



University of Nova Gorica

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INVITATION

We are inviting you to the public lecture given by
prof. dr. Lidija Klampfer
(Albert Einstein Cancer Center, Yeshiva University, USA)

Tumor microenvironment, an active player in tumor progression

The lecture is a part of the »**Scientific evenings**« cycle of lectures and will take place on **20 May 2010 at 7PM** at the mansion Zemono near Vipava. The moderator will be dr. Elsa Fabbretti, research associate for the field of biology at the University of Nova Gorica.

Tumors are organ like structures that include malignant cells, fibroblasts, myofibroblasts, mast cells, endothelial cells and resident macrophages, along with components of the extracellular matrix. Normal stroma can keep premalignant cells in check and can therefore delay or prevent tumor formation while abnormal, reactive stroma, contributes to tumor formation by providing growth factors, blood supply and components of the extracellular matrix. Tumor cells have the ability to remodel the stroma and to establish a permissive tissue microenvironment that aids tumor progression. Macrophages are often the most abundant immune cells in the tumor microenvironment and are key regulators of the link between inflammation and cancer. Tumor associated macrophages (TAMs) are derived from circulating monocytes which upon recruitment to the tumor microenvironment differentiate and acquire several properties of a polarized M2 phenotype. The tumor microenvironment therefore “educates” macrophages to orchestrate conditions that support tumor progression and promote metastasis. Stroma-derived factors regulate tumor progression by acting in a paracrine manner to activate oncogenic signaling pathways in tumor cells, such as activation of NF- κ B by TNF and IL-1, and activation of STAT3 by IL-6. We demonstrated that colon cancer cells stimulate macrophages to release IL-1 β , and showed that IL-1 β is sufficient to induce oncogenic Wnt signaling in tumor cells, establishing a novel link between inflammation and tumor progression. Because the crosstalk between tumor cells and stroma is required for tumor progression, the tumor microenvironment represents a suitable target for preventive and therapeutic strategies.

Kindly invited!