

COVER LETTER

Dear Sir,

I am writing for the postdoctoral position and would like to continue my research career in your reputed laboratory. Presently, I am working as an Assistant Professor pursuing both academic and research work in Department of Biotechnology, Era's Lucknow Medical College & Hospital, Era University, Lucknow, India.

I have completed my Ph.D. degree under the supervision of Dr. Md Arshad (Associate Professor), Molecular Endocrinology Laboratory, Department of Zoology, University of Lucknow, Lucknow, India in 2016. My area of research interest is related to cancer biology and bone cell research.

I have rich experience of Bone and Cancer cell biology including bone marrow progenitor cells culture, primary osteoblasts, chondrocytes cells culture and different types of cancer cells culture and relevant cellular and molecular techniques. I carried out *in vitro* and *in vivo* studies using various cellular and molecular techniques such as ELISA techniques, Immunocytochemical, Histochemical, Flow cytometric analysis, DNA, RNA extraction and real-time PCR techniques, Protein blotting, and so on. I have self-sufficient, excellent communication, writing and data interpretation skills. I have the ability to work independently and independent scientific research investigations.

Please look at the CV and let me know if you need some more information about your research career and interest.

Regards,

Sahabjada, Ph.D.

Curriculum Vitae

Dr. Sahabjada

(Assistant Professor)

Department of Biotechnology,

Era's Lucknow Medical College & Hospital,

Era University, Lucknow-226003, India

Phone: +91-9452688313; 8317010035

Email: sahabjadabiotech04@gmail.com

Skype ID: sahabjada

Education

- **February 2011- January 2016:** PhD from Molecular Endocrinology Laboratory, Department of Zoology, University of Lucknow, Lucknow, India.
- **Supervisor:** Dr. Md Arshad, Assistant Professor, Molecular Endocrinology Laboratory, Department of Zoology, University of Lucknow, Lucknow, India.
- **Thesis title:** "Osteogenic Prospective of Indian Medicinal Plants: Cellular and Molecular Study"
- **2007:** Mater of Science (M.Sc.) in Biotechnology from Department of Biotechnology, Chhatrapati Shahu Ji Maharaj University, Kanpur, India.
- **2003:** B.Sc. in ZBC from Deen Dayal Upadhyay, Gorakhpur University, Gorakhpur, India.

Research and Professional Experience

- **Assistant Professor (Feb 2018 – Till date):** Tissue Culture Lab, Department of Biotechnology, Era's Lucknow Medical College & Hospital, Era University, Lucknow, India.
- **Post Doctoral Fellow (August, 2017–Jan, 2018):** Tissue Culture Lab, Department of Biochemistry, Era's Lucknow Medical College & Hospital, Era University, Lucknow, India.
- **Research Associate (February, 2016–December, 2016):** Indian Council of Medical Research (ICMR), New Delhi, India.

- **Senior Research Fellowship (December, 2013–January, 2016):** Indian Council of Medical Research (ICMR), New Delhi, India.
- **Project Fellow (April, 2010–March, 2013):** University Grant Commission (UGC), New Delhi, India.
- **Junior Research Fellow (August, 2009–March, 2010):** Indian Council of Medical Research (ICMR), New Delhi, India.
- **Project Assistant Level-II (June, 2008–June, 2009):** Council of Scientific Industrial Research (CSIR), New Delhi, India.
- **Qualified** UGC-NET, December- 2008- conducted by CSIR, New Delhi, India.
- **Qualified** Graduate Aptitude Test in Engineering (GATE)- 2007 and 2010, conducted by Indian Institute of Technology (IIT), India.

Research Summary

Present Research Work

Presently, I am working on anticancer activities of different herbal extracts and phytocomponents on various cancer cell lines to detect the different apoptotic pathways and signaling molecules involved in apoptosis cell death (*in-vitro* study). Moreover, my research work is also focused on the antitumor activity of the herbal extracts and compounds in tumor model of mice (*in-vivo* study).

Ph.D. work

The focal aim of my Ph.D. work was based on osteogenic prospective of Indian medicinal plants using different cellular and molecular parameters in primary rat calvaria osteoblasts and bone marrow progenitor cells. For this study, I examined phytochemical constituents of medicinal plants extract using GC-MS technique. I used different biochemical and cytochemical parameters including cell proliferation assay, alkaline phosphatase assay (ALP), collagenation, mineralization, ROS generation, nuclear apoptosis, caspase-3/7 activity and cell cycle progression in primary rat osteoblasts and human osteosarcoma MG63, SaOS2 cell lines. Moreover, I carried out molecular study of different osteogenic genes expression such as Runx2, osteocalcin and BMP-2 by real-time qPCR. I also studied on induction of osteoclasts from bone marrow progenitor cells (BMCs) of mice using TRAP stain and immunofluorescence stain of Cathepsin K expression. In addition, I isolated and cultured primary chondrocyte from cartilage

region of rib, femur and tibia of rat. I also learned *in vivo* study on modulation of bone turn-over in alloxan induced type I diabetic rat model and chondroprotective effect of selected medicinal plant extracts on collagenase induced osteoarthritic rat model. Blood glucose measurements, serum ALP, cholesterol, creatinine, glutamic oxaloacetate transaminase (GOT), glutamic pyruvate transaminase (GPT) and triacyl glycerides were measured. Histology of pancreas, uterus, ovary and microtomy of femur and tibia bones were also carried out.

Moreover, I also carried out anticancer activity of different phytochemicals, synthetic drugs and nanomaterials on different cancer cell lines. For this, I evaluated cell cytotoxicity assay, cellular apoptosis, ROS generation, mitochondrial membrane potential, cell cycle study by flow cytometry, DNA fragmentation, cytochrome-C release, western blot analysis of Bax, Bcl2, p53 and immunocytochemical analysis of caspase3/7 activities. I have self-sufficient, excellent communication, writing and data interpretation skills. I have the ability to work independently and independent scientific research investigations.

Technical Proficiency

- **Cell and tissue culture:** Isolation and culture calvaria osteoblasts and chondrocyte cells from rat model and induction of osteoclasts from bone marrow progenitor cells. Culture and preservation of different osteoblast and different cancer cell lines *viz.* SaOS2, MG63.
- **Animal handling:** Rats/Mice
- ***In vitro* studies:** Evaluation of cell proliferation, cell cycle study, mineralization assay, collagenation, alkaline phosphatase activity and anti-resorptive activity in bone cells. Anticancer activity including nuclear apoptosis, MMP reduction, DNA fragmentation, Annexin V/FITC, ROS generation and caspase 3 estimation of promising anticancer agents in different cancer cell lines (HepG2, MCF7, PC3, A549, HeLa, A431, HEK293, KB, etc.).
- **Molecular analysis:** Isolation and estimation of genomic DNA/RNA, cDNA synthesis, PCR amplification, Restriction digestion, carried out agarose and polyacrylamide gel electrophoresis, quantitative real-time PCR of expression analysis of bone cells specific genes and apoptotic markers of cancer cell lines. Estimation of pro-apoptotic and anti-apoptotic markers of cancer cells and immunoblot analysis of different protein markers in bone cells and cancer cells.
- ***In vivo* osteogenic/toxicity studies:** RBC lysis assay, LDH release assay, Blood glucose

measurements, serum ALP, cholesterol, creatinine, serum glutamic oxaloacetate transaminase (SGOT), serum glutamic pyruvate transaminase (SGPT) and triacyl glycerides. Histology of pancreas, uterus, ovary and microtomy of femur and tibia bones. Estimation of biochemical markers of bone turn over including serum osteocalcin, estradiol and progesterone. Estimation of antioxidant enzymes and bone mineral contents.

- **Histochemistry and Immunocytochemistry:** Histochemical and immunocytochemical localization of osteoclasts markers in decalcified bone tissues.
- **Microbial techniques:** Isolation and identification of antibiotic sensitive bacteria, maintenance of microbiological strains, plasmid isolation from microbial cells, cloning and transformation.
- **Proteomics:** Isolation and estimation of proteins, PAGE-SDS & Native.
- **Bioinformatics and computer skills:** Knowledge of computational and statistical analysis of biological systems by using softwares viz. SPSS-17, and GraphPad Prism 5, BLAST, Primer design using NCBI and other web based bioinformatics tools.

Publications

First author/corresponding authors/equal contribution research articles

1. **Siddiqui Sahabjada***, Ahmad R, Khan MA, Srivastava AN. Cytostatic and anti-tumor activity of Ajwa date against human hepatic carcinoma HepG2 cells: SREP-18-31479R1; **Scientific Reports**, 2018 (**Under Minor Revision**).
2. **Siddiqui Sahabjada**, Md Sultan Ahamad, Asif Jafri, Afzal M, Arshad M. Piperine triggers apoptosis of human oral squamous carcinoma through cell cycle arrest and mitochondrial oxidative stress. **Nutrition and Cancer** 2017; 20:1-9. **IF-2.24**, ISSN:0163-5581.
3. **Siddiqui Sahabjada**, Ahmad E, Gupta M, Rawat V, Shivnath N, Banerjee M, Khan MS, Arshad M. *Cissus quadrangularis* Linn exerts dose dependent biphasic effects: osteogenic and antiproliferative through modulating ROS, cell cycle and Runx2 gene expression in primary rat osteoblasts. **Cell proliferation** 2015; 48, 443-454. **IF-4.12**, ISSN:1365-2184
4. Kaleem S*, **Siddiqui Sahabjada***, Hussain A, Arshad M, Akhtar J, Rizvi A, Siddiqui HH. Eupalitin induces apoptosis in prostate carcinoma cells through ROS generation and increase of caspase-3 activity. **Cell Biology International** 2015; 40:196-203 **IF-1.93** ISSN:1065-6995 (***Equal contribution and Corresponding Author**)

5. **Siddiqui Sahabjada** and Arshad M. Osteogenic potential of *Punica granatum* through matrix mineralization, cell cycle progression and Runx2 gene expression in primary rat osteoblasts. *DARU Journal of Pharmaceutical Sciences* 2014; 22:72. **IF-1.64**, ISSN:2008-2231.
6. Ahamad MS*, **Siddiqui S***, Jafri A, Ahmad S, Afzal M, Arshad M. Induction of apoptosis and antiproliferative activity of naringenin in human epidermoid carcinoma cell through ROS generation and cell cycle arrest. *PLoS ONE*, 2014; 9(10): e110003. **IF-3.23**, ISSN:1932-6203 (***Equal contribution**).
7. Jigyasu AK, **Siddiqui S***, Lohani M, Khan IA, Arshad M. Chemically synthesized CdSe quantum dots inhibit growth of human lung carcinoma cells *via* ROS generation. *EXCLI Journal* 2016; 15:54-63. **IF-1.29**, ISSN:1611-2156. (***Corresponding author**).

Co-author research articles

1. Rais J, Jafri A, **Siddiqui Sahabjada**, Tripathi M, Arshad M. Phytochemicals in the treatment of ovarian cancer. *Frontiers in Bioscience* (Elite Ed) 2017; 9:67-75. **IF-2.48**, ISSN:1093-9946.
2. Ahmad U, Akhtar J, Singh SP, Ahmad FJ, **Sahabjada Siddiqui**. Silymarin nanoemulsion against human hepatocellular carcinoma: development and optimization. *Artificial Cells, Nanomedicine and Biotechnology* 2017; 14:1-11. **IF-5.02**, ISSN: 2169-1401.
3. Arshad M, **Siddiqui Sahabjada**, Ali D. *In vitro* anti-proliferative and apoptotic effects of ethanolic extract of *Cissus quadrangularis*. *Caryologia: International Journal of Cytology, Cytosystematics and Cytogenetics* 2016; 69:128-132. **IF-0.74**, ISSN:2165-5391.
4. Iram S, Khan S, Ansary AA, Arshad M, **Siddiqui Sahabjada**, Ahmad E, Khan RH, Khan MS. Biogenic Terbium Oxide Nanoparticles as the Vanguard against Osteosarcoma. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2016; 168:123-131. **IF- 2.65**, ISSN:1386-1425
5. Singh AK, Saxena G, **Sahabjada**, Arshad M. Synthesis, characterization and biological evaluation of ruthenium flavanol complexes against breast cancer. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*. 2017; 180:97-104. **IF- 2.65**, ISSN:1386-1425
6. Rahman MA, Akhtar J, **Sahabjada**, Arshad M. Evaluation of cytotoxic potential and apoptotic effect of a methanolic extract of *Bauhinia racemosa* Lam against a human cancer

- cell line, HeLa. *European Journal of Integrative Medicine* 2016; 8:513-518. **IF-0.84**, ISSN:1876-3820
7. Sheikh S, **Siddiqui Sahabjada**, Dhasmana A, Safia, Haque E, Kamil M, Lohani M, Arshad M, Mir SS. *Cissus quadrangularis* Linn stem ethanolic extract liberates reactive oxygen species (ROS) and induces mitochondria mediated apoptosis in KB cells. *Pharmacogony Magazine* 2015; 11:365-374. **IF-1.26**, ISSN:0976-4062.
 8. Mishra N, **Siddiqui Sahabjada**, Arshad M, Kumar D. In vitro anticancer activities of Schiff base and its lanthanum complex. *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy* 2016; 155:146-154. **IF-2.65**, ISSN:1386-1425
 9. Shanmugaprakash M, Jayashree C, Vinothkumar V, **Siddiqui Sahabjada**, Rawat V, Arshad M. Biochemical characterization and antitumor activity of three phase partitioned L-asparaginase from *Capsicum annum* L. *Separation and Purification Technology* 2015; 142:258-267. **IF-3.09**, ISSN:1383-5866.
 10. Usmani S, Hussain A, Farooqui AHA, Arshad M, **Siddiqui Sahabjada**, Ahmad M, Wahab S. Anti-proliferative activity of crude extract and fractions obtained from *Digera muricata* on HeLa cell lines of human cervix and A549 cell lines of human lung. *Pharmacognosy Journal*, 2014; 6:32-38. **IF-1.26**, ISSN:0975-3575.
 11. Iqbal B, Ghildiyal A, **Sahabjada**, Singh S, Arshad M, Mahdi AA, Tiwari S. Antiproliferative and Apoptotic Effect of Curcumin and TRAIL (TNF related apoptosis inducing ligand) in Chronic Myeloid Leukemic Cells. *Journal of Clinical and Diagnostic Research*; 2016; 10:XC01-XC05. **IF-0.3**, ISSN:0973-709X.
 12. Ahmad M, **Sahabjada**, Akhtar J, Hussain A, Badaruddeen, Arshad M, Mishra A. Development of a new rutin nanoemulsion and its application on prostate carcinoma PC3 cell line. *EXCLI Journal* 2017; 16:810-823. **IF-1.29**, ISSN:1611-2156. (Accepted).
 13. Kirwen EM, Batra T, Karthikeyan C, Deora GS, Rathore V, **Sahabjada**, Arantes V, Shivnath N, Chaurasia D, Arshad M, Trivedi P, Tiwari AK. 2,3-Diaryl-3H-imidazo[4,5-b]pyridine derivatives as potential anticancer & anti-inflammatory agents. *Acta Pharmaceutica Sinica B* 2017; 7:73-79. ISSN: 2211-3835.
 14. Rahman MA, **Sahabjada**, Akhtar J. Evaluation of anticancer activity of *Cordia dichotoma* leaves against a human prostate carcinoma cell line, PC3. *Journal of Traditional and Complementary Medicine*, 2016; 7:1-7. ISSN:2225-4110.

15. Usmani S, Ahmad M, **Sahabjada**, Hussain A, Arshad M, Ali M. Cellular oxidative stress and antiproliferative effects of *Cordia dichotoma* (Linn.) seeds extract and their fractions on human cervix epitheloid (HeLa) and human lung (A549) carcinoma cells. *European Journal of Integrative Medicine*. 2018; 21:1-10. **IF-0.84**, ISSN:1876-3820.
16. Iqbal B, Ghildiyal A, Singh S, **Siddiqui Sahabjada**, Kumari P, Arshad M, Mahdi AA. Combinatorial effect of curcumin and tumor necrosis factor- α -related apoptosis-inducing ligand in induction of apoptosis *via* inhibition of nuclear factor kappa activity and enhancement of caspase-3 activity in chronic myeloid cells: An in vitro study. *Journal of Cancer Research and Therapeutics*, 2018; ISSN: 1998-4138; **IF-0.84, (Accepted)**.
17. Trivedi A, Ahmad R, **Sahabjada**, Misra A. Effect of alkaline pH on cytotoxicity profile of *Azadirachta indica* ethanolic extract against human breast cancer cell line MDA-MB-23 *European Journal of Integrative Medicine*, 2018; ISSN:1876-3820. **IF-0.84, (In press)**.

Manuscript under Communication

1. **Siddiqui Sahabjada***, Mahdi AA, Arshad M. "Soy isoflavone genistein contributes to enhanced osteogenesis via activating cell cycle progression, regulating oxidative stress and attenuates osteoclastogenesis". CTIN-D-18-00335; **Calcified Tissue International**, 2018 **(Under Review)**.
2. Jigyasu AK, **Siddiqui Sahabjada**, Jafri A, Arshad M, Lohani M, Khan IA. "Biologically synthesized CdTe quantum dots induce G2/M cell cycle arrest and inhibit the growth of human prostate carcinoma cells" BTER-D-18-00766; **Biological Trace Element Research**, 2018 **(Under Review)**.
3. Harshita, Barkat MA, Rizwanullah M, Beg S, **Siddiqui Sahabjada**, Ahmad FJ. Dietary Lipid-Based Nano Carriers of Paclitaxel with Improved Anticancer activity against Human Liver Carcinoma. NNM-2018-0191. **Nanomedicine**, 2018 **(Under Review)**.
4. Rahman MA, **Sahabjada**, Arshad M, Akhtar J. Inhibition of proliferation of human prostate carcinoma cell, PC3 by *Bauhinia racemosa* Lam via induction of apoptosis. LDCT-2018-0419. **Drug and Chemical Toxicology**, 2018 **(Under Review)**.

Conference abstracts/presentation

I published approx. 40 abstracts in both international and national conferences.

Member of organizing committee

1. 4th Seminar cum Training Workshop on “**Recent Techniques in Molecular & Cell Biology**” November 23-26, 2016, Department of Zoology, University of Lucknow, Lucknow, sponsored by DST-PURSE, New Delhi and Indian Society of Cell Biology, BHU, Varanasi, India.
2. 3rd Hands-on training workshop on “**Recent Techniques in Molecular & Cell Biology**” November 11-13, 2014, Department of Zoology, University of Lucknow, Sponsored by Indian Society of Cell Biology, BHU and Centre of excellence, New Delhi, India.
3. 2nd Hands-on training workshop on “**Recent Techniques in Molecular & Cell Biology**” March 11-13, 2013, Department of Zoology, University of Lucknow, Sponsored by Indian Society of Cell Biology, BHU, Varanasi, India.
4. 1st Seminar cum Training Workshop on “**Recent Techniques in Molecular & Cell Biology**” February 27-29, 2012, Department of Zoology, University of Lucknow, Lucknow, sponsored by DST-PURSE, New Delhi and Indian Society of Cell Biology, BHU, Varanasi, India.

References

Dr. Md Arshad

(PhD Supervisor)

Molecular Endocrinology Laboratory

Department of Zoology

University of Lucknow

Lucknow-226007, India

E-mail- arshadm123@rediffmail.com

Dr. Monisha Banerjee

(Professor)

Molecular Human Genetics Lab

Department of Zoology

University of Lucknow

Lucknow-226007

Email- monishabanerjee30@gmail.com

Dr. Aamir Nazir

(Senior Scientist)

Laboratory of Functional Genomics and Molecular

Toxicology, Division of Toxicology, CSIR-Central

Drug Research Institute, Lucknow-226001, India

E-mail- anazir@cdri.res.in

Declaration: I hereby declare that the particulars furnished herein by me are true to the best of my knowledge and belief.

Place:

(Sahabjada)

Date: