

Services Offered

In addition to research, the unit offers a wide range of laboratory detection services such as detection and serotyping of dengue virus by PCR, ELISA, and RT-PCR; bacterial identification by 16S gene sequencing, fungal identification by 18S gene sequencing and antiviral screening. The unit also provides consultations and training module on biosafety

Hemorrhagic Fever Viruses

Detection | serotyping | serological assay

Dengue virus RNA detection & serotyping using rRT-PCR
Dengue IgM and IgG ELISA

Bacterial Identification

From pure culture

For many years, 16S rRNA gene sequencing methods has played an important role in the accurate identification of bacterial isolates and discovery of bacteria in clinical microbiology laboratories. 16S rRNA sequencing is particularly important in the case of bacteria with unusual phenotypic profiles, rarely isolated, slow-growing bacteria, and noncultured bacteria also can lead to the recognition of novel pathogens. In addition the 16S rRNA gene (1,600bp) is large enough for informatics purposes and presence in almost all bacteria

Fungal Identification

From pure culture

Fungi are morphologically and phylogenetically diverse. Microscopy of the spore's morphology is used as a primary screening for identifying fungi and may not work for species level classification. Amplification and sequencing of 18S rRNA gene, and the entire internal transcribed spacer region (ITS1, and ITS2) is a new era of molecular identification of fungal isolates

Respiratory Pathogens

Detection | genotyping | quantitation

Multiplex real time PCR provides detection and genotyping of up to 33 respiratory pathogens: Influenza A (seasonal), Influenza A (pandemic 2009), Influenza B, Respiratory Syncytial Virus (RSV), Bocavirus Coronavirus, Parainfluenza A, B and C, Human Metapneumovirus(hMPV), Adenovirus and Rhinovirus using eight different primer sets

MERS CoV

Detection | serological assay

MERS CoV IgG ELISA

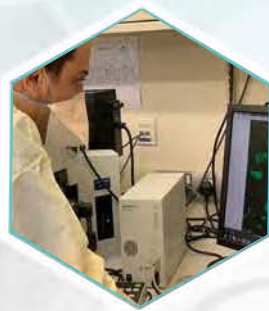
MERS CoV RNA detection using RT-PCR



The Special Infectious Agents Unit (SIAU) is one of the leading centers offering top quality diagnostic service and research in infectious diseases by strengthening national capacities to implement effective prevention, therapeutic and control programs that are practically applicable, economically viable and socially acceptable

SIAU is well equipped with the necessary facilities to perform biosurveillance activities and pathogen screening through next generation sequencing, microarray, Real time PCR and Luminex assay. With a fully equipped mobile Biosafety Level 3 laboratory, working on selected emerging infectious diseases on the fields in collaborations with the Ministry of Health

The Unit aims to establish a model academic center for advanced research in communicable diseases through a multidisciplinary team to develop innovative applied research on health problems and participate in community awareness programs



Special Infectious Agents Laboratories: are involved in advanced diagnostic testing and reference services, education, comprehensive outbreak analysis efforts, and externally funded basic and applied scientific research on diseases of public health importance

- Use state-of-the-art chemistries to detect and characterize wide range of infectious agents and their susceptibility to antimicrobial drugs
- Research and develop new molecular assays in support of infectious diagnosis such as Flaviviruses , Blood borne viruses, Food borne Diseases and Tuberculosis
- Perform research and testing in high containment BSL-3 laboratory
- Provide extensive reference services and unique test menus that are not readily available in routine laboratorie
- Analyze food, water, insects and other environmental specimens for infectious agents associated with disease outbreaks
- Utilize advanced molecular methods to determine the relatedness of infectious agents, enabling rapid intervention to prevent further spread of infection
- Engage in cutting-edge research on the basic mechanisms of infectious diseases that are funded by internally by deanship of research and through KACST as a national funding body
- Research the biology, pathogenesis, transmission and host interaction of bacterial, fungal, viral and parasitic agents to microbial infections
- Research the interaction between mosquitos and viruses that enable transmission of zoonotic diseases such as viral encephalitis, Dengue and Rift Valley Fever

