Introduction of the defendant RNDr. Jana Páleníková by the Ph.D. thesis supervisor Jan Kopecký

Jana continued the topic of her MSc. thesis "Interaction of innate immunity cells with Lyme disease spirochetes and the effect of tick saliva". She started to work with dendritic cells, the most important antigen presenting cells which interconnect innate and adaptive immunity. She gradually became an expert in flow cytometry; from her co-supervisor she learned methods of cell signalling analysis. In frame of our grant projects she focused on the effect of recombinant proteins derived from tick saliva on innate immunity cells. The important part of her studies was the possible impact of tick salivary molecules on the transmission of tick-borne pathogens, *Borrelia* spirochetes and tick-borne encephalitis virus. She was the first who showed that a serpin from our tick *Ixodes ricinus* inhibits production IL-6 by dendritic cells stimulated with *Borrelia* spirochetes resulting in attenuated STAT-3 phosphorylation which finally leads to impaired Th17 differentiation. The inhibition of this proinflammatory Th cell subset can be advantageous for *Borrelia* pathogens. She also markedly participated in other two papers devoted to the effect of tick salivary cystatins on the maturation and function of dendritic cells studied on the level of cell signalling pathways. She compared two cystatins from *I. scapularis* tick and showed that whereas one of them influences DC maturation and consequently development of adaptive immunity, the other affects cytokines engaged in the inflammatory response. This sialostatin suppressed interferon response in dendritic cells which probably led to enhanced replication of tick-borne encephalitis virus in these cells. In her results Jana proposed how particular tick saliva molecules facilitate transmission of important tick-borne pathogens.

I found Jana very responsible, intelligent, highly motivated and hardworking student with good amount of laboratory skill. She was always ready to teach and help anybody who needs it including students. She was capable of creative thinking, designing experiments, carrying them out, interpreting the results and discussing them critically. She was fully competent to write a scientific paper, to reflect on the recommendations of referees etc.

In my opinion, she proved her ability to become an independent scientist.

I strongly recommend her thesis for defence.

In my opinion, her thesis fulfils all requirements posed on theses aimed for obtaining Ph.D. degree.

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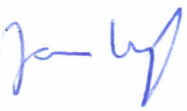

Prof. RNDr. Jan Kopecký, CSc.