

CENTER OF COMPETENCE BG05M2OP001-1.002-0001

FUNDAMENTAL, TRANSLATIONAL AND CLINICAL INVESTIGATIONS ON INFECTIONS AND IMMUNITY”

Strategic objective: fast and efficient transfer of basic research data in the field of infections and immunity to clinical practice for the needs of individual and public health.

The Center of Competence shall respond to two contemporary challenges: the emerging and re-emerging infections with social impact, and the ever increasing antimicrobial resistance

PROJECT IMPLEMENTATION STAGES

1. Creation of unique research complex in the field of infectious diseases & immunology
2. Performing research programs in several areas:
 - ✓ Precise and exhaustive definition of etiological agents from the host and the environment;
 - ✓ Molecular epidemiology of infections with significant social impact
 - ✓ Drug resistance of pathogenic microorganisms
 - ✓ Defining and improving the immune response to pathogens
3. Producing scientific results for direct practical application

LEADING organization:

The National Center of Infectious and Parasitic Diseases

Established in 1881, NCIPD is the oldest state research institution in the field of public health, developing strategies and policies for prevention of infectious diseases

PARTNERS

Institute of Microbiology, Bulgarian Academy of Sciences (Imb-BAS)

With long term traditions in the development of products, technologies, animal and in vitro models for preclinical studies and their application in medicine and bio-industry

National Diagnostic Research Veterinary Medicine Institute (NDRVMI) is the only specialized state institution for research, diagnostics and expertise in the field of animal

Department of Clinical microbiology at the Medical Institute of the Ministry of Interior (MI-MoI) experienced in the fields of antibiotics resistance and policies for antibiotics application in hospital settings; nosocomial infections control, biosafety

TOTAL BUDGET: 23 638 258 BGN: (68% for specialized equipment and software)

IMPLEMENTATION PERIOD: 09.2018 – 12. 2023

WORK PACKAGES

WP1 Establishment of unique Research and Training complex (incl. Reconstruction of existing laboratories, procurement and installation of basic and accessory lab equipment and IT support) in several units: two BSL 3 Laboratories for handling extremely dangerous bacteria and viruses; Expert laboratory for molecular-genetic analysis with New generation sequencing (NGS) of viruses; Expert laboratory for molecular, genetic, spectrometric and proteomic analysis. Expert laboratory for electron microscopy and morphological analysis; Expert laboratory for complex immunological analysis; Biological Bank and Training Center.

WP2. Identification of microorganisms and analysis of circulating pathogens (molecular epidemiology: upgraded ability for identification, surveillance and control of infectious and parasitic diseases, early discovery and of epidemics, detection of potential bioterrorist agents

WP3. Drug resistance studies: frequency and mechanisms of drug-resistance among circulating bacterial, viral, parasitic strains; timely detection of emerging high-risk resistant strains, generation of data for development of policies for antibiotics application

WP4. Immune response to microorganisms

Approaches for estimation and recovery of protective immunity to infections: complex evaluation of immune response to microorganisms at the systemic and local level using innovative microinvasive and highly sensitive methods; development of diagnostic algorithms, prototypes of immunotherapeutics and immunomodulators

IMMEDIATE RESULTS:

- ✓ Quick and exact detection of infectious microorganisms, including new and reemerging ones
- ✓ Prevention of epidemics from emerging and reemerging pathogens
- ✓ Adequate therapy and strategies for antibiotics application in hospital settings and in the course of epidemics
- ✓ Prognosis and focused prevention of infections with social impact
- ✓ Innovative approaches for evaluation and improvement of immunity to infections

LONG-TERM RESULTS

- ✓ Training and working in improved dynamic environment
- ✓ National and international networking for research and training
- ✓ Strategic partnerships with leading European and international R&D and business companies

- ✓ development of port-folio with intellectual property rights as a prerequisite for sustainability of the center

WHERE WE ARE

- ✓ Contracts for procurement of equipment for over 1 700 000 BGN
- ✓ Ongoing public tender procedures for basic equipment and investment projects for over 4 400 000 BGN
- ✓ Pilot “micro” projects on specific research problems starting in Jan 2020

WEBSITE

<https://BG05M2OP001-1.002-0001.ncipd.org>

ADDRESS

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