

CURRICULUM VITAE

Personal:

Name: Babak Baban

AU Rank(s): Professor/Tenured

AU Title(s): Associate Dean for Research, Dental College of Georgia

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EDUCATION

Augusta University, Augusta/GA/USA 2013-2015 Master of Public Health (MPH): Health Management, ,

Augusta State University, Augusta/GA/USA 2005-2008 Master of Business Administration (MBA),

Medical College of Georgia, Augusta/GA/USA 2001-2004 Postdoctoral Fellowship, Molecular Immunology Program,

University of London (UCL), London, UK, 1994-1998 Ph.D. Medical Microbiology/Bacteriology.

PROFESSIONAL (Experience in Chronological Order)

1999-2001 Postdoctoral Fellow, Immunotherapy Project, SRL Pharma, London, UK

2001-2004 Postdoctoral Fellow, Molecular Immunology Program, IMMAG, Augusta University.

2004-2006 Assistant Research Scientist, Vascular Biology Center, Augusta University.

2006-2009 Assistant Research Scientist, Immunotherapy Center, Cancer Center, Augusta University

2009-2015 Assistant Professor, Department of Oral Biology, College of Dental Medicine, Augusta University

2016-2020 Assistant Professor, Department of Pathology, School of Medicine, Augusta University

2010-2015 Assistant Professor, The Graduate School, Augusta University

2015-2020 Associate Professor, Department of Oral Biology, College of Dental Medicine, Augusta University

2013-2020 Associate Professor, Department of Surgery, School of Medicine, Augusta University

2015-2020 Associate Professor, The Graduate School, Augusta University

2016-2020 Associate Professor, Department of Pathology, School of Medicine, Augusta University

2016-2020 Associate Professor, Department of Neurology, School of Medicine, Augusta University

2020-Present Professor, Department of Oral Biology & DX Sciences, Dental College of Georgia, Augusta University

2020-Present Professor, The Graduate School, Augusta University

2020-Present Professor, Department of Oral Biology, College of Dental Medicine, Augusta University

2020-Present Professor, Department of Surgery, School of Medicine, Augusta University

2020-Present Professor, Department of Pathology, School of Medicine, Augusta University

2020-Present Professor, Department of Neurology, School of Medicine, Augusta University

Administrative Responsibilities/Appointments

2018-2020 Interim Associate Dean for Research, Dental College of Georgia,
Augusta University

2020-Present Associate Dean for Research, Dental College of Georgia, Augusta
University

Major Teaching Administrative Responsibilities

2015-2018 Course Director, Cariology, (DMIC 5003), Dental College of Georgia,
Augusta University.

2010-2018 Course Director, Immunology/Microbiology and Infectious Diseases
I, (DMIC 5001),

2010-2016 Course Director, Immunology/Microbiology and infectious diseases II,
(DMIC 5002),

2014-2019 Course Director, Topics in Oral Biology II (OBMP/OBPR 8002)

2019-Present Participating Faculty, BMFN 5102 – FOUNDATIONS II

Editorial Boards/ Journals /Consultant, etc.

2010 – Kidney International, Reviewer,

2010 - American Journal of Dentistry

2010- Journal of Endodontics

2010- Plos One

2015- Associate Editor, The EPMA Journal (official journal of European Association of
Preventive, Predictive and Personalized Medicine)

2018- Editorial Member of International Journal of Molecular Sciences

2018 – Present, International Journal of Molecular Medicine, Editor, Associate Editor

2018 – Canadian Journal of Diabetes, Reviewer,

2018 – Journal of NeuroImmunology, Reviewer,

2019 – European Journal of Pharmacology, Reviewer,

2019 – Journal of Biomedicine & Pharmacotherapy, Reviewer,

2019 – Journal of Investigative Dermatology, Reviewer

2020- European Journal of Immunology, Reviewer

2020- Journal of International Immunopharmacology, Reviewer

Major Committees: International, National, State, University-wide, College-wide, Department

Department

2012-2013 Chair, Search Committee for faculty position in Developmental Biology and
Biochemistry, Oral Biology, CDM, GRU

2013- 2014 Chair, Search Committee for faculty position, Oral Biology, CDM, GRU

College-wide

- 2011-Present Student Academic Review Committee (SARC), Dental College of Georgia, Augusta University.
- 2012-2015 Curriculum Task Force Committee, CDM, GRU
- 2014-2015 Member, Search Committee for Chair position of Oral Biology, CDM, GRU
- 2014-2016 Admission Committee, Dental College of Georgia, Augusta University.
- 2011-Present Research Advisory Committee (RAC), Dental College of Georgia, Augusta University.
- 2011-2013 Faculty Senate Steering Committee, CDM, GRU
- 2019- Present Augusta University Provost's Task Force on Faculty Workload
- 2020- Present DCG COVID-19 Task Force

University-wide

- 2013-2017 Dispute Resolution & Grievance Committee, Augusta University.
- 2014-2014 Women's Health Interest Group, Member, SOM, Augusta University
- 2011-2015 Research Technology Advisory Committee, Augusta University.
- 2014- 2016 Institutional Biosafety Committee, Augusta University.
- 2016-2019 University Curriculum and Academic Policies Committee, Augusta University
- 2018-2018 Intramural Grant Committee, Reviewer, Augusta University
- 2019-Present Dispute Resolution & Grievance Committee, Augusta University.
- 2020-Present Intramural Grant Committee, Reviewer, Augusta University

State

- 2011-2012 Elected Vice President, AADR Georgia Chapter
- 2012-2013 Elected President, AADR Georgia Chapter

National

- 2011-2016 Appointed to National Board Dental Examination (NBDE)
- 2013-2015 Peer reviewer, Basic Science study section, American Heart Association
- 2015-2016 Co-Chair, Basic Science study section, American Heart Association
- 2015-2015 Peer reviewer, NeuroBiology C study section, Department of Veterans Affairs
- 2016-2018 Chair, Basic Science study section, American Heart Association (National)
- 2018-2019 Chair, Career Development Award (Basic Science study section), American Heart Association (National)
- 2018-2018 Appointed to National Board Dental Examination (NBDE)
- 2020-Present CODA site Visitor

International

- 2011-Present Member and organizer of European Predictive, Preventive and Personalized Medicine Association (EPMA) World Congress Committee
- 2012-Present Peer reviewer, Qatar National Research Foundation, Qatari grant agency
- 2013-2013 Peer reviewer, Health Research Board, Republic of Ireland grant agency
- 2013-2013 Chair and judge of AADR/IADR scientific sessions and presentations
- 2015-2015 Chair of Young Investigators Section, EPMA World Congress, September 2015, Bonn, Germany
- 2016-2016 Peer reviewer, Austrian Science Fund (FWF)
- 2016-2016 Peer reviewer, The Research Grants Council (RGC) of Hong Kong
- 2017-2017 Chair of Young Investigators Section, EPMA World Congress, September 2017, Malta University, Malta.
- 2018-2020 Member of Royal Institute of Medicine (UK)

2018-Present “La Caixa” Foundation, Spain/Europe, Research team member and Peer Reviewer

2019-2019 Chair of Workshop of Young Professionals in PPPM, September 19-22, Pilsen, Czech Republic, 2019.

2020-Present Marie Curie Programme, H2020 at the EU Commission, Reviewer

2020-Present Member of Scientific Advisory Board, Medicinal Cannabis Europe

Research and Training Grants:

Research and Training Grants Awarded (past 5 years)

Year	Title	Role	Funding Agency	Amount
2010-2011	A novel immuno-regulatory pathway for treatment of acute kidney injury (AKI).	PI (15%)	GRU/Cancer Center	\$25,000
2010	Inflammatory responses in ischemia reperfusion: The role of stem cell.	PI (10%)	Research Advisor CDM/GRU	\$2,000
2011-2012	Role ofIDO in endotoxin induced uveitis: Novel immuno-regulatory pathway.	PI (15%)	Vision Discovery SOM/GRU	\$25,000
2013- 2014	Mechanisms of T-cell mediated hypertension in females and males. PI (Dr. Jennifer Sullivan)	Co-I (10%)	GRU/ESA	\$25,000
2013- 2014	The Role of SGK-1 in myocardial ischemia reperfusion Injury: Effect of pressure overload. PI Dr. Mahmood Mozaffari	Co-PI (10%)	GRU/ESA	\$25,000
2013-2014	Immunoregulatory dendritic cells, periodontitis and oral squamous cell carcinoma. PI Dr. Christopher Cutler	Co-I (10%)	PSRP GRU	\$25,000
2013- 2018	Inflammation and bone loss with aging. PI Dr. Xingming Shi	Co-I (5%)	R01-NIH	\$250,000 per year
2015-2019	GPR109A and Parkinson's disease: Role of niacin in outcome measures. PI Dr. Chandramohan Wakade	Co-I (10%)	VA Merit	\$275, 000 per year
2015-2017	Immune mechanisms of protection by remote limb ischemic conditioning after intracerebral hemorrhage. PI Dr. Krishnan Dhandapani	Co-I (15%)	R21/NIH	\$220,000 per year
2015-2020	Mechanisms of T-cell mediated hypertension in females and males. PI Dr. Jennifer Sullivan	Co-I (10%)	R01/NIH	\$250,000 per year
2017-2022	Damage-Associated Molecular Patterns in Hypertension, Project leader Dr. Clinton Webb	Co-I and Core lab co-director (18%)	PPG/NIH	\$1, 888,532 Per Year
2017-2022	Adipose inflammation and blood-brain barrier erosion impair cognition in obesity., PI Dr. Alexis Stranahan	Co-I (5%)	R01/NIH	\$22, 5000 Per/Year
2017-2018	Neutrophil extracellular traps and TBI	PI (25%)	R56/NIH	\$110,000 Per/Year

2017-2018	Regulatory T-17 (Treg17) cells underlie cannabidiol –induced renoprotection via an IDO dependent mechanism	Co-I (10%)	AU/ESA	\$12,500
2017-2018	Development of a diagnostic kit for Sjogren Syndrome	PI (5%)	AU/TUPP	\$25,000
2017-2021	Mechanisms of Chronic Remote Ischemic Conditioning Induced Cerebroprotection in a VCID Model PI: Dr. David Hess	Co-I (5%)	R01/NIH	\$22, 500 Per Year
2020-2024	Rheoerythrocrine dysfunction in stroke and remote ischemic conditioning (REDS)	Co-I (20%)	R01/NIH	\$1,924,000 Per Year
2019-2023	Complement system and suicidal behavior	Co-I (5%)	R01/NIH	\$225,000 Per Year
2020-2022	Novel anti-inflammatory mesothelial signaling to the spleen	Co-I (5%)	R21/NIH	\$165,000 Per year
2018-2022	Parkinson's disease: Role of niacinamide in outcome measures. PI Dr. Chandramohan Wakade	Co-I (10%)	VA Merit	\$275, 000 per year
2018-2022	Neutrophil extracellular traps and TBI Multi PI	PI (20%)	R01/NIH	\$275, 000 per year
2020-2021	Cannabiodiol induced-IL33 restricts tumor growth in melanoma-bearing Mice	PI (10%)	IGP	\$25, 000 per year

Gifted Funds for Resea

Year	Title	Role	Funding Agency	Amount
2011-2015	Evaluation of carcinogenic/anticarcinogenic potential of Kimmerling saline K21	PI	Kimmerling Holdings Group	\$84,000
2017-2018	Evaluation of sensitization potential of Kimmerling saline K21	PI	Kimmerling Holdings Group	\$8,000
2017-2018	The therapeutic potential of autoreactive T cells in the treatment of metastatic thyroid cancer	PI	MedGene	\$18,000

AWARDS/HONORS

2015 Featured Podium Presenter Award, Janssen Immunology Symposium, Johnson & Johnson Innovation

2018 Membership, Phi Kappa Phi Honor Society

2019 Honorary Membership, Omicron Kappa Upsilon (OKU), Honor Dental Society.

SCIENTIFIC AND PROFESSIONAL SOCIETIES (including offices held)

2000- American Association for Cancer Research (AACR)

2001- American Association for Advanced Sciences (AAAS)

2001- American Association of Immunology (AAI)

2005- American Association for Bioanalysis (AAB)

2006- American Diabetes Association (ADA)

2006-2014 Association for Research in Vision and Ophthalmology (ARVO)

2007- American Society for Microbiology (ASM)

2009- American Dental Association (ADA)

2010- American Heart Association (AHA)

2010- American Association of Dental Research (AADR)

2010- International Association for Dental Research (IADR)

2011- European Predictive, Preventive and Personalized Medicine Association (EPMA)

2019- International Cannabinoid Research Society (ICRS)

PRESENTATIONS (either all or past five years)

National

- 1- *Role of Arginase in Diabetes- and Endotoxin-Induced Retinopathy. May 2008, ARVO Annual Meeting, Fort Lauderdale, Florida, USA.
- 2- * Indoleamine 2,3 Dioxygenase (IDO): Arbiter of Immune Privilege. Jan 2009 Midwinter Conference of Immunologists at Asilomar.
- 3- **Assessment of indoleamine 2,3-dioxygenase (IDO) and FoxP3+ regulatory T- cells (FoxP3+ Tregs) during early phase of renal ischemia reperfusion injury. APS Conference: Inflammation, Immunity and Cardiovascular Disease, August 2010, Westminster, CO, USA.
- 4- *Effects of aryl hydrocarbon receptor stimulation on T-cell mobilization and cell death following acute renal failure. High Blood Pressure Research (HBPR), October 2010, Washington, DC, USA.
- 5- * Pressure overload augments MPT pore opening and markedly increases both necrotic and apoptotic cell death in the ischemic- reperfused heart. High Blood Pressure Research (HBPR), October 2010, Washington, DC, USA.
- 6- *Effect of chromium picolinate on inflammatory markers in submandibular glands. International Association of Dental Research (IADR), March 2011, San Diego, USA.
- 7- *Impact of aryl hydrocarbon receptor agonist, leflunomide, on components of stem cells in the setting of renal ischemia-reperfusion injury. High Blood Pressure Research Scientific Sessions, September 2012, Washington, DC, USA.

- 8- *The role of indoleamine 2,3 dioxygenase (IDO) and programmed death 1 (PD-1) interaction in the head and neck cancer. Ninth AACR- Japanese Cancer Association Joint Conference: Breakthroughs in basic and translational cancer research, February 2013, Maui, HI, USA.
- 9- **The role of indoleamine 2,3-dioxygenase in Sjögren's syndrome., IADR/AADR General Session, March 2013, Seattle, WA, USA.
- 10- **Role of PPARγ in Inflammation with Aging, National Institute of Health workshop, 28-29 January 2016, Bethesda, MD.
- 11- *Increased purine metabolism in the human diabetic retina implicates monosodium urate (MSU)-mediated inflammatory effects in diabetic retinopathy. ARVO, May 2014, Orlando, FL, USA.
- 12- *Role of innate lymphoid cells in periodontitis. Inflammation Research Association, September 2014, San Francisco, CA, USA.
- 13- **Role of innate immune cells in periodontitis., Janssen Immunology Symposium", 6-7 October 2015, La Jolla, California. "Featured Podium Presenter".
- 14- Cannabidiol Modulation of IL-33 in Cutaneous Wound Healing, 15th Annual Academic Surgical Congress to be held February 4-6, 2020 in Orlando, FL.
- 15- Cannabidiol Induced Regulation of Innate Lymphoid Cells and the Role of CB2 Receptor in Wound Model., 15th Annual Academic Surgical Congress to be held February 4-6, 2020 in Orlando, FL.

International

- 1- **Cancer and heat killed Mycobacterium vaccae. European Congress on Mycobacterium, June 1997, Cordoba, Spain.
- 2- *Indoleamine 2,3 dioxygenase (IDO) and Immune Privilege. October 2009, 4th International Conference on Autoimmunity: Mechanisms and Novel Treatment. Chania, Crete, Greece.
- 3- **Inflammatory biomarkers in diabetes. EPMA World Congress, September 2011, Bonn, Germany.
- 4- *Regulation of inflammasome activation and its implication in diabetes- induced microangiopathies. International Congress of Immunology, August 2013, Milan, Italy.
- 5- **Programmed death-1 in cancer stem cells may serve as a novel immunotherapy marker. EPMA World Congress, September 2013, Brussels, Belgium. 16.
- 6- **Immunology and medical cannabinoids, 2nd Annual Canadian Marijuana For Medical Purposes Summit, June 2015, Toronto, Ontario, Canada.
- 7- ** Effects of Whole Body Vibration in Diabetes Type 2: A preventive and personalized modality for treatment, EPMA World Congress, 14-17 September 2017, University of Malta, Malta.
- 8- * Innate Lymphoid Cells in Periodontitis: A Novel Therapeutic Modality, AADR/IADR, 19-22 June 2019, Vancouver, British Columbia, Canada.
- 9- Medicinal Cannabis and the clinical implications: New era of natural Medicine, EPMA position on Medical use of CANNABIS, EU Parliament, April 11th 2019, Brussels, Belgium.

- 10- An Overview of Medicinal Cannabis and the clinical implications: New era of natural Medicine, EPMA position on Medical use of CANNABIS, EU Parliament, April 11th 2019, Brussels, Belgium.
- 11- An overview of Medicinal Cannabis and potential for PPPM, EPMA World Congress, September 19-22, Pilsen, Czech Republic 2019.
- 12- **Cannabidiol inhibits and delays the melanoma growth through up-regulation of IL-33 in a murine model., June 2020, Virtual meeting, International Cannabinoid Research Society Symposium on the Cannabinoids.
- 13- **Developments in the medicinal cannabinoid industry to the Sub-Saharan African populous., First annual conference on December 1, 2020. AfriLeaf Bioscience's Inaugural Annual Conference (Virtual meeting: <https://afrileaf.org/conference/>)
- 14- **Innate Lymphoid Cells and Brain., Injury "Myeloid-lymphoid activity to understand brain injury" in SNCI 34th Annual Conference, Dec 2020.

***Poster Presentation ** Oral Presentation**

PUBLICATIONS in Refereed Journals

(<https://pubmed.ncbi.nlm.nih.gov/?term=baban+b&sort=date>)

- 1- Babak Baban, Molly Braun, Hesam Khodadadi, Ayobami Ward, Katelyn Alverson, Aneeq Malik, Khoi Nguyen, Skon Nazarian, David C. Hess, Scott Forseen, Alexander F. Post, Fernando L. Vale, John R. Vender, Nasrul Hoda, Omid Akbari, Kumar Vaibhav, and Krishnan M. Dhandapani, AMPK induces regulatory innate lymphoid cells after traumatic brain injury., J Clinical Investigation Insight, in Press.
- 2- Ahluwalia P, Ahluwalia M, Vaibhav K, Mondal A, Sahajpal N, Islam S, Fulzele S, Kota V, Dhandapani K, Baban B, Rojiani AM, Kolhe R., Infections of the lung: a predictive, preventive and personalized perspective through the lens of evolution, the emergence of SARS-CoV-2 and its pathogenesis., EPMA J. 2020 Nov 13;11(4):1-21.
- 3- Évila Lopes Salles Hesam Khodadadi Abbas Jarrahi Meenakshi Ahluwalia Valdemar Antonio Paffaro Jr Vincenzo Costigliola Jack C. Yu David C. Hess Krishnan M. Dhandapani Babak Baban., Cannabidiol (CBD) modulation of apelin in acute respiratory distress syndrome., J Cell Mol Med. 2020 Nov;24(21):12869-12872.
- 4- Jarrahi A, Ahluwalia M, Khodadadi H, da Silva Lopes Salles E, Kolhe R, Hess DC, Vale F, Kumar M, Baban B, Vaibhav K, Dhandapani KM., Neurological consequences of COVID-19: what have we learned and where do we go from here?., J Neuroinflammation. 2020 Sep 30;17(1):286.
- 5- Gillis EE, Musall JB, Baban B, Sullivan JC., IL-10 treatment decreases blood pressure in male, but not female, spontaneously hypertensive rats., Am J Physiol Renal Physiol. 2020 Jul 20.
- 6- Shahoumi LA, Khodadadi H, Bensreti H, Baban B, Yeudall WA., EPS8 phosphorylation by Src modulates its oncogenic functions., Br J Cancer. 2020 Jul 9.

- 7- Hesam Khodadadi, Évila Lopes Salles, Abbas Jarrahi, Fairouz Chibane, Vincenzo Costigliola, Jack C. Yu, Kumar Vaibhav, David C. Hess, Krishnan M. Dhandapani, and Babak Baban., Cannabidiol Modulates Cytokine Storm in Acute Respiratory Distress Syndrome Induced by Simulated Viral Infection Using Synthetic RNA., *Cannabis Cannabinoid Res.* 2020 Sep 2;5(3):197-201.
- 8- Reddy V, Grogan D, Ahluwalia M, Salles ÉL, Ahluwalia P, Khodadadi H, Alverson K, Nguyen A, Raju SP, Gaur P, Braun M, Vale FL, Costigliola V, Dhandapani K, Baban B, Vaibhav K, Targeting the endocannabinoid system: a predictive, preventive, and personalized medicine-directed approach to the management of brain pathologies., *EPMA J.* 2020 Apr 15;11(2):217-250.
- 9- Vaibhav K, Braun M, Alverson K, Khodadadi H, Kutiyawalla A, Ward A, Banerjee C, Sparks T, Malik A, Rashid MH, Khan MB, Waters MF, Hess DC, Arbab AS, Vender JR, Hoda N, Baban B, Dhandapani KM., Neutrophil extracellular traps exacerbate neurological deficits after traumatic brain injury., *Sci Adv.* 2020 May 29;6(22):eaax8847.
- 10- Reddy V, Grogan D, Ahluwalia M, Salles ÉL, Ahluwalia P, Khodadadi H, Alverson K, Nguyen A, Raju SP, Gaur P, Braun M, Vale FL, Costigliola V, Dhandapani K, Baban B, Vaibhav K., Targeting the endocannabinoid system: a predictive, preventive, and personalized medicine-directed approach to the management of brain pathologies., *EPMA J.* 2020 Apr 15;11(2):217-250.
- 11- Belanger KM, Crislip GR, Gillis EE, Abdelbary M, Musall JB, Mohamed R, Baban B, Elmarakby A, Brands MW, Sullivan JC., Greater T Regulatory Cells in Females Attenuate DOCA-Salt-Induced Increases in Blood Pressure Versus Males., *Hypertension.* 2020 Apr 27:HYPERTENSIONAHA11914089.
- 12- Babak Baban, Hesam Khodadadi, Cristina Marchetti, Carlo Riccardi and Mahmood S. Mozaffari., Regulation of Innate Lymphoid Cells in Acute Kidney Injury: Crosstalk Between Cannabidiol and GILZ., *Journal of Immunology Research*, 2020 Feb 25;2020:6056373.
- 13- De-Huang Guo, Masaki Yamamoto, Caterina M Hernandez, Hesam Khodadadi, Babak Baban, Alexis M Stranahan, Visceral Adipose NLRP3 Impairs Cognition in Obesity via IL1R1 on Cx3cr1+ Cells., 2020 Jan 14 *J Clin Invest.*, PMID: 31935195.
- 14- Yu JC, Khodadadi H, Lopes Salles ÉDS, Chibane F, Bhatia J, Baban B. Maternal milk ILCs and adaptive immune cells populate neonatal organs [published online ahead of print, 2019 Dec 19]. *Cell Mol Immunol.* 2019;10.1038/s41423-019-0350-x. doi:10.1038/s41423-019-0350-x
- 15- Jackson L, Dong G, Althomali W, et al. Delayed Administration of Angiotensin II Type 2 Receptor (AT2R) Agonist Compound 21 Prevents the Development of Post-stroke Cognitive Impairment in Diabetes Through the Modulation of Microglia Polarization [published online ahead of print, 2019 Dec 3]. *Transl Stroke Res.* 2019;10.1007/s12975-019-00752-5.
- 16- Abdelbary M, Rafikova O, Gillis EE, et al. Necrosis Contributes to the Development of Hypertension in Male, but Not Female, Spontaneously Hypertensive Rats. *Hypertension.* 2019;74(6):1524–1531.
- 17- Banabihari Giri, Kasey Belanger , Marissa Seamon, Eric Bradley, Sharad Purohit, Raymond Chong, John C Morgan, Babak Baban, Chandramohan Wakade., Niacin Ameliorates Neuro-Inflammation in Parkinson's Disease via GPR109A., *Int J Mol Sci.*, 20 (18) 2019 Sep 14.

- 18- Yu JC, Hale VL, Khodadadi H, Baban B., Whole Body Vibration-Induced Omental Macrophage Polarization and Fecal Microbiome Modification in a Murine Model., *Int J Mol Sci.* 2019 Jun 26;20(13). pii: E3125.
- 19- Metz R, Smith C, DuHadaway JB, Chandler P, Baban B, Merlo LMF, Pigott E, Keough MP, Rust S, Mellor AL, Mandik-Nayak L, Muller AJ, Prendergast GC., IDO2 is critical for IDO1-mediated T-cell regulation and exerts a non-redundant function in inflammation., *Int Immunol.* 2019 Mar 5;31(3):181-182.
- 20- Jackson L, Li W, Abdul Y, Dong G, Baban B, Ergul A., Diabetic Stroke Promotes a Sexually Dimorphic Expansion of T Cells., *Neuromolecular Med.* 2019 Jun 13.
- 21- Yu JC, Khodadadi H, Baban B., Innate immunity and oral microbiome: a personalized, predictive, and preventive approach to the management of oral diseases., *EPMA J.* 2019 Feb 25;10(1):43-50.
- 22- Mozaffari MS, Emami G, Khodadadi H, Baban B., Stem cells and tooth regeneration: prospects for personalized dentistry., *EPMA J.* 2019 Jan 7;10(1):31-42.
- 23- Qin X, Li Q, Chen W, Bai Y, Baban B, Mao J., The circadian expression of osteogenic factors in periodontal tissue loading mechanical force: new concepts of the personalized orthodontic care., *EPMA J.* 2019 Feb 18;10(1):13-20.
- 24- Nasser S, Nikkho B, Parsa S, Ebadifar A, Soleimani F, Rahimi K, Vahabzadeh Z, Khadem-Erfan MB, Rostamzadeh J, Baban B, Banafshi O, Assadollahi V, Mirzaie S, Fathi F., Generation of Fam83h knockout mice by CRISPR/Cas9-mediated gene engineering., *J Cell Biochem.* 2019 Feb 3.
- 25- Simmerman E, Qin X, Yu JC, Baban B., Cannabinoids as a Potential New and Novel Treatment for Melanoma: A Pilot Study in a Murine Model., *J Surg Res.* 2019 Mar;235:210-215.
- 26- Mannon EC, Sun J, Wilson K, Brands M, Martinez-Quinones P, Baban B, O'Connor PM., A basic solution to activate the cholinergic anti-inflammatory pathway via the mesothelium?, *Pharmacol Res.* 2019 Mar;141:236-248. Yu JC,
- 27- Baban B, Marchetti C, Khodadadi H, Malik A, Emami G, Lin PC, Arbab AS, Riccardi C, Mozaffari MS., Glucocorticoid-Induced Leucine Zipper Promotes Neutrophil and T-Cell Polarization with Protective Effects in Acute Kidney Injury., *J Pharmacol Exp Ther.* 2018 Dec;367(3):483-493.
- 28- Baban B, Hoda N, Malik A, Khodadadi H, Simmerman E, Vaibhav K, Mozaffari MS., Impact of cannabidiol treatment on regulatory T-17 cells and neutrophil polarization in acute kidney injury., *Am J Physiol Renal Physiol.* 2018 Oct 1;315(4):F1149-F1158.
- 29- Taylor LE, Gillis EE, Musall JB, Baban B, Sullivan JC., High Fat Diet Induced Hypertension is Associated with a Pro-Inflammatory T Cell Profile in Male and Female Dahl Salt Sensitive Rats., *Am J Physiol Heart Circ Physiol.* 2018 Sep 21.
- 30- Vaibhav K, Braun M, Khan MB, Fatima S, Saad N, Shankar A, Khan ZT, Harris RBS, Yang Q, Huo Y, Arbab AS, Giri S, Alleyne CH Jr, Vender JR, Hess DC, Baban B, Hoda MN, Dhandapani KM., Remote ischemic post-conditioning promotes hematoma resolution via AMPK-dependent immune regulation., *J Exp Med.* 2018 Oct 1;215(10):2636-2654.

- 31- Yu JC, Khodadadi H, Malik A, Davidson B, Salles ÉDSL, Bhatia J, Hale VL, Baban B., Innate Immunity of Neonates and Infants., *Front Immunol.* 2018 Jul 30;9:1759., Review.
- 32- Wakade C, Giri B, Malik A, Khodadadi H, Morgan JC, Chong RK, Baban B., Niacin modulates macrophage polarization in Parkinson's disease., *J Neuroimmunol.* 2018 Jul 15;320:76-79.
- 33- Ray SC, Baban B, Tucker MA, Seaton AJ, Chang KC, Mannon EC, Sun J, Patel B, Wilson K, Musall JB, Ocasio H, Irsik D, Filosa JA, Sullivan JC, Marshall B, Harris RA, O'Connor PM., Oral NaHCO₃ Activates a Splenic Anti-Inflammatory Pathway: Evidence That Cholinergic Signals Are Transmitted via Mesothelial Cells., *J Immunol.* 2018 May 15;200(10):3568-3586.
- 34- Ray SC, Patel B, Irsik DL, Sun J, Ocasio H, Crislip GR, Jin CH, Chen J, Baban B, Polichnowski AJ, O'Connor PM., Sodium bicarbonate loading limits tubular cast formation independent of glomerular injury and proteinuria in Dahl salt-sensitive rats., *Clin Sci (Lond).* 2018 Jun 20;132(11):1179-1197.
- 35- Baban B, Malik A, Bhatia J, Yu JC., Presence and Profile of Innate Lymphoid Cells in Human Breast Milk., *JAMA Pediatr.* 2018 Apr 9.
- 36- Crider A, Feng T, Pandya CD, Davis T, Nair A, Ahmed AO, Baban B, Turecki G, Pillai A., Complement component 3a receptor deficiency attenuates chronic stress-induced monocyte infiltration and depressive-like behavior., *Brain Behav Immun.* 2018 Mar 5. pii: S0889-1591(18)30048-5.
- 37- Sharma MD, Rodriguez PC, Koehn BH, Baban B, Cui Y, Guo G, Shimoda M, Pacholczyk R, Shi H, Lee EJ, Xu H, Johnson TS, He Y, Mergoub T, Venable C, Bronte V, Wolchok JD, Blazar BR, Munn DH., Activation of p53 in Immature Myeloid Precursor Cells Cont Differentiation into Ly6c+CD103+ Monocytic Antigen-Presenting Cells in Tumors., *Immunity.* 2018 Jan 16;48(1):91-106.e6.
- 38- Webb RL, Kaiser EE, Scoville SL, Thompson TA, Fatima S, Pandya C, Sriram K, Swetenburg RL, Vaibhav K, Arbab AS, Baban B, Dhandapani KM, Hess DC, Hoda MN, Stice SL., Human Neural Stem Cell Extracellular Vesicles Improve Tissue and Functional Recovery in the Murine Thromboembolic Stroke Model., *Transl Stroke Res.* 2017 Dec 28.
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Patents and Innovation

Awarded:

1. Issued 2017, #14/258,124 Compositions and Methods for Diagnosing and Treating Sjogren's Syndrome.
2. Issued Feb 18 2014, Health beverages comprising cinnamon extract and methods of making and using the same, Patent number: 8652550

Pending:

- 1- Cannabidiol as a therapeutic modality for COVID-19., No. 63/024,706
- 2- Compositions and methods for promoting hair growth., Publication number: 20200113970
- 3- Gilz Formulations for Wound Healing., Publication number: 20200061237
- 5- Activators of sgk-1 for use as cardioprotective agents, 10/24/13 – 20130280205
- 6- Health beverages comprising cinnamon extract., 08/04/11 - 20110189336
- 7- Probiotic beverages containing cannabiniol, 08/23/18 – 20180235270

Abstract

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47. The miRNA-Therapy in murine model of thromboembolic stroke, Augusta University, March 2016, Augusta, GA.
48. A Cannabinoid Derivative in the Treatment of Malignant Melanoma in a Murine Model: Could this be a New and Novel Treatment?, March 2016, Society of Surgical Oncology (SSO) 2016 Cancer Symposium, Boston, MA
49. Determining autophagic activity following cannabidiol treatment of melanoma: a potential new and novel treatment., AACR Annual Meeting, April 2016, New Orleans, LA.
50. Remote Ischemic Conditioning Augments Collateral Circulation and Angiogenesis in a Bilateral Carotid Artery Stenosis Model in Mice, Stroke Nursing Symposium, Feb 2017, Houston TX.
51. Activation of myeloid toll-like receptor 4 mediates T lymphocyte polarization after traumatic brain injury., Graduate Research Day, March 12th 2017, Augusta University, Augusta, GA.
52. The Promise of Whole Body Vibration to Curtail Inflammation Associated with Obesity/Type 2 Diabetes: Role of Myeloid to Lymphoid Skewing., EPMA World Congress, September 2017, Malta.
53. Oral NaHCO₃ activates the Splenic Anti-Inflammatory pathway promoting M2-Macrophage Polarization, American Society of Nephrology, November 2017, New Orleans, Louisiana.
54. Oral NaHCO₃ Ingestion Activates the Cholinergic Anti-Inflammatory Pathway in Humans., March 2018, Research day, Augusta University, Augusta GA.
55. Remote Ischemic Conditioning Augments Collateral Circulation and Angiogenesis in a Bilateral Carotid Artery Stenosis Model in Mice, International Stroke Conference, February 22-24 2017, Houston, TX USA.
56. The Impact of Diabetes on Lymphoid/Myeloid Skew in Murine Periodontitis, AADR, March 21-24, 2018, Fort Lauderdale, FL, USA,.
57. Diabetes Promotes a Sexual Dimorphic Expansion of Circulating and Cerebrovascular Th17 Cells in Female Rats, American Physiology society gender conference, September 30-October 3, 2018, Knoxville TN, USA

58. Disruption of mesothelial connections to the spleen inhibits splenic anti-inflammatory responses and protects from the development of insulin resistance in rats., Experimental Biology, April 6-9 2019, Orlando, FL, USA.
59. Phenotyping the Innate Lymphoid Cells in periodontitis, Research and Table Clinic Day, DCG, Augusta University, Feb 13 2019, Augusta, GA, USA.
60. Medicinal Cannabis and the clinical implications: New era of natural Medicine, EPMA position on Medical use of CANNABIS, EU Parliament, April 11th 2019, Brussels, Belgium.

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