

Thibaut SALTET DE SABLET

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Date of Birth: October 23th, 1979

Nationality: French

Status : Single

Ph.D. in MICROBIOLOGY

EDUCATIONAL QUALIFICATIONS AND PROFESSIONAL EXPERIENCE

2008-Current: Postdoctoral Fellowship in Immunology/Cell Biology

Vanderbilt University

Department of Medicine/Division of Gastroenterology

Dr Keith Wilson's Laboratory Nashville TN USA.

Title: Effect of Nitric oxide produced by macrophages during *H. pylori* infection on epithelial cells proteins, phylogenetic study of *H. pylori* Colombian strains associated with low or high risk for cancer development.

Mentor: Pr Keith T Wilson

Fundings: VA Grant, NIH PPG and Philippe Foundation Grant.

2004-2007: Ph.D. in Microbiology

Blaise Pascal University of Clermont-Ferrand

*Laboratory of Microbiology, Pathogenicity of *E. coli* and Zoonosis team*

INRA UR-454 (Director: Dr Evelyne Forano) Saint Genès Champanelle France.

Title: Regulation of Shiga-Toxin production by Enterohaemorrhagic *E coli*

Supervisor: Dr Christine Martin

Fundings: Grant from the French Ministry for Research and Technology.

2003-2004: Master in Physiology and Molecular Genetics

Blaise Pascal University of Clermont-Ferrand

*Laboratory of Microbiology, Pathogenicity of *E. coli* and Zoonosis team*

INRA UR-454 (Director: Dr Evelyne Forano) Saint Genès Champanelle France.

Title: Regulation of Shiga-Toxin production by Enterohaemorrhagic *E coli*

Supervisor: Dr Christine Martin

Fundings: Grant from the National Institute for Agronomical Research

2002-2003 : Master in Plant physiology

Pierre and Marie Curie University of Paris

Laboratory of seed Biology

INRA/Agro UMR204 (Director: Annie Marion Poll)

Title: Transcriptional Regulators expressed during Seed Maturation in *A thaliana*

Supervisors: Dr Bertrand Bubreucq and Dr Loïc Lepiniec

Fundings: Grant from the Genoplant european project.

EXPERIMENTAL TECHNIQUES AND ABILITIES

Bacteriology:

Bacterial strains : *Helicobacter pylori*, K12 *E coli* , *Enterohaemorrhagic E coli* , *A tumefaciens*. *V harveyi* and human microbiota species under anaerobic conditions.

Molecular Biology: Prokaryotic gene cloning and expression

Extraction and purification of genomic and plasmid DNA.

Extraction and purification of eukaryotic and prokaryotic RNA.

PCR and RT-PCR.

Quantitative PCR using Lightcycler® MyIQ5® and Mastercycler® ep realplex (absolute and relative quantification).

Cloning (classical, Topo® and Gateway® techniques).

Isogenic mutant construction in *E coli* and *H. pylori*.

E coli H. pylori and *A Tumefaciens* transformation.

Construction of GFP fusions.

Biochemistry: Prokaryotic protein analysis

Polyacrylamide gel electrophoresis, Western blotting, Dot blotting.

Immunoenzymatic Assay: ELISA.

Enzymatic Assay: β galactosidase activity, LDH fluorimetric assay.

Vegetal Biology:

A thaliana culture in greenhouse and phytotron.

Seed collection and sorting.

A thaliana transfection.

Cell Biology: Cell culture

Cell lines culture (Vero, T84, Caco-2, Raw, 293FT, ImSt, AGS).

Cell activation, infection with bacteria.

Cytotoxicity assay.

Gastric epithelial cells isolation and staining.

Flow cytometry.

In vivo experiments:

Level 1 animal experimentation habilitation (highest).

Gnotobiotic rat breeding, mouse breeding, gerbils breeding.

Intraperitoneal injections.

Gastric inoculation.

Euthanasia.

Necropsy.

Chemistry: RMN

Sample preparation

Spectrum analysis and quantification

LANGUAGES AND COMPUTER SKILLS

Languages spoken:

- French (native), English (good level), Spanish and German (intermediate level).

Computer skills:

- Windows and Mac OS, MS Office®, Adobe Photoshop® Illustrator®, InDesign®, SAS®, EndNote®, EnzymeX®, C++, TurboPascal, Gen5®, Diversity Database®, TopSpin®, GraphPad®.
- Bioinformatic tools: NCBI Blast, MultAlign, Primer3, 4peaks®, Sequencher®.

PUBLICATIONS

Gobert AP, Verriere T, de Sablet T, Peek RM, Chaturvedi R, Wilson KT.

Heme oxygenase-1 inhibits phosphorylation of the *Helicobacter pylori* oncoprotein CagA in gastric epithelial cells. *Cellular Microbiol.* 15(1):145-56.

Chaturvedi R, de Sablet T, Peek RM Jr, Wilson KT.

Spermine oxidase, a polyamine catabolic enzyme that links *Helicobacter pylori* CagA and gastric cancer risk. *Gut Microbes.* 3(1):48-56.

Barry DP, Asim M, Scull BP, Piazuolo MB, de Sablet T, Lewis ND, Coburn LA, Singh K, Ellies LG, Gobert AP, Chaturvedi R, Wilson KT.

Cationic Amino Acid Transporter 2 Enhances Innate Immunity during *Helicobacter pylori* Infection. *PLoS One.* 6(12):e29046.

Gobert AP, Asim M, Piazuolo MB, Verriere T, Scull BP, de Sablet T, Glumac A, Lewis ND, Correa P, Peek RM Jr, Chaturvedi R, Wilson KT.

Disruption of Nitric Oxide Signaling by *Helicobacter pylori* Results in Enhanced Inflammation by Inhibition of Heme Oxygenase-1. *J Immunol.* 187(10):5370-9.

Chaturvedi R, de Sablet T, Coburn LA, Gobert AP, Wilson KT.

Arginine and polyamines in *Helicobacter pylori*-induced immune dysregulation and gastric carcinogenesis. *Amino Acids* 42(2-3):627-40.

Chaturvedi R, Asim M, Romero-Gallo J, Barry DP, Hoge S, de Sablet T, Delgado AG, Wroblewski LE, Piazuolo MB, Yan F, Israel DA, Casero RA Jr, Correa P, Gobert AP, Polk BD, Peek RM, Jr., Wilson KT.

Spermine Oxidase Mediates the Gastric Cancer Risk Associated With *Helicobacter pylori* CagA. *Gastroenterology.* 141(5):1696-1708.

de Sablet T, Piazuolo MB, Shaffer CL, Schneider BG, Asim M, Chaturvedi R, Bravo LE, Sicinski LA, Delgado AG, Mera RM, Israel DA, Romero-Gallo J, Peek RM Jr, Cover TL, Correa P, Wilson KT.

Phylogeographic origin of *Helicobacter pylori* is a determinant of gastric cancer risk. *Gut.* 60(9):1189-95.

Barry DP, Asim M, Leiman DA, de Sablet T, Singh K, Casero RA Jr, Chaturvedi R, Wilson KT. Difluoromethylornithine is a novel inhibitor of *Helicobacter pylori* growth, CagA translocation, and interleukin-8 induction. PLoS One. 6(2):e17510.

Lewis ND, Asim M, Barry DP, de Sablet T, Singh K, Piazuolo MB, Gobert AP, Chaturvedi R, Wilson KT. Immune evasion by *Helicobacter pylori* is mediated by induction of macrophage arginase II. J Immunol. 186(6):3632-4.

Chaturvedi R, Asim M, Hoge S, Lewis ND, Singh K, Barry DP, de Sablet T, Piazuolo MB, Sarvaria AR, Cheng Y, Closs EI, Casero RA Jr, Gobert AP, Wilson KT. Polyamines Impair Immunity to *Helicobacter pylori* by Inhibiting L-Arginine Uptake Required for Nitric Oxide Production. Gastroenterology. 139(5):1686-98, 1698.e1-6.

Asim M, Chaturvedi R, Hoge S, Lewis ND, Singh K, Barry DP, Algood HS, de Sablet T, Gobert AP, Wilson KT. *Helicobacter pylori* induces ERK-dependent formation of a phospho-C-FOS/C-JUN AP-1 complex that causes apoptosis in macrophages. J Biol. Chem. 285(26):20343-57.

Lewis ND, Asim M, Barry DP, Singh K, de Sablet T, Boucher JL, Gobert AP, Chaturvedi R, Wilson KT. Arginase II Restricts Host Defense to *Helicobacter pylori* by Attenuating Inducible Nitric Oxide Synthase Translation in Macrophages. J Immunol. 184(5):2572-82.

de Sablet T, Chassard C, Bernalier-Donadille A, Vareille M, Gobert AP, Martin C. Human Microbiota-Secreted Factors Inhibit Shiga-Toxin Synthesis by Enterohemorrhagic *Escherichia coli* O157:H7. Infection and Immunity 77(2):783-90.

Vareille M, Rannou F, Théliier N, Glasser AL, de Sablet T, Martin C, Gobert AP. Heme oxygenase-1 is a critical regulator of nitric oxide production in enterohemorrhagic *Escherichia coli*-infected human enterocytes. J Immunol. 180(8):5720-6.

Gobert AP, Coste A, Guzman CA, Vareille M, Hindré T, de Sablet T, Girardeau JP and Martin C. Modulation of chemokine gene expression by Shiga-toxin producing *Escherichia coli* belonging to various origin and serotypes. Microbes Infect., 10(2):159-65.

de Sablet T, Bertin Y, Vareille M, Girardeau JP, Garrivier A, Gobert AP and Martin C. Differential expression of *stx2* variants in Shiga toxin-producing *Escherichia coli* belonging to seropathotypes A and C. Microbiology, 154(Pt 1):176-86.

Vareille M, de Sablet T, Hindré T, Martin C and Gobert AP. Nitric oxide inhibits Shiga-toxin synthesis by enterohaemorrhagic *Escherichia coli*. PNAS 104 (24): 10199-10204.

Gobert AP, Vareille M, Glasser AL, Hindré T, de Sablet T and Martin C. Shiga Toxin Produced by Enterohaemorrhagic *Escherichia coli* Inhibits PI3K/NFκB Signaling Pathway in Globotriaosylceramide-3-Negative Human Intestinal Epithelial Cells. J Immunol.; 178 (12):8168-74.

ORAL COMMUNICATIONS

de Sablet, T; Chaturvedi, R; Asim, M; Barry, D P; Gobert, A P; Piauelo, M B; Casero, R A; Woster, P M; Correa, P; Wilson, K T.

Polyamines Mediate Helicobacter pylori-Induced Gastric Carcinogenesis in Gerbils. Digestive Disease Week 2013, Orlando USA

de Sablet, T ; Lopez, N P ; Correa, P ; Peek, R M ; Israel, D A ; Chaturvedi, R ; Gobert, A P ; Wilson, K T. (2012) The Helicobacter pylori Bacterial Oncoprotein CagA is Upregulated Following Adherence to Gastric Epithelial Cells. Digestive Disease Week 2012, San Diego USA

Gobert, A P ; Verriere, T G ; de Sablet, T ; Peek, R M ; Chaturvedi, R ; Wilson, K T. (2012) Attenuation of the Macrophage Inflammatory Response to *Helicobacter pylori* is Mediated by p38 MAPK-Dependent Induction of Heme Oxygenase-1. Digestive Disease Week 2012, San Diego USA

de Sablet, T; Piauelo, M B; Schaffer, C. A; Schneider, B G; Asim, M; Chaturvedi, R; Sicinski, L A; Israel, D A; Romero-Gallo J; Peek, R M Jr., Cover, T L.; Correa, P; Wilson, K T. (2011) European Phylogenetic Origin of Helicobacter pylori Strains as a Risk Factor for Pre-Malignant Gastric Lesions in Colombia. 19^{ème} réunion annuelle du groupe d'étude français de Helicobacter, Paris, France.

de Sablet, T; Piauelo, M B; Schaffer, C. A; Schneider, B G; Asim, M; Chaturvedi, R; Sicinski, L A; Israel, D A; Romero-Gallo J; Peek, R M Jr., Cover, T L.; Correa, P; Wilson, K T. (2010) European Phylogenetic Origin of Helicobacter pylori Strains as a Risk Factor for Pre-Malignant Gastric Lesions in Colombia. Digestive Disease Week 2010, New Orleans USA

de Sablet T, Chaturvedi R, Romero-Gallo J, Piauelo M B, Washington M K, Delgado A G, Asim M, Schneider Barbara G, Sicinski L, Israel D, Peek R M, Correa P, Wilson, K T.(2009) Increased Gastric Dysplasia and Carcinoma in Gerbils Infected With *Helicobacter pylori* Strains from Regions of High versus Low Risk for Gastric Cancer in Colombia. Digestive Disease Week 2009, Chicago USA

de Sablet T, Chassard C, Bernalier-Donadille A, Vareille M, Gobert AP and Martin C. (2008) The human microbiota inhibits Shiga-Toxin synthesis by enterohemorrhagic *Escherichia coli*. Digestive Disease Week 2008, San Diego USA

de Sablet T, Chassard C, Gobert AP, Bernalier-Donadille A and Martin C. (2007) Influence of Human intestinal Microbiota on Shiga-toxin production by *E coli* O157 : H7. VIIème Congrès de la Société Française de Microbiologie, Nantes, France.

Vareille M, de Sablet T, Garrivier A, Martin C, Gobert AP. (2007) Modulation of nitric oxide production in human intestinal epithelial cells by enterohaemorrhagic *Escherichia coli*. VIIème Congrès de la Société Française de Microbiologie, Nantes, France.

Vareille M, de Sablet T, Durand A, Martin C and Gobert AP. (2006) Enterohaemorrhagic *Escherichia coli* inhibit nitric oxide synthesis by activated human intestinal epithelial cells. INRA-RRI Gut Microbiology 2006: 5th Biennial Meeting, Aberdeen, Scotland.

Vareille M, Glasser AL, de Sablet T, Martin C and Gobert AP. (2007) Inhibition of nitric oxide production in human intestinal epithelial cells by enterohaemorrhagic *Escherichia coli* results in increased Shiga-toxin synthesis. GREMI, Paris, France.

de Sablet T, Bertin Y, Gobert AP, Girardeau JP and Martin C. (2006) Stx2 production by pathogenic *Escherichia coli* : Transcriptional analysis, Secretion and Activity. Journées de l'école doctorale Science du Vivant, Clermont-Ferrand, France.

de Sablet T, Bertin Y, Gobert AP, Girardeau JP and Martin C. (2005) Shiga-toxin production by Shiga-toxin producing *Escherichia coli*. 2^{ème} rencontre des microbiologistes du pôle clermontois, Clermont-Ferrand, France.

POSTER COMMUNICATIONS

de Sablet T, Chassard C, Gobert AP, Bernalier-Donadille A and Martin C. (2006) Influence of Human intestinal microflora on Shiga-toxin production by *E coli* O157 : H7. Journée de l'Institut Fédératif de Recherche Santé Auvergne, Clermont-Ferrand, France.

de Sablet T, Bertin Y, Gobert AP, Girardeau JP and Martin C. (2006) Transcriptional analysis, release and specific activity of Stx2 in Shiga-toxin producing *Escherichia coli* belonging to seropathotypes A and C. (VTEC 2006) 6th International Symposium on Shiga Toxin (Verocytotoxin) - Producing *Escherichia coli* Infections, Melbourne, Australia.

Vareille M., Durand A, de Sablet T, Martin C and Gobert AP. (2006). Enterohaemorrhagic *Escherichia coli* Inhibit Inducible Nitric Oxide Synthase Expression in Human Intestinal Epithelial Cells. (VTEC 2006) 6th International Symposium on Shiga Toxin (Verocytotoxin) – Producing *Escherichia coli* infections, Melbourne, Australia.

Vareille M., Durand A, de Sablet T, Martin C and Gobert AP. (2006). Enterohaemorrhagic *Escherichia coli* inhibit iNOS expression in activated human intestinal epithelial cells. Abstract in Nitric Oxide: Biol Chem (2006) 14: A18. Fourth International Conference on the Biology, Chemistry and Therapeutic Applications of Nitric Oxide, Monterey, USA.

de Sablet T, Bertin Y, Gobert AP, Girardeau JP and Martin C. (2006) Stx2 synthesis in pathogenic *Escherichia coli*: Transcriptional analysis, secretion and activity. Rencontre des microbiologistes de l'INRA, Dourdan, France.

de Sablet T, Bertin Y, Gobert AP, Girardeau JP and Martin C. (2006) Stx2 synthesis in pathogenic *Escherichia coli*: Transcriptional analysis, secretion and activity. INRA-RRI Gut Microbiology 2006: 5th Biennial Meeting, Aberdeen, Scotland.

Vareille M, de Sablet T, Martin C and Gobert AP. (2006) Analysis of the interactions between Nitric Oxide and Shiga-toxin Producing *E. coli*. Congrès Jeunes Chercheurs du Club NO, Paris, France.

Gobert AP, Besson C, Durand A, de Sablet T and Martin C. 2005) Enterohaemorrhagic *Escherichia coli* stimulate inducible nitric oxide synthase in human colonic epithelial cells. IUMS 2005: Microbes in a changing world, San Francisco, USA.

de Sablet T, Bertin Y, Girardeau JP and Martin C. (2005) Comparison of Shiga-toxin production by Shiga-toxin producing *E. coli* from Human vs Bovine. Journées du département de santé animale, Batz-sur-

mer, France.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

Member of the American Gastroenterological Association (AGA)