DBMR Research Conference

Langhans Hörsaal Pathologie
Murtenstrasse 31, 3008 Bern

Date       December 3, 2018, 5 pm – 6 pm
Title      Fibrinolysis: Beyond Clot Removal
Speaker    Prof. Robert L. Medcalf PhD
           Australian Centre for Blood Diseases, Melbourne, VIC, Australia

Biosketch
Prof. Robert Medcalf is a NHMRC Principal Research Fellow working at the Australian Centre for Blood Diseases at Monash University. His major research focus has been on the role of the fibrinolytic system in the brain, including the influence of this system on the blood-brain barrier and on the innate immune response and the relationship of this to ischaemic stroke and traumatic brain injury (TBI). Prof Medcalf was the recipient of the 2016 Prize of the International Society on Fibrinolysis and Proteolysis (ISFP). He is President of the local organising committee for the forthcoming Congress of the International Society on Thrombosis and Haemostasis (ISTH) taking place in Melbourne, 2019 (isth2019.org). He has served as Associate Editor of the J Thromb Haemost and has previously served on the Editorial Boards of J Biol Chem, and Eur J Biochem and is currently on the Editorial Board of Res Pract Throm Haemost.

Abstract
Blood clots are removed by the fibrinolytic enzyme system. This system essentially regulates the conversion of plasminogen, an abundant plasma (zymogenic) protein into its active form, plasmin. There are two “plasminogen activators” responsible for plasminogen cleavage, known as tissue type plasminogen activator (tPA) and urokinase (uPA). tPA (and also uPA) were developed in the 1980s for the therapeutic removal of blood clots, initially in patients with myocardial infarction. In the 1990’s t-PA became approved for thrombolysis in patients with ischaemic stroke.

While tPA is still the only approved drug to remove blood clots in patients with ischaemic stroke, the past decade or so has revealed that the fibrinolytic system, and t-PA in particular, has important roles which do not involve fibrin or blood clearance at all. Indeed, tPA is a major player in the brain where it modulates neuronal function, blood-brain barrier permeability and memory. More recently, this system was shown to suppress the immune response and this has consequences on infection risk in humans. These findings have an important bearing on the use of t-PA and antifibrinolytic agents and has opened a new line of research in this area.

This seminar will provide a short history the fibrinolytic system and the diverse reach it has in biology.

Prof. Robert Medcalf has been invited by Dr. Verena Schröder, Experimental Haemostasis Research Group, DBMR, University of Bern.

Next DBMR Research Conference

February 4, 2019
Speaker and title to be announced

The DBMR Research Conference takes place from 5 pm – 6 pm and will be followed by an apéro.