

Abu Musa Md Talimur Reza, PhD

Assistant Professor

Room 213, Molecular Biology and Genetics Dept.
Faculty of Basic Sciences, Gebze Technical University
Koceali, Republic of Turkiye

ORCID iD: [0000-0001-7359-2711](https://orcid.org/0000-0001-7359-2711)

ResearcherID: AAY-7828-2020

Scopus Author ID: 57192276183

Email: talimur@gtu.edu.tr

Mobile: +905313656117

Research

Principal Investigator (Head): Non-coding RNAs Laboratory, Gebze Technical University, Turkiye.

Research interest: Non-coding RNAs as drug targets for the treatment of diseases.

Grants (as project manager):

- Project Title:** Impact of targeted tRNA manipulation to control the expression of MYC, the 'undruggable' proto-oncogene and master transcription factor.
Type & Agency: TUBITAK 1001 (ID: 123Z986), TUBITAK, Turkiye.
Year: 2023. **Duration:** 3 years.
Amount: 2,406,468 TL (~100,000 USD), salaries are not included.
- Project Title:** Identification of differentially expressed anti-codon tRNAs between lung cancers and normal lung epithelial cells.
Type & Agency: Rector's Endowment, Gebze Technical University.
Year: 2024. **Amount:** 250,000 TL (~8000 USD)
- Project Title:** The impact of tRNA levels manipulation on the ribosomes heterogeneity.
Type & Agency: MINIATURA 4 (ID: 494539), National Science Center, Poland.
Year: 2021. **Duration:** 1 year.
Amount: 49,940 PLN (~14,000 USD), only for research.

Teaching & Supervision

Postgraduate courses (Master's & PhD):

MBG 534 Non-coding RNAs

Undergraduate courses:

MBG 423 Molecular Mechanisms of Epigenetics

MBG 221 Genetics

MBG 223 Genetics Laboratory

MBG Population Genetics

Research supervisor:

Undergraduate students: 3

Master students: 3

PhD students: 1

English Skills

TOEFL-iBT score: 106/120 (Reading 27, Listening 26, Speaking 26, Writing 27), January 2022.

Education

Kangwon National University, South Korea

PhD. Animal Biotechnology, Department of Animal Life Sciences, August 29, 2014.

Bangladesh Agricultural University, Bangladesh

MS. Department of Animal Breeding and Genetics, June 2011.

BSc. Faculty of Animal Husbandry, May 28, 2009.

Current & Past Affiliations

Gebze Technical University, Republic of Turkiye

Assistant Professor (equivalent): March 1, 2022 to current

Department of Molecular Biology and Genetics, Faculty of Basic Sciences

Institute of Biochemistry and Biophysics Polish Academy of Sciences, Poland

Assistant Professor: March 1, 2018 to December 31, 2021

Laboratory of RNA Metabolism in Immune Responses.

Konkuk University, South Korea

Postdoctoral Researcher: Oct 1, 2014 to Feb 28, 2018

Department of Stem Cell and Regenerative Biotechnology.

Kangwon National University, South Korea

Research Associate: Feb 27, 2012 to Sept, 2014

Stem Cell and Regenerative Biotechnology Lab., Dept. of Animal Life Sciences

Wildlife Trust of Bangladesh (WildTeam), Bangladesh

Research Officer: June 1, 2011 to Feb 15, 2012

Research & Monitoring Team, Cosmos Centre, 69/1 New Circular Road, Malibagh, Dhaka.

Bangladesh Agricultural University, Bangladesh

Research Assistant: Jan 1, 2010 to May 31, 2011

Reproductive Biotechnology Lab., Dept. of Animal Breeding & Genetics.

Techniques

Cell & Molecular Biology

1. Primary Cells - isolation and culture of adipose, muscle and cartilage cells
2. Cell Lines - Cancer cells, Human, Mouse and Bovine cells, iPS cells (feeder free)
3. Assays - Commonly used cell biology assays including proliferation, live-dead, migration, colony formation, wound repair, apoptosis etc.
4. Genome editing using CRISPR/Cas9
5. Genotyping (direct sequencing part was done from company)
6. Plasmid and genomic DNA, mRNA and miRNA, protein sample preparation
7. Lipofectamine mediated transfection of plasmid DNA, miRNA and siRNA
8. Lentivirus and adenovirus titer preparation, and infection to mammalian cells
9. Chip-qPCR, qRT-PCR, RNA-hybridization, Western Blotting, Immunostaining, FACS (CytoFLEX and BD FACScalibur), MACS, Fluorescence Microscopy
10. Ribo-seq and RNA-seq library: I did partially and have knowledge of full protocol.
11. Preparation of ribosomes for tandem mass tag (TMT) mass spectrometry (MS).

Mouse handling

1. Sacrificing and tissue collection such as thymus, spleen, lymph node, liver, kidney, lung, heart, brain, intestine, stomach, adipose, muscle etc.
2. Epididymal sperm collection and cryopreservation from mouse
3. Xenotransplantation (under skin injection of cancer cells using matrigel)
4. Intraperitoneal injection
5. Tail vein injection (not very efficient, need practice)

Other Techniques

1. Microarray and RNA-seq secondary data analysis using different analytical program such as DAVID, PANTHER, CytoScape, IPA. I also have little knowledge about the 'R statistics'
2. I also used publicly available database such as TCGA cBioPortal database system

Peer-Reviewed Journals**JCR 2023**

1. **Reza AMMT**, Graczyk D, et al. Deleting active tRNA^{Trp} genes does not lead to compensatory activation of silent copies, and the cells trigger a multifaceted feedback response to overcome the tRNA^{Trp}-level scarcity. (**waiting submission**)
2. Gorjão N, **Reza AMMT**, Wisniewska M and Graczyk D. POLR1D, a common subunit of RNA polymerase I and III, influences its own expression. (**waiting submission**)
3. Jurkiewicz A, Nair HG, **Reza AMMT** and Graczyk D. MAF1-dependent regulation of RNA polymerase III is required for mouse macrophage pro-inflammatory function. eLife (**waiting submission**).
4. Yuan YG, Wang JL, Zhang YX, Li L, **Reza AMMT**, Gurunathan S. 2023. Biogenesis,

IF: 6.6

- composition and potential therapeutic applications of mesenchymal stem cells derived exosomes in various diseases. *Int J Nanomedicine*. 18:3177-3210.
5. Yuan YG, Zhang YX, Liu SZ, **Reza AMMT**, Wang JL, Li L, Cai HQ, Zhong P, Kong IK. **2023**. Multiple RNA profiling reveal epigenetic toxicity effects of oxidative stress by graphene oxide silver nanoparticles in-vitro. *Int J Nanomedicine*.18:2855-2871. **IF: 6.6**
 6. Yuan YG, Xing YT, Liu SZ, Li L, **Reza AMMT**, Cai HQ, Wang JL, Wu P, Zhong P, Kong IK. **2023**. Identification of circular RNAs expression pattern in caprine fetal fibroblast cells exposed to a chronic non-cytotoxic dose of graphene oxide-silver nanoparticle nanocomposites. *Front Bioeng Biotechnol*. 11:1090814. **IF: 4.3**
 7. Yuan YG, Cai HQ, Wang JL, Mesalam A, **Reza AMMT**, Li L, Chen L, Qian C. **2021**. Graphene oxide-silver nanocomposites induce oxidative stress and aberrant methylation in caprine fetal fibroblast cells. *Cells* 10(3), 682. **IF: 5.1**
 8. **Reza AMMT** and Yuan YG. **2021**. microRNAs mediated regulation of the ribosomal proteins and its consequences on the global translation of proteins. *Cells* 10(1), 110. **IF: 5.1**
 9. Yuan YG, Wang JL, Mesalam A, Li L, Choi YJ, **Reza AMMT**, Zhou D, Chen L, and Qian C. **2020**. Nicotinamide-induced mouse embryo developmental defect rescued by resveratrol and I-CBP112. *Mol Reprod Dev*. 87; 1009-1017. **IF: 2.7**
 10. **Reza AMMT**, Choi YJ, Han SG, Song H, Park C, Hong K, Kim JH. **2019**. Roles of microRNAs in mammalian reproduction: from the commitment of germ cells to peri-implantation embryos. *Biological Reviews*. 94; 415-438. **IF: 11.0**
 11. **Reza AMMT**, Cho SK, Choi YJ, Hong K, Kim JH. **2018**. Microarray profiling of miRNA and mRNA expression in Rag2 knockout and wild-type mouse spleens. *Scientific Data*. 5, 170199. **IF: 5.8**
 12. **Reza AMMT**, Choi YJ, Kim JH. **2018**. MicroRNA and transcriptomic profiling showed miRNA-dependent impairment of systemic regulation and synthesis of biomolecules in Rag2 KO mice. *Molecules*. 23(3), 527. **IF: 4.2**
 13. **Reza AMMT**, Choi YJ, Yuan YG, Yasuda H, Das J, Kim JH. **2017**. MicroRNA-7641 is a regulator of ribosomal proteins and a promising targeting factor to improve the efficacy of cancer therapy. *Scientific Reports*. 7; 8365. **IF: 3.8**
 14. Das J, Choi YJ, Han JW, **Reza AMMT**, Kim JH. **2017**. Nanoceria-mediated delivery of doxorubicin enhances the anti-tumour efficiency in ovarian cancer cells via apoptosis. *Scientific Reports*. 7; 9513. **IF: 3.8**
 15. Choi YJ, Kim ES, **Reza AMMT**, Hong K, Song H, Park C, Cho SK, Lee K, Prather RS, Kim JH. **2017**. Recombination activating gene-2 null 2 severe combined immunodeficient pigs and mice engraft 3 human induced pluripotent stem cells differently. *Oncotarget*. 8(41); 69398-69407.
 16. **Reza AMMT**, Singh NK, Lee SJ, Shiwani S. **2017**. Differentiation of bovine mammary epithelial cells in the presence of linolenic acid in combination with thiazolidinediones. *Indian J Anim Sci*. 87(3); 304-307. **IF: 0.2**
 17. Yasuda H, Kim E, **Reza AMMT**, Kim JH. 2016. A highly efficient method for enriching TALEN or CRISPR/Cas9-edited mutant cells. *J Genet Genomics*.:43(12); 705-708. **IF: 6.6**
 18. **Reza AMMT**, Choi YJ, Yasuda H, Kim JH. **2016**. Human adipose mesenchymal stem cell-derived exosomal-miRNAs are critical factors for inducing anti-proliferation signalling to A2780 and SKOV-3 ovarian cancer cells. *Scientific Reports*. 6; 38498. **IF: 3.8**
 19. **Reza AMMT**, Lee SJ, Shiwani S, Singh NK. **2015**. KGF and BMP-6 intervene in cellular reprogramming and in mesenchymal-epithelial transition (MET) of 3T3L1 mouse adipose cells. *Cell Biology International*. 39(4); 400-410. **IF: 3.3**
 20. **Reza AMMT**, Shiwani S, Singh NK, Lohakare JD, Lee SJ, Jeong DK, Han JY, Rengaraj, D, Lee BW. **2014**. Keratinocyte growth factor and thiazolidinediones and linolenic acid differentiate characterized mammary fat pad adipose stem cells isolated from prepubertal Korean black goat to epithelial and adipogenic lineage. *In Vitro Cell.Dev.Biol.-Animal*. 50; 194-206. **IF: 1.5**

Conference Presentation

1. **Reza AMMT**, Gorjão N, Jurkiewicz A, Nair HG and Graczyk D. **2021**. Investigation of the effects of tRNA genes knock-out in human cells. **EMBO Young Scientists' Forum 2021**. 21-22 October 2021, Warsaw, Poland.
2. **Reza AMMT**, Gorjão N, Jurkiewicz A, Nair HG and Graczyk D. **2021**. Investigation of the effects of tRNA genes knock-out in human cells. **OddPols 2021**: International Conference on Transcription Mechanism and Regulation, 14-18 June 2021, Denver, Colorado, USA.
3. Jurkiewicz A, Nair HG, **Reza AMMT** and Graczyk D. **2021**. Manipulation of MAF1 levels affects pro-inflammatory functions of mouse macrophages. **OddPols 2021**: International Conference on Transcription Mechanism and Regulation, 14-18 June 2021, Denver, Colorado, USA.
4. Gorjão N, **Reza AMMT**, Wisniewska M and Graczyk D. **2021**. POLR1D, a common subunit of RNA polymerase I and III, influences its own expression. **OddPols 2021**: International Conference on Transcription Mechanism and Regulation, 14-18 June 2021, Denver, Colorado, USA.
5. **Reza AMMT**, Gorjão N, Nair HG, White RJ, Graczyk D. **2020**. The role of common subunit of RNA polymerases I and III, POLR1D and its self-regulation in the colorectal cancer cells. The 5th Warsaw Conference on Perspectives of Molecular Oncology – Molecular Immunology of Cancer, 2020, 23-24 September, Warsaw, Poland.
6. **Reza AMMT**, Han JW and Choi YJ. MicroRNAs sequencing highlighted the transcription activity of genes related to T/B-cell receptor signaling in Rag2 knockout mouse spleen. Reproductive and Developmental Biology, The Korean Society of Animal Reproduction, 22-23 June 2017, Seoul, Republic of Korea.
7. **Reza AMMT**, Subi S and Singh NK. Role of KGF and BMP-6 in nuclear reprogramming and mesenchymal-epithelial transition (MET) of 3T3L1 mouse adipose cells. Symposium on Early Human Development and Fetal-maternal medicine, Stem Cell Society Singapore, 18-19 November 2013, Biopolis, Singapore.
8. **Reza AMMT** and Singh NK. Identification of adipose stemness in myogenic cells of triceps femoris isolated from Korean black goat. International Symposium on Agricultural, Food, Environmental and Life Science in Asia 2012, 7-8 November 2012, Chungnam National University, Daejeon, South Korea.

Memberships, Scholarships and Awards

1. Member, RNA Club Warsaw, Poland (2018-2021)
2. Student Member, Stem Cell Society Singapore (2013-2015)
3. Travel Fellowship, Stem Cell Society Singapore, Biopolis, Singapore (2013).
4. BEST KNU Scholarship, Kangwon National University, South Korea (Feb 2012 to Aug 2014).
5. NSICT Fellowship, Government of Bangladesh (June 2010 to May 2011).
6. Master Student Scholarship, Bangladesh Agricultural University (2010 to 2011).
7. Undergraduate Student Scholarship, Bangladesh Agricultural University (2005 to 2009).

Conference Attendance

1. EMBO Young Scientists' Forum 2021. 21-22 Oct, 2021, Warsaw, Poland.
2. OddPols 2021: International Conference on Transcription Mechanism and Regulation, 14-18 June, 2021, Denver, Colorado, USA.
3. Reproductive & Developmental Biology, 22-23 June, 2017; KSAR, Seoul, Republic of Korea.
4. Early Human Development & Fetal-maternal Medicine, 18-19 Nov, 2013; SCSS, Singapore.
5. Animal Ethics Education for Animal Experiments, 11 April, 2015; Seoul, South Korea.
6. International Symposium on Agricultural, Food, Environmental and Life Science in Asia, November 7-8, 2012; Chungnam National University, Daejeon, South Korea.
7. Popularization of Black Bengal Goat Farming: Need Policy Intervention, People's Participation and Promotion, 16 April, 2011; BAU, Bangladesh.
8. International Dairy Conference, 03-05 April, 2010; BAU, Bangladesh.

Courses Attended

Ph.D.

Courses: Advance Biomedical Science; Regenerative Biotechnology; Essentials of Writing Biotechnology Research Paper; Advance Animal Cell Biology; Reproductive Biotechnology; Animal Molecular Biotechnology; Biotechnology of Therapeutics; Animal Model of Human Diseases; Advanced Animal Cell Biotechnology; Functional Proteomics; Developmental Biology; Experimental Design and Analysis; Thesis Advising; Seminar

Thesis Title: Molecular Modulation and Differential Characterization of Mammary Adipose Stem Cells Towards Epithelialization

M.S.

Courses: Biometrics of Genetics and Animal Breeding; Artificial Insemination and Reproductive Biotechnology; Poultry Breeding; Poultry Reproduction; Animal Breeding; Beef Cattle Production; Genetics; Quantitative Genetics; Animal Reproduction; Computer Usages in Animal Breeding and Genetics; Herd Fertility and Reproductive Management; Biostatistics.

Thesis Title: In vitro maturation of Buffalo Oocytes and Fertilization by Cattle Spermatozoa

B.Sc.

First Year : Chemistry and Metabolism of Biomolecules; Physiology; Anatomy; Principles of Animal Hygiene; Introduction to Parasitology; Zoo & Wildlife Management; Animal Science & Ecology; Fundamentals of Poultry Science; Fundamentals of Dairy Science; Forage Agronomy; Agricultural Economics; Elementary Soil Science; Market Milk.

Second Year: Fundamental Genetics; Molecular Genetics; Fundamentals of Nutrition; Ruminant Nutrition; Dairy Chemistry; Elementary Preventive Veterinary Medicine; Poultry feeds and feeding; Hatchery Operation & Management; Aquaculture; Statistics; Mathematics; Computer Application.

Third Year: Genetic Diversity and Breeding Practices; Animal Breeding Principles; Non-Ruminant Nutrition; Nutrition & Environment; Dairy Microbiology; Poultry Farm Planning and Management; Poultry Disease Management; Animal Byproducts and Waste Management; Duck and Specialized Fowl Production; Meat Science & Technology; Feeds and Fodder Science.

Fourth Year: Artificial Insemination and Reproductive Biotechnology; Reproduction of Farm Animals; Feed Milling Industry; Egg production & Technology; Broiler Production and Technology; Computer Operation; Goat and Sheep Production; Dairy Cattle Production; Livestock Feeding; Beef, Draught Animal and Buffalo Production; Dairy Technology; Agribusiness; Agricultural Extension Education.

Personal Information

Birth : April 4, 1987

Country : Bangladesh

Date: February 03, 2025



Abu Musa Md Talimur Reza

References

Hideyo Yasuda, PhD

Relation: Former Supervisor
Professor (Retired)
M.D. Anderson Cancer Center
The University of Texas, Houston, TX77030, USA
&
St. Marianna University
School of Medicine in Japan
Email 1: h-yasuda@yk9.so-net.ne.jp
Email 2: hyasudahyasuda@gmail.com

Lee Sung-Jin, PhD

Relation: PhD Supervisor
Professor
College of Animal Life Sciences
Kangwon National University
Chuncheon, South Korea
Email: silee@kangwon.ac.kr

Nuri ÖZTÜRK, PhD

Relation: Colleague
Principal investigator
Prof. Dr. Aziz Sancar Biological Clock Lab
Department of Molecular Biology and Genetics
Faculty of Basic Sciences
Gebze Technical University
41400 Gebze/KOCAELI, Türkiye
Email: nuriozturk@gtu.edu.tr
Phone: +90(262)6052521