

Curriculum Vitae

Constantinos Petrovas PhD

1. Demographic information:

Date and place of birth: 29 October 1969, Kalamata, Greece.

Nationality: Greek

Immigration status: green card holder (USA)

Marital Status: Married - two children

Work address: Immunology Laboratory

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2. Academic studies:

October 1987 - February 1992:

Bachelor of Science in Chemistry.

Relevant topics: biochemistry, clinical chemistry, analytical chemistry and enzymology.

Department of Chemistry, University of Patras, Greece.

November 1994 - October 1996:

Master of Science in Clinical Chemistry. Title of Thesis: '*Development of a highly sensitive immunoassay method for TNF- α determination in biological fluids*', Department of Chemistry, National University of Athens, Greece.

October 1996 - July 2000:

Ph.D. in Immunology, Department of Pathophysiology, School of Medicine, National University of Athens, Greece. Title of Thesis: "*Antiphospholipid Antibodies in Autoimmune Diseases and Acquired Immunodeficiency Syndrome. Study of pathophysiological mechanisms of Antiphospholipid Antibodies*".

October 2000 – June 2002: Postdoctoral Fellow: “*Transcriptional regulation of matrix genes*”, Department of Biochemistry, Boston University School of Medicine, Boston, MA, USA.

July 2002 – December 2005: Postdoctoral Fellow: “*CD8+ T cell responses in HIV infection*”, Department of Immunology-Microbiology, Drexel University College of Medicine, Philadelphia, PA, USA.

3. Employment:

January 2006 – July 2007: Research Fellow, Laboratory of Immunology, Vaccine Research Center, NIAID/NIH, Bethesda, MD, USA.

August 2007-March 2016: Staff Scientist, Laboratory of Immunology, Vaccine Research Center, NIAID/NIH, Bethesda, MD, USA.

March 2016- : Chief of the “Tissue Analysis Core Section”, Vaccine Research Center, NIAID/NIH, Bethesda, MD, USA. Laboratory personnel: one Staff Scientist, two post-doctoral fellows and two post-back students.

* **January 1993-October 1994:** I served at the Greek Navy.

4. Awards and Honors:

- 1) 1st price awarded by the HELLENIC AIDS SOCIETY, Panhellenic AIDS Congress, Athens, 1999.
- 2) Recipient of a Fellow Travel grant for the 11th Conference on Retroviruses and Opportunistic Infections, February 8-11, 2004, Moscone West, San Francisco, USA
- 3) Recipient of a Fellow Travel grant for the 12th Conference on Retroviruses and Opportunistic Infections, February 22-25, 2005, Hynes Convention Center, Boston, MA
- 4) Recipient of a Fellow Travel grant for the 14th Conference on Retroviruses and Opportunistic Infections, February 24-28, 2007, Hynes Convention Center, Los Angeles, CA
- 5) Recipient of “Performance Award” from the Department of Health and Human Services, National Institute of Health, in recognition and appreciation of special achievement (2007).
- 6) Recipient of “Performance Management Appraisal Program award 2015” from the Department of Health and Human Services, National Institute of Health, in recognition and appreciation of special achievement (2015).

5. Memberships in Professional Societies:

- 1) 1992-present: Hellenic Association of Chemists
- 2) 2003-2008: American Association of Immunologists-Trainee member (AAI)
- 3) 2009- 2010: American Association of Immunologists-Regular member (AAI)
- 4) 2003- 2004: International Society of NeuroVirology (ISNV)

6. Professional activities

- 1) Ad hoc reviewer (Journals):

Plos Pathogen (frequent)
 Journal of Virology (frequent)
 Journal of Immunology (frequent)
 AIDS Research and Human Retroviruses
 Blood
 Critical reviews in Microbiology
 FASEB
 Journal of Leukocyte Biology
 Journal of Infectious Diseases
 Journal of Experimental Medicine
 Journal of Cell Death
 Journal of Rheumatology
 Journal of Clinical Immunology
 Journal of Infectious Diseases
 International immunology
 Journal of Acquired Immune Deficiency Syndromes, Basic Science
 Nature Medicine
 Plos One
 Viral Immunology
 mBio

- 2) Co-organizer of the “Immunology Journal Club” at VRC/NIAID/NIH (2010-2013)

- 3) Member of the Academic Editorial Board:

“ISRN AIDS”, “International STD Research & Reviews”, “Current Cancer Review”

- 4) Reviewer of a “development grant” for the “National Health Laboratory Service Research Trust (NHLSRT)”, South Africa.

- 5) Reviewer of an “intermediate level research grant” for the “Wellcome Trust”, UK

6) Ad hoc member (2013) of the site visit committee to three of the intramural Laboratories of the NICHD-NIH: the Program in Physical Biology (PPB), the Program on Paediatric Imaging and Tissue Sciences (PPITS).

7) Member of the organizing committee: “Harnessing Novel **Imaging** Approaches to Guide HIV Prevention and Cure Discoveries”, Workshop, May 8-9, 2017, Rockville, MD, USA (sponsored by NIAID and Global HIV Vaccine Enterprise).

Preparing and presenting proposals for non-human primate studies performed at VRC:

VRC-10-311: In vivo Dynamics of SIV-specific CD8+ T cells in Relation to Expression of PD-1

VRC-12-426: *In vivo* manipulation of the PD-1/PD-L1 axis during the vaccination of non-human Primates with HIV-envelope protein,

VRC-13-426: Dynamics of follicular helper CD4 T cells in SIV infection.

VRC-15-505: *In vivo* Manipulation of the CXCR3/CXCL10 (IP-10) Axis during Chronic SIV Infection.

7. Seminars (invited)

1) “Understanding the intrinsic defects of HIV-specific CD8+ T cells”, Biomedical Research Foundation, Academy of Athens, Athens Greece (09-11-2007).

2) “Exhaustion of HIV-specific T cell responses: implications for the HIV pathogenesis”, Department of Microbiology, Immunology and Tropical Medicine, George Washington University, Washington DC, USA (05-02-2012).

3) “Understanding the development of virus-specific responses in HIV/SIV infection”, U.S. Military HIV Research Program, HJF, Rockville, MD, USA (08-15-2012).

4) “Towards understanding the dynamics of follicular helper CD4 T cells in SIV/HIV infection”, Yerkes Regional Primate Research Center, Emory University (11-06-2012).

5) “Towards understanding the regulation of HIV- and SIV-specific T cell responses”, University of North Carolina (02-22-2013).

6) “In vivo dynamics of follicular helper CD4 T cells and the induction of SIV antibodies” 3rd World Congress on Virology, November 20-22, 2013, Baltimore, USA.

7) “Understanding the effect of HIV/SIV infection on the T cell dynamics within the Lymph Node

environment”, RAGON Institute, Harvard University (05-03-2014).

8) “Dynamics of CD8 T cells within the lymph node during HIV infection”, 9th CIENI-INER HIV meeting, Oaxaca, Mexico, (12-05-2014).

9) “Lymph Node Immunopathology In HIV/SIV Infection”, University of Miami Miller School of Medicine, Miami Center for AIDS Research (01-20-2015).

10) “Understanding the effect of chronic HIV/SIV on Lymph Node immune dynamics”, Department of Microbiology, Immunology and Parasitology, Louisiana State University, New Orleans (02-04-2015).

11) "Inflammation and T cell dynamics in Lymph Node during HIV/SIV infection", NIAID, NIH, USA (02-19-2015).

12) “Novel Approaches for Investigating Tissue Resident Immune Cell Dynamics in HIV/SIV”, 10th CIENI-INER HIV meeting, Oaxaca, Mexico, (11-30-2015).

13) “T cell dynamics in HIV/SIV: learning from tissue imaging analysis”, Center for Cellular Immunotherapies, UPENN, Philadelphia, PA, USA (05-06-2016)

14) “Tissue imaging: shedding light into immune dynamics in vaccinology and viral infections”, DAIDS, NIAID, NIH, Workshop, May 8-9, 2017, Rockville, MD, USA

15) “Tissue Imaging Analysis: lessons for vaccine development”, CAVD Online research forum, May 18, 2017.

16) “Understanding Tissue Immune Dynamics: Lessons from Imaging Studies”, Department of Immuno-Oncology, Comprehensive Cancer Center, City Of Hope, June 5, 2017, Los Angeles, CA, USA.

8. Active Projects / Collaborations

In line with my research interests, I have been involved in several collaborative projects within the VRC as well as with other NIH-based groups or extramural scientists.

i) Infectious Diseases

Mascola's Lab (VRC): analysis of the cell death of CD4 T cells after in vitro infection with HIV

Douek's Lab (VRC): imaging signatures (virus/relevant cell types/transcriptional profile) for lymph nodes from HIV+ donors (primary role in designing-analyzing experiments)

Moir's Lab (NIAID): developing confocal imaging assays for the analysis of lymph node B cell populations in HIV infection (primary role in designing-analyzing experiments)

Sereti's Lab (NIAID): developing confocal imaging assays for the analysis of lymph node T cell populations in IRIS/HIV infected individuals (supporting role in designing-analyzing experiments)

Pahwa's Lab (University of Miami): investigation of CD4 and CD8 T cell dynamics in lymph nodes during HIV/SIV infection (primary role in designing-analyzing experiments). Funds from i) the State of Miami (State Pilot Awards Program) and 2) R01 award to investigate the role of aging in B cell responses in SIV-NHP model (key collaborator from VRC).

Sekaly's Lab (CWRU-Cleveland): investigation of the role of inflammation in reactivating HIV/SIV especially with the follicular B cell areas (primary role in designing-analyzing experiments). Funded R21 for the role of IL-10 in HIV/SIV lymph node immune dynamics (key collaborator from VRC)

Paiardini's Lab (Emory): tissue analysis from NHP treated with reagents capable of changing the immune dynamics within the secondary lymphoid organs (primary role in designing-analyzing experiments). Funded R23 for the role of S1PR blocking in /SIV lymph node immune dynamics (key collaborator from VRC).

Hoxie's Lab (UPENN): investigation of Tfh responses in a non-CD4 tropic SIVmac Rhesus Macaques model (primary role in designing-analyzing experiments)

Bett's Lab (UPENN): CD8 T cell dynamics at tissue level (supporting role in designing-analyzing experiments)

ii) Cancer

Pavlakis' Lab (NCI): analysis of CD4 and B cell responses in lymph nodes from NHP and humans treated with IL-15 (NIH, Clinical Center) (leading role in designing-analyzing experiments)

Peter Lee's Lab (City of Hope): analysis of tissue resident immune cells types in breast cancer and draining lymph nodes (leading role in designing-analyzing experiments)

10. Publications (peer-reviewed)

(Total citations > 1900) (*Corresponding author, **Co-senior author)

Human Studies

1. C.Sakarellos, V.Tsikaris, C.Alexopoulos, M.Sakarellos-Daitsiotis, **C.Petrovas**, P.G.Vlachogiannopoulos, H.M.Moutsopoulos, “The PPGMRPP repetitive epitope of the Sm autoantigen: antigenic specificity induced by conformational changes. Application of the sequential oligopeptide carriers (SOCs)”, **Letters in peptide Science**, 1997, 4: 447-454.
2. A.G.Tzioufas, S.I. Kokori, **C. Petrovas**, H.M. Moutsopoulos. “Autoantibodies to human recombinant Erythropoietin in patients with Systemic Lupus Erythematosus: correlation with anemia”, **Arthritis and Rheumatism**, 1997 Dec; 40(12): 2212-6.
3. **C. Petrovas**, P.G. Vlachogiannopoulos, A.G. Tzioufas, C. Alexopoulos, V.Tsikaris, M. Sakarellos-Daitsiotis, C.Sakarellos, H.M. Moutsopoulos. “A major Sm epitope anchored to sequential oligopeptide carriers is a suitable antigenic substrate to detect anti-Sm antibodies”, **Journal of Immunological Methods**, 1998 Nov 1; 220(1-2): 59-68.
4. P.G. Vlachogiannopoulos, **C. Petrovas**, M. Tektonidou, S. Krilis, H.M. Moutsopoulos, “Antibodies to beta 2-glycoprotein-I: urea resistance, binding specificity and association with thrombosis”, **Journal of Clinical Immunology**, 1998 Nov; 18(6): 380-91.
5. **C. Petrovas**, S.M. Daskas, E.S. Liamidou, “Determination of Tumor Necrosis Factor- α (TNF- α) in serum by a highly sensitive Enzyme Amplified Lanthanide Luminescence Immunoassay”, **Clinical Biochemistry**, 1999 Jun; 32(4): 241-7.
6. **C. Petrovas**, P.G. Vlachogiannopoulos, T. Kordosis, H.M. Moutsopoulos, “Antiphospholipid antibodies in HIV infection and SLE with or without antiphospholipid syndrome: comparisons of phospholipid specificity, avidity and reactivity with β_2 -GPI”, **Journal of Autoimmunity**, 1999, 13, 347-355, 1999.
7. M.G. Tektonidou, **C. Petrovas**, J.P.A. Ioanidis, P.G. Vlachogiannopoulos, H.M. Moutsopoulos, “Clinical importance of antibodies against platelet activating factor in antiphospholipid Syndrome manifestations”, **Eur. Journal of Clinical Investigation**, 30, 673-678, 2000.
8. H.Y. Jiang, **C. Petrovas**, G.E. Sonenshein, “RelB-p50 NF-kappa B complexes are selectively induced by cytomegalovirus immediate-early protein 1: differential regulation of Bcl-x(L) promoter activity by NF-kappa B family members”. **Journal of Virology**. 2002 Jun;76(11): 5737-47.

9. **C. Petrovas**, S Jeay, R.E. Lewis, G.E. Sonenshein, “B-Myb repressor function in vascular smooth muscle cells is regulated by cyclin A phosphorylation and sequences within the C-terminal domain”, **Oncogene** 2003 Apr 3; 22(13): 2011-20.
10. **C. Petrovas**, Y.M. Mueller, I.D. Dimitriou, P.M. Bojczuk, K.C. Mounzer, J. Witek, J.D. Altman, P.D. Katsikis, “HIV-specific CD8(+) T cells exhibit markedly reduced levels of Bcl-2 and Bcl-x(L)”, **Journal of Immunology** 2004 Apr 1;172(7):4444-53.
11. **C. Petrovas**, Y.M. Mueller, P.D. Katsikis, “HIV-Specific CD8⁺ T Cells: Serial Killers Condemned To Die?” **Current HIV Research**, 2004, **Apr 2(2)** p.153-162.
12. **C. Petrovas**, Y. M. Mueller, P.D. Katsikis, “Apoptosis of HIV-specific CD8⁺ T cells: an HIV evasion strategy”, **Cell Death and Differentiation**, 2005 Apr, 12: 859-70.
13. **C. Petrovas**, J.P. Casazza, J.M. Brenchley, D.A. Price, E.Gostick, W.C. Adams, M.L. Precopio, T. Schacker, M. Roederer, D.C. Doug, R.A. Koup, “PD-1 is a regulator of virus-specific CD8⁺ T cell survival in HIV infection”, **Journal of Experimental Medicine**, 2006 Oct 2; 203(10): 2281-92.
14. **C. Petrovas**, Y.M Mueller, I.D. Dimitriou, J. Witek, J. Altman, P.D. Katsikis, “Increased mitochondrial mass characterizes the survival defect of HIV-specific CD8(+) T cells”, **Blood**. 2007 Mar 15; 109(6): 2505-13.
15. **C. Petrovas**, Y.M. Mueller, G.Yang, S.R. Altork, J.M. Jacobson, P.G. Piysakis, K.C. Mounzer, J.D. Altman, P.D. Katsikis, “Actin integrity is indispensable for CD95/Fas-induced apoptosis of HIV-specific CD8⁺ T cells”, **Apoptosis** 2007 Dec; 12(12): 2175-86.
16. Vassilopoulos A, Wang RH, **Petrovas C**, Ambrozak D, Koup R, Deng CX. “Identification and characterization of cancer initiating cells from BRCA1 related mammary tumors using markers for normal mammary stem cells” **Int J Biol Sci**. 2008 May 4; 4(3): 133-42.
17. ***C Petrovas**, B Chaon, D.R. Ambrozak, D.A. Price, J.J Melenhorst, B.J. Hill, C Geldmacher, J.P. Casazza, P.K. Chattopadhyay, M Roederer, D.C. Douek, Y.M. Mueller, J.M. Jacobson|, V Kulkarni, B.K. Felber, G.N. Pavlakis, P.D. Katsikis|, R.A. Koup, “Differential association of PD-1 and CD57 with *in vitro* survival of CD8⁺ T cells in HIV infection”, **J Immunology**, 2009 Jul 15;183(2): 1120-32.
18. Geldmacher C, Metzler IS, Tovanabutra S, Asher TE, Gostick E, Ambrozak DR, **Petrovas C**, Schuetz A, Ngwenyama N, Kijak G, Maboko L, Hoelscher M, McCutchan F, Price DA, Douek DC, Koup RA, “Minor viral and host genetic polymorphisms can dramatically impact the biologic outcome of an epitope-specific CD8 T-cell response” **Blood**. 2009 Aug 20; 114(8): 1553-62.

19. Jung S, Byun, Wenwu Cui, Gila Idleman, Madeline Wong, Qingdi Li, Adriana De Siervi, Sven Bilke, Cynthia M. Haggerty, Audrey Player, Yong Hong Wang, Michael J. Thirman, Joseph J. Kaberlein, **Constantinos Petrovas**, Richard Koup, Dan Longo, Keiko Ozato, and Kevin Gardner “Dynamic bookmarking of primary response genes by p300 and RNA polymerase II complexes”, **Proc Natl Acad Sci U S A**. 2009 Nov 17; 106(46): 19286-91.
20. Geldmacher C, Ngwenyama N, Schuetz A, **Petrovas C**, Reither K, Heeregrave EJ, Casazza JP, Ambrozak DR, Louder M, Ampofo W, Pollakis G, Hill B, Sanga E, Saathoff E, Maboko L, Roederer M, Paxton WA, Hoelscher M, Koup RA. “Preferential infection and depletion of Mycobacterium tuberculosis-specific CD4 T cells after HIV-1 infection”. **J Exp Med**. 2010 Dec 20; 207(13):2869-81.
21. Yamamoto T, Price DA, Casazza JP, Ferrari G, Nason M, Chattopadhyay PK, Roederer M, Gostick E, Katsikis PD, Douek DC, Haubrich R, **Petrovas C**, Koup RA “Surface expression patterns of negative regulatory molecules identify determinants of virus-specific CD8+ T-cell exhaustion in HIV infection.”, **Blood**. 2011 May 5; 117(18): 4805-15.
22. Adams WC, Gujer C, McInerney G, Gall JG, **Petrovas C**, Karlsson Hedestam GB, Koup RA, Loré K Adenovirus type-35 vectors block human CD4+ T-cell activation via CD46 ligation. **Proc Natl Acad Sci U S A**. 2011 May 3; 108(18): 7499-504.
23. Arik Cooper, Mayra García, **Constantinos Petrovas**, Takuya Yamamoto, Richard A. Koup and Gary J. Nabel “HIV-1 Causes CD4 Cell Death through DNA-Dependent Protein Kinase during Viral Integration”, **Nature**, 2013 Jun 20;498(7454):376-9.
24. Kristin L. Boswell, Robert Paris, Eli Boritz, David Ambrozak, Takuya Yamamoto, Sam Darko, Kaska Wloka, Adam Wheatley, Sandeep Narpala, Adrian McDermott, Mario Roederer, Richard Haubrich, Mark Connors, Julie Ake, Daniel C. Douek, Jerome Kim, ***Constantinos Petrovas** and Richard A. Koup, “Loss of circulating CD4 T cells with B cell helper function during chronic HIV infection”, **Plos Pathogen**, 2014 Jan 30;10(1).
25. Matthew Johnson, Niklas Björkström, **Constantinos Petrovas**, Jason Gall, Karin Loré, and Richard Koup “Type I interferon-dependent activation of NK cells by rAd28 or rAd35, but not rAd5, leads to loss of vector-insert expression” **Vaccine**. 2014 Feb 3;32(6):717-24.
26. Cooper A, García M, **Petrovas C**, Yamamoto T, Koup RA, Nabel GJ. “HIV integration and T cell death: additional commentary”. **Retrovirology**. 2013 Dec 9;10:150.
27. **Constantinos Petrovas** and Richard A. Koup “T_{FH} and HIV-1 specific antibody responses” **Current Opinion in HIV and AIDS**, 2014 May;9(3):235-41.

28. Vincent J. Kuchroo, Ana C. Anderson and ***Constantinos Petrovas** “Inhibitory co-receptors and CD8 T cell exhaustion”, **Current Opinion in HIV and AIDS**, 2014 Jul 10.
29. Robert Paris, ***Constantinos Petrovas**, Kristin L. Boswell, Eva Archer, Takuya Yamamoto, David Ambrozak, Joseph P. Casazza, Vicki Dhima, Richard Haubrich, Mark Connors, Julie Ake, Jerome Kim and Richard A. Koup, “Activated PD-1^{high} CD127^{high} CD27^{high} CD45RA^{low} CD4 T cell phenotype is associated with increased susceptibility to HIV infection rather than exhaustion” , **PLoS One**, 2015 Dec 17;10(12):e0144767.
30. Cubas R, van Grevenynghe J, Saintedym W, Procopio F, He Z, Metcalf T, Locci M, Ancuta P, Routy JP, Crotty S, Migueles S, Connors M, **Petrovas C**, Tomaras G, Moir S, Haddad E. “Impaired circulating Tfh/memory B cell interaction alters anti-HIV humoral immunity” **J Immunology**, 2015 Dec 15;195(12):5625-36.
31. Moysi E, Jake Estes and ***Constantinos Petrovas** “New Tools for Tissue Imaging in HIV”, **Current HIV/AIDS Reports**, 2016 Feb;13(1):38-43.
32. Kapil K. Saharia, **Constantinos Petrovas**, Sara Ferrando-Martinez, Prudence Ive, Anne Luetkemeyer, Diane Havlir, Richard Koup. “Tuberculosis treatment modifies the differentiation state, cytokine profile, and expression of inhibitory molecules on *Mycobacterium tuberculosis*-specific CD4⁺ T cells”, **Plos One**, 2016 Jul 1;11(7):e0158262.
33. ***Constantinos Petrovas**, Sara Ferrando-Martinez, Michael Y Gerner, Joseph P Casazza, Amarendra Pegu, Arik Cooper, Jason Hataye, Sarah Andrews, David Ambrozak, Perla M Del Río Estrada, Eli Boritz, Robert Paris, Eirini Moysi, Kristin L Boswell, Ezequiel Ruiz-Mateos, Ilias Vagios, Manuel Leal, Yuria Ablanedo-Terrazas, Amaranta Rivero, Luz Alicia Gonzalez-Hernandez, Adrian B McDermott, Gustavo Reyes-Teran, Fernando Docobo, Giuseppe Pantaleo, Daniel C Douek, Michael R Betts, Ronald N Germain, John R Mascola and Richard A Koup “Follicular CD8 T cells accumulate in HIV and kill infected cells via bispecific antibodies” **Science Translational Medicine**, 2017 Jan 18;9(373).
34. Moukambi Félicien, Rodrigues Vasco, Yasmina Fortier, Rabezanaahary Henintsoa, Chloé Borde, Krust Bernard, Andreani Guadalupe, Silvestre Ricardo, **Petrovas Constantinos**, Laforge Mireille, Estaquier Jérôme, “Early infection and loss of splenic CD4 T follicular helper cells contribute to Aids”, **Frontiers in Immunology**, 2017 February, volume 8.
35. Yiannis Dimopoulos, Eirini Moysi, Arik Cooper, **Constantinos Petrovas**, “The Lymph Node in HIV Pathogenesis”, **Current HIV/AIDS Reports** (in press).

36. Robert M. Paris, Lucifer G. Milagres, Eirini Moysi, Jason F. Okulicz, Brian K. Agan, Anu Ganesan, ****Constantinos Petrovas** and Richard A. Koup “Lower baseline germinal center activity and preserved Th1 immunity are associated with hepatitis B vaccine response in treated HIV infection”, **Pathogens and Immunity** (in press)
37. Morgan A. Reuter, Perla Del Rio, **Constantinos Petrovas**, Sara Ferrando-Martinez, Yuria Ablanedo, Amaranta Rivero, Richard A. Koup, David H. Canaday, Gustavo Reyes-Terán, Michael R. Betts “Functional immunological privilege against cytolytic CD8+ T-cell activity in lymphoid tissue prevents elimination of HIV infected CD4+ T-cell reservoirs” **Journal of Clinical Investigation** (under revision)
38. Salah-Eddine Bentebibel[#], **Constantinos Petrovas**[#], Yang Liu, Nathalie Schmitt, de Oca G Salgado-Montes, Eirini Moysi, PM Del Río Estrada, Yiannis Dimopoulos, Sara Fernando-Martinez, Y Ablanedo-Terrazas, Guisepe Pantaleo, Susan Moir, G Reyes-Terán, Richard A. Koup, Hideki Ueno, “CXCR3⁺ T Follicular Helper Cells Are Suppressors of Human Germinal Center Response”, **Nature** (# **equally contributed**, submitted)
39. Donato Amodio, Giulia Macchiarulo, Salvatore Rocca, Nicola Cotugno, Paolo Rossi, Richard Koup, Paolo Palma and **Costantinos Petrovas**, “Tonsil germinal center immune dynamics after influenza vaccination in children” **Journal of Clinical Investigation** (submitted)

Non-Human Primate Studies

40. **Y.M. Mueller, C. Petrovas**, P.M. Bojczuk, I.D. Dimitriou, B. Beer, P. Silvera, F. Villinger, J. Scott Cairns, E. J. Gracely, M.G. Lewis, P.D. Katsikis, “Interleukin-15 increases effector memory CD8+ t cells and NK Cells in simian immunodeficiency virus-infected macaques”, **Journal of Virology**, 2005 Apr; 79(8): 4877-85 (**YM Mueller and C Petrovas contributed equally to this study**)
41. ***C. Petrovas**, D.A. Price, J. Mattapallil, D.R. Ambrozak, C. Geldmacher, V. Cecchinato, M. Vaccari, E. Trynieszewska, E. Gostick, M. Roederer, D.C. Douek, S.H. Morgan, S.J. Davis, G. Franchini, R.A. Koup, “SIV specific CD8+T-cells express high levels of PD1 and cytokines but have impaired proliferative capacity in acute and chronic SIVmac251 infection”, **Blood**. 2007 Aug 1; 110(3): 928-36.
42. Y.M. Mueller, **C. Petrovas**, D.H. Do, S.R. Altork, T. Fisgher-Smith, J. Rappaport, J.D. Altman, M.G. Lewis, P.D. Katsikis, “Early establishment and antigen dependence of simian immunodeficiency virus-specific CD8+ T-cell defected”, **Journal of Virology**. 2007 Oct; 81(20): 10861-8.

43. Cecchinato V, Trynieszewska E, Ma ZM, Vaccari M, Boasso A, Tsai WP, **Petrovas C**, Fuchs D, Herlaud JM, Venzon D, Shearer GM, Koup RA, Lowy I, Miller CJ, Franchini G. “Immune activation driven by CTLA-4 blockade augments viral replication at mucosal sites in simian immunodeficiency virus infection”, **Journal of Immunology**, 2008 Apr 15;180(8):5439-47.
44. Takuya Yamamoto, Matthew Johnson, David Price, David Wolinsky, Jorge Almeida, **Constantinos Petrovas**, Martha Nason, Wendy Yeh, Ling Shen, Mario Roederer, Srinivas Rao, Adrian McDermott, Francois Lefebvre, Gary Nabel, Elias Haddad, Norman Letvin, Daniel Douek, and Richard Koup, “Virus inhibition activity of effector memory CD8+ T cells determines Simian Immunodeficiency Virus load in vaccinated monkeys after vaccine breakthrough infection” **Journal of Virology**, 2012 May; 86(10): 5877-84.
45. ***Constantinos Petrovas**, Takuya Yamamoto, Michael Y Gerner, Kristin L. Boswell, Emily C. Smith, David R. Ambrozak, Netanya G. Sandler, Katherina J. Timmer, Xiaoyong Sun, Li Pan, Amanda Poholek, Srinivas S. Rao, Jason M. Brenchley, Mario Roederer, Daniel C. Douek, Robert A. Seder Ronald N. Germain, Elias K Haddad and Richard A. Koup “CD4 T follicular helper dynamics during SIV infection”, **J Clin Investigation**, 2012 Sep 4; 122(9): 3281-94.
46. ***Constantinos Petrovas**, Takuya Yamamoto, David A. Price, Srinivas S. Rao, Nichole R. Klatt, Jason M. Brenchley, Daniel C. Doue, Derek C. Macallan, Martin Meier-Schellersheim & Richard A. Koup “A mechanism of high production and high clearance maintains PD-1high SIV-specific CD8 T cells *in vivo*” **Journal of Virology**, 2013 Sep;87(17):9836-44.
47. Takuya Yamamoto, Rebecca M. Lynch, Rajeev Gautam, Rodrigo Matus-Nicodemos, Stephen D. Schmidt, Kristin L. Boswell, Patrick Wong, Zizhang Sheng, Sam Darko, **Constantinos Petrovas**, Adrian B. McDermott, Robert A. Seder, Brandon F. Keele, Lawrence Shapiro, Daniel C. Douek, Yoshiaki Nishimura, John R. Mascola, Malcolm A. Martin and Richard A. Koup, “Env-specific germinal center reactions and founder virus co-evolve during the generation of broad neutralizing antibodies in SHIV-AD8 infection”, **Science Translational Medicine**, 2015 Jul 29;7(298).
48. S. Ferrando-Martinez, E. Moysi, A. Pegu, S. Andrews, D. Ambrozak, A.B. McDermott, M. Paiardini, G.N. Pavlakis, J Brenchley, J.R. Mascola, ****C. Petrovas** and R.A. Koup “Immune activation drives the accumulation of follicular CD8 T cells during chronic SIV”, **Science Immunology** (submitted).
49. Yiannis Dimopoulos, Kartika Padhan, Eirini Moysi, Adrienne Swanstrom, Jeffrey Lifson, Celia LaBranche, Robert Blair, Pyone Aye, Faith Schiro, Andrew Lackner, Richard Koup, James Hoxie and **Constantinos Petrovas**, “Infection with non-CD4 tropic variant of SIVmac239 accelerates the

formation of mature germinal center reactions and elicitation of antigen specific B cell responses” (under preparation).

Mouse Studies

50. P. G. Vlachogiannopoulos, **C. Petrovas**, A.G. Tzioufas, C. Alexopoulos, V. Tsikaris, A. Guialis, L. Nakopoulou, M. Sakarellos-Daitsiotis, C. Sakarellos, P. Davaris, H.M. Moutsopoulos. “No evidence of epitope spreading after immunization with the major Sm epitope P-P-G-M-R-P-P anchored to sequential oligopeptide carriers (SOCSs)”, **Journal of Autoimmunity**, 2000 Feb; 14(1): 53-61,
51. Dolfi DV, Boesteanu AC, **Petrovas C**, Xia D, Butz EA, Katsikis PD. “Late signals from CD27 prevent Fas-dependent apoptosis of primary CD8⁺ T cells” **Journal of Immunology**, 2008 Mar 1; 180(5):2912-21.
52. Matthew J. Johnson, **Constantinos Petrovas**, Takuya Yamamoto, Ross W. Lindsay, Karin Loré, Jason G.D. Gall, Emma Gostick, Francois Lefebvre, Mark J. Cameron, David A. Price, Elias K. Haddad, Rafick P. Sekaly, Robert A. Seder, and Richard A. Koup, “Type I Interferon Induced by Adenovirus Serotypes 28 and 35 Has Multiple Effects on T Cell Immunogenicity”, **Journal of Immunology**, 2012 Jun 15;188(12):6109-18.
53. Rajarshi Bhadra, Magali M Moretto, Julio C Castillo, **Constantinos Petrovas**, Sara Ferrando-Martinez, Upasana Shokal, Manuel Leal, Richard A. Koup, Ioannis Eleftherianos and Imtiaz A Khan, “Intrinsic TGF- β signaling promotes age-dependent CD8⁺ T cell polyfunctionality attrition”, **J Clin Investigation**, 2014 Jun 2;124(6):2441-55.
54. Roybel R. Ramiscal, Julianna Blagih, Sung Hoon Cho, Darren C. Henstridge, Sau K. Lee, **Constantinos Petrovas**, Louis M. Tsai, Kevin Man, Alvin Pratama, Naomi Williams, Emma E. Vincent, Bozena Samborska, Di Yu, Christopher C. Goodnow, Richard A. Koup, Axel Kallies, Mark A. Febbraio, Mark Boothby, Russell G. Jones, Carola G. Vinuesa, “Follicular T cells are a metabolically distinct effector T cell subset dependent on differential regulation by mTORC1 and mTORC2”, **elife** (revised version submitted).

11. Scientific meetings:

Oral presentations

- 1) 1st Hellenic Clinical Chemistry Congress; 18-20 Oct. 1996, Athens. ‘Immunochemical method for tumour necrosis factor- α determination in biological fluids, using luminescence detection systems’ **C. Petrovas**, E. Lianidou, P. Ioanou.
- 2) 24th Hellenic Medical Congress, 5-9 May 1998, Athens. ‘Immune response against smRNP and development of an experimental Systemic Lupus Erythematosus (SLE) like disease after immunisation with Sm epitope PPGMRPP anchored to an helicoid - type artificial carrier’, **C. Petrovas**, P.G.Vlachogiannopoulos, A. Tzioufas, V. Tsikaris, C.Alexopoulos, C. Sakarellos, M. Sakarellou-Daitsioti, L.Nakopoulou, P.Davaris, H.M. Moutsopoulos.
- 3) 2nd Hellenic Clinical Chemistry Congress, 5-7 Nov 1998, Athens, ‘Pathogenic autoantibodies: lessons from Antiphospholipid Antibodies’. **C. Petrovas**, P.G. Vlachogiannopoulos, H.M. Moutsopoulos.
- 4) 10th Hellenic Symposium on AIDS, 19-21 Nov 1998, Athens. ‘Detection of autoantibodies against erythropoietin in patients with HIV: preliminary data’. N.Sipsas, S. Kokori, **C. Petrovas**, T.Kordosis.
- 5) XVIIth European Workshop for Rheumatology Research, Brest, 20-23 March 1997. ‘Immunological and conformational studies of the major epitope of the sm autoantigen anchored to sequential oligopeptide carriers’, **C. Petrovas**, P.G. Vlachogiannopoulos, A. Tzioufas, V.Tsikaris, C.Alexopoulos, C.Sakarellos-Daitsiotis, H.M. Moutsopoulos.
- 6) Twentieth European Reumatology Research Workshop, March 23-26, 2000, Oxford, UK. “Chronic subclinical activation of coagulation cascade in antiphospholipid patients, is associated with reduced proliferation and morphological changes of endothelial cells, in vitro”. **C. Petrovas**, P.G. Vlachogiannopoulos, C.Murphy, T.Fotsis, H.M. Moutsopoulos.
- 7) Experimental Biology, April 17-21, Washington Convention Center, Washington DC, 2004. “Reduced expression of Bcl-2 and Bcl-x_L in HIV-specific CD8⁺ T cells; restoration by IL-15”. **C. Petrovas**, Mueller YM, Dimitriou ID, Bojczuk P, Mounzer K, Witek J, Altman JD, Katsikis PD
- 8) Aegean Conferences, Crossroads between Innate and Adaptive Immunity, October 9-14, 2005, Rhodos, Greece. “A role for CD27 and CD28 costimulation beyond the initiation of a primary CD8⁺ T cell response” D.V. Dolfi, A.B. Gillis, **C. Petrovas**, Y.M. Mueller, C. Carafides, P.D. Katsikis.

- 9) 14th Conference on Retroviruses and Opportunistic Infections, February 25-28, 2007, Los Angeles Convention Center, Los Angeles, CA, **C Petrovas**, David A. Price, Joseph Mattapallil, Christof Geldmacher, Valentina Cecchinato, David Ambrozak, Mario Roederer, Daniel C. Douek, Genoveffa Franchini, Richard A. Koup “PD-1^{high} SIV-specific CD8⁺ T Cells Express Multiple Effector Function and Have Low Proliferative Capacity and High Sensitivity to Activation-Induced Cell Death”.
- 10) Keystone symposium, HIV Biology and Pathogenesis, January 12-17, 2010, Santa Fe, NM, Benjamin Chaon, Takuya Yamamoto, David R. Ambrozak, Joseph Casazza, Mario Roederer, **Constantinos Petrovas** and Richard A. Koup. Simultaneous ex vivo expression of the PD-1/PD-L1 axis, a potential mediator of T-T cell interactions characterizes CD4⁺ T cells from HIV⁺ donors, particularly the HIV-specific ones.
- 11) 19th Conference on Retroviruses and Opportunistic Infections, March 5-8, 2012, Seattle, Washington, USA, **Constantinos Petrovas**, Takuya Yamamoto, Michael Y Gerner, Kristin Boswell, Jason M. Brenchley, Mario Roederer, Robert A. Seder, Ronald N. Germain, Elias K Haddad and Richard A. Koup, SIV Infection Affects the Function, but Not Survival, of Follicular T Helper Cells in Rhesus Macaques.
- 12) American Association of Immunologists, Immunology 2014, May 2-6, 2014, Pittsburg, PA, **Constantinos Petrovas**, Robert Paris and Richard A. Koup, Activated PD-1^{high}CD127^{high}CD27^{high}-CD45RA^{low}CD4 T cell phenotype is associated with increased susceptibility to HIV infection rather than exhaustion.
- 13) 20th International AIDS Conference (AIDS 2014), Melbourne, Australia, 20-25 July 2014, **Constantinos Petrovas**, Sara Ferrando-Martinez and Richard A. Koup, A population of CD8 T cells is located in germinal centers that is functionally capable of mediating bispecific antibody mediated killing of HIV-infected T cells.
- 14) 22th Conference on Retroviruses and Opportunistic Infections, February 23-26, 2015, Seattle, Washington, USA, **Constantinos Petrovas**, Sara Ferrando-Martinez, Michael Gerner, Amarendra Pegu, Perla Del Río-Estrada, Kristin Boswell, Manuel Leal, Gustavo Reyes-Teran, Ronald Germain and Richard A. Koup “Redirected Killing of HIV-Infected T Cells by Germinal Center CD8 T Cells”.
- 15) Keystone symposium, HIV Vaccines, March 22-27, 2015, Banff, Canada, Sara Ferrando-Martinez, **Constantinos Petrovas**, Michael Gerner, Amarendra Pegu, Perla Del Río-Estrada, Kristin

Boswell, Manuel Leal, Gustavo Reyes-Teran, Ronald Germain and Richard A. Koup “Redirected Killing of HIV-Infected T Cells by Germinal Center CD8 T Cells”.

- 16) 33rd Annual Symposium on Nonhuman Primate Models for AIDS, October 13, 2015, Monterey, CA, USA, **Constantinos Petrovas**, Sara Ferrando-Martinez, Amarendra Pegu, Sarah F Andrews, David Ambrozak, Adrian B McDermott, Jason Brenchley, John R Mascola and Richard A Koup, “Follicular CTL accumulate in SIV-infected lymph nodes due to immune activation”.
- 17) 23th Conference on Retroviruses and Opportunistic Infections, February 22-25, 2016, Boston MA, USA, **Constantinos Petrovas**, Sara Ferrando-Martinez, Amarendra Pegu, Sarah F Andrews, David Ambrozak, Adrian B McDermott, Jason Brenchley, John R Mascola and Richard A Koup, “Immune activation-inflammation during chronic SIV infection is characterized by accumulation of CD8 T cells in the B cell follicle capable of mediating bi-specific directed killing”.
- 18) 34th Annual Symposium on Nonhuman Primate Models for AIDS, October 11-14, New Orleans, LA, USA, Kartika Padhan, Yiannis Dimopoulos, Eirini Moysi, Adrienne Swanstrom, Jeffrey Lifson, Celia LaBranche, Robert Blair, Pyone Aye, Faith Schiro, Andrew Lackner, Richard Koup, Constantinos Petrovas and James Hoxie “Accelerated development of mature germinal centers in rhesus macaques following infection with non-CD4 tropic variant of SIVmac239”.

Poster presentations

- 1) ILAR 97, Congress of Rheumatology, 8-13 June 1997, Singapore. ‘Avidity and not the titre of anticardiolipin antibodies influence the thrombogenic activity’ P.G. Vlachoyiannopoulos, M. Tektonidou, **C. Petrovas**, H.M. Moutsopoulos.
- 2) 5th American Peptide Symposium, Nashville, Tennessee, USA, 14-19 June, 1997. ‘Production of potent-specific antigens and effective immunogens using sequential oligopeptide carriers (SOCn)’ C. Sakarellos, V. Tsikaris, E. Panou-Pomonis, C. Alexopoulos, M. Sakarellos-Daitsiotis, **C. Petrovas**, P.G. Vlachoyiannopoulos, H.M. Moutsopoulos.
- 3) 11th Balkan Biochemical Biophysical Days, 15-17 May, 1997, Thessaliniiki, Greece. ‘Compared structures and immunoreactivities of the free and bound to a synthetic carrier (SOCn) Sm epitope’ E. Panou-Pomonis, **C. Petrovas**, P.G. Vlachoyiannopoulos, A.G. Tzioufas, V. Tsikaris, C. Alexopoulos, C. Sakarellos, M. Sakarellos-Daitsiotis, H.M. Moutsopoulos.

- 4) 24th Hellenic Medical Congress, 5-9 May 1998, Athens. ‘Anti-cardiolipin antibodies (aCL): titer, avidity and anti- β_2 GPI specificity’ **C. Petrovas**, M. Tektonidou, P.G. Vlachoyiannopoulos, O. Dafni, H.M. Moutsopoulos.
- 5) XVIIth European Workshop for Rheumatology Research, Brest, 20-23 March 1997. ‘Antibodies to erythropoietin in patients with SLE: relation with pure red cell aplasia’ A.G.Tzioufas, S. Kokori, **C. Petrovas**, H.M.Moutsopoulos.
- 6) XVIIth European Workshop for Rheumatology Research, Brest, 20-23 March 1997. ‘Avidity and not the titre of anticardiolipin antibodies influence the thrombogenic activity’ M. Tektonidou, **C. Petrovas**, P.G. Vlachoyiannopoulos, H.M. Moutsopoulos.
- 7) American College of Rheumatology, National Scientific Meeting, 8-12 Nov 1997, Washington D.C., ‘Anticardiolipin antibodies (aCL): titre, avidity and anti β_2 glycoprotein I specificity’. P.G.Vlachogiannopoulos, M. Tektonidou, **C. Petrovas**, V.Dafni, H.M.Moutsopoulos.
- 8) XVIIIth European Workshop for Rheumatology Research, March 12-15 1998, Athens. ‘The role of negatively charged molecules in the antigenicity of β_2 GPI’, **C. Petrovas**, M.Tektonidou, P.G. Vlachogiannopoulos, H.M. Moutsopoulos.
- 9) XVIIIth European Workshop for Rheumatology Research, March 12-15 1998, Athens. ‘Autoantibodies against distinct subsets of huRNP polypeptides of the A/B type in systemic autoimmune diseases’. A.Plomaritoglou, M.Patrinou-Georgoula, M. Manoussakis, **C.Petrovas**, M. Sakarellos, H.M.Moutsopoulos, A. Guialis.
- 10) XVIIIth European Workshop for Rheumatology Research, March 12-15, Athens. ‘Determination of Tumor Necrosis Factor (TNFa) in serum by a highly sensitive enzyme amplified lanthanide luminescence immunoassay’. **C.Petrovas**, E.S. Lianidou, P. Ioannou.
- 11) 10th Conference on Retroviruses and Opportunistic Infections, February 10-14, 2003, Boston, MA, USA. “IL-15 Restores Bcl-2 levels in HIV-specific CD8+ T cells from HIV-Infected Individuals”, Y. Mueller, **C Petrovas**, I Dimitriou, P Bojczuk, J Witek, J Altman, P Katsikis.
- 12) 11th Conference on Retroviruses and Opportunistic Infections, February 8-11, 2004, Moscone West, San Francisco, USA. “IL-15 treatment of SIV-infected Non-Human Primates”. **C. Petrovas**, Mueller YM, Bojczuk P, Dimitriou ID, Beer B, Silvera P, Villinger F, Cairns JS, Lewis MG, Katsikis PD-1.

- 13) Sixth Annual Research Day, Drexel University, May 4, 2004, Philadelphia, PA, "In vivo manipulation of antiviral CD8⁺ T cell response: distinct role of IL-23 and IL-12 treatment". I.D. Dimitriou, **C. Petrovas**, Y.M. Mueller, D.J. Gaa, P.D. Katsikis.
- 14) Sixth Annual Research Day, Drexel University, May 4, 2004, "Orchestrated expression of the Bcl-2 and Bcl-x_L antiapoptotic molecules in primary antiviral CD8⁺ T cell responses". **C Petrovas**, Dimitriou ID, Dolfi DV, Mueller YM, Katsikis PD.
- 15) Sixth Annual Research Day, Drexel University, May 4, 2004, "The role of TRAIL in the regulation of CD8⁺ T cell responses during influenza A virus infection", I.D. Dimitriou, **C. Petrovas**, A.B. Gillis, P.D. Katsikis.
- 16) Sixth Annual Research Day, Drexel University, May 4, 2004. "IL-15 mediates survival of HIV-specific CD8⁺ T cells by inducing Bcl-2 and Bcl-x_L antiapoptotic molecules and inhibiting CD95/Fas aggregation" **C Petrovas**, Mueller YM, Dimitriou ID, Bojczuk PM, Mounzer K, Witek J, Altman JD, Katsikis PD.
- 17) Keystone Symposium: Molecular Mechanisms of HIV Pathogenesis/HIV Vaccine Development: Progress and Prospects, April 12-18, 2004, Whistler, British Columbia, Canada, "Selective CD8⁺ T cell expansion in SIV-infected non-human primates treated with interleukin 15 (IL-15)", YM Mueller, **C Petrovas**, P Bojczuk, ID Dimitriou, B Beer, P Silvera, F Villinger, JS Cairns, MG Lewis, PD Katsikis.
- 18) Experimental Biology, April 17-21, Washington Convention Center, Washington DC, 2004. "Deficient CD8⁺ T cell recall responses following chronic antigen stimulation with influenza virus" C.M. Bucks, A. Borowski, **C. Petrovas**, P.D. Katsikis.
- 19) 12th Conference on Retroviruses and Opportunistic Infections, February 22-25, 2005, Hynes Convention Center, Boston, MA. "Activated HIV-specific CD8⁺ T cells are characterized by a proapoptotic mitochondrial status". **C Petrovas**, Mueller YM, Dimitriou ID, J Witek, J Altman, Katsikis PD.
- 20) Experimental Biology, April 6-9, San Diego, 2005, "Orchestrated regulation of Bcl-2 family molecules during antiviral CD8⁺ T cell responses. **C. Petrovas**, I.D. Dimitriou, D. Dolfi, Y.M. Mueller, P.D. Katsikis.
- 21) Experimental Biology, April 6-9, San Diego, 2005, "CD27 does not control proliferation of influenza A virus-specific CD8⁺ T cells" D.V. Dolfi, **C. Petrovas**, P.D. Katsikis.

- 22) Experimental Biology, April 6-9, San Diego, 2005, “Distinct roles of endogenous IL-12 and IL-23 in antiviral CD8⁺ T cell responses” I.D. Dimitriou, **C. Petrovas**, D.J. Gaa, P.D. Katsikis.
- 23) Keystone Symposium, HIV Pathogenesis, Apr 9 - 15, 2005, Banff Alberta, Canada, Y M Mueller, **C Petrovas**, J Witek, K Mounzer, P D Katsikis “Skewed memory phenotype and increased apoptosis sensitivity of HIV-specific CD8⁺ T cells from HIV-infected individuals in early clinical stages of chronic HIV infection”.
- 24) Seventh Annual Research Day, Drexel University, April 26, 2005, **C Petrovas**, Mueller YM, Dimitriou ID, Witek J, Katsikis PD “Apoptosis of HIV-specific CD8⁺ T cells: a process potentially mediated by mitochondria”.
- 25) Seventh Annual Research Day, Drexel University, April 26, 2005, **C Petrovas**, Dimitriou ID, Douglas DV, Mueller YM, Katsikis PD “Bcl-2 family molecules in primary antiviral CD8⁺ T cell responses: a kinetic study”.
- 26) Keystone Symposium, HIV Pathogenesis, March 26 - April 2, 2006, Keystone Resort, Keystone, Colorado, USA, **Petrovas C**, Mueller YM, Altork SR, Sklar P, Mounzer KC, Altman JD, Koup RA, Katsikis PD, “Mitochondrial involvement in the apoptosis of HIV-specific CD8⁺ T cells”.
- 27) Keystone Symposium, HIV Pathogenesis, March 26 - April 2, 2006, Keystone Resort, Keystone, Colorado, USA, Mueller YM, **Petrovas C**, Fisher-Smith T, Lewis M, Altman JD, Rappaport J, Katsikis P.D. “SIV-specific CD8⁺ T cells exhibit defects similar to HIV-specific CD8⁺ T cells and these defects are established early during SIV infection”.
- 28) MASIR 2006, June 14-18, 2006, Santorini, Greece, **C Petrovas**, JP Casazza, DA Price, W Adams, ML Precopio, JM Brenchley, M Duvall, JJ Mattapallil, DC Douek, M Roederer, RA Koup. “LIGATION OF PD-1 ON VIRUS-SPECIFIC T CELLS LEADS TO DECREASED PROLIFERATION AND INCREASED APOPTOSIS”.
- 29) Keystone Symposium, HIV Pathogenesis, March 25-30, 2007, Whistler Resort, Whistler, British Columbia, Canada, **C Petrovas**, D.A. Price, J. Mattapallil, C Geldmacher, V Cecchinato, D Ambrozak, M Roederer, D.C. Douek, G Franchini, R.A. Koup “Chronic antigen-specific stimulation induces sustained high levels of PD-1 on SIV-specific CD8⁺ T cells characterized by multiple cytokine production, low proliferation and increased susceptibility to cell death”.

- 30) Keystone Symposium, HIV Pathogenesis, 27 March - 1 April, Banff, Canada, Kathlyn Santos, **Constantinos Petrovas**, Benjamin C. Chaon, Brenna Hill, Barney Graham, Menzo Havenga, Lennart Holterman, Jaap Goudsmit, and Richard A. Koup, “Immunomodulation of human dendritic cells by MVA and Ad5 vaccine vectors”.
- 31) Keystone Symposium, HIV Immunobiology, March 22 - 27, 2009, Keystone Resort, Keystone, Colorado, **Constantinos Petrovas**, Benjamin Chaon, Yvonne M Mueller, Brenna Hill, David R. Ambrozak, Christof Geldmacher, Joseph Casazza, Mario Roederer, Daniel C. Douek, Jeffrey M. Jacobson, Barbara Felber, George Pavlakis, Peter D. Katsikis, Richard A. Koup, “PD-1 expression is associated with a pre-apoptotic state in HIV-specific CD8+ T cells”.
- 32) Cell Death Meeting at Cold Spring Harbor Laboratory, October 6-10, 2009, **Constantinos Petrovas** and Richard A. Koup, CELL DEATH OF HUMAN CD8 T CELLS IN CHRONIC INFECTION.
- 33) Keystone symposium, HIV Biology and Pathogenesis, Feb 10-15, 2013, Keystone, CO, Kristin L. Boswell, Robert Paris, Takuya Yamamoto, David R. Ambrozak, **Constantinos Petrovas** and Richard A. Koup, Circulating CCR7^{high}CXCR5^{high}CCR6^{high} CD4 T cells induce *in vitro* isotype switching.
- 34) 23th Conference on Retroviruses and Opportunistic Infections, February 22-25, 2016, Boston MA, USA, CROI 2016, Eirini Moysi, Louis E Gonzalez, Lesley R De Armas, Joseph P Casazza, Varghese George, Rajendra Pahwa, Suresh Pallikkuth, David Huddleston, Richard Koup, **Constantinos Petrovas**, Savita Pahwa, “Steady state and Post-vaccination T_{FH} Dynamics in HIV Patients Treated with cART”
- 35) 23th Conference on Retroviruses and Opportunistic Infections, February 22-25, 2016, Boston MA, USA, CROI 2016, Joseph Casazza, Eli Boritz, David Ambrozak, Amy Henry, Sam Darko, **Constantinos Petrovas**, Rebecca Lynch, Gustavo Reys Teran, Daniel Douek, Richard Koup, “Single Cell Transcriptome Sequencing of Human Lymph Node HIV-infected CD4 Cells ”
- 36) Keystone Symposium, HIV Persistence: Pathogenesis and Eradication, March 20-24, 2016, A.Valentin, D. Watson, E. Moysi, **C. Petrovas**, X. Hu, C. Bergamaschi, J.I. Mullins, B.K. Felber, G.N. Pavlakis, “Potent CTL Responses to HIV Conserved Elements DNA vaccine

and increased CTL trafficking to LN induced by hetIL-15 as improved therapeutic approaches”

- 37) Keystone Symposium, HIV Persistence: Pathogenesis and Eradication, March 20-24, 2016, Arik A Cooper, **Constantinos Petrovas**, Jason Hataye, Mangai Asokan, Richard A Koup and John R. Mascola, “Elimination of HIV-1 latently infected CD4 T cells through JAK-STAT pathway inhibition”
- 38) 24th Conference on Retroviruses and Opportunistic Infections, February 13-16, 2017, Seattle, WA, USA, CROI 2016, Marcus Buggert, Lalit Beura, Son Nguyen, David Canaday, Ali Najj, **Constantinos Petrovas**, Gustavo Reyes-Terán, Steven G Deeks, David Masopust, Michael R Betts “RESIDENT MEMORY CD8+ T CELLS FORM THE FRONT LINE DEFENSE IN HIV-INFECTED LYMPH NODES”

13. Funding

The NIH intramural program supports my research.
Extra funding from extramural collaborators is dedicated to cover the cost of collaborative experiments performed at VRC.

- 1) 1R01AI123048-01A1 (NIAID), Pawha (PI) 08/05/2015 – 06/31/2020

Title: Antibody responses in aging SIV infected monkeys

The goal of the proposed studies is to investigate the antigen- and vaccine-specific responses in young vs aged SIV infected NHP. Special emphasis is given to the analysis of follicular T and B cell dynamics.

Role: key-investigator from NIH

- 2) State of Miami Pilot Award, Pawha (PI) 01/01/2015 – 06/30/2015

Title: Characterization of HIV reservoirs in lymph nodes

Performing a comprehensive analysis of the topology of lymph node CD4 T cells harbouring integrated or actively transcribed HIV and to analyze HIV RNA and DNA content in sort-purified specific CD4 T cell populations.

- 3) Gilead Grant (fNIH), Pavlakis G (PI, NCI): 10/31/2016-11/01/2019

Title: IL-15 treatment of SIV infected Non-Human Primates

Role: co-investigator

