GENERAL INFORMATION

1. NAME OF THE CENTER AND LOCATION

   Medical University - Pleven
   1, St. Kliment Ohridski, str.
   5800 Pleven, Bulgaria

2. TYPE OF THE RESEARCH INFRASTRUCTURE AND/OR SCIENTIFIC EXPERTISE

Identify the type of the RI, equipment/facilities/ specific research, and in particular linked to COVID-19:

Scientific equipment for biomedical and pharmaceutical research & development:

The Virology Laboratory at Medical University - Pleven is equipped with all essential equipment required for RNA isolation, reverse transcription and PCR amplification. Class II Microbiological Safety Cabinet (SafeFAST Elite, Italy) provides a protected working environment for handling patient specimens and isolating viral nucleic acids. The laboratory has a -30°C laboratory freezer for RNA storage until further processing for PCR amplification. The real-time PCR instrument which is used for target gene amplification – CFX96 Real-Time PCR Detection System (BioRad, USA) – is compatible with a number of in vitro diagnostic kits which are CE marked and have also been validated for use with the CFX96 PCR instrument.

Medical University - Pleven also has:

- NextSeq 550 - a new generation sequencing of the next generation and scanning the microarray chips with the possibility of sequencing of the human, bacterial and viral genome, transcriptome and targeted resequencing and scanning the microarray chips for the detection of genetic and structural variations.
- BaseSpace HT Onsite Sequence Hub - computer system for storing, processing, sharing and embedded applications for analysis of data from NGS sequencing.
- Mithras² LB 943 (Monochromator & Filter Multimode Microplate Reader) for measurement of: UV/VIS Absorbance; Fluorescence, FRET, Fluorescence Polarisation, Time-Resolved Fluorescence, Time-Resolved FRET, Luminescence, BRET, BRET, AlphaScreen, AlphaLISA

KEY WORDS:
Expertise in Infection Diseases, Molecular Biology, Microbiology, Immunology and Genetics.
3. TYPE OF THE RESEARCH

Provide information on the research carried on or planned in regard with COVID-19 and other viruses

Direct RNA sequencing of novel SARS-CoV-2 from patient specimens in regions encoding structural viral proteins, such as E-protein and S-protein, will allow for the identification of genetic differences between viral isolates. The results will be compared with the existing genomic database to investigate whether new mutations occur in viral genes which are current targets of in vitro diagnostic kits for SARS-CoV-2.

Viral detection by real-time PCR is the current standard for COVID-19 diagnosis. The clinical information from patient samples positive for SARS-CoV-2 by real-time PCR will be used to carry out epidemiological studies about distribution of viral disease in different age groups and identify co-morbidities which are frequently associated with viral infection.

4. WEBSITE

Provide the internet address:

http://www.mu-pleven.bg/

5. BACKGROUND, PUBLICATIONS AND OPEN DATA REPOSITORY

leading research team AND Scientific publications of the research group on the topics of related to coronaviruses research results;

link to open data repository

Research team:

Professor Katya Kovacheva, MD, PhD
Professor Tsetsa Dojchinova, MD, PhD
Professor Savelina Popovska, MD, DSc
Assoc. Professor Hristina Hitkova, MD, PhD
Assoc. Professor Milena Karcheva, MD, PhD
Assoc. Professor Milena Atanasova, MD, PhD
Vladislav Nankov, MSc
Petyo Trifonov, MSc
Georgi Golemanov, MSc, PhD student

Publications in the area of Genetics, Infection Diseases, Molecular Biology, Microbiology and Epidemiology y in the last three years:


2. Kovacheva K, Kotsev R, Konova E, Rilcheva V, Kamburova Z, Simeonova M. Chromosomal abnormalities and Y chromosome microdeletions in bulgarian...


6. COORDINATOR

Full name of the coordinators organization:
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7. POSSIBLE PARTNERS

Indicate the partner organizations

Full name of the partner

Medical University of Plovdiv
15-A „Vasil Aprilov“ blvd.
4002, Plovdiv

8. IMPLEMENTED AND RUNNING PROJECTS

Projects related to virology, vaccines, infection diseases …

Laboratory equipment necessary for RNA sequencing (NextSeq 550 and BaseSpace HT Onsite Sequence Hub) is contributed in line with Project: BG05M2OP001-1.002-0010-C01, Center for Competence in Personalized Medicine, 3D and Telemedicine, Robotic and Minimally Invasive Surgery.