

**5th International Conference and Exhibition on
Pharmaceutical Development and Technology**

July 07th, 2023 | Webinar





Scientific Program

Pharmatech 2023

Opening Ceremony

Keynote Forum

Session Introduction

Challenges In Pharmaceutical Formulations | Innovations In Pharmaceutical Technology | Pharmaceutical Research and Development | Pharmaceutical Industry | Pharmaceutical Science | Drug Discovery and Development | Drug Targeting and Design | Smart Drug Delivery Systems | Pharmaceutical Analysis | Pharmaceutical Chemistry

Title: Development and validation of determination of genotoxic impurity bromoethane in vigabatrin drug substance using head space gas chromatographic method [HS-GC]
Mr. Narapereddy Krishna Prasad, Acharya Nagarjuna University, India.

Panel Discussions

Scientific Sessions: Challenges In Pharmaceutical Formulations | Innovations In Pharmaceutical Technology | Pharmaceutical Research and Development | Pharmaceutical Industry | Pharmaceutical Science | Drug Discovery and Development | Drug Targeting and Design | Smart Drug Delivery Systems | Pharmaceutical Analysis | Pharmaceutical Chemistry

Session Introduction

Title: Intranasal covid vaccine
Mr. Brahmbhatt Harshkumar Rajeshbhai, Charusat University, India.

Title: Development and validation of rapid colorimetric reverse transcription loop-mediated isothermal amplification for detection of rift valley fever virus
Mr. Francis Chaka Wekesa, Kenyatta University, Kenya.

Title: Improving human health: Challenges and methodology for controlling thermal doses during cancer therapeutic treatment
Dr. Ahmed Lakhssassi, Université du Québec en Outaouais, Canada

Panel Discussions

Award & Closing Ceremony



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KEYNOTE
FORUM

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Intranasal covid vaccine

The latest threat to global health is the ongoing outbreak of the respiratory disease that was recently given the name Coronavirus Disease 2019 (COVID- 19). It was rapidly shown to be caused by a novel coronavirus that is structurally related to the virus that causes severe acute respiratory syndrome (SARS). An intranasal vaccine stimulates a broad immune response – neutralizing IgG, mucosal IgA, and T cell responses. Immune responses at the site of infection (in the nasal mucosa) – essential for blocking both infection and transmission of COVID-19. Invading the mucosal surface by inducing local microbial-specific immune responses, nasal delivery of vaccines functions as a “first entry block,” i.e., block the pathogen entry, increasing the overall efficacy of the vaccine. Intranasal administration is a non-invasive route for drug delivery, which is widely used for the local treatment. The development of additional vaccine administration methods, including intranasal, oral, topical, pulmonary, vaginal, and rectal, is currently gaining traction in the vaccine market. The **nasal route** presents the most promising opportunity for vaccine administration. **Convenience** and safety can be improved, and it can also trigger both local and systemic immune responses, which could possibly offer protection from pathogens at the point of entry. The development of nasal vaccines presents both possibilities and difficulties.

Keywords- Nasal Vaccines, Sars-CoV-2, iNCOVACC, Nasal Anatomy

Biography:

Mr. Harshkumar Brahmbhatt has completed his Master of Pharmacy from Charusat University, Changa, Gujarat, India. He has 2 years of experience as Scientist II at Torrent Pharmaceuticals Ltd, Gandhinagar, India and 4 years of experience in Academics and researcher as Assistant Professor at Department of Pharmacy, Sumandeep Vidyapeeth deemed to be University, Vadodara, India. He has received grant from GJUCOST-Gujarat council on Science and Technology (a state government body) for the research work. He is director of Aryan crop Protection Pvt Ltd, Nadiad, Gujarat, India-A agriculture Products manufacturing company.

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Improving human health: Challenges and methodology for controlling thermal doses during cancer therapeutic treatment

Controlled thermal ablation in order to maximize the therapy and minimize the side effects poses a challenge during the heating of the biological tissue. Traditionally, these processes are modelled by the bio heat equation introduced by Pennes, who used the Fourier's theory of heat conduction. During my talk I will present our automated thermal dose control and prediction system for cancer tumors therapy by using Implantable Bio-chip solution. The proposed system is able to control thermal ablation doses deposition during a laser surgery/cancer treatment. A system would help physicians to predict thermal diffusion to organize the treatment as well as maximize therapeutic effects while minimizing side effects. An innovative approach is proposed to improve the quality of thermal treatments in oncology. A biochip platform will be investigated, designed, and prototyped on an FPGA board. The destruction of tumors using a heating source has been widely used as an efficient approach for cancer treatment, where the oncologists use a heating source to destroy the targeted tumoral tissue. A case study of the Laser Interstitial Thermal Therapy (LITT) will demonstrate his feasibility as Cancer therapeutic treatment.

Keywords: Real-time monitoring, Thermal ablation, BIOCHIP, Cancer tumor, FPGA, FDM, Laser Interstitial Thermal Therapy, Thermal damage, Brain cancer, Bio heat transfer simulation, Thermal sensor, Minimally invasive surgery, Robotic surgical assistants, Robotic arm.

Biography

Dr. Ahmed Lakhssassi received the B.Eng. and M.Sc. A in electrical engineering from Université du Québec à Trois-Rivières (UQTR), Québec, Canada in 1988 and 1990 respectively. He also received the Ph.D. in Energy and Material sciences in 1995 from INRS-Énergie et Matériaux (Institut National de la Recherche Scientifique), Québec, Canada. At the same year also, he had become a professor of Electro-thermo-mechanical aspects at NSERC -Hydro-Quebec Industrial Research Chair at Electrical Engineering Department of the UQTR, where, for several years, he conducted Electro-thermal research projects. Since 1998, he has been with UQO (Université du Québec en Outaouais), where he is currently titular professor and responsible of the LIMA laboratory (Advanced Microsystem Engineering Laboratory) developing IP core and embedded algorithms for microsystems thermo-mechanical sensors dedicated for thermal peak detection. His research interest is the fields of bio-heat thermal modeling such as: heat diffusion in biological tissues, metabolic heat generation and external interactions, heat transfer mechanism in biological tissues for thermal therapeutic practices including dedicated bio-implantable puce design for cancer thermal dose control. Furthermore, his research interest are in machine learning to recognize the type of pain and to quantify the amount of pain to tracks any potential injury using neural networks and thermal image processing. Also, his research interest is in Design of Fully Automated tool for Porting Analog and Mixed signal circuits within Different Technology nodes. Dr. Lakhssassi is senior member of IEEE. He is the author/co-author of more than 240 scientific publications and research report, and thesis advisor of 90 graduate and undergraduate students who completed their studies.



Dr. Ahmed Lakhssassi
Université du Québec en Outaouais,
Canada.

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Development and validation of rapid colorimetric reverse transcription loop-mediated isothermal amplification for detection of rift valley fever virus

Rift Valley fever virus (RVFV) is a high-priority zoonotic pathogen with the ability to cause massive loss during its outbreak within a very short period of time. Lack of a highly sensitive, instant reading diagnostic method for RVFV, which is more suitable for on-site testing, is a big gap that needs to be addressed. The aim of this study was to develop a novel one-step reverse transcription loop-mediated isothermal amplification (RT-LAMP) method for the rapid detection of RVFV. To achieve this, the selected RVFV M segment nucleotide sequences were aligned using Multiple Sequence Comparison by Log-Expectation (MUSCLE) software in MEGA11 version 11.0.11 program to identify conserved regions. A 211 pb sequence was identified and six different primers to amplify it were designed using NEB LAMP Primer design tool version 1.1.0. The specificity of the designed primers was tested using primer BLAST, and a primer set, specific to RVFV and able to form a loop, was selected. In this study, we developed a single-tube test based on calorimetric RT-LAMP that enabled the visual detection of RVFV within 30 minutes at 65°C. Diagnostic sensitivity and specificity of the newly developed kit were compared with RVFV qRT-PCR, using total RNA samples extracted from 118 blood samples. The colorimetric RT-LAMP assay had a sensitivity of 98.36% and a specificity of 96.49%. The developed RT-LAMP was found to be tenfold more sensitive compared to the RVFV qRT-PCR assay commonly used in the confirmatory diagnosis of RVFV.

Dr. Francis Chaka Wekesa

Kenyatta University, Kenya.

Biography

Dr. Francis Chaka Wekesa completed his PHD in biotechnology and currently working in Kenya Agricultural and Livestock Research Organization | KALRO • Department of Biotechnology

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Development and validation of determination of genotoxic impurity bromoethane in vigabatrin drug substance using head space gas chromatographic method [HS-GC]

A specific HS-GC method has been developed, optimized and validated for the determination of

genotoxic impurity Bromoethane in Vigabatrin (VGB) drug substance. Chromatographic separation of genotoxic Bromoethane impurity was achieved on DB-1 column (30m × 0.53 mm, 5.0 μm), consists of 100% dimethyl polysiloxane as stationary phase and passing nitrogen carrier gas. The performance of the method was assessed by evaluating the specificity, linearity, sensitivity, precision, and accuracy experiments. The established limit of detection and limit of quantification values for the genotoxic impurity was in the range of 3.57–10.80 μg/ mL. The correlation coefficient value of the linearity experiment was 0.9880. The average recoveries for the accuracy were in the range of 95.3–106.8%. The results proved that the method is suitable for the determination of Bromoethane content in Vigabatrin.

Biography

Narapereddy Krishna Prasad has completed his master's degree in Pharmacognosy from Manipal college of pharmaceutical science, Manipal University. He is currently working as Senior Formulation Scientist in Research and Development, Reckitt Benckiser LLC. He has more than 10 years of industrial research and development experience at both Formulation and Analytical chemistry.

**Mr. Narapereddy Krishna
Prasad**

Acharya Nagarjuna University, India.

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