

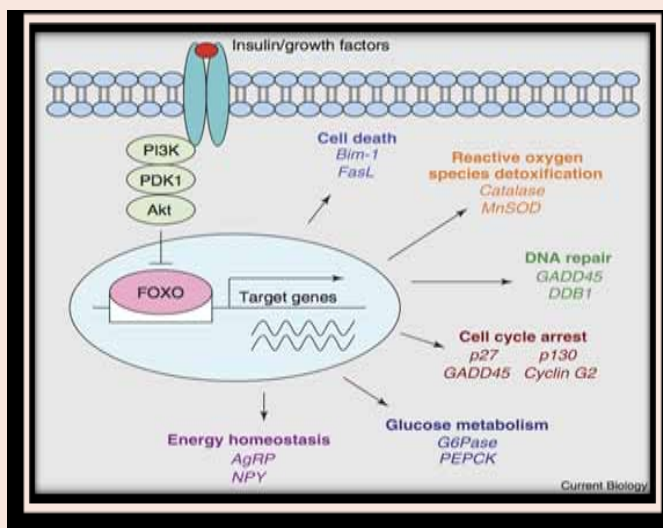


Figure 1: Mechanism of fox genes in glucose metabolism and cell cycle arrest

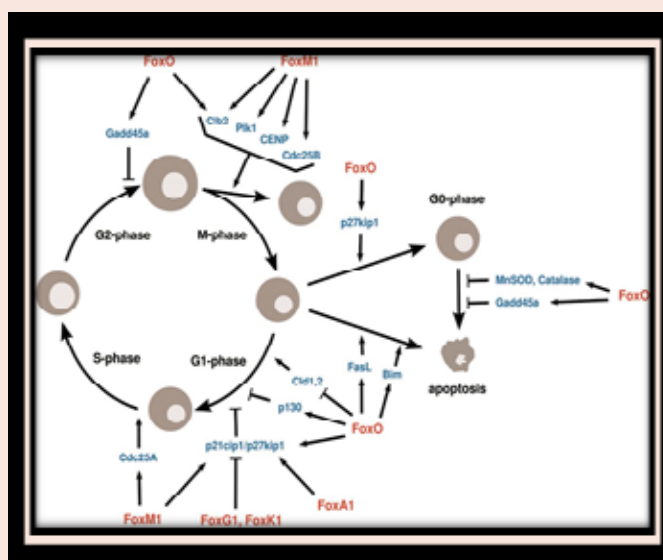


Figure 2: Effect of fox genes on cell cycle

# World congress on Drug Discovery and Development and APTICON 2016



## Annual sports meet 2016



*Book Post*