

Wednesday, March 19th, 2014

LSC 3 - Life Sciences Centre

2350 Health Sciences Mall

12-1pm



Dr. Nigel Mackman

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Director

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“Hemostasis, Thrombosis and Immunity”

Tissue factor (TF) is the primary activator the coagulation cascade. We have studied the regulation of TF gene expression and generated different transgenic mouse lines to study its roles in hemostasis and thrombosis. Our studies suggest that induction of TF expression in monocytes contributes to arterial thrombosis in hyperlipidemia, and tumor-derived TF-positive microparticles may trigger venous thrombosis in cancer patients. Coagulation proteases also activate a variety of cells by cleavage of protease-activated receptors (PARs). We found that mice lacking PAR-1 have increased cardiac injury in a coxsackievirus-induced myocarditis model. Further studies suggested that PAR-1 contributes to the innate immune response to coxsackievirus by enhancing IFN-beta expression. This study indicates that that is crosstalk between the clotting cascade and other processes, such as the inflammation and the innate immune response to viral infection.

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