

Curriculum Vitae



Name: Reza

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Research Assistant Professor of Biotechnology

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Date of Birth: Jan.8.1978

Marital Status: Married

H- Index: 12

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Qualification and Awards:

1. 1996- 1999 B.Sc. in Biology (major: Microbiology), (Awarded higher top grade student). 2000-2003 M.Sc. in Biology (major: Microbiology), (Awarded higher top grade student).
2. The top researcher of JIHAD-E-KESHAVARZI in Fars province in 2005.
3. 2011-2016 PhD. in Medical biotechnology, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran (Awarded higher top grade and the best scientific student).
4. The top researcher of Mashhad University of Medical Sciences (MUMS) in the research festival, 2017.
5. The top researcher of MUMS.in the research festival, 2016.
6. The top researcher of Vice Chancellery for food and drug, Isfahan University of Medical Sciences (MUI). 2011.
7. The top researcher of Vice Chancellery for food and drug, MUI. 2007.

Experiences:

1. 2003-2005 Employee of Agricultural Research Center in Fars Province- Zarghan as a researcher. Participating in farms training /Giving assistance in the accomplishment of the research project of Take-all, preparing collection of plant pathogenic fungi, helping diagnosis of plant disease in agricultural farms in Fars region, giving assistance for doing research projects in process, screening antagonist factors of Take-all and soft rot bacteria in Fars region.
2. 2006- 2011 Employee of Microbiology Department, Vice Chancellery for food and drug in Isfahan as a supervisor/doing required tests on food ,cosmetics & sanitarries, doing study and research to increase information in regard to microbial tests of food ,cosmetics and sanitarries, doing technical and hygienic inspection from all production ,supply , storage and distribution centers of foodstuff, cosmetics and sanitarries and also doing the required legal and hygienic actions, presenting research projects in executive system, participating in the committees of national standards of Iran, being a member of research committee, being a member of suggestion council, having supervision on tests done by the experts of the department, participating in national projects such as PMS (Post marketing surveillance).
3. 2018-2019 Research Assistant professor of medical biotechnology, in Isfahan Cardiovascular Research Center, Cardiovascular Research Institute, Isfahan University of Medical Sciences as a supervisor and researcher in Biomedical Sciences Department.
4. Since 2019 Research Assistant professor of medical biotechnology in Research Institute for Primordial Prevention of Non-Communicable Disease Isfahan University of Medical Sciences.

Research:

PhD thesis; Inhibition of microRNA-21 (miR-21) with locked nucleic acid technology (LNA) and evaluation of its inhibitory effects on proliferation of human colon adenocarcinoma cells. 2013- 2016.

Statistical study of the contamination of traditional and industrial ice creams with *E. coli* and optimization of *E. coli* identification methods in Isfahan. Iran. 2007- 2010.

Identification of subclinical mastitis-causing bacteria in industrial farms of Isfahan province by multiplex PCR method. 2009- 2011.

Preliminary study of the contamination of pasteurized milk with *E. coli* in Isfahan. 2010- 2011.

Supervisors, Investigation of protein profile of *E. coli* isolates obtained from traditional ice cream in Isfahan. Iran. 2011- 2014. M.Sc.- Food Industry.

Therapeutic effect of liposome containing antagomir 21 on melanoma cell metastasis in c57bl6 mice with effect on angiogenesis and stemness. 2014- 2020.

Advisers; Optimization of lactic cheese production using salimix salt and oral lactic acid. 2015- 2017. M.Sc. Food Industry.

Advisers; Investigation of physicochemical and microbial properties of low fat yogurt enriched with wheat fiber. 2015- 2017. M.Sc.- Food Industry.

Advisers; Study of the effect of licorice essential oil in the form of frozen cover and modified atmospheric packaging on physicochemical and microbial properties of frozen shrimp. 2016-2018. M.Sc.- Food Industry.

Advisers; Study of the effect of Hollyhocks essential oil in the form of frozen cover and modified atmospheric packaging on physicochemical and microbial properties of shrimp. 2016- 2018. M.Sc.- Food Industry.

Supervisors, Inhibition of miR-21 in T lymphocytes and its effect on the expression of c-myc protein and its role of T cells apoptosis in MS disease. 2017- 2020. Ph.D.- Immunology. Mostafa Manian.

Inhibitory effects of MicroRNA-21 (miR-21) using Locked Nucleic Acid Technology (LNA) on *PDCD4* protein expression and its role in T lymphocyte apoptosis in MS. Since 2019.

Papers

1. The frequencies of peripheral blood CD5⁺CD19⁺ B cells, CD3⁻CD16⁺CD56⁺ NK, and CD3⁺CD56⁺ NKT cells and serum interleukin-10 in patients with multiple sclerosis and neuromyelitis optica spectrum disorder. *Allergy Asthma Clin Immunol* **18**, 5 (2022). <https://doi.org/10.1186/s13223-021-00596-5>.
2. Screening of potential inhibitors of COVID-19 with repurposing approach via molecular docking. *Netw Model Anal Health Inform Bioinforma* **11**, 11 (2022). <https://doi.org/10.1007/s13721-021-00341>.
3. Association between colorectal cancer and the degree of ITGA4 promoter methylation in peripheral blood mononuclear cells, *Gene Reports*, Volume 27, 2022, 101580, ISSN2452-0144, <https://doi.org/10.1016/j.genrep.2022.101580>.
4. Nedaenia, R. *et al.* (2022). Lifestyle Genomic interactions in Health and Disease. In: Kelishadi, R. (eds) *Healthy Lifestyle. Integrated Science*, vol 3. Springer, Cham. https://doi.org/10.1007/978-3-030-85357-0_3
5. Moslemi, M., Vafaei, M., Khani, P. *et al.* The prevalence of ataxia telangiectasia mutated (ATM) variants in patients with breast cancer patients: a systematic review and meta-analysis. *Cancer Cell Int* **21**, 474 (2021). <https://doi.org/10.1186/s12935-021-02172-8>.
6. Ranjbar, M., Salehi, R., Haghjooy Javanmard, S. *et al.* The dysbiosis signature of *Fusobacterium nucleatum* in colorectal cancer-cause or consequences? A systematic review. *Cancer Cell Int* **21**, 194 (2021). <https://doi.org/10.1186/s12935-021-01886-z>

7. Emami Nejad, A., Najafgholian, S., Rostami, A. *et al.* The role of hypoxia in the tumor microenvironment and development of cancer stem cell: a novel approach to developing treatment. *Cancer Cell Int* **21**, 62 (2021). <https://doi.org/10.1186/s12935-020-01719-5>.
8. Manian M, Sohrabi E, Eskandari N, Assarehzadegan MA, Ferns GA, Nourbakhsh M, Jazayeri MH, Nedaeinia R. An Integrated Bioinformatics Analysis of the Potential Regulatory Effects of miR-21 on T-cell Related Target Genes in Multiple Sclerosis. *Avicenna J Med Biotechnol.* 2021 Jul-Sep;13(3):149-165. doi: 10.18502/ajmb.v13i3.6364. PMID: 34484645; PMCID: PMC8377402.
9. Keshvari, M., Nedaeinia, R., Nedaeinia, M. *et al.* Assessment of heavy metal contamination in herbal medicinal products consumed in the Iranian market. *Environ Sci Pollut Res* **28**, 33208–33218 (2021). <https://doi.org/10.1007/s11356-021-13020-7>
10. Human placental extract attenuates neurological symptoms in the experimental autoimmune encephalomyelitis model of multiple sclerosis-a putative approach in MS disease? MH Jazayeri, R Nedaeinia, T Aghaie, M Motallebnezhad, *Autoimmunity Highlights* 11 (1), 1-9. 2020.
11. Therapeutic inhibition of microRNA-21 (miR-21) using locked-nucleic acid (LNA)-anti-miR and its effects on the biological behaviors of melanoma cancer cells in preclinical studies Shaghayegh Haghjooy Javanmard, Golnaz Vaseghi, Ahmad Ghasemi, Laleh Rafiee, Gordon A Ferns, Hajar Naji Esfahani, Reza Nedaeinia. *Cancer Cell International* 20 (1), 1-12. 2020
12. Screening of Potential Inhibitors of Covid-19 with Repurposing Approach Via Molecular Docking. Negin Alizadehmohajer, Bahman Sadeghi, Simin Najafgholian, Shabnam Moradi, Forogh Mohammadi, Reza Nedaeinia, Ehsan Sohrabi, Rasoul Salehi, Gordon A Ferns, Mostafa Manian, Asieh Emami Nejad. Preprint. 2020.
13. Construction of a sensitive and specific lead biosensor using a genetically engineered bacterial system with a luciferase gene reporter controlled by pbr and cadA promoters. E Nourmohammadi, S Hosseinkhani, R Nedaeinia, H Khoshdel-Sarkarizi, ...*BioMed Eng OnLine* **19**, 79 (2020). <https://doi.org/10.1186/s12938-020-00816-w>
14. Association between the microbiota and women's cancers—Cause or consequences? N Alizadehmohajer, S Shojaeifar, R Nedaeinia, M Esparvarinha, ...*Biomedicine & Pharmacotherapy* 127, 110203. 2020.
15. Rapid noninvasive detection of bladder cancer using survivin antibody-conjugated gold nanoparticles (GNPs) based on localized surface plasmon resonance (LSPR). MH Jazayeri, T Aghaie, R Nedaeinia, M Manian, H Nickho. *Cancer Immunology, Immunotherapy*, 1-8.2020.
16. Cerium oxide nanoparticles: A promising tool for the treatment of fibrosarcoma in-vivo. E Nourmohammadi, H Khoshdel-sarkarizi, R Nedaeinia, M Darroudi ...*Materials Science and Engineering: C* 109, 110533. 2020.

17. Designing a multifunctional staphylokinase variant (SAK-2RGD-TTI) with appropriate thrombolytic activity in vitro. H Faraji, F Soltani, M Ramezani, HR Sadeghnia, R Nedaeinia, ... *Biotechnology Letters* 42 (1), 103-114. 2020.
18. Bacterial staphylokinase as a promising third-generation drug in the treatment for vascular occlusion. R Nedaeinia, H Faraji, SH Javanmard, GA Ferns, M Ghayour-Mobarhan ...*Molecular biology reports* 47 (1), 819-841. 2020.
19. Evaluation of the frequency of CD5⁺ B cells as natural immunoglobulin M producers and circulating soluble CD5 in patients with bladder cancer. Z Roudafshani, MH Jazayeri, AR Mahmoudi, R Nedaeinia, E Safari, ...*Molecular biology reports* 46 (6), 6405-6411. 2019.
20. Identification of an Immunoglobulin M (IgM) Antibody Against Enolase 1 Protein (ENO1) Derived from HEK-293 Cells in Patients with Kidney Failure. MH Jazayeri, M Sadri, A Mostafaie, R Nedaeinia. *International Journal of Peptide Research and Therapeutics*, 1-7. 2019.
21. Evaluation of anticancer effects of cerium oxide nanoparticles on mouse fibrosarcoma cell line. E Nourmohammadi, H Khoshdel-Sarkarizi, R Nedaeinia, HR Sadeghnia, ...*Journal of Cellular Physiology* 234 (4), 4987-4996. 2019.
22. Novel application of Nanotechnology in drug and Gene delivery: emphasis on Liposomes. E Nourmohammadi, R Nedaeinia, M Goli, S Hosseini Teshnizi, ...*International Journal of Pharmaceutical and Phytopharmacological Research* 8 (6), 81-91. 2018.
23. A review on application of novel solid nanostructures in drug delivery. H Faraji, R Nedaeinia, E Nourmohammadi, B Malaekheh-Nikouei ...*Journal of Nano Research* 53, 22-36. 2018.
24. Evaluation of miR-21 inhibition and its impact on cancer susceptibility candidate 2 long noncoding RNA in colorectal cancer cell line. M Simonian, M Sharifi, R Nedaeinia, M Mosallaie, S Khosravi, A Avan, ...*Advanced biomedical research* 7: 14. 2018.
25. Current status and perspectives regarding LNA-Anti-miR oligonucleotides and microRNA miR-21 inhibitors as a potential therapeutic option in treatment of colorectal cancer. R Nedaeinia, A Avan, M Ahmadian, SN Nia, M Ranjbar, M Sharifi, M Goli, ...*Journal of cellular biochemistry* 118 (12), 4129-4140.2017.
26. Inhibition of microRNA-21 via locked nucleic acid-anti-miR suppressed metastatic features of colorectal cancer cells through modulation of programmed cell death 4. R Nedaeinia, M Sharifi, A Avan, M Kazemi, A Nabinejad, GA Ferns, ... *Tumor Biology* 39 (3), 1010428317692261. 2017.
27. Exosome-encapsulated microRNAs as potential circulating biomarkers in colon cancer. M Hosseini, S Khatamianfar, S Mahdi Hassanian, R Nedaeinia, M Shafiee, ...*Current pharmaceutical design* 23 (11), 1705-1709. 2017.
28. Circulating exosomes and exosomal microRNAs as biomarkers in gastrointestinal cancer R Nedaeinia, M Manian, MH Jazayeri, M Ranjbar, R Salehi, M Sharifi, ...*Cancer Gene Therapy* 24 (2), 48-56. 2017.

29. *Pimpinella anisum* L. ethanolic extract ameliorates the gentamicin- induced nephrotoxicity in rats. S Changizi-Ashtiyani, A Seddigh, H Najafi, N Hossaini, A Avan, A Akbary, ...
30. *Nephrology* 22 (2), 133-138. 2017.
31. Locked nucleic acid anti-miR-21 inhibits cell growth and invasive behaviors of a colorectal adenocarcinoma cell line: LNA-anti-miR as a novel approach. R Nedaenia, M Sharifi, A Avan, M Kazemi, L Rafiee, ...*Cancer gene therapy* 23 (8), 246-253. 2016.
32. Association between serum cytokine concentrations and the presence of hypertriglyceridemia. SR Mirhafez, M Tajfard, A Avan, A Pasdar, R Nedaenia, M Aghasizade, ...*Clinical biochemistry* 49 (10-11), 750-755. 2016.
33. Novel delivery system for natural products: Nano-curcumin formulations. HR Rahimi, R Nedaenia, AS Shamloo, S Nikdoust, RK Oskuee. *Avicenna journal of phytomedicine* 6 (4), 383. 2016
34. The association of high risk human papillomaviruses in patients with cervical cancer: an evidence based study on patients with squamous cell dysplasia or carcinoma for ...A Piroozmand, SM Mostafavi Zadeh, A Madani, R Soleimani, R Nedaenia, ...*Jundishapur journal of microbiology* 9 (4). 2016.
35. Early detection of colorectal cancer: from conventional methods to novel biomarkers. N Vatandoost, J Ghanbari, M Mojaver, A Avan, M Ghayour-Mobarhan, ... *Journal of cancer research and clinical oncology* 142 (2), 341-351. 2016.
36. Association of E6 gene expression of high risk human papillomaviruse HPV 18 in patients with cervical squamous cell dysplasia and Cancerous Lesions. M Mostafavi Zadeh, M Niakan, R Nedaenia, M Manian, A Avan,. *The Iranian Journal of Virology.* 9(3). 37-43. 2015.
37. EGFR as a potential target for the treatment of pancreatic cancer: dilemma and controversies. R Nedaenia, A Avan, M Manian, R Salehi, M Ghayour-Mobarhan. *Current drug targets* 15 (14), 1293-1301. 2014.
38. The Effects of Anabolic-Androgenic Steroid Drugs Consumption on Blood Factors in Bodybuilder's Athletes in Jahrom,Iran. K DORRY, R NEDAEINIA, V HEMAYATKHAH JAHROMIE, M NADERIAN. *Medical Laboratory Journal* 4 (1). 2014.
39. Multiplex-Polymerase Chain Reaction as a Mastitis Screening Test for Major Pathogens in Dairy Cattle Farms at Different Size Scales and in Several Parities. M GOLI, H EZZATPANAHI, M GHAVAMI, M CHAMANI, R NEDAEINIA. *JOURNAL OF RESEARCH IN AGRICULTURAL SCIENCE* 8 (114), 23-33. 2012.
40. Characterization of Iranian *Pectobacterium carotovorum* Strains from Sugar Beet by Phenotypic Tests and Whole-cell Proteins Profile. A Fassihiani, R Nedaenia. *Journal of phytopathology* 156 (5), 281-286. 2008.

PRESENTATIONS

- 1- R.Nedaeinia¹ and A.Fassihiani².Reaction of sugar beet cultivars to *Erwinia carotovora subsp. Betavascularum* the causal agent vascular necrosis and rot of sugar beet,16th Iranian Plant Protection Congress,23 Aug-1. Sept.2004(Tabriz-Iran).
- 2- R.Nedaeinia ¹ and A.Fassihiani².Study on the strains of bacterial vascular necrosis and sugar beet soft rot in Fars province. 16th Iranian Plant Protection Congress,23 Aug-1 Sept.2004(Tabriz-Iran).
- 3- A.Fassihiani¹and R.Nedaeinia ².Host range of *Erwinia carotovora subsp. betavascularum* the causal agent bacterial vascular necrosis and soft rot of sugar beet, 16th Iranian Plant Protection Congress,23 Aug-1 Sept. 2004(Tabriz-Iran).
- 4- R.Nedaeinia ¹ and A.Fassihiani². Etiology of Sugar Beet Soft Rot in Fars province, the 1st National Iranian Conference of Applied Microbiology, Alzahra University-July2007(Tabriz-Iran).
- 5- S.Javadi_ R.Nedaeinia _M.Hejazi_M.Zahedi. Qualitative evaluation of hamburgers for supply in Isfahan in 2002, the 1st Congress of Food Safety and 52nd Congress of Medical News dated on 16 Oct.2007(Isfahan-Iran).
- 6- R.Nedaeinia¹ and A.Fassihiani²,Evaluation of physiological and biochemical diversity among *Pectobacteriums*,the causal agent for vascular necrosis of sugar beet in Fars province, the 1st Congress of Food Safety and 52nd Congress of Medical News dated on 16 Oct.2007(Isfahan-Iran).
- 8- S.Javadi_ R.Nedaeinia _M.Hejazi, Application of nanobiotechnology in food Industry, Islamic Azad University- jooybar branch. May 8, 2008(Jooybar-Iran).

Membership of Society

1. Iranian Biology Society
2. Iranian Society of Microbiology

English Chapter book:

Reza Nedaeinia, Sima Jafarpour, Maryam Ranjbar, Parnian Poursafa, Rasoul Salehi. Chapter 9. Different aspects of lifestyle genomics in health and disease

STATEMENT OF RESEARCH

My interests are: detection and identification of a disease with unknown etiology, the use of antisense oligonucleotides (ASO) to modulate gene expression with target degradation by RNase H-mediated cleavage, splicing modulation, non-coding RNA inhibition, gene activation, and programmed gene editing. Also, ASOs can be used as the therapeutic potential of cancer and cancer resistance to treatment. The use of ASO also targets microbial agents such as viruses. In addition, I have previously performed studies about Gapmer technology such as Locked nucleic acid (LNA) anti-miR-21 for inhibiting cell growth and invasive behaviors of a colorectal adenocarcinoma cell line. We have designed chicken embryo modeling to inhibition of cancer cell metastasis to the lung epithelium and their diagnosis by ALU-q PCR using the 2- $\Delta\Delta$ CT method.