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Section of Molecular Pathology

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SUMMARY:

Publication	84
Book Chapters	XXX
CONTRIBUTIONS TO REPORTS, GUIDELINES AND POLICY DOCUMENTS:	XXX

PUBLICATION:

Year 2021

1. Discrepancy between PCR based SARS-CoV-2 tests suggests the need to re-evaluate diagnostic assays. Mushtaq Z, Shakoor S, Kanji A, Shaheen N, Nasir A, Ansar Z, Ahmed I, Mahmood SF, Hasan R, **Hasan Z**. DOI: 10.21203/rs.3.rs-551208/v1. <https://doi.org/10.1186/s13104-021-05722-5>.
2. Comparison of clinical characteristics and outcomes between COVID-19 pneumonia and H1N1 influenza. Nasir N, Khanum I, Habib K, Ahmed R, Hussain M, **Hasan Z**, Irfan M. Advance in respiratory medicine. DOI: 10.5603/ARM.a2021.0049. Adv Respir Med. 2021;89(3):254-261. <https://doi.org/10.5603/ARM.a2021.0049>.
3. Increasing IgG antibodies to SARS-CoV-2 in asymptomatic blood donors through the second COVID-19 wave in Karachi associated with exposure and immunity in the population. Hasan M, Moiz B, Qiaser S, Ghous Z, Hussain A, Masood KI, Ali N, Simas JP, Veldhoen M, Alves P, Abidi SH, Ghias K, Khan E and **Hasan Z**. DOI: <https://doi.org/10.21203/rs.3.rs-941908/v1>.
4. A rapid real-time polymerase chain reaction-based live virus microneutralization assay for detection of neutralizing antibodies against SARS-CoV-2 in blood/serum. Abidi SH, Imtiaz K, Kanji A, Qaiser S, Khan E, Iqbal K, Veldhoen M, Ghias K, Simas JP and **Hasan Z**. PloS one. 2021;16(12), e0259551. <https://doi.org/10.1371/journal.pone.0259551>. <https://pubmed.ncbi.nlm.nih.gov/34890401/>.
5. Upregulated type I interferon responses in asymptomatic COVID-19 infection are associated with improved clinical outcome. Masood KI, Yameen M, Ashraf J, Shahid S, Mahmood S F, Nasir A, Nasir N, Jamil B, Ghanchi NK, Khanum I, Razzak SA, Kanji A, Hussain R, Rottenberg EM and **Hasan Z**. Scientific reports. 2021; 11(1), 22958. <https://doi.org/10.1038/s41598-021-02489-4>.
6. Importance of next-generation diagnostics in control of tuberculosis in LMICs. **Hasan Z**, Shakoor S and Hasan R. EBioMedicine. 2021; 74, 103753. <https://doi.org/10.1016/j.ebiom.2021.103753>, <https://pubmed.ncbi.nlm.nih.gov/34916164/>.

7. Latent M. tuberculosis infection is associated with increased inflammatory cytokine and decreased suppressor of cytokine signaling (SOCS)-3 in the diabetic host. Masood KI, Irfan M, Masood Q, Yameen M, Jamil B, Ram N, Rao S, Rottenberg M and **Hasan Z**. Scandinavian journal of immunology, e13134. 2021 Dec 24;e13134. Advance online publication. <https://doi.org/10.1111/sji.13134>.<https://pubmed.ncbi.nlm.nih.gov/34951048/>.
8. The 2021 WHO catalogue of Mycobacterium tuberculosis complex mutations associated with drug resistance: A genotypic analysis. Walker TM, **Hasan Z**, et al. The Lancet Microbe. March 8, 2022; S2666-5247(21)00301-3. <https://www.thelancet.com/action/showPdf?pii=S2666-5247%2821%2900301-3>.
9. Lipid A-Ara4N as an alternate pathway for (colistin) resistance in Klebsiella pneumonia isolates in Pakistan. Masood KI, Umar S, **Hasan Z**, Farooqi J, Razzak SA, Jabeen N, Rao J, Shakoor S and Hasan R. BMC research notes. 2021;14(1), 449. <https://doi.org/10.1186/s13104-021-05867-3>, <https://pubmed.ncbi.nlm.nih.gov/34906210/>.
10. Higher entropy observed in SARS-CoV-2 genomes from the first COVID-19 wave in Pakistan. Ghanchi NK, Nasir A, Masood KI, Abidi SH, Mahmood SF., Kanji A, Razzak S, Khan W, Shahid S, Yameen M, Raza A, Ashraf J, Ansar Z, Dharejo MB, Islam N, **Hasan Z** and Hasan R. PloS one. 2021;16(8), e0256451. <https://doi.org/10.1371/journal.pone.0256451>. <https://pubmed.ncbi.nlm.nih.gov/34464419/>.

Year 2020

11. Clinical characteristics and outcomes of patients with H1N1 influenza pneumonia admitted at a tertiary care hospital in Karachi, Pakistan. Hussain M, Nasir N, Irfan M, **Hasan Z**. Pneumonia (Nathan). 2020 Jul 5;12: 5. doi: 10.1186/s41479-020-00070-7. eCollection 2020. <https://pubmed.ncbi.nlm.nih.gov/32637295/>.

Year 2019

12. Efflux pump as alternate mechanism for drug resistance in Mycobacterium tuberculosis. Kanji A, Hasan R and **Hasan Z**. The Indian journal of tuberculosis, 66(1), 20–25. <http://www.journals.elsevier.com/Indian-journal-of-tuberculosis/>. <https://doi.org/10.1016/j.ijtb.2018.07.008>.
13. Raised levels of IFN-gamma and IL-13 are associated with pre-diabetes amongst newly diagnosed patients with Tuberculosis. **Hasan Z**, Irfan M, Masood Q, Ahmed O, Moosajee US, Rao S and Salahuddin N. JPMA. The Journal of the Pakistan Medical Association. 2019; 69(4), 468–473. <https://pubmed.ncbi.nlm.nih.gov/31000846/>.
14. Impact of diabetes on mechanisms of immunity against Mycobacterium tuberculosis. Rao S, Rahim M, Iqbal K, Haroon F and **Hasan Z**. J Pak Med Assoc. 2019 Jan;69(1):94-98. <https://pubmed.ncbi.nlm.nih.gov/30623920/>.

15. MLPA Analyses Reveal a Spectrum of Dystrophin Gene Deletions/Duplications in Pakistani Patients Suspected of Having Duchenne/Becker Muscular Dystrophy: A Retrospective Study. Ansar Z, Nasir A, Moatter T, Khan S, Kirmani S, Ibrahim S, Imam K, Ather A, Samreen A, **Hasan Z**. *Genet Test Mol Biomarkers*. 2019 Jul;23(7): 468-472. doi: 10.1089/gtmb.2018.0262. <https://pubmed.ncbi.nlm.nih.gov/31157985/>.

Year 2018

16. Late diagnosis of human immunodeficiency virus infections in high-risk groups in Karachi, Pakistan. **Hasan Z**, Shah S, Hasan R, Rao S, Ahmed M, Stone M, Busch M. *Int J STD AIDS*. 2018 Dec;29(14): 1400-1406. doi:10.1177/0956462418785264. Epub 2018 Aug 13. <https://pubmed.ncbi.nlm.nih.gov/30103664/>.
17. Role of TNF α , IL-6 and CXCL10 in Dengue disease severity. Masood KI, Jamil B, Rahim M, Islam M, Farhan M and **Hasan Z**. *Iran J Microbiol*. 2018 Jun;10(3):202-207. <https://pubmed.ncbi.nlm.nih.gov/30112159/>.
18. Prenatal Diagnosis of Dystrophin Gene Mutations using Multiplex Ligation Dependent Probe Amplification (MLPA) for Duchene Muscular Dystrophy. Nasir A, Ansar Z, Munim S, Imam K and **Hasan Z**. 2018;5(4): ISSN: 2574-1241. DOI: 10.26717/BJSTR.2018.12.002251 Zahra Hasan. *Biomed J Sci & Tech Res*. <https://biomedres.us/pdfs/BJSTR.MS.ID.002251.pdf>.
19. Genetic sequencing for surveillance of drug resistance in tuberculosis in highly endemic countries: a multi-country population-based surveillance study. Zignol M, Dadu A, Dreyer A, Driesen M, Gilpin C, Hasan R, **Hasan Z** et al., *Lancet Infect Dis*. 2018 Jun;18(6):675-683. doi: 10.1016/S1473-3099(18)30073-2. Epub 2018 Mar 21. <https://pubmed.ncbi.nlm.nih.gov/29574065/>.
20. Genome-wide analysis of multi- and extensively drug-resistant Mycobacterium tuberculosis. Coll F, Phelan J, Cawthorne GAH, Nair MB, Hasan R, **Hasan Z**, Hibberd ML, Joloba M, López ECJ, Matsumoto T, Miranda A et al., 2018 Feb;50(2):307-316. doi: 10.1038/s41588-017-0029-0. Epub 2018 Jan 22. <https://pubmed.ncbi.nlm.nih.gov/29358649/>.
21. Methylation in Mycobacterium tuberculosis is lineage specific with associated mutations present globally. Phelan J, Sessions PFD, Tientcheu L, Perdigao J, Machado D, Hasan R, **Hasan Z**, Bergval IL, Anthony R, McNerney R, Antonio M, Portugal I, Viveiros M, Campino S, Hibberd ML, Clark TG. *Sci Rep*. 2018 Jan 9;8(1):160. doi: 10.1038/s41598-017-18188-y. <https://pubmed.ncbi.nlm.nih.gov/29317751/>.
22. Emergence of an Extensively Drug-Resistant Salmonella enterica Serovar Typhi Clone Harboring a Promiscuous Plasmid Encoding Resistance to Fluoroquinolones and Third Generation Cephalosporins. Klemm EJ, Shakoor S, Page AJ, Qamar FN, Judge K, Saeed DK, Wong VK, Dallman TJ, Nair S, Baker S, Shaheen G, Qureshi S, Yousafzai MT, Saleem MK, **Hasan Z**, Dougan G and Hasan R. *mBio*. 2018 Feb 20;9(1): e105-18. Doi: 10.1128/mBio.00105-18. <https://pubmed.ncbi.nlm.nih.gov/29463654/>.

Year 2017

23. Evaluation of Xpert MTB/RIF testing for rapid diagnosis of childhood pulmonary tuberculosis in children by Xpert MTB/RIF testing of stool samples in a low resource setting. **Hasan Z**, Shakoor S, Arif F, Mehnaz A, Akber A, Haider M, Kanji A, Hasan R. BMC Res Notes. 2017 Sep 8;10(1):473. Doi: 10.1186/s13104-017-2806-3. <https://pubmed.ncbi.nlm.nih.gov/28886729/>.
24. Increasing usage of rapid diagnostics for Dengue virus detection in Pakistan. **Hasan Z**, Razzak S, Farhan M, Rahim M, Islam N, Samreen A, Khan E. J Pak Med Assoc. 2017 Apr;67(4):548-551. <https://pubmed.ncbi.nlm.nih.gov/28420913/>.
25. Case Series of Naegleria fowleri Primary Amoebic Meningoencephalitis from Karachi, Pakistan. Ghanchi NK, Jamil B, Khan E, Ansar Z, Samreen A, Zafar A, **Hasan Z**. Am J Trop Med Hyg. 2017 Nov;97(5):1600-1602. Doi: 10.4269/ajtmh.17-0110. Epub 2017 Oct 10. <https://pubmed.ncbi.nlm.nih.gov/29016297/>.

Year 2016

26. Suppressor of cytokine signaling-1 and chemokine (C-X-C Motif) receptor 3 expressions are associated with caseous necrosis in granulomas from patients with tuberculous lymphadenitis. Masood KI, Pervez S, Rottenberg ME, Umar B, **Hasan Z**. J Microbiol Immunol Infect. 2016 Dec;49(6):984-987. doi: 10.1016/j.jmii.2015.08.018. Epub 2015 Sep 10. <https://pubmed.ncbi.nlm.nih.gov/26455487/>.
27. Increased expression of efflux pump genes in extensively drug-resistant isolates of Mycobacterium tuberculosis. Kanji A, Hasan R, Zhang Y, Shi W, Imtiaz K, Iqbal K, Shafiq S, **Hasan Z**. Int J Mycobacterial. 2016 Dec;5 Suppl 1: S150. doi: 10.1016/j.ijmyco.2016.09.067. Epub 2016 Nov 25. <https://pubmed.ncbi.nlm.nih.gov/28043519/>.
28. Effective testing for pulmonary tuberculosis using Xpert MTB/RIF assay for stool specimens in immunocompetent Pakistani children. **Hasan Z**, Arif F, Shakoor S, Mehnaz A, Akber A, Kanji A, Ashraf M, Hasan R. Int J Mycobacterial. 2016 Dec;5 Suppl 1: S8-S9. doi: 10.1016/j.ijmyco.2016.09.068. Epub 2016 Nov 11. <https://pubmed.ncbi.nlm.nih.gov/28043630/>.
29. Increased Mycobacterium tuberculosis antigen-induced gene expression of interferon-gamma, tumor necrosis factor alpha and interleukin-6 in patients with diabetes. Masood KI, Irfan M, Masood Q, Jamil B, Rao S, Rahim M and **Hasan Z**. Int J Mycobacterial. 2016 Dec;5 (1): S246. doi: 10.1016/j.ijmyco.2016.09.001. Epub 2016 Oct 21. https://www.ijmyco.org/citation.asp?issn=2212-5531;year=2016;volume=5;issue=5;spage=246;epage=246;aui=IntJMyco_bacteriol_2016_5_5_246_200455.

30. Assessment of diabetes among tuberculosis patients presenting at a tertiary care facility in Pakistan. Irfan M, Salahuddin S, Masood Q, Ahmed O, Moosajee US, **Hasan Z**. *Int J Mycobacterial*. 2016 Dec;5 Suppl 1: S248.doi: 10.1016/j.ijmyco.2016.09.072. Epub 2016 Nov 12. <https://pubmed.ncbi.nlm.nih.gov/28043586/>.
31. Alternate efflux pump mechanism may contribute to drug resistance in extensively drug-resistant isolates of *Mycobacterium tuberculosis*. Kanji A, Hasan R, Zaver A, Ali A, Kahkashan , Ashraf M, Clark TG, McNerney R, Shafiq S and **Hasan Z**. *Int J Mycobacterial*. 2016 Dec;5 Suppl 1: S97-S98. Doi: 10.1016/j.ijmyco.2016.09.064. Epub 2016 Nov 22. <https://pubmed.ncbi.nlm.nih.gov/28043640/>.
32. Effect of steroids on inflammatory markers and clinical parameters in congenital open-heart surgery: a randomized controlled trial. Amanullah MM, Hamid H, Hanif HM , Muzaffar M, Siddiqui MT, Adhi F, Ahmad K, Khan S, **Hasan Z**, *Cardiol Young*. 2016 Mar;26(3): 506-15.doi: 10.1017/S1047951115000566. Epub 2015 Apr 28. <https://pubmed.ncbi.nlm.nih.gov/25917060/>.
33. Fast Dissemination of New HIV-1 CRF02_AG Recombinants in Pakistan. Chen Y, Hora B, DeMarco T, Shah SA, Ahmed M, Sanchez AM, Su C, Carter M, Stone M, Hasan R, **Hasan Z**, Busch MP, Denny TN, Gao F, *PLoS One*. 2016 Dec 14;11(12): e167839. Doi: 10.1371/journal.pone.0167839. eCollection 2016. <https://pubmed.ncbi.nlm.nih.gov/27973597/>.
34. Population-based resistance of *Mycobacterium tuberculosis* isolates to pyrazinamide and fluoroquinolones: results from a multicounty surveillance project. Zignol M, Dean AS, Alikhanova N , Andres S, Cabibbe AM , Cirillo DM, Dadu A, Dreyer A, Driesen M, Gilpin C, Hasan R, **Hasan Z** et al., *Lancet Infect Dis*. 2016 Oct;16(10):1185-1192. Doi: 10.1016/S1473-3099(16)30190-6. Epub 2016 Jul 7. [https://doi.org/10.1016/S1473-3099\(16\)30190-6](https://doi.org/10.1016/S1473-3099(16)30190-6).

Year 2015

35. MAD 20 alleles of merozoite surface protein-1 (msp-1) are associated with severe *Plasmodium falciparum* malaria in Pakistan. Ghanchi NK, **Hasan Z**, Islam M, Beg MA. *J Microbiol Immunol Infect*. 2015 Apr;48(2):213-8. Doi: 10.1016/j.jmii.2014.01.004. Epub 2014 Mar 27. <https://pubmed.ncbi.nlm.nih.gov/24681005/>.
36. Characterization of genomic variations in SNPs of PE_PGRS genes reveals deletions and insertions in extensively drug resistant (XDR) *M. tuberculosis* strains from Pakistan. Kanji A, **Hasan Z**, Ali A, McNerney R, Mallard K, Coll F, Cawthorne GH, Nair M, Clark TG, Zaver A, Jafri S and Hasan R. *Int J Mycobacterial*. 2015 Mar;4(1):73-9. Doi: 10.1016/j.ijmyco.2014.11.049. Epub 2015 Jan 21. <https://pubmed.ncbi.nlm.nih.gov/26655202/>.

37. Whole genome sequencing based characterization of extensively drug-resistant *Mycobacterium tuberculosis* isolates from Pakistan. Ali A, **Hasan Z**, McNerney R, Mallard K, Cawthorne GH, Coll F, Nair M, Pain A, Clark TG, Hasan R. *PLoS One*. 2015 Feb 26;10(2): e0117771. Doi: 10.1371/journal.pone.0117771. eCollection 2015. <https://pubmed.ncbi.nlm.nih.gov/25719196/>.
38. Consensus report: Preventive measures for Crimean-Congo Hemorrhagic Fever during Eid-al-Adha festival. Leblebicioglu H, Sunbul M, Memish ZA, Al-Tawfiq JA, Bodur H, Ozkul A, Gucukoglu A, Chinikar S, **Hasan Z**. *Int J Infect Dis*. 2015 Sep;38:9-15. Doi: 10.1016/j.ijid.2015.06.029. Epub 2015 Jul 14. <https://pubmed.ncbi.nlm.nih.gov/26183413/>.

Year 2014

39. *Mycobacterium tuberculosis* Central Asian Strain (CAS) lineage strains in Pakistan reveal lower diversity of MIRU loci than other strains. Ali A, **Hasan Z**, Jafri S, Inayat R, Hasan R. *Int J Mycobacterial*. 2014 Jun;3(2):108-16. Doi: 10.1016/j.ijmyco.2014.03.002. Epub 2014 May 10. PMID: 26786332. <https://pubmed.ncbi.nlm.nih.gov/26786332/>.
40. Short report: Diagnostic testing for hemorrhagic fevers in Pakistan: 2007-2013. **Hasan Z**, Atkinson B, Jamil B, Samreen A, Altaf L and Hewson R. *Am J Trop Med Hyg*. 2014 Dec;91(6):1243-6. Doi: 10.4269/ajtmh.14-0383. Epub 2014 Oct 13. <https://pubmed.ncbi.nlm.nih.gov/25311694/>.
41. Differential Early Secreted Antigen Target (ESAT) 6 kDa-induced IFN- γ and SOCS1 expression distinguishes latent and active tuberculosis. Masood KI, Hussain R, Rao N, Rottenberg ME, Salahuddin N, Irfan M, **Hasan Z**. *J Infect Dev Ctries*. 2014 Jan 15;8(1):59-66. Doi: 10.3855/jidc.3412. <https://pubmed.ncbi.nlm.nih.gov/24423713/>.
42. Short report: Diagnostic testing for hemorrhagic fevers in Pakistan: 2007-2013. **Hasan Z**, Atkinson B, Jamil B, Samreen A, Altaf L, Hewson R. *Am J Trop Med Hyg*. 2014 Dec;91(6):1243-6. Doi: 10.4269/ajtmh.14-0383. Epub 2014 Oct 13. <https://pubmed.ncbi.nlm.nih.gov/25311694/>.
43. Change in serum CXCL10 levels during anti-tuberculosis treatment depends on vitamin D status [Short Communication]. **Hasan Z**, Salahuddin N, Rao N, Aqeel M, Mahmood F, Ali F, Ashraf M, Rahman F, Mahmood S, Islam M, Dildar B, Anwer T, Oighor F, Sharif N, Ullah AR. *Int J Tuberc Lung Dis*. 2014 Apr;18(4):466-9. Doi: 10.5588/ijtld.13.0460. <https://pubmed.ncbi.nlm.nih.gov/24670704/>.

Year 2013

44. Measurement of ESAT6-induced IFN γ responses adjunct with CXCL9 increases the rate of diagnosis of active tuberculosis in an endemic region. **Hasan Z**, Nisar Rao, Naseem Salahuddin, Mussarat Ashraf, Muniba Islam and Bushra Jamil. *Int J*

Mycobacterial. 2013 Sep;2(3): 135-40.doi: 10.1016/j.ijmyco.2013.05.002. Epub 2013 Jun 26. <https://pubmed.ncbi.nlm.nih.gov/26785981/>.

45. Vitamin D accelerates clinical recovery from tuberculosis: results of the SUCCINCT Study [Supplementary Cholecalciferol in recovery from tuberculosis]. A randomized, placebo-controlled, clinical trial of vitamin D supplementation in patients with pulmonary tuberculosis. Salahuddin N, Ali F, **Hasan Z**, Rao N, Aqeel M and Mahmood F. BMC infectious diseases. 2013;13, 22. <https://doi.org/10.1186/1471-2334-13-22>. <https://pubmed.ncbi.nlm.nih.gov/23331510/>.
46. Expression of M. tuberculosis-induced suppressor of cytokine signaling (SOCS) 1, SOCS3, FoxP3 and secretion of IL-6 associates with differing clinical severity of tuberculosis. Masood KI, Rottenberg ME, Salahuddin N, Irfan M, Rao N, Carow B, Islam M, Hussain R, **Hasan Z**. BMC Infect Dis. 2013 Jan 15;13:13. doi: 10.1186/1471-2334-13-13. <https://pubmed.ncbi.nlm.nih.gov/23320781/>.
47. Crimean-Congo hemorrhagic fever nosocomial infection in a immunosuppressed patient, Pakistan: case report and virological investigation. **Hasan Z**, Mahmood F, Jamil B, Atkinson B, Mohammed M, Samreen A, Altaf L, Moatter T, Roger Hewson. J Med Virol. 2013 Mar;85(3):501-4. Doi: 10.1002/jmv.23473. Epub 2012 Nov 21. <https://pubmed.ncbi.nlm.nih.gov/23172105/>.

Year 2012

48. SOCS1 gene expression is increased in severe pulmonary tuberculosis. Masood KI, Rottenberg ME, Carow B, Rao N, Ashraf M, Hussain R and **Hasan Z**. Scand J Immunol. 2012 Oct;76(4): 398-404.doi: 10.1111/j.1365-3083.2012.02731. x. <https://pubmed.ncbi.nlm.nih.gov/22670716/>.
49. Line probe assay for detection of rifampicin and isoniazid resistant tuberculosis in Pakistan. Farooqi JQ, Khan E, Alam SMZ, Ali A, **Hasan Z**, Hasan R. J Pak Med Assoc. 2012 Aug;62(8):767-72. <https://pubmed.ncbi.nlm.nih.gov/23862246/>.
50. Mycobacterium tuberculosis Sonicate-Induced IFN γ , CXCL10 and IL10 can Differentiate Severity in Tuberculosis. **Hasan Z**, Rao N, Salahuddin N, Islam M, Ashraf M, Rottenberg ME and Hussain R. Scand J Immunol. 2012 Feb;75(2):220-6. Doi: 10.1111/j.1365-3083.2011.02642. x., <https://pubmed.ncbi.nlm.nih.gov/21958213/>.
51. Characterizing Mycobacterium tuberculosis isolates from Karachi, Pakistan: drug resistance and genotypes. Ayaz A, **Hasan Z**, Jafri S, Inayat R, Mangi R, Channa AA, Malik FR, Ali A, Rafiq Y and Hasan R. Int J Infect Dis. 2012 Apr;16(4):e303-9. Doi: 10.1016/j.ijid.2011.12.015. Epub 2012 Feb 23. <https://pubmed.ncbi.nlm.nih.gov/22365136/>.
52. BCG vaccination is associated with decreased severity of tuberculosis in Pakistan. **Hasan Z**, Irfan M, Khan JA, Jahangir SK, Haris M, Ashraf M, Salahuddin N, Jamil B, Nisar A

Rao. *Int J Mycobacterial*. 2012 Dec;1(4):201-6. Doi: 10.1016/j.ijmyco.2012.10.007. Epub 2012 Nov 15. <https://pubmed.ncbi.nlm.nih.gov/26785624/>.

53. Overcoming Drug-resistant Tuberculosis. Hasan R, **Hasan Z** and Tahseen S. *European Infectious Disease*, 2012;6(2):87–93.

YEAR 2011

54. Occurrence of RD149 and RD152 deletions in Mycobacterium tuberculosis strains from Pakistan. Kanji A, **Hasan Z**, Tanveer M, Laiq R and Hasan R. *J Infect Dev Ctries*. 2011 Mar 2;5(2):106-13. Doi: 10.3855/jidc.1112. <https://pubmed.ncbi.nlm.nih.gov/21389589/>.

55. CCL2/MCP-I genotype-phenotype relationship in latent tuberculosis infection. Hussain R, Ansari A, Talat N, **Hasan Z**, Dawood G. *PLoS One*. 2011;6(10): e25803. Doi: 10.1371/journal.pone.0025803. Epub 2011 Oct 4. <https://pubmed.ncbi.nlm.nih.gov/21991356/>.

56. Differential combination of cytokine and interferon- γ +874 T/A polymorphisms determines disease severity in pulmonary tuberculosis. Ansari A, **Hasan Z**, Dawood G, Hussain R. *PLoS One*. 2011;6(11): e27848.doi: 10.1371/journal.pone.0027848. Epub 2011 Nov 29. <https://pubmed.ncbi.nlm.nih.gov/22140472/>.

57. Characterization of mutations conferring extensive drug resistance to Mycobacterium tuberculosis isolates in Pakistan. Ali A, Hasan R, Jabeen K, Jabeen N, Qadeer E, **Hasan Z**. *Antimicrobe Agents Chemother*. 2011 Dec;55(12):5654-9. doi: 10.1128/AAC.05101-11. Epub 2011 Sep 12. <https://pubmed.ncbi.nlm.nih.gov/21911575/>.

58. Presence of RD149 deletions in M. tuberculosis Central Asian Strain 1 isolates affect growth and TNF α induction in THP-1 monocytes. Kanji A, **Hasan Z**, Tanveer M, Mahboob R, Jafri S and Hasan R. *PLoS One*. 2011;6(8): e24178. doi: 10.1371/journal.pone.0024178. Epub 2011 Aug 31. <https://pubmed.ncbi.nlm.nih.gov/21904612/>.

59. Fluoroquinolone resistance among Mycobacterium tuberculosis strains from Karachi, Pakistan: data from community-based field clinics. Rafiq Y, Jabeen K, Hasan R, Jafri S, Laiq R, Malik F, Mangi R, Channa A and **Hasan Z**. *Antimicrobe Agents Chemother*. 2011 Feb;55(2):929-30. doi: 10.1128/AAC.00931-10. Epub 2010 Dec 6.

60. Endogenously activated interleukin-4 differentiates disease progressors and non-progressors in tuberculosis susceptible families: a 2-year biomarkers follow-up study. Hussain R, Talat N, Ansari A, Shahid F, **Hasan Z**, Dawood G. *J Clin Immunol*. 2011 Oct;31(5):913-23. Doi: 10.1007/s10875-011-9566-y. Epub 2011 Jul 14. <https://pubmed.ncbi.nlm.nih.gov/21755390/>.

61. Prevalent genotypes of methicillin-resistant Staphylococcus aureus: report from Pakistan. Stone AM, Ibrahim S, Parveen Z, **Hasan Z**, Khan E, Hasan R and Wain J. Bamford K. *J Med Microbiol*. 2011 Jan;60(Pt 1):56-62. Doi: 10.1099/jmm.0.022707-0. Epub 2010 Sep 30. <https://pubmed.ncbi.nlm.nih.gov/20884770/>.

YEAR 2010

62. Extensively drug-resistant tuberculosis, Pakistan. Hasan R, Jabeen K, Ali A, Rafiq Y, Laiq R, Malik B, Tanveer M, Groenheit R, Ghebremichael S, Hoffner S and **Hasan Z**. *Emerge Infect Dis*. 2010 Sep;16(9):1473-5. Doi: 10.3201/eid1609.100280.
<https://pubmed.ncbi.nlm.nih.gov/20735937/>.

YEAR 2009

63. M. tuberculosis Central Asian Strain 1 MDR isolates have more mutations in rpoB and katG genes compared with other genotypes. Ali A, **Hasan Z**, Moatter T, Tanveer M and Hasan R. *Scand J Infect Dis*. 2009;41(1):37-44. Doi: 10.1080/00365540802570519.
<https://pubmed.ncbi.nlm.nih.gov/19012077/>.
64. Reduced TNF-alpha and IFN-gamma responses to Central Asian strain 1 and Beijing isolates of Mycobacterium tuberculosis in comparison with H37Rv strain. Tanveer M, **Hasan Z**, Kanji A, Hussain R, Hasan R. *Trans R Soc Trop Med Hyg*. 2009 Jun;103(6):581-7. Doi: 10.1016/j.trstmh.2009.03.014.
<https://pubmed.ncbi.nlm.nih.gov/19375139/>.
65. Prevalence of ST26 among untreated smear-positive tuberculosis patients from Karachi indicating ongoing transmission. Shakoor S, Tanveer M, Rafiq Y, **Hasan Z**, Javed A, Rizvi N, Rehman N and Hasan R. *Scand J Infect Dis*. 2009;41(10):714-9.doi: 10.1080/00365540903147019. <https://pubmed.ncbi.nlm.nih.gov/19681020/>.
66. Cytokine gene polymorphisms across tuberculosis clinical spectrum in Pakistani patients. Ansari A, Talat N, Jamil B, **Hasan Z**, Razzaki T, Dawood G and Hussain R. *PLoS One*. 2009;4(3): e4778. doi: 10.1371/journal.pone.0004778. Epub 2009 Mar 10.
67. Differential live Mycobacterium tuberculosis-, M. bovis BCG-, recombinant ESAT6-, and culture filtrate protein 10-induced immunity in tuberculosis. **Hasan Z**, Jamil B, Ashraf M, Islam M, Dojki M, Irfan M, and Hussain R. *Clinical and vaccine immunology*. 2009;16(7), 991–998. <https://doi.org/10.1128/CVI.00091-09>.
<https://pubmed.ncbi.nlm.nih.gov/19439524/>.
68. ESAT6-induced IFN gamma and CXCL9 can differentiate severity of tuberculosis. **Hasan Z**, Jamil B, Ashraf M, Islam M, Yusuf MS, Khan JA, Hussain R. *PLoS One*. 2009;4(4): e5158.Doi: 10.1371/journal.pone.0005158. Epub 2009 Apr 2.
<https://pubmed.ncbi.nlm.nih.gov/19340290/>.
69. CCL2 responses to Mycobacterium tuberculosis are associated with disease severity in tuberculosis. **Hasan Z**, Cliff JM, Dockrell HM, Bushra Jamil, Muhammad Irfan, Mussarat Ashraf, Rabia Hussain. *PLoS One*. 2009 Dec 29;4(12): e8459. doi: 10.1371/journal.pone.0008459. <https://pubmed.ncbi.nlm.nih.gov/20041183/>.

70. Relationship between circulating levels of IFN-gamma, IL-10, CXCL9 and CCL2 in pulmonary and extrapulmonary tuberculosis is dependent on disease severity. **Z Hasan**, B Jamil, J Khan, R Ali, M A Khan, N Nasir, M S Yusuf, S Jamil, M Irfan, R Hussain. *Scand J Immunol.* 2009 Mar;69(3): 259-67.doi: 10.1111/j.1365-3083.2008.02217. x., <https://pubmed.ncbi.nlm.nih.gov/19281538/>.

YEAR 2008

71. Genotyping and drug resistance patterns of *M. tuberculosis* strains in Pakistan. Tanveer M, Hasan Z, Siddiqui AR, Ali A, Kanji A, Ghebremichael S and Hasan R. *BMC Infect Dis.* 2008 Dec 24;8:171.doi: 10.1186/1471-2334-8-171. <https://pubmed.ncbi.nlm.nih.gov/19108722/>.

YEAR 2007

72. Characterization of *Mycobacterium tuberculosis* Central Asian Strain 1 using mycobacterial interspersed repetitive unit genotyping. Ali A, Hasan Z, Tanveer M, Siddiqui AR, Ghebremichael S, Kallenius G and Hasan R. *BMC Microbiol.* 2007 Aug 9;7: 76.doi: 10.1186/1471-2180-7-76. <https://pubmed.ncbi.nlm.nih.gov/17686185/>.
73. Interferon gamma/IL10 ratio defines the disease severity in pulmonary and extra pulmonary tuberculosis. Jamil B, Shahid F, Hasan Z, Nasir N, Razzaki T, Dawood G and Hussain R. *Tuberculosis (Edinburgh, Scotland).* 2007;87(4), 279–287. <https://doi.org/10.1016/j.tube.2007.03.004>. Epub 2007 May 29. <https://pubmed.ncbi.nlm.nih.gov/17532265/>.

YEAR 2006

74. Spoligotyping of *Mycobacterium tuberculosis* isolates from Pakistan reveals predominance of Central Asian Strain 1 and Beijing isolates. Hasan Z, Tanveer M, Kanji A, Hasan Q, Ghebremichael S, Rumina Hasan. *J Clin Microbiol.* 2006 May;44(5): 1763-8.doi: 10.1128/JCM.44.5.1763-1768.2006. <https://pubmed.ncbi.nlm.nih.gov/16672404/>.
75. *M. leprae* inhibits apoptosis in THP-1 cells by downregulation of bad and bk and upregulation of mcl-1 gene expression. **Hasan Z**, Ashraf M, Tayyebi A, Hussain R. *BMC Microbiol.* 2006 Sep 18; 6:78. Doi: 10.1186/1471-2180-6-78. <https://pubmed.ncbi.nlm.nih.gov/16978419/>.
76. Elevated serum CCL2 concomitant with a reduced mycobacterium-induced response leads to disease dissemination in leprosy. **Hasan Z**, Jamil B, Zaidi I, Zafar S, Khan AA, and Hussain R. *Scandinavian journal of immunology.* 2006; 63(3), 241–247. <https://doi.org/10.1111/j.1365-3083.2006.01733.x>, <https://pubmed.ncbi.nlm.nih.gov/16499578/>.

YEAR 2005

77. Elevated ex vivo monocyte chemotactic protein-1 (CCL2) in pulmonary as compared with extra-pulmonary tuberculosis. **Hasan Z**, Zaidi I, Jamil B, Khan MA, Kanji A, and Hussain R. BMC immunology. 2005;6, 14. <https://doi.org/10.1186/1471-2172-6-14>.
<https://pubmed.ncbi.nlm.nih.gov/16001981/>.

YEAR 2004

78. IgG1 antimycobacterial antibodies can reverse the inhibitory effect of pentoxifylline on tumor necrosis factor alpha (TNF-alpha) secreted by mycobacterial antigen-stimulated adherent cells. Thakurdas SM, **Hasan Z**, Hussain R. Clin Exp Immunol. 2004 May;136(2): 320-7.doi: 10.1111/j.1365-2249.2004.02459. x.
<https://pubmed.ncbi.nlm.nih.gov/15086397/>.
79. Leprosy patients with lepromatous disease have an up-regulated IL-8 response that is unlinked to TNF-alpha responses. **Hasan Z**, Mahmood A, Zafar S, Khan AA, Hussain R. Int J Lepr Other Mycobact Dis. 2004 Mar;72(1):35-44. doi: 10.1489/1544-581X (2004)072<0035: LPWLDH>2.0.CO;2. <https://pubmed.ncbi.nlm.nih.gov/15217317/>.

YEAR 2003

80. The effect of mycobacterial virulence and viability on MAP kinase signaling and TNF alpha production by human monocytes. **Hasan Z**, Shah BH, Mahmood A, Young DB and Hussain R. Tuberculosis (Edinb). 2003;83(5):299-309. Doi: 10.1016/s1472-9792(03)00003-9. <https://pubmed.ncbi.nlm.nih.gov/12972343/>.

YEAR 1999

81. Assessment of immunity to mycobacterial infection with luciferase reporter constructs. Gares VMP, Gaora PO, **Hasan Z**, Brown IN and Young DB. Infect Immun. 1999 Sep;67(9):4586-93. Doi: 10.1128/IAI.67.9.4586-4593.1999.
<https://pubmed.ncbi.nlm.nih.gov/10456904/>.

YEAR 1998

82. Subcellular fractionation by organelle electrophoresis: separation of phagosomes containing heat-killed yeast particles. **Hasan Z** and Pieters J. Electrophoresis. 1998 Jun;19(7):1179-84. Doi: 10.1002/elps.1150190719.
<https://pubmed.ncbi.nlm.nih.gov/9662181/>.

YEAR 1997

83. Immune response profile in patients with active tuberculosis in a BCG vaccinated area. Hussain R, Toossi Z, **Hasan Z**, Jamil B, Dawood G, Ellner JJ. Southeast Asian J Trop Med Public Health. 1997 Dec;28(4):764-73. <https://pubmed.ncbi.nlm.nih.gov/9656400/>.

84. Solation and characterization of the mycobacterial phagosome: segregation from the endosomal/lysosomal pathway. **Hasan Z**, Schlax C, Kuhn L, Lefkovits I, Young D, Thole J, Pieters J. Mol Microbiol . 1997 May;24(3):545-53. Doi: 10.1046/j.1365-2958.1997.3591731. x., <https://pubmed.ncbi.nlm.nih.gov/9179848/>.