Mechanisms in Thrombosis and Hemostasis
Prof. Yona Nadir Lab

Coagulation – a physiological system interfacing all other body systems

The coagulation system is a rapidly advancing area of clinical and basic research. Extensive research in the challenging field of thrombosis and bleeding is ongoing and has already resulted in new pharmacological modalities such as siRNA technology based drugs. There is a vicious cycle between the coagulation system and infection, inflammation, cancer and angiogenesis. The well-established strong association between coagulation and cancer provides a solid incentive for developing drugs capable to interfere with the coagulation system to attenuate tumor growth.

We are looking for talented motivated students for MSc, PhD positions

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A model of the interaction between heparanase (Hepa), TF, and TFPI. Heparanase interacts with tissue factor (TF) resulting in increased generation of factor Xa and enhancement of the coagulation system. Heparanase also up-regulates TF expression and releases tissue factor pathway inhibitor (TFPI) from the cell surface, rendering the cell surface highly pro-coagulant. TFPI and heparanase may circulate as a complex in the plasma.

Organs microcirculation hemostatic niche. Reciprocal effect of the microcirculation hemostasis in the specific organ.
Main topics in recent years:


S. Treger, S. Ackerman, V. Kaplan, S. Ghanem, Y. Nadir. Progesterone type affects the increase of heparanase level and pro-coagulant activity mediated by the estrogen receptor. Human Reproduction, 2021, 36:61-69