Mirza S Baig

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RESEARCH INTEREST

Innate Immunity, Inflammation, Cancer, Drug Discovery

POSITIONS HELD

Associate Professor at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2018-present*

Assistant Professor at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2016-2018*.

Ramalingaswami Fellow at Department Biosciences & Biomedical Engineering, Indian Institute of Technology Indore (IITI), Simrol-453552, Indore, *2015-2016*.

EDUCATION

Postdoctoral Fellow at Division of Gastroenterology and Hepatology, Department of Internal Medicine, Mayo Clinic, Rochester-55905, USA, *2014-2015*.

Postdoctoral Fellow at Department of Pharmacology, The University of Illinois at Chicago-60607, USA, *2010-2014*.

Postdoctoral Fellow at Department of Environmental Toxicology, Indian Institute of Toxicology Research (IITR), Lucknow-226001, *2008-2010.*

Doctor of Philosophy (Ph.D.) in Life Sciences, Department of Biochemistry, CSIR-Central Drug Research Institute, Lucknow-226021, 2002-2008.

Master of Science (MS) in Biotechnology, Interdisciplinary Biotechnology Unit, Aligarh Muslim University Aligarh– 202002, 2000-2002.

Bachelor of Science (BS) in Biology, Department of Biology, University of Rajasthan (RU), Jaipur– 302004, 1997-2000.

AWARDS & HONORS

1. Cambridge-Hamied Visiting Professorship (2023) to visit the University of Cambridge to establish new academic/scientific collaborations.

2. DBT-Research Travel Grant from Department of Biotechnology, New Delhi, India for 3rd RESOLUTION DAYS, The resolution of inflammation, opportunities for innovative therapeutics? 2023, Besançon - FRANCE.

3. Springer (CMBE) Editors' Choice Award (2022) from Springer (CMBE) for the study done Structure-Based Design of Novel Peptidomimetics Targeting the SARS-CoV-2 Spike Protein. Biomedical Engineering Society Annual Meeting at San Antonio, Texas. The USA.

4. International Collaborative Research Award (2022) from Osaka University for mentoring the research project at Osaka University, Japan.

5. IUBMB Mid-Career Research Fellowship (2021) from The International Union of Biochemistry and Molecular Biology (IUBMB) to visit the University of Illinois at Chicago, USA (Collaborative Research).

6. International Collaborative Research Award (2021) from the Japan Agency for Medical Research and Development (AMED), Japan, and the New York Academy of Sciences (NYAS), the USA for international collaborative research work.

7. ASM-IUSSTF Indo-US Professorship (2021) from The American Society for Microbiology (ASM) to visit the University of California, USA (Collaborative Research).

8. Technical University Munich (TUM) Visiting Professorship (2019) from Technical University Munich (TUM) (Collaborative Research).

9. Cambridge Visiting Professorship (2019) to visit the University of Cambridge as a visiting professor.

10. SAKURA International Fellowship (2019) from Japan Science and Technology Agency (JST) to visit the Institute of Microbial Chemistry (IMC), Tokyo, Japan (Collaborative Research).

11. TUBITAK International Research Award (2018) from The Scientific and Technological Research Council of Turkey to visit Middle East Technical University, Ankara, Turkey (Collaborative Research).

12. INSA-International Bilateral Exchange Fellowship (2018) jointly from INSA-TUBA to visit KoC University, Turkey (Collaborative Research).

13. Elsevier Travel Grant from IUBMB to participate Miami Winter Symposium 2018 (MWS 2018), Miami, Florida, USA.

14. Travel Grant from Indian Council of Medical Research (ICMR), New Delhi, India for the 19th International Conference on Inflammation 2017 (ICI 2017), Amsterdam, The Netherland.

15. Early Career Research Award (2016) from the Department of Science and Technology, Government of India, New Delhi, India.

16. Outstanding Scientist Award (2016) from the Centre for Advanced Research and Design-CARD of Venus International Foundation, Chennai, India for the contribution in the field of Immunology.

17. CICS Travel Grant from Department of Biotechnology, New Delhi, India for 4th International Conference and Exhibition on Immunology 2015, Houston, Texas, USA.

18. Ramanujan Fellowship Award (2015) from the Department of Science and Technology (DST), India.

19. Ramalingaswami Fellowship Award (2015) from Department of Biotechnology (DBT), New Delhi, India.

20. WelcomeTrust/DBT Indian Alliance Travel Award for EMBO Meeting 2015, Birmingham, UK.

21. DBT-Research Travel Grant from Department of Biotechnology, New Delhi, India for 4th International Conference and Exhibition on Immunology 2015, Houston, Texas, USA.

22. Mirus Research Award (2012) from Mirus Bio LLC, USA in recognition of the excellent research in Immunology.

23. DBT-RA Research Award (2009) from the Department of Biotechnology (DBT), New Delhi.

24. Research Bursary Award to present research work in Bioinformatics and Systems Biology Summer School 2007, University of Nottingham, Nottingham, U.K.

25. FEBS Pre-doctoral Bursary Award to present research work in Advanced Lecture Course “New Developments in Quantitative Molecular Bioscience” 2007, Spetses Island, Greece.

26. eCheminfo Travel Award to present research work in eCheminfo InterAction Meeting 2006 “Latest Advances in Drug Discovery and Development” Bryn Mawr College, Pennsylvania, USA.

27. EMBL International Ph.D. Fellow Travel Award in 9th International EMBL Ph.D. Student Symposium, European Molecular Biology Laboratory (EMBL) 2006, Heidelberg, Germany.

28. Senior Research Fellowship (2004) from the Council of Scientific and Industrial Research (CSIR), India

29. National Eligibility Test (NET) (2002) for Junior Research Fellowship (JRF) from the Council of Scientific and Industrial Research (CSIR), India

30. Graduate Aptitude Test in Engineering (GATE) (2001) from Indian Institute of Science (IISc), India

31. Post-Graduate Fellowship from the Department of Biotechnology (DBT) (2000), New Delhi, India.

Publications (Peer-reviewed journals)

1. Mirza S. Baig, Teresa Thurston, Rahul Sharma, Rajat Atre, Uzma Saqib, Rakhi Khabiya, Shreya Bharti and Chit L. Poh. Targeting Signalling Pathways in Inflammatory Diseases. Frontiers Immunology. 2023; 10.3389/fimmu.2023.1241440.

2. J Li, Y Wang, S Rajpoot, M Lavrijsen, Q Pan, P Li, MS Baig. Investigating theobromine as a potential anti-human coronaviral agent.Microbiology and Immunology. 2023; 10.1111/1348-0421.13086.

3. Himadri Singh, Sagar Khadanga, Sudhir K Goel, Syamantak Majumder, Mirza S Baig, Vikas Bhatia, Neha Chaudhary, Rohit Saluja. Evaluation of interleukin-33 & sST2 levels in type-2 diabetic mellitus patients with or without metabolic syndrome. Indian Journal of Medical Research. 2023; 157,5,470-476.

4. Rajpoot S, Kumar A, Gaponenko V, Thurston TL, Mehta D, Faisal SM, Zhang KY, Jha HC, Darwhekar GN, Baig MS. Dorzolamide suppresses PKCδ - TIRAP-p38 MAPK signaling axis to dampen the inflammatory response. Future Med Chem. 2023 Apr 27;. doi: 10.4155/fmc-2022-0260. [Epub ahead of print] PubMed PMID: 37129027.

5. Kundan Solanki K#, Atre R#, Sharma R, Bezsonov E. Small Molecule Inhibitors Targeting Endothelial IL-1βReceptor (IL-1R1): A Novel Approach to Atherosclerosis Therapy. Austin J Pharmacol Ther. 11 (1), 1170-1176

6. Atre R, Sharma R, Vadim G, Solanki K, Wadhonkar K, Singh N, Patidar P, Khabiya R, Samaur H, Banerjee S, Baig MS. The indispensability of macrophage adaptor proteins in chronic inflammatory diseases. Int Immunopharmacol. 2023 Apr 25;119:110176. doi: 10.1016/j.intimp.2023.110176. [Epub ahead of print] Review. PubMed PMID: 37104916.

7. Saqib U, Munjuluri S, Sarkar S, Biswas S, Mukherjee O, Satsangi H, Baig MS, Obukhov AG, Hajela K. Transient Receptor Potential Canonical 6 (TRPC6) Channel in the Pathogenesis of Diseases: A Jack of Many Trades. Inflammation. 2023 Apr 18;. doi: 10.1007/s10753-023-01808-3. [Epub ahead of print] Review. PubMed PMID: 37072606; PubMed Central PMCID: PMC10112830.

8. Bezsonov E, Baig MS, Bukrinsky M, Myasoedova V, Ravani A, Sukhorukov V, Zhang D, Khotina V, Orekhov A. Editorial: Lipids and inflammation in health and disease, volume II. Front Cardiovasc Med. 2023;10:1174902. doi: 10.3389/fcvm.2023.1174902. eCollection 2023. PubMed PMID: 37123473; PubMed Central PMCID: PMC10130650.

9. K Wadhonkar, N Singh, FM Heralde III, SP Parihar, N Hirani, MS Baig. Exosome-derived miRNAs regulate macrophage-colorectal cancer cell cross-talk during aggressive tumor development. Colorectal Cancer, 2023, 12 (1), CRC40.

10. R Atre, R Sharma, A Obukhov, U Saqib, S Umar, GN Darwhekar, MS Baig. An improved mouse model of sepsis based on intraperitoneal injections of the enriched culture of cecum slurry. bioRxiv, 2023.04. 06.535817

11. Li J, Wang Y, Solanki K, Atre R, Lavrijsen M, Pan Q, Baig MS, Li P. Nirmatrelvir exerts distinct antiviral potency against different human coronaviruses. Antiviral Res. 2023 Mar;211:105555. doi: 10.1016/j.antiviral.2023.105555. Epub 2023 Feb 14. PubMed PMID: 36791846; PubMed Central PMCID: PMC9925195.

12. Baig MS, Rajpoot S, Ohishi T, Savai R, Seidel S, Kamennaya NA, Bezsonov EE, Orekhov AN, Mahajan P, Solanki K, Saqib U. Anti-lung cancer properties of cyanobacterial bioactive compounds. Arch Microbiol. 2022 Sep 5;204(10):603. doi: 10.1007/s00203-022-03194-0. Review. PubMed PMID: 36063223.

13. VA Khotina, M Bagheri Ekta, MS Baig, WK Wu, AV Grechko, Vasily N.

Sukhorukov. Challenges of mitochondrial DNA editing in mammalian cells: focus on the treatment of cardiovascular disease. 2022. Vessel Plus 6, 65

14. Baig MS, Rajpoot S, Ohishi T, Savai R, Seidel S, Kamennaya NA, Bezsonov EE, Orekhov AN, Mahajan P, Solanki K, Saqib U. Anti-lung cancer properties of cyanobacterial bioactive compounds. Arch Microbiol. 2022 Sep 5;204(10):603. doi: 10.1007/s00203-022-03194-0. Review. PubMed PMID: 36063223.

15. Solanki K, Rajpoot S, Kumar A, J Zhang KY, Ohishi T, Hirani N, Wadhonkar K, Patidar P, Pan Q, Baig MS. Structural analysis of spike proteins from SARS-CoV-2 variants of concern highlighting their functional alterations. Future Virol. 2022 Jul;. doi: 10.2217/fvl-2022-0003. Epub 2022 Aug 2. PubMed PMID: 35935449; PubMed Central PMCID: PMC9345306.

16. Ohishi T, Hishiki T, Baig MS, Rajpoot S, Saqib U, Takasaki T, Hara Y. Epigallocatechin gallate (EGCG) attenuates severe acute respiratory coronavirus disease 2 (SARS-CoV-2) infection by blocking the interaction of SARS-CoV-2 spike protein receptor-binding domain to human angiotensin-converting enzyme 2. PLoS One. 2022;17(7):e0271112. doi: 10.1371/journal.pone.0271112. eCollection 2022. PubMed PMID: 35830431; PubMed Central PMCID: PMC9278780.

17. Solanki K, Rajpoot S, Bezsonov EE, Orekhov AN, Saluja R, Wary A, Axen C, Wary K, Baig MS. The expanding roles of neuronal nitric oxide synthase (NOS1). PeerJ. 2022;10:e13651. doi: 10.7717/peerj.13651. eCollection 2022. PubMed PMID: 35821897; PubMed Central PMCID: PMC9271274.

18. Wang Y, Rajpoot S, Li P, Lavrijsen M, Ma Z, Hirani N, Saqib U, Pan Q, Baig MS. Repurposing dyphylline as a pan-coronavirus antiviral therapy. Future Med Chem. 2022 May;14(10):685-699. doi: 10.4155/fmc-2021-0311. Epub 2022 Apr 7. PubMed PMID: 35387498; PubMed Central PMCID: PMC9048854.

19. Rajpoot S, Kumar A, Zhang KYJ, Gan SH, Baig MS. TIRAP-mediated activation of p38 MAPK in inflammatory signaling. Sci Rep. 2022 Apr 4;12(1):5601. doi: 10.1038/s41598-022-09528-8. PubMed PMID: 35379857; PubMed Central PMCID: PMC8979995.

20. Wang Y, Li P, Lavrijsen M, Li Y, Ma Z, Peppelenbosch MP, Baig MS, Pan Q. Differing pan-coronavirus antiviral potency of boceprevir and GC376 in

vitro despite discordant molecular docking predictions. Arch Virol. 2022 Apr;167(4):1125-1130. doi: 10.1007/s00705-022-05369-y. Epub 2022 Feb 16. PubMed PMID: 35171357; PubMed Central PMCID: PMC8853085.

21. Rajpoot S, Srivastava G, Siddiqi MI, Saqib U, Parihar SP, Hirani N, Baig MS. Identification of novel inhibitors targeting TIRAP interactions with BTK and PKCδ in inflammation through an in silico approach. SAR QSAR Environ Res. 2022 Mar;33(3):141-166. doi: 10.1080/1062936X.2022.2035817. Epub 2022 Feb 17. PubMed PMID: 35174746.

22. Rajpoot S, Solanki K, Kumar A, Zhang KYJ, Pullamsetti SS, Savai R, Faisal SM, Pan Q, Baig MS. In-Silico Design of a Novel Tridecapeptide Targeting Spike Protein of SARS-CoV-2 Variants of Concern. Int J Pept Res Ther. 2022;28(1):28. doi: 10.1007/s10989-021-10339-0. Epub 2021 Dec 13. PubMed PMID: 34924897; PubMed Central PMCID: PMC8667532.

23. Wang Y, Li P, Rajpoot S, Saqib U, Yu P, Li Y, Li Y, Ma Z, Baig MS, Pan Q. Comparative assessment of favipiravir and remdesivir against human coronavirus NL63 in molecular docking and cell culture models. Sci Rep. 2021 Dec 6;11(1):23465. doi: 10.1038/s41598-021-02972-y. PubMed PMID: 34873274; PubMed Central PMCID: PMC8648821.

24. Wang Y, Li P, Solanki K, Li Y, Ma Z, Peppelenbosch MP, Baig MS, Pan Q. Viral polymerase binding and broad-spectrum antiviral activity of molnupiravir against human seasonal coronaviruses. Virology. 2021 Dec;564:33-38. doi: 10.1016/j.virol.2021.09.009. Epub 2021 Oct 2. PubMed PMID: 34619630; PubMed Central PMCID: PMC8486977.

25. Rajpoot S, Ohishi T, Kumar A, Pan Q, Banerjee S, Zhang KYJ, Baig MS. A Novel Therapeutic Peptide Blocks SARS-CoV-2 Spike Protein Binding with Host Cell ACE2 Receptor. Drugs R D. 2021 Sep;21(3):273-283. doi: 10.1007/s40268-021-00357-0. Epub 2021 Jul 29. PubMed PMID: 34324175; PubMed Central PMCID: PMC8319882.

26. Rajpoot S, Wary KK, Ibbott R, Liu D, Saqib U, Thurston TLM, Baig MS. TIRAP in the Mechanism of Inflammation. Front Immunol. 2021;12:697588. doi: 10.3389/fimmu.2021.697588. eCollection 2021. Review. PubMed PMID: 34305934; PubMed Central PMCID: PMC8297548.

27. Vakhtangadze T, Singh Tak R, Singh U, Baig MS, Bezsonov E. Gender

Differences in Atherosclerotic Vascular Disease: From Lipids to Clinical Outcomes. Front Cardiovasc Med. 2021;8:707889. doi: 10.3389/fcvm.2021.707889. eCollection 2021. Review. PubMed PMID: 34262956; PubMed Central PMCID: PMC8273377.

28. Dabravolski SA, Bezsonov EE, Baig MS, Popkova TV, Orekhov AN. Mitochondrial Lipid Homeostasis at the Crossroads of Liver and Heart Diseases. Int J Mol Sci. 2021 Jun 28;22(13). doi: 10.3390/ijms22136949. Review. PubMed PMID: 34203309; PubMed Central PMCID: PMC8268967.

29. Dabravolski SA, Orekhova VA, Baig MS, Bezsonov EE, Starodubova AV, Popkova TV, Orekhov AN. The Role of Mitochondrial Mutations and Chronic Inflammation in Diabetes. Int J Mol Sci. 2021 Jun 23;22(13). doi: 10.3390/ijms22136733. Review. PubMed PMID: 34201756; PubMed Central PMCID: PMC8268113.

30. Roy A, Saqib U, Baig MS. NOS1-mediated macrophage and endothelial cell interaction in the progression of atherosclerosis. Cell Biol Int. 2021 Jun;45(6):1191-1201. doi: 10.1002/cbin.11558. Epub 2021 Feb 4. PubMed PMID: 33501735.

31. Mezentsev A, Bezsonov E, Kashirskikh D, Baig MS, Eid AH, Orekhov A. Proatherogenic Sialidases and Desialylated Lipoproteins: 35 Years of Research and Current State from Bench to Bedside. Biomedicines. 2021 May 25;9(6). doi: 10.3390/biomedicines9060600. Review. PubMed PMID: 34070542; PubMed Central PMCID: PMC8228531.

32. Dabravolski SA, Bezsonov EE, Baig MS, Popkova TV, Nedosugova LV, Starodubova AV, Orekhov AN. Mitochondrial Mutations and Genetic Factors Determining NAFLD Risk. Int J Mol Sci. 2021 Apr 24;22(9). doi: 10.3390/ijms22094459. Review. PubMed PMID: 33923295; PubMed Central PMCID: PMC8123173.

33. Alagumuthu M, Rajpoot S, Baig MS. Structure-Based Design of Novel Peptidomimetics Targeting the SARS-CoV-2 Spike Protein. Cell Mol Bioeng. 2021 Apr;14(2):177-185. doi: 10.1007/s12195-020-00658-5. eCollection 2021 Apr. PubMed PMID: 33072222; PubMed Central PMCID: PMC7553367.

34. Saqib U. Masood A. Khan, Manikandan Alagumuthu , Suraj P. Parihar, Baig MS. Natural compounds as antiatherogenic agents. Cellular and Molecular Biology. 2021 January.

35. Saqib U, Khan MA, Alagumuthu M, Parihar SP, Baig MS. Natural compounds as antiatherogenic agents. Cell Mol Biol (Noisy-le-grand). 2021 Jan 31;67(1):177-188. doi: 10.14715/cmb/2021.67.1.27. Review. PubMed PMID: 34817349.

36. Rajpoot S, Alagumuthu M, Baig MS. Dual targeting of 3CL^{pro} and PL^{pro} of SARS-CoV-2: A novel structure-based design approach to treat COVID-19. Curr Res Struct Biol. 2021;3:9-18. doi: 10.1016/j.crstbi.2020.12.001. Epub 2020 Dec 10. PubMed PMID: 33319212; PubMed Central PMCID: PMC7726703.

37. Baig MS, Alagumuthu M, Rajpoot S, Saqib U. Identification of a Potential Peptide Inhibitor of SARS-CoV-2 Targeting its Entry into the Host Cells. Drugs R D. 2020 Sep;20(3):161-169. doi: 10.1007/s40268-020-00312-5. PubMed PMID: 32592145; PubMed Central PMCID: PMC7319219.

38. Ohishi T, Abe H, Sakashita C, Saqib U, Baig MS, Ohba SI, Inoue H, Watanabe T, Shibasaki M, Kawada M. Inhibition of mitochondria ATP synthase suppresses prostate cancer growth through reduced insulin-like growth factor-1 secretion by prostate stromal cells. Int J Cancer. 2020 Jun 15;146(12):3474-3484. doi: 10.1002/ijc.32959. Epub 2020 Mar 19. PubMed PMID: 32144767.

39. Roy A, Saqib U, Wary K, Baig MS. Macrophage neuronal nitric oxide synthase (NOS1) controls the inflammatory response and foam cell formation in atherosclerosis. Int Immunopharmacol. 2020 Jun;83:106382. doi: 10.1016/j.intimp.2020.106382. Epub 2020 Mar 16. PubMed PMID: 32193098.

40. Baig MS, Roy A, Rajpoot S, Liu D, Savai R, Banerjee S, Kawada M, Faisal SM, Saluja R, Saqib U, Ohishi T, Wary KK. Tumor-derived exosomes in the regulation of macrophage polarization. Inflamm Res. 2020 May;69(5):435-451. doi: 10.1007/s00011-020-01318-0. Epub 2020 Mar 11. Review. PubMed PMID: 32162012.

41. Naim A, Baig MS. Matrix metalloproteinase-8 (MMP-8) regulates the activation of hepatic stellate cells (HSCs) through the ERK-mediated pathway. Mol Cell Biochem. 2020 Apr;467(1-2):107-116. doi: 10.1007/s11010-020-03705-x. Epub 2020 Feb 27. PubMed PMID: 32108279.

42. Roy A, Banerjee S, Saqib U, Baig MS. NOS1-derived nitric oxide facilitates macrophage uptake of low-density lipoprotein. J Cell Biochem. 2019 Jul;120(7):11593-11603. doi: 10.1002/jcb.28439. Epub 2019 Feb 25. PubMed PMID: 30805961.

43. Srivastava M, Saqib U, Banerjee S, Wary K, Kizil B, Muthu K, Baig MS. Inhibition of the TIRAP-c-Jun interaction as a therapeutic strategy for AP1-mediated inflammatory responses. Int Immunopharmacol. 2019 Jun;71:188-197. doi: 10.1016/j.intimp.2019.03.031. Epub 2019 Mar 22. PubMed PMID: 30909134.

44. Saqib U, Baig MS. Scaffolding role of TcpB in disrupting TLR4-Mal interactions: Three to tango. J Cell Biochem. 2019 Mar;120(3):3455-3458. doi: 10.1002/jcb.27619. Epub 2018 Sep 22. PubMed PMID: 30242887.

45. Saqib U, Savai R, Liu D, Banerjee S, Baig MS. Drug repositioning as an effective therapy for protease-activated receptor 2 inhibition. J Cell Biochem. 2019 Feb;120(2):1522-1526. doi: 10.1002/jcb.27334. Epub 2018 Oct 29. PubMed PMID: 30370939.

46. Saqib U, Faisal SM, Saluja R, Baig MS. Structural insights of resveratrol with its binding partners in the toll-like receptor 4 pathway. J Cell Biochem. 2019 Jan;120(1):452-460. doi: 10.1002/jcb.27401. Epub 2018 Sep 6. PubMed PMID: 30191609.

47. Saqib U, Kelley TT, Panguluri SK, Liu D, Savai R, Baig MS, Schürer SC. Polypharmacology or Promiscuity? Structural Interactions of Resveratrol With Its Bandwagon of Targets. Front Pharmacol. 2018;9:1201. doi: 10.3389/fphar.2018.01201. eCollection 2018. Review. PubMed PMID: 30405416; PubMed Central PMCID: PMC6207623.

48. Huang Y, Chen Z, Jang JH, Baig MS, Bertolet G, Schroeder C, Huang S, Hu Q, Zhao Y, Lewis DE, Qin L, Zhu MX, Liu D. PD-1 blocks lytic granule polarization with concomitant impairment of integrin outside-in signaling in the natural killer cell immunological synapse. J Allergy Clin Immunol. 2018 Oct;142(4):1311-1321.e8. doi: 10.1016/j.jaci.2018.02.050. Epub 2018 Apr 18. PubMed PMID: 29679656; PubMed Central PMCID: PMC6324560.

49. Baig MS, Roy A, Saqib U, Rajpoot S, Srivastava M, Naim A, Liu D, Saluja R, Faisal SM, Pan Q, Turkowski K, Darwhekar GN, Savai R. Repurposing

Thioridazine (TDZ) as an anti-inflammatory agent. Sci Rep. 2018 Aug 20;8(1):12471. doi: 10.1038/s41598-018-30763-5. PubMed PMID: 30127400; PubMed Central PMCID: PMC6102213.

50. Thangam EB, Jemima EA, Singh H, Baig MS, Khan M, Mathias CB, Church MK, Saluja R. The Role of Histamine and Histamine Receptors in Mast Cell-Mediated Allergy and Inflammation: The Hunt for New Therapeutic Targets. Front Immunol. 2018;9:1873. doi: 10.3389/fimmu.2018.01873. eCollection 2018. Review. PubMed PMID: 30150993; PubMed Central PMCID: PMC6099187.

51. Srivastava M, Baig MS. NOS1 mediates AP1 nuclear translocation and inflammatory response. Biomed Pharmacother. 2018 Jun;102:839-847. doi: 10.1016/j.biopha.2018.03.069. Epub 2018 Apr 5. PubMed PMID: 29605772.

52. Saqib U, Sarkar S, Suk K, Mohammad O, Baig MS, Savai R. Phytochemicals as modulators of M1-M2 macrophages in inflammation. Oncotarget. 2018 Apr 3;9(25):17937-17950. doi: 10.18632/oncotarget.24788. eCollection 2018 Apr 3. Review. PubMed PMID: 29707159; PubMed Central PMCID: PMC5915167.

53. Saqib U, Baig MS. Identifying the inhibition of TIR proteins involved in TLR signalling as an anti-inflammatory strategy. SAR QSAR Environ Res. 2018 Apr;29(4):295-318. doi: 10.1080/1062936X.2018.1431308. Epub 2018 Feb 15. PubMed PMID: 29448819.

54. Naim A, Pan Q, Baig MS. Matrix Metalloproteinases (MMPs) in Liver Diseases. J Clin Exp Hepatol. 2017 Dec;7(4):367-372. doi: 10.1016/j.jceh.2017.09.004. Epub 2017 Oct 3. Review. PubMed PMID: 29234202; PubMed Central PMCID: PMC5715451.

55. Baig MS, Liu D, Muthu K, Roy A, Saqib U, Naim A, Faisal SM, Srivastava M, Saluja R. Heterotrimeric complex of p38 MAPK, PKCδ, and TIRAP is required for AP1 mediated inflammatory response. Int Immunopharmacol. 2017 Jul;48:211-218. doi: 10.1016/j.intimp.2017.04.028. Epub 2017 May 18. PubMed PMID: 28528205.

56. Saqib U, Sarkar S, Baig MS. Inflammation and its Disease Consequences. Journal of Immune Research. 2017 April; 4(1):1027.

57. Srivastava M, Saqib U, Naim A, Roy A, Liu D, Bhatnagar D, Ravinder R, Baig MS. The TLR4-NOS1-AP1 signaling axis regulates macrophage polarization. Inflamm Res. 2017 Apr;66(4):323-334. doi: 10.1007/s00011-016-1017-z. Epub 2016 Dec 24. PubMed PMID: 28013342.

58. Faisal SM, Varma VP, Subathra M, Azam S, Sunkara AK, Akif M, Baig MS, Chang YF. Leptospira surface adhesin (Lsa21) induces Toll like receptor 2 and 4 mediated inflammatory responses in macrophages. Sci Rep. 2016 Dec 20;6:39530. doi: 10.1038/srep39530. PubMed PMID: 27996041; PubMed Central PMCID: PMC5172228.

59. Roy A, Srivastava M, Saqib U, Liu D, Faisal SM, Sugathan S, Bishnoi S, Baig MS. Potential therapeutic targets for inflammation in toll-like receptor 4 (TLR4)-mediated signaling pathways. Int Immunopharmacol. 2016 Nov;40:79-89. doi: 10.1016/j.intimp.2016.08.026. Epub 2016 Aug 30. Review. PubMed PMID: 27584057.

60. Saqib U, Baig MS. Inhibitors of Toll-Like Receptor 4 (TLR4) – Homodimerization: Nipping in the Bud. Int. J. Drug Dev. & Res.. 2016 August; 8:20-23.

61. Baig MS, Yaqoob U, Cao S, Saqib U, Shah VH. Non-canonical role of matrix metalloprotease (MMP) in activation and migration of hepatic stellate cells (HSCs). Life Sci. 2016 Jun 15;155:155-60. doi: 10.1016/j.lfs.2016.04.031. Epub 2016 Apr 29. PubMed PMID: 27140333.

62. Uzma S, Baig MS. Simultaneous targeting of MyD88 and Nur77 as an effective approach for the treatment of inflammatory diseases. Drug Des Devel Ther. 2016;10:1557-72. doi: 10.2147/DDDT.S103393. eCollection 2016. PubMed PMID: 27217723; PubMed Central PMCID: PMC4862341.

63. Baig MS, Zaichick SV, Mao M, de Abreu AL, Bakhshi FR, Hart PC, Saqib U, Deng J, Chatterjee S, Block ML, Vogel SM, Malik AB, Consolaro ME, Christman JW, Minshall RD, Gantner BN, Bonini MG. NOS1-derived nitric oxide promotes NF-κB transcriptional activity through inhibition of suppressor of cytokine signaling-1. J Exp Med. 2015 Sep 21;212(10):1725-38. doi: 10.1084/jem.20140654. Epub 2015 Aug 31. PubMed PMID: 26324446; PubMed Central PMCID: PMC4577833.

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RESEARCH TALK:

2020-present

1. 3rd RESOLUTION DAYS, The resolution of inflammation, opportunities for innovative therapeutics? 2023, Besançon - FRANCE.
2. Japan Agency for Medical Research and Development (AMED) and The New York Academy of Sciences (NYAS), Interstellar Alumni Symposium-2023, New York, USA
3. National Institutes of Biomedical Innovation, Health and Nutrition-2022, Osaka, Japan
4. Osaka University-2022, Osaka, Japan
5. University of Illinois of Chicago (UIC)-2022, Chicago, USA
6. University of California San Francisco (UCSF)-2022, San Francisco, USA

2015-2020

1. Technical University of Munich (TUM)-2019, Munich, Germany.
2. Cambridge University-2018, Cambridge, UK.
3. Oxford University 2018, Oxford, U.K.
4. Koc University-2018, Istanbul, Turkey.
5. NGBT-2018: Drug Discovery Conference-2018, Jaipur, India.
6. Middle East Technical University (METU)-2018, Ankara, Turkey.
7. Bilkent University-2018, Ankara, Turkey.
8. MWS-2018: 51st Miami Winter Symposium Stem Cells-2018, Miami, USA.
9. Erasmus MC-2018, University Medical Center, Rotterdam, The Netherland.
10. The ICI 2017: 19th International Conference on Inflammation-2017, Amsterdam, The Netherland.
11. Birla Institute Of Technology & Science (BITS)- 2017, Goa, India.
12. World Biotechnology Congress (WBC)-2017, New Delhi, India.
13. Miami Winter Symposium-2017, Miami, USA.
14. The Life Spectrum of Asthma, AAAI Meeting-2016, Chicago, USA.

2011-2015

1. Immunology-2015 (OMICS), Houston, USA.
2. American Society for Pharmacology and Experimental Therapeutics (ASPET)-2012, San Diego, USA.

2006-2010

1. Bioinformatics And Systems Biology Summer School-2009, University Of Nottingham, Nottingham, U.K.
2. FEBS Advanced Lecture Course (New Developments In Quantitative Molecular Bioscience)- 2008, Spetses Island, Greece.
3. eCheminfo Interaction Meeting-2007, Pennsylvania, USA.

4. III Symposium-Current Advances In Molecular Biochemistry: Applications In Health, Environment, and Agriculture-2007, Lucknow University, Lucknow, India.
5. International European Molecular Biology Laboratory (EMBL) Ph.D. Student Symposium-2007, Heidelberg, Germany.
6. 74th Annual Meeting Society Of Biological Chemists-2006, Central Drug Research Institute, Lucknow, India.

GRANTS

DBT-RLF; PI: Dr. Mirza S Baig; 2015-2020; Department of Biotechnology (DBT), New Delhi, India; Title: Neuronal nitric oxide synthase (NOS1) driven macrophage phenotypic polarization.

DST- ECR; PI: Dr. Mirza S Baig; 2016-2019; Department of Science and Technology (DST), New Delhi, India; Title: Role of neuronal nitric oxide synthase (NOS1) in the TLR4-triggered inflammatory response via the SOCS1-p38-AP1 signaling axis.

CSIR-EMR; PI: Dr. Mirza S Baig; 2016-2019; CSIR, New Delhi, India; Title: Role of Macrophages in Alcoholic Liver Disease (ALD).

The Interstellar Initiative; PI: Dr. Mirza S Baig; 2021-2022; Japan Agency for Medical Research and Development (AMED) and the New York Academy of Sciences (NYAS); Identification of novel molecular mechanism underlying macrophage phenotypic change during colorectal cancer progression.

PROFESSIONAL MEMBERSHIPS

The Science Advisory Board, Arlington, VA (SAB)
American Society for Microbiology (ASM)
The Indian Science Congress Association (ISCA)
New York Academy of Science (NYAS)
American Society for Pharmacology and Experimental Therapeutics (ASPET)
American Heart Association (AHA)
The World Academy of Science, Engineering and Technology
British Society for Cell Biology (BSCB)
OMICS International, USA
Indian Society of Cell Biology (ISCB)
Indian Immunology Society (IIS)
The British Society for Antimicrobial Chemotherapy

EDITORIAL BOARD

Frontiers in Genetics
Frontiers in Immunology
Frontiers in Cardiovascular Medicine
American Journal of Life Sciences
International Journal of Vaccines and Technologies
Austin Liver
Journal of Biology and today's world
MOJ-Immunology

ADMINISTRATIVE POSITION

i. Associate Dean Planning, IIT Indore (2016-2019)
ii. Member of Academic & Research Advisory Committee for International Relations, IIT Indore (2023-present)
iii. Coordinator for the Training and Placement, The Department of Biosciences and Biomedical Engineering, IITI (2022-present)
iv. Convener- DPGC, The Department of Biosciences and Biomedical Engineering, IITI (2020-2021)
v. Convener- Institute Safety and Security Committee, IITI (2019-2020)

(Dr. Mirza S Baig)