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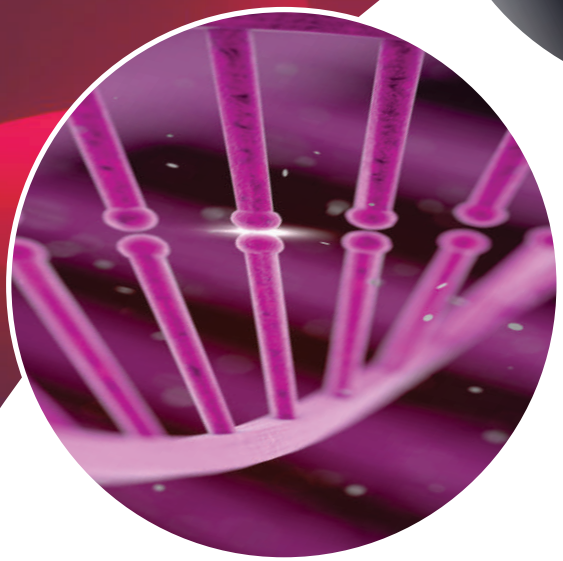
Annual Magazine
2015-16



NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH (NIPER), RAEBARELI

(An Autonomous Institute under the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Govt. of India)

Shree Bhawani Paper Mill Road, ITI Compound,

Raebareli - 229010, U.P., India

Telephone : 0535-2001569, 2001570, 2700857

Web.: www.niperraebareli.edu.in

Group Photograph of NIPER, Raebareli M.S. (Pharm.) I Semester Students Batch (2016-2018)

First Row (L-R): Vaneet Kumar, Amit Kumar, Thombre Ganeshkumar Sitaram, Shubhankar Jha, Sanap Sachin Nashik, Chetananda Patel, Prabhakaran S.M.

Second Row (L-R): Mr. Amar Kumar Mishra, Mr. Somit Kumar, Mr. Neeraj Kumar, Dr. Sanjeev Singh, Dr. Keerti Jain, Dr. S.J.S.Flora (DIRECTOR), Dr. K. N. Tiwari, Dr.Awanish Mishra, Dr. Javed Ahamad, Mr. Manoj Kumar Mishra, Mr. Sushil Kumar Singh.

Third Row (L-R) : Illa Siva Kalyani, Anam Fatima, Km Santosh Kumari, Kusuma Sushma Praveena, Shaheen Quamar, Thakar Snehal Rajendra, Kallure Priya Somnath,Pardeshi Snehal Anil, Kousar Jahan, Shintu Mathew, Puja Kumari, Garima Singh, Shanu Singh, Shalabh Pandey, Mohit Kumar.

Fourth Row (L-R) : Mr. Ravindra Kumar Shukla, Deepak Chaudhary, Vishwadeep Tripathi, Pujari Anil Kumar, Kummaripalli Srikanth, Piyush Vats, Prince Kumar, Mane Rajendra Uttam, Karumuri Shadrak Babu,, Bhalala Kripal Babubhai, Shahad Ali K.

Fifth Row (L-R) : Nityanand Rai, Ajit Singh, Shainky Patidar, Titame Uday Arun, Ashish Kumar, Jondhale Yogesh Tanhaji, Narwade Mahavir Gangadhar, Lanke Tejesh Varma.

Annual Magazine
2015-2016

NIPER
RAEBARELI

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Published by:
Dr. Shalini Gupta
Professional Advancement & Placement Officer
On behalf of Director
NIPER, Raebareli

Objectives of NIPER, Raebareli

- Enhancement of creativity, motivation and inculcate professionalism.
- To create a world class Institute for teaching and research in the field of pharmaceutical sciences, to cater the need of Pharmaceutical Industry.
- To provide education in the area of drug development, drug design and molecular modeling etc.
- To inculcate in students professional and ethical attitude, communication skills, teamwork multidisplinary approach and ability to relate pharmaceutical sciences to broader social issue.

Director's Message

It gives me great pleasure in presenting before you the Annual Report of National Institute of Pharmaceutical Education and Research, Raebareli for the year 2015-16, highlighting our strategic priorities and key achievements.

During 2015-16, we continued to strive for excellence in our triad of responsibilities: learning, discovery and engagement. Utilizing educational technology and diverse approaches to teaching, our programs afford students the opportunity to learn fundamental principles and practical applications. The institute has successfully completed eight years of its existence since its inception is 2008. We are making efforts to reshape our programs to a better education and accelerated training options and significantly strengthened the institute articulation pathways available for our graduates.

We are also making efforts to expand our reputation and nation reach further and also to strengthen our industry relationships through stakeholder engagement strategies. We are fostering a reciprocal relationship with graduates to advance both the education program and the development of the profession.

As a mark of our success, 38 students of seventh batch completed their Master's degree in M.S. (Pharm.). Many of our students received placement in number of reputed companies. We are excited about the future of the profession of pharmacy, health care and multidisciplinary research and invite you to explore the full range of programs we would be offering from our Institute.

I thank the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers, Govt. of India for its continued support and encouragement and Director CSIR-CDRI, as the mentor institute, for the continued co-operation in our academic and research activities. Let me acknowledge the dedication, contribution and support of our faculty and staff members, who translated NIPER Raebareli into a progressive, influential and successful educational and research institute.

Our vision is to make NIPER, Raebareli a centre of excellence ensuring high-quality value-based education with an international focus on students from all sections of society.

I hope that the parents and guardians will find the institute highly suitable for the pharmaceutical career of their children. I also aim at providing as a future goal, state-of-the-art facilities at the institution which could be utilized by the students to build up their career.

On behalf of our team, I can assure that we are fully dedicated in achieving our objective of providing quality education in Pharmacy to students.

With sincere best wishes from NIPER Raebareli

Dr. S.J.S. Flora
FNASc, FAEB, FABP, FSSE
Director
NIPER, Raebareli

निदेशक की कलम से

राष्ट्रीय औषधीय शिक्षा एवम् अनुसंधान संस्थान, रायबरेली की वार्षिक पत्रिका 2015–16 जिसमें हमारी प्राथमिकताओं और महत्वपूर्ण उपलब्धियों पर प्रकाश डाला गया है, को प्रस्तुत करते हुये मुझे अत्यन्त प्रसन्नता हो रही है।

इस कार्यकाल में मुख्यता हमने अपनी तीन कर्तव्य–सीखना, अविष्कार एवम् वचनबद्धता में उत्कृटता प्राप्ति का प्रयास किया है। हमारा पाठ्यक्रम, शैक्षिक प्रौद्योगिकी तथा विविध दृष्टिकोण का उपयोग करते हुये छात्रों के मौलिक सिद्धांतों तथा व्यवाहारिक अनुप्रयोगों का अवसर प्रदान करता है। इस संस्थान ने 2008 से अबतक अपनी स्थापना के 8 वर्ष पूरे कर लिये है। उच्चशिक्षा के लिये हम अपने कार्यक्रम (पाठ्यक्रम) को नयी आकृति प्रदान करने का प्रयत्न किया है तथा अपने स्नातकों के लिये त्वरित प्रशिक्षत विकल्प एवम् सारगर्भित ढंग से एक मजबूत संस्थान की अभिव्यक्ति का मार्ग प्रशस्त कर रहे हैं।

हम अपनी ख्याति को देश के आगे तथा साझेदार अनुंबध रणनितियों के माध्यम से हमारे उद्योगों के साथ सम्बंध मजबूत करने के लिये निरन्तर प्रयासरत है। हम अपने स्नातकों के शैक्षिक कार्यक्रम एवम् उद्यम के विकास में उन्नति के लिये पारस्परिक संबधों को बढ़ावा दे रहे हैं।

सफलता के चिन्ह के रूप में हमारे सांतवे सत्र के 38 छात्रों ने अपना स्नातकोत्तर (एम.एस. फार्म) पूरा कर लिया है। कई छात्रों ने प्रतिष्ठित औषधीय उद्यम में रोजगार प्राप्त हैं। हम औषधि, स्वास्थ सेवा एवं बहुविषयक अनुसंधान के भविष्य के प्रति उत्साहित हैं तथा संस्थान द्वारा चलाये जा रहे कुल कार्यक्रम (पाठ्यक्रम) को अवलोकन करने के लिये आमंत्रित करते हैं।

मैं औषध विभाग, रसायन एवम् उर्वरक मंत्रालय, भारत सरकार के निरंतर समर्थन और प्रोत्साहन तथा निदेशक, सी. एस.आई.आर.–सी.डी.आर.आई., मेन्टर संस्थान को शैक्षिक और अनुसंधान गतिविधियों में सहयोग के लिये धन्यवाद देता हूँ।

मैं संकाय सदस्यों तथा कर्मचारियों के समर्पित योगदान तथा सहयोग के लिये अभारी हूँ जिन्होंने नाईपर, रायबरेली को प्रगतिशील, प्रभावी, संपन्न शैक्षिक अनुसंधान संस्थान में परिभाषित किया।

हमारा उद्देश्य समाज के सभी वर्गों के छात्रों को उष्कृटता के केन्द्र, नाईपर, रायबरेली के माध्यम से उच्च कोटि मूल्य अधारित शिक्षा द्वारा अन्तरराष्ट्रीय ध्यान का केन्द्र बनाने के लिए प्रतिबद्ध हूँ।

मुझे आशा है कि माता पिता तथा अभिभावक को अपने बच्चों के लिये औषधि व्यवसाय के लिये उपयुक्त संस्थान मिलेगा। छात्रों को फार्मास्यिूटिकल्स व्यवसाय के निर्माण में उपयोग करने हेतु अत्याआधुनिक सुविधाओं से पूर्ण संस्थान बनाना मेरी प्राथमिकता है।

मैं अपने सहकर्मियों की ओर से विश्वास दिलाता हूँ कि हम छात्रों को औषधि शिक्षा में गुणवत्ता देने के अपने उद्देश्य के प्रति वचनबद्ध (समर्पित) हूँ।

शुभकामनाओं के साथ

डॉ. एस.जे.एस. फ्लोरा
एफएनएसीएस, एफईबी, एफएबीपी, एफएसएसई
निदेशक
नाईपर, रायबरेली

Annual Report

Annual Report

The National Institute of Pharmaceutical Education and Research (NIPER), Raebareli created on November 14, 2008 under the mentorship of CSIR-Central Drug Research Institute, Lucknow is completing 8 years of its creation.

Dr. S.J.S. Flora has joined as Director, NIPER, Raebareli on November 1, 2016. Prior to this post he was working with Defence Research & Development Organisation (DRDO), Gwalior as Associate Director & Head of Division of Pharmacology & Toxicology.

Dr. S.J.S. Flora

Academic Activities:

Currently NIPER Raebareli is offering M.S. (Pharm.) Medicinal Chemistry, M.S. (Pharm.) Pharmaceutics and M.S. (Pharm.) Pharmacology and Toxicology. The students are provided with excellent teaching and laboratory exposure supported by the Faculty of NIPER, Raebareli, eminent scientists of CSIR-CDRI and other reputed educational institutions of Lucknow and neighbouring cities. The 9th batch students joined NIPER, Raebareli in the first week of August, 2016 through Joint Entrance Examination conducted by NIPER, Hyderabad. The 8th batch students have joined CSIR-CDRI under the supervision of different scientists of CSIR-CDRI for their III and IV semester laboratory work. Students from Medicinal Chemistry, Pharmaceutics, and Pharmacology & Toxicology have been associated with scientists in the Divisions of Medicinal & Process Chemistry, Pharmaceutics, and Pharmacokinetics & Metabolism, Toxicology and Pharmacology for their project work and the students are making good progress.

The total strength of students in I semester of the current academic year is 35 and III semester is 36 (Table 1). Till now a total of 222 students have passed out and 71 are continuing in I and III semester.

Courses	No. of Students in 8th Batch (2015-17)	No. of Students in 9th Batch (2016-18)
M.S. (Pharm.) Medicinal Chemistry	17	16
M.S. (Pharm.) Pharmaceutics	13	13
M.S. (Pharm.) Pharmacology & Toxicology	6	6
Total	**36**	**35**

Table-1

Institutional Sports:

NIPER students participated in the sports held during the session 2015-2016 under the supervision of Dr. Keerti Jain and Dr. Awanish Mishra. The students participated with full enthusiasm in all the sports activities and secured first position in **Badminton** (Men single-Mr.Anuj Gautam, Doubles –Mr. Jignesh Soni & Mr. Lachman Singh, Women Singles- Ms.Namita Gowtham, Doubles- Ms. Saumya Shukla & Ms.Namita Gowtham, Mixed Doubles - Mr. Anuj Gautam & Ms. Namita Gowtham) **Chess** (Men-Mr. Rahul Kumar, Women– Ms. P Sreelakha) **Table Tenis** (Singles Man- Mr.Lokesh Tiwari, Doubles- Mr. Lokesh Tiwari & Mr.Taru Prakash Padurang Women Singles- Ms. Alka Sharma, Doubles- Ms. Deepika Yadav & Ms.Venu Varshaney, Mixed Doubles - Mr. Lokesh Tiwari & Ms. Alka Sharma) **Carom** (Boys Single-Mr. Shahad Ali Doubles - Mr. Shahad Ali & Ms. Harsha Jain, Women, Singles- Ms.Alka Sharma, **Tug of war VolleyBall** and **Cricket** matches were also organised. Institute congratulates those who won the prizes and wishes good luck to all others for their future endeavours. Students were given awards for their participation in various extracurricular activities on Annual function day held on 20th Nov 2015.

Seated on Dias (L-R): Dr. Keerti Jain, Lecturer, NIPER, Raebareli, Prof.Alok Dhawan, Director, CSIR-IITR, Lucknow, Dr.Madhu Dikshit, Director, CSIR-CDRI, Lucknow, Dr. Shailja Bhattacharya, Ex Registrar, NIPER, Raebareli during 7th Annual Day celebration held on 20th November 2015. Dr. P.K. Shukla, Ex Project Director, NIPER, Raebareli was presenting Annual report.

Annual Day Celebration:

The 7th Annual Day celebration of NIPER, Raebareli was held on 20th November, 2015. The chief guest Prof. Alok Dhawan, Director, CSIR-Indian Institute of Toxicology Research Institute (IITR), Lucknow delivered the very innovative lecture titled "Nanomedicine A New Challenge for Toxicologists". Dr. Madhu Dikshit, Director, CSIR-CDRI, Lucknow also addressed the staff members, students and the scientists of CSIR-CDRI. Dr. P.K. Shukla, Ex Project Director, NIPER, Raebareli presented the annual report. The function was attended by eminent scientists, technologists and

Winner of Annual Sports 2015 with their trophies and certificates during 7th Annual Day celebration held on 20th November 2015.

academicians. Vote of thanks was given by Dr. Keerti Jain.

Third Convocation

The third Convocation of NIPER Raebareli was held on 11th December, 2015 at CSIR-CDRI Lucknow. Padma Bhushan, Padama Vibhushan Prof. M.M. Sharma, Ex Director, Institute of Chemical Technology, Mumbai was the Chief Guest and the function was presided over by Dr. V.K Subburaj, Ex Secretary, Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Govt. of India. Other guests and participants at the event included, Dr. Madhu Dikshit, Director, Mentor Institute CSIR-CDRI, Lucknow, Dr. P.K. Shukla, Ex Project Director, NIPER-Raebareli, Dr. R.P Tripathi, Dean, NIPER, Raebareli, Dr. Shailja Bhattacharya, Ex Registrar, NIPER Raebareli, Faculty of NIPER-Raebareli, Academia, Scientists from mentor institute CSIR-CDRI and other research institutes.

Dias (L-R): Dr.P.K Shukla, Ex Project Director, NIPER, Raebareli, Dr. V.K Subburaj, Ex Secretary, Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Govt. of India, Prof. M.M. Sharma, Ex Director, ICT, Mumbai, Dr.Madhu Dikshit, Director, CSIR-CDRI, Lucknow, Dr. Shailja Bhattacharya, Ex Registrar, NIPER, Raebareli during 3 rd convocation ceremony held on 11th December 2015.

The ceremony started with opening song, 'Sare Jahan se Achcha Hindustan Hamara'.

The convocation ceremony was formally opened by Dr. V.K. Subburaj, Ex Chairman Steering Committee. Ex Project Director, Dr. P. K. Shukla presented welcome address where he welcomes all the dignitaries on the dias and off the dias and acknowledged them for gracing the occasion. He briefly narrated the journey of NIPER Raebareli and how it is consistently contributing in health care, research and industry. Dr. Madhu Dikshit, Director, Mentor Institute, CSIR-CDRI, Lucknow has quoted Swami Vivekananda's quote “Do not look back, look forward! Infinite enthusiasm, infinite daring and infinite patience, then alone can great deed be achieved”. Followed by address she took permission from chairman steering committee for exhortation. After pledge Prof. M.M. Sharma presented gold and

Prof. M.M. Sharma, Ex Director, ICT, Mumbai, presenting the M.S. (Pharm.) degree to students during the 3rd NIPER, Raebareli convocation ceremony held on 11th December 2015.

silver medals to department toppers. Followed by prize distribution chairman steering committee, Dr. V.K.Subburaj addressed gathering where he congratulated all the successful graduates. Followed by addresses from all the dignitaries award of degrees to the students of 5th & 6th batches (2012-2014 & 2013-2015) were conducted. (Table-2) This was followed by convocation address of the Chief Guest Prof. M.M. Sharma. Student representative Mr. Nagarjun of 2012-14 batch extended vote of thanks on behalf of all graduates, where he mentioned how NIPER curriculum, teaching and course has brought the positive transformation in student's life. Dr. V.K. Subburaj Ex Chairman Steering Committee, declares the closing of the third convocation, followed by national anthem. Batchwise group photo with all the dignitaries and faculty members were clicked at the venue.

Students of NIPER Raebareli (2012-2014 & 2013-2015) throwing their caps in excitement and joy after receiving their degree and medals at 3rd NIPER, Raebareli convocation ceremony held on 11th December 2015.

Pre - Symposium workshops and Handon training in Neuropharmacology:

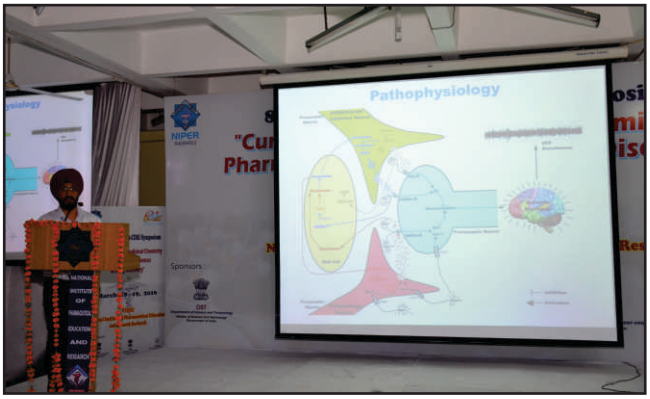
The Pharmacology & Toxicology Department at NIPER, Raebareli was established in 2012, with a vision to provide a State-of-Art facility to foster research and training. Keeping this in view, this department had taken initiative to provide hands-on training to young researchers, on state-of-art instruments widely utilized for neuropharmacological research. Therefore the “Pre-Conference workshops and Hands-on training in Neuropharmacology” was organized on 17th March, 2016 at NIPER, Raebareli. The purpose of this one day workshop was to provide an opportunity for Master's and Ph.D. students, working in the area of Neuroscience, to get hands-on training on advance equipments used in Neurophar-macological Research. The participants of this workshop were exposed to the following instruments which are widely used in Neuropharmacology: Digital Rat Stereotaxic Instrument (Stoelting, USA); Opto-Varimex 4 Activity Meter (Columbus, USA); Passive/Active Avoidance Apparatus (PACS-30; Columbus, USA); and Video Monitored T Maze (Any Maze, Stoelting, USA).

There were around 15 participants from different parts of country. The response of the participants was encouraging to promote such short term and long term training programs in NIPER, Raebareli. The workshop was convened by Dr. Awanish Mishra.

Dr.P.K Shukla, Ex Project Director,NIPER, Raebareli presenting momento to Dr.K.C. Gupta, Ex Director, CSIR-IITR, Lucknow during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Dr. D.K Dikshit , Ex Project Director, NIPER, Raebareli presenting momento to Dr. Shailja Bhattacharya, Ex Registrar, NIPER, Raebareli during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Prof. (Emeritus) N.K. Jain, Rajeev Gandhi Technical University, Bhopal was delivering Lecture during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.



Dr. Damanpreet Singh, CSIR-IHBT, Palampur delivering lecture during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Dr.P.K. Shukla, Ex Project Director, NIPER, Raebareli presenting momento to Prof. (Emeritus) N.K Jain, Rajeev Gandhi Technical University, Bhopal during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Dr. R.P Tripathi, Dean, NIPER Raebareli &, Dr. Atul Kumar, Course Coordinator NIPER, Raebareli presenting momento to Dr. Alok K Pandey, CSIR-IITR, Lucknow during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Dr. C. Nath, Ex Chief Scientist ,CSIR-CDRI ,Lucknow, presenting momento to Dr. Rakesh Shukla Ex Chief Scientist ,CSIR-CDRI ,Lucknow Raebareli during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

A View of Poster session during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Dr. Prabhat Misra, Course Coordinator, NIPER, Raebareli presenting momento to Mr. Rajesh Agarwal, AGM R& D, Modi Mundi Pharma Research Centre, Modipuram during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

Scientist and Students were attending Scientific Session during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19 th March 2016.

Dr. Ritu Trivedi, Principle Scientist, CSIR-CDRI, Lucknow presenting momento to Dr. Gyan Prakash, IIT-BHU, Varanasi during 8th NIPER (Raebareli)-CSIR-CDRI Symposium held on 18th -19th March 2016.

8th NIPER (RBL)-CSIR-CDRI, Lucknow Symposium:

Indian Pharma industry has to focus more on R&D, so as to enable India to maintain its status in the world pharma market and move ahead to become a global leader. Keeping this in view NIPER, Raebareli initiated the series of NIPER (RBL) - CSIR-CDRI Symposium to groom its students with core competencies, ethics and values to evolve in rapidly changing scenario of the Pharma sector. This year the 8th symposium of the series was held on the topic "Current Trends in Medicinal & Pharmaceutical Sciences in Drug Discovery " during March 18th-19th 2016 at NIPER, Raebareli to enable the students in updating their knowledge and awareness about recent scientific developments.

The inaugural address was delivered by Prof. K.C.Gupta, Ex-Director, CSIR-IITR, Lucknow on topic *"Natural polysaccharides as efficient carriers for biomolecules".* The inaugural function was presided over by Dr. V.P. Kamboj, Ex Director, CSIR-CDRI, Lucknow.

Over 15 lectures on various research topics were delivered by eminent speakers from Pharma industry and academia (Notably FRI, Dehradun, IIT Kanpur, IIT-BHU IDPL Rishikesh, Modi Mundi Pharma Research Centre, Modipuram, CBMR, Lucknow, CSIR-CDRI, Lucknow, CSIR-IHBT Palanpur, CSIR-IITR, Lucknow) during two days of scientific deliberations.

Several current topics such as (i) Target based drug designing and discovery (ii) Natural product & Nanomedicine: Toxicity apprehension (iii) Current Trends in Medicinal Chemistry (iv) Recent Advances in Drug Delivery (v) Current updates on Neurological disorders and many other topics were presented and discussed. The students presented their innovative ideas as well as original research work carrying out in project work. During the poster session, students interacted with many eminent scientists and academicians and had opportunity to discuss about their research work. The panel of judges evaluated the posters presented during the symposium and recommended best poster awards to Ms. Anika Sood and Mr. Kripal Bhalala.

A cultural program on the evening of 18th March, 2016 was also arranged for the participants.

Swachh Bharat Abhiyan:

The Clean India Mission or Swachh Bharat Campaign is a cleanliness campaign run by the government of India and initiated by the Honorable Prime Minister, Sri Narendra Modi. This campaign was launched officially by the government of India on 145th birthday anniversary of the Shri Mahatma Gandhi on 2nd October, 2014.

The government of India has vision to make India a clean India by 2nd October 2019 (i.e. 150th birth anniversary of the Mahatma Gandhi) through this campaign. This mission has an interesting theme of

Swachh Bharat Abhiyaan in NIPER, Raebareli

Students taking participitate in Swachh Bharat Abhiyaan

inviting nine new people by each and every involved people in the campaign and continuing this chain until the each and every citizen of India gets involved in this campaign.

Special derive has been carried out in NIPER Raebareli for cleanliness of Offices, Laboratories, Library, Computer room, Guest house, Dining Hall, Boys hostel & Girls hostel to keep the maintenance standard. Garden and NIPER premises drainage have also keep cleaned to avoid rainwater stagnation in running rainy season. Dispose of old tube lights, chemicals bottles have been disposed off. Outside of NIPER main gate area also cleaned.

Rx Pharmacy Day:

Like previous years Rx Pharmacy Day, 2016 was successfully organized at NIPER, Raebareli on 30th September, 2016, with the support of the faculty and staff members. Scientific session included very informative lecture by Prof. Prasad V. Bharatam, NIPER, Mohali on topic "CADD, Synthesis and Biological Evaluation of PfDHFR inhibitors" which was lively, interactive and full of motivation for everyone. It was really valuable for students as well as for faculty. Prof. Uma Nandan Misra, Dean, Pharma Training Institute, Bangalore on topic Title: "Career Opportunities for a Pharmacist" The lecture session concluded with a talk by Dr. Ashok Kumar President, IPCA Laboratories Ltd, Mumbai Title: "Chemistry, Chirality & Life" A Science quiz was organized by Dr. Sanjiv Singh for the students of NIPER, Raebareli and the winner of the quiz were Shanu Singh and Kauser Jahan. The programme concluded with a short cultural presentation by Ist year students of the Institute.

Celebration of National Unity Day

The Rashtriya Ekta Diwas (National Unity Day) was celebrated on 31st October 2016 at NIPER, Raebareli. On this occasion, all faculty members, staff and students participated actively in various activities. In the beginning, the pledge on Rashtriya Ekta was taken by all the faculty members, staff and students. An essay writing

competition was held on the topic "Contribution of Sardar Vallabh Bhai Patel in National Unity". Mr. Ashish Kumar was declared first winner and Miss. Saheen Quamar as second winner of this competition. After that, faculty members and students shared their views on role of unity and integrity in the development of India and contribution of Sardar Vallabh Bhai Patel in nation building in lecture session of the programme. The event was concluded with national anthem.

Prof. Uma Nandan Mishra, Dean, Pharma Training Research Institute, Bangalore lighting lamp on occasion of "Rx" pharmacy day

Vigilance Awareness Week

The "Vigilance Awareness Week" from October 31, 2016- November 6, 2016 was observed in NIPER, Raebareli. The programme began with administering the pledge and the faculty members and students shared their views on vigilance against corruption.

Placement and Publication:

NIPER-Raebareli facilitates the student's placements through Placement Cell. A common placement brochure for all branch

Dr. D.K Dikshit, Ex Project Director,NIPER, Raebareli presenting momento to Prof. P.V. Bhartam, NIPER, Mohali during the occasion of "Rx" pharmacy day

Dr. Ashok Kumar, President IPCA, Laboratories, Mumbai was delivering Lecture during occasion of "Rx" Pharmacy Day, 2016.

Cultural Programme presented by NIPER, Raebareli students on the occasion of "Rx" Pharmacy Day 2016.

were published, highlighting core competencies and achievements of students to facilitate placement. M.S. (Pharm.) students got successful placement in various pharmaceutical Industries including Lupin Ltd, Pune, Novo Nordisk, Banglore Curadev Pharma Pvt. Ltd., Noida.

Students who were successful in getting publications in reputed journals deserve hearty congratulations.

A Citizens' Charter of NIPER Raebareli represents the commitment towards standard, quality, transparency and accountability. Citizen Charter is uploaded in new updated website of NIPER.

The Indian pharmaceutical industry is now growing consistently and has emerged as a leading industry in the complex field of new drug manufacturing technology. This invited attraction of multinational giants to open their subsidiaries in India. New areas like clinical trial conducting agencies, contract research organizations, and R&D sectors are attracting huge foreign investment. NIPER, Raebareli is grooming its students with an eclectic mix of academics, core competencies, ethics and values to evolve and succeed in every sphere of this complex and rapidly changing scenario of the Pharma sector.

5th BATCH : 2012-2014					
Sl.No.	**Rank**	**Enrol. No.**	**Student's Name**	**CGPA**	**Medal**
M.S. (Pharm.) *Medicinal Chemistry*					
1.	1st	163/12	Nikky Singhal	9.78	GOLD
2.	2nd	160/12	Manvendra Pal Singh	9.46	SILVER
M.S. (Pharm.) *Pharmaceutics*					
3.	1st	178/12	Dave Kandarp Maheshkumar	9.62	GOLD
4.	2nd	184/12	Rangaraj Nagarjun	9.24	SILVER
M.S. (Pharm.) *Pharmacology & Toxicology*					
5.	1st	190/12	Harbeer Kaur	8.54	GOLD
6.	2nd	195/12	Poorella Lingeshwar	8.44	SILVER

6th BATCH: 2013-2015					
Sl. No.	**Rank**	**Enrol. No.**	**Student's Name**	**Final CGPA**	**Medal**
M.S. (Pharm.) *Medicinal Chemistry*					
1.	1st	233/13	Chheda Pratik Rajesh	9.52	GOLD
2.	2nd	231/13	Mishra Nitish Rajesh	9.18	SILVER
3.	2nd	238/13	Smita Verma	9.18	SILVER
M.S. (Pharm.) *Pharmaceutics*					
4.	1st	245/13	Italiya Kishan Shamjibhai	9.44	GOLD
5.	2nd	247/13	Javia Deep Pravinbhai	8.74	SILVER
M.S. (Pharm.) *Pharmacology & Toxicology*					
6.	1st	257/13	Nem Kumar Jain	8.76	GOLD
7.	2nd	256/13	Kajal Subba	8.24	SILVER

Table - 2

Details of NIPER Raebareli Student, Staff & Faculty Geographic Location (%)

S.No	Geographic Location	8th Batch M.S.(Pharm.)	9th Batch M.S.(Pharm.)	Staff	Faculty
1	Andhra Pradesh	8.33	14.2		
2	Arunachal Pradesh				
3	Assam				
4	Bihar	5.55	14.2	4.0	14.3
5	Chhattisgarh	2.77			
6	Delhi				
7	Goa				
8	Gujarat	5.55			
9	Haryana	2.77			
10	Himachal Pradesh	5.55	5.7		
11	Jammu & Kashmir				
12	Jharkhand		2.85		
13	Karnataka	2.77			
14	Kerala	5.55	2.85		
15	Madhya Pradesh	8.3	8.57		42.9
16	Maharashtra	2.77	25.7		
17	Manipur				
18	Meghalaya				
19	Mizoram				
20	Nagaland				
21	Odisha (Orissa)	8.33	5.7		
22	Punjab				
23	Rajasthan				
24	Sikkim				
25	Tamil Nadu		2.85		
26	Telangana		2.85		
27	Tripura				
28	Uttar Pradesh	33.3	14.2	64.0	42.9
29	Uttarakhand	8.3		4.0	
30	West Bengal				

SC, ST, OBC and Disabled Employee

Total Employees	SC		ST		OBC		Disable	
	No.	%	No.	%	No.	%	No.	%
25	3	12	0	0	4	16	0	0

Minorities Employment (PM's New 15 Point Programme)

Total Employees	Muslims		Christian		Sikhs		Zoroastrian		Jain	
	No.	%	No.	%	No.	%	No.	%	No.	%
25	2	8	0	0	0	0	0	0	2	8

List of 8th Batch (2015-17) Students

Sl. No.	Name of Students (Mr./Ms.)	Department
1	Alka Sharma	Medicinal Chemistry
2	Ashima Thakur	Medicinal Chemistry
3	Garima Chauhan	Medicinal Chemistry
4	Gaurav Bharti	Medicinal Chemistry
5	Kavita Sharma	Medicinal Chemistry
6	Darshana Bora	Medicinal Chemistry
7	Deepika Yadav	Medicinal Chemistry
8	Lachhman Singh	Medicinal Chemistry
9	Mohd Zisan Ahamad	Medicinal Chemistry
10	Mukul Yadav	Medicinal Chemistry
11	P. Sreelekha	Medicinal Chemistry
12	Parul Gautam	Medicinal Chemistry
13	Rahul Kumar	Medicinal Chemistry
14	Rinku Choubey	Medicinal Chemistry
15	Saumya Shukla	Medicinal Chemistry
16	Suyash Pant	Medicinal Chemistry
17	Taru Prakash Padurang	Medicinal Chemistry
18	Anuj Gautam	Pharmaceutics
19	Bishwajeeban Barik	Pharmaceutics
20	Dheeraj Kumar Jha	Pharmaceutics
21	Farooq Ali Khan	Pharmaceutics
22	Femi Maria Francis	Pharmaceutics
23	Harsha Jain	Pharmaceutics
24	Lokesh Tiwari	Pharmaceutics
25	Mehdiya Bano	Pharmaceutics
26	Namita Gowtham	Pharmaceutics
27	Rage Vinod Kumar	Pharmaceutics
28	Rajesh Pradhan	Pharmaceutics
29	Shahadali K	Pharmaceutics
30	Sonali Singh	Pharmaceutics
31	Dharmendra Kumar	Pharmacology & Toxicology
32	Prasanna Kumar Sahu	Pharmacology & Toxicology
33	Soni Jignesh Mohanbhai	Pharmacology & Toxicology
34	Umesh Kumar Goand	Pharmacology & Toxicology
35	Upadhyay Parth Rajendra Kumar	Pharmacology & Toxicology
36	Venu Varshney	Pharmacology & Toxicology

List of 9th Batch (2016-18) Students

Sl. No.	Name of Students (Mr./Ms.)	Department
1	Shanu Singh	Medicinal Chemistry
2	Chetananda Patel	Medicinal Chemistry
3	Shintu Mathew	Medicinal Chemistry
4	Piyush Vatsa	Medicinal Chemistry
5	S.M.Prabhakaran	Medicinal Chemistry
6	Kallure Priya Somnath	Medicinal Chemistry
7	Anam Fatima	Medicinal Chemistry
8	Thakar Snehal Rajendra	Medicinal Chemistry
9	Kousar Jahan	Medicinal Chemistry
10	Jondhale Yogesh Tanhaji	Medicinal Chemistry
11	Puja Kumari	Medicinal Chemistry
12	Santosh Kumari	Medicinal Chemistry
13	Vaneet Kumar	Medicinal Chemistry
14	Amit Kumar	Medicinal Chemistry
15	Illa Siva Kalyani	Medicinal Chemistry
16	Mane Rajendra Uttam	Medicinal Chemistry
17	Ashish Kumar	Pharmaceutics
18	Ajit Singh	Pharmaceutics
19	Shubhankar Jha	Pharmaceutics
20	Lanke Tejesh Varma	Pharmaceutics
21	Kusuma Sushma Praveena	Pharmaceutics
22	Kummaripalli Srikanth	Pharmaceutics
23	Shainky Patidar	Pharmaceutics
24	Titame Uday Arun	Pharmaceutics
25	Ganeshkumar Sitaram Thombre	Pharmaceutics
26	Sanap Sachin Nashik	Pharmaceutics
27	Pardeshi Snehal Anil	Pharmaceutics
28	Narwade Mahavir Gangadhar	Pharmaceutics
29	Chandra Mohan Marandi	Pharmaceutics
30	Garima Singh	Pharmacology & Toxicology
31	Shalabh Pandey	Pharmacology & Toxicology
32	Prince Kumar	Pharmacology & Toxicology
33	Pujari Anil Kumar	Pharmacology & Toxicology
34	Shaheen Quamar	Pharmacology & Toxicology
35	Karumuri Shadra K Babu	Pharmacology & Toxicology

NIPER, Raebareli

Dr. S.J.S Flora (*Director*)
Dr. R.P Tripathi (*Dean*)
Dr. Anila Dwivedi (*Registrar)*

Faculty & Staff

Medicinal Chemistry
Dr. K.N. Tiwari (*Asstt. Prof.)*
Dr. Abha Sharma (*Lecturer*)

Pharmaceutics
Dr. Anuj Garg (*Lecturer)*
Dr. Javed Ahmad (*Lecturer*)
Dr. Keerti Jain (*Lecturer*)

Pharmacology & Toxicology
Dr. Awanish Mishra (*Lecturer)*
Dr. Sanjiv Singh (*Lecturer)*

Placement Cell
Dr. Shalini Gupta
(*Professional Advancement & Placement Officer)*

Administration
Mr. Amar Mishra *(Office Supervisior)*
Mr. Niraj Kumar *(Asstt.)*
Mr. Kamal Singh *(Asstt.)*

Academics
Mrs. Deepa Bakshi *(Office Supervisior)*
Mrs. Seema Gupta (Asstt.)
Mr. Dharmendra Kumar (Astt.)
(Resigned w.e.f. from 20th July, 2016)

IT Resource Manager
Mr. Manoj Kumar Mishra

Stores & Purchase
Mr. Ravindra K Shukla *(Asstt.)*
Ms. Swati Mourya *(Asstt.)*
(Tenure completed on 2nd feb2016)
Mrs. Rita Manjhi *(Asstt.)*
Mrs. Asiya Parveen (*Asstt.)*

Accounts
Ms. Mona Jain *(Asstt.)*

Library
Mr. Somit Kumar *(Asstt. Librarian)*

Laboratory Assistant
Mr. Nitya Nand Rai
Mr. Sushil Kumar Singh
Mr. Vishwadeep Tripathi
Ms. Monika Verma
Mr. Deepak Chowdhary

Electrician
Mr. Mohit Kumar

वार्षिक प्रतिवेदन

राष्ट्रीय औषधीय एवं अनुसंधान संस्थान (नाईपर), रायबरेली 14 नवम्बर 2008 को वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद (सी.एस.आई.आर.)–केन्द्रीय औषधि अनुसंधान संस्थान (सी.डी.आर.आई.), मेन्टर संस्थान लखनऊ के अन्तर्गत अपनी स्थापना के 8 वर्ष पूरा करने जा रहा है।

डॉ. एस.जे.एस. फ्लोरा ने 1 नवंबर, 2016 को नाईपर निदेशक का कार्यभार संभाला। इसके पूर्व में वह रक्षा अनुसंधान एवं विकास संगठन (डी.आर.डी.ओ.) रक्षा मंत्रालय, भारत सरकार में संयुक्त निदेशक एवं विभाग प्रमुख, औषध एवं विष विज्ञान विभाग, ग्वालियर में कार्यरत थे।

शैक्षिक गतिविधियाँ

वर्तमान समय में र्नाइपर रायबरेली में एम.एस. (फार्मा) चिकित्सा रसायन, औषधीय विज्ञान तथा औषधि एवम् विष विज्ञान पाठयक्रम में उपलब्ध हैं छात्रों को नाईपर, रायबरेली के शिक्षको तथा सी.एस.आई.आर.–सी.डी.आर.आई. लखनऊ के प्रमुख वैज्ञानिको द्वारा उत्कृष्ट अध्यापन और प्रयोगशाला सुविधायें उपलब्ध कराई जा रही हैं।

नवम् बैच के छात्रों ने नाईपर रायबरेली में अगस्त, 2016 के प्रथम सप्ताह में नाईपर, हैदराबाद द्वारा आयोजित संयुक्त प्रवेश परीक्षा के माध्यम से प्रवेश प्राप्त किया। 8वें बैच के छात्रों ने अपने तृतीय एवं चतुर्थ सेमेस्टर प्रयोगशाला कार्य हेतु सी.एस.आई.आर.–सी.डी.आर.आई. के विभिन्न वैज्ञानिकों के योग्य निर्दशन में कार्य प्रारम्भ किया है। छात्रों को औषधीय रसायन एवम् प्रोसेस रसायन, औषधीय निर्माण एवम् फार्माकोकाइनेटिक्स एवंम मेटाबेलिज्म प्रभागों के वैज्ञानिकों के साथ परियोजना कार्य हेतु सम्बध किया गया है और छात्र अच्छी प्रगति कर रहे हैं। वर्तमान शैक्षिक सत्र के प्रथम सेमेस्टर की छात्र संख्या 35 है तथा तृतीय सेमेस्टर की संख्या 36 है। (सारणी–1) अब तक 222 छात्र उत्तीर्ण होकर जा चुके हैं। कुल 71 छात्र प्रथम एवं तृतीय सेमेस्टर में अध्यनरत हैं।

पाठ्यक्रम (एम.एस. फार्मा)	छात्र संख्या आठवाँ सत्र (2015–2017)	छात्र संख्या नवम् सत्र (2016–2018)
चिकित्सा रसायन	17	16
औषधीय विज्ञान	13	13
औषध एवम् विष विज्ञान	6	6

सारणी–1

संस्थानात्मक खेल

नाईपर के छात्रों ने सत्र 2015–16 में डॉ. कीर्ति जैन तथा डॉ. अवनीश मिश्रा के सानिध्य में खेलकूद प्रतियोगिता में भाग लिया। छात्रों ने पूरे उत्साह के साथ सभी क्रीडा प्रतियोगिता में भाग लिया तथा प्रथम स्थान बैडमिटन (पुरूष एकल अनुज गौतम, डबल–जिगनेश सोनी और लक्ष्मण सिंह, महिला एकल–नमिता गौथम, डबल सुश्री सौमया शुक्ला और नमिता गौथम, मिश्रित युगल–अनुज गौतम तथा नमिता गौथम) शतरंज (पुरूष–राहुल कुमार महिला–पी. श्रीलेखा) टेबल टेनिस (पुरूष एकल–लोकेश तिवारी, डबल लोकेश तिवारी और तरू प्रकाश पाडुरंग, महिला एकल अलका शर्मा, डबल दिपिका यादव तथा वेनू वार्षनेय, मिश्रित युगल–लोकेश तिवारी तथा अलका शर्मा) कैरम (पुरूष एकल–शाहद अली, डबल–शाहद अली और हर्षा जैन, महिला एकल–अलका शर्मा) टग आफ वार, वालीबाल व क्रिकेट मैच का भी आयोजन हुआ। संस्थान की ओर से पुरस्कार जीतने वालों को बधाई और अन्य सभी को भविष्य के लिए शुभकामनाएं। छात्रों को प्रतिस्पर्धा में भाग लेने के लिए 20 नवंबर 2015 को हुए वार्षिक समारोह में पुरस्कार दिये गये।

वार्षिक उत्सव

20 नवंबर 2015 को नाईपर, रायबरेली ने अपना सांतवा वार्षिकोत्सव मनाया। मुख्य अतिथि प्रो. आलोक धवन, निदेशक, सी.एस.आई.आर.–भारतीय विष विज्ञान अनुसंधान संस्थान लखनऊ ने ''नैनो मेडिसिन विष वैज्ञानिकों के लिये नई चुनौती'' पर वार्षिक दिवस व्याख्यान दिया। डॉ. मधु दीक्षित, निदेशक, सी.एस.आई. आर.–सी.डी.आर.आई. लखनऊ ने कर्मचारी, नाईपर के छात्रों तथा सी.डी.आर.आई. के वैज्ञानिक को भी संबोधित किया। डॉ. पी.के. शुक्ला, पूर्व परियोजना निदेशक ने वार्षिक प्रतिवेदन प्रस्तुत किया। वार्षिक उत्सव में प्रख्यात वैज्ञानिक, तकनीककर्ता, शिक्षाविद उपस्थित थे। धन्यवाद प्रस्ताव डॉ. कीर्ति जैन द्वारा दिया गया।

तृतीय दीक्षांत समारोह

नाईपर, रायबरेली का तृतीय दीक्षांत समारोह 11 दिसम्बर 2015 को सी.एस.आर.आई.–सी.डी.आर.आई. लखनऊ में आयोजित हुआ। पद्मविभूषण, पदम भूषण, प्रो. एम.एम. शर्मा, पूर्व निदेशक, रसायन तंत्रज्ञान संस्था, मुम्बई मुख्य अतिथि थे तथा समारोह की अध्यक्षता डॉ. वी.के सुब्बुराज, पूर्व सचिव, औषध विभाग, रसायन एवम् उर्वरक मंत्रालय, भारत सरकार द्वारा की गयी। डॉ. मधु दीक्षित, निदेशक सी.डी.आर.आई. लखनऊ, डॉ. पी.के. शुक्ला, पूर्व परियोजना निदेशक, नाईपर, रायबरेली, डॉ. आर.पी. त्रिपाठी, डीन, नाईपर रायबरेली डॉ. शैलजा भट्टाचार्य, पूर्व रजिस्टार नाईपर, रायबरेली, शिक्षक, नाईपर, रायबरेली, शिक्षाविद् मेन्टर संस्थान के वैज्ञानिक तथा अन्य अनुसंधान केन्द्र के वैज्ञानिक अतिथि के रूप में उपस्थित थे।

समारोह का शुभारम्भ ''सारे जहां से अच्छा'' गीत से हुआ। दीक्षांत समारोह का आधिकारिक रूप से आरम्भ डॉ. वी.के. सुब्बुराज, पूर्व अध्यक्ष संचालन समिति, भारत सरकार द्वारा किया गया। पूर्व परियोजना निदेशक डॉ. पी.के. शुक्ला ने स्वागत भाषण में मंच पर तथा हाल में बैठे गणमान्य व्यक्तियों का स्वागत किया तथा समारोह में उपस्थित होने के लिये आभार प्रकट किया। उन्होंने नाईपर, रायबरेली की यात्रा तथा उसका स्वास्थ्य, अनुसंधान एवम् उद्योग में योगदान का संक्षिप्त विवरण दिया। डॉ. मधु दीक्षित निदेशक, मेन्टर संस्थान ने स्वामी विवेकानन्द के ''वापस मत देखो तत्पर रहो। अंनत उत्साह, साहस और धैर्य के साथ अकेले महान काम को किया जा सकता है'' व्यक्तव्य के साथ अपना भाषण दिया।

भाषण के उपरांत उन्होंने अध्यक्ष, संचालन समिति से अनुमति लेकर दीक्षांत समारोह को शुरू किया। शपथ के उपरान्त प्रो. एम.एम. शर्मा ने विभाग के टॉपर को गोल्ड मेडल तथा सिल्वर मेडल प्रदान किया तथा डॉ. वी.के. सुब्बुराज ने उन्हें पुरस्कार प्रदान किया।

डॉ. वी.के. सुब्बुराज ने सभा को सम्बोधित किया जहां उन्होंने सभी सफल स्नातकों को बधाई दी। उनके सम्बोधन के पश्चात सत्र (2012–2014 तथा 2013–2015) के छात्रों को डिग्री प्रदान की गयी। मुख्य अतिथि प्रो. एम.एम. शर्मा ने भी सभा को सम्बोधित किया। 2012–2014 सत्र के छात्र प्रतिनिधि नागार्जुन ने अपने धन्यवाद प्रस्ताव में ''किस तरह नाईपर पाठ्यक्रम एवं शिक्षण ने जीवन में सकारात्मक परिवर्तन लाया'' उसका उल्लेख किया। राष्ट्रगान के उपरांत डॉ. वी.के सुब्बुराज ने दीक्षांत समारोह के खत्म होने की घोषणा की। सभी गणमान्य व्यक्तियों तथा संकाय सदस्यों के साथ बैच वाइस ग्रुप फोटो ली गयी।

पूर्व संगोष्ठी कार्यशाला तथा न्यूरो फार्मोलोजिकल में व्यक्तिगत प्रशिक्षण

अनुसंधान तथा प्रशिक्षण को राज्य में बढ़ावा देने के दृष्टिकोण के साथ नाईपर में औषध और विष विज्ञान विभाग का स्थापन 2012 में हुयी। इस दृष्टिकोण को ध्यान में रखते हुए इस विभाग ने न्यूरोफार्मोलोजिकल अनुसंधान में सर्वाधिक प्रयोग आने वाले अत्याधुनिक उपकरण के उपयोग हेतु युवा शोधकर्ताओं को प्रशिक्षण देने की पहल की। इसलिये नाईपर, रायबरेली ने 17 मार्च 2016 को संगोष्ठी पूर्व न्यूरोफार्मोकोलोजिकल में व्यक्तिगत प्रशिक्षण का आयोजन रायबरेली में किया। इस एक दिवसीय कार्यशाला का उद्देश्य तंत्रिका विज्ञान में मास्टर तथा पी.एच.डी. कर रहे छात्रों को

न्यूरोफर्मोकोलोजिकल यंत्रों पर व्यक्तिगत प्रशिक्षण देने का अवसर प्रदान करना था। इस कार्यशाला में प्रतिभागियों को न्यूरोफार्मोकोलोजी में व्यापक रूप से प्रयोग में आने वाले निम्नलिखित यंत्रों से अवगत कराया।

1. डिजिटल रैट स्टीरोटैक्सीक इन्स्ट्रमेन्ट (स्टोटिलिटिंग यू.एस.ए.)

2. ऑप्टो वैरीमेक्स 4 ऐविटविटी मीटर (कोलबंस, यू.एस. ए.)

3. पैसिव/ऐक्टिव अवॉइडन्स ऐपरैटस (पी.ए.सी.एस. –30, कोलम्बस, यू.एस.ए.) एवं

4. विडियो मानिटर टी मेज (ऐनीमेज, स्टोटिलिटिंग, यू. एस.ए.)

इसमें देश के विभिन्न हिस्सों से करीब 15 प्रतिभागी थे। प्रतिभागियों की प्रतिक्रिया इस प्रकार के लघु अवधि तथा लंबी अवधि के प्रशिक्षण कार्यक्रम के प्रति उत्साहजनक थी। कार्यक्रम का आयोजन डॉ. अवनीश मिश्रा द्वारा किया गया।

आँठवा नाईपर रायबरेली–सी.डी.आर.आई. संगोष्ठी

भारतीय औषधि उद्योग को अनुसंधान और विकास में केन्द्रित करना है ताकि भारत अपना अस्तित्व विश्व बाजार में रखते हुये विश्व लीडर बन सके। इसको ध्यान में रखते हुए नाईपर, रायबरेली ने नाईपर रायबरेली, सी. एस.आर.आई.–सी.डी.आर.आई संगोष्ठी को शुरू किया जिसमें छात्र निरंतर बदलते हुये औषधीय उद्योग के अनुसार अपने मूल्यों को सुसज्जित कर सके। इस वर्ष संगोष्ठी का विषय ''करंट ट्रेंड इन मेडिसिनल एवं फार्मास्टूक्यिल साइंसेज इन ड्रग डिस्कवरी'' का आयोजन 18–19 मार्च 2016 को रायबरेली में किया गया। इस संगोष्ठी के द्वारा छात्र हाल में हुये वैज्ञानिक विकास के बारे में जागरूकता तथा ज्ञान की वृद्धि कर सके। उद्घाटन भाषण प्रो. के.सी. गुप्ता, पूर्व निदेशक, सी.एस. आई.आर. भारतीय विष विज्ञान अनुसंधान संस्थान, लखनऊ द्वारा विषय ''नेचुरल पालीसैक्राइड इफीशीयंट कैरियर फार बाइमोलीक्यूल'' पर दिया गया। इन उद्घाटन समारोह की अध्यक्षता डॉ. वी.पी. कम्बोज, पूर्व निदेशक, सी.डी.आर.आई. द्वारा की गयी।

दो दिन की वैज्ञानिक संगोष्ठी के दौरान 15 व्याख्खान, विभिन्न शोध विषयों पर प्रमुख वक्ताओं द्वारा प्रस्तुत किये गये जिनमें मुख्य है (वन अनुसंधान संस्थान, देहरादून, भारतीय प्रौद्योगिकी संस्थान कानपुर, भारतीय प्रौद्योगिक संस्थान, बनारस, इंडियन ड्रग्स एंड फर्मास्यूटिकल लिमिटेड, ऋषिकेश, मोदी मुडी फार्मा अनुसंधान केन्द्र, मोदीपुरम, सेन्टर फार बायोमेडिकल रिर्सच, लखनऊ, सी. एस.आर.आई.–सी.डी.आर.आई. लखनऊ। विभिन्न विषय जैसे

1. टारगेट बेस्ड ड्रग डिजाइनींग एंड डिस्कवरी

2. नेचुरल प्रोडक्ट एवं ननौ मेडिसिन, टरक्सिसिटी ऐप्रिहेन्सन

3. रीसेट एडवांइसेस इन ड्रग डिलीवरी

4. कंरट अपडेट आन न्यूरोलोजिकल डिसआर्डर

5. कंरट ट्रेंड को इन मेडिसिनल कमेस्ट्री

इत्यदि पर प्रस्तुत किया गया। छात्रों ने मूल अनुसंधान पर आधारित अपने परियोजन कार्य को प्रस्तुत किया। पोस्टर सत्र के दौरान छात्रों ने प्रख्यात वैज्ञानिकों तथा शिक्षाविदों से अपने परियोजना कार्य के अवसर की भी परिचर्चा की। सभी पोस्टर के अवलोकन के पश्चात जजो के पैनल की अनुशंसा के आधार पर अनीका सूद तथा भलाला कृपाल को सर्वोत्तम पुरस्कार दिया गया।

स्वच्छ भारत अभियान

स्वच्छ भारत मिशन या स्वच्छता भारत अभियान भारत सरकार द्वारा चलाया जा रहा है तथा माननीय प्रधानमंत्री श्री नरेन्द्र मोदी द्वारा शुरू किया गया था। यह अभियान 2 अक्टूबर 2014 को महान व्यक्ति श्री महात्मा गांधी की 145वीं जन्मदिन की वर्षगाँठ पर आधिकारिक तौर पर शुरू किया गया था।

भारत सरकार का उद्देश्य स्वच्छ भारत अभियान के माध्यम से महात्मा गांधी की 150वीं जयंती पर 2 अक्टूबर 2019 तक भारत को स्वच्छ बनाना है। इस मिशन का दिलचस्प पहलू यह है कि नये लोगों को इस अभियान में

शामिल करना तथा प्रत्येक नये लोग, नये नौ लोगों को शामिल करे तथा यह श्रंखला तब तक चले जब तक भारत का प्रत्येक नागरिक इसमें शामिल न हो जाये। नाईपर रायबरेली के कार्यालयों, प्रयोगशलाओं, पुस्तकालय, कम्प्यूटर कक्ष, गेस्ट हाऊस, डायनिंग हाल, लड़के और लड़कियों के छात्रावास को मानको को ध्यान में रखते हुये साफ किया गया। गार्डन और नाईपर परिसर में जल निकासी मार्ग को साफ किया गया ताकि बरसात के मौसम में जल भराव न हो। पुराने ट्यूब लाईट्रस तथा पुरानी रसायन बोतलों को खत्म किया गया। नाईपर मुख्य द्वार के बाहर भी सफाई की गयी।

फार्मेसी दिवस

पिछले वर्ष की भांति फार्मेसी दिवस का सफल आयोजन सभी स्टाफ तथा शिक्षकों के सहयोग से 30 सितम्बर 2016 को हुआ। वैज्ञानिक सत्र में प्रो. प्रसाद वी. भरतम, नाईपर, मोहाली द्वारा ''सीऐडीडी सिन्थसस एंड बायोलोजिकल इवैल्यूशन आफ पीएफडीएचएफआर इंहीबीटर'' विषय पर महत्वपूर्ण सूचनाओं से पूर्ण व्याख्यान प्रस्तुत किया। यह व्याख्यान छात्रों तथा शिक्षकों के लिये भी महत्वपूर्ण था। प्रो. उमानंदन मिश्रा, डीन, फार्मो ट्रेनिंग इंन्सीट्यिूट, बंगलुरू ने विषय ''फार्मोसिस्ट के लिये कैरियर संभावना'' पर व्याख्यान दिया। डॉ. अशोक मिश्रा, प्रेसीडेंट, ईपीका लेबोरेट्री लिमिटेड, मुम्बई द्वारा विषय ''केमेस्ट्री काइरेलटी एवं लाइफ'' के व्याख्यान से श्रृंखला का समापन हुआ। विज्ञान प्रश्नोत्तरी का आयोजन डॉ. संजीव सिंह द्वारा आयोजित किया गया। प्रश्नोत्तरी के विजेता शानू सिंह तथा कौसर जहां रहे। समारोह का समापन नाईपर रायबरेली के प्रथम वर्ष के छात्रों द्वारा एक लघु सांस्कृतिक कार्यक्रम से हुआ।

राष्ट्रीय एकता दिवस

राष्ट्रीय एकता दिवस 31 अक्टूबर 2016 को नाईपर रायबरेली में मनाया गया। इस अवसर पर सभी संकाय सदस्य, स्टाफ तथा छात्रों ने सक्रिय रूप से सभी गतिविधियों में भाग लिया। प्रारम्भ में सभी संकाय सदस्यों, स्टाफ और छात्रों ने राष्ट्रीय एकता की शपथ ली। निबंध प्रतियोगिता जिसका शीर्षक है ''सरदार वल्लभ भाई पटेल का राष्ट्रीय एकता में योगदान'' का भी आयोजन हुआ। आशीष कुमार, को प्रथम स्थान तथा शाहीन क्यूमार को द्वितीय स्थान मिला। इसके उपरांत कार्यक्रम में संकाय सदस्यों तथा छात्रों ने एकता तथा भारत के विकास में महत्व पर अपना दृष्टिकोण रखा तथा सरदार वल्लभ भाई पटेल का राष्ट्र निर्माण में योगदान पर व्याख्यान हुआ। कार्यक्रम का समापन राष्ट्रगान से हुआ।

राष्ट्रीय सर्तकता सप्ताह

नाईपर रायबरेली में सर्तकता सप्ताह 31 अक्टूबर 2016, 6 नवंबर 2016 तक मनाया गया। इस सप्ताह में संकाय सदस्य, कर्मचारी तथा छात्रों द्वारा प्रतिज्ञा ली गयी तथा संकाय सदस्यों तथा छात्रों ने सर्तकता का भ्रष्टाचार रोकने में योगदान पर अपना दृष्टिकोण व्यक्त किया।

प्रकाशन तथा रोजगार

नाईपर रायबरेली के छात्रों का प्लेसमेंट, प्लेसमेंट सेल के द्वारा किया जाता है। सभी शाखाओं के लिये एक सामूहिक प्लेसमेट पत्रिका प्रकाशित की गई जिसमें छात्रों की मूल दक्षताओं तथा उपलब्धि पर प्रकाश डाला गया है। छात्र फार्मा कंपनी जैसे ल्यूपिन लिमिटेड, पूना, नोवो नोरडिस्क, बंगलुरू, क्यूरादेव फार्मा प्राइवेट लिमिटेड नोएडा में रोजगार पाने में सफल रहे। जो छात्र अपना कार्य प्रतिष्ठित जर्नल में प्रकाशित कराने में सफल हुये वह बधाई के पात्र हैं।

नाईपर रायबरेली का सीटिजन चार्टर नाईपर रायबरेली की मानक, गुणवत्ता पारदर्शिता और जवाब देही के प्रति प्रतिबद्धता दर्शाता है। सीटिजन चार्टर नाईपर रायबरेली की वेबसाइट पर उपलब्ध है।

भारतीय औषधीय उद्योग नयी दवा उत्पादन तकनीक में निरंतर तथा मुख्य उद्योग के रूप में उभरा हैं भारत ने कई बहुराष्ट्रीय कम्पनियों को शाखा खोलने का आकर्षित किया है। नये क्षेत्र जैसे चिकित्सीय परीक्षण का आयोजन, अनुबंध अनुसंधान संगठन तथा विकास के क्षेत्र में विदेशी निवेश को आकर्षित कर रहे हैं। नाईपर रायबरेली अपने छात्रों को फार्मा सेक्टर के बदलते परिदृश्य में शिक्षाविदों मूल दक्षताओं नैतिकता और मूल्यों के उदर मिश्रण के रूप में विकसित कर रहा है।

Creative Section

Importance of Cholesterol in Body

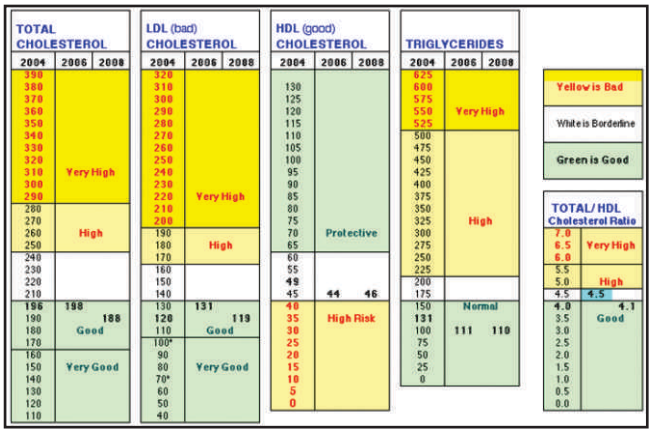
Cholesterol is a waxy, fat-like substance found in all cells of the body. Cholesterol is made in the liver and is also found in some of the foods we eat. It is responsible for providing cell structural support, preserving the water-resistant skin barrier, and conducting nervous impulses. It is needed to make hormones such as testosterone, estrogen, progesterone, aldosterone, and cortisone. Without aldosterone our body cannot regulate water and sodium levels. Without cortisone our body cannot cope with stress; this is an important factor that will come up later. Together with sun exposure, cholesterol is required to produce vitamin D. It is also needed to synthesize bile acids that help digest fat and absorb vitamins. Without a doubt, cholesterol is needed in the body to function. Functionally, cholesterol is part of an immune reaction to a need for healing in the body and making it run efficiently.

"Good" and "Bad" Cholesterol

Cholesterol is water-insoluble and thus, must be transported inside lipoproteins. The two types of lipoproteins most abundant in the body are low-density lipoprotein (LDL), and high-density lipoprotein (HDL). LDL is commonly known as the "bad cholesterol." The function of LDL is to transport cholesterol from the liver to the tissues to repair cell membranes. LDL is often acknowledged for forming plaques and causing artery damage. HDL is commonly knows as the "good/protective cholesterol." The function of HDL is to collect and deliver old cholesterol for use or excretion. The HDL transports cholesterol to steroid-producing organs such as the adrenal glands, testes, and ovaries to make hormones as well as to the liver to be excreted into bile for the absorption of fats. Both lipoproteins serve an important function in the body, but high levels of LDL cholesterol are seen as a risk factor for heart disease, it is the main focus of cholesterol-lowering treatment.

Cholesterol Numbers

Four serum tests are used to diagnose cholesterol levels: total cholesterol, LDL, HDL, and triglycerides. Total cholesterol is measured as milligrams (mg) of cholesterol per deciliter (dL) of blood. High cholesterol is categorized as 240 mg/dL and above, borderline high is 200-239 mg/dL, and desirable is less than 200 mg/dL. The best level of LDL for most people is below 130 mg/dL. If there are risk factors for heart disease, the target LDL is below 100 mg/dL. If a person is at very high risk of heart disease,



the target LDL is below 70 mg/dL. In general, the lower your LDL cholesterol level is, the better. The optimal levels for HDL are 60 mg/dL and above. Anything less than 40 mg/dL in men and 50 mg/dL in women is considered high risk for heart disease.

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2. Griffin R. High cholesterol risks: Top 2 Dangers. Web MD Website. http://www.webmd.com/cholesterol-management/features/high-cholesterol-risks-top-2-dangers.

Dr. Sanjiv Singh
Lecturer
Department of Pharmacology and Toxicology

ANTIBIOTIC RESISTANCE – GLOBAL SCENARIO

INTRODUCTION

Today world is suffering from antibiotic resistance. World has a difficult task to tackle the problem of antibiotic resistance because every antibiotic has become more complicated for patient who is receiving treatment in hospitals for bacterial infection.

ANTIBIOTIC

Antibiotics are the chemical substances that are formed by one species of microorganisms and used to kill or inhibit the growth of other species of microorganism on applying higher dilution.

ANTIBIOTIC RESISTANCE

Antibiotic resistance is the resistance developed in microorganisms due to which they are not inhibited or killed by anti-microbial agents with normal dosage schedule and which have minimum inhibitory concentration (MIC) range. Antibiotic resistance leads to higher medical costs, prolonged hospitalization and increased mortality. Even if new medicines are developed, without further modification, antibiotic resistance remains a major threat. Modifications must include actions to reduce the spread of infections and prevent antibiotic resistance. Modifications should be done under aseptic and hygienic conditions (Figure -1)

RESISTANCE DEVELOPMENT IN ANTIBIOTICS

Today every person has lack of awareness use of antibiotic, even doctors, pharmacists neglect this. Generally it is seen that if someone has viral infection and cold, they immediately take antibiotics and paracetamol and do self medication due to which disease is not cured instead antibiotic resistance develops. It is not a good practice because cold and fever are not caused by bacteria. In this way microorganisms become resistant to antibiotics and it become ineffective.

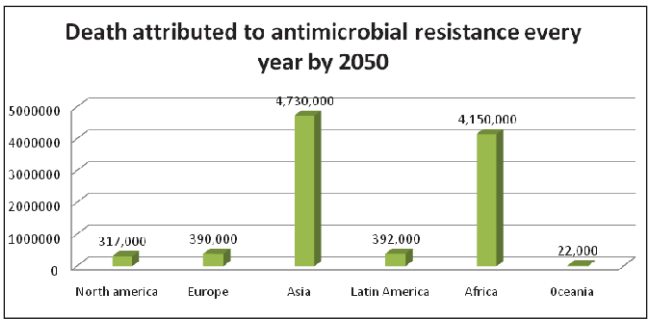

Figure 1:-Death attributed to antimicrobial resistance every year by 2050[1]

RESISTANCE IN BACTERIA

There are different types of method for development of resistance in bacteria. In general, the bacteria become resistant in following two ways.

1. Mutation: - It refers to change in the DNA structure of the gene.

2. Acquires genetic information from other microbes to develop resistance.

MECHANISM OF ANTIBIOTIC RESISTANCE IN COMMUNITY

The development of resistance is a natural biological process that will occur, sooner or later, with every drug. The use of any anti-microbial agent for any infection, in any dose, and over any time period, forces microbes to either adapt or die in a phenomenon known as “selective pressure”. The microbes which adapt and survive carry genes for resistance, which can be passed on from one person to another and rapidly spread around the world. New resistance mechanism emerge and spread globally every day, threatening our ability to treat common infectious diseases (Figure -2)

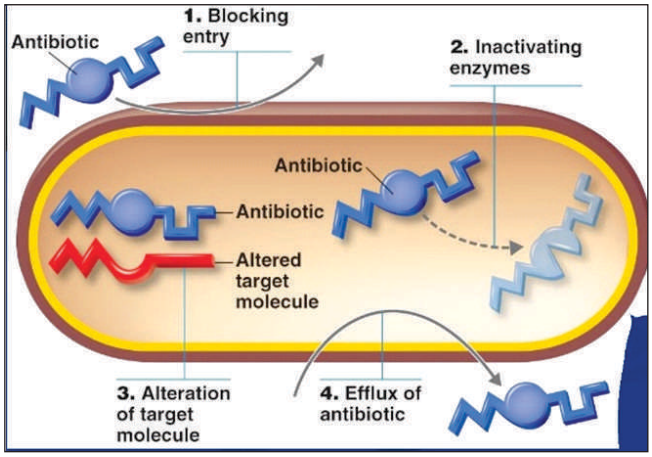

Figure 2:- The way of resistance of bacteria in antibiotic

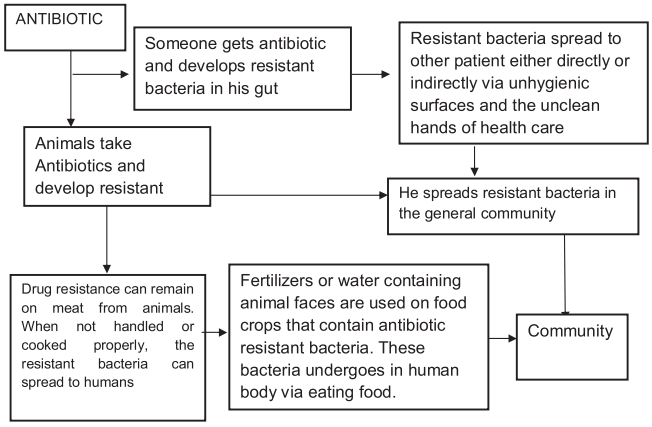

Figure 3:- Spread of antibiotic resistance in community.

FACTORS AFFECTING ANTIBIOTIC RESISTANCE

- Patient incompliance to recommended treatment
  - ✓ Forgets to take medication
  - ✓ Interrupts their treatment when they begin to feel better.
  - ✓ May be unable to afford full course
  - ✓ May also be due to inadequate physician patient interaction
- Hospitals
  - ✓ Nosocomial infections with highly resistant bacterial pathogens
  - ✓ Mainly due to poor infection control practice like hand washing, changing gloves, etc.
- Inadequate surveillance & susceptibility testing
  - ✓ Lack of cultural evaluation of bacteria
  - ✓ Due to lack of equipment and personnel.

Crowds, journey and unhygienic conditions

- Irrational use of antibiotics in humans
  - ✓ Self medication
  - ✓ Misuse
- Physicians
  - ✓ Over prescribing of broad spectrum antibiotics when narrow spectrum are appropriate
  - ✓ Wrong prescription and guidelines from unskilled practitioners
  - ✓ Unnecessary prescription common in private practitioners
- Poor quality of antibiotics
  - ✓ Due to lack of quality compliance and monitoring
- Irrational use of antibiotics in animals
  - ✓ Used for growth and disease control in poultry, cattle, pigs etc.
  - ✓ We are indirectly taking these antibiotics when we are eating these animals.

CASES OF ANTIBIOTIC RESISTANT DEVELOPMENT DIFFERENT CLASS OF ANTIBIOTICS

TABLE 1:-Antimicrobial Susceptibility Testing Results of *E.coli* Isolates

Antibiotic	Nosocomial			community			All			MIC 50		MIC 90
	R%	I%	S%	R%	I%	S%	R%	I%	S%	32		32
Trimethoprim	78%	-	22	90	_	10	84%	_	16			
Sulfamethoxazole												
Gentamicin	18	10	72	30	6	64	24	8	68	0.5		32
cefalotin	52	12	36	64	4	32	58	8	34	256		256
cefuroxime	36	_	64	62	2	36	49	1	50	15		256
cefixime	34	2	64	58	6	36	46	4	50	1.25		256
Amikacin	4	_	96	4	2	94	4	1	95	2		8
Nitrofurantoin	10	_	90	6	2	92	8	1	91	8		32
Meropenem	2	2	96	_	_	100	1	1	98	0.023		0.226
ceftriaxone	34	_	66	56	_	44	45	_	55	0.18		32

R=resistant, I=intermediate, S=sensitive

PREVENTION AND CONTROL OF ANTIBIOTIC RESISTANCE

- Don't take antibiotics during fever, chills, sneezing, coughing.
- Take antibiotics exactly as prescribed, never save them for later use, never share with others without doctor's advice.
- Wash hands properly with disinfectants.
- Doctors should not prescribe drugs without cultural evaluation till they are very sure.
- Treat the symptoms – take full rest and drink lots of fluids

CONCLUSION

Today world is facing the great threat of antibiotic resistance. The global scenario reveals that larger number of broad spectrum antibiotic is going to be ineffective. So it is to be emphasized that the narrow spectrum antibiotic is to be administered to patient as much as possible.

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Puja Kumari
M.S. (Pharm.) Med. Chem
Semester I

Zika Virus and Unaware Facts

What is Zika virus?

Zika is a viral infection that is usually spread by the bite of an infected mosquito. It can sometimes be spread by having sex with an infected man. Outbreaks typically occur in tropical Africa and southeast Asia. In May 2015, Brazil reported the first outbreak of Zika in the Americas. The mosquito behind the Zika virus seems to operate like a heat-driven missile of disease. Scientists say the hotter it gets, the better the mosquito that carries Zika virus is at transmitting a variety of dangerous illnesses. And, with the temperature rising across India, it becomes more important to take precautions and not let the Aedes Aegypti mosquito breed.

How do people get Zika?

People most often get Zika through the bite of an infected Aedes mosquito. This is the same mosquito that spreads dengue and chikungunya. People can also get Zika by having unprotected sex with an infected man.

What are the symptoms of Zika?

About one in five people develop symptoms and infection is usually mild. The most common symptoms are fever, rash, joint pain or red eyes. Other common symptoms include muscle pain and headache. Symptoms usually begin two to seven days after being bitten by an infected mosquito and last several days to a week. Hospitalization and deaths from Zika are unusual, but a nerve disorder, Guillain-Barre Syndrome, can rarely follow an infection. The biggest concern is related to birth defects that have been seen when pregnant women become infected.

How is Zika diagnosed?

The symptoms of Zika are similar to those of dengue and chikungunya, which are diseases caused by other viruses spread by the same type of mosquitoes. See your healthcare provider if you develop the symptoms described above and have visited an area where Zika is present. If you are at risk, your healthcare provider may order blood tests to look for Zika or other similar viruses. An increased number of IgM antibodies may be indicative of the presence of the Zika virus.

What is the difference between Zika, dengue and chikungunya?

All of these viruses cause similar symptoms, but certain symptoms suggest one disease or another. Most Zika patients have skin rashes; Most dengue patients have a higher fever and more severe muscle pain; Most chikungunya patients have a higher fever and more intense joint pain in the hands, feet, knees, and back.

How much Indians should be worried because of Zika virus?

Though caution is advised, Indians need not panic. “Zika is not life-threatening like dengue and chikungunya, and it is a self-remitting

disease, so — at this point — there is nothing to panic about," says Dr Shelly Singh, senior consultant, Obstetrics and Gynecology, Primus Hospital, Delhi.

What is the treatment for Zika?

There is no specific treatment for Zika. Symptoms are treated by getting rest, drinking fluids to prevent dehydration and taking medicines such as acetaminophen or paracetamol to relieve fever and pain. Aspirin and other non-steroidal anti-inflammatory drugs (NSAIDs), like ibuprofen and naproxen, should be avoided until dengue can be ruled out to reduce the risk of increased bleeding.

Can people with Zika pass the illness to others?

Zika needs a vector to infect people generally, that vector is the mosquito. However, Zika virus has been found in semen and person-to-person sexual transmission has been documented. Travelers to an area with Zika should continue to take steps to prevent mosquito bites for three weeks after they leave the Zika-affected area to avoid spreading the virus, even if they do not feel sick. Only one in five infected people develop symptoms. Zika virus can be found in the blood of an infected traveler and passed to another mosquito through mosquito bites. An infected mosquito can then spread the virus to other people.

How can Zika be prevented by avoiding mosquito bites?

No vaccine or preventive drug is available at this time. The best way to prevent Zika is to avoid mosquito bites when traveling to an area where Zika is present. Use insect repellent. Many insect repellents are safe for pregnant women and children to use, but be sure to check the product label for any warnings and follow the instructions closely. When indoors, use air conditioning, window screens or insecticide-treated mosquito netting to keep mosquitoes out of the home. Reduce the number of mosquitoes outside the home or hotel room by emptying or routinely changing standing water from containers such as flowerpots, pet dishes and bird baths. For information on how best to be protected against all diseases related to travel, visiting a clinician with expertise in travel medicine is recommended before a planned trip.

What is the risk of Zika in pregnancy?

Mounting evidence supports a link between Zika and microcephaly, a birth defect that is a sign of incomplete brain development, and possibly other problems such as miscarriage and stillbirth. The rate of these complications is not known but is being studied further. It is unknown how to prevent these possible pregnancy complications, but unintended pregnancies can be prevented**. "It's also important to know that being infected with the Zika virus does not mean the newborn WILL have microcephaly, and neither does once having the Zika virus disease mean that future pregnancies would be affected."**

Here's a list of the guidelines issued by the health ministry and doctors that you should keep with you:

1. Prevent mosquito breeding around houses.

2. Use mosquito repellents to protect yourself from mosquito bites.

3. Non-essential travel to the affected countries in the Latin American region and the

Caribbean should be deferred/cancelled.

4. Pregnant women or women who are trying to become pregnant should defer/cancel their travel to the affected areas.

5. All travellers to the affected countries/areas should strictly follow individual protective measures, especially during the day, to prevent mosquito bites (use of mosquito repellant cream, electronic mosquito repellants, use of bed nets, and dress that appropriately covers most of the body parts).

6. Persons with co-morbid conditions (diabetes, hypertension, chronic respiratory illness, immunity disorders, etc.) should seek advice from the nearest health facility, prior to travel to an affected country.

7. Travellers who complain of fever within two weeks of return from an affected country should report to the nearest health facility.

8. Pregnant women who have travelled to areas with Zika virus transmission should mention about their travel during ante-natal visits in order to be assessed and monitored appropriately.

For more information on Zika:

http://indianexpress.com/article/lifestyle/health/the-zika-virus-disease-and-india-health-guidelines

www.who.int/mediacentre/factsheets/**zika**/en

http://www.state.nj.us/health/lh/documents/ldirectory.pdf) NJ Department of Health:

http://www.nj.gov/health Centers for Disease Control and Prevention (CDC):

http://www.cdc.gov/zika/index.html CDC Travel Health Notices:

www.cdc.gov/media/releases/2016/s0325-zika-virus-recommendations.html

Amit Kumar and Vaneet Kumar
M.S. (Pharm). Med.Chem.
Semester I

MALARIAL PROTEASES AS TARGETS FOR ANTI MALARIAL DRUGS

Introduction

Malaria is a major human health problem causing high mortality, mainly in Sub-Saharan Africa and in some parts of Asiaand South America. Malaria is caused by five Plasmodium species namely, *Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, Plasmodium malariae and Plasmodium knowlesi*. Of these, *P.falciparum* is the causative agent of severe malaria in humans resulting in high mortality. Every year more than one million deaths are documented and high mortality is reported in infected children. Malaria parasite has a complex life cycle and transmitted to human by the bite of an infected female mosquito of the genus anopheles which harbours the parasite. Once the parasite entered in the bloodstream, initially reside in hepatocytes and start asexual multiplication resulting in tens of thousands of merozoites which takes over 5 to 16 days. After bursting from hepatocytes, each merozoite invades erythrocyte and again starts multiplication. Some of the merzoites after hepatocytes burst differentiate into male and female gametocytes. Subsequently, these gametocytes are sooner or later taken up by a mosquito during a blood meal and the life cycle of parasite continues. Asexual erythrocytic stage of this parasite is responsible for the clinical symptoms of malaria.

According to World Health Organization (WHO), resistance to all anti malarial drugs has been widely reported, even in the case of artemisinin combined therapy particularly in South-East Asia. Therefore, researchers are in continuous desire for new targets and therapeutics and have identified several new and potential drug targets to combat anti malarial drug resistance.

Anti-Malarial Drugs

Anti-malarial drugs are used for the treatment and prevention ofmalaria infection.Quinolineslike Amodiaquine, Piperaquine, Quinine, Mefloquine are act by forming a complex with haem in food vacuole and inhibit haem polymerization. Chloroquine is a synthetic 4-aminoquinoline formulated as the phosphate salt for oral use and the drug of choice in the treatment ofnon-*falciparum* and sensitive *falciparum* malaria. Antifolates like Pyrimethamine, Chloroguanide(proguanil, paludrine) are prevent the nuclear division of Plasmodium at the schizont stage within the hepatocytes and erythrocytes by acting on dihydrofolate reductase (DHFR) or dihydropteroate synthase(DHPS). Atovaquone inhibitselectron transport in plasmodial mitochondria and depolarizes themembranes of plasmodial mitochondria. A fixed combination with chloroguanil has been developed under the trade name MALARONE. They represent a novel class of expensive antimalarial drugs.Artemisinins have a broad spectrum of activity against all parasite phases within erythrocytes, in particular younger ring forms and suppress gametocyte transmission. Artemisinin and its analogs arerapidly acting blood schizonticides by production of toxicity of free radicals, formed due to cleavage of the

artemisinin endoperoxide bridge in food vacuole or inhibition of calcium ATPase of parasite. However, it has no effect on hepatic stages.

Limitations of Existing Targets

Existing anti-malarial drugs were designed based on the major metabolic differences of malaria parasite with its host. There is noexisting anti-malarial drugwhich was developed in a fully rational manner, with a focused attemptto inhibit a known drug target. In addition, the mechanisms of emergence of resistance due to mutations on theirkey enzymes or transportersare poorly understood for most of the drugs.The most potent anti-malarial drug, artemisinins and theirderivatives are also not in exception list of drug resistance. Artemisininsare potent inhibitors of phosphatidylinositol-3-kinase(PfPI3K). But increased resistance for PfPI3K was associated with the C580Y mutationin *P. falciparium* Kelch13 (PfKelch13) leads to a primary marker of artemisinins resistance. Thus, drug resistance resulting from mutations is a major concern and the identification of new targets is mandatory to design new drugs against resistant malaria parasite.

The Need of New Targets for Anti-malarial Drugs

Malaria elimination needs an integrated strategy, including new and old drugs, vaccines, vector control and public health measures. Considering the high mortality, morbidity, the emergence and spread of resistance to existing drugs, there is a need to make new drugs. The need for new metabolic targets stem for two main reasons, Firstly, cross resistance between drugs. Secondly, because of the confusing array of putative chemotherapeutic targets have to be validated properly to generate some effective and safe compounds.

Malaria Parasite Proteases as Novel Targets

Identification of novel drug targets and design of new chemical compounds and investigating the inhibitors specific for the new target proteins of malaria parasite has been exploited for drug target identification and currently studies are going on.

Proteases constitute a ubiquitous and highly abundant group of catalytic and regulatory molecules in livingsystems. There are three processes that require protease activity in erythrocytic parasite of malaria.

1. Hemoglobin degradation
2. Erythrocyte invasion and
3. Erythrocyte rupture

Cysteine protease inhibitors

Hemoglobin hydrolysis in the Plasmidiu-mdigestive vacuole is thought to be a semi-ordered process mediated bythe action of a series of proteases. Plasmepsins (aspartic proteases) andfalcipains (cysteine proteases) are involved in the initial steps of thepathway. Cysteine protease inhibitors such asE64, leupeptin, chymostatin, fluoromethyl ketones, vinyl sulfones, andchalcones appear to be a valuable template for the development of newinhibitors specific to individual plasmodial proteases.The major food vacuole-resident hemoglobin degrading proteasesare papain-

like cysteine proteases falcipains, aspartic proteasesplasmepsins, the metalloprotease falcilysin, dipeptidyl aminopeptidasel, and a M1-family alanyl aminopeptidase. The papain-like cysteine proteasesfalcipains, particularlyfalcipain-2 (FP2) and falcipain-3 (FP3), are the major hemoglobindegrading enzymes in *P. falciparum* and these are inhibited by Epoxomicin, E64, lactacystin,MG132, plasmepsin, pepstatin blocks parasite development in *P.falciparum* erythrocytic stage.

Serine protease inhibitors

PfSUB1 is a serine protease involved in both schizont rupture and erythrocyte reinvasion in the *P. falciparum* life cycle. It can be blocked by serine protease inhibitors and it is the best choice because nohuman enzyme homolog is available. The protease inhibitor LK3 from Streptomyces species is capable of degrading serine protease of malaria. Maslinic acid (MA), a low toxic natural pentacyclic triterpene has demonstrated ability to hinder the maturation from ring to schizontstage which terminate the release of merozoites and its subsequent invasion. A series of highly potent 2-pyrimi dinecarbonitriles were also reported as inhibitors of falcipain-2 and falcipain-3. It has also been shown that macromolecular inhibitors such as prodomain, falstatin, PbICP, Py-ICP are inhibitors of cysteine proteases of malaria parasites.

Conclusion

Many approaches to anti-malarial drug discovery are available. But malarial protease inhibitors effective agents for targeting the biological and the biochemical processes of malaria parasites shows ultimate optimum results.

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I.SivaKalyani
M.S. (Pharm.) Med. Chem.
Semester I

HOW TO ENHANCE SOLUBILITY?

INTRODUCTION:-

Solubility is an intrinsic or static factor which in quantitative term can be defined as the concentration of solute in concentrated solution at a certain temperature.

In quantitative way it can be defined as a spontaneous interaction of two or more substances to form a homogeneous molecular dispersion.

Definition	Parts of solvent required for 1 part of solute
Very soluble	<1
Freely soluble	1-10
Soluble	10-30
Sparingly soluble	30-100
Slightly soluble	100-1000
Very slightly soluble	1000-10000
Insoluble	>10000

METHODOLOGY-:

Solubility Enhancement Technique

A.) Physical modification

1. Particle size reduction
   - Micronization
   - Sonocrystallization
   - Nanosuspension
   - Supercritical fluid process
2. Modification of crystal habit
   - Polymorphs
   - Pseudopolymorphs
3. Drug dispersion in carrier
   - Eutectic mixtue
   - Solid dispersion
   - Solid solution
4. Complexation
   - Use of complexing agents
5. Solubilization by surfactants
   - microemulsion

B. Chemical modification

1. Change in Ph
2. Use of buffer
3. Derivitization

C. Other methods

1. Cosolvency
2. Hydrotrophy

DESCRIPTION

1. Micronization-: Process of micronization causes reduction of drug particle in micron size.
   - It results by attrition with consistent micron size
   - This process improves dissolution and particle size uniformity.

2. Polymorph-: Polymorphs are crystalline substances having same molecular entity but different 3-dimensional lattice structure.

Polymorphs are chemically identical, but have different crystal lattice energies, melting points, intrinsic solubilities, rates of dissolution, densities, mechanical properties,

chemical and physical stability, hygroscopicity, different crystal habits .....

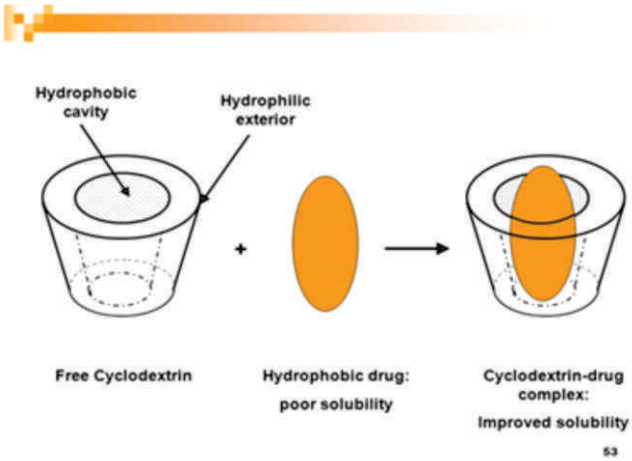
EXAMPLE-: INSULIN

INSULIN IS AVAILABLE IN TWO FORMS FOR INJECTION:

- Insulin suspension containing the amorphous form
- Insulin suspension containing the crystalline form

The two forms have different rates of dissolution resulting in different response rates .

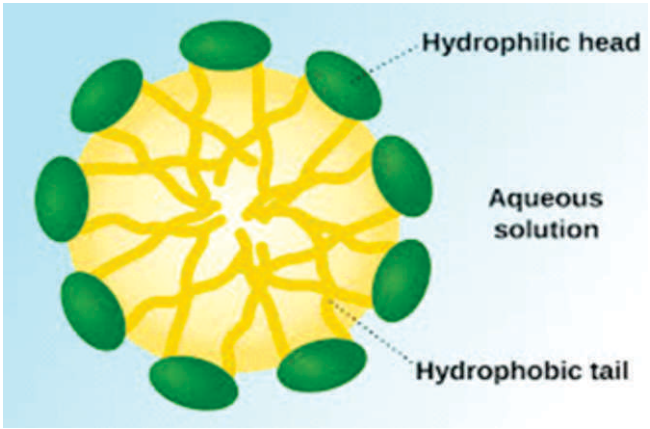
3.Complexation:- Inclusion complexes are formed by the insertion of the nonpolar molecule or the nonpolar region of one molecule (known as guest) into the cavity of another molecule or group of molecules (known as host). The most commonly used host molecules are cyclodextrins. The enzymatic degradation of starch by cyclodextrin-glycosyltransferase (CGT) produces cyclic oligomers, Cyclodextrins (CDs). These are nonreducing, crystalline, water soluble, and cyclic oligosaccharides consisting of glucose monomers arranged in a donut shaped ring having hydrophobic cavity and hydrophilic outer surface.



4. Solubilization By Surfactants:- Micellar solubilization (solubilization) is the process of incorporating the solubilizate (the component that undergoes solublization) into or onto micelles. Solublization may occur in a system consisting of a solvent, an association colloid (a colloid that forms micelles), and at least one other solubilizate.

Mechanism

Literature distinguishes two major mechanisms of solubilization process of oil by surfactant micelles, affecting the kinetics of solubilisation. surface reaction, i.e., by transient adsorption of micelles at the water-oil interface, and bulk reaction, whereby the surfactant micelles capture dissolved oil molecules



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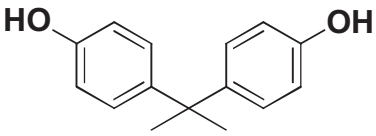
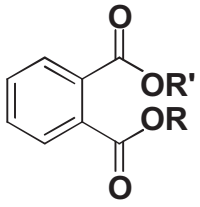
Ashish Kumar & Ajit Singh
M.S. (Pharm.) Pharmaceutics
Semester I

HARMFUL EFFECTS OF BISPHENOL A AND PHTHALATES

Nearly everyone in the world is exposed to Bisphenol A (BPA) and Phthalates are the classes of endocrine disrupting chemicals which tend to cause disruption in many functions of our body. Endocrine disrupting chemicals (EDCs) are chemicals or mixture of chemicals which can cause adverse effects by interfering with hormones in the body. EDCs are found in everyday products and throught the environment, there are more than 85,000 manufactured chemicals of which thousands may be EDCs. BPA is a known EDC and another class linked to hormone disruption are phthalates found in personal care products such as cosmetics, children's products, food packaging and medical tubing.



Bisphenol A



Phthalates

BPA is one of many man made chemicals classified as ENDOCRINE DISRUPTORS which alter the function of the endocrine system by mimicking the role of the body's natural hormones.It is one the chemical which is widely used in products such as reusable water bottles, food can linings, water pipes, dental sealants etc. which has been shown to effect reproduction and brain development.

Scott belcher and his team found that when the new and used polycarbonate drinking bottles were exposed to boiling hot water, BPA an environmental estrogen was released 55 times more rapidly than before exposure to hot water. They examined several bottle brands at 158 degree for 4weeks and found that antimony and BPA levels are increased. Plastic water bottles are made from polyethylene terephthalate, when heated the material releases chemicals antimony and bisphenol A, antimony is considered as cancer causing agent by international agency for research on cancer, a part of WHO.

Another study find that BPA in men urine could be a marker of prostate cancer, the underlying mechanism is the effect of BPA on the initiation of centrosome abnormality promoting prostrate cancer formation.

They also revealed that there is a close connection between a chemical called bisphenol A and thyroid hormone level. Researchers used data from the U.S National Health and Nutrition examination survey to compare urine metabolites and serum thyroid measures, greater concentration of urinary phthalate metabolites and BPA were associated with greater impacts on serum thyroid measures. They found an inverse relationship between urinary phthalate metabolite and BPA and thyroid hormone levels means as urinary metabolite concentration was increased serum levels of certain thyroid hormone levels was decreased.

In the WSU study, Hunt and her colleagues gave newborn male mice oral doses of BPA. They also exposed mice to the synthetic estrogen, Ethinyl estradiol. The researchers exposed the developing testis and saw that the sperm of exposed animals did a poorer job of meiosis, the process in which cells combine

the genetic information of their parents. As a result, more sperm died.

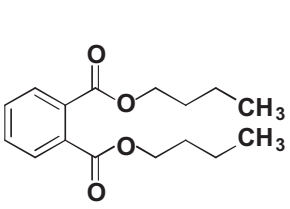
In BPA-exposed female mice, isoproterenol, a drug that leads to hypertrophy (tissue enlargement) by mimicking some effects of a heart attack, caused increased heart muscle damage along with accumulation of collagen -- an indicator of fibrosis or scarring -- in the heart, says Belcher, the study's principal investigator. In male mice BPA alone increased fibrosis; however researchers did not observe an additional increase in fibrosis, ischemic damage, or hypertrophy in response to isoproterenol treatments.

During early development of neurons, high levels of chloride are present in the cells. These levels drop as neurons mature, thanks to a chloride transporter protein called KCC2, which churns chloride ions out of the cells. If the level of chloride within neurons remains elevated, it can damage neural circuits and compromise a developing nerve cell's ability to migrate to its proper position in the brain.

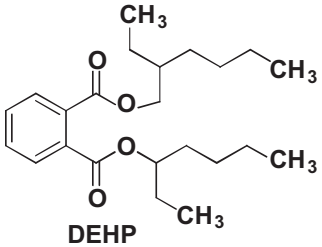
Exposing neurons to minute amounts of BPA alters the chloride levels inside the cells by somehow shutting down the Kcc2 gene, which makes the KCC2 protein, thereby delaying the removal of chloride from neurons.

MECP2, another protein important for normal brain function, was found to be a possible culprit behind this change. When exposed to BPA, MECP2 is more abundant and binds to the Kcc2 gene at a higher rate, which might help to shut it down. This could contribute to problems in the developing brain due to a delay in chloride being removed.

Phthalates and BPA are chemical compounds that appear in solvents, plasticizer and many more household products. There is a strongest relationship between thyroid disruption and DEHP bis(2-ethylhexyl) phthalate commonly used as plasticizer and another phthalate DBP (dibutyl phthalate) is also used as plasticizer and solvents and in personal care products.



DBP



DEHP

Since worldwide BPA production has now reached approximately 7 billion pounds per year, eliminating direct exposures from its use in food and beverage containers will provide far easier than finding solutions for the massive worldwide contamination by this chemical due to its disposal in landfills and the dumping into aquatic ecosystem of myriad other products containing BPA, which many countries has already declared to be a major environmental contaminant.

CONCLUSION REMARKS:

"AVOID USAGE OF PLASTICS AS IT MAY CAUSES SEVERE HEALTH PROBLEMS".

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Anam Fatima
M.S. (Pharm.) Med.Chem.
Semester I

NANOTECHNOLOGY IN AYURVEDA

INTRODUCTION

Nanotechnology is a field of applied science and technology which aims to develop devices and dosage forms in the range of 1 to 100 nm. The applications of nanotechnology for treatment, diagnosis, monitoring, and control of biological systems have recently been referred to as nanomedicine. The nanocarriers have been made of safe materials, including synthetic biodegradable polymers, lipids, and polysaccharides.

The ancient application of nanomedicine in the form of Ayurvedic *Bhasma* throws a light on the safer usage of present nanomedicine for a living being and the environment. The use of nanoparticulate metals in therapeutics has been a common practice in Ayurveda. The present attempt is to revisit the Ayurvedic *Bhasma* concept as organometallic ethno-nanomedicine in the surging area of nanomedicine.

HISTORY

Ancient Ayurvedic Acharya also thought of reduction in particle by the virtue of Peshan, Mardan etc. Samskaras. Bhasmikaran is an excellent example of soookshma medicine. Nanotechnology can be considered as one of the Anukta (untold) Samskaras which leads to Sookshmikaran. While producing Nano Drug, the machine produces 1) Bombardment movement in all possible direction 2.) Rotatary movement 3.) Up-down movement 4.) Internal small amount of heat production due to friction. So, Nano formation causes increase in Vayu, Teja, Aakash Mahabhuta and decrease in Prutvi and Jala mahabhuta. Internal frictional heat can not break strong covalent bond present in phytochemal aggrigates and henceNano formation changes the organoleptic properties but phytochemicals and properties of original drug remains same. Bhasmikaran involves new bond formation and new product formation. Various Bhasma contains metallic particles having micrometric size and having great potency at low doses. Bhasmikaran had different processes which lead to reduction in particle size. Reduced particle size increases bio availability of drugs and drugs shows equipotent effect at lower dose. All over the world, the research has been going on herbal remedies and natural products.

NEED OF NANOTECHNOLOGY IN AYURVEDA

Herbal remedies were selected as feasible drug candidate for delivery through a nano delivery system because of the following properties:

1. Effective chloroform, petrol, acetone, and methanolic extracts are available which may not be suitable for delivery as such.
2. These are the bulk drugs so dose reduction is intended.
3. Currently marketed formulations lack target specificity for various chronic diseases.
4. Some other side effects are associated with currently marketed formulations.
5. Patient non-compliance due to large doses and less effectiveness with the available formulations.

ADVANTAGES

Drug delivery system fetched a NDDS, a novel approach to overcome the drawbacks of the traditional drug delivery systems.

Nano-sized delivery system was selected because of the following reasons:

- They appear to be able to deliver high concentrations of drugs to disease sites because of their unique size and high loading capacities.
- Deliver the drug in the small particle size that enhances the entire surface area of the drugs allocating quicker dissolution in the blood.
- The concentration seems to persist at the sites for the longer periods.
- Shows EPR (enhanced permeation and retention) effect, i.e., enhanced permeation through the barriers because of the small size and retention due to poor lymphatic drainage such in tumor.
- Exhibits passive targeting to the disease site of action without the addition of any particular ligand moiety.
- Decrease in the side effects.
- Decrease in the dose of the drug formulation.

For example Cuscuta chinensis is a commonly used traditional Chinese medicine to nourish the liver and kidney. Due to the poor water solubility of its major constituents such as flavonoids and lignans, its absorption upon oral administration could be limited. So, the nanoparticles for the same were developed. A recent experimental study of polylactic acid nanoparticles of lipophilic anti-cancer herb drug (Cucurbitacins and Curcuminoids) using a precipitation method have been developed.

CONCLUSION

The benefits of nanomedicines are indubitable and unstoppable, nevertheless, and safety-related studies should also be carried out rigorously and planned in order to provide guidelines for safer manufacturing practices, keeping care of ecology, and environment. Hence, Ayurvedic *Bhasma* may hold strong relevance in the emerging era of nanomedicine and can serve as an excellent template for the development of nanomedicine for an efficient therapeutic cure.

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Kousar Jahan and Shintu Mathew
M.S. (Pharm.) Med. Chem.
Semester I

HEALTH BENEFITS OF DARK CHOCOLATE

Dark chocolate is loaded with nutrients that can positively affect our health. Made from the seed of the cocoa tree; it is one of the best sources of antioxidants on the planet.

NUTRITIONAL FACTS

It contains a decent amount of soluble fiber and is loaded with minerals.

A 100 gram bar of dark chocolate with 70-85% cocoa contains:

- 11 grams of fiber.
- 67% of the RDA for Iron.
- 58% of the RDA for Magnesium.
- 89% of the RDA for Copper.
- 98% of the RDA for Manganese.
- It also has plenty of potassium, phosphorus, zinc and selenium.
- The fatty acid profile of cocoa and dark chocolate is excellent. The fats are mostly saturated and monoun-saturated, with small amounts of polyunsaturated fats.
- It also contains stimulants like caffeine and theo bromine, but is unlikely to keep you awake at night as the amount of caffeine is very small compared to coffee.

HEALTH BENEFITS

***Anti Oxidant Activity*:**

- ORAC stands for Oxygen Radical Absorbance Capacity. It is a measure of the antioxidant activity of foods.
- Dark chocolate is loaded with organic compounds that are biologically active and function as antioxidants. These include polyphenols, flavanols, and catechins.
- One study showed that cocoa and dark chocolate contained more antioxidant activity, as they contain polyphenols and flavanols than other fruits they tested, which included blueberries and Acai berries.

Anti hypertensive activity:

Dark Chocolate contains flavonoids that cause dilation of the blood vessels. The mechanism involved in the dilation of blood vessels is due to the release of nitric oxide.

Flavonoids
Stimulate+
Endothelium lining of arteries
↓
Release of Nitric oxide
↓
Increase the cGMP levels
↓
Dephosphorylates myosin light chain kinases
↓
Vasodilation

- Excess consumption of chocolates may raise severe complications.

Anti diabetic activity:

- Diabetes is a chronic disease that is marked by high levels of sugar in the bloodstream.
- Insulin, a hormone secreted by the pancreas, is used to uptake glucose from the bloodstream into the cells.
- In diabetes condition insulin may be insufficiently produce by beta cells of pancreatic islets or the insulin receptors may become sensitive to insulin as a result of this there will be an increased levels of glucose in the

bloodstream, which can lead to hypertension, stroke, heart attack, loss of eyesight, kidney damage and peripheral vascular disease.

- The flavonoids in the dark chocolate may increases the insulin sensitivity and resistance.
- The improvement in insulin sensitivity may help to prevent the onset of diabetes.
- Dark chocolate that has not undergone processing that removes the flavonoids or overeating of dark chocolate may increase the caloric intake and lead to weight gain.

Anti cancer potential:

Flavonoids in the chocolate may interfere with the free radicals that are produced by various metabolic enzymes like oxidases.

These flavonoids interact with the free radicals or reactive oxygen species which are responsible for the damage of cells and tissues thus neutralizes the reactive oxygen species and causes the cell necrosis.

Hypolipidemic potential:

- Cocoa powder was found to significantly decreasethe oxidized LDL cholesterol.
- It also increased HDL and lowered total LDL in humans with elevated cholesterol.
- Oxidized LDL means that the LDL has reacted with free radicals.
- This makes the LDL particle itself reactive and capable of damaging other tissues such as the lining of the arteries in your heart.
- It makes perfect sense that cocoa lowers oxidized LDL. As it contains an abundance of powerful antioxidants that do make it into the bloodstream and protect lipoproteins against oxidative damage.

CONCLUDING REMARKS

“Chocolate is cheaper than therapy and you don't need any appointment”.

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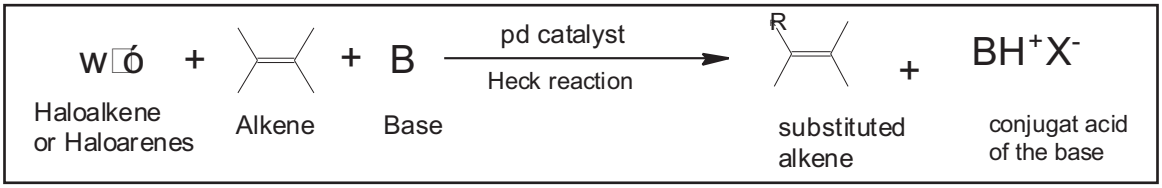
Kusuma Sushma Praveena
M.S. (Pharm.) Pharmaceutics.
Semester I

HECK REACTION

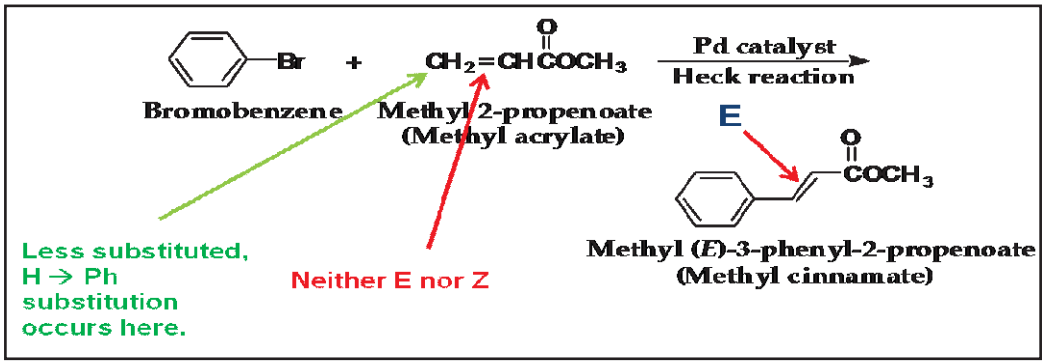
A palladium catalyzed reaction in which the R group of Rx, a haloalkene or haloarenes, is substituted for a vinylic H of an alkene



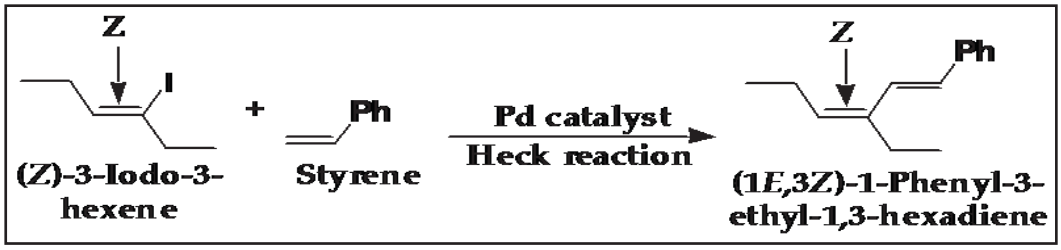
R= Alkenyl, aryl, allyl, alkynyl, benzy, X= halide, triflate R' = alkyl,alkenyl,aryl, CO_2, OR, SiR_3

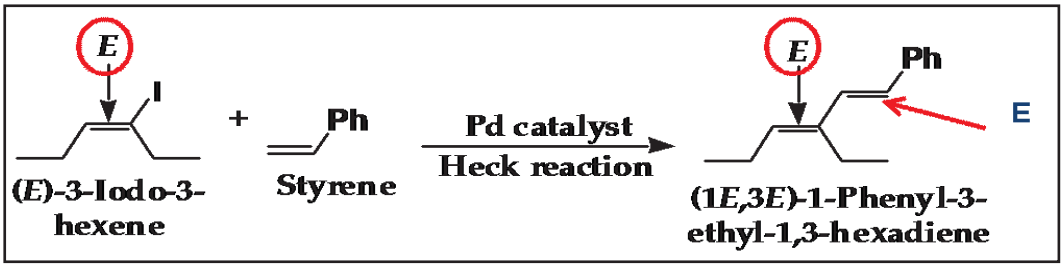
Substitution (H⟶R) is highly regioselective; most commonly at the less substituted carbon of the double bond.

Substitution is highly stereoselective; the E configuration is often formed almost exclusively.



For RX= haloalkene:Reaction is stereospecific; the configuration of the double bond in the haloalkene is preserved.





Proposed mechanism involving natural pd:

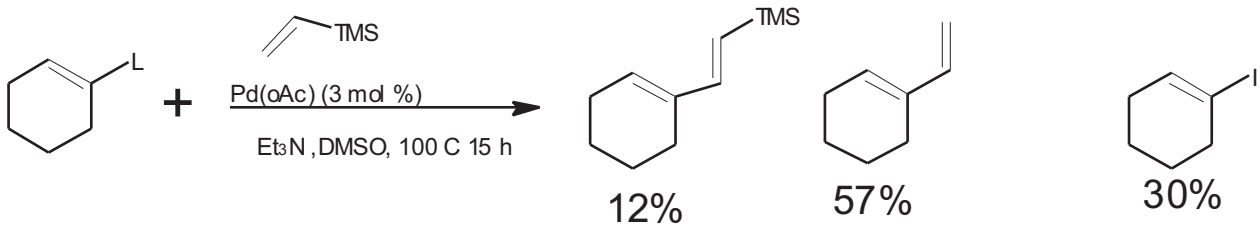
- Pd (II) is reduced to the catalytically active pd(0) in situ , typically through the oxidation of a phosphine ligand.

$$Pd(OAc)2 + H_2O + nPR_3 + 2R_3'N \longrightarrow Pd(PR3)n\text{-}1 + O{=}PR3 + R'_3N.HOAc$$

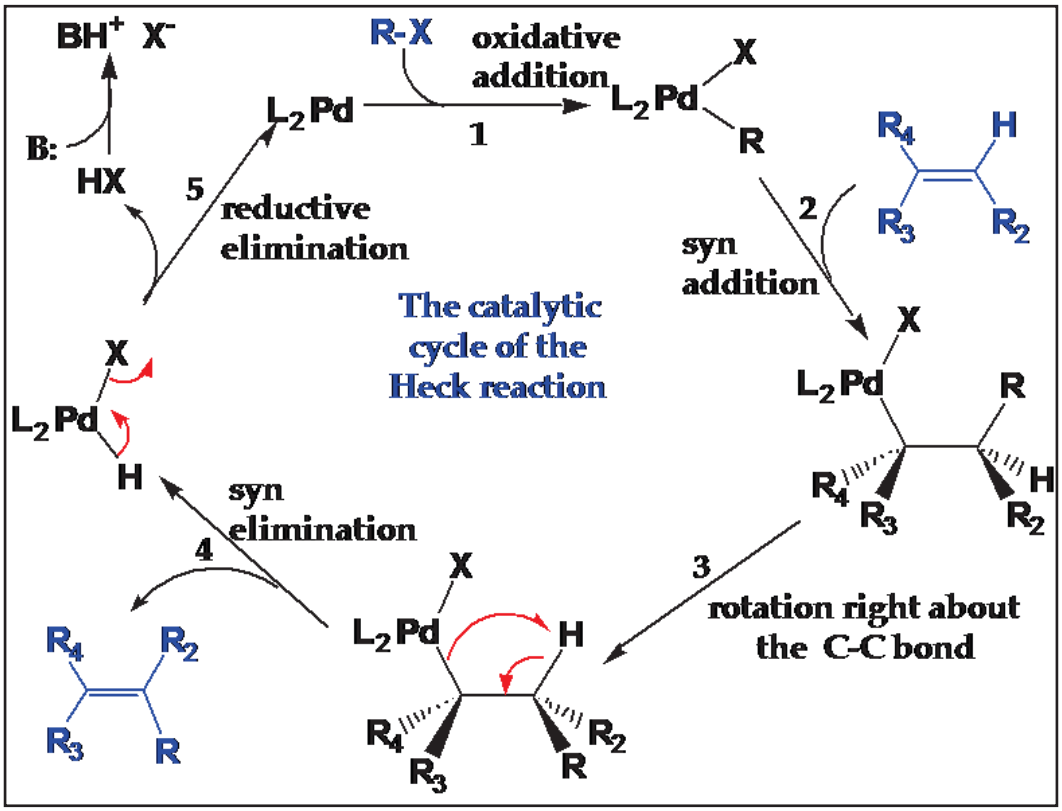
- Ag+ /Tl+ Salts irreversively abstract a halide ion from the complex formed bt oxidative addition. Reductive elimination from the cationic complex is probably irreversible.

An example of proposed mechanism involving cationic pd:

- Silver salt can minimize side reaction when using vinyl or aryl halide, while the corresponding triflates give similar yields without the use of silver.



MECHANISM OF HECK REACTION:-



CONSIDERATION

THE CATALYST

- Most commonly pd(II) acetate
- Reduced in situ to pd(0)
- Reaction of pd(0) with good ligands gives pdL_2
- The organic halogen compound: aryl, heterocyclic, benzylic, and vinylic iodides,chlorides,bromides, and triflates.

THE ALKENE

- More reactive on less crowding on the alkene
- Alkyl halides with an easily eliminated β hydrogen are rarely used because they undergo β elimination to give alkenes.
- OH groups and the C=O groups of aldehydes, ketones , and esters are unreactive under Heck condition.

THE BASE

- Triethylamine, Sodium, and Potassium acetate, and sodium hydrogen carbonates are most common.

THE SOLVENT

- Polar aprotic solvents such as DMF, acetonitrile, and DMSO.
- Aqueous methanol may also be used.

THE LIGAND

Triphenylphosphene is one of the most common.

CONCLUSION:-

The incredible functional group tolerance of palladium make Heck reactions possible on even the most sensitive of substrates. Extensive optimization studies are often required to develop optimal conditions for every new substrate.

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Piyush Vatsa and S.M.Prabhakaran
M.S. (Pharm.) Med.Chem.
Semester I

HIV DISEASE

INTRODUCTION

The epidemic Human virus Disease formerly known as Human immune deficiency virus (a sub group of retrovirus) that causes HIV infection or time AIDS. AIDS is caused by the HIV virus which originate in non-human primates in central or West Africa namely (Belgian Congo) in the 1920.

Two types of HIV viruses are namely HIV-1 and HIV -2 but HIV-1 is the more virulent .The pandemic HIV strain adversely rare strain only found in a few Cameroonian people (group N) are clearly derived from SIV CPZ strain endemic in pan troglodytes chimpanzee population living in Cameron and Congo.

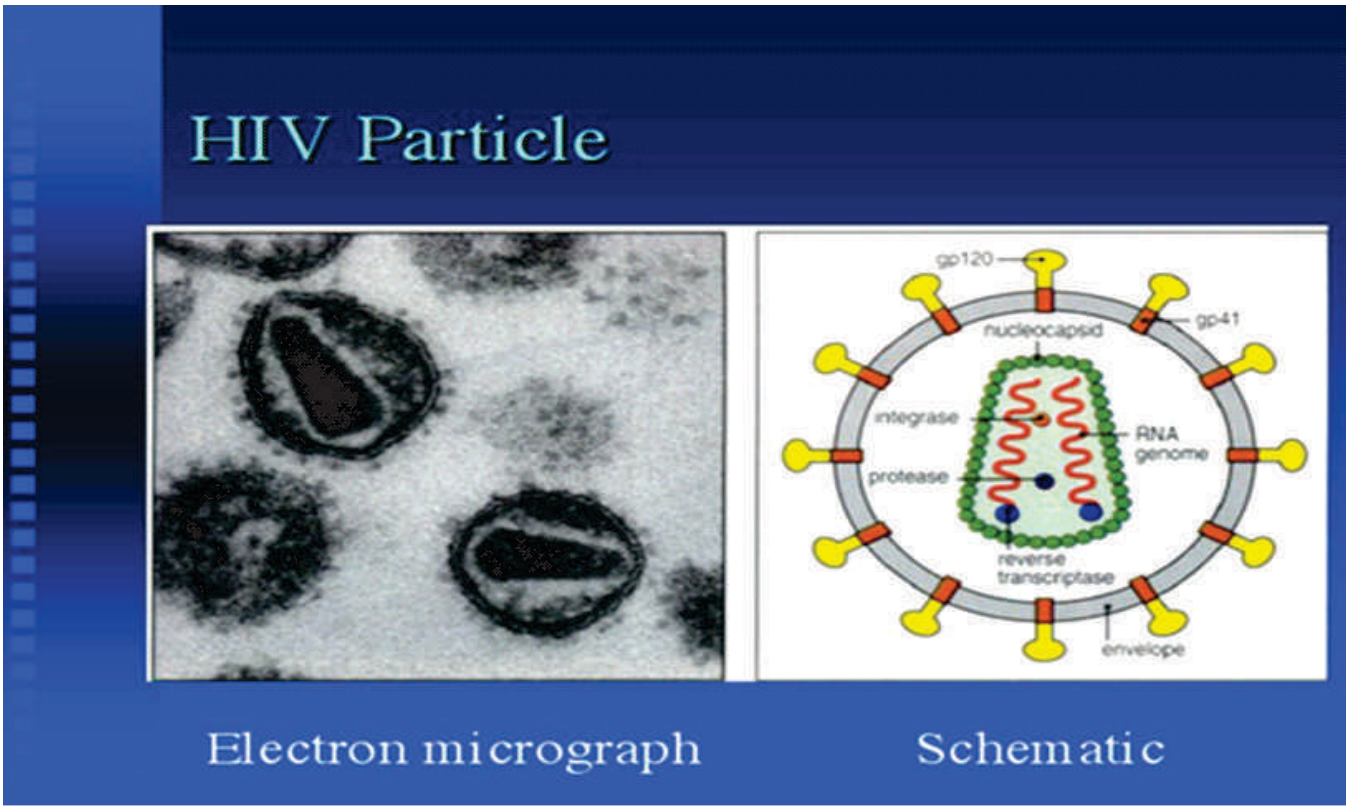

Figure -1 : (A) HIV VIRUS STRUCTURE (B) Electron micdrograph

HIV LIFE CYCLE IN HUMAN BODY

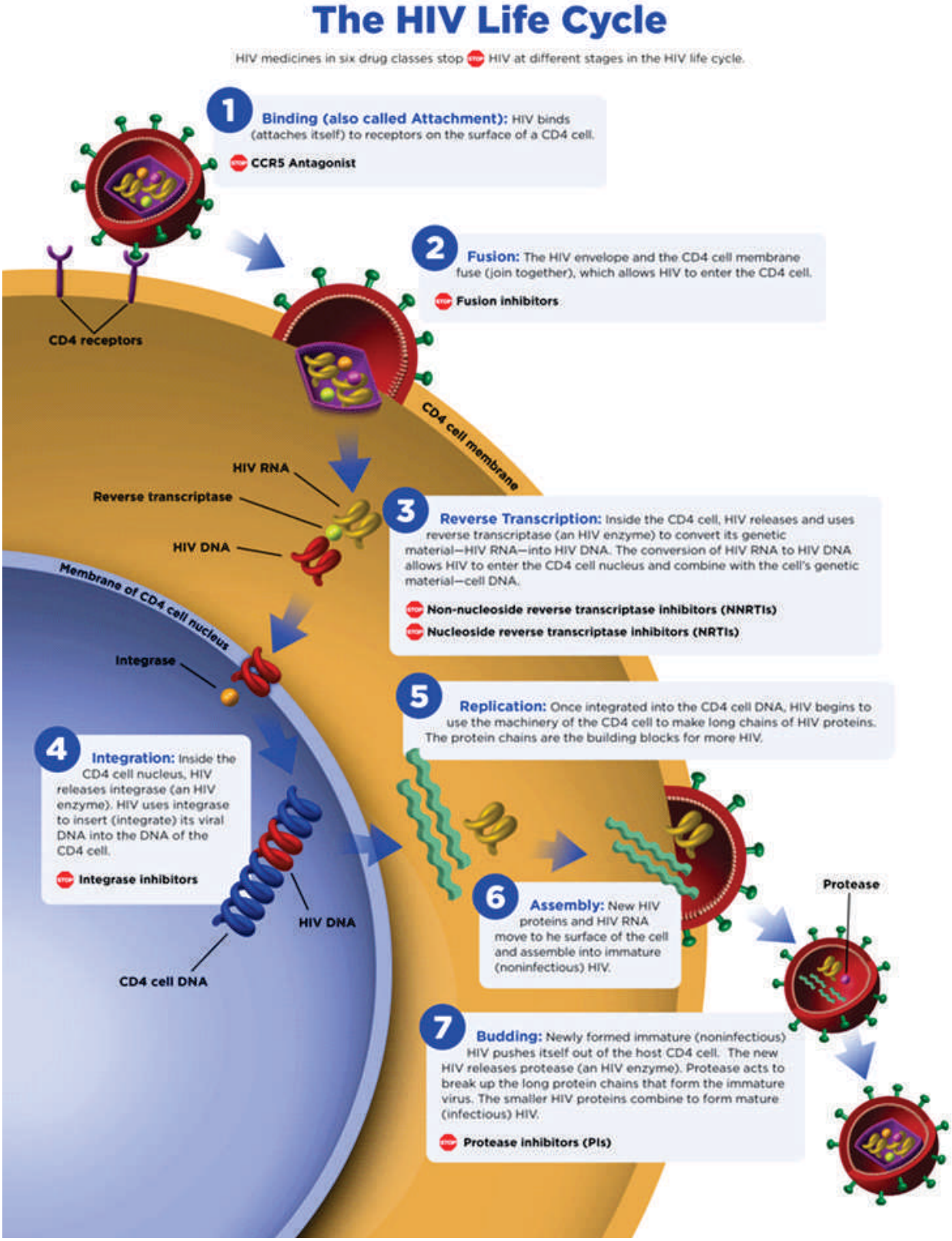

Figure -2 : LIFE CYCLE OF HIV IN HUMAN (Adapted from Wikipedia.com)

MORPHOLOGY AND SIZE

Enveloped, Spherical, Positive sense single stranded RNA enclosed by a conical capsid composed of viral protein P24 typical of lentiviruses. It is around 120 nm in diameter (around 60 times smaller than the red blood cells). The general morphology of the virus begins with the helical capsid. Inside the capsid contains RNA and reverse transcriptase enzymes. The capsid is then enclosed into phospholipid enveloped, which projects glycoprotein spikes consisting of the outer glycoprotein(gp) 120 and the transmembrane gp41.

TRANSMISSION

Figure -3: TRANSMISSION OF HIV

SYMPTOMS

- Fever, sore throat, fatigue, weight loss, and myalgia
- 40% to 80% of patients will also exhibit a morbilliform or maculopapular rash usually involving the trunk
- Diarrhea, nausea, and vomiting
- Lymphadenopathy, night sweats
- Aseptic meningitis (fever, headache, photophobia, and stiff neck) may be present in a quarter of presenting cases

DIAGNOSIS

Diagnosis by finding antibodies to HIV in the plasma using various test.

- ELISA- Enzyme linked immune sorbent assay.
- Western blot- confirm finding if ELISA.
- Quick Advance Rapid HIV ½ Antibody test.

- Sentinel HIV-1 Urine EIA.

TREATMENT

- Currently, there are no specific vaccine or medicine (such as antiviral drug that have been proven to effective against HIV virus. The following basic intervention when anti viral drug use earlier can significantly improve the chances of survival.
- Providing the iv fluid and balancing the electrolyte(body salt)
- Maintaining oxygen status and blood pressure.
- Treating other infections if they occur.
- HAART therapy is used in the treatment of HIV virus disease.

PREVENTION

- Practice careful hygiene e.g. wash your hand with soap and water or an alcohols based sanitizers are used.
- Avoiding contact with blood and body fluid.
- Use of condoms.
- Do not share personal items such as tooth brush and razor.Which may be contaminated with blood semen or vaginal fluid.
- Do not use contaminated syringe.

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1.em.wikipedia.org/wiki/HIV Virus disease

2.www.Webmd.com

Jondhale Yogeshtanhaji
and
Chetananda Patel
M.S. (Pharm.) Med. Chem.
Semester I

PHYTOSOMES

Introduction

The word phytosome has been derived from two term *"Phyto"* means plant while *"Some"* means cell-like. Phytosomes are vesicular structures made of phospholipids containing the active ingredients of herb surrounded. Phospholipid molecules show bipolar structure containing water-soluble heads and fat soluble tails, because of their dual solubility, phospholipid work as an active emulsifier. By combining the emulsifying activity of Phytosome provides greatly enhanced bioavailability and deliver faster and better absorption in the intestinal tract. Attach them to phospholipids gives a suited medium for high absorption of the active constituents of herb.

Phytosomes contrast with liposomes

Liposomes are employed to deliver water-soluble drug. Liposomes are formed by mixing water soluble substance with phosphatidylcholine, no chemical bond is formed, and the phosphatidylcholine molecules collectively surround the water soluble substance. In contrast to liposomes, in phytosomes the phosphatidylcholine and individual plant component actually form a 1:1 or 2:1 complex depending on the substance. Thus in phytosome process the active constituent of herbal extract is an integral part of the membrane, being the molecules anchored through chemical bonds to the polar head of phospholipid.

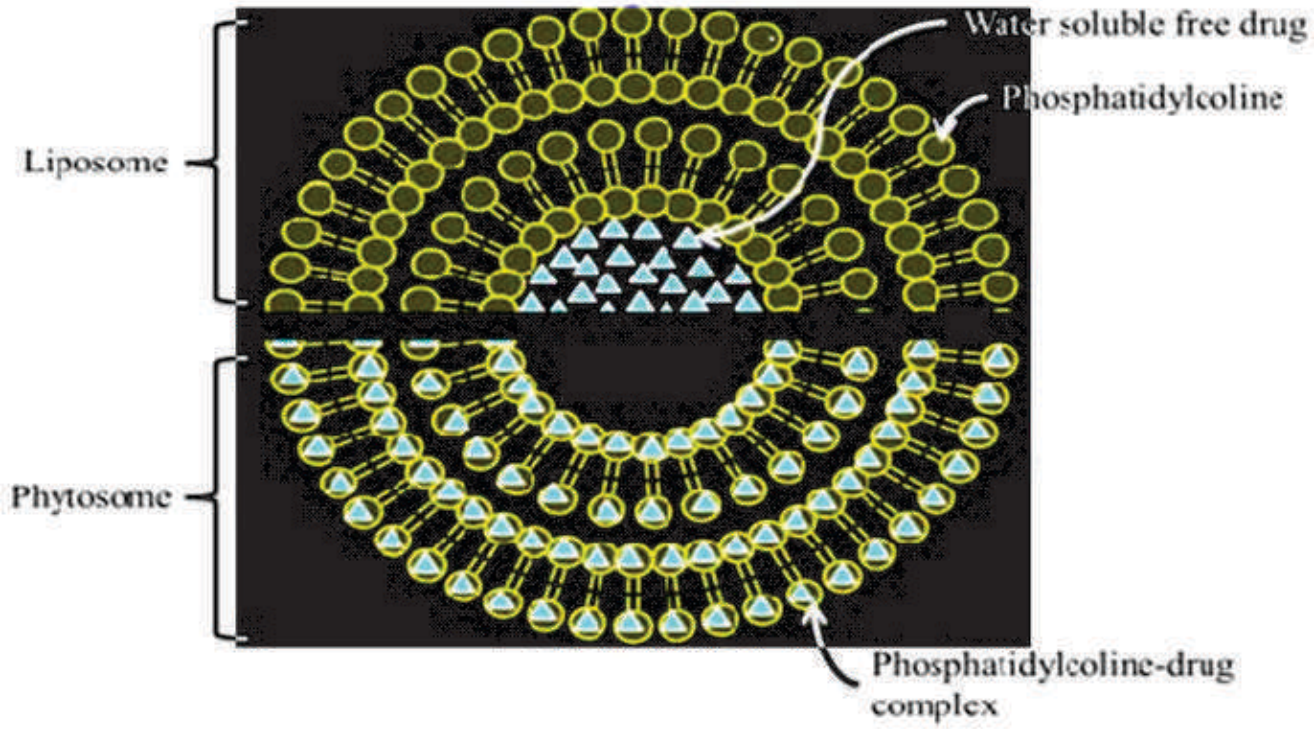

Fig-1 Phytosomes and Liposomes difference

Advantages

- Good entrapment efficiency is and more ever determined because drug itself attached with lipid.
- There is no need of time consuming step for removing the free drug from the formulation.
- No leakage of drug during storage as drug is attached to lipid.
- No problem of drug incorporation.
- The entrapment efficiency of drug molecule in liposome depends upon encapsulated volume and drug bilayer interaction; however it is irrelevant in phytosome.
- Phosphatidylcholine, components of phytosome, has a two function that it acts as a carrier as well as has a health benefit such hepatoprotective effect.

Method of preparation[2]

According to the invention, the novel complexes are prepared by reacting equimole of natural or synthetic phospholipid, which can be phosphatidylcholine, phosphatidylethanolamine, phosphatidylserine, with an equimole of active constituent of herbal extract, can be isolated by precipitation with non solvents such as aliphatic hydrocarbon or by lyophilization or by freeze drying. Complex obtained after precipitation are dried under vacuum and dissolved in organic solvent i.e. chloroform etc. and then introduced into 250 ml round bottom flask with round glass neck. The flask is attached to rotatory evaporator and rotated at 60 rpm. The organic solvent is evaporated under reduced pressure, when the organic solvent is completely evaporated; the casted film is dispersed in aqueous medium, i.e. phosphate buffer saline solution. Upon hydration the lipid swells and peeled off from the wall of the round bottom flask and vesiculate forming vesicles.

Components[3]

- Vesicle forming agents: Phospholipids including Soya phosphatidyl choline, Egg phosphatidyl choline, Dipalmitylphosphatidylcholine, Distearylphosphatidylcholine.
- Aprotic solvent: dioxane, acetone, methylene chloride.
- Non solvent: Aliphatic hydrocarbon (as complex precipitating solvent) like n-hexane.
- Alcohol: Ethanol, Methanol, as a solvent.
- Dye: Rhodamine-123, Rhodamine-DHPE, Fluorescein-DHPE, Nile-Red, 6Carboxyl fluorescence for CSLM study [Confocal scanning light microscopy].
- Buffering agents: Saline phosphate buffer (pH 6.5), 7 % v/v Ethanol buffer (pH 6.5), as a hydrating medium.

Applications of phytosome

- The novel form of herbal products phytosomes are better absorbed than conventional herbal extracts. This was observed in SILIPHOSTM (Silybinphytosome). Silybin is chief component of silymarin, valued for its ability to protect and restore liver.

- Phytosomes serve as a delivery system consisting of microscopic vesicles that improve the potential bioavailability, as can be observed in skin care or nutritional products. The phytosomes of Gingko biloba flavones, glycyrrhetinic acid, and terpenes exhibit enhanced percutaneous bioavailability.
- Green Tea Phytosomes™ contains *Epigallcatehin* from *Thea sinesis* used 50-100mg dose as nutraceuitcals,systemic anioxident,anticancer.
- Grape seeds Phytosomes™ complexed of Procyanidins from *Vitis Venifera*. Used as cardio protective.
- Olive Oil Phytosomes contains polyphenols from *Olea europaea oil* used as antioxident, anti-inflamatory, anti-hyperlipidimic.
- Ginseng Phytosomes™ complexed of 37.5% ginsensosides from *Panax ginseng.*

References

1.https://www.researchgate.net/figure/230727931

2.Jain NK, Controlled and Novel Drug Delivery. CBS publisher New Delhi, 2001.

3. Amin T, Bhat S. A Review on Phytosome Technology as a Novel Approach to Improve the Bioavailability of Nutraceuticals. International Journal of Advancements in Research & Technology 2012; 1:1-15.
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Uday Arun Titame
& Snehal Pardeshi
(M.S.Pharm.) Pharmaceutics
Semester I

PUBLICATIONS

- Expeditious Synthesis of a Tetrasaccharide Repeating Unit of the O-Antigen of Escherichia coli O163 Geeta Karkia Harikesh Kumara Remya Rajana Pintu Kumar Mandal *Synlett* **2016**, 27, A–F
- DABCO Catalyzed Synthesis of 3-Substituted-3-Hydroxyindolin-2-ones in Aqueous Media Keshri Nath Tiwari, Darshana Bora, Garima Chauhan, Deepika Yadav, Kavita Sharma, Ashima, Lachhman Singh, and Vishwadeep Tripathi *Synth. Commun.* **2016**, *46*, 620-625
- Highly Efficient and Regioselective Synthesis of Spirooxindolo pyrrolizidines by Reaction of Isatin, Proline and Acrylonitrile/Methyl Acrylate in Water Keshri Nath Tiwari, Taur Prakash Pandurang, Suyash Pant, and Rahul Kumar *Tetrahedron Lett.* **2016**, *57*, 2286-2289
- Efficient Synthesis of Xanthenedione Derivatives Using Cesium Salt of Phosphotungstic Acid as a Heterogeneous and Reusable Catalyst in Water Ashima Thakur, Alka Sharma and Abha Sharma Synthetic communication, **2016** In press
- Garg A. (2016) Therapeutic applications of nanobiomaterials in Novel approaches for drug delivery Ed. Raj K. Keservani, Anil K. Sharma, and Rajesh Kumar Kesharwani, Hershey, PA, USA **ISBN:** 9781522507512 (hardcover) 9781522507529 (ebook)
- **Ahmad J**, Akhter S, Khan MA, Wahajuddin M, Greig NH, Kamal MA, Midoux P, Pichon C. Engineered nanoparticles against MDR in cancer: The state of the art and its prospective. *Current Pharmaceutical Design*. 2016, 22(28), 4360-73.
- Rizwanullah M, Amin S, **Ahmad J**.Improved pharmacokinetics and anti-hyperlipidemic efficacy of Rosuvastatin loaded nanostructured lipid carriers. *Journal of Drug Targeting*. 2016, Jun 22:1-17. [Epub ahead of print].
- Ahmad MZ, Abdel-Wahab BA, Alam A, Zafar S, **Ahmad J**, Ahmad FJ, Midoux P, Pichon C, Akhter S. Toxicity of Inorganic Nanoparticles Used in Targeted Drug Delivery and Other Biomedical Application: An Updated Account on Concern of Biomedical Nanotoxicology. *Journal of Nanoscience and Nanotechnology*. 2016, 16(8), 7873-97.
- Akhter S, Anwar M, Siddiqui MA, Ahmad I, **Ahmad J**, Ahmad MZ, Bhatnagar A, Ahmad FJ. Improving the topical ocular pharmacokinetics of an immunosuppressant agent with mucoadhesiven-anoemulsions: Formulation development, in-vitro and in-vivo studies. *Colloids and Surfaces B: Biointerfaces*. 2016, 148, 19-29.
- Ahamad J, Amin S, **Ahmad J**, Mir SR. Response Surface Methodology for Optimization of Ultrasound Assisted Extraction of Swertiamarin from EnicostemalittoraleBlume. *Current*

Bioactive Compounds. 2016, 12(2), 87-92.

- **Mishra A**, Goel RK. Chronic 5-HT_3 receptor antagonism ameliorates seizures and associated memory deficit in pentylenetetrazole-kindled mice. **Neuroscience** 2016 **(in Press)**

National / International Conference Attended by NIPER faculty

- **Dr. Awinish Mishra** presented research paper in **Neuroscience-2015** organized from Society of Neuroscience, on the topic *Epilepsy induced depression and memory deficit: Intricacies of Serotonergic System* at Chicago, IL, USA on October 17-21, 2015.
- **Dr. Awnish Mishra** was invited for talk on topic "Epilepsy and Associated Memory Deficit: Behavioral and Neurochemical aspects in Rodent model of Epilepsy". Medical College of Wisconsin, Milwaukee, WI, USA. 22 Oct 2015
- Poster Tittle : Synthesis, Characterization and Biological Evaluation of xanthenedione derivatives as Acetylcholinesterase Inhibitor –**Dr.Abha Sharma, Dr.Awanish Mishra** and **Nityanand Rai** in International Conference on Current Trends in Drug Discovery and Research (CTDDR), at CSIR-CDRI Lucknow 25th-28th Feb 2016.
- Poster Title:Anticonvulsant mechanisms of piperine, A piperine alkaloid**.** **Mishra A**, Punia JK, Bladen C, Zamponi GW, Goel RK in International Conference on Current Trends in Drug Discovery and Research (CTDDR), at CSIR-CDRI Lucknow 25th-28th Feb 2016.
- **Dr. Keerti Jain** presented research paper in the International Conference on Innovations in Pharmaceutical Science on the topic "Antiangiogenic surface engineered dendrimers for Targeted Delivery of Anticancer Drug" held at Sri Aurobindo Institute of Pharmacy, Indore on February 27-28, 2016.
- **Dr. Keerti Jain** Presented Research Paper and awarded with 'Fellowship for Training of Young Scientists (2016-17) at 31st M.P. Young Scientist Congress held at Vigyan Bhawan, Bhopal during February, 28-29, 2016.
- **Dr. Awanish Mishra** Research opportunities in Pharmaceutical Sciences: Global Perspective. SMT. Kishoritai Bhoyar College of Pharmacy, Kamptee, Nagpur, Maharastra, India 14 July 2016
- **Dr. Keerti Jain** given oral presentation in the "24th International Conference on Bioencapsulation" on the topic "Core shell chitosan nanoparticles for oral delivery of low molecular weight heparin" held at Universidae de Lusofona, Lisbon, Portugal on September 21-23, 2016.

Poster Presented By NIPER M.S (Pharm.) Students in 8th NIPER (RBL)-CSIR-CDRI Symposium

Preparation And Characterization Of Lapatinibnanocrystals For Enhanced Efficacy Against Breast Cancer - **Roshan Sikandar**

Respirable Liposome For Pulmonary Tuberculosis: Critical Evaluation And Future Scope -**Rajesh Pradhan**

Liposome As A Non-Invasive Vaccine Delivery System: Recent Advancement And Challenges - **Dheeraj Jha**

Superparamagnetic Iron Oxide Nanoparticles (Spions) In Drug Delivery: Surface - Engineering And Toxicity Concern - **Bishwajeeban Barik**

Pharmaceutical Co-Crystal: Biopharmaceutic Modulation Of Hydrophobic Drug - **Lokesh Tiwari**

Nanoparticulate System For Lymphatic Targeting: An Insight And Recent Development - **Anuj Gautam**

Receptor-Mediatednanomedicine For Cancer Therapy: Recent Update- **Sonali Singh**

Drug Nanocrystals: Current State-Of-Art And Process Variables- **Mehdiya Bano**

Solid Lipid Nanoparticles As A Propitious-nanovectors For Gene Delivery Tactics- **Shahadali K**

Overview Of Nanoemulsion Based Approach To Overcome Multidrug Resistance Mediated Via P-Gp Efflux Pump In Cancer Chemotherapy- **Femi Maria Francis**

Drug Absorption: Methods Of Evaluation, Application And Perspectives- **Harsha Jain**

Nano-Theranostics For Cancer: Bench-To-Bedside Translation- **Rage Vinod Kumar**

Development And Evaluation Of Phospholipid Complex For Enhancement Of Dissolution And Bioavailability Of Biochanin A- **Devendra Tomar**

Solid Lipid Nanoparticles (Slns) To Overcome P-Glycoprotein Mediated Efflux Of Lumefantrine: Evidence From *In Situ* Permeability Study- **Kripal Bhalala**

Pre-Clinical Pharmacokinetic Study Of S013-1632, A Novel Anti-Benign Prostatic Hyperplasia (Bph) Compound Using Lc-Ms/Ms- **Tanpula Dilip Kumar**

Counterfeit Medicines – Hook, Line And Sinker- **Farooq Ali Khan**

Anti-Parkinsonian Effects Of Zonisamide: Insights From Transgenic And Pharmacological *Caenorhabditis Elegans* Models Of Parkinson's Disease- **Abhishek Singh**

Angiotensinii Type 2 Receptor Activation Blunts Angiotensin Ii Mediated M1 Polarisation By Inhibiting Nfκb Signaling- **Anika Sood**

A Novel Cdri Compound Possesses Potent Anti-Angiogenic Effect- **Priti Sharma**

Hiv-Related Pulmonary Hypertension And Its Therapy- **Prasanna Kumar Sahu**

Cancer And Stroke – A Critical Link- **Umesh Kumar Goand**

Pharmacokinetic Studies Of 98-288, A Novel Antileishmanial CDRI Candidate Drug- **Sanjay Chauhan**

Coumarin-Chalcone Hybrid, S011-1992- A

Novel Anticancer CDRI Drug Candidate: Development & Preclinical Assessment- **Minakshi Shukla**

Design & Synthesis Osf Benzodiazepine Based Derivatives As Anti-Obesity Agent- **Akhil B**

Novel N-Alkyl Maleimide Derivatives As Spermicidal Agents: Design And Synthesis- **Ashish Kumar Thakur**

Design And Synthesis Of Novel Phenothiazine-Triazole Conjugates As A Antitubercular Agents- **Babu Singh**

Evaluation Of Clastogenicity Of A Novel Antithrombotic Compound By *In Vitro* Chromosome Aberration Assay Using Human Peripheral Lymphocytes- **Abid Reza Ansari**

Design And Synthesis Of 8 Aminoquinolinebenzamide based Small Design And Synthesis Of 8 Aminoquinolinebenzamide based Small Molecules For The 5-Ht_6 Antagonist As The Treatment Of Cognitive Deficiency In Alzheimer's Disease - **Reyaz Hassan**

Design And Synthesis Of Oxyindole Derivatives As Anticancer Agents- **Vinay Singh**

One Pot Two Step Synthesis Of 2-Phenyl-3a,8-Dihydropyrrolo[2,3-*B*]Indol-3a-Ol Derivatives- **Rinku Choubey**

Design, Synthesis, And Evaluation Of C-Aryl Glycosides As Anti-Diabetic Agent- **Alka Sharma**

Three Component Synthesis Of Spirooxindolo Pyrrolizidines By Reaction Of Isatin, Proline And Acrylonitrile/Methyl Acrylate In Water- **Suyash Pant**

Dabco Catalysed Synthesis Of 3-Substituted-3-Hydroxyindolin-2-Ones In Aqueous Media- **Kavita Sharma**

Synthesis And Characterization Of 3-Hydroxy-2-Styryl-Chromen-4-One- **Mohd. Zisan Ahamad**

Pre-Clinical Investigation Of A Novel Antithrombotic Agent S002-333 Using Lc-Ms/Ms- **Sahithi Yerrabelli**

A Reversed Phase High Performance Liquid Chromatography Method Development And Validation For The Quantification Of Novel Anti-Cancer Chalcone Cardamonin In Rat Plasma And Application To Plasma Protein Binding Study- **Ravi Goyani**

Redox Sensitive Activation Of Mammalian Target Of Rapamycin Signaling Complex-2 (Mtorc2): Role Of Superoxide Anions In Activation Of Mtorc2 In Breast Cancer Cells- **Gautam Kumar**

Preparation, *In-Vitro* And *In-Vivo* Evaluation Of Donepezil Nanocrystals As Long Acting Injection- **Maharshi Thalla**

Insights Into Nose-To-Brain Delivery For Brain Targeting: Current Status And Future Prospect- **Namita Gowtham**

Novel Self Emulsifying Drug Delivery Systems Comprising Amphotericin B For Enhanced Oral Bioavailability- **Prachi Joshi**

Synthesis Of Heterocycle Substituted Phenyl Cyclopropyl Methanone And Methanol As Antitubercular Agents- **Vikas Ojha**

Bromocriptine Mesylate Nasal Thermo-responsiove Mucoadhesive In-Situ Gel- **Dinesh Kumar**

Academic Calendar 2016-17

Activity	Dates
I& III Semester (July to December, 2016)	
Orientation of Students	1st August, 2016
Commencement of Semester	2nd August, 2016
Departmental Introduction Session of Faculty, Staff and Students	2nd August, 2016
I Semester - 1st Sessional Examination	**5th -9th September, 2016**
Submission of Semester Attendance of Students (28th July – 28th Nov 2015)	1st December, 2016
III Semester - Mid- Term Presentation of Thesis Work	**3rd – 7th October, 2016**
I Semester - Mid-Term Examination	**3rd – 7th October, 2016**
Foundation Day	14th November, 2016
I Semester - 2nd Sessional Examination	**7th -11th November, 2016**
Faculty Assessment by Students	24th - 25th November, 2016
Submission of Mid-Term Report on Thesis Work - III Semester	5th-9th December, 2016
I Semester - End-Semester Seminar & Practical Examination	5th-9th December, 2016
I Semester - End-Semester Examination	**12th – 23rd December, 2016**
III Semester - End Semester Presentation of Thesis Work	**19th – 23rd December, 2016**
Provisional Registration for January to June 2017 Semester	5th – 16th December, 2015
17th December, 2016 onwards with late fee	
Submission of Marks by Examiners (I & III Semester)	Up to End of 1st Week Jan, 2017
Declaration of Result (I & III Semester)	Up to 23rd January, 2017
Semester (January to June, 2017)	
Commencement of Semester	2nd January, 2017
Assignment of II Semester Masters Students to Advisors	2nd Week of January, 2017
II Semester - 1st Sessional Examination	**6th - 10th February, 2017**
Submission of Semester Attendance of Students up to 25th February, 2016	27th February, 2017
IV Semester - Mid- Term Presentation	**20th – 24th March, 2017**
II Semester - Mid-Term Examination	**13th – 17th March, 2017**
II Semester - 2nd Sessional Examination	**17th -21st April, 2017**
Constitution of SRCs for II Semester Students	3rd Week of April, 2017
Presentation of Seminar (II Semester Students)	24th – 28th April, 2017
Faculty Assessment by the Students	4th – 5th May, 2017
Provisional Registration July to December 2017 Semester	8th – 19th May, 2017
20th May, 2017 onwards with late fee	
Submission of Semester Attendance of Students (2nd Jan to 11th May, 2015)	12th May, 2017
II Semester - End-Semester Seminar & Practical Examination	**22nd – 26th May, 2017**
II Semester - End-Semester Examination	**29th May – 9th June, 2017**
Submission of Marks by the Examiners (End Semester Exam)	Up to 12th June, 2017
Submission of Unbound Copy of Thesis - (IV Semester)	6th - 10th June, 2017
IV Semester - Defence of Thesis*	**12th – 16th June, 2017**
Last Date for Submission of Bound Copies of the Thesis** - (IV Semester)	21st June, 2017
Declaration of Result (II & IV Semester)/ End of Session	Up to 23rd June, 2017

Budget, Committees & Guest Faculty

Expenditure Statement - Year 2015-16 (1st April 2015 to 31st March 2016)

Sl. No	Head		Sub Head of Accounts	Amount
Grant in aid General -GIA (Recurring Expenditure)				
A	Salary and allowances	1	Salary to Regular Staff	7980721.00
		2	Salary to Outsourced Staff	0.00
		3	Honorarium to Visiting Faculty	364360.00
B	Stipend	4	Stipend to M.S.(Pharm.) Students	11436850.00
		5	Stipend to Ph. D Students	0.00
C	Lab Consumable	6	Lab Consumables/Chemicals	3771375.00
D	Office Expenses	7	Rentals (Campus/Hostel)	8506040.00
		8	Electricity/Water/Telephone/Generator fuel	1511179.00
		9	Examination/Convocation/Seminars	908372.00
		10	Vehicle rental	740995.00
		11	TA/DA	303518.00
		12	Housekeeping/Maintenance/Repair	5027322.00
		13	Printing and Publicity/Stationery	1072003.00
		14	Contingency/Miscellaneous	2936005.50
			Total	**44558740.50**
			Overhead (Fy 2014-15 and 2015-16)	7500000.00
			Total including overhead	**52058740.50**

Balance carry forward Out of Govt. Grant	**3058726.00**
Add: Govt. Grant Received During The Period (upto March 16)	**55000000.00**
Total Govt. Grant Received	**58058726.00**
Less Expenditure Incurred Out of Govt. Grant	**52058740.50**
Closing Balance as on 31.03.2016 Out of Govt. Grant	**5999985.50**

Expenditure Statement - Year 2015 - 16 (1st April 2015 to 31st March 2016)

Grant for Creation of Capital Assets-CCA (Non-Recurring Expenditure)		
Sl. No	**Head**	**Amount**
E	Books and Journals	2775516
F	Official Equipments (Xerox/AC/Computers)	2127363
G	Lab Equipments	2011778
H	Purchase of Furniture	96115
I	Others	0
	Total	**7010772**

Balance carry forward from Previous Year (2014-15)	**8115857.00**
Receipt during current financial year (2015-16)	**0.00**
Total Receipt	**8115857.00**
Total Expenditure	**7010772.00**
Closing Balance as on 31.03.2016 out of Govt. Grant	**1105085.00**

MANAGEMENT COMMITTEE

1.	Dr. Madhu Dikshit Mentor & Director, CSIR-CDRI, Lucknow	Chairperson
2.	Dr. P.K. Shukla Ex Project Director, NIPER, Raebareli	Member
3.	Dr. R.P. Tripathi Dean, NIPER, Raebareli	Member
4.	Dr. Anila Dwivedi Registrar, NIPER, Raebareli	Member
5.	Dr. Atul Kumar Course Coordinator, NIPER, Raebareli	Member
6.	Dr. P.R. Misra Course Coordinator, NIPER, Raebareli	Member
7.	Dr. Wahajuddin Course Coordinator, NIPER, Raebareli	Member
8.	Dr. Kashif Hanif Course Coordinator, NIPER, Raebareli	Member
9.	Controller of Administration CSIR-CDRI, Lucknow	Member
10.	Controller of Finance & Accounts CSIR-CDRI, Lucknow	Member
11.	Stores & Purchase Officer CSIR-CDRI, Lucknow	Member

Academic Committees:-
Departmental Academic Advisory Committee

STUDENT RESEARCH COMMITTEE (SRC)*(PHARMACEUTICS)*

1.	Dr. P.R. Mishra	Course Coordinator
2.	The Advisor of the respective student	Chairperson
3.	Dr. R.S. Bhatta	Expert Member
4.	Dr. Aamir Nazir	Dean's Nominee

STUDENT RESEARCH COMMITTEE (SRC)*(MEDICINAL CHEMISTRY)*

1.	Dr. Atul Kumar	Course Coordinator
2.	The Advisor of the respective student	Chairperson
3.	Dr. R.P. Tripathi	Dean
4.	Dr. K.V. Sashidhara	Expert Member

STUDENT RESEARCH COMMITTEE (SRC)*(PHARMACOLOGY & TOXICOLOGY)*

1.	Dr. Kashif Hanif	Course Coordinator
2.	The Advisor of the respective student	Chairperson
3.	Dr. Anil N. Gaikwad	Expert Member
4.	Dr. Sharad Sharma	Dean's Nominee

ACADEMIC ADVISORY COMMITTEE (*PHARMACOLOGY & TOXICOLOGY*)

1.	Dr. Rakesh Shukla	Chairperson
2.	Dr. Kashif Hanif	Dean's nominee
3.	Dr. S. K. Rath	Expert Member (Academic)
4.	Dr. R.K. Khar	Member (Industry)

ACADEMIC ADVISORY COMMITTEE (*PHARMACEUTICS*)

1.	Dr. C. Nath	Chairman
2.	Dr. P.R. Mishra	Dean's nominee
3.	Dr. Jawahar Lal	Expert Member (Academic)
4.	Dr. S. P. D. Dwivedi	Member (Industry)

ACADEMIC ADVISORY COMMITTEE (*MEDICINAL CHEMISTRY*)

1.	Dr. R.P. Tripathi	Chairman
2.	Dr. Atul Kumar	Dean's Nominee
3.	Dr. Ashish Arora	Member (Academic)
4.	Dr. Anand Tiwari (Ranbaxy)	Member (Industry)

SEXUAL HARASSEMENT COMMITTEE

Chairperson	Dr. Anila Dwivedi (CSIR-CDRI, Lucknow)
Members	Dr. Renu Tripathi (CSIR-CDRI, Lucknow)
	Dr. Abha Sharma (NIPER, Raebareli)
	Dr. Sanjay Batra (CSIR-CDRI, Lucknow)
	AO (CSIR-CDRI, Lucknow)
External Member	Dr. Sudha Jain (Lucknow University)

BOARD OF STUDIES AND RESEARCH (BSR) COMMITTEE

1.	Dr. R.P. Tripathi	Dean	Chairman
2.	Dr. Atul Kumar	Course Coordinator *(Medicinal Chemistry)*	Departmental Member
3.	Dr. P. R. Mishra	Course Coordinator *(Pharmaceutics)*	Departmental Member
4.	Dr. Kashif Hanif	Course Coordinator *(Pharmacology & Toxicology)*	Departmental Member
5.	Dr. Sudha Jain	Lucknow University	Expert Member
6.	Dr. Raghvendra Pal	Ex-Scientist, CSIR-CDRI	Expert Member
7.	Dr. S.K. Rath	CSIR-CDRI, Lucknow	Expert Member

GRIEVANCES COMMITTEE

A committee to address grievances of NIPER fraternity (Students & Staff) is been constituted as under:-

1.	Dr. Kanchan Hajela	Chairperson
2.	Dr. S. Batra	Member
3.	Dr. P.R. Mishra	Convener

State Level Co-ordination Committee

1.	Principal Secretary Department of Industries Govt. of Uttar Pradesh	Chairperson
2.	Secretary (Technical Education) Govt. of Uttar Pradesh	Member
3.	Dr. (Mrs.) Madhu Dikshit Director CSIR - CDRI, Lucknow	Member
4.	Director & Incharge of NIPERs Department of Pharmaceuticals Ministry of Chemicals & Fertilizers, Govt. of India	Member
5.	Two Representatives from Industries (To be nominated)	Member
6.	Prof. P. P. Singh Nodal Officer NIPER, SAS Nagar, Mohali	Member
7.	Director / Project Director NIPER, Raebareli	Member Secretary

STEERING COMMITTEE

1.	Secretary Department of Pharmaceuticals Ministry of Chemicals & Fertilizers, Govt. of India	Chairperson
2.	Additional Secretary & Financial Adviser Department of Pharmaceuticals Ministry of Chemicals & Fertilizers, Govt. of India	Member
3.	Joint Secretary Incharge of NIPERs, Department of Pharmaceuticals Ministry of Chemicals & Fertilizers, Govt. of India	Member
4.	Director NIPER, SAS Nagar, Mohali	Member
5.	Principal Secretary/ Secretary (Industries) Govt. of Uttar Pradesh	Member
6.	Director (Mentor Institute)/ Project Director of NIPER (Ahmedabad. Hajipur, Hyderabad, Kolkata, Guwahati & Raebareli)	Member
7.	Director/ Deputy Secretary Incharge of NIPERs Department of Pharmaceuticals Ministry of Chemicals & Fertilizers, Govt. of India	Convenor

Guest Faculty of NIPER, Raebareli

Central Drug Research Institute, Lucknow

Division of Medicinal & Process Chemistry

Dr. Arun Kumar Sinha
Dr. Atul Goel
Dr. Atul Kumar
Dr. Dipankar Koley
Dr. Gautam Panda
Dr. K.V. Sashidhara
Dr. Kanchan Hajela
Dr. Kishor Mohanan
Dr. M. Sridhar Reddy
Dr. P.M.S. Chauhan
Dr. P.P. Yadav
Dr. Pintu Kumar Mandal
Dr. R.P. Tripathi
Dr. Ranveer Singh
Dr. Sanjay Batra
Dr. T. Narendra
Dr. V.L. Sharma
Dr. W. Haq
Dr. Y.S. Prabhakar

Division of Molecular & Structural Biology

Dr. Ashish Arora

Division of Sophisticated Analytical Instrument Facility

Dr. Brijesh Kumar
Dr. Sanjeev Kumar Shukla

Division of Parasitology

Dr. Anuradha Dube (*Retired*)
Dr. S.K. Puri (*Retired*)
Dr. Shailja Bhattacharya *(Retired)*

Division of Pharmacokinetics & Metabolism

Dr. J.R. Gayen
Dr. Jawahar Lal
Dr. R.S. Bhatta
Dr. Wahajuddin

Division of Pharmaceutics

Dr. Amit Misra
Dr. Manish Kumar Chourasia
Dr. P.R. Mishra

Division of Pharmacology

Dr. Kashif Hanif
Dr. Kumaravelu Jagavelu
Dr. Shubha Shukla

Division of Biochemistry

Dr. Neena Goyal

Division of Toxicology

Dr. Aamir Nazir
Dr. R.K. Tripathi
Dr. S.K. Rath
Dr. Smrati Bhadauria
Dr. Neeraj Sinha (*Retired*)
Dr. C. Nath *(Retired)*

Division of Endocrinology

Dr. Rituraj Konwar
Dr. Ritu Trivedi

Division of Microbiology

Dr. B.N. Singh
Dr. Kishore K Srivastava
Dr. Mukesh Pasupuleti

Division of Laboratory Animals
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2. Dr.Abha Sharma Co–warden Dr. Keerti Jain (Raebareli)
3. Dr. K.N. Tiwari Co-warden Dr. Sanjiv Singh (Raebareli)

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2. Sri. A.K. Dwivedi, Controller of Finance & Accounts & his team
3. Sri. M.P. Singh, Store & Purchase Officer & his team
4. Sri. Ravi Shanker Choudhary, Store & Purchase Officer & his team
5. Sri. Krishna Raj Singh, Administrative Officer & his team
6. Sri. I.B. Dixit, Finance & Accounts Officer and his team
7. Sri. Ravi Bhaskar, Finance & Accounts Officer & his team
8. Sri. A.K. Srivastava, Chief Scientist & HOD, Computer Division & his team
9. Sri. S.K. Mallik, Cheif Scientist & HOD, Knowledge Resource Centre & his team
10. Sri. Parvej Mehmood, HOD, Division of Engg. Section & his team
11. Sri. Kamal Jain, Engineer (Elect.) & his team
12. Sri. Krishna Raj Singh and Sri V.P Singh SO (Estt.-I) & their team
13. Sri. Anil Kumar, SO (Vig.) & his team
14. Sri. Ishwar Nath Jha, S.O.(Gen.) & his team
15. Mrs. Neetu, S.O. (Estt.-II and Bill)& her team
16. Sri Sumit Srivastava, S.O. (Estt.-II) & his team
17. Sri. Kailash Singh,S.O.(Finance & Accounts) & his team
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19. Sri Mahesh Babu,S.O.(Finance & Accounts)& his team
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21. Sri. Anil Upadhaya, Security Officer & his team
22. Sri. M.K. Shukla, AE (Engg. Section) & his team
23. Sri. Ajay Kumar, AE (Elec.) & his team

Group Photograph of NIPER, Raebareli M.S. (Pharm.) III Semester Students Batch (2015-2017)

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National Institute of Pharmaceutical Education and Research, Raebareli
www.niperraebareli.edu.in

Mentor Institute
CSIR - Central Drug Research Institute
Sector 10, Jankipuram Extension, Sitapur Road,
Post Box No. - 173, Lucknow-226 031 (India)