Aadil Javed (aadilj@umich.edu)

Postdoctoral Research Fellow, MCDB, University of Michigan ORCID: 0000-0001-9098-2340

Summary

I am an experienced **molecular and cell biology researcher** focusing on cell signaling events involved in cancer development including functional characterization of a novel gene in **cell cycle** and currently Golgi and Cancer Biology. My major experiences include ***in vitro* experiments** and **data analysis** to synthesize biological data from **mammalian cell lines** and utilizing ***bioinformatics*-**based approaches for driving new hypotheses for **functional validation** *in vitro.* I am also a **critical reviewer** of scientific literature with experience reviewing **academic journals** from major publishers.

Work Experience

Post-Doctoral Fellow May 2023-**Present**

Wang Lab, MCDB, University of Michigan

Project Title: *Establishing a dual fluorescence reporter for Golgi stacking.*

- Molecular cloning of pHAGE-KDELR2(D193N)-GFP10-IRES-TGN46sp-mCherry-TMC-GFP11 plasmid, lentiviral preparation in 293T cells, and establishing HeLa-Golgi-KIT monoclonal cell lines. Characterization of Golgi-KIT reporter using chemical and genetic interventions such as BFA, Nocodazole, Golgicide, and siGrasp55 etc.

Project Title: *Elucidating the context dependent role of KIF20A in the progression of Lung cancer.*

- Using Bioinformatics tools to generate the hypothesis for KIF20A function in Lung cancer. Perform *in vitro* studies to correlate KIF20A expression with tumorigenic profiles of Lung cancer cell lines. Transcriptomics data analysis for KIF20A depleted cells to understand its role in p53+ and p53- Lung cancer cells.

Collaborative Work: *Grasp55 is involved in controlling the secretion of lysosomal enzymes*

- Using G55 KO cells to demonstrate the role of Golgi proteins in the secretion of lysosomal enzymes including HEXA as a model enzyme. HeLa cells were utilized to perform secretome analysis previously, I performed immunofluorescence and immunoprecipitations in the wild type, G55KO, and rescue conditions to demonstrate the mechanism where M6PR-CD interaction for lysosome targeting of HEXA is reduced in G55-KO cells.

Research Fellow June 2022-May 2023

TUBITAK 1001 Project (221Z202), Department of Bioengineering, Ege University

Project Title: *Investigation of the Contribution of HN1 to Mechanisms of Chromatid Segregation, Micronucleus Formation, and Multiple Centrosome Integration* ***in Tumor Cell Lines.***

- Recombinant DNA preparations (6 HN1 deletion mutants, 3 HN1-phospho mutants), Performing flow cytometry, immunofluorescence, SDS-PAGE, immunoprecipitation, western blotting, and cell culture-based assays. Carrying out experiments with Neuroblastoma (SHSY-5Y) and HEK-293T cell lines and supervising graduate students in designing cell culture experiments.

Teaching Assistant February 2022 – June 2022

Molecular Biology Course (Undergraduate), Department of Bioengineering, Ege University

- Conducted 15 (3-hour) lecture sessions to undergraduate students (Year 2). Prepared mid-semester and final examinations, course evaluation and final grading.

Graduate Researcher March 2021 – February 2022

Scientific Research Project (BAP) (FGA-2021-21986), Department of Bioengineering, Ege University

Project Title: *Investigation of Anaphase Promoting Complex ($APCC^{cdh1}$) Activity and its Relationship with HN1*

- Applying molecular cloning approaches to establish a gene of interest (HN1) inducible expression system (All in One Tet-ON) by applying PCR-based restriction cloning in bacterial strains.
- Generating stable cell lines such as Fluorescence-based Ubiquitination Cell Cycle Indicator (FUCCI) clones (LNCaP, PC3), CRISPR (HN1-KO) cell lines, and HN1-inducible cell lines.
- Performing flow cytometry, immunofluorescence, SDS-PAGE, immunoprecipitation, and western blotting. Data collection from experiments and data analysis using statistical tools (Microsoft Excel, GraphPad Prism 5).

Graduate Researcher March 2019 – July 2020

TUBITAK 1001 Project (117S289), Department of Bioengineering, Ege University

Project Title: *Investigation of the Basis of Genetic Heterogeneity Developed by the Inflammatory Microenvironment in the Development of Prostate Cancer.*

- Carrying out experiments with Prostate Cancer cell lines such as LNCaP, DU-145, and PC-3 cells. Data collection from experiments and data analysis using statistical tools, assisting senior a senior doctoral candidate with proteomic data analysis.

Education

Ege University – Ph.D. Biotechnology June 2022
Graduate School of Natural and Applied Sciences, Department of Biotechnology (Izmir – Turkey)

Member of Cancer Biology Lab (KK Lab) since September 2017
Thesis Title: *Investigating the centrosome defects in the development of Prostate Cancer*

National University of Sciences and Technology (NUST) – (MS Healthcare Biotechnology) September 2015
Atta-Ur-Rahman School fo Applied Biosciences (ASAB), Department of Healthcare Biotechnology (Islamabad – Pakistan)

Thesis Title: *Mychosynthesis, Characterization and Investigation of Therapeutic Potentials of Silver Nanoparticles*

University of Veterinary and Animal Sciences (UVAS) – BS (Hons) Biotechnology & Bioinformatics June 2013

Faculty of Biosciences, Institute of Biochemistry and Biotechnology (IBBT) (Lahore – Pakistan)

Internship 1: "*Molecular Characterization of Newcastle Disease Virus and Development of Vaccine Approaches*".
Final Year Internship: "*Hands-on Experience Practices in Different Laboratories including; Molecular Biology, Toxicology, Pathology, and Microbiology".*

Publications

Research

- Özduman G., Simsek F., Özar T., **Javed, A.,** Korkmaz K.S. **(2024)**. "HN1 expression contributes to mitotic fidelity through Aurora A-PLK1-Eg5 axis. ***Scientific Reports.*** (Submitted)
- Özar, T., **Javed, A.,** Özduman, G., Korkmaz, K.S. **(2024).** HN1 is a novel dedifferentiation factor involved in regulating the cell cycle and microtubules in SH-SY5Y Neuroblastoma cells. ***Journal of Cellular Biochemistry,*** (Accepted, April 2024).
- **Javed, A.,** Özduman G., Varisli, L., Ozturk, B.E., Korkmaz, K.S. **(2023)**. HN1 is enriched in S-phase, phosphorylated in mitosis and contributes to Cyclin B1 degradation in Prostate cancer cells. ***Biology***, 12, 189. (DOI: 10.3390/biology12020189)
- Varisli, L., **Javed, A.**, Ozturk, B. E., Akyuz, G. K., Takir, G., Roumelioti, F. M., ... & Korkmaz, K. S. **(2021).** HN1 interacts with γ-tubulin to regulate centrosomes in advanced prostate cancer cells. ***Cell Cycle***, 1-22. (DOI: 10.1080/15384101.2021.1962624)
- Öztoprak, F., & **Javed, A**. **(2020).** Case fatality rate estimation of COVID-19 for European countries: Turkey's current scenario amidst a global pandemic; comparison of outbreaks with European countries. ***EJMO***, 4(2), 149-159. https://www.ejmo.org/10.14744/ejmo.2020.60998/

Reviews

- Jiménez, D. J., **Javed, A.,** Rubio-Tomás, T., Seye-Loum, N., & Barceló, C. **(2024)**. Clinical and Preclinical Targeting of Oncogenic Pathways in PDAC: Targeted Therapeutic Approaches for the Deadliest Cancer. ***International Journal of Molecular Sciences*****,** 25(5), 2860.. DOI: 10.3390/ijms25052860
- **Javed, A.**, Yarmohammadi, M., Korkmaz, K.S., Rubio-Tomás, T. **(2023).** The Regulation of Cyclins and Cyclin-Dependent-Kinases in the Development of Gastric Cancer. ***International Journal of Molecular Sciences***, 24, 2848. (DOI: 10.3390/ijms24032848)
- **Javed, A.,** Özduman, G., Altun, S., Duran, D., Yerli, D., Özar, T., ... & Korkmaz, K. S. **(2023)**. Mitotic Kinase Inhibitors as Therapeutic Interventions for Prostate Cancer: Evidence from In Vitro Studies. ***Endocrine, Metabolic & Immune Disorders-Drug Targets*** (Formerly Current Drug Targets-Immune, Endocrine & Metabolic Disorders), 23(14), 1699-1712**.** (DOI: 10.2174/1871530323666230303092243)
- Malagraba, G., Yarmohammadi, M., **Javed**, A., Barceló, C., & Rubio-Tomás, T. **(2022).** The Role of LSD1 and LSD2 in Cancers of the Gastrointestinal System: An Update. ***Biomolecules***, 12(3), 462. (DOI: 10.3390/biom12030462)
- **Javed, A.,** Malagraba, G., Yarmohammadi, M., Perelló-Reus, C. M., Barceló, C., & Rubio-Tomás, T. (2022). Therapeutic potential of mitotic kinases' inhibitors in cancers of the gastrointestinal system. ***Future Pharmacology***, 2(3). (DOI: 10.3390/futurepharmacol2030015)
- Khan, A. H., Khan, R., Saeed, M., & **Javed, A.** (2017). RHEUMATOID ARTHRITIS THERAPIES: PRESENT AND FUTURE: Rheumatoid Arthritis Therapies. ***Pakistan Armed Forces Medical Journal,*** 67(3), 483-87.

Chapters

- **Javed, A.,** Khan, F., Niaz, K. (2023). Dopamine Signaling. In Neurochemical Systems and Signaling (1) 33-49. **CRC Press.** (DOI: 10.1201/9780429265198)
- **Javed, A.,** Niaz, K., Sideeq, O. **(2021).** Genetically engineered mouse models for COVID-19. In COVID-19: Different Models and Treatment Strategies (2) 1-19. **Bentham Sciences.** (DOI: 10.2174/978168108907212102004)
- Siqeeq, O., Niaz, K., Rahim, K., **Javed, A. (2021).** Stem cell therapy for COVID-19. In Different Models and Treatment Strategies (2) 266-287. **Bentham Sciences.** (DOI: 10.2174/9781681089072121020014)
- **Javed, A.**, Shahzad, M., Khan, F., & Niaz, K. **(2020).** Curcuminoids. In Recent Advances in Natural Products Analysis (1st ed., pp. 147-161). **Elsevier.** (WOS:000560757300012)
- **Javed, A.**, Umar, H., Khan, F., & Niaz, K. **(2020).** Stilbenoids. In Recent Advances in Natural Products Analysis (1st ed., pp. 117-131). **Elsevier.** (WOS:000560757300010)

Conferences

- **Javed, A. (2022)** Hematological and Neurological Expressed 1 (HN1) in the regulation of cell cycle: lessons from cancer cell lines, **Invited Speaker**, I. International Advances in Molecular Biology Congress, 19 September 2022, 22 September 2022.
- Özduman, G. **Javed, A.** Altun, S. & Korkmaz, K.S. **(2022)** HN1 is phosphorylated by CDK1 in mitosis and its overexpression after G2 leads to an early exit from mitosis, **Presentation,** 4. Uluslararası Katılımlı Hücre Ölümü Araştırma Derneği Kongresi , 17-19 March, 2022.
- Altun, S. **Javed, A.** Özduman, G & Korkmaz, K.S. **(2022)** Cell Cycle regulated protein HN1 has antagonistic relationship with Parkin in SHSY-5Y cells, Poster **Presentation,** 4. Uluslararası Katılımlı Hücre Ölümü Araştırma Derneği Kongresi, 17-19 March 2022.

Reviewer Activity

(Web of Science ResearcherID: AAP-3326-2021) ORCID: 0000-0001-9098-2340

- Nature Springer= Nature Communications (1), Clinical and Translational Oncology (2)
- Elsevier= International Journal of Infectious Diseases (2)
- Taylor & Francis= Cell Cycle (1)
- Public Library of Science= PLOS ONE (1)
- MDPI= Current Oncology (22), International Journal of Molecular Sciences (4), Medicina (3), Cancers (2), Biology (1), Pharmacy (2), Life (2), BiomedInformatics (1), Processes (1), Journal of Clinical Medicine (1), Current Issues in Molecular Biology (1),
- Wiley= Cancer Reports (1)
- Dove Medical Press= OncoTargets and Therapy (1)

Awards and Honor

- Post-Doctoral Researcher Grant 2022 (TÜBITAK, Scientific and Technological Research Council of Turkey)
- Best Scientific Report Award (International Students Awards Turkey, 2021)
- Turkish Government Scholarship 2016 (Türkiye Bursları) for Doctoral Studies
- Position holder (2013, B.S. Hons. IBBT, UVAS, Pakistan)
- University Merit Scholarship (2010-2012, UVAS, Pakistan)
- 1st Position High School, 2009 (District Jhelum, Punjab, Pakistan)

References

Referee 1
Role: Primary Research Mentor @MCDB
Name: Prof. Dr. Yanzhuang Wang
Emails: yzwang@umich.edu
Website: https://sites.lsa.umich.edu/wang-lab/

Referee 2
Role: PhD Thesis Supervisor and Mentor
Name: Prof. Dr. Kemal Sami Korkmaz
Emails: kemal.sami.korkmaz@ege.edu.tr / ks_korkmaz@yahoo.com
Website: https://unisis.ege.edu.tr/researcher=kemal.sami.korkmaz

Referee 3
Role: Replacement PI @MCDB
Name: Prof. Dr. Mohammed Akaaboune
Emails: makaabou@umich.edu
Website: https://sites.lsa.umich.edu/makaabou-lab/