UITNODIGING

Voor de openbare verdediging van het doctoraatsproefschrift van Sabrina DEVOS

23 november 2006
Situering van het proefschrift

Allergy is a common problem and for many years, the prevalence of allergy has even been increasing. Allergy is characterized by an imbalance between Th1 and Th2 cytokines, resulting in elevated levels of antibody of the IgE class against the sensitizing allergen. The onset of allergy is determined by an interaction of genetic and environmental factors. In the first part of her thesis work, Sabrina Devos has investigated the role of the recently characterized cytokine interleukin (IL)-9. She was able to demonstrate that IL-9 production in vitro is an excellent marker for allergy in adults. Therefore, it was proposed that a blockade of IL-9 signaling might have therapeutic applications in allergic conditions such as asthma.

In the second part of her work, Sabrina Devos tested the hypothesis that several herbicides and persistent organic pollutants had immunomodulatory properties, which may have deleterious effects. The tested pollutants exhibited very limited activity on cytokine production. However, the herbicide atrazine strongly impaired the production of interferon-γ, tumour necrosis factor-α, IL-5 and IL-6 (but not of IL-8) at micromolar concentrations and below. A search for a signaling pathway of atrazine, concentrating on nuclear receptors, was so far negative.

Based on literature data and own results, it is concluded that white blood cells are the most sensitive target of atrazine in mammalian cells and that further reduction in the use of atrazine is desirable.

Curriculum Vitae

Sabrina Devos was born on April 27, 1976. She graduated in Biomedical Sciences at the VUB in 1998. For her master research, she investigated some effects of hormones on leukocyte physiology at the Department of Pharmacology. Thereafter, in the same laboratory, she investigated the signaling of the prolactin receptor in leukocytes. She then started her PhD, focusing on cytokine production, with particular concern for allergy and the effects of pollutants on the immune system. For the last 2 years, she has been working on in vitro immunotoxicology in the frame of the ACuteTox project sponsored by the European Communities.