

ImmunoTools IT-Box-139 Award 2012



Lidija Kobak

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Hantaviruses (Bunyaviridae) are rodent-borne pathogens which within the natural host cause asymptomatic and persistent infection. Transmission to humans occurs via the respiratory route and can result in hemorrhagic fever with renal syndrome (HFRS) or hantavirus cardiopulmonary syndrome (HCPS). Hantavirus-associated pathogenesis is characterized by increased vascular permeability and decrease in platelet counts. Interestingly, hantaviruses do not cause any direct cytopathic effect *in vitro* suggesting that an over-stimulated human immune response is responsible for both the elimination of the virus and the symptoms observed *in vivo*.

Unavailability of suitable animal model has made it difficult to study hantavirus-associated immunopathogenesis *in vivo*. In my PhD project I will develop a Human Immune System (HIS) mouse, a new animal model to test our hypothesis that hantavirus pathogenesis is induced by the immune system. Generating HIS mouse model involves engraftment of human hematopoietic cells into the irradiated, immunodeficient mouse. Reconstitution rate of a functional human immune system will be checked after ten weeks. Following successful engraftment mice are going to be infected with different strains and dosages of hantaviruses. One week post infection (p.i.), blood samples are going to be collected and analyzed for hantavirus antibodies (IgM, IgG) and viral load. Two weeks p.i., animals will be sacrificed and analyzed for the characteristics of hantavirus disease- platelet counts, leukocyte numbers and ratios; and histopathology of kidneys and lungs.

ImmunoTools IT-Box-139 for Lidija Kobak include 100 antibodies

FITC - conjugated anti-human CD1a, CD3, CD4, CD5, CD6, CD7, CD8, CD14, CD15, CD16, CD19, CD21, CD25, CD29, CD35, CD36, CD41a, CD42b, CD45, CD45RA, CD45RB, CD45RO, CD49d, CD53, CD57, CD61, CD63, CD80, CD86, HLA-DR, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

PE - conjugated anti-human CD3, CD4, CD8, CD11b, CD15, CD14, CD18, CD19, CD20, CD21, CD22, CD31, CD33, CD38, CD40, CD45, CD45RB, CD50, CD52, CD56, CD58, CD62p, CD72, CD95, CD105, CD147, CD177, CD235a, HLA-ABC, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

PE/Dy647 -tandem conjugated anti-human CD3, CD4, CD8, CD14, CD19, CD20, CD25, CD54

APC -conjugated anti-human CD2, CD3, CD4, CD8, CD10, CD11a, CD11c, CD14, CD16, CD27, CD37, CD42b, CD44, CD45, CD59, CD62L, CD69, CD71, IL-6, Control-IgG1, Control-IgG2a, Control-IgG2b, Annexin V

[DETAILS](#)