

GENERAL INFORMATION

1. NAME OF THE CENTER AND LOCATION

*Institute of Experimental Morphology, Pathology and Anthropology with
Museum – Bulgarian Academy of Sciences*

Acad. G. Bonchev Str., Bl. 25, Sofia 1113, 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:

- PCR; Real time PCR
- ELISA Reader
- Apparatus for electrophoresis and blot-techniques, HPLC apparatus;
liophyliser, spectrophotometer, centrifuges, ultracentrifuges
- Equipment for cell and tissue culture; cell and viral banks
- Equipment for histological techniques: microtomes and
ultramicrotomes, cryostats
- Transmission electron microscope
- Light and fluorescent microscopes

KEY WORDS:

Expertise in virology, cell / molecular biology, cell culturing, cytotoxicity
assessment and cell death identification, evaluation of antiviral activity,
molecular / cellular toxicology, experimental pharmacology,
pathobiochemistry, immunology, infection diseases, autophagy.

Innovative investigations are carried out for the needs of the
biotechnological industry, development of diagnostics and policies to
improve the diagnosis, control and basic understanding of emerging
diseases with severe economic impacts.

3. TYPE OF THE RESEARCH

Provide information on the research carried on or planned in regard with COVID-19 and other viruses	Immunohistochemical examination of histological materials from lung tissue (to examine the presence of SARS-CoV-2 viral antigens in tissues from patients with unspecified pulmonary processes). Evaluation of cytotoxic activity (morphological changes and cell death, effect on cell viability and proliferation capacity) and antiviral effect (using human coronaviruses) in cell cultures of repurposed drugs (used in the treatment of Covid-19) and new molecules synthesized to target SARS-CoV-2.
---	--

4. WEBSITE

Provide the internet address:	http://www.iempam.bas.bg/index_En.html
-------------------------------	---

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	<p>Ruseva, K., P. Nedkov, R. Alexandrova, D. Dinev, P. Shestakova, P. Hristov, E. Vassileva. Poly(sulfobetaine methacrylate) networks loaded with alkaline proteases as wound dressings with enzymatic debridement functionality. <i>Polymer International</i>, 2019, 68(9), 1626-1635.</p> <p>Basu, P., N. Saha, R. Alexandrova, B. Andonova-Lilova., M. Georgieva, G. Miloshev, P. Saha. Biological efficiency of inorganic calcium filled bacterial cellulose based hydrogel scaffold for musculoskeletal engineering. <i>International Journal of Molecular Sciences</i>, 19, 12, MDPI AG, Basel, Switzerland, 2018, ISSN:1422-0067, DOI:10.3390/ijms19123980, 1-16.</p> <p>Kalkanov, I., Dinev, I., Todorova, K., Alexandrov, M., Ananiev, Y., Galabova, M.. Ultrastructural and Immunohistochemical Investigations in Calves with Coronavirus Pneumoenteritis Syndrome. <i>Kafkas Universitesi Veteriner Fakultesi Dergisi</i>, 24, 6, Faculty of Veterinary Medicine, Kafkas University, 2018, ISSN: 1300-6045 (print); 1309-</p>
--	--

2251(online), DOI:10.9775/kvfd.2018.19827, 791-797.

http://vetdergikafkas.org/uploads/pdf/pdf_KVFD_2403.pdf

Saha, N., R. Shah, P. Gupta, B.B. Mandal, R. Alexandrova, M. D. Sikiric, P. Saha. PVP - CMC hydrogel: An excellent bioinspired and biocompatible scaffold for osseointegration. Materials Science and Engineering C. 2018.

Culita D-C, Dyakova L., Marinescu G., Zhivkova T., Spasov R., Patron L., Alexandrova R., Oprea O.. Synthesis, Characterization and Cytotoxic Activity of Co(II), Ni(II), Cu(II), and Zn(II) Complexes with Nonsteroidal Antiinflammatory Drug Isoxicam as Ligand. Journal of Inorganic and Organometallic Polymers and Materials, 28, Springer, 2018, ISSN:1574-1451 (print) 1574-1451 (online), DOI:10.1007/s10904-018-1033-2, 1-12.

Grabchev, I., S. Yordanova, E. Vasileva-Tonkova, M. Cangiotti, A. Fattori, R. Alexandrova, S. Stoyanov, M. F. Ottaviani. A novel benzofurazan-cyclam conjugate and its Cu(II) complex: Synthesis, characterization and in vitro cytotoxicity and antimicrobial activity. Dyes and Pigments, 2016, 129, 71-79. (ISSN 0143-7208)

Links to the scientific publications:

https://www.researchgate.net/profile/Radostina_Alexandrova

https://www.researchgate.net/profile/Katerina_Todorova

<https://www.linkedin.com/in/radostina-alexandrova-6b591311a/>

6. COORDINATOR

Full name of the coordinator organization;

Prof. Svetlozara Petkova, PhD

Contact person;

Prof. Svetlozara Petkova, PhD

e-mail (up to 100 characters)

svetlozarapetkova@abv.bg

7. POSSIBLE PARTNERS

Indicate the partner organizations	<i>No partner organizations</i>
------------------------------------	---------------------------------

1. IMPLEMENTED AND RUNNING PROJECTS

Projects related to virology, vaccines, infection diseases ...

Research Grant B02/30 from 12.12.2014 from the National Science Fund, Bulgarian Ministry of Education and Science – “Experimental model systems for cancer research and bone tissue engineering”, Principal investigator – Prof. Radostina Alexandrova

2-year Research Grant ДКОСТ 01-16 from 17.08.2017 from the National Science Fund, Bulgarian Ministry of Education and Science, Program for providing national co-financing for participation of Bulgarian teams in approved actions under the European program for cooperation in the field of research and technology COST - Action CA 15135 on the topic: „Multi-target paradigm for innovative ligand identification in the drug discovery process (MuTaLig)”, Principal investigator: Prof. Radostina Alexandrova

Research Grant ДКОСТ 01-19 from 08.12.2017 from the National Science Fund, Bulgarian Ministry of Education and Science, Program for providing national co-financing for participation of Bulgarian teams in approved actions under the European program for cooperation in the field of research and technology COST - Action CA 15138 on the topic: „European Network of Multidisciplinary Research and Translation of Autophagy knowledge (TRANSAUTOPHAGY)”, Principal investigator: Prof. Radostina Alexandrova

Research Grant ДКОСТ 01-10 from 22.10.2018 from the National Science Fund, Bulgarian Ministry of Education and Science, Program for providing national co-financing for participation of Bulgarian teams in approved actions under the European program for cooperation in the field of research and technology COST - Action CA 16139 on the topic: „In

vitro 3-D total cell guidance and fitness (CellFit“”), Principal investigator: Prof. Radostina Alexandrova

Research project “Virus infection association with the development of autoimmune diseases”, 2015-2017, joint research project Latvian Academy of Sciences – BAS, Principal investigator: Assist. Prof. Dr Katerina Todorova

Project supported by the European Commission under call 7FP REGPOT 2012-2013-1 HEALTH; Unlocking infectious diseases research potential at Riga Stradins University (Grant agreement no: 316275) Baltinfect 2013 - 2017, Rīga Stradiņš University, Latvia; IEMPAM-BAS, Bulgaria; Uppsala University, Sweden; University of London, UK; Steinbeis Research Center, Germany; Lithuanian State Institute of Innovative Medicine, Lithuania, Pomeranian Medical University, Poland; Karolinska Institutet, Sweden; The Katholieke Universiteit Leuven, Belgium, Buckinghamshire New University, UK; Centre of Epidemiology and Microbiology, Belarus; University College Dublin, Ireland, Principal investigator from Bulgaria: Assist. Prof. Dr Katerina Todorova

Multinational project supported by the European Commission 2017-2019 EU COST Action No 15111, “European Network on Myalgic Encephalomyelitis/Chronic Fatigue Syndrome”, Principal investigator from Bulgaria: Assist. Prof. Dr Katerina Todorova

Research project “Persistent human herpesvirus infection as a trigger factor in development of autoimmune thyroiditis” 2018-2021, joint research project Latvian Academy of Sciences – BAS, Principal investigator: Assist. Prof. Dr Katerina Todorova