

Research seminar “Molecular virology and molecular oncology”

Everyone at RSU is invited to attend research seminar

Molecular virology and molecular oncology

on November 25, 2021 at 17.00 in ZOOM.

Please, email Maria Issagouliantis maria.issagouliantis@rsu.lv to announce your interest to join. ZOOM connection details will be sent out to all interested parties by email on 25.11.2021 before 17.00 Riga time.

Program:

November 25, 2021 at 17.00
ENZYMATIC ACTIVITIES OF RNA DEPENDENT RNA POLYMERASE IN CHRONIC HEPATITIS C AND THEIR CLINICAL CORRELATES (<i>training report, NAWA program, LZP2020/2-0376</i>) Elena Rubio , Laboratorio Immunobiología Molecular, Instituto de Investigación Sanitaria Gregorio Marañón, Madrid, and Rīga Stradiņš University, Riga
COMPARATIVE CHARACTERISTICS OF TC-1 AND NOVEL 4T1 BASED CELL LINE MODELS TO REPRODUCE HPV-RELATED CARCINOGENESIS IN MICE (<i>NAWA program, LZP2020/2-0376</i>) Alesja Dudorova , Rīga Stradiņš University, Riga & Darya Avdoshina , Chumakov Federal Scientific Center for Research and Development of Immune-and-Biological Products of Russian Academy of Sciences, Moscow
ENHANCED MOTILITY OF ADENOCARCINOMA CELLS EXPRESSING HIV-1 PROTEASE (<i>VACTRAIN, RFBR 19-04-01034</i>) Ekaterina Bayurova , Chumakov Federal Scientific Center for Research and Development of Immune-and-Biological Products of Russian Academy of Sciences, Moscow
MACROPHAGE EPIGENETICS IN THE CONTEXT THE RESEARCH ON MACROPHAGE PHENOTYPING (<i>LZP 2018/1-0208, LZP 2020/2-0376</i>) Ksenya Korotkaya , Latvian Biomedical Research and Study Center, Riga

Short description of topics:

ENZYMATIC ACTIVITIES OF RNA DEPENDENT RNA POLYMERASE IN CHRONIC HEPATITIS C AND THEIR CLINICAL CORRELATES

In chronic hepatitis C (CHC), liver enzyme levels correlate with histological parameters, and high levels are associated with liver damage. Contradictory data exists on the dependence of

liver damage on HCV RNA levels, from high viral load correlating with liver enzyme levels and liver injury to inverse correlation of viral load with ALT but positive association of the latter with histological severity of liver disease. Presentation will relate parameters of liver disease in CHC to enzymatic activities of RNA dependent RNA polymerases

COMPARATIVE CHARACTERISTICS OF TC-1 AND NOVEL 4T1 BASED CELL LINE MODELS TO REPRODUCE HPV-RELATED CARCINOGENESIS IN MICE

Development of therapies and vaccines against squamous cell carcinomas associated with infection with high risk human papilloma viruses is highly actual, whereas small animal models supporting this development are sparse. Presentation will discuss in vitro and in vivo parameters of novel model based on murine mammary gland adenocarcinoma 4T1 cells made to express oncoproteins E6 and E7 of HPV 16 syngenic to BALB/c mice, in comparison to that offered by lung adenocarcinoma TC-1 cells transformed by overexpression of HPV 16 E6 and ras transgenic to C57Bl/6.

ENHANCED MOTILITY OF ADENOCARCINOMA CELLS EXPRESSING HIV-1 PROTEASE

HIV-1 infection leads to increased morbidity and mortality from different forms of cancer, even on the background of successful ART. It is in part related to their ability to trigger production of reactive oxygen species (ROS) and induce epithelial mesenchymal transition (EMT). Expression of HIV-1 protease in epithelial cells does not induce ROS and has no effect on EMT, but still triggers increased cell migration. Presentation will discuss association of the motility with enzymatic activity, as it may stand behind high motility of HIV-1 infected cells that contributes to efficient viral spread in the infected subjects.

MACROPHAGE EPIGENETICS IN THE CONTEXT THE RESEARCH ON MACROPHAGE PHENOTYPING

Macrophages are involved in progression of many diseases such as cancer, autoimmune and infectious diseases. Traditionally macrophages are divided in two polarization states: pro-inflammatory M1 and anti-inflammatory M2. The presentation will be focused on epigenetic factors involved in macrophage polarization and innovative methods used for epigenetic profiling of macrophages.