GAČR
GRANTOVÁ AGENTURA ČESKÉ REPUBLIKY

Discipline Committee 3 (DC3) – Medical and Biological Sciences – Panel Specialization

P301 Molecular and Structural Biology, Genetics, Genomics and Bioinformatics

Molecular biology: molecular mechanisms of DNA replication and repair, molecular mechanisms of transcription and translation, protein function and recombinant proteins, lipid function & carbohydrate, molecular interactions, systems biology

Structural biology: structure, protein interactions and dynamics, nucleic acids and other types of biomolecules

Genetics: genes and DNA function, gene recombination, RNA function and regulation of gene expression, epigenetics

Genomics: structural, functional and comparative genomics, transcriptomic, sequencing and genetic mapping, study of genomes of organisms

Bioinformatics: bioinformatics including structural bioinformatics, biostatistics, computational biology, modelling and simulation of molecular processes

P302 Microbiology, Parasitology, Immunology and Biotechnology

Microbiology: microbiology, virology, bacteriology, prions, prokaryotic cell structure and function, protist cells, evolution of prokaryotes and protists, host-microorganism interactions, epidemiology of infections

Parasitology: parasitological disciplines

General and infectious immunology: innate immunity and inflammation, adaptive immunity, immune disorders, immune system, vaccination, evolution of the immune system

Biotechnology: microbial biotechnology, bionanotechnology, biosensors, biomimetic, other biotechnology, synthetic biology

P303 Cell, Developmental and Evolutionary Biology

Cell biology: cell structure and function, cell signalling, cell cycle and cell death, cell differentiation and aging

Developmental biology: reproductive biology, ontogeny of organisms, embryology, stem cells

Evolutionary biology: evolution of the cell, evolution of ontogenesis (evolution of organisms, evolution of genomes, molecular mechanisms of evolution)

P304 Tumor Biology, Experimental Oncology, Morphological Disciplines and Pathology

Tumor biology including tumor immunology: tumor transformation, tumor cell, tumors and tumor diseases, tumor immunology, *in vivo* models

Experimental oncology: experimental oncology, chemotherapy, immunotherapy, novel diagnostic and therapeutic approaches, radiation biology, experimental radiotherapy, translational research in oncology

Genetics and epigenetics of tumors: predisposing conditions, somatic mutations, cancer stem cells, epigenetic regulators and their disorders

Tumor models: tumor models, PDX models, tumor models on lower organisms

Morphology: anatomy, histology, morphology

Pathology: pathological anatomy, histopathology, molecular pathology

P305 Medical Physiology and Neurosciences, Diagnostic and Therapy, Translational Research

Pathophysiological mechanisms of diseases: metabolism, endocrinology and diabetes, rheumatology, nephrology, cardiovascular disorders, ageing and other medical disciplines not included above

Neurosciences: neurophysiology, sensory systems, developmental neurobiology, cognitive and behavioural neurosciences, neurological disorders

Translational research: basic translational research, experimental medicine, gene and cell therapy, regenerative medicine, radiation therapy

P306 Pharmacology, Toxicology, Medical Biochemistry, Medical Biophysics

Pharmacology: pharmacology, mechanisms of action, pharmacokinetics, drug interactions, metabolism of xenobiotics, new pharmaceuticals, *in vivo* and *in vitro* models

Toxicology: molecular toxicology, mechanisms of toxicity, toxicokinetics, organ toxicology, applied toxicology, toxicology of natural and synthetic substances

Medical biochemistry: medical biochemistry, relationships of biochemical processes and pathobiochemistry, metabolism of endogenous substances in organisms, biochemical aspects of structure-function relationships

Medical biophysics: medical biophysics, biomechanics, transport and locomotion mechanisms, interactions of living systems with physical factors, radiobiology, other biophysics issues of organisms