

<b>BIOGRAPHICAL SKETCH</b>			
<b>NAME</b>	<b>POSITION TITLE</b>		
<b>Ashok KUMAR</b>	<b>Professor</b> , Department of Pathology and Laboratory Medicine, and Department of Biochemistry, Microbiology & Immunology, University of Ottawa, Ontario, Canada		
<b>EDUCATION/TRAINING :</b>			
<b>INSTITUTION AND LOCATION</b>	<b>DEGREE</b>	<b>YEAR(s)</b>	<b>FIELD OF STUDY</b>
College of Veterinary Sciences, Haryana Agricultural University, Hissar, INDIA	BVSc	1971-1974	Veterinary Sciences
College of Veterinary Sciences, Haryana Agricultural University, Hissar, INDIA	MVSc	1974-1977	Veterinary Microbiology
All India Institute of Medical Sciences New Delhi, INDIA	PhD	1978-1981	Microbiology and Immunology
Institute Pasteur Paris, France	PDF	1984-86	Immunobiology
Brown University, RI, USA	PDF	1989-91	Immunology

**A. Positions and Honors.** List in chronological order previous positions, concluding with your present position.

List

any honors. Include present membership on any public or private advisory committee.

**Appointments:**

Sept 1993-cont.

Clinical Scientist

Molecular Immunologist

Division of Virology, Children's Hospital of Eastern Ontario (CHEO), Ottawa, ON, Canada

06/2010-Cont

Senior Scientist

Research Institute, CHEO, Ottawa, Ontario.

05/2004-Cont

Professor

Department of Pathology and Laboratory Medicine

University of Ottawa, Ottawa, ON.

Professor

Department of Biochemistry, Microbiology and Immunology (Cross appointed), University of Ottawa, Ottawa.

Professor

Department of Pediatrics (Cross appointed until 2007)

University of Ottawa, Ottawa, Ontario.

5/99 to 5/2004

Associate Professor

Department of Pathology and Laboratory Medicine

University of Ottawa, Ottawa.

Associate Professor (Cross appointed)  
Department of Biochemistry, Microbiology and Immunology (Cross appointed), University of Ottawa, Ottawa.

Associate Professor  
Department of Pediatrics (Cross appointed), University of Ottawa.

3/95-4/99  
Assistant Professor  
Department of Pediatrics  
University of Ottawa, Ottawa.

Assistant Professor  
Department of Microbiology and Immunology (Cross appointed)  
University of Ottawa, Ottawa.

Assistant Professor  
Department of Pathology and Laboratory Medicine (Cross appointed)  
University of Ottawa, Ottawa, Ontario.

2/93-2/95  
Clinical Lecturer  
Department of Pediatrics, University of Ottawa

10/80-2/89  
Assistant Professor (Immunology)  
College of Veterinary Medicine,  
Haryana Agricultural University, Hissar, Haryana, India.

8/91-8/92  
Section Head, tumor biology  
Division of Surgical Oncology  
Roger Williams Medical Center  
Brown University, Providence, RI 02906

**Awards:**

**Career Scientist Award from the Ontario HIV Treatment Networks (2005-2007): \$ 72000/yr for three years**

**Career Scientist Award from the Ontario HIV Treatment Networks (2007-2010): \$ 72000/yr for three years**

**Honors and Scholarships:**

1. Senior research fellowship from the Foundation for Medical Research, France, for 1985-1986
2. The French Govt. Scholarship (1984-1985)
3. The Switzerland Govt. Scholarship (1984-1985)-- Declined
4. The Competitive Research Fellowship from Indian Council of Agricultural Research for M. V. Sc. (1974-1976)
5. Certificate of Honors in B. V. Sc. & A.H.(1974 )
6. Merit Scholarship from Haryana Agricultural University in B. V. Sc. & A. H. (1970-1974)

**B. Selected peer-reviewed publications (in chronological order) *Last 6 years***

1. Danylo Sirskyj, Francisco Diaz-Mitoma, Ashkan Golshani, Ashok Kumar and Ali Azizi 2010. Innovative bioinformatic approaches for developing peptide-based vaccines against hypervariable viruses. *Immunology and Cell Biology*. 2011 Jan;89(1):81-9. Epub 2010 May 11.
2. Jonathan Boucher, Kelley Parato, Fiona Frappier, Wei Ma, Niranjala Gajanayaka, Robin Parks, Ashok Kumar, and Jonathan Angel. 2010. Disparate regulation of LPS-induced MAPK signalling and IL-12p40 expression between different myeloid cell types with and without HIV infection" *Viral Immunology*. 23(1):17-28.
3. Ali Azizi, Ashok Kumar, Francisco Diaz-Mitoma, Jiri Mestecky. 2010. "Enhancing Oral Vaccine Potency by Targeting Intestinal M Cells", *PLoS Pathogens*, 2010 Nov 11;6(11):e1001147.
4. SAXENA, M., BUSCA, A., KRYWORUCHKO, M., AND KUMAR, A. 2011. TLR-9 AGONISTS PROTECT HUMAN MONOCYtic CELLS AGAINST HIV-VPR-INDUCED APOPTOSIS: A CRITICAL ROLE FOR CALMODULIN-DEPENDENT PROTEIN KINASE-II AND AN ANTI-APOPTOTIC cIAP-2 GENE. *THE JOURNAL OF IMMUNOLOGY*. 187(11):5865-78. Epub 2011 Nov 7
5. Dorothy Rego, Ashok Kumar, Kathryn Wright, Stephen Huang, and Kozlowski M. 2011. IL-6 production is regulated by two distinct SHP1-dependent cEBP $\beta$  and NF- $\kappa$ B and SHP1-independent NF- $\kappa$ B pathways in LPS-stimulated bone marrow-derived macrophages. *Journal of Immunology* . 186(9):5443-56. Epub 2011 Mar 21.
6. Juthaporn Cowan, Suneeta Pandey, Lionel G. Fillion, Jonathan B Angel, Ashok Kumar and D. William Cameron. 2012. Interleukin-17 and Interleukin-22 expression profile in CD4 T cells and granulocytes with and without Mycobacterial antigens stimulation in human tuberculosis. Accepted for publication *Clinical and Experimental Immunology* 2012 Feb;167(2):317-29. doi: 10.1111/j.1365-2249.2011
7. Haitham Ghunaim, Jose Torres, Ashok Kumar, Francisco Diaz-Mitoma, and Ali Azizi. 2011. A Comparison between Lipidated and Non-Lipidated Multivalent HIV-1 Peptides Representing Gp120 and Gag Hypervariable Regions. *Vaccine*. 2011 Aug 11;29(35):5950-8. Epub 2011 Jun 28 .
8. Amin S., B. Jeantschke ., J. Lee, T Schrader., A. Kumar and M. Kozlowski. 2011. Expression of the tyrosine phosphatase SHP-1 is regulated by c-jun-N-terminal kinase and RFX-1 and AP-4 transcription factors in Insulin Growth Factor-1 stimulated breast adenocarcinoma MCF-7 cells. *Molecular and Cancer Research* 2011 Aug;9(8):1112-25. Epub 2011 Jun 30.
9. Aurelia Busca, Mansi Saxena and Ashok Kumar 2012. A critical role for antiapoptotic Bcl-xL and Mcl-1 in human macrophage survival and cIAP1/2 in resistance to HIV-Vpr induced apoptosis *Journal of Biological Chemistry*. Apr 27;287(18):15118-33. doi: 10.1074/jbc.M111.312660. Epub 2012 Mar 8.

10. Ma, L, F. Dong, M. Zaid, A. Kumar and X. Zha. 2012. ABCA1 Protein Enhances Toll-like Receptor 4 (TLR4)-stimulated Interleukin-10 (IL-10) Secretion through Protein Kinase A (PKA) Activation. *Journal of Biological Chemistry* 23;287(48):40502-12. doi: 10.1074/jbc.M112.413245. Epub 2012 Oct 10
11. Maria A Blahoianu, Ali AR Rahimi, Jonathan G Boucher, Niranjala Gajanayaka, Jonathan B Angel and Ashok Kumar. 2013. Engagement of CD14 sensitizes primary monocytes to IFN- $\gamma$  to produce IL-12/23p40 and IL-23 through p38 MAPK independent of the Jak/STAT signalling. *Journal of Interferon and Cytokine Research*. 2013 Aug;33(8):434-45. doi: 10.1089/jir.2012.0058. Epub 2013 May 16.
12. Azizi A, Sirskyj D, Haitham G, Fallahi F, Thanh L, Kumar A 2013. Delivery of Immunogens to Mucosal Immune System using an Oral Inactivated Cholera Vaccine: A new Approach for Development of Oral Vaccines. *Human Vaccine and Immunotherapeutics*. 2013 Jul;9(7):1445-8. doi: 10.4161/hv.24200. Epub 2013 Mar 6.
13. Maria A Blahoianu, Ali A Rahimi, Jonathan G Boucher, Niranjala Gajanayaka, Jonathan B Angel and Ashok Kumar. 2014. IFN- $\gamma$ -induced IL-27 and IL-27p28 expression are differentially Regulated through JNK MAPK and PI3K pathways Independent of Jak/STAT in Human Monocytic Cells. *Immunobiology*, 2014 Jan;219(1):1-8. doi: 10.1016/j.imbio.2013.06.001. Epub 2013 Jun 17
14. Chinonso Okenwa, Ashok Kumar, Dorothy Rego, Ladan Nilchi, Kathryn Wright and Maya Kozlowski. 2013. SHP-1-Pyk2-Src signalosome and p38 MAPK pathways independently regulate IL-10 production in LPS-stimulated macrophages. *Journal of Immunology*. Sep 1;191(5):2589-603. doi: 10.4049/jimmunol.1300466. Epub 2013 Jul 31
15. Angela Crawley, Agatha Vranjkovic, Elliott Faller, Michaeline McGuinty, Aurelia Busca, Ashok Kumar, Paul MacPherson, and Jonathan B Angel. 2014. Jak/STAT and PI3K signalling pathways have both common and distinct roles in IL-7 mediated activities in human CD8+ T-cells. *Journal of Leukocyte Biology*. 2014 Jan;95(1):117-27. doi: 10.1189/jlb.0313122. Epub 2013 Sep 26
16. Aurelia Busca<sup>†</sup> and Ashok Kumar 2014. Innate immune responses in Hepatitis B virus (HBV) infection. *The Virology Journal*. 11: 11-22.
17. Aurelia Busca, Mansi Saxena and Ashok Kumar 2014. PI3K/Akt differentially regulates survival of human macrophages by maintaining expression of Bcl-xL during differentiation and of Mcl-1 after differentiation. *J Leukoc Biol*. 2014 Dec;96(6):1011-22. doi: 10.1189/jlb.1A0414-212R. Epub 2014 Sep 15
18. Mansi Saxena, Aurelia Busca, Martin Holcik and Ashok Kumar. 2016. Bacterial DNA protects monocytic cells against HIV-Vpr-induced mitochondrial membrane depolarization. *Journal of Immunology*. 196(9): 3754-3767
19. Nagina Parmar, Jamie Hutchison, Gemma Vomiero, Ashok Kumar, Mohamed Abdelhaleem, Isabelle Gaboury, Melanie Kirby-Allen and Robert J. Klassen 2015 Altered Adhesion Molecule

- Expression of Leukocytes of SCD Patients in Crisis and Steady State. *J Blood Disorders Transf* 2015, 6:2
20. Iqbal S and Kumar A 2015. [Characterization of In vitro Generated Human Polarized Macrophages](#). *J. Clin. Cell. Immunology* 6 (6): 380 doi: [10.4172/2155-9899.1000380](#).
  21. Danylo Sirskyj, Ashok Kumar, Ali Azizi (2016). Mechanisms of immune response generated by a *Vibrio cholera* oral vaccine. *International Journal of Molecular Sciences*. *Int. J. Mol. Sci.* 2016, 17, 1062; doi:10.3390/ijms17071062
  22. Mansi Saxena, Aurelia Busca, Martin Holcik and **Ashok Kumar**. 2016. Bacterial DNA protects monocyctic cells against HIV-Vpr-induced mitochondrial membrane depolarization. *Journal of Immunology*. 196(9): 3754-3767
  23. Niranjala Gajanayaka, Shifawn O'Hara, Jason Fernandes, Kar Muthumani, Maya Kozlowski, Jonathan B. Angel and **Ashok Kumar**. 2017. HIV and HIV Tat inhibit LPS-induced IL-27 production in human macrophages by distinct intracellular signaling pathways. *Journal of Leukocyte Biology* Jul 11. pii: jlb.4A0716-332RR. doi: 10.1189/jlb.4A0716-332RR. [Epub ahead of print]
  24. Aurelia Busca, Yulia Konarsk, Niranjala Gajanayaka, Shifawn O'Hara, Jonathan Angel, Maya Kozlowski and **Ashok Kumar** 2018. cIAP1/2-TRAF1/2- SHP-1- Src complex through NFkB activation regulates LPS-induced IL-27 production in human macrophages. *J Immunol*. 2018 Jan 22. pii: ji1700199. doi: 10.4049/jimmunol.1700199. [Epub ahead of print]
  25. Jason R. Fernandes, **Ashok Kumar**, Jonathan B Angel. 2017. IL-23 signaling in Th17 cells is inhibited by HIV infection and is not restored by HAART: Implications for persistent immune activation. *PLoS One*. 2017 Nov 1;12(11):e0186823. doi: 10.1371/journal.pone.0186823. eCollection
  26. Haya Alomaim<sup>1,2</sup>, Philip Griffin<sup>1</sup>, Eleonora Swist<sup>1</sup>, Louise J. Plouffe<sup>1</sup>, Michelle Vandeloos<sup>1</sup>, Isabelle Demonty<sup>1</sup>, **Ashok Kumar**<sup>2</sup>, Jesse Bertinato<sup>1,2,\*</sup> 2019. Dietary calcium affects body composition and lipid metabolism in rats. [PLoS One](#). 2019 Jan 10;14(1):e0210760. doi: 10.1371/journal.pone.0210760. eCollection 2019.
  27. Ramon Edwin Caballero, Simon Dong, Niranjala Gajanayaka, Hamza Ali, Edana Cassol, Bill Cameron, Robert Korneluk, Jonathan Angel, and **Ashok Kumar**. 2019. SMAC Mimetics Selectively Induce Apoptosis in Primary Human HIV-infected Macrophages through RIPK-1 Kinase. *Journal of Immunology* Under revision.
  28. Faria Ahmed, Andrea Ibrahim, Curtis L. Cooper, **Ashok Kumar**, Angela M. Crawley 2019. Chronic hepatitis C virus infection impairs M1 macrophage differentiation and contributes to CD8<sup>+</sup> T-cell dysfunction. *Cells*. Accepted for publication.

29. Ahmed D, Roy D, Jaworski A, Edwards A, Abizaid A, Kumar A, Golshani A, Cassol E. 2019 Differential remodeling of the electron transport chain is required to support TLR3 and TLR4 signaling and cytokine production in macrophages. *Sci Rep. Nature*. 2019 Dec 11;9(1):18801. doi: 10.1038/s41598-019-55295-4
30. Dong, Simon Xin Min, Caballero R, Ali H, Roy DLR, Cassol E, and Ashok Kumar. 2020. Transfection of hard-to-transfect primary human macrophages with *Bax* siRNA to reverse Resveratrol-induced apoptosis. *RNA Biology*. Accepted for publication

## CURRICULUM VITAE

### Ashok KUMAR

Clinical Scientist  
Molecular Immunologist  
Division of Virology  
Children's Hospital of Eastern Ontario  
401 Smyth Road, Ottawa, Ontario, Canada.

Professor  
Department of Pathology and Laboratory Medicine  
University of Ottawa, Ottawa

Professor  
Departments of Biochemistry, Microbiology and Immunology  
(cross appointed).  
University of Ottawa, Ottawa

Professor  
Department of Pediatrics, (cross appointed until 2007)  
University of Ottawa, Ottawa, Ontario, Canada

Senior Scientist  
Research Institute  
Children's Hospital of Eastern Ontario

**Member,**  
**The School of Graduate Studies and Research**  
University of Ottawa

### ADDRESS

Division of Virology, Department of Pathology and Laboratory Medicine  
Children's Hospital of Eastern Ontario  
401 Smyth Road, Ottawa, Ontario, Canada. K1H 8L1

Tel.: 613-737-7600 ext 3920

Fax: 613-738-4825

E mail: [akumar@uottawa.ca](mailto:akumar@uottawa.ca)

[akumar@cheo.on.ca](mailto:akumar@cheo.on.ca)

3, Reubens Court, Ottawa, K1G 5K4 (Home)

Tel. 613-736-1882

### Citizenship

Canadian

### Marital Status

Married with two children

## EDUCATION / DEGREES HELD

**Ph.D.**, Immunology, All India Institute of Medical Sciences, New Delhi. India. 1978-1981

**Master of Veterinary Science (M. V. Sc.)**, College of Veterinary Medicine, Haryana Agricultural University Hissar, India. 1974-1977

**Bachelor of Veterinary Science and Animal Husbandry (B. V. Sc. & A.H.)**,  
**U.S. Equivalent of D.V.M.**, College of Veterinary Medicine, Hissar, India. 1970-1974.

## CERTIFICATION:

**ARM CCM (Academic and Research Microbiologist, Canadian College of Microbiology) 2002**

## PROFESSIONAL TRAINING

1. Visiting Scientist (on sabbatical leave from India) at the Division of Cellular Immunogenetics, Department of Immunology, Pasteur Institute, PARIS, France 1984-1986.
2. Research Associate at the Department of Pathology, Brown University and Roger William Cancer Center, Providence, Rhode Island, USA from 1989-1991.

## EMPLOYMENT HISTORY

### ACADEMIC AND PROFESSIONAL APPOINTMENTS

Sept 1993-cont.

Clinical Scientist  
Molecular Immunologist  
Division of Virology  
Children's Hospital of Eastern Ontario, Ottawa, Ontario.

05/2004-Cont

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Department of Pediatrics (Cross appointed until 2007)  
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5/99 to 5/2004

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Department of Pathology and Laboratory Medicine



University of Ottawa, Ottawa.

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 (Cross appointed)  
 University of Ottawa, Ottawa.

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 Department of Pediatrics (Cross appointed)  
 University of Ottawa, Ottawa, Ontario.

3/95-4/99

Assistant Professor  
 Department of Pediatrics  
 University of Ottawa, Ottawa.

Assistant Professor  
 Department of Microbiology and Immunology (Cross appointed)  
 University of Ottawa, Ottawa.

Assistant Professor  
 Department of Pathology and Laboratory Medicine  
 (Cross appointed)  
 University of Ottawa, Ottawa, Ontario.

2/93-2/95

Clinical Lecturer  
 Department of Pediatrics, University of Ottawa

10/80-2/89

Assistant Professor (Immunology)  
 College of Veterinary Medicine,  
 Haryana Agricultural University, Hissar, Haryana, India.

8/91-8/92

Section Head, Tumor Biology  
 Division of Surgical Oncology  
 Roger Williams Medical Center  
 Brown University, Providence, RI 02906

**Awards:**

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**Career Scientist Award from the Ontario HIV Treatment Networks (2007-2010): \$ 72000/yr for three years**

**Honors and Scholarships:**

1. Senior research fellowship from the Foundation for Medical Research, France, for 1985-1986
2. The French Govt. Scholarship (1984-1985)
3. The Switzerland Govt. Scholarship (1984-1985)-- Declined
4. The Competitive Research Fellowship from Indian Council of Agricultural Research for M. V. Sc. (1974-1976)
5. Certificate of Honors in B. V. Sc. & A.H.(1974 )
6. Merit Scholarship from Haryana Agricultural University in B. V. Sc. & A. H. (1970-1974)

### **SCHOLARLY AND PROFESSIONAL ACTIVITIES**

1. Member, Research Institute, Children's Hospital of Eastern Ontario, University of Ottawa.
2. Member, School of Graduate Studies and Research, University of Ottawa.
3. Reviewer, and member Science sub-committee of the Research Institute, Children's Hospital of Eastern Ontario and University of Ottawa.
4. Member of the Editorial Board, Journal of Biotechnology and Applied Medicine, India.
5. Member of the Academy of Bio-scientists of India
6. Member, Roger Williams Cancer Center, Brown University, Rhode Island, USA (1989-1991).
7. Member, Research Co-ordination Committee of the Research Institute, CHEO
8. Member, Senior Management Committee, Department of Pathology and Laboratory Medicine, Children's Hospital of Eastern Ontario, Ottawa.
9. Member, Graduate Studies, Department of Biochemistry, Microbiology and Immunology, University of Ottawa.
10. Judge, Ottawa Regional Science Fair, 2006 and 2007

### **Reviewer/Panel Member for Granting Agencies:**

1. British Columbia Foundation of Health Research
2. Ontario HIV Treatment Network
3. Medical Research Council of Canada
4. Canadian Institute of Health Research
5. NSERC
6. Manitoba Health Research Council
7. Research Institute, CHEO
8. Panel Member, Ontario Government Scholarship (OGS) Selection Committee, in the discipline of Biochemistry (Ministry of Training Colleges and Universities, Ontario)
9. Panel member, Canadian Institute of Health Research, Team Grants, A.
10. Hospital for Sick Children
11. The Wellcome Trust, UK
12. Canadian Foundation for AIDS Research
13. French National Research Agency (ANR), France.
14. Isreal Science Foundation

### **Reviewer for International Journals:**

1. Journal of Immunology
2. Experimental Cell Research
3. Blood
4. Oncogene
5. European Journal of Hematology
6. European Journal of Endocrinology
7. European Journal of Immunology
8. Core Reviewer, Medical Immunology
9. Critical Care Medicine
10. Journal of Leukocyte Biology
11. Journal of Investigative Dermatology
12. International Journal of Biochemistry and Molecular biology
13. Journal of General Virology
14. Cellular & Molecular Biology Letters

### **Membership Academic Societies**

1. American Association of Immunology
2. American Society of Biochemistry and Molecular Biology
3. Canadian Society of Microbiology

### **CLINICAL DUTIES 9 (until 2012)**

Directed the laboratory of Virology and Molecular Immunology at the Research Institute, Children's Hospital of Eastern Ontario, University of Ottawa, Ottawa, Canada. This laboratory had the strength of three Research Assistants in addition to the visiting residents and interns. I spent approximately **30% of my time** dealing with the clinical diagnostic services of the Department of Pathology and Laboratory Medicine at CHEO.

1. As a Molecular Immunologist at the Hospital I directed the clinical and diagnostic laboratory work of three research assistants dealing with the diagnostic work related to immune function testing including neutrophil function tests, cytotoxic and chemotactic activity, T cell function tests and lymphocyte enumeration. The phenotypic analysis and enumeration of immune cells by flow cytometry is conducted on a regular basis. I was also the director of flow cytometry unit at CHEO. In addition, the following major immunological tests were conducted in this laboratory:
  1. Cell proliferation assay in response to recall antigens and mitogens
  2. Measurement of cytokines mainly IL-2, IL-4, IL-10, IL-12 and Interferon- $\gamma$
  3. Detection of HSV-1 and HSV-2 antigens by Western blot analysis.
  4. Neutrophil and monocyte/macrophage function tests by chemotaxis and bacterial killing.
2. I directed the Molecular Virology section of the laboratory of Clinical Diagnostic Virology for two years from 2002-2004. Specifically, I was involved in the diagnostic assays for the detection of several viruses including HIV, HSV, EBV, CMV, hepatitis viruses, Toxoplasma, West Nile virus, by employing PCR technology. In addition, we spend a lot of time on the research and

developmental aspects of the molecular virology laboratory. This laboratory has the strength of three technologists.

3. Chairman, Bio-hazard Safety Committee of the Research Institute, CHEO (1999-2000)

### **GRADUATE/ POST GRADUATE STUDENT SUPERVISION**

Career Number: 15 M. Sc., 14 Ph. D.; 7, Honour's students, 7 MD students (summer research)  
3, BSc NSERC students  
Completed: 12 M. Sc., 12 Ph.D. 7, Honour's students, 7 MD students (summer research);  
unofficial 1 MSc, 1 PhD; 2 MSc and 1 PhD students discontinued,  
In Progress: 3 M. Sc., 2 Ph.D.

#### **1. Names of the students supervised and the years of registration.**

##### **Supervisor of the following Graduate Students at the University of Ottawa**

1. Marko Kryworuchko M. Sc student 1993  
Upgraded to Ph.D; 1995-99

**Title of Thesis:** Regulation of CD44 mediated hyaluronan interactions and CD44 expression by cytokines in normal human B cells and transformed B cell lines.

2. Pirous Daftarian Ph.D. Student 1993-1997

**Title of Thesis:** Studies on the role of T helper type I and type II cytokines in HIV immunopathogenesis; role and regulation of interleukin-10.

3. Dr. David Creery M.D. M. Sc. Student 1994-1996

**Title of Thesis:** Effects of immunoregulatory cytokines on B7-1 and B7-2 isoform expression on human monocytes and B cells.

4. Katerina Gee M. Sc. Student 1997-  
Upgraded to Ph. D. 1999-2003

**Title of Thesis:** Molecular mechanism for the regulation of CD44 expression and generation of hyaluronan adhesive CD44 in human monocytic cells and B cells.

5. Bill Weiss M. Sc. Student 1999-2001

**Title of Thesis:** The regulation of CXCR-4 and CCR5 expression in human monocytes by Th1 and Th2 cytokines: Functional implications on cell migration and HIV infection

6. Wilferd Lim M. Sc. Student 1999  
upgraded to Ph. D in 2001- 2006
- Title of Thesis:** Molecular mechanism for the regulation of B7 isoform expression in human monocytes
7. Wei Ma M. Sc Student and upgraded to PhD, 2002- 2007
- Title of Thesis:** Regulation of IL-10 in human monocytic cells by HIV nef protein
8. Ali Rahimi M. Sc student 2001-2004
- Title of Thesis:** Molecular mechanism by which IL-10 regulates CD14 expression in human monocytic cells.
9. Sasmita Mishra Ph. D. Student 2003- 2007.
- Title of Thesis:** Regulation of anti-apoptotic gene, HIAP-1, in human monocytic cells by LPS and TNF- $\alpha$
10. Jyoti Prasad M.Sc student and upgraded to PhD, 2003-2008.
- Title of Thesis:** Regulation of IL-10 in human monocytic cells by HIV tat protein
12. Zared Aziz M.D. student University of Ottawa  
spent two summers at my laboratory (1998-1999)
13. Magadlene Stavrati M. D. student from Greece on an exchange program (2003)
14. Michael Lapner B.Sc 4<sup>th</sup> year Summer student on NSERC scholarship, 2003
15. Nadia Sant B.Sc 4<sup>th</sup> year Summer student on NSERC scholarship, 2003
16. Clarissa Pinto MD student (3<sup>rd</sup> year) from Brazil on summer scholarship,  
2004, on exchange program
17. Lia Coelho MD student (3<sup>rd</sup> year) from Brazil on summer scholarship,  
2004, on exchange program

### **Graduate Student Supervision in the last eight years from 2010-2017:**

18. Ali Rahimi Ph.D. student 2004-2010

**Title of Thesis: Regulation of IL-12 Family Cytokines in Normal and HIV-1-infected Human Monocytic Cells**

19. Aditi Kumar 3<sup>rd</sup> year B.Sc student (NSERC scholarship)
20. Kevin Renaud M.Sc, Supervisor , Joined medical school in Ottawa
21. Juuso Moisala Medical student from Helsinki Medical School
22. Bietel Bocretsiou, 4<sup>th</sup> Year B. Sc Biochemistry Honour's Student 2005

23. Abdulkarim Alhethheel, M.Sc student, September 2004 Co-supervisor  
Upgraded to PhD program, 2006- completed in 2010

**Title of thesis: HIV-induced dysregulation of IFN-g signaling and programmed cell death in primary human monocytes**

24. Maria Andreea Blahoianu, M.Sc student, supervisor, 2006  
Upgraded to PhD program 2007  
Completed in 2013

**Title of Thesis: Regulation of IL-12, IL-23, IL-27 in Response to IFN- $\gamma$ /LPS in Human Monocytes and Macrophages**

25. Anita C. Benoit, Ph.D. student Co-supervisor 2006: completed in 2011

**Title of thesis: Impaired IL-7/IL-7Ra signaling in HIV infection: Role of the transcriptional repressor GFI-1 in suppressing IL-7Ra expression and driving the proliferation of human CD8 T lymphocytes**

26. Amine Saad, MSc student, Co-Supervisor completed in 2010

**Title of thesis: Induction of adaptive immunity by a novel influenza vaccine: Immunization by mRNA administration**

27. Laura Comerma Blesa, Medical student from Barcelone, Spain
28. Henry Zelada Castro, Medical student (MD) from LIMA - PERU

29. Mansi Saxena, MSc student 2006, upgraded to PhD in 2008

**Title of Thesis: Critical role of c-IAP-2 in mediating mechanisms of resistance to HIV-Vpr-induced apoptosis in human monocytic cells**

30. Aurelia Busca, MSc student, September 2007, Upgraded to PhD in 2009-  
Completed in 2013

**Title of thesis: Anti-apoptotic proteins in human macrophage survival, differentiation, innate immunity and protection from HIV-induced apoptosis**

31. Muluken, PhD student June 2008. Quit PhD in 2008 to join a job
32. Alexia de Jong Honours student 2008-2009

33. Frank Vassiliyadi Honour student 2009-2010

34. Ms Shifawn O'Hara MSc 2010-2012

**Title of thesis: The effects of HIV on the regulation of IL-12 family cytokines IL-12, IL-23 and IL-27 production in human monocyte-derived macrophages**

35. Danylo Sirskyj MSc 2010 completed in 2013

**Title of thesis: The Requirement of Toll-like Receptor Signaling in the Induction of Humoral and Cell-mediated Immune Responses to the Orally Administered Dukoral® Vaccine**

36. Yulia Konarski BSc Honours student 2011

37. Yulia Konarski MSc 2011 completed in 2013

**Title of thesis : Phenotypical and functional characterization of polarized human macrophages**

38. Ankur Chopra BSc Honours student 2012

39. Ramon Caballero BSc Honours student 2012

40. Salma Iqbal MSc 2012-2014

**Title of thesis: Phenotypical and functional characterization of polarized human macrophages**

41. Shegan Woldai Msc 2012-August 2014

**Title of thesis: The role of CD80 and CD86 in macrophage activation and its regulation following LPS stimulation**

42. Simon Dong PhD 2014- 2020.

**Title of Thesis: Selective induction of apoptosis in HIV infected macrophages**

43. Niranjala Gajnayaka MSc 2013-2015

**Title of thesis : Molecular mechanism involved in HIV-Tat mediated inhibition of LPSinduced IL-23 and IL-27 production in human macrophages**

44. Haya Alomaim MSc 2014- thesis submitted in November 2017, Completed in 2018

**Title of Thesis: Effect of Dietary Calcium on Body Composition and Lipid Metabolism**

45. Hamza Ali PhD 2014- Cont to be completed in 2018/2019

**Title of Thesis: Involvement of IAPs Pathway in Survival of Human Macrophages Subsets**

46. Jacon Pfaff MSc 2014- cont (discontinued 2015) Co-supervisor

47. Jegede Akinlolu MSc 2014 –, Completed in 2017

**Title of Thesis: H9N2 Avian Influenza A Virus: Impact of Serial Passaging by Aerosol Exposure on Pathogenicity in Chickens**

48. Ramon Caballero MSc September 2015-2018

**Title of Thesis: Selective induction of programmed cell death by Smac-mimetics in HIV-infected macrophages**

49. Faria Ahmad MSc September 2015- 2018

**Title of thesis: The role of macrophage subsets in CD8 T cell function in chronic HCV infection**

50. David Roy MSc, Carleton University, co-supervisor, 2017-2019t

**Title of Thesis: Effects of HIV and ART on mitochondrial reprogramming leading to cytokine production in macrophages**

**Supervised the research of the following students at the University of Ottawa:**

1. Sepideh Karimi M. Sc. Student 1995
2. Rekha Singh Ph. D. Student 1997

**2. Supervisor of the following Research Associates at the University of Ottawa**

1. Pirouz Daftarian Ph. D. 1996-97
2. Adrian Almeida Ph. D. May 1997 – Dec. 1997
3. Reza Farhani Ph. D. Oct. 1997- June 1998
4. Manju Sharma M.D. June 1998 – 1999.
5. Wei Ma MD March 1999-2002
6. Karina Gee April 2003 – 2006.
7. Ali azizi September 2006-cont
8. Jonathan Boucher January 2007- 2008.
9. Sasmita Mishra January 2007- 2008
10. Sunita Pandey January 2009-
11. Elliott Faller September 2010-
12. Haitham September 2009-11
13. Aurelia Busca September 2012-



14. Jason Fernandez January 2014 – December 2014  
 15. Hapsa Mammadi June 2015-Cont

**3. Member of the advisory committee of the following students at the University of Ottawa.**

- |     |                               |  |
|-----|-------------------------------|--|
| 1.  | Gina Graziani                 | Ph. D. Student                             |
| 2.  | Julie Stone                   | M. Sc. Student                             |
| 3.  | Paul Payette,                 | M. Sc. Student                             |
| 4.  | Rekha Singh                   | Ph. D. Student                             |
| 5.  | Kelly Chambers                | M. Sc. PhD Student                         |
| 6.  | Angela Graham                 | M. Sc. Student                             |
| 7.  | Jan Brun                      | M. Sc. Student                             |
| 8.  | Irene Chan                    | M. Sc student                              |
| 9.  | Yatsun Chu                    | M. Sc student                              |
| 10. | Dorothy Rego                  | M. Sc and Ph.D. student                    |
| 11. | Agatha Komsic                 | M. Sc and Ph. D. student                   |
| 12. | Ali Azizi                     | Ph. D. student                             |
| 13. | Sharin                        | M. Sc student                              |
| 14. | Chinonso Okenwa               | M. Sc and Ph. D. student                   |
| 15. | David Blais                   | Ph. D. Student                             |
| 16. | Charlene Young                | M.Sc Student and Ph.D. student             |
| 17. | Abdul Khaled                  | M. Sc student                              |
| 18. | Fiona                         | M. Sc, Ph.D. student                       |
| 19. | Marsha Saldanha               | M. Sc student                              |
| 20. | David Lefvre                  | Ph. D. student                             |
| 21. | Karen Powell                  | M. Sc student                              |
| 22. | Ladan Nilchi                  | M. Sc student                              |
| 23. | Christopher Brown MD          | Ph.D. student 2006                         |
| 24. | Kakal Juzer                   | M.Sc student                               |
| 25. | Anna Jezierski                | MSc student                                |
| 26. | Kasandra Belanger             | MSc 2009                                   |
| 27. | Andre Molgat                  | PhD 2010                                   |
| 28. | Peter Fairman                 | PhD 2009                                   |
| 29. | Kanishka Mohib                | PhD  |
| 30. | Gerard Agbayani               | PhD Microbiology and Immunology 2014-cont  |
| 31. | Maria del Mar Sanchez Vidales | MSc Microbiology and Immunology 2013- cont |
| 32. | Alana Stilla                  | MSc Microbiology and Immunology 2013-cont  |
| 33. | Rajaa Sebaa                   | PhD student                                |
| 34. | Dikchha Rijal                 | PhD student (2014-)                        |
| 35. | Agbayani, Gerard              | PhD student 2012-)                         |
| 36. | Duale Ahmad                   | PhD student, Carleton University           |
| 37. | Pallavi Saxena                | MSc student                                |
| 38. | Teslin Sandstrom              | PhD student                                |
| 39. | Trevor Greenham               | PhD student                                |
| 40. | Leila Sam                     | MSc student                                |

**4. Examiner, comprehensive examination of the following Ph. D. students at the University of Ottawa.**

1. P. Daftarian
2. Luc Sabourin
3. Juana Barcelo
4. Gina Grazziani
5. Isabelle Leduc
6. Robert Pons
7. Domiano Conte
8. Melanie Green
9. Dorothy Rego
10. David Blais
11. Ali Azizi
12. Agatha Komsic
13. Charlene Young
14. Jennifer Black (nee Beveridge)      PhD Microbiology and Immunology 2005-Cont  
Comprehensive completed in spring 2008
15. Vian Peshdary      PhD Microbiology and Immunology 2013.
16. **Nischal Ranganathan**      **MD PhD 2015**
17. **Duale Ahmad**      **PhD student, Carleton university**

**5. Member of the Thesis examination committee of the following students at the University of Ottawa.**

1. Julie Stone      M. Sc. Student 1996
2. Kelly Chambers      M. Sc. Student 1997
3. Chairman of the thesis defense committee of Avni Radia      M. Sc. Student 1997.
4. Chairman, Thesis defense committee of Nolan      M. Sc. Student 1998
5. Donna Grant      M. Sc. 1998
6. Somaya Balasubramanian's      M. Sc 1999
7. Robert A Pon      Ph.D. 2001
8. Janina Jiang      M. Sc 2001
9. Chairman of the Thesis defense committee of Diane Medeiros M. Sc Student 2001
10. Julian Lum      Ph. D. 2003
11. Chairman, Thesis defense committee for Kathryn Traulsen, M.Sc student, 2003.
12. Habiba Chakir,      Ph. D. 2003
13. Tim Wallace      M.Sc 2003
14. Abed Zeibdawi      Ph.D. 2003, Chairman, Thesis defence committee
15. Greg Beaudoin      M.Sc 2004
16. Daniel Macdonald      M. Sc 2004
17. Firouze Fallahi      M. Sc 2005
18. Chair, Thesis defense committee, Y Lee M. Sc 2006
19. Rachel Liu,      MSc student, 2006
20. Koralee Chaisson      MSc student 2007
21. Majid Mojibian      Ph.D. student, 2007

- |      |   |            |
|------|---|------------|
| 22.  | Naveed Gulzaar  | Ph.D. 2007 |
| 23.  | Neda Nasheri Ardekan  | MSc 2008   |
| 24.  | Elliot Faller   | PhD 2009   |
| 25.  | Laura Davis   | MSc 2010   |
| 26.  | Rubecca Mulligan  | MSc 2010   |
| 27.  | Rajen Patel   | MSc 2010   |
| 28.  | Chairman, Thesis defense committee for Jay Majithia. M.Sc student, 2011   |            |
| 29.  | Felicity Stark  | PhD 2011   |
| 30.  | Halil Aydin   | MSc 2011   |
| 31.  | Samar Dankar  | PhD 2012   |
| 32.. | External Examiner, Member of the thesis examination committee of a Ph. D. student Mr Nelson Wong at the University of British Columbia, 2006              |            |
| 33.  | External Examiner, Member of the thesis examination committee of a Ph. D. student Minalini Lakshman at the University of Toronto, 2005                    |            |
| 34.  | Thesis examiner for a MSc student at faculty of Medicine, Benghazi, Libya   |            |
| 35.. | External Examiner, Member of the thesis examination committee of a Ph. D. student Reza Nazari at the University of Toronto, 2008                          |            |
| 36.  | External Examiner, Member of the thesis examination committee of a Ph. D. student Stephane Dragon at the University of Manitoba, Winnipeg, Manitoba. 2010 |            |
| 37.  | External Examiner, Member of the thesis examination committee of a Ph. D. student Jing Quin Wu at the University of Sydney, Australia 2009.               |            |
| 38.  | Mahmoud Hussein's   | MSc 2013   |
| 39.  | Cecelia Costiniuk   | MSc 2013   |
| 40.  | Loretta Ma  | PhD 2013   |
| 41.  | Scott McComb  | PhD 2013   |
| 42.  | Kushal Gill   | MSc 2014   |
| 43.  | Nidhi RajGopalan  | Msc 2014   |
| 44.  | Hafsa Cherid  | MSc 2014   |
| 45.  | Ayse Yilbas   | MSc 2014   |
| 46.  | Naveen Haribabu   | MSc 2014   |
| 47.  | Marco   | MSc 2015   |
| 48.  | Rajan Patel   | PhD 2015   |
| 49.  | Chairman, Thesis defense committee<br>Sarah Wassmer   | PhD 2016   |
| 50.  | Chairman, Thesis defense committee<br>Diana Soosai  | MSc 2016   |
| 51.  | Emmanuelle Ametepe  | MSc 2017   |
| 52.  | Tina Nguyen   | PhD 2017   |
| 53.  | Trevor Greenham   | PhD 2019   |
| 54.  | Abinaya Murlidharan   | PhD 2019   |
| 55.  | Teslin Sandstrom  | PhD 2019   |
| 56.  | Norah Abdulla Alturki   | PhD 2020   |
| 57.  | Saeedah Almutairi   | PhD 2020   |
| 58.  | Chairman, Thesis defense committee<br>Michael Eltin   | MSc 2020   |

**6. Teaching of Fellows and Residents at Roger Williams Medical Center, Brown University 1991-1992:**

1. Dr. S. Akiyama M.D. Nagoya University, Japan from October 1991-92.
2. Dr. Tomohiko Ohta M.D. Tokyo University Japan from October 1991-92.

**GRADUATE COURSES / TEACHING EXPERIENCE**

1. Course Coordinator, Basic Immunology, 5124, Course for the graduate students at the University of Ottawa, 1996 session.
2. Teaching of Immunology to the graduate students in the following courses at the University of Ottawa.
  - a. Advanced course in immunochemistry (1994).
  - b. Advanced course in immunology (1995)
  - c. Basic Immunology 1995
  - d. Advanced topics in immunology, 1995-96.
  - e. Advanced topics in immunology, 1996-97
  - f. Basic Immunology 1997
  - g. Advanced topics in immunology, 1997-98
  - h. Basic Immunology 1998
  - I Advanced topics in immunology 1998
  - J Basic Immunology 1999
  - k. Advanced topics in immunology 2000
  - l. Basic Immunology 2001
  - m. Advanced topics in immunology 2002
  - n Advanced topics in immunology 2005
  - o Advanced topics in immunology 2006-2007
  - p. Biology and pathogenesis of HIV infection 2006- course coordinator along with Dr Paul McPherson . almost every year since 2006
3. Teaching of Immunology to the medical students in the problem based learning (PBL) settings in the Immune Block. 1994-2006.
  - a. Teaching of Immunology to the medical students in the PBL settings. 1994
  - b. Teaching of Immunology to the medical students in the PBL settings. 1995
  - c. Teaching of Immunology to the medical students in the PBL settings. 1996
  - d. Teaching of Immunology to the medical students in the PBL settings. 1997
  - e. Teaching of Immunology to the medical students in the PBL settings. 1998
  - f. Teaching of infection and host defence to the medical students in the PBL settings. 1999
  - g. Teaching of infection and host defence to the medical students in the PBL settings. 2000
  - h. Teaching of infection and host defence to the medical students in the PBL settings. 2001
  - i. Teaching of infection and host defence to the medical students in the PBL settings. 2002

- j. Teaching of infection and host defence to the medical students in the PBL settings. 2003
  - k. Teaching of infection and host defence to the medical students in the PBL settings. 2004
  - l. Teaching of infection and host defence to the medical students in the PBL settings. 2005
  - m. Teaching of infection and host defence to the medical students in the PBL settings. 2006
4. Teaching of the following post graduate courses in Immunology at the Haryana Agricultural University, Hissar, India from 1981-84, and 1987-88.
- A. Principles of Immunology,
  - B. Cellular Immunology,
  - C. Immunochemistry
  - D. Techniques in Immunology.

#### **Awards to the students supervised:**

1. Marko Kryworuchko was awarded a fellowship to work on the research project CD44 in human B cell immuno-biology by Natural Sciences and Engineering Research Council 1995-1997.
2. Marko Kryworuchko was awarded a post-doctoral fellowship by the Medical Research council for three years (1998-2001) to pursue his research at the Institute Pasteur Paris, France.
3. M.R.C. / K. M. Hunter Doctoral Research Award of \$ 19530.00 to Katerina Gee for for three years to do Ph.D. under my supervision
4. OHTN scholarship (Ph.D) to Wifred Lim for two years (2000-2002)
5. OHTN scholarship (Post-Doctoral) to Wei Ma MD (China) for three years (1999-2002)
6. OHTN Scholarship (Post-doctoral) to Wei Ma MD (China) for one year (2002-2003)
7. NSERC Scholarship (M.Sc) to Wei Ma MD (China) for two years (2003-2005)
8. OGS Scholarship (Ph.D) to Wilfred Lim for one year (2003-2004)
9. OGS Scholarship (Ph.D) to Katrina Gee for one year (2002-2003)
10. OGSST Scholarship (Ph.D) to Sasmita Mishra for two years (2003-2004)
11. OGSST Scholarship (M.Sc) to Jyoti Prasad Mishra for two years 2003-2004
12. NSERC scholarship to M. Lapner for four months 4<sup>th</sup> year B.Sc 2003
13. NSERC scholarship to R. Kumar for four months 4<sup>th</sup> year B.Sc 2003
14. NSERC scholarship to N. Sant for four months 4<sup>th</sup> year B.Sc 2003
15. **NSERC scholarship to WMa/GS (35000/yr for 2 yrs) 2005**
16. OGS scholarship to J.Mishra/GS (15000 for 1 yr) 2005
17. OGS scholarship to S.Mishra/GS (15000 for 1 yr) 2005
18. OHTN scholarship to S.Mishra/PDF (55,000/yr for 2 yrs) 2006

19.	NSERC scholarship to Ali Azizi/PDF (30,000/yr for 2 yrs)	2006
20.	OGSST scholarship to M.Blahoinu/GS (15,000 for 2 yrs)	2007
21.	OHTN scholarship to Ali Rahimi/GS (21000 for 2 yrs)	2007
22.	OGS Scholarship to Mansi Saxena	2008-2009
23.	OGSST Scholarship (M.Sc) to Mansi Saxena for two years	2009-2011
24.	OHTN scholarship to Aurelia Busca (22,000/yr for 2 yrs)	2010
25.	OHTN scholarship to Elliott Faller (45,000/yr for 3 yrs)	2010
26.	OGSST Scholarship (M.Sc) to Ramon cabillaro for one years	2015-16

### **SHORT COURSE/ WORKSHOP**

1. Completed one week course for Fluorescence activated cell sorter at Institute Pasteur, Paris, France December 5, 1988.
2. Attended workshop for In Situ Hybridization " at San Diego May 23, 1992

**EXTERNAL RESEARCH FUNDING****Total Research Funding Obtained (1993-2015) \$ 14,943,763.00****Total Number of External Peer Reviewed Research Funds Awarded 73**

**As a Principal Investigator .....25**  
**Co-Principal Investigators ----- 3**  
**As Co-Investigator .....22**  
**Number of Equipment Grants Awarded ..... 3**  
**Number of Graduate Student Awards ..... 26**

**Research Grants:**

<b>Year</b>	<b>Source</b>	<b>Type</b>		<b>Amount/year</b>	<b>Purpose</b>
1993	RI	PI	F	20,000	Research
1994	CANFAR	PI	C	15,000	Research
1994	RI	Co-PI	F	15,000	Research
1994	RI	PI	F	20,000	Research
1994	MOH	Co-PI	C	50,000 for 2 yrs	Research
1994	Bickell Found.	Co-Invest.	F	25,000	Equipment
1996	CANFAR	PI	C	20,000	Research
1996	RI	PI	F	20,000	Research
1996	Cancer Res. Soc.	PI	C	32,000 for 2 yrs	Research
1995	NSERC	Co-Invest.	C	19,000 for 2 yrs	Student award
1996.	MRC/Industry	Co-Invest.	C	70,000 for 2 yrs	Research
1997	Multiple Sclerosis Soc.	Co-Invest.	C	78,500 for 2 yrs	Research
1997	RI	PI	F	30,000	Research
1997	MOH	PI	C	90,500 for 2 yrs	Research
1998	CANFAR	PI	C	20,000	Research
1998	CANFAR	Co-Invest.	C	60,000	Research
1998	MRC	Co-Invest.	C	2,35,000	Equipment
	MRC	Co-Invest	C	32,700 for 3 yrs	Tech. Salary
1998	MOH	Co-Invest	C	100,000	Equipment
1998	RI	PI	F	30,000	Research
1998	MRC/Industry	Co-Invest.	C	115,117 for 3 yrs	Research
1998	MRC/University	Co-Invest.	C	2,500 for 2 yrs	Student award
1998	RI	PI	C	20,000	Matching grant
1998	MRC/Industry	Co-Invest.	C	72,746 for 3 yrs	Research
1999	RI	Co-Invest.	C	28,955	Research
1999.	OHTN	PDF. Wei Ma	C	35,061 for 3 yrs	Research
1999	MOH	PI	C	68,500 for 2 yrs	Research
1999	MRC Doctoral award	K. Gee /GS	C	19,530 for 3 yrs	Research

1999.	National Biotechnology Strategy funds	Co-Invest.	C	1,32,000 for 3 years	Research
2000	OHTN	W. Lim/GS	C	19,500 for 2 yr	Research
2000	RI	PI	C	30,000 for 1 year	Research
2000	Cancer Res. Soc.	PI	C	50,000 for 2 yrs	Research
2001	Ontario HIV treatment Network	PI	C	71,000 for 2 yrs	Research
2002	OGS	K. Gee/GS	C	15,000 for 1 yr	Research
2002	NSERC	PI	C	27,000 for 5 yrs	Research
2003	CIHR	PI	C	79,280 for 3 yrs	Research
2003	CIHR	PI		42,000	equipment
2003	NSERC	W. Ma/GS	C	19,500 for 2 years	Research
2003	OGSST	J. Mishra, GS	C	15,000 for 1 yr	Research
2003	OGS	W. Lim/GS	C	15,000 for 1 yr	Research
2003	OGSST	S. Mishra/GS	C	15,000 for 1 yr	Research
2003	RI	Co-Invest.	C	30,000 for 1 yr	Research
2003	RI	Co-Invest.	C	30,000 for 1 yr	Research
2003	HC/CIHR	Co-Invest.	C	41,000 for 1 yr	Research
2004	JP Bickell	Co-Invest.	C	65,000 for 1 yr	Research
2004	CIHR/Health Canada	Co-Invest.	C	60000 for 1 yr	Research
2004	CIHR	Co-Invest.	C	75,038 for 3 yrs	Research
2005	OHTN	Career Scientist award		72000 for 2 yrs	Award
2005	CIHR	PI		83308/yr for 3 yrs	Research
2005	NSERC	WMa/GS		35000/yr for 2 yrs	Research
2005	RI	Co-invest		30000 for 1 yr	Research
2005	OGS	S.Mishra/GS		15000 for 1 yr	Research
2005	OGS	J.Mishra/GS		15000 for 1 yr	Research
2006	CIHR	PI		86592/yr for 3 yrs	Research
2006	OHTN	S.Mishra/PDF		55,000/yr for 2 yrs	Research
2006	NSERC	Ali Azizi/PDF		30,000/yr for 2 yrs	Research
2007	OHTN	career scientist award		72,000/yr for 3 yr	Research
2007	CIHR	PI		95775/year for 3 yrs	Research
2007	NSERC	PI		31000/yr for 5 yrs	Research
2007	CIHR	Co-Invest.		105659/yr for 3 yrs	Research
2007	OGSST	M.Blahoinu/GS		15,000 for 2 yrs	Research
2007	OHTN	Ali Rahimi/GS		21000 for 2 yrs	Research
2008	OHTN	PI		117,200/yr for 2 yrs	Research
2009.	OHTN	Co-PI		150,000/yr for 2 yrs	Research
2009	CIHR	PI		115,000/yr for 5 yrs	Research
<b>2010</b>	<b>CIHR</b>	<b>PI</b>		<b>126,000/yr for 5 yrs</b>	<b>Research</b>
2010	OHTN	Aurelia Busca,OHTN		22,000/yr for 2 yrs	Research
2010	OHTN	Elliott Faller, OHTN		45,000/yr for 3 yrs	Research
2011	OGS	M. Saxena		15000 for one year	Research
2014	CIHR Team Grant	Co-investigator		8.76 Millions for 5 years	Research
2015	OGSST	Ramon Callaberro		\$ 10000 for one year	Research



2016                      CIHR                      PI                      \$ 250,000 for 18 months                      Research

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C; Council; F, Foundation;

MOH, Ministry of Health;

RI, Research Institute Foundation;

CANFAR, Canadian Foundation for AIDS Research;

MRC, Medical Research council;

CIHR, Canadian Institute of Health research;

OHTN, Ontario HIV Treatment network;

CRS, Cancer Research Society;

NSERC, Natural sciences and Engineering Research council;

OGS, Ontario Graduate Scholarship;

OGSST, Ontario graduate scholarship in sciences and technology

PI, Principal Investigator; Co-Invest., Co-Investigator

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#### **Details of the Research Grants:**

1. A grant of \$ 20,000.00 awarded by the Research Institute, University of Ottawa beginning from January, 1993 - December, 1993 entitled "Antisense RNA induced alteration of CD 44 expression and its effects on growth regulation in metastatic and non-metastatic cancer cell lines." **P. Investigator: A. Kumar.**
2. A grant of \$15,000.00 awarded by CANFAR entitled Immunopathogenesis of AIDS for 1994-95. **P. Investigator: A. Kumar** Co-Investigator: B. Conway
3. A grant of \$ 15,000.00 awarded by the Research Institute, University of Ottawa beginning January 1994 entitled " Immunoregulatory cytokines in HIV infections". P. Investigator: Dr. F. Diaz-Mitoma, **Co-investigator : A. Kumar.**
4. A grant of \$ 20,000.00 awarded by the research Institute CHEO entitled " Role of CD44 isoforms in B cell Immunobiology " 1994-95. **P. Investigator: A. Kumar** Co-Investigator: F. Diaz-Mitoma
5. A grant of \$ 50,000.00 for two years awarded by the ministry of Health, Ontario, Canada entitled "Role of immunoregulatory cytokines in the immunopathogenesis of HIV infection" from 1994-1996. Principle investigator Dr. F. Diaz-Mitoma, **Co-investigator : A. Kumar.**
6. An equipment grant of \$ 25,000.00 awarded by the Bickell Foundation for the purchase of Flow cytometer 1994. P. Investigator. Dr. L. Filion, **Co-investigator A. Kumar.**
7. A grant of \$ 20,000.00 awarded by the Canadian Foundation for AIDS Research entitled "Immuno-regulatory cytokines and co-stimulatory molecules in HIV immunopathogenesis" from January 1996-December 1996. **P. Investigator A. Kumar.**

8. A grant of \$ 20,000.00 awarded by the Research Institute on co-stimulatory molecules in HIV infection from Sept. 1996-97. **P. Investigator A. Kumar**
9. A grant of \$ 32,000 for two years awarded by the Cancer Research Society Canada on Role of CD44 in human B cell immunobiology from 1996-1998. **P. Investigator A. Kumar**
10. A grant of \$ 19,000 per year for two years from National Science and Engineering Research Council to **Marko Kryworuchko** on the subject CD44 in Human B cell Immunobiology from 1995-1997 Supervisor: Ashok Kumar
11. A grant of \$ 70,000 for two years from Medical Research Council of Canada and Industry. Effects of Ritonavir plus squanavir on cell mediated immune functions in HIV infected patients. P. Investigator Dr. J. Angel. **Co-Investigators:** Drs. D. W. Cameron., L. Filion and **A. Kumar**
12. A grant of \$ 58,500 from Multiple Sclerosis Society of Canada for two years from 1997 1999 : Studies on the role of B7 isoforms in Multiple Sclerosis: P. Investigator Dr. L. Filion;. **Co - Investigators:** Drs. M. Freedman., **A. Kumar**
13. A grant of \$ 30,000 from the Research Institute, University of Ottawa and CHEO for one year 1997-1998. Role of CD44 in human B cell immunobiology **P. Investigator A. Kumar**
14. A grant of \$ 90,500 from the Ministry of Health, AIDS Bureau, for two years from 1997-1999: Studies on the role of B7 isoforms in HIV immunopathogenesis **P. Investigator A. Kumar.** Co-Investigators: Drs. J. Angel, and F. Diaz-Mitoma.
15. A grant of \$ 20,000.0 from Canadian Foundation of AIDS Research. Effect of cytokines on chemokine receptor expression. **P. Investigator A. Kumar.** (1998-1999).
16. A grant of 60,000.00 from Canadian Foundation of AIDS Research. Effect of cytokines on chemokine receptor expression. P. Investigator J. Angel. **Co-Investigator: A. Kumar.** (1998-1999).
17. A multi-user equipment grant and /or maintenance grant entitled “ A multicolor flow Cytometer / cell sorter for the study of immunopathogenesis of HIV infection” awarded by the Medical research Council of Canada, and the AIDS Bureau, Ministry of Health, Govt. of Ontario to J. Angel, **A. Kumar**, A. Badley, W. Cameron and S. Cassol in March 1998.  

\$ 2,35,000 for equipment form the MRC  
 \$ 32,700 per annum for three years for the Research assistant from the MRC
18. \$ 1,00,000 from the AIDS Bureau, Ministry of Health, Govt. of Ontario, for the purchase of above mentioned flow cytometer.

19. A grant of \$ 30,000 from the Research institute, University of Ottawa for the grant entitled “Regulation of CD44-Hyaluronan Interactions by cytokines in human B cells. **P. Investigator A. Kumar** for 1998-1999.
20. A grant of \$ 115,117 over a period of two years (1998-2000) from Medical Research council/ PMAC Health Program. Immune reactive capacity of potent anti-HIV therapy in anti-retroviral naïve patients. P. Investigator. J. Angel, **Co-investigators; A. Kumar**, A. Badley, S. Cassol and W. Cameron.
21. A summer studentship from the MRC Canada for Mr. **Z. Aziz** to work on the project on HIV immunopathogenesis for two years (\$ 2,500 per summer).
22. A matching grant of \$ 20,000.00 from Research Institute in lieu of Canadian Foundation of AIDS Research. Effect of cytokines on chemokine receptor expression. **P. Investigator A. Kumar.** (1998-1999).
23. A grant of \$ 72,746 per year for three years from Medical Research Council under the University-Industry program entitled “ Effect of Ritonavir plus saquinavir on cell mediated immune function in HIV infected patients” P. Investigator J. Angel **Co-investigators:** William Cameron and **Ashok Kumar** (1998-2001).
24. A grant of 28,955.00 from the Research Institute, CHEO on Neonatal Sepsis: Effects of immunostimulants on cord blood co-stimulatory molecules expression and function. P. Investigator. Dr. David Creery **Co-investigators: Ashok Kumar** (1998).
25. A Post-Doctoral fellowship of \$ 37061.00 to Dr. Wei Ma to work on my project “Analysis of the effects of HIV tat and nef antigens on the transactivation of IL-10 gene promoter” by Ontario HIV Treatment Network for three years from 1999-2002.
26. A grant of \$ 68,500 from the Ministry of Health, AIDS Bureau, for two years from 1999-2001: Regulation of IL-10 by HIV regulatory proteins tat and nef in human monocytes. **P. Investigator A. Kumar.** Co-Investigators: Dr. F. Diaz-Mitoma.
27. K. M. Hunter / M.R.C. Doctoral Research Award of \$ 19530.00 to Katerina Gee for for three years to do Ph.D. under my supervision.
28. An award of \$ 132,000 /year for three years (1999-2002) from National biotechnology strategy Fund. Genomics/Genetics Research and Development Funds. Gene abnormalities in childhood leukemia/lymphoma. Role of cytokine response regulator SHP-1 in the development of hematologic malignancies. P. Investigator: M Kozlowski. **Co Investigator. A. Kumar**
29. A grant of \$ 30,000 from the Research Institute on the research project Regulation of CD44-hyaluronan interaction by IL-4 and its implications in Burkitt's lymphoma from July 2000-June 2001. **P Investigator A. Kumar** Co-investigator F. Diaz-Mitoma

30. A grant of \$ 50,000 from the Cancer Research Society Inc. on the research project Regulation of CD44-hyaluronan interaction by IL-4 and its implications in Burkitt's lymphoma from September 2000- August 2002. **P Investigator A. Kumar** Co-investigator M. Kozlowski.
31. A grant of \$ 70,000/year for two years from the Ontario HIV Treatment Network on the research project entitled Molecular mechanism of dysregulated production of immunoregulatory IL-10 and IL-12 in monocytic cells following HIV infection. **P. Investigator A. Kumar**; Co-investigators: M. Kozlowski and J. Angel.
32. A grant of 27,000 per year for four years from 2002-2006 from NSERC entitled Regulation of CD44-hyaluronan interactions induced by bacterial product LPS in human monocytic cells. **P. Investigator Ashok Kumar**
33. OHTN scholarship to Wifred Lim, 19,500.00 for 2 yrs (2000-2002)
34. OHTN scholarship to Wei Ma, 35,000.00 for 3 yrs (1999-2002)
35. OHTN Scholarship to Wei Ma, 35,000 for 1 yr (2002-2003)
36. NSERC Scholarship to Wei Ma, 19500.00 for 2 yrs (2003-2005)
37. OGS Scholarship to Wilfred Lim, 15,000 for 1 yr (2003-2004)
38. OGS Scholarship to Katrina Gee, 15,000 for 1 yr (2002-2003)
39. OGSST Scholarship to Sasmita Mishra, 15,000 for 1 yr (2003-2004)
40. OGSST Scholarship to Jyoti Prasad Mishra, 15,000 for 1 yr (2003-2004)
41. A grant of \$ 30,000 for one year (2003-2004) from the research Institute CHEO, on a research project entitled "Role of defective cytokine responsiveness in the functional impairment of HIV-specific cytotoxic T lymphocytes from HIV-infected individuals. P Investigator M. Kryworuchko; **Co-investigator, A. Kumar**.
42. A grant of \$ 30,000 for one year (2003-2004) from the research Institute CHEO, on a research project entitled "Neutrophil adhesion in patients with sickle cell disease and stroke" P Investigator R. Klassen; **Co-investigator, A. Kumar**.
43. A grant of \$ 79280 per year for three years from 2003-2006 from the Canadian Institute of Health Research on the project entitled Regulation of IL-10 and IL-12 production by HIV regulatory proteins tat and nef in human monocytic cells. **P. Investigator Ashok Kumar**
44. A grant of \$ 75038 per year for three years from 2004-2007 from the Canadian Institute of Health Research on the project entitled "Role of defective cytokine responsiveness in the functional impairment of HIV-specific CTL from HIV infected patients". **Co-Investigator Ashok Kumar**, P. Investigator: M. Kryworuchko

45. A grant of \$ 40,125.00 per year for one year from 2003-2004 from CIHR/Health Canada, Chief Scientist Innovation in Science entitled “Application of a SHP-1 deficient mouse model in understanding the role of signal transduction pathways regulating the production of L-10, a cytokine involved in inflammation and autoimmunity. **Co-Investigator: Ashok Kumar, P.** Investigator: Maya Kozlowski
46. A grant of \$ 65000 for one year from 2004-2005 entitled “Molecular mechanism responsible for impaired CTL responses in HIV infections” from JP Bickell Foundation. **Co-Investigator Ashok Kumar, P.** Investigator: M. Kryworuchko
47. A grant of \$ 60,000.00 per year for one year from 2004-2005 from CIHR/Health Canada, Chief Scientist Innovation in Science entitled “Development of a Biomarker for Early Diagnosis of Breast Cancer”. **Co-Investigator: Ashok Kumar, P.** Investigator: Maya Kozlowski
48. Career Scientist award, a salary award of 72,000 /year from March 2005 to 2007 from OHTN entitled “Cytokines in HIV Immunopathogenesis: Signaling Pathways Involved in the Dysregulated Production of Cytokines and in Impaired Cytokine Responsiveness in Monocytic and HIV-specific Cytotoxic T Cells” to **A. Kumar**
49. A grant of \$ 30,000 for one year (2005-2006) from the research Institute CHEO, on a research project entitled “Dual role of IL-10 in HIV infection: Molecular mechanisms responsible for the enhancement of HIV replication in dendritic cells and its inhibition in macrophages” PI M. Kryworuchko, **Co-Investigator; A. Kumar**
50. A grant of \$ 83,308 for three years (2005-2008) from the Canadian Institute of Health Research on a research project entitled “Dual role of IL-10 in HIV infection: Molecular mechanisms responsible for the enhancement of HIV replication in dendritic cells and its inhibition in macrophages” **PI: A. Kumar;** Co-Investigator: M. Kryworuchko and K. Copeland
51. A grant of \$ 35000 for 2 yrs from NSERC to W Ma for her Ph. D studies (2005-2007)
52. A grant of \$ 15000 for 1 yrs from OGS to S. Mishra for her Ph. D studies (2004-2005)
53. A grant of \$ 15000 for 1 yrs from OGS to Jyoti Mishra for his Ph. D studies (2004-2005)
54. A grant of \$ 15,000 from OGS Scholarship to Wilfred Lim, (2004-2005)
55. A grant of \$ 86,592.00 per year for three years (2006-2009) from the Canadian Institute of Health Research on a research project entitled “ Regulation of IL-12 family of heterodimeric Th1 type cytokines IL-12, IL-23 and IL-27 by HIV in human monocytic and dendritic cells. **Principal Investigator, Ashok Kumar**
56. A grant of \$ 50,000 per year for two years from Sept 2006 to Sept 2008 by OHTN to Sasmita Mishra under my supervision to study the effect of HIV Vpr on apoptosis in monocytic cells.

57. A grant of \$ 30,000 to Ali Azizi for two years from Sept 2006-Sept 2008 by NSERC to study the HIV vaccines under my supervision.
58. A grant of \$ 30,000 from the CHEO Research Institute for one year from 2006-2007 entitled “The anti-inflammatory effects of anti-CD18 therapy after transient global ischaemic brain injury in the mouse”. P. Investigator Dermot Doherty Co-investigator, **A. Kumar**
59. A grant of \$ 95,775.00 per year for three years (2007-2010) from the CIHR entitled “Resistance to HIV-vpr-induced apoptosis and its regulation in human monocytic cells” **Principal Investigator, Ashok Kumar**
60. Career Scientist award, a salary award of 72,000 /year for three years from March 2007 to 2010 from OHTN entitled “Cytokines in HIV Immunopathogenesis: Signaling Pathways Involved in the Dysregulated Production of Cytokines and in Impaired Cytokine Responsiveness in Monocytic and HIV-specific Cytotoxic T Cells” **Principal Investigator, Ashok Kumar**
61. A grant of \$ 31,000.00 per year for five years (2007-2012) from Natural Sciences and Engineering Research Council of Canada, entitled Signalling pathways involved in the regulation of CD44 expression” **Principal Investigator, Ashok Kumar**
62. A grant of \$ 105,659.00 per year for three years (2007-2010) from the Canadian Institute of Health Research entitled Regulation of IL-7 receptor alpha (CD127) expression and function in mature and developing CD8+ T-cells by HIV. Principal Investigator J.B Angel; **Co-investigator, Ashok Kumar**
63. A grant of \$15,000.00 per year for 2 yrs to Maria Blahoinu (2007-2009) from OGSST.
64. A grant of \$ 21,000.00 per year for 2 yrs from the OHTN to Ali Rahimi (2007-2009)
65. A grant of \$ 117,200/year for two years from April 2008-2010 from the Ontario HIV Treatment Network entitled “Resistance to HIV-induced apoptosis in human monocytic and dendritic cells: Anti-apoptotic c-IAP-2 gene as a potential target to induce monocytic cell death” **Principal Investigator: Ashok Kumar.**
66. A grant of \$ 150,000 per year for two years from 2009-2011 from the Ontario HIV Treatment Networks entitled “Induction of Mucosal Immunity by Oral Delivery of Hypervariable HIV-1 Regions” **Co-Principal Investigator. Ashok Kumar**
67. A grant of \$ 5,76,000 for five years from 2009-2014 from the CIHR entitled Regulation of IL-12 family of Th1 cytokines IL-12, IL-23 and IL-27 by HIV. **Principal Investigator: Ashok Kumar.**
68. A grant of \$ 6,29,475 for five years from 2010-2015 from the CIHR entitled “Molecular mechanisms underlying the development of resistance to apoptosis in response to HIV-Vpr protein and HIV infection in monocytic cells”. **Principal Investigator: Ashok Kumar.**

69. A fellowship of \$ 22,000.00 per year for 2 yrs from the OHTN to Aurelia Busca (2010-2012) entitled “The role of antiapoptotic genes in enhanced survival of HIV infected macrophages”
70. A fellowship (PDF) of \$ 45,000 per year for 3 yrs from the OHTN to Elliott Faller (2010-2013) entitled “HIV-1 Tat protein induction of the MAPK pathway and subsequent inhibition of PI3K signaling.
71. A grant of \$ 15,000 from OGS Scholarship to Mansi Saxena (2011-2012)
72. A Grant from the CIHR: 8.76 million Dollars from 2014-2019. The Canadian HIV Cure Enterprise (CanCURE):

Principal Investigator(s): COHEN, Eric A; ANCUTA, Petronela; ANGEL, Jonathan B; ESTAQUIER, Jérôme; FOWKE, Keith R; MOULAND, Andrew J; OSTROWSKI, Mario A; ROUTY, Jean-Pierre; TREMBLAY, Michel J

Co-Investigators: REINHARD, Robert J; BELL, Brendan B; BELL, John C; BENDAYAN, Reina; BROCKMAN, Mark A; BRUMME, Zabrina; CHEONG, CHEOLHO; COCHRANE, Alan W; GATIGNOL, Anne; HADDAD, Elie; KAUFMANN, Daniel E; KAUL, Rupert; KUMAR, Ashok; LANGLOIS, Marc-Andre; POON, Arthur F; POWER, Christopher; WAINBERG, Mark A; ZUNIGA-PFLUCKER, Juan C

73. A grant for Ramon Callabero from OGSST for one year (\$ 10,000) from 2015-2016
74. A grant from CIHR entitled “Use of smac mimetics in specific killing of HIV-infected macrophages”. The amount funded is \$ 2,50,000 for 18 months. **Principal Investigator: Ashok Kumar**, Co investigators Drs J. Angel and R Korneluk
75. Canadian HIV Cure Enterprise 2.0: Targeting the interplay between myeloid cells and CD4+ T-cells for HIV cure:
- Principal investigator(s):** Cohen, Eric A; Margolese, Shari L; Rosenes, Ron; Ancuta, Petronela; Angel, Jonathan B; Chomont, Nicolas; Estaquier, Jérôme; Murooka, Thomas T; Routy, Jean-Pierre

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**Co-investigator(s):**

Arnold, Keresa; Guerlotté, Charlotte; Masching, Renee; Tharao, Wangari E; Cameron, D.William; Costiniuk, Cecilia T; Falcone, Emilia L; Fowke, Keith R; Haddad, Elie; Jenabian, Mohammad-Ali; Kumar, Ashok; Ostrowski, Mario A; Power, Christopher; Tremblay, Michel J

**Amount:** \$6,000,000 for 5 years

## LIST OF PUBLICATIONS

**Life Time Summary as per the following categories**

<b>Papers in the refereed Journals .....</b>	<b>81</b>
<b>Chapters in Books/Thesis .....</b>	<b>16</b>
<b>Papers Submitted</b>	<b>1</b>
<b>In Preparation .....</b>	<b>4</b>
<b>Abstracts .....</b>	<b>167</b>
<b>Others (Workshops Presented) .....</b>	<b>21</b>

### Papers in the Refereed Journals

1. **Kumar, A.** and V.K. Sharma. Enterobacteria of emerging pathogenic significance from clinical cases in man and animals and detection of toads and wall lizards as their reservoirs. *Anton van Leeuwen* 44: 219-228, 1977.
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4. **Kumar, A.**, R. Kumar, L. N. Mohapatra and A.N. Malaviya. Mouse typhoid in normal and B cell deficient animals. *Ind. J. Med. Res.* 80:220-228, 1984.
5. Maiti, P., **A. Kumar**, R. Kumar and L. N. Mohapatra. Role of antibodies and effect of BCG vaccination in experimental candidiasis in mice. *Mycopathologia* 91:79-85, 1985.
6. **Kumar, A.**, J. L. Moreau, D. Baran and J. Theze. Evidence for negative regulation of T cell growth by low affinity interleukin 2 receptor. *J. Immunol.* 138: 1485-1493, 1987.
7. **Kumar, A.**, J. L. Moreau, M. Gilbert and J. Theze. Internalization of interleukin 2 (IL-2) by high affinity IL-2 receptors is required for the growth of IL-2 dependent T cell lines. *J. Immunol.* 139: 3085-89, 1987.
8. Jankovich, D. L., A. Rebello, **A. Kumar**, M. Gilbert and J. Theze. IL-2 dependent proliferation of murine T cells requires expression of both the p55 and p70 subunits of IL-2 receptor. *J. Immunol.* 145: 4136- 4144. 1990.
9. **Kumar, A.**, A. Vazquez, A. Maizel and S. Sharma. Human BCGF 12kD functions as an autocrine growth factor in transformed human B cells. *Eur. Cytokine network* 1: 109-115. 1990.



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*J. Immunol.* 147: 998-1006.1991.
12. Fournier, S., **A. Kumar.**, J. Jackson., M. Rubio., S. Sharma., G. Delespesse and M. Sarfati. LMW-BCGF as an autocrine growth factor for B chronic lymphocytic leukemia (B-CLL).  
*Eur. J Immunol.* 22: 1927. 1992.
13. Kryworuchko, M., F. Diaz-Mitoma, and **A. Kumar\***. 1995. CD44 isoforms containing V6 and V7 are differentially expressed on mitogenically stimulated normal and Epstein-Barr virus transformed human B cells.  
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14. **A. Kumar\***, R. N. Kurl, M. Kryworuchko, F. Diaz-Mitoma and S. Sharma. 1995. Differential effect of heat shock on RNA metabolism in human Burkitt's lymphoma B cell lines.  
*Leukaemia Research.* 19:831-840.
15. Diaz-Mitoma, **A. Kumar\***, S. Karimi, M. Kryworuchko, MP Daftarian., W.D. Creery., L. Filion and W. Cameron. 1995. Expression of IL-10, IL-4 and interferon gamma in unstimulated and mitogen stimulated peripheral blood lymphocytes from HIV seropositive patients.  
*Clinical and Experimental Immunology.* 102: 31-39.
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87. Hamza Ali, Ramon Caballero, Salma Iqbal, Niranjala Gajayaka, Duale Ahmed, Simon Dong, Edana Cassol, and Ashok Kumar. 2020. Selective killing of proinflammatory human M1



macrophages by SMAC mimetics and anti-inflammatory M2 macrophages by SMAC mimetics and caspase inhibitors. Under revision

88. Simon X.M. Dong<sup>1</sup>, Frederick S. Vizeacoumar<sup>2</sup>, Kalpana K. Bhanumathy<sup>2</sup>, Nezeka Alli<sup>2</sup>, Cristina Gonzalez-Lopez<sup>2</sup>, Niranjala Gajanayaka<sup>1</sup>, Ramon Caballero<sup>1</sup>, Hamza Ali<sup>1</sup>, Franco J. Vizeacoumar<sup>2,3, \$</sup> and Ashok Kumar<sup>1, \$</sup> A genome-wide screen identified novel gene targets to selectively induce the apoptosis of HIV infected macrophages. In preparation

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**INVITED SPEAKER/PRESENTATIONS**

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Internalization of Interleukin 2 (IL2) by high affinity IL-2 receptors is required for the growth of IL-2 dependent T cell lines.
2. IL-2,4,7,X " workshop at the Seventh International lymphokine workshop in San Antonio, Texas, 1-5 October 1990.  
Differential growth control of EBV+ and EBV- malignant B cells by TGF $\beta$  in response to rBCGF-12Kd.
3. IL-2,4,7,X " workshop at the seventh International lymphokine workshop in San Antonio, Texas, 1-5 October 1990.  
Human BCGF-12Kd functions as an autocrine growth factor in transformed human B cels.
4. Fourth International Congress of Metastasis meeting " Science and Medicine in Cancer" at Paris. Aug. 31- Sept 3, 1992.  
Growth Regulation of Pancreatic Carcinoma Cells with Varying Degree of Metastatic Potential by Transforming Growth Factor .
5. Joint meeting of American Association of Immunologist, American Society for Biochemistry and Molecular Biology and American Society for Investigative Pathology at New Orleans June 2-6, 1996.  
IL-10 production is enhanced in human T cells by IL-12 and IL-6 and in monocytes by tumor necrosis factor .
6. 11th International congress on AIDS at Vancouver, Canada from 7-12 July 1996.  
Association of dysregulated production of IL-10 with alterations in the CD28-B7 co-stimulatory pathway in HIV infection.
7. Kryworuchko, M., F. Diaz-Mitoma and **A. Kumar**. IFN- $\gamma$  and IL-4 inhibit CD44-hyaluronan (HA) interactions in normal human B lymphocytes. 10<sup>th</sup> International Immunology Congress at New Delhi. 1998.
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