

**RAFIQ AHMAD RATHER, Ph.D****Assistant Professor****Department of Clinical Biochemistry****Govt. Degree College, Shopian****Jammu & Kashmir- 192303 (India)****E mail: rafiqahmad11@gmail.com****Phone: +91 8803328772****PRESENT STATUS**

I am currently serving as an **Assistant Professor, Clinical Biochemistry** at **Govt. Degree College Shopian, Jammu & Kashmir, India**

**EDUCATION AND TRAINING**

<b>2024-.....</b>	Assistant Professor, Higher Education Department, J & K, India
<b>2023-2024</b>	Scientific Officer (C & T), JK FSL, Jammu, India
<b>2023-2023</b>	Assistant Professor, Centre for Vocational Studies, IUST, Pulwama, J & K, India
<b>2022- 2023</b>	Lecturer in Biochemistry, Department of Biochemistry, University of Kashmir, Srinagar, J & K, India
<b>2019-2022</b>	Senior Resident, Department of Advanced Centre for Human Genetics, SKIMS, Srinagar, J & K, India
<b>2017-2019</b>	SERB-National Postdoctoral Fellow, School of Biotechnology, University of Jammu, J & K, India
<b>2016-2017</b>	Postdoctoral Fellow (Hormel Fellow), The Hormel Institute, University of Minnesota, USA
<b>2010-2016</b>	Research Fellow, CSIR-Indian Institute of Integrative Medicine, Jammu, J & K, India
<b>2009-2010</b>	Lecturer in Biochemistry, SP College Srinagar, J & K, India
<b>2006-2008</b>	M.Sc. Biochemistry, University of Kashmir, Srinagar, J & K, India
<b>2002-2005</b>	B.Sc. in Biological Science, University of Kashmir, Srinagar, India

**BROAD RESEARCH AREAS**

Cancer Biology; Cancer Chemoprevention; Drug Discovery; Skin Photobiology

**PROFESSIONAL SKILLS****Molecular Biology and Biochemistry**

DNA/RNA extraction, Western blotting, Flow cytometry, PCR & ELISA based assays, Mammalian cell culture, Cell proliferation assay, Apoptosis and cell death assays, Signalling and secretion assays, Preparation/processing of samples for flow cytometry and confocal microscopy, Gene transfection and preparation of stable cell lines, *in vitro* assays for invasion and metastasis, Cloning and expression of proteins in different E. Coli., *In vitro* models of cutaneous melanoma and skin photo-damage, pigmentation biology

**Animal handling and care**

Oral and intraperitoneal drug administration in mice/rats. Subcutaneous injection of tumor cells into mice. Patient-derived tumour tissue (PDIT) xenografting. Development of mouse models of skin photo-damage.

**Computer**

Microsoft Office (Word, Excel, PowerPoint), ChemBioDraw Ultra, Adobe Photoshop.

**Laboratory Safety Training**

Chemical Hazards, Biological Hazards, Physical Hazards, Bloodborne Pathogens, Research Animal Laboratory Safety

**Languages**

English, Urdu, Hindi & Kashmiri

**Manuscript writing skills**

I wrote several first/corresponding author manuscripts and book chapters, all of which are in published form

## NATIONAL LEVEL AWARDS/FELLOWSHIPS

1. Qualified Joint CSIR-UGC Test for Junior Research Fellowship and Eligibility for Lectureship (NET-JRF), 2009.
2. Qualified GATE, 2010.
3. Qualified ICAR's All India Examination, ICAR-SRF(PGS), 2009.
4. Qualified CSIR RAship 2017
5. Qualified SERB-NPDF 2017
6. Qualified CSIR-Senior Research Associateship CSIR-SRA, 2021

## REVIEW EDITORIAL ROLES

1. Reviewer for Frontiers in Oncology
2. Reviewer for Frontiers in Cell & Developmental Biology
3. Reviewer for World Journal of Gastroenterology
4. Reviewer for World Journal of Stem Cells
5. Reviewer for Plos One
6. Reviewer for The FASEB Journal
7. Reviewer for R&D Proposals of CSIR-ASPIRE Scheme

## RESEARCH PUBLICATIONS

1. Muzamil Farooq, Gh Rasool Bhat, Syed Besina, Natasha Thakur, Sheikh Zahoor, **Rafiq A Rather** *et al.* Expression of HIF-1 $\alpha$  and Markers of angiogenesis and metabolic adaptation in molecular subtypes of Breast Cancer.  
**Translational Medicine Communications** 2023; 8:2
2. Tahira Yousuf, Sadaf Dar, Sadaf Ali Bangri, Naseer Ah Choh, **Rafiq Ahmad Rather**, *et. al.*, Diagnostic implication of a circulating serum based three-microRNA signature in Hepatocellular Carcinoma.  
**Frontiers in Genetics** 2022; 13:929787
3. Ifra Mushtaq, Gh Rasool Bhat, Bilal Rah, **Rafiq A. Rather** *et. al.*, Telomere Attrition with concomitant hTERT overexpression involved in the progression of Gastric cancer may have prognostic and clinical implications in high risk population group from North India  
**Frontiers in Oncology** 2022; 12:919351
4. Bilal Rah, **Rafiq A. Rather**, Gh Rasool Bhat *et. al.*, JAK/STAT Signalling: Molecular Targets, therapeutic opportunities and limitations of targeted inhibition in solid malignancies.  
**Frontiers in Pharmacology** 2022; 13 DOI: 10.3389/fphar.2022.821344
5. Khaled S Allemailem, Ahmad Almatroudi, Faris Alrumaihi, Nahlah Makki Almansour, Fahad M Aldakheel, **Rafiq Ahmad Rather** *et. al.*, Single nucleotide polymorphisms (SNPs) in prostate cancer: its implications in diagnostics and therapeutics.  
**Am J Transl Res** 2021;13(4):3868-3889
6. Iqra Jan, **Rafiq A. Rather** *et al.*, Helicobacter pylori subdues cytokine signaling to alter mucosal inflammation via hypermethylation of suppressor of cytokine signaling 1 (SOCS1) gene during gastric carcinogenesis.  
**Frontiers in Oncology** 10, 3159 doi: 10.3389/fonc.2020.604747
7. **Rafiq A. Rather** *et.al.*, Oncogenic BRAF, endoplasmic reticulum stress, and autophagy: Crosstalk and therapeutic targets in cutaneous melanoma.  
**Mutation Research/ Reviews in Mutation Research** Volume 785, Issue xx, July-September 2020, 108321
8. Madhulika Bhagat, Monica Sangral, Ajay Kumar, **Rafiq A. Rather**, *et. al.*, Chemical, biological and in silico assessment of Ocimum viride essential oil  
**Heliyon** Volume 6, Issue 6, June 2020, e04209
9. **Rafiq A. Rather** *et. al.*, Quercetin as an innovative therapeutic tool for cancer chemoprevention: Molecular mechanisms and implications in human health.  
**Cancer Medicine** 2020; 9(24): 9181-9192doi: 10.1002/cam4.1411

10. **Rafiq A. Rather** *et. al.*, Cancer chemoprevention and piperine: Molecular mechanisms and therapeutic opportunities. **Front Cell Dev Biol.** 2018; 6: 10.
11. **Rather A. Rafiq**, Afnan Quadri, *et al.*, A potent inhibitor of phosphoinositide 3-kinase (PI3K) and mitogen activated protein (MAP) kinase signalling, quercetin (3, 3', 4', 5, 7-pentahydroxyflavone) promotes cell death in ultraviolet (UV)-B-irradiated B16F10 melanoma cells. **PLoS One.** 2015; 10(7): e0131253
12. **Rather A. Rafiq**, *et.al.*, Piperine promotes ultraviolet (UV)-B-induced cell death in B16F10 mouse melanoma cells through modulation of major regulators of cell survival **RSC Adv.**, 2015, 5, 11884.
13. Quadri Afnan, Peerzada J. Kaiser, **Rather A. Rafiq**, *et. al.*, Glycyrrhizic acid prevents ultraviolet B-induced photodamage: A role for mitogen-activated protein kinases, nuclear factor kappa B and mitochondrial apoptotic pathway. **Experimental Dermatology**, 2016, 25, 440–446.
14. Rayees S, Mabalirajan U, Bhat WW, Rasool S, **Rather RA**, *et. al.*, Therapeutic effects of R8, a semi-synthetic analogue of Vasicine, on murine model of allergic airway inflammation via STAT6 inhibition. **Int Immunopharmacol.** 2015 May;26(1):246-56.
15. Farrukh MR, Nissar UA, Afnan Q, **Rafiq RA**, *et. al.*, Oxidative stress mediated Ca(2+) release manifests endoplasmic reticulum stress leading to unfolded protein response in UV-B irradiated human skin cells. **J Dermatol Sci.** 2014 Jul;75(1):24-35.
16. Khan I, Sangwan PL, Dar AA, **Rafiq RA**, *et. al.*, A validated high-performance thin-layer chromatography method for the identification and simultaneous quantification of six markers from *Platanus orientalis* and their cytotoxic profiles against skin cancer cell lines. **J Sep Sci.** 2013 Aug;36(16):2602-10.
17. Lone SH, Bhat KA, Naseer S, **Rather RA**, *et. al.*, Isolation, cytotoxicity evaluation and HPLC quantification of the chemical constituents from *Artemisia amygdalina* Decne. **J Chromatogr B Analyt Technol Biomed Life Sci.** 2013 Dec 1;940:135-41
18. Nissar AU, Farrukh MR, Kaiser PJ, **Rafiq RA**, *et. al.*, Effect of N-acetyl cysteine (NAC), an organosulfur compound from *Allium* plants, on experimentally induced hepatic pre-fibrogenic events in Wistar rat. **Phytomedicine.** 2013 Jul 15;20(10):828-33.
19. Afnan Q, Adil MD, Nissar-Ul A, **Rafiq AR**, *et. al.*, Glycyrrhizic acid (GA), a triterpenoid saponin glycoside alleviates ultraviolet-B irradiation-induced photoaging in human dermal fibroblasts. **Phytomedicine.** 2012 May 15;19(7):658-64.

## **BOOK CHAPTERS**

1. **Rather A. Rafiq**, Madhulika Bhagat. Understanding the role of psychological stress in cancer development: General perspectives and management. **Recent Researches 2018.** 2018;1(52-61). ISBN: 978-81-932684-4-5 (Print)
2. **Rather A. Rafiq**, Madhulika Bhagat. Exploiting Ultraviolet (UV) Light as an Innovative Tool for Melanoma Therapeutics: From Cause to Cure. **Advances In Biotechnology And Bioscience.** 2019; 2(125-149). ISBN: 978-93-5335-525-8 (Print)
3. Shazia Ali, Mohd Ishaq Dar, **Rafiq A. Rather**, Dil Afroze. Cell Cycle and Factors Involved in Inhibition or Progression of Breast Cancer. **Breas Cancer Biology.** ISBN 978-1-78923-961-4 (Print)
4. **Rafiq A. Rather**, Madhulika Bhagat. Utilization of Aqueous Weeds for Biofuel Production: Current Status and Future Prospects. **Bioremediation using weeds.** 2021; 37-57. ISBN: 978-981-336-551-3 (Print)

5. Sonia Thapa, **Rafiq A. Rather**, Shashank K Singh, Madhulika Bhagat. Insights into the role of defective apoptosis in cancer pathogenesis and therapy. **Regulation and Dysfunction of Apoptosis**. 2021; xxx. ISBN: 978-1-83969-194-2. DOI: 10.5772/intechopen.97536
6. Sonia Thapa, **Rafiq A Rather**, Shashank K Singh, Madhulika Bhagat. Targeting oncogene addiction for cancer therapy. **Oncogenes and Tumor Suppressor Genes**. 2021; DOI: 10.5772/intechopen.101244. ISBN 978-1-83969-843-9
7. **Rather A. Rafiq**, Ram A. Vishwakarma, and Sheikh A. Tasduq. Cutaneous Unfolded Protein Response (UPR) and Endoplasmic Reticulum (ER) Stress. **Handbook of Oxidative Stress in Cancer: Mechanistic Aspects**. 2021; 1-27. ISBN: 978-981-15-4501-6 (electronic)
8. **Rafiq A Rather**, Sonia Thapa, Madhulika Bhagat. Biocatalysts and their role in the pharmaceutical industry. **Food and Industrial Bioprocessing**. 2023; 91-112. ISBN 978-81-19002-

## **PARTICIPATION IN SCIENTIFIC CONFERENCES AND SYMPOSIA**

1. Participated and presented the poster titled as "Piperine promotes (UV)-B-induced cell death in B16F10 mouse melanoma cells through the modulation of multiple regulators of cell survival" in the "Indo-US Symposium on Botanical Drug Development", held at Medanta - The Medicity, Gurgaon, India.
2. Participated in the "The 7<sup>th</sup> China-US Forum on Frontiers of Cancer Research" held at The Hormel Institute, University of Minnesota, Austin, USA (June 1-3, 2016).
3. Participated and presented the poster in International conference on "Recent Trends In Bioinformatics And Biotechnology For Sustainable Development" of Society for Bioinformatics and Biological Sciences (SBBS), held at SKUAST, Jammu on October 12 - 13, 2017.
4. Participated and gave an oral presentation in the "4<sup>th</sup> International Conference On Recent Trends And Advancement In Engineering And Technology (ICRTAET)" on the topic titled "Quercetin, a Potent Inhibitor of Phosphoinositide 3-Kinase (PI3K) and Mitogen Activated Protein (MAP) Kinase Signalling, Promotes Cell Death in UVB-irradiated B16F10 Melanoma cells" held at Shri Mata Vaishno Devi University, Katra, J&K- india on 03,04, 2017
5. Participated and presented a poster in the "National Conference On Skill Enhancement Courses And Employment Generation (SECEG-2017)" on the topic titled "Cross-talk between ultraviolet (UV)B-induced ROS and intracellular calcium in determining skin cell fate-An opportunity for therapeutic intervention" held at Kathwa Degree College, Jammu, India
6. Participated as organiser of "44<sup>th</sup> All India Cell Biology Conference and International Symposium on Molecular and Cellular Insights of Human Diseases" held at Department of Biochemistry, University of Kashmir Srinagar on September 02-03, 2022

## **DECLARATION**

I hereby declare that the above mentioned information is correct to the best of my knowledge and belief.

**Rafiq Ahmad Rather**