December 2020 Newsletter

An Institute of National Importance, Govt. of India

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Volume. 1 | Issue. 6 | December Newsletter, NIPER-A
NIPER Ahmedabad celebrated 5th Foundation Day on 16th of December 2020. Chief Guest Dr. Sudhir Jain (Padma Shri), Director, IIT Gandhinagar with Guests of Eminence Dr. Sudhir Shah (Padma Shri), renowned Neurologist and Dr. Anuragh Sood, Research Director, Zoetis, Mumbai, graced the occasion. Prof. Kiran Kalia, Director NIPER-Ahmedabad addressed the students, faculties and staff and shared the journey of NIPER-Ahmedabad since its inception. Dr. Sudhir Jain highlighted the importance of collaboration in progression of science and technology, Dr. Sudhir Shah emphasized on the benefits of close association of medicos and academic fraternity, Dr. Anurag Sood discussed the recent updates and trends in the pharmaceutical industries. All the guests congratulated NIPER-Ahmedabad on the day. Cultural program was organized at NIPER-Ahmedabad during the closing ceremony of 5th Foundation day.
Prof. Kiran Kalia, Director NIPER-A attended the first Selection Committee meeting for the Visitors Awards 2020 through Video Conferencing on 10th December, 2020.

On 17th December 2020, Kritika Nayak, Ph.D. student of NIPER A, successfully defended her thesis work on "Ocular Drug delivery system for Posterior Segment of Eye" through video conference. She conducted her doctoral work under the supervision of Dr. Ravi Shah.
Dignesh Khunt Ph.D. student of NIPER A, successfully defended her thesis work on "Intranasal drug delivery using colloidal carrier for brain targeting: role of omega fatty acids" through video conference. He conducted her doctoral work under the supervision of Prof. Kiran Kalia and Dr. Derajram Benival.

On 18th December 2020, Dignesh Khunt, Ph.D. student of NIPER A, successfully defended her thesis work on "Intranasal drug delivery using colloidal carrier for brain targeting: role of omega fatty acids" through video conference. He conducted her doctoral work under the supervision of Prof. Kiran Kalia and Dr. Derajram Benival.

Christmas Celebration at NIPER-Ahmedabad

On 24th December 2020, Faculty, Students and Staff of NIPER Ahmedabad celebrated Christmas in the campus.
Abstract: Venetoclax is a selective orally active Bcl-2 protein inhibitor very recently approved by USFDA to treat chronic lymphocytic leukemia and other hematological malignancies. Postmarketing surveillance of any drug depends on its acceptability based on risk to benefit ratio. When risk outweighs the benefits, withdrawal of an already marketed drug is warranted. Presence of impurity is the primary cause of increased risk in a drug substance or drug product. With the discovery of newer molecules, it is of great importance to establish advanced analytical techniques for quantification of the drugs as well as their related impurities to address the prospective regulatory queries even if it is already in the market. In this study, a quantitative analytical assay method has been developed and validated for quantification of venetoclax in presence of its degradation impurities. A stress study was performed to examine the stability of the drug in hydrolytic, oxidative, thermolytic and photolytic environments. Venetoclax was found to be prone to degradation in acidic hydrolytic and oxidative stress conditions.

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Rakesh Kumar Tekade, Ph. D
Associate Professor


Abstract: Nanomedicines refers to nanotechnology inspired pharmaceutical products often referred to as ‘nanopharmaceuticals.’ It has displayed commendable potential in enhancing therapeutic efficacy as well as in reducing the side effects associated with conventional drug counterpart. Recent years have monitored the entry of a large amount of nanomedicine in the market with an appreciable market share to date. Despite this, the development of nanomedicine is posing challenges (i.e., safety, regulatory hurdles, cost, scale-up issues, etc.) that need to be resolved for their market entry. This review presents a cross-sectional discussion on the nanomedicine-derived products available in the market for both clinical and diagnostic applications. An overview of its market potential, market size, and the products that are currently in the clinical stages is also provided. The review also expounds on the challenges faced by nano-drug products at the time of their commercialization.


Abstract: Nowadays, magnetic hyperthermia is being extensively used in the treatment of cancer therapy due to its ability to kill cancer cells through the thermal effect. This study reports the synthesis of multifunctional Doxorubicin (DOX) loaded Gadolinum/Cobalt@Iron oxide-Dendrimer-Glucosamine-Nanoseed (Gd/Co@IO-D-G-NS) for the treatment of prostate cancer. Furthermore, glucosamine ligand was attached to enhance the effectiveness of nanoseeds via targeting glucose transporters. The release profile of DOX from Gd/Co@IO-D-G-NS nanoseeds was observed to be pH-dependent. The developed nanosseds showed acceptable hemocompatibility, and were able to produce combined hyperthermia and chemotherapeutic effect in vitro in PC3 cells. Moreover, cellular uptake studies revealed that nanoseeds were effectively uptaken by cancer cells through receptor-mediated endocytosis. It is expected that the outcome of this study will assist in progressing the know-how towards the development of nanoseeds for chemo-photothermal therapy of resectable cancers, including prostate and breast, to naming a few.
Abstract: Cerebral ischemia contributes to significant disabilities worldwide, impairing cognitive function and motor coordination in affected individuals. Stroke has severe neuropsychological outcomes, the major one being a stroke. Stroke survivors begin to show symptoms of depression within a few months of the incidence that overtime progresses to become a long-term ailment. As the pathophysiology for the progression of the disease is multifactorial and complex, it limits the understanding of the disease mechanism completely. Meta-analyses and randomized clinical trials have shown that intervening early with tricyclic antidepressants and selective serotonin receptor inhibitors can be effective. However, these pharmacotherapies possess several limitations that have given rise to newer approaches such as brain stimulation, psychotherapy and rehabilitation therapy, which in today's time are gaining attention for their beneficial results in post-stroke depression (PSD).
Congratulations to our MS Students for getting placement in Zenith Pharmaceuticals Ltd.

National Institute of Pharmaceutical Education and Research (NIPER) Ahmedabad

CONGRATULATIONS

Ms. Fehmina Malim
M.S Student
(Pharmacology & Toxicology)

To our student for getting placement in

Xogene Solutions Pvt. Ltd.

Thank You!