



Dr Hilde Kelchtermans

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Day of birth: 9th of March 1979

PROFESSIONAL EXPERIENCE

Synapse b.v.

Since January 2015

Head of Research Laboratory

February 2012-December 2014

Senior scientist

Synapse b.v. (Maastricht, The Netherlands) explores the overall function of the thrombin generating system in platelet poor- and platelet rich plasma and blood as a diagnostic tool as well as a pharmaceutical target. I am responsible for the technical and clinical validation of a new method to simultaneously measure thrombin generation and fibrin formation under physiological flow conditions in either plasma or whole blood. This test applied pre-operatively was found to be predictive for the amount of blood loss during and after cardiothoracic surgery. Furthermore, we focus on the development and validation of a point of care device to measure thrombin generation with high precision in a single drop of blood. Additionally, I am investigating the huge variability in sample classification by different commercially available anti- β_2 glycoprotein I (GPI) assays used for the diagnosis of the antiphospholipid syndrome. Exposure of the pathogenic domain I epitope on β_2 GPI was found to be highly variable in anti- β_2 GPI assays. Importantly, patients can be falsely assigned negative in assays characterized by a reduced exposure of this epitope. Currently we are optimizing a functional assay based on thrombin generation for the diagnosis of the antiphospholipid syndrome.

APITOPE INTERNATIONAL NV *June 2009-January 2012*

Scientist

Apitope International NV is a European biotech company specialized in the development of peptide therapies for autoimmune diseases. In collaboration with the university of Hasselt (Belgium), I investigated the potential of a panel of disease-related biomarkers for an early diagnosis and prognosis of different autoimmune diseases. I successfully optimized the protocol of a phage elisa and translated it into a commercially operable peptide ELISA. Being responsible for the Graves's disease project, I succeeded in the identification of different therapeutic peptides for which pre-clinical development is currently initiated.

REGA INSTITUTE

October 2007-May 2009

Postdoctoral Scientist

After receiving my PhD in Medical Sciences at the KU Leuven (Belgium), I continued to investigate the interaction between IL-17 en IFN- γ in the pathogenesis of collagen-induced arthritis as a postdoctoral scientist. I received a postdoctoral fellowship of the FWO Vlaanderen to unravel the importance of a complement receptor in arthritis.

ADDITIONAL COURSES

2015

Basic leadership course **Amelior**

2012

Rheology Workshop **Anton Paar**

2010

Course 'Biosafety' **Perseus**

2003-2004

Certificate '**Expert laboratory animal leader**' **KU Leuven**

EDUCATION

2002-2007

Doctor in the Medical Sciences KU Leuven

Rega Institute, Department of Immunobiology (Prof. P. Matthys), Leuven, Belgium

Title thesis: 'Immunoregulatory properties of interferon- γ in collagen-induced arthritis: effects on CD4⁺CD25⁺ regulatory T cell function and neutrophil infiltration'

1997-2002

Bio-engineer in the cell-and gene biotechnology KU Leuven

Graduated with great honors

PUBLICATIONS

- Pelkmans L, Miszta A, Al Dieri R, de Laat B, [Kelchtermans H](#)
Thrombin generation in the presence of platelets is sensitive to the activation status of von Willebrand Factor. **Thromb Haemost.** 2015;113(1):209-11
 - Miszta A, Pelkmans L, Lindhout T, Krishnamoorthy G, de Groot PG, Hemker CH, Heemskerk JW, [Kelchtermans H](#), de Laat B
Thrombin-dependent incorporation of von Willebrand Factor into a fibrin network. **J Biol Chem.** 2014;289(52):35979-86
 - Ninivaggi M, [Kelchtermans H](#), Kuijpers MJ, Hemmerlyckx B, Heemskerk JW, Lindhout T, Hoylaerts MF, de Laat B.
Whole blood thrombin generation in Bmal1-deficient mice. **Thromb Haemost.** 2014;112(2):271-5.
 - Du VX, [Kelchtermans H](#), de Groot PG, de Laat B
From antibody to clinical phenotype, the black box of the antiphospholipid syndrome: pathogenic mechanisms of the antiphospholipid syndrome. **Thromb Res.** 2013;132(3):319-26
 - Pelkmans L, [Kelchtermans H](#), de Groot PG, Zuily S, Regnault V, Wahl D, Pengo V, de Laat B
Variability in exposure of epitope G40R43 of domain I in commercial anti-beta 2-glycoprotein I IgG ELISAs. **Plos One.** 2013;8(8):e71402
 - Al Dieri R, Bloemen S, [Kelchtermans H](#), Wagenvoord R, Hemker HC
A new regulatory function of activated factor V: inhibition of the activation by tissue factor/factor VII(a) of factor X. **J Thromb Haemost.** 2013;11(3):503-511
 - Ninivaggi M, [Kelchtermans H](#), Lindhout T, de Laat B
Conformation of beta 2 glycoprotein I and its effect on coagulation. **Thromb Res.** 2012;130 Suppl 1:S33-6
 - Frey O, Mitera T, [Kelchtermans H](#), Schurgers E, Kamradt T, Matthys P
Ameliorated course of glucose-6-phosphate isomerase (G6PI)-induced arthritis in IFN-gamma receptor knockout mice exposes an arthritis-promoting role of IFN-gamma. **J Autoimm.** 2011;36(2):161-9
 - Schurgers E, [Kelchtermans H](#), Mitera T, Geboes L, Matthys P
Discrepancy between the in vitro and in vivo effects of murine mesenchymal stem cells on T-cell proliferation and collagen-induced arthritis. **Arthritis Res Ther.** 2010;12(1):R31
 - [Kelchtermans H](#), Schurgers E, Geboes L, Mitera T, Van Damme J, Van Snick J, Uyttenhove C, Matthys P
Effector mechanisms of interleukin-17 in collagen-induced arthritis in the absence of interferon-gamma and counteraction by interferon-gamma. **Arthritis Res Ther.** 2009;11(4):R122
 - Geboes L, Dumoutier L, [Kelchtermans H](#), Schurgers E, Mitera T, Renauld JC, Matthys P
Proinflammatory role of the Th17 cytokine interleukin-22 in collagen-induced arthritis in C57BL/6 mice. **Arthritis Rheum.** 2009;60(2):390-5
 - [Kelchtermans H](#), Billiau A, Matthys P
How interferon-gamma keeps autoimmune diseases in check. **Trends Immunol.** 2008;29(10):479-86
 - [Kelchtermans H](#), Geboes L, Mitera T, Huskens D, Leclercq G, Matthys P
Activated CD4⁺CD25⁺ regulatory T cells inhibit osteodagostogenesis and collagen-induced arthritis. **Ann Rheum Dis.** 2009;68(5):744-50
 - Lenaerts L, Kelchtermans H, Geboes L, Matthys P, Verbeken E, De Clercq E, Naesens L
Recovery of humoral immunity is critical for successful antiviral therapy in disseminated mouse adenovirus type 1 infection. **Antimicrob Agents Chemother.** 2008;52(4):1462-71
 - Geboes L, De Klerck B, Van Balen M, [Kelchtermans H](#), Mitera T, Boon L, De Wolf-Peeters C, Matthys P
Freund's complete adjuvant induces arthritis in mice lacking a functional interferon-gamma receptor by triggering tumor necrosis factor alpha-driven osteoclastogenesis. **Arthritis Rheum.** 2007;56(8):2595-607
 - [Kelchtermans H](#), Struyf S, De Klerck B, Mitera T, Alen M, Geboes L, Van Balen M, Dillen C, Put W, Gysmans C, Billiau A, Van Damme J, Matthys P
Protective role of IFN-gamma in collagen-induced arthritis conferred by inhibition of mycobacteria-induced granulocyte chemotactic protein-2 production. **J Leukoc Biol.** 2007;81(4):1044-53
 - De Klerck B, Geboes L, Hatse S, [Kelchtermans H](#), Meyvis Y, Vermeire K, Bridger G, Billiau A, Schols D, Matthys P
Pro-inflammatory properties of stromal cell-derived factor-1 (CXCL12) in collagen-induced arthritis. **Arthritis Res Ther.** 2005;7(6):R1208-20
 - [Kelchtermans H](#), De Klerck B, Mitera T, Van Balen M, Bullens D, Billiau A, Leclercq G, Matthys P
Defective CD4⁺CD25⁺ regulatory T cell functioning in collagen-induced arthritis: an important factor in pathogenesis, counter-regulated by endogenous IFN-gamma. **Arthritis Res Ther.** 2005;7(2):R402-15
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