

CURRICULUM VITAE

PART I: General information

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Place of Birth: Rueil-Malmaison, France

Date of Birth: October 20, 1962

Visa: Permanent Resident (Green card) since May 2007

Education:

1997 Engineer in Biology (equivalent to Master's degree), National Academy of Arts and Occupations of Montpellier, France.

1998 University Diploma of Cytometry in Research and Clinical Studies, Medical school of Grenoble and Reims, France.

2006 PhD program in Biology, National Academy of Arts and Occupations of Paris, France (Defense on Nov 26th, 2010 in Paris, France)

Employment history:

1984-1986 Assistant nurse, Department of peritoneal dialysis, Mas de rochet clinic, Montpellier, France.

1986-2000 Assistant nurse (night shift), Paraplegics and quadriplegics reeducation clinical, Propara center, Montpellier, France

1995-1999 Biology Engineer, Department of Immunology, Institut National de la Santé et de la Recherche Medicale, Montpellier, France

1999-2000 Core Facility Manager, Cytometry Department, Department of Anatomy and Pathology, Gui de Chauillac Hospital, Montpellier, France.

2001-2008 Cell Sorter Facility Manager, Harvard Medical School, Center For AIDS Research and Division of Viral Pathogenesis, Department of Medicine, Beth Israel Deaconess Medical Center.

2008-Present Flow Cytometry Facility Manager, Boston College, Department of Biology, Chestnut Hill, MA, USA

Hospital or Affiliated Institutional Appointments:

1999-2000 Core Facility Manager, Department of Cytometry, Department of Anatomy and Pathology, Gui de Chauliac Hospital, Montpellier, France.

2001-2008 Cell Sorter Facility Manager, Division of Viral Pathogenesis, Beth Israel Deaconess Medical Center.

2008-present Flow Cytometry Facility Manager, Boston College, Department of Biology

Professional Societies:

1999 - Present Member of the ISAC for Cytometry.

Awards and Honors:

1997 Engineer (biologist, thesis), National Academy of Arts and Occupations, Montpellier, France

1998 University Diploma of Cytometry in Research and Clinical Studies, Medical School of Grenoble and Reims, France.

2007 Award from the International Society of Analytical Cytology (ISAC)

Part II: Research Contributions

A. Narrative report of Research

Dendritic cells (DC) are the most potent Antigen-Presenting-Cells (APC) able to initiate adaptive immune responses. They play a key role in the inhibition (tolerance) or the activation (immunity) of the immune response. Upon infection or inflammation DC capture antigens in peripheral tissues and mature into highly immunogenic DC. They migrate towards secondary lymphoid organs to present these antigens to lymphocytes. This process activates vigorous responses, via B cells that produce antibodies to neutralize the pathogens and cytotoxic T cells that specifically kill infected cells. DC are a heterogeneous population present at very low frequency in peripheral blood (0.1-0.3%). Most of the phenotypic markers used to detect DC are also expressed by other cells from the myeloid lineage such as monocytes. Thus the isolation of different DC subsets without any contamination has become a challenging task in studies on DC functions.

However, since several years, new tools have been developed. First, molecules more specific for DC subsets have been identified like BDCA-1, 2, 3 and 4 leading to the production of new monoclonal antibodies. Second the latest generation of Flow Cytometry instruments now allow us to measure up to twelve independent signals to be analyzed at one time for a more detailed phenotypic analysis of a specific cell population. Taking advantage of these 2 technical advances we sought to determine an “all-in-one” phenotypic method with the aim of identifying and isolate the different peripheral blood DC subsets with only one panel of antibodies.

Here we present a detailed phenotypic analysis of human DC using an 11-color panel on a FACS Aria cell sorter. Being able to measure many parameters and/or sort different rare subsets of DC in “one shot” will allow in the near future understanding better the vital role of DC and their link between the antigens and all the lymphocytes.

B. Funding Information

1999 – 2000 a grant from the Main Hospital in Montpellier, Project U7584, Montpellier, France. "Multiparameter flow cytometry analysis of DNA ploidy and tumor growth fraction in breast and colon cancer."

C. Teaching Responsibilities:

1998 - 2000 School of Nursing, Main Hospital, Montpellier, France.
50 graduate students
15 hr per semester

PART III: Bibliography

Original Articles:

1. **Autissier P.**, Liautard J., Brochier J. and Gaillard J.P. (1997). "Activation of the gp130 signalling pathway by monoclonal antibodies directed against the gp130 molecule". *Eur. J. Immunol.* 27: p.794-797.
2. Rebouissou C., Wijdenes J., **Autissier P.**, Tarte K., Costes V., Liautard J., Rossi J.-F., Brochier J. and Klein B. (1998). "A gp130 IL-6 transducer dependent SCID model of human multiple myeloma". *Blood.* 91: p.4727-4737.
3. **Autissier P.**, De Vos J., Liautard J., Tupytsin N., Jacquet C., Chavdia N., Klein B., Brochier J. and Gaillard J.-P. (1998). "Dimerization and activation of the common transducing chain (gp130) of the cytokines of the IL-6 family by monoclonal antibodies". *Int. Immunol.* 10: n°12: p.1881-1889.
4. Du Pasquier R.A., Kuroda M., Schmitz J., Peyerl F., Zheng Y., **Autissier P.**, Martin K., Lifton M., Gorgone D., Letvin N.L., Koralnik I.J. (2003). "The novel HLA-A*0201-restricted JC Virus epitope VP1_{p36} is frequently recognized by CTL in healthy individuals as well as survivors of Progressive Multifocal Leukoencephalopathy". *J. Virol.* 77: n°22: p.11918-11926.
5. Strelau M, Owens CM, Perron MJ, Kiessling M, **Autissier P** and Sodroski J. (2004). "The cytoplasmic body component TRIM5alpha restricts HIV-1 infection in Old World Monkeys". *Nature*, 427 (6977): 848-53.

6. Hess C, Means TK, **Autissier P**, Woodberry T, Altfeld M, Addo MM, Frahm N, Brander C, Walker BD, Luster AD. (2004). "IL-8 responsiveness defines a subset of CD8 T cells poised to kill". *Blood*, 104 (12):3463-71.
7. Subramanian R.A., Moriya C., Martin K.L., Peyerl F.W., Hasegawa A., Naoi A., Chhay H., **Autissier P.**, Gorgone D.A., Lifton M.A., Kuus-Reichel K., Schmitz J.E., Letvin N.L., Kuroda M.J. (2004). "Engineered T-cell receptor tetramers bind MHC-peptide complexes with high affinity". *Nat Biotechnol*, 22 (11):1429-34.
8. Williams K, Westmoreland S, Greco J, Ratai E, Lentz M, Kim WK, Fuller RA, Kim JP, **Autissier P**, Sehgal PK, Schinazi RF, Bischofberger N, Piatak Jr M, Lifson JD, Masliah E, Gonzalez RG. (2005). "Magnetic resonance spectroscopy reveals that activated monocytes contribute to neuronal injury in SIV neuroAIDS". *J.Clin. Invest*, 115(9): 2534-2545.
9. Renaud A. Du Pasquier, **Patrick Autissier**, Yue Zheng, Jims Jean-Jacques and Igor Koralnik. (2005). "Presence of JC virus-specific CTL in the cerebrospinal fluid of PML patients: rationale for immune-based therapeutic strategies". *AIDS*, 19(18), 2069-2076.
10. Petronela A, Kunstman K.J, **Autissier P**, Zaman T, Stone D, Wolinsky S.M, Gabuzda D. (2006). "CD16+ monocytes exposed to HIV promote highly efficient viral replication upon differentiation into macrophages and interaction with T cells". *Virology*, 344(2), 267-76.
11. Goldstein S, Brown CR, Ourmanov I, Pandrea I, Buckler-White A, Erb C, Nandi JS, Foster GJ, **Autissier P**, Schmitz JE, Hirsch VM. (2006). "Comparison of Simian Immunodeficiency Virus SIVagmVer Replication and CD4+ T-Cell Dynamics in Vervet and Sabaues African Green Monkeys". *J. Virol*, 80(10):4868-77.
12. Petronela Ancuta, **Patrick Autissier**, Alysse Wurcel, Tauheed Zaman, David Stone and Dana Gabuzda. (2006). "CD16+ monocyte-derived macrophages activate resting T-cells for HIV infection by producing CCR3 and CCR4 ligands". *J. Immunol*, 176(10): 5760-71.
13. Manuel ER, Charini WA, Sen P, Peyerl FW, Kuroda MJ, Schmitz JE, **Autissier P**, Sheeter DA, Torbett BE, Letvin NL. (2006). "Contribution of TCR Repertoire Breadth to the Dominance of Epitope-Specific CD8+ T Lymphocyte Responses". *J. Virol*, 80(24): 12032-40.
14. Lima MA, Marzochetti A, **Autissier P**, Tompkins T, Chen Y, Gordon J, Clifford DB, Gandhi RT, Venna N, Berger JR, Koralnik IJ. (2007). "Frequency and phenotype of JC Virus-specific CD8+ T lymphocytes in the peripheral blood of patients with Progressive Multifocal Leukoencephalopathy". *J. Virol*, 81(7): 3361-8.
15. Hovav AH, Panas MW, Osuna C, Cayabyab MJ, **Autissier P**, Letvin NL. (2007). "The impact of a boosting immunogen on the differentiation of secondary memory CD8+ T cells". *J. Virol*, 81(23): 12793-802.
16. Sen P, Charini WA, Subramanian RA, Manuel ER, Kuroda MJ, **Autissier PA**, Letvin NL. (2008). "Clonal focusing of epitope-specific CD8+ T lymphocytes in rhesus monkeys following vaccination and simian-human immunodeficiency virus challenge". *J. Virol*, 82(2): 805-16.
17. Yiping Chen, Jennifer Trofe, Jennifer Gordon, **Patrick Autissier**, E. Steve Woodle, Igor J Koralnik. (2008). "BKV and JCV large T antigen-specific CD8+ T cell response in HLA A*0201+ kidney transplant recipients with polyomavirus nephropathy and patients with progressive multifocal leukoencephalopathy". *J. Clin. Virol*, 42(2): 198-202.

18. Ancuta P, Kamat A, Kunstman KJ, Kim EY, **Autissier P**, Wurcel A, Zaman T, Stone D, Mefford M, Morgello S, Singer EJ, Wolinsky SM, Gabuzda D. (2008). "Microbial translocation is associated with increased monocyte activation and dementia in AIDS patients". *PLoS One*, 3(6): e2516.
19. Chenine AL, Shai-Kobiler E, Steele LN, Ong H, Augustini P, Song R, Lee SJ, **Autissier P**, Ruprecht RM, Secor WE. (2008). "Acute *Schistosoma mansoni* Infection Increases Susceptibility to Systemic SHIV Clade C Infection in Rhesus Macaques after Mucosal Virus Exposure". *PLoS Negl Trop Dis*. 2008 Jul 23; 2(7): e265.
20. Tan Cs, Dezube BK, Bhargava P, **Autissier P**, Wuthrich C, Miller J, Koralnik IJ. (2009). "Detection of JC Virus DNA and Proteins in the Bone Marrow of HIV-Positive and HIV-Negative Patients: Implications for Viral Latency and Neurotropic Transformation". *J Infect Dis*. 2009, Mar 15; 199(6): 881-8.
21. Hulot SL, Seaman MS, Sen P, **Autissier PA**, Manuel ER, Letvin NL. (2009). "Diverse cross-reactive potential and Vbeta gene usage of an epitope-specific cytotoxic T-lymphocyte population in monkeys immunized with diverse human immunodeficiency virus type 1 Env immunogens". *J. Virol Oct*; 83(19): 9803-12.
22. Manuel ER, Yeh WW, Seaman MS, Furr K, Lifton MA, Hulot SL, **Autissier P**, Letvin NL. (2009). "Dominant CD8+ T-lymphocyte responses suppress expansion of vaccine-elicited subdominant T lymphocytes in rhesus monkeys challenged with pathogenic simian-human immunodeficiency virus". *J. Virol Oct*; 83(19): 10028-35.
23. Woong-Ki Kim, Yue Sun, Hien Do, **Patrick Autissier**, Elkan Halpern, Michael Piatak Jr, Jeffrey D. Lifson, Tricia H. Burdo, Michael S. McGrath, Kenneth Williams. (2009). "Monocyte heterogeneity underlying phenotypic changes in monocytes according to SIV disease stage". *J. Leukoc. Biol, Apr*; 87(4): 557-67.
24. **Patrick Autissier**, Caroline Soulas, Tricia H. Burdo, Kenneth C. Williams. (2010). "Evaluation of a 12-color flow cytometry panel to study lymphocyte, monocyte, and dendritic cell subsets in humans". *Cytometry A, May*, 77(5): 410-9.
25. Ratai EM, Bombardier JP, Joo CG, Annamalai L, Burdo TH, Campbell J, Fell R, Hakimelahi R, He J, **Autissier P**, Lentz MR, Halpern EF, Masliah E, Williams KC, Westmoreland SV, González RG. (2010). "Proton magnetic resonance spectroscopy reveals neuroprotection by oral minocycline in a nonhuman primate model of accelerated NeuroAIDS". *PLoS One*. May 7; 5(5); e10523.
26. **Patrick Autissier**, Caroline Soulas, Tricia Burdo and Kenneth Williams. (2010). "Immunophenotyping of lymphocyte, monocyte and dendritic cells subsets in normal rhesus macaques by 12-color flow cytometry: clarification on DC heterogeneity". *J. Immunol Methods*, 360(1-2): 119-28.

Poster and/or oral presentation

1. **Autissier P.**, Liautard J., Sun R.X., Cotte N., Klein B., Brochier J. and Gaillard J.P. "Activation of the gp130 signalling pathway by monoclonal antibodies directed against the gp130 molecule". 6th International Workshop on Human Leukocyte Differentiation Antigens. Osaka, Japan, **November 1996**.
2. **Autissier P.**, Delfour C., Gondy D., Moine P., Vic P., Costes V., Gaspard C. and Baldet P. "Multiparameter flow cytometry analysis of DNA ploidy and tumour growth fraction in breast and colon cancer". ISAC XX International Congress, Montpellier, France, **May 2000**.

3. Gaspard C., Vic P., Grigorescu R., Costes V., Delfour C., **Autissier P.** and Baldet P. "DNA content in human colorectal and non neoplastic mucosae". ISAC XX International Congress, Montpellier, France, **May 2000**.
4. Christoph Hess, Terry Means, **Patrick Autissier**, Tonia Woodberry, Marcus Altfeld, Marylyn Addo, Eric S. Rosenberg, Christian Brander, Bruce D. Walker, Andrew D. Luster. "CXCR1-expressing CD8 T cells link acquired and innate immune responses". 6th World Congress on Inflammation, Vancouver, Canada, **August 2003**.
5. Woong-Ki Kim, Eva Ratai, Margaret R. Lentz, Jane B. Greco, Raymond F. Schinazi, **Patrick Autissier**, Robert A. Fuller, John P. Kim, Julian He, Susan V. Westmoreland, Michael Piatak, Jeffrey D. Lifson, Golberto R. Gonzalez, Kenneth C. Williams. "Monocyte activation and infection with SIV neuropathogenesis". 5th International Symposium on NeuroVirology, Baltimore, MD, USA, **September 2003**.
6. **P. Autissier**, N. Letvin, J. Schmitz. "Detection of functional impairment of T cells from AIDS virus-infected rhesus monkeys by Ca-flux". XXII ISAC International Congress, Montpellier, France, **May 2004**.
7. **P. Autissier**, N. Letvin, I. Koralnik, J. Schmitz. "CD8+ T-cell dysfunction in AIDS: A cellular defect or an absence of CD4+ T cells help?" XXIII ISAC International Congress, Quebec City, Canada, **May 2006**.
8. Tan C, Dezube B, **Autissier P**, Bhargava P, Wuethrich C, Koralnik I. "JC Virus in Bone Marrow of HIV-positive and HIV-negative Patients". CROI, Boston, MA, USA, **February 2008**.
9. Petronela Ancuta, Kevin J. Kunstman, Eun-Young Kim, **Patrick Autissier**, Megan Mefford, David Stone, Steven M. Wolinsky, and Dana Gabuzda. "Elevated Plasma Endotoxin Associated with Monocyte Activation and Reduced BDNF in AIDS Patients with Dementia". CROI, Boston, MA, USA, **February 2008**.
10. Sandrine L. Hulot, Michael S. Seaman, Pritha Sen, **Patrick Autissier**, Edwin R. Manuel, Norman L. Letvin. "Analysis of Vb gene diversity and cross-reactive potential of an epitope-specific CTL population in monkeys immunized with diverse HIV-1 Env Immunogens". Keystone meeting, Banff, CA, **March 2008**.
11. **Patrick Autissier**, Caroline Soulas, Tricia Burdo, Kenneth Williams. "Immunophenotypic analysis of dendritic cells using an 11-color panel flow cytometry". XXIV ISAC International Congress, Budapest, Hungary, **May 2008**.
12. **Patrick Autissier**, Caroline Soulas, Tricia Burdo, Kenneth Williams. "Dendritic cells in humans and Rhesus monkeys: Phenotypic differences found using multicolor flow cytometry". Keystone meeting, Banff, CA, **March 2009**.
13. Ratai EM, Joo CG, Bombardier JP, He JL, Burdo T, Campbell J, **Autissier P**, Annamalai L, Williams K, Westmoreland SV, Gonzalez G. "1H MR Spectroscopy reveals neuroprotection by minocycline in an accelerated rhesus macaque model of neuroAIDS". 9th International Symposium on NeuroVirology, Miami Beach, FL, **June 2009**.
14. Campbell JH, Burdo TH, **Autissier P**, Ratai EM, Bombardier JP, Westmoreland SV, Soulas C, Gonzaz RG, Williams KC. "The tetracycline antibiotic minocycline prevents the activation of CD14/CD16 monocytes in blood and accumulation in the brain, as well as the development of SIV encephalitis in rhesus macaques". 9th International Symposium on NeuroVirology, Miami Beach, FL, **June 2009**.

15. **Patrick Autissier**, Caroline Soulas, Tricia H. Burdo, Kenneth C. Williams. "Evaluation of a 12-color flow cytometry panel to study lymphocyte, monocyte, and dendritic cell subsets in humans". XXV ISAC International Congress, Seattle, WA, **May 2010**.

16. **Patrick Autissier**, Caroine Soulas, Tricia Burdo, Kenneth Williams. "Immunophenotyping of lymphocyte, monocyte and dendritic cell subsets in normal rhesus macaques by 12-color flow cytometry: Clarification on DC heterogeneity". 28TH Annual Symposium on Non-Human Primate Models For AIDS, New Orleans, LA, USA, **October 2010**.

17. Caroline Soulas, **Patrick Autissier**, Jeffrey D. Lifson, Michael Piatak Jr., and Kenneth C. Williams. "Modulation and Susceptibility to Infection of Blood Dendritic Cells during SIV Infection". 28TH Annual Symposium on Non-Human Primate Models For AIDS, New Orleans, LA, USA, **October 2010**.

Books, Monographs, and Text Books

1. **Autissier P.**, Liautard J., Sun R.X., Cotte N., Klein B., Brochier J. and Gaillard J.P. (1997). CD130 Workshop. "Activation of the gp130 signalling pathway by monoclonal antibodies directed against the gp130 molecule". Leukocyte Typing VI, White cell differentiation antigens. Kobe, Japan, p 845.
2. Biology thesis (equivalent to Master's Degree): "Activation of the gp130 signalling pathway by monoclonal antibodies directed against the gp130 molecule". Engineer, thesis at the National Academy of Arts and Occupations, Montpellier, France, **Sept 1997**.