

# Curriculum Vitae

## Asima Tayyeb



### Personal Information

Address School of Biological Sciences, University of Punjab, Lahore, Pakistan.  
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### Research / Teaching Experience

Assistant Professor School of Biological Sciences, University of Punjab, Lahore, Pakistan.  
(September 2014– To date)

Assistant Professor Centre of Excellence in Molecular Biology, Lahore, Pakistan  
(April 2013-September 2014)

Postdoc Fellow George August University of Goettingen, Germany. (October 2012-March 2013)  
PhD Scholar George August University of Goettingen, Germany. (October 2008-October 2012)

### Research Projects

(As principal investigator) Comparison of Differentiation Potential of Bone Marrow Derived and Adipose Derived Mesenchymal Stem Cells towards Nephrogenic Lineage.

(As principal investigator)

- Investigation of the Hepatoprotective Role of Azoles and their Mechanism of Action in Liver Fibrosis.
- Investigation of the role of energy metabolism on differentiation potential of mesenchymal stem cells towards chondrocytes in aging rat model.

### Education

Ph.D Biology (Cell Biology) (George August University, Goettingen, Germany)  
M.Phil. Zoology (University of Agriculture, Faisalabad)  
M.Sc. Zoology (University of Agriculture, Faisalabad)  
B.Sc. Chemistry, Zoology, Botany (Punjab University Lahore, Pakistan)

**Ph.D Dissertation** Calreticulin in kidney function and disease: chronic low level of calreticulin impairs  $\text{Ca}^{2+}$  homeostasis leading to mitochondrial dysfunction and chronic renal injury.

## Publications

### Total Impact Factor: 49

1. Sadia Perveen, Hanfa Ashfaq, Saira Ambreen, Isbah Ashfaq, **Asima Tayyeb\***, Citrullus colocynthis regulate de novo lipid biosynthesis in human breast cancer cells, Journal of Cancer Research and Therapeutics, JCRT\_206\_20, Accepted. IF: 1.326
2. Sadia Perveen, Hanfa Ashfaq, Saira Ambreen, Isbah Ashfaq, **Asima Tayyeb\***, Citrullus colocynthis arrests cell cycle in human breast cancer cells through expression regulation of Cyclin-CDK Inhibitors, Cancer Management and Research, Accepted. IF: 2.886
3. Ambreen Kanwal, **Asima Tayyeb\***, Ecological Dynamics: An Inspiration for Triggering Epilepsy. J Biomed Res Environ Sci. 2020; 6: 092-102. DOI: 10.37871/jels1125.
4. Zuriat Jabbar, Ikram-ul-Haq, Hamid Mukhtar, **Asima Tayyeb**, Asma Manzoor, NGS to elucidate adaptive stress response and plantaricin genes among Lactobacillus plantarum strains, Future Microbiology 15 (5), 14 Apr 2020, <https://doi.org/10.2217/fmb-2019-0158>. IF: 2.907
5. Naveed Shahzad, Iqra Hussain, Usman Shah Gilani, **Asima Tayyeb**, Muhammad Amir Aslam, Muhammad Khurshid, Umair Hassan, Fareeda Tasneem, Muhammd Umer, and Naeem Rashid. "Merkel cell polyomavirus DNA sequences in the blood of healthy population of Pakistan." Future microbiology 14, (2019). IF: 2.907
6. Zakia Kanwal, **Asima Tayyeb**. Role of dietary probiotic Ecotec in growth enhancement, thyroid tuning, hematormorphology and resistance to pathogenic challenge in Labeo rohita juveniles.
7. Usman Akhtar, Mobasher Ahmed, **Asima Tayyeb**, Umara Shehzad, and Gibran Ali. "Hepatoprotective effect of ketoconazole in chronic liver injury model." Pakistan Journal of Pharmaceutical Sciences 32, 1033-1042, (2019). IF: 0.562
8. Asma Manzoor, and **Asima Tayyeb**. "Functional probiotic attributes and gene encoding plantaricin among variant Lactobacillus Plantarum strains." Microbial pathogenesis 131, 22-32, (2019). IF: 2.914
9. Kanwal, Zakia, Muhammad Akram Raza, Saira Riaz, Saher Manzoor, Asima Tayyeb, Imran Sajid, and Shahzad Naseem. "Synthesis and characterization of silver nanoparticle-decorated cobalt nanocomposites (Co@ AgNPs) and their density-dependent antibacterial activity." Royal Society Open Science 6, no. 5 (2019): 182135. IF:
10. Ameer Farooq, Ali Raza, **Asima Tayyeb**, Qadeer Ahmad, Rafiq Ahmad. Electrochemical and Cell Response of Surface Modified Ti6Al4V for Biomedical Applications. Journal of Bio- and Tribo-Corrosion 5, (2019), <https://doi.org/10.1007/s40735-019-0285-x>.
11. **Asima Tayyeb**, Zafar Abbas Shah, Insilico investigation of TNFSF10 signaling cascade in ovarian serous cystadenocarcinoma. Archives of Cancer Science and Therapy 3, (2019), 10.29328/journal.acst.1001005.
12. Maira Afzal, **Asima Tayyeb**, Uzma Qaisar, Commercial Applications of Plant Pigments. International Journal of Biotech Trends and Technology (IJBT) 9:3, (2019), 18-22.
13. Khalid, Rida, Qudsia Jaffar, **Asima Tayyeb**, and Uzma Qaisar. "Peganum harmala peptides (PhAMP) impede bacterial growth and biofilm formation in burn and surgical wound pathogens." Pakistan journal of pharmaceutical sciences 31, no. 6 (Supplementary (2018): 2597-2605. IF:0.562

14. Azam, Fareeha, Nadeem Sheikh, Gibran Ali, and **Asima Tayyeb**. "Fagonia indica Repairs Hepatic Damage through Expression Regulation of Toll-Like Receptors in a Liver Injury Model." *Journal of immunology research* 2018 (2018). **IF: 3.327**
15. Zafar Abbas Shah, **Asima Tayyeb**, Insilico Investigation of CYP1A1 Mediated Pathway Contribution in Liver Hepatocellular Carcinoma: A Drug Discovery Approach. *Annals of Stem Cells and Regenerative Medicine*, 2, 2018.
16. Mehwish Yousaf, **Asima Tayyeb**, Gibran Ali, Expression profiling of adhesion proteins during prenatal and postnatal liver development in rats, 10: 21-28, 2017.
17. Ali G, **Tayyeb A**. Exogenous Administration of Nitric Oxide Ameliorate CCl4 Induced Liver Injury through Inhibition of Hepatic Stellate Cells. *Sci J Biol*. 2017;1(1): 011-018.
18. **Asima Tayyeb**, Naveed Shahzad Gibran Ali, Differentiation of mesenchymal stem cells towards nephrogenic lineage and their enhanced resistance to H2O2 induced oxidative stress, *Iranian Journal of Kidney Diseases*. 2017, Vol 11, No 4 (2017). **IF: 1.033**
19. Usman Akhtar, Mobasher Ahmed, **Asima Tayyeb**, Gibran Ali, Comparative study of cytochrome p450 inhibitors on cultured mouse hepatocytes, *Pharmacologyonline*, 1:68-88 · April 2017.
20. Sana Javaid Awan, Maria Tayyab Baig, Faiza Yaqub, **Asima Tayyeb**, Gibran Ali, In vitro differentiated hepatic oval-like cells enhance hepatic regeneration in CCl4-induced hepatic injury, *Cell Biology International*, 40 (11), DOI: 10.1002/cbin.10699, 2016. **IF:2.571**
21. Naveed Shahzad, Bilal Aslam, Iqra Hussain, Muhammad Ijaz, Muhammad Hidayat Rasool, Fareeda Tasneem, Tamoor Hamid, **Asima Tayyeb** and Tanveer Hussain, Distribution and Phylogenetic Analysis of Bacterial Isolates from Urinary Tract Infection Patients of Pakistan, *Pakistan J. Zool.*, vol. 48(6), pp. 1925-1930, 2016. **IF:0.790**
22. Jung K1, Dihazi H, **Bibi A**, Dihazi GH, Beißbarth T., Adaption of the global test idea to proteomics data with missing values. *Bioinformatics*, 15;30(10):1424-30, 2014. **IF: 5.610**
23. Buchmaier, B., **Bibi A\***, Dihazi, G.H., Mueller, G.A., El Toweissy, M., Renal cells express different forms of vimentin, the independent expression regulation alteration of these forms is important in cell resistance to osmotic stress and apoptosis. *Plos One*, 11;8(7):e6830, 2013. **IF: 2.740**
24. Dihazi H., **Bibi A.**, Marwa Eltoweissy, Claudia A. Mueller, Abdul R. Asif, Gerhard A. Mueller, ERP57 secretion is important for extra cellular matrix accumulation and renal fibrosis progression and is an earlier sign of disease onset. *J Cell Sci*. 2013. **IF: 4.573**
25. Dihazi, G.H., **Bibi A.\***, Jahn, O., Nolte, J., Mueller, G.A.,v Engel, W., Dihazi, H., Impact of the antiproliferative agent ciclopirox olamine treatment on stem cells proteome, *World J Stem Cells*. 26;5(1):9-25, 2013. **IF: 3.231**
26. El Toweissy, M., Mueller, G.A., **Bibi A.**, Nguyen, P.V., Dihazi, G.H., Mueller, A.C. and Dihazi, H., Proteomics analysis identifies PARK7 as an important player for renal cell resistance and survival under oxidative stress, *Mol. BioSyst.*, 7(4):1277-88, 2011. **IF: 3.336**

27. Dihazi, H., Dihazi, G.H., Asif, A.R., **Bibi A.**, El Toweissy, M., Vasko, R. and Mueller, G.A., Proteomics characterization of cell model with renal fibrosis phenotype: Osmotic stress as fibrosis triggering factor, *J. Proteomic.*, 74:304-318, 2011. **IF: 3.509**
28. **Bibi A.**, Agarwal, N.K., Mueller, G.A. and Dihazi, H., Calreticulin is crucial for calcium homeostasis mediated adaptation and survival of thick ascending limb of Henle's loop cells under osmotic stress. *Int. J. Biochem. Cell. Biol.*, 2011. **IF: 4.240**

## Books /Book

### Chapters Published

1. Liver Cirrhosis - Update and Current Challenges, *Regenerative Medicine in Liver Cirrhosis: Promises and Pitfalls*, July 2017, INTECH Open.
2. Transcriptome Analysis and Genetic Engineering, *Applications of RNA-Seq and Omics Strategies - From Microorganisms to Human Health*, September 2017, INTECH Open.
3. Techniques of Chromosomal Studies, *Chromosome Structure and Aberrations*, Springer link, 307-330, February 2017.

### Work presented in Conferences/Published abstracts

1. Regulation of de novo Lipid Biosynthesis Pathway in Acquired Chemotherapeutic Drug Resistance of MCF-7 Breast Cancer cell Line. 18th Shaukat Khanum Cancer Symposium. 18th Shaukat Khanum Cancer Symposium, 1st-3rd November, 2019.
2. Establishment and characterization of drug resistant model of human breast cancer cell line, 18th Shaukat Khanum Cancer Symposium. 18th Shaukat Khanum Cancer Symposium, 1st-3rd November, 2019.
3. Invited Speaker in a Symposium on Stem Cells and Cancer Biology, 14th March, 2019, The University of Lahore.
4. Differentiation of mesenchymal stem cells towards nephrogenic lineage and their enhanced resistance to H<sub>2</sub>O<sub>2</sub> induced oxidative stress, International Symposium on Biomedical Materials, 14-16 December, 2016, Lahore, Pakistan.
5. Phylogenetic relationship among rural chicken populations of Pakistan by using microsatellite markers, International Conference on Domestic and Wild Animal Genomics, 21-22 November, 2016, Lahore, Pakistan.
6. Characterization of embryonic renal proteome: The role of heterochromatin-binding proteins in nephrogenesis, P 219, 4. Jahrestagung der Deutschen Gesellschaft für Nephrologie 6. - 9. October **2012**, Hamburg, Germany.
7. ERP57 secretion as an important step in the ECM accumulation and renal fibrosis Progression, P 220, Jahrestagung der Deutschen Gesellschaft für Nephrologie 6. - 9. October **2012**, Hamburg, Germany.
8. PARK7 and PRDX6 induced cytokines as important factors in renal cell transformation, P 252, Jahrestagung der Deutschen Gesellschaft für Nephrologie 6. - 9. October **2012**, Hamburg, Germany.
9. The role of Calreticulin deficiency, a calcium binding protein in the ER of derProgression renal glomerulosclerosis, P 253, Jahrestagung der Deutschen Gesellschaft für Nephrologie 6. - 9. October **2012**, Hamburg, Germany.

10. Expression and reorganization of vimentin play a vital role in osmotic stress resistance of renal cells, 3. Jahrestagung der Deutschen Gesellschaft für Nephrologie **2011**, DGfN Heft 03/2011, September 10-13, 2011, P273, Berlin, Germany.
11. Functional proteomics analyses identify PARK7 as an important player for renal cell resistance and survival under oxidative stress, 10th HUPO World Congress 2011, September 4-7, **2011**, Page 502, Geneva, Switzerland.
12. Proteomics characterization of cell model with renal fibrosis phenotype: Osmotic stress as fibrosis triggering factor. Deutsche Physiologische Gesellschaft Regensburg, March 26-29 **2011**, Regensburg, Acta Physiol. March 2011 Volume 201 Suppl. 682 page 144.
13. Proteomics analysis identifies PARK7 as an important player for renal cell resistance and survival under oxidative stress. Deutsche Physiologische Gesellschaft Regensburg, March 26-29 **2011**, Regensburg, Acta Physiol. March 2011 Volume 201 Suppl. 682 page 248.
14. Calreticulin (CALR) expression and calcium homeostasis regulation plays important role in the osmotic stress adaptation of thick ascending limb of Henle's loop (TALH) cells, Göttinger Transporttage 2010, October 16-17. **2010**, Goettingen, Germany.
15. Oxidative stress pathways in the pathogenesis of renal fibrosis: the role of the vasoactive compound angiotensin II (ANGII) and the platelet derived growth factor (PDGF), XLVII ERA-EDTA Congress–II DGfN Congress, June, 25–28, **2010**, Nephrol. Dial. Transpl. Vol.3 Supplement 3 iii314, Munich, Germany.
16. Role of calreticulin (CRT) by regulating calcium homeostasis in the osmotic stress adaption of thick ascending limb of Henle's loop (TALH) cells, XLVII ERA-EDTA Congress–II DGfN Congress, June, 25–28, **2010**, Nephrol. Dial. Transpl. Vol. 3 Supplement 3 iii315, Munich, Germany.
17. Nuclear translocation of ER calcium binding proteins under hyper osmotic stress in TALH cells. Kongress der Gesellschaft für Nephrologie, page 432 Nieren-und Hochdruck-ankheiten, 38/9 September **2009**, Goettingen, Germany

### **Technical skills/Certificates**

Common techniques used in Molecular and Cell Biology Lab– Animal handling, cell culture techniques, immunohistochemistry and RT-PCR.

Proteomics, 2D gel electrophoresis, mass spectrometry, western blot analysis, immunoprecipitation and proteomics related bioinformatics tools.

Introduction to laboratory animal science, February 21-25, **2011**, Central animal facility, University Medical center, Goettingen, Germany.

Certificate for MALDI imaging mass spectrometry, Eurokup Training School, October 12-14, **2010**, Helsinki, Finland.

Certificate for Laser capture microdissection coupled with mass spectrometry, Eurokup Training School, May 25-27, **2009**, Rotterdam, Netherlands.