

Wednesday, March 11th, 2015

LSC 3 - Life Sciences Centre

2350 Health Sciences Mall

12-1pm



Dr. David B. Corry

*Professor of Medicine and Pathology & Immunology,
Baylor College of Medicine*

“The Fibrinogen-TLR4 Axis at the Intersection of Coagulation and Immunity”

The molecular events surrounding thrombin-dependent hemostasis have long been linked to inflammation, but a detailed understanding of immune-coagulation system crosstalk has been elusive. In arthropods, hemolymph coagulation represents a canonical, proteolytically-driven immune event in which invading pathogens are immobilized while at the same time an endogenous ligand is generated that signals through the receptor Toll to activate anti-pathogen immunity. We show that this highly effective approach to pathogen invasion has been preserved in mammals. Of the many mammalian Toll-like receptors (TLR), only Toll like receptor 4 responds to pathogen-derived proteolytic signals by responding to fibrinogen cleavage products (FCP). FCP signals through TLR4 in mouse and human immune cells entirely distinctly from other TLR4 ligands such as lipopolysaccharide (LPS), eliciting potent anti-fungal immunity while at the same time licensing the expression of asthma-like airway inflammation. Our findings shed light on the pathogenesis of both allergic and non-allergic diseases and suggest novel therapies for these disorders.

**Please contact Dr. Ed Pryzdial (Ed.Pryzdial@blood.ca)
to network with the guest speaker.**