



Simultaneously target multiple genes in many samples on Microfluidics



8th ISFEV Conference Tokyo, Japan International Society for Food and Environmental Virology -Technical Lunch Meeting-

Webinar Date & Time :

June 12 , 2024 12:15 - 13:15 pm (JST)

Location :

Shimadzu Tokyo Innovation Plaza 4F Technical Lunch Meeting



Moderator

Dr. Akihiko Hata
Associate Professor in Toyama Prefectural University

Introduction 12:15 - 12:30 pm



Advantages of Microfluidics Technology and Biomark X9 System

Tatsuro Nakajima
Team Leader, Field Application Scientist
Standard BioTools K.K.

Main Seminar 12:30 – 13:15 pm



Application of Biomark high-throughput microfluidic quantitative PCR system to wastewater-based epidemiology and microbial source tracking

Prof. Eiji Haramoto
Interdisciplinary Center for River Basin Environment,
University of Yamanashi



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#Pathogen detection
#Multiplex PCR

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Technical Lunch Meeting with Dr. Haramoto



Application of Biomark high-throughput microfluidic quantitative PCR system to wastewater-based epidemiology and microbial source tracking

Prof. Eiji Haramoto
Interdisciplinary Center for River Basin Environment,
University of Yamanashi

Abstract

High-throughput microfluidic quantitative PCR using Biomark HD and X9 Systems enables the detection of various targets simultaneously from large numbers of samples in a single run. In this seminar, some examples of the application of Biomark HD/X9 Systems to wastewater-based epidemiology (WBE) for monitoring of SARS-CoV-2 and other viruses, pathogenic bacteria, and antibiotic resistance genes in wastewater and microbial source tracking (MST) using host-specific microbial genetic markers for identification of fecal contamination sources in aquatic environments will be introduced.

Recent Work

Using Products From Standard BioTools

Raya, S. et al. "Validation and application of high-throughput quantitative PCR for the simultaneous detection of microbial source tracking markers in environmental water." *Science of the Total Environment* (2024): 173604.

Shrestha, S. et al. "High-throughput microfluidic quantitative PCR system for the simultaneous detection of antibiotic resistance genes and bacterial and viral pathogens in wastewater." *Environmental Research* 255 (2024): 119156.

Malla, B. et al. "Application of a high-throughput quantitative PCR system for simultaneous monitoring of SARS-CoV-2 variants and other pathogenic viruses in wastewater." *Science of the Total Environment* 853 (2022): 158659.

Webinar Recording in Japanese

Testing for Bacterial and Viral Pathogens in Wastewater
2023

<https://videos.microfluidics.standardbio.com/watch/kFB1y9JrWnt92uaHusDyjm>



#Pathogen detection #Multiplex PCR