



**THREE DAYS HANDS-ON TRAINING ON
DETECTION AND QUANTIFICATION OF ANTIMICROBIAL RESIDUE IN
MEAT BY LIQUID CHROMATOGRAPHY TANDEM MASS
SPECTROMETRY (LC-MS/MS)**

ORGANIZED UNDER
ICAR-NAHEP-CAAST-MAFSU

Date: 10th to 12th May, 2023



Program Venue

ICAR – National Agricultural Higher Education Project (NAHEP)
Centre for Advanced Agricultural Science and Technology (CAAST)
Centre of Excellence for Advanced Research on Animal Food Safety
Maharashtra Animal and Fisheries Sciences University, Nagpur – 440 001, Maharashtra, India
Department of Veterinary Public Health, Mumbai Veterinary College, Parel, Mumbai – 400 012

RATIONALE

Meat is a rich source of many nutrients and plays a vital role in human life. However, meat safety is one of the top priorities of great concern for consumers today. The occurrence of antimicrobial residues in meat could be due to not observing the withdrawal period, off- label use of antibiotics, antimicrobial accessibility to layman, excessive use of antibiotics, the absence or lack of enforcement of restrictive antimicrobial legislation. Antibiotic residue in meat that exceeds the maximum residual level (MRL) can cause major health risks for humans by developing antibiotic-resistant strains and failure of antibiotic therapy in clinical situations. In current scenario antimicrobial resistance, is a severe global public health concern to combat this, besides HPTLC and HPLC, Liquid chromatography-tandem mass spectrometry (LC-MS/MS) is the best choice for detection and quantification of antibiotic residues in foods of animal origin viz. meat. Its high sensitivity and selectivity have enhanced its value for being used in food and poultry industries.

The motive behind carrying out training in this field is to provide a thorough knowledge of the residue analysis and precautions to be taken during sample preparation for antimicrobial residues in meat. A complete information is to be given on demonstration for residue analysis of antimicrobials in meat by LC-MS/MS. Therefore, three days hands on training have been planned to introduce the industry professionals, academia, laboratory personnels, students etc. about the basics of the LC-MS/MS instrumentation, along with its theory and practical knowledge, status and detection of antimicrobial residue in animal origin food and method development and validation for the determination of antimicrobial residue along with its result interpretation.

COURSE OBJECTIVE

1. To educate participants about basic concepts of Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS).
2. To familiarize participants with QuECHERS method for extraction of antimicrobial residues in meat.
3. To train participants on method development and validation for the determination of antimicrobial residues.

WHO CAN APPLY?

Academicians, Analyst from Government/private chemical residue analysis laboratory, Scientists, PG/Ph.D. students of veterinary and other allied institutions.

REGISTRATION FEE

For Student Rs.2000 Per Participant

For Faculty and Others Rs. 5000 Per Participant

Bank Details:

Name: Pay & Account Officer MAFSU,

Bank Name: State Bank of India

Branch Name: Parel

Account No: 39220817897

IFSC Code: SBIN0001884

The desired participants have to register (<https://forms.gle/gq4Hvvb1gNWTJjtw5>) on or before 9th May, 2023 up to 5:30 PM.

Accommodation:

Accommodation will not be provided by the organizer. The participants have to make their own arrangement for the stay.



Dr. S. R. Gadak
Vice-Chancellor
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CHIEF PATRONS



Dr. R. C. Agarwal
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PATRONS



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Dr. S.U. Gulavane
Project Implementing Officer &
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COURSE DIRECTORS



Dr. R. J. Zende
Principal Investigator
NAHEP-CAAST, MVC, Mumbai

Organising Secretaries

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Three Days Hands on Training on Detection and Quantification of Antimicrobial Residue in Meat by Liquid Chromatography -Tandem Mass Spectrometry (LC-MS/MS)

Date	Time	Activity/Subject	Resource Person
Day One – Wednesday, 10th May, 2023			
	9:30 AM - 10:00 AM	Registration and Breakfast	
	10:00 AM –10:30 AM	Inaugural session	
	10:30 AM –11:00 AM	Pre-assessment	
	11:00 AM –12:00 PM	Liquid Chromatography: Principles, Instrumentation and Applications	Dr. Nishant Salunkhe Application Specialist, Water India Pvt. Ltd. Regional Office, Mumbai.
	12:00 PM - 1:00 PM	Basics of Mass Spectroscopy	
	1:00 PM – 1:30 PM	Demonstration of LC-MS/MS Instrumentation	
	1:30 PM – 2.00 PM	Lunch Break	
	2:00 PM – 3:00 PM	Sampling, traceability, sample storage and sample preparation techniques for antimicrobial residue analysis	Mr. Surendran R. Assistant Director, Export Inspection Agency, Laboratory-Pilot Test House Andheri East, Mumbai
	3:00 PM – 4:00 PM	Basic Dos and don'ts for LC-MS/MS	Mr. Chandrashekar Kalvint Field Service Team Leader - MS, Water India Pvt. Ltd, Mumbai.
	4:00 PM - 4:30 PM	Tea	
	4:30 PM - 5:00 PM	Laboratory visit	
	5.00 PM – 5.30 PM	Discussion	Dr. Nishant Salunkhe Dr. R. J. Zende. Dr. V. M. Vaidya
Day Two – Thursday, 11th May, 2023			
	10:00 AM –11:00 AM	Different techniques for detection and quantification of antimicrobial residues in animal origin foods and its troubleshooting	Mrs. Meenal Satghare Head Technical Governance, Bureau Veritas India Pvt Ltd Andheri, Mumbai
	11.00 AM -11.15 AM	Tea Break	
	11:15 AM –12:15 PM	Status and Detection of	Dr. R. J. Zende

		Antibiotic Residues in Animal Origin Food.	PI, NAHEP-CAAST-MAFSU Mumbai Veterinary College, Mumbai
	12:15 PM – 1:15 PM	Hands on practical for Extraction for Antimicrobial Residues from Meat	Dr. Snehalata P. Kamble Research Associate, NAHEP-CAAST-MAFSU Mumbai Veterinary College, Mumbai and Dr. Smita S. Ghule Research Associate, NAHEP-CAAST-MAFSU Mumbai Veterinary College, Mumbai
	1:15 PM – 1:45 PM	Lunch Break	
	2:00 PM - 4:30 PM	Practical Continued and Tea Break	
	4:30 PM-5:00 PM	Discussion	
Day Three- Friday, 12th May, 2023			
	10:00AM –11:00 PM	Method Development and Validation for the Determination of Antimicrobial Residues Analysis.	Ms. Divya Pawani Assistant Technical Manager, Audentes Labs and Analytics Pvt Ltd, Vashi, Navi Mumbai.
	11:00 AM –11.15 AM	Tea Break	
	11:15 AM– 12:15 PM	Demonstration of Method Development and Sample Analysis on LC-MS/MS	Dr. Snehalata P. Kamble Research Associate, NAHEP-CAAST-MAFSU, Mumbai Veterinary College, Mumbai and Dr. Smita S. Ghule Research Associate, NAHEP-CAAST-MAFSU, Mumbai Veterinary College, Mumbai
	12:15 PM – 1:15 PM	Result and Interpretation	
	1:15 PM – 1:45 PM	Lunch Break	
	1:15 PM – 2:15 PM	Overall Discussion about Training	Dr. R. J. Zende Dr. V. M. Vaidya Dr. Snehalata P. Kamble Dr. Smita S. Ghule
	2:15 PM – 2:45 PM	Post-Assessment and Feedback	
	2:45 PM – 3:40 PM	Validatory Function	
	3:45 PM - 4:00 PM	Tea and disperse	