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Research

Modulation of inflammatory responses to bacterial infections

Severe infectious diseases, including sepsis, remain a serious medical challenge worldwide. Clinical symptoms of patients suffering from sepsis are a culmination of complex interactions between the infecting microorganism and host immune responses, such as the induction of overwhelming inflammatory reactions, systemic activation of the coagulation system, and impaired fibrinolysis. These alarming findings prompted many research groups, including my own, to search for novel strategies to treat severe infectious diseases. Many of these approaches are focused on so-called "host effector systems", since evidence has accumulated that complications from an infection are caused by an over-stimulation of host defense systems that are modulated by bacteria or bacterial products. In severe infections, such as sepsis and septic shock, vascular leakage, increased cytokine levels, and coagulation/fibrinolysis dysfunction are often observed. My research projects aim to identify and characterize molecular mechanisms that lead to these complications. To accomplish these tasks various in vitro, ex vivo, and in vivo models will be employed. The results obtained from our investigations have a chance to open new routes for development of diagnostic tools and the discovery of novel treatments in severe infectious diseases.

Employment

Professor, Manager, Supervisor

Host-parasite Interactions **Lund University** Sweden 2024 Nov 20 → present

Senior Research Scientist

Ferring GmbH, Kiel Kiel, Germany 2001 Feb 1 → 2001 Jun 30