Institute of Basic Medical Sciences
Peshawar

CURRICULUM VITAE

Date of Birth: **March 13, 1983**

MUHAMMAD TAHIR SARWAR

PhD: Molecular Biology (Specialty: Functional Genomics)

BS: Biotechnology (4 years)

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Current Position

- Tenured Professor (Molecular Biology and Genomics) (Since July 2025)
  Institute of Basic Medical Sciences, Khyber Medical University, Peshawar, Pakistan

Previous Positions

- Associate Professor Molecular Biology and Genomics (October 7, 2020- July 2025)
  Institute of Basic Medical Sciences, Khyber Medical University, Peshawar, Pakistan
- Assistant Professor, Biochemistry/Molecular Biology (23rd July 2012-7th October 2020)
  Institute of Basic Medical Sciences, Khyber Medical University, Peshawar, Pakistan
- Course coordinator (PhD Program)
  Institute of Basic Medical Sciences, Khyber Medical University, Peshawar, Pakistan

Education

- PhD in Molecular Biology (Specialty: Functional Genomics) 2012
  National Centre of Excellence in Molecular Biology, University of the Punjab, Lahore, Pakistan
- Bachelor of science in Biotechnology (4 years) 2006
  Department of Biotechnology, University of Peshawar, Pakistan.

PhD research title

Characterization of inhibitory effects of siRNA against non-structural genes of HCV genotype 3a

Awards

- Best University Teacher award by Higher Education Commission of Pakistan in 2016
- PhD fellowship by Higher Education Commission of Pakistan in 2006

PhD Supervision

- Sohail Aziz Paracha completed his PhD degree under my supervision. His research title was

"Genomics analysis of autosomal recessive intellectual disability in consanguineous families"

- Shahida Tasneem completed her PhD degree under my supervision. Her research title was

"Expression analysis of esophageal squamous cell carcinoma in afghan patients using *WT1* and *COX-2* as biomarkers"

- Wafa Naeem completed her PhD degree under my supervision. Her research title was

"Mutational landscape of DNA damage repair genes in tissue of oral squamous cell carcinoma by whole exome sequencing"

- Shehzad Ahmed completed her PhD degree under my supervision. Her research title was

"Characterization of Mutations in Genes Causing Familial Primary Congenital Glaucoma"

- Muhammad Anees completed her PhD degree under my supervision. Her research title was

"Genomic Evaluation of Autosomal Recessive Pattern of Epilepsy in Consanguineous Families of Khyber Pakhtunkhwa"

MS Supervision

- 30 MS students completed their degrees under my supervision during last thirteen years.

Teaching Experience

PhD

- Advances in Molecular Cell Biology
- Molecular Basis of Inheritance
- Research Techniques

MS

- Functional Genomics
- Immunology and disorders of immune system
- Molecular Cell Biology
- Recombinant DNA technology

BS

- Biochemistry 1 and 2
- Microbiology
- Virology

Institute of Basic Medical Sciences Peshawar

Muhammad Tahir Sarwar

Tenured Professor

Total Impact Factor: 150.2

List of Research Publications

1- Khalid Z, Adams M, Muhammad M, Tehreen R, **Sarwar MT**, Saleha S, Gul A, Rawlins LE. Challenges in Genomic Variant Interpretation Within Pakistani Populations due to Genomic Healthcare Inequalities. American Journal of Medical Genetics Part A, **2025**; 0:e64191.https://doi.org/10.1002/ajmg.a.64191. IF: 7.1**.**

2- Anees Muhammad, Fawad Inayat , Bilal Ahmad Sethi, Shahzad Ahmad, Amir Atlas, Shoaib Ur Rehman, **Muhammad Tahir Sarwar** Genomic insights into autosomal recessive epilepsy: novel pathogenic variants in ITPA and CLN5 identified in consanguineous families. Mol Biol Rep **. 2025** Sep 26;52(1):952. doi: 10.1007/s11033-025-11087-w. IF= 2.8

3- Shahzad Ahmad, Muhammad Saleem Gandapur, Musharraf Jelani, Anees Muhammad, , Wadi B. Alonazi, Nousheen Bibi, **Muhammad Tahir Sarwar** & Taj Ali Khan. Pathogenic variants identification in primary congenital glaucoma patients using whole exome sequencing. Scientific Reports **| (2025)** 15:11066 | https://doi.org/10.1038/s41598-025-85913-3. IF= 3.9

4- Wafa Naeem1, Fouzia Nawab, **Muhammad Tahir Sarwar**, Ali Talha Khalil, Dalia Ali Gaber, Mohammed Alorini, Ishtiaq Ahmad, Muslim Khan, Syed Ali Khurram9 & Asif Ali. Profiling genetic mutations in the DNA damage repair genes of oral squamous cell carcinoma patients from Pakistan Scientific Reports. **2025**. 15:7896 | https://doi.org/10.1038/s41598-025-91700

5- Badshah N, Mattison KA, Ahmad S, Chopra P, Johnston HR, Ahmad S, Khan SH, **Sarwar MT**, Cutler DJ, Taylor M, Vadlamani G, Zwick ME, Escayg A. Novel Missense *CNTNAP2* Variant Identified in Two Consanguineous Pakistani Families With Developmental Delay, Epilepsy, Intellectual Disability, and Aggressive Behavior. Front Neurol. 2022 Jul 14;13:918022. doi: 10.3389/fneur.2022.918022. PMID: 35911904; PMCID: PMC9329621.
IF: 3.1 (JCR 2022/23). **IF 4.086** (google 2022/23).

6- Nayab H, Ali R, **Sarwar T**, Khan MA, Ul Hassan M, Ur Rehman T. A structure-based virtual screening and molecular docking by using potent inhibitors against nucleoprotein of *Crimean-Congo hemorrhagic fever virus*. J Vector Borne Dis. 2021 Apr-Jun;58(2):126-134. doi: 10.4103/0972-9062.321757. PMID: 35074946.
IF: 0.5 (JCR 2022/23).

7- Manole A, Efthymiou S, O'Connor E, Mendes MI, Jennings M, Maroofian R, Davagnanam I, Mankad K, Lopez MR, Salpietro V, Harripaul R, Badalato L, Walia J, Francklyn CS, Athanasiou-Fragkouli A, Sullivan R, Desai S, Baranano K, Zafar F, Rana N, Ilyas M, Horga A, Kara M, Mattioli F, Goldenberg A, Griffin H, Piton A, Henderson LB, Kara B, Aslanger AD, Raaphorst J, Pfundt R, Portier R, Shinawi M, Kirby A, Christensen KM, Wang L, Rosti RO, Paracha SA, **Sarwar MT**, Jenkins D; SYNAPS Study Group; Ahmed J, Santoni FA, Ranza E, Iwaszkiewicz J, Cytrynbaum C, Weksberg R, Wentzensen IM, Guillen Sacoto MJ, Si Y, Telegrafi A, Andrews MV, Baldridge D, Gabriel H, Mohr J, Oehl-Jaschkowitz B, Debard S, Senger B, Fischer F, van Ravenwaaij C, Fock AJM, Stevens SJC, Bähler J, Nasar A, Mantovani JF, Manzur A, Sarkozy A, Smith DEC, Salomons GS, Ahmed ZM, Riazuddin S, Riazuddin S, Usmani MA, Seibt A, Ansar M, Antonarakis SE, Vincent JB, Ayub M, Grimmel M, Jelsig AM, Hjortshøj TD, Karstensen HG, Hummel M, Haack TB, Jamshidi Y, Distelmaier F, Horvath R, Gleeson JG, Becker H, Mandel JL, Koolen DA, Houlden H. De Novo and Bi-allelic Pathogenic Variants in NARS1 Cause Neurodevelopmental Delay Due to Toxic Gain-of-Function

and Partial Loss-of-Function Effects. Am J Hum Genet. 2020 Aug 6;107(2):311-324. doi: 10.1016/j.ajhg.2020.06.016. Epub 2020 Jul 31. PMID: 32738225; PMCID: PMC7413890.
IF: 9.4 (JCR 2022/23).

8- L. Keith Henry, Muhammad Ansar, Emmanuella Ranza, Madhur Shetty, Sohail A. Paracha, Maleeha Azam, Ilse Kern, Justyna Iwaszkiewicz, Omer Farooq, Constantin J. Pournaras, Ariane Malcles, Mateusz Kecik, Waqar Muzaffar, Aziz Qurban, Liaqat Ali, Yacine Aggoun, Federico A. Santoni, Periklis Makrythanasis, Jawad Ahmed, Raheel Qamar, Carlo Rivolta, **Muhammad T. Sarwar**, Stylianos E. Antonarakis. Identification, Characterization, and Treatment for a Taurine Transporter (SLC6A6) Variant Resulting in Taurine Deficiency and Pathologies in a Consanguineous Family. FASEB journal. 2020 April 18 https://doi.org/10.1096/fasebj.2020.34.s1.06466
IF: 4.7 (JCR 2022/23).

9- Ansar M, Ebstein F, Özkoç H, Paracha SA, Iwaszkiewicz J, Gesemann M, Zoete V, Ranza E, Santoni FA, **Sarwar MT**, Ahmed J, Krüger E, Bachmann-Gagescu R, Antonarakis SE. Biallelic variants in PSMB1 encoding the proteasome subunit β6 cause impairment of proteasome function, microcephaly, intellectual disability, developmental delay and short stature. Hum Mol Genet. 2020 May 8;29(7):1132-1143. doi: 10.1093/hmg/ddaa032. PMID: 32129449.
IF: 3.4 (JCR 2022/23).

10- Rehman F, Shah M, Ali A, Ahmad I, **Sarwar MT**, Rapisarda AMC, Cianci A. Unpasteurised milk consumption as a potential risk factor for toxoplasmosis in females with recurrent pregnancy loss. J Obstet Gynaecol. 2020 Nov;40(8):1106-1110. doi: 10.1080/01443615.2019.1702630. Epub 2020 Feb 4. PMID: 32013639.
IF: 1.7 (JCR 2022/23).

11- Mumtaz S, Ahmed J, Gul A, Tariq SA, Siraj S , Sarwar T. Genetic Diversity of Hepatitis C Virus Genotype 3a Based on Complete Core Protein in Peshawar, Pakistan. JUNDISHAPUR J MICROB. 2020 March; 13(3):e98942. doi: 10.5812/jjm.98942.
IF: 0.6 (JCR 2022/23). **IF 0.82** (google 2022/23).

12- Muhammad Ansar, Emmanuelle Ranza, Madhur Shetty, Sohail A Paracha, Maleeha Azam, Ilse Kern, Justyna Iwaszkiewicz, Omer Farooq, Constantin J Pournaras, Ariane Malcles, Mateusz Kecik, Carlo Rivolta, Waqar Muzaffar, Aziz Qurban, Liaqat Ali, Yacine Aggoun, Federico A Santoni, Periklis Makrythanasis, Jawad Ahmed, Raheel Qamar, **Muhammad T Sarwar**, L Keith Henry, Stylianos E Antonarakis.Taurine treatment of retinal degeneration and cardiomyopathy in a consanguineous family with SLC6A6 taurine transporter deficiency, *Human Molecular Genetics*, Volume 29, Issue 4, 15 February 2020, Pages 618–623, https://doi.org/10.1093/hmg/ddz303.
IF: 3.4 (JCR 2022/23).

13- Ansar M, Chung HL, Al-Otaibi A, Elagabani MN, Ravenscroft TA, Paracha SA, Scholz R, Abdel Magid T, **Sarwar MT**, Shah SF, Qaisar AA, Makrythanasis P, Marcogliese PC, Kamsteeg EJ, Falconnet E, Ranza E, Santoni FA, Aldhalaan H, Al-Asmari A, Faqeih EA, Ahmed J, Kornau HC, Bellen HJ, Antonarakis SE. Bi-allelic Variants in IQSEC1 Cause Intellectual Disability, Developmental Delay, and Short Stature. Am J Hum Genet. 2019 Nov 7;105(5):907-920. doi: 10.1016/j.ajhg.2019.09.013. Epub 2019 Oct 10. PMID: 31607425; PMCID: PMC6848997.
IF: 9.4 (JCR 2022/23).

14- Ansar M, Ullah F, Paracha SA, Adams DJ, Lai A, Pais L, Iwaszkiewicz J, Millan F, **Sarwar MT**, Agha Z, Shah SF, Qaisar AA, Falconnet E, Zoete V, Ranza E, Makrythanasis P, Santoni FA, Ahmed J, Katsanis N, Walsh C, Davis EE, Antonarakis SE. Bi-allelic Variants in DYNC1I2 Cause Syndromic Microcephaly with Intellectual Disability, Cerebral Malformations, and Dysmorphic Facial Features. Am J Hum Genet. 2019 Jun 6;104(6):1073-1087. doi: 10.1016/j.ajhg.2019.04.002. Epub 2019 May 9. PMID: 31079899; PMCID: PMC6556908.
IF: 9.4 (JCR 2022/23).

15- Hameed F, Khan MA, Muhammad H, **Sarwar T**, Bilal H, Rehman TU. Plasmid-mediated mcr-1 gene in Acinetobacter baumannii and Pseudomonas aeruginosa: first report from Pakistan. REV SOC BRAS MED TRO. 2019 Sep 5;52:e20190237. doi: 10.1590/0037-8682-0237-2019. PMID: 31508785.

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16- Ansar M, Paracha SA, Serretti A, **Sarwar MT**, Khan J, Ranza E, Falconnet E, Iwaszkiewicz J, Shah SF, Qaisar AA, Santoni FA, Zoete V, Megarbane A, Ahmed J, Colombo R, Makrythanasis P, Antonarakis SE. Biallelic variants in FBXL3 cause intellectual disability, delayed motor development and short stature. Hum Mol Genet. 2019 Mar 15;28(6):972-979. doi: 10.1093/hmg/ddy406. PMID: 30481285; PMCID: PMC6400105.
IF: 3.4 (JCR 2022/23).

17- Tasneem S, **Sarwar MT**, Bashir MR, Hussain H, Ahmed J, Pervez S. Expression analysis of cyclooxygenase-2 in patients suffering from esophageal squamous cell carcinoma. PLoS One. 2018 Oct 19;13(10):e0205508. doi: 10.1371/journal.pone.0205508. PMID: 30339710; PMCID: PMC6195262.
IF: 3.5 (JCR 2022/23).

18- Ansar M, Chung HL, Taylor RL, Nazir A, Imtiaz S, **Sarwar MT**, Manousopoulou A, Makrythanasis P, Saeed S, Falconnet E, Guipponi M, Pournaras CJ, Ansari MA, Ranza E, Santoni FA, Ahmed J, Shah I, Gul K, Black GC, Bellen HJ, Antonarakis SE. Bi-allelic Loss-of-Function Variants in DNMBP Cause Infantile Cataracts. Am J Hum Genet. 2018 Oct 4;103(4):568-578. doi: 10.1016/j.ajhg.2018.09.004. PMID: 30290152; PMCID: PMC6174361.
IF: 3.4 (JCR 2022/23).

19- Ansar M, Riazuddin S, Sarwar MT, Makrythanasis P, Paracha SA, Iqbal Z, Khan J, Assir MZ, Hussain M, Razzaq A, Polla DL, Taj AS, Holmgren A, Batool N, Misceo D, Iwaszkiewicz J, de Brouwer APM, Guipponi M, Hanquinet S, Zoete V, Santoni FA, Frengen E, Ahmed J, Riazuddin S, van Bokhoven H, Antonarakis SE. Biallelic variants in LINGO1 are associated with autosomal recessive intellectual disability, microcephaly, speech and motor delay. Genet Med. 2018 Jul;20(7):778-784. doi: 10.1038/gim.2017.113. Epub 2017 Aug 24. PMID: 28837161.
IF: 8.2 (JCR 2022/23).

20- Kausar, Humera, GULL, Sana, Ahmad, Waqar, Awan, **Sarwar, Muhammad**, Bushra, Ijaz, Ansar, Muhammad, Asad, Sultan, Hassan, Sajida. (2017). Role of alternative phosphorylation and O-glycosylation of erythropoietin receptor in modulating its function: An in silico study. TURKISH JOURNAL OF BIOLOGY. 41. 816-825. doi: 10.3906/biy-1704-3.
IF: 2.2 (JCR 2022/23).

21- Shahid I, Gull S, Ijaz B, Ahmad W, Ansar M, Asad S, Kausar H, **Sarwar MT**, Khan MK, Hassan S. Stable Huh-7 cell lines expressing non-structural proteins of genotype 1a of hepatitis C virus. J Virol Methods. 2013 Apr;189(1):65-9. doi: 10.1016/j.jviromet.2013.01.005. Epub 2013 Jan 23. PMID: 23352716.
IF: 3.1 (JCR 2022/23).

22- Asad S, Ijaz B, Ahmad W, Kausar H, **Sarwar MT**, Gull S, Shahid I, Khan MK, Hassan S. Development of persistent HCV genotype 3a infection cell culture model in huh-7 cell. Virol J. 2012 Jan 10;9:11. doi: 10.1186/1743-422X-9-11. PMID: 22234052; PMCID: PMC3292816.
IF: 4.7 (JCR 2022/23).

23- Ali Ashfaq U, Ansar M, Sarwar MT, Javed T, Rehman S, Riazuddin S. Post-transcriptional inhibition of hepatitis C virus replication through small interference RNA. Virol J. 2011 Mar 10;8:112. doi: 10.1186/1743-422X-8-112. PMID: 21388559; PMCID: PMC3086529.
IF: 4.7 (JCR 2022/23).

24- Kausar H, Gull S, Ijaz B, Ahmad W, **Sarwar MT**, Iqbal Z, Nawaz Z, Riazuddin S, Hassan S. Huh-7 cell line as an alternative cultural model for the production of human like erythropoietin (EPO). J TRANSL MED. 9, 186 (2011). https://doi.org/10.1186/1479-5876-9-186.
IF: 7.3 (JCR 2022/23).

25- Ijaz B, Ahmad W, Javed FT, Gull S, **Sarwar MT**, Kausar H, Asad S, Jahan S, Khaliq S, Shahid I, Sumrin A, Hassan S. Association of laboratory parameters with viral factors in patients with hepatitis C. Virol J. 2011 Jul 21;8:361. doi: 10.1186/1743-422X-8-361. PMID: 21777434; PMCID: PMC3154183.

IF: 4.7 (JCR 2022/23).

26- **Sarwar MT**, Kausar H, Ijaz B, Ahmad W, Ansar M, Sumrin A, Ashfaq UA, Asad S, Gull S, Shahid I, Hassan S. NS4A protein as a marker of HCV history suggests that different HCV genotypes originally evolved from genotype 1b. Virol J. 2011 Jun 23;8:317. doi: 10.1186/1743-422X-8-317. PMID: 21696641; PMCID: PMC3145594.
IF: 4.7 (JCR 2022/23).

27- Ahmad W, Ijaz B, Javed FT, Gull S, Kausar H, **Sarwar MT**, Asad S, Shahid I, Sumrin A, Khaliq S, Jahan S, Pervaiz A, Hassan S. A comparison of four fibrosis indexes in chronic HCV: development of new fibrosis-cirrhosis index (FCI). BMC Gastroenterol. 2011 Apr 21;11:44. doi: 10.1186/1471-230X-11-44. PMID: 21507271; PMCID: PMC3098184.
IF: 2.4 (JCR 2022/23).

28- Ansar M, Ashfaq UA, Shahid I, **Sarwar MT**, Javed T, Rehman S, Hassan S, Riazuddin S. Inhibition of full length hepatitis C virus particles of 1a genotype through small interference RNA. Virol J. 2011 May 2;8:203. doi: 10.1186/1743-422X-8-203. PMID: 21535893; PMCID: PMC3094304.
IF: 4.7 (JCR 2022/23).

29- Ahmad W, Shabbiri K, Ijaz B, Asad S, Nazar N, Nazar S, Fouzia K, Kausar H, Gull S, **Sarwar MT**, Shahid I, Hassan S. Serine 204 phosphorylation and O-β-GlcNAC interplay of IGFBP-6 as therapeutic indicator to regulate IGF-II functions in viral mediated hepatocellular carcinoma. Virol J. 2011 May 8;8:208. doi: 10.1186/1743-422X-8-208. PMID: 21548981; PMCID: PMC3108323.
IF: 4.7 (JCR 2022/23).

30- Ahmad W, Shabbiri K, Ijaz B, Asad S, **Sarwar MT**, Gull S, Kausar H, Fouzia K, Shahid I, Hassan S. Claudin-1 required for HCV virus entry has high potential for phosphorylation and O-glycosylation. Virol J. 2011 May 15;8:229. doi: 10.1186/1743-422X-8-229. PMID: 21569618; PMCID: PMC3115886.
IF: 4.7 (JCR 2022/23).

31- Ahmad W, Ijaz B, Javed FT, Kausar H, **Sarwar MT**, Gull S, Asad S, Shahid I, Hassan S. HCV genotype-specific correlation with serum markers: higher predictability for genotype 4a. Virol J. 2011 Jun 10;8:293. doi: 10.1186/1743-422X-8-293. PMID: 21663629; PMCID: PMC3123289.
IF: 4.7 (JCR 2022/23).

32- Khan F, Shams S, Qureshi ID, Israr M, Khan H, **Sarwar MT**, Ilyas M. Hepatitis B virus infection among different sex and age groups in Pakistani Punjab. Virol J. 2011 May 13;8:225. doi: 10.1186/1743-422X-8-225. PMID: 21569532; PMCID: PMC3118204.
IF: 4.7 (JCR 2022/23).

33- Ilyas M, Asad S, Ali L, Shah M, Badar S, **Sarwar MT**, Sumrin A. A situational analysis of HIV and AIDS in Pakistan. Virol J. 2011 Apr 25;8:191. doi: 10.1186/1743-422X-8-191. PMID: 21518454; PMCID: PMC3107810.
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34- Ali Ashfaq U, Ansar M, **Sarwar MT**, Javed T, Rehman S, Riazuddin S. Post-transcriptional inhibition of hepatitis C virus replication through small interference RNA. Virol J. 2011 Mar 10;8:112. doi: 10.1186/1743-422X-8-112. PMID: 21388559; PMCID: PMC3086529.
IF: 4.7 (JCR 2022/23).

References

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