

Ladan Teimoori-Toolabi Curriculum vitae

General information:

Name: Ladan Teimoori-Toolabi

Gender: Female

Profession: Professor of Medical Biotechnology, Molecular Medicine Department, Biotechnology Research Center

Marital Status: Married, Three children

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Place of Birth: Shiraz/Iran

Nationality: Iranian

Date of Birth: 3/21/1976

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Google Scholar link: [Ladan Teimoori-Toolabi - Google Scholar](#)

Education:

- Diploma of Experimental Sciences 1994, Farzanegan High School , National Organization of Training of Brilliant Talents ,Tehran;
- Medical Doctor(M.D) from Tehran University Of Medical Sciences, 2002

Thesis title: Studying the relationship between chimerism and clinical outcome of patients undergone Bone Marrow Transplantation in Shariati Hospital

- Ph.D. Medical Biotechnology , Pasteur institute of Iran ,Tehran, 2009

Thesis Title: Designing and constructing two suicide gene therapy specific for colon cancer and studying its effect in vitro

- Post Doctoral Fellowship, Pasteur Institute of Iran, 2010-2011, Designing construct for producing knock out mice

Honors and Distinctions:

- One of 40 students of Chemistry Olympiad Camp in 1993 selected from all around Iran
- First rank and the best score at National Entrance Examination in 1994 (Natural Science group of examination among 350000 examinees)
- The award of best student in Pasteur Institute of Iran in 2007
- The award of best researcher among Associate professors in 2017
- Winner of UNESCO-L'Oreal cosponsored fellowship for young women in life science- 2011
- Two weeks course of advanced Cellular Biology in Pasteur-Hong Kong University Research Center, 15-27 April 2012, Hong Kong

Academic Positions:

- Ph.D. student, 2002-2009
- Postdoctoral fellowship in Molecular Medicine Department, Pasteur institute of Iran, 2010-2011
- Assistant professor in Molecular Medicine Department, Biotechnology Research Center, Pasteur institute of Iran, 2011 till 2016
- Associate professor in Molecular Medicine Department, Biotechnology Research Center, Pasteur Institute of Iran, 2016 till 2021
- Professor in Molecular Medicine Department, Biotechnology Research Center, Pasteur Institute of Iran, 2021 till now
- Previous Member of education Council of Pasteur Institute of Iran, March 2018- March 2020

- Previous Member of Technology Council of Pasteur Institute of Iran, 2013-2014
- Editorial board of different international journals such as “World Journal of Gastrointestinal Oncology”
- Member of Ethic’s Committee, Pasteur Institute of Iran, September 2020- till now
- Member of Equipment Committee, Pasteur Institute of Iran

Non-academic and industrial activities:

- CEO of Humdiagnostics Startup company 2021- till now Field of activity: designing diagnostic kits for cancer and other diseases
- Member of HumImmune startup company board 2014 till now field of activity: designing vaccine and Virotherapy of cancer

Professional activities:

- Working as a scientific translator in Novin Pezeshki Journal, 2000-2002
- Practicing as a General Physician in Charity hospital of Seyyed-o Shohada 2002-2006

Major Projects:

- Working in research group of Relationship of Apo lipoprotein E Genotype and Menopause in Iranian Women in NRCGEB (National Research Center for Genetic Engineering and Biotechnology), 2000-2002
- Studying the Relationship of Mixed Chimerism and Bone Marrow Transplantation Clinical outcome in Shariati hospital ,Tehran ,Iran,2001-2002
- Working in Hepatitis and AIDS Department of Pasteur institute of Iran (HTLV DNA Vaccine group) 2003 -2005
- Participating in the project of Optimal Management in Medical Research at National Center of Medical Research,2002 -2005
- Studying the frequency of CARD15 mutations in Iranian IBD patients 2004 to 2007 in Digestive Disease Research Center(DDRC), Shariati Hospital ,Tehran University of Medical Sciences, Tehran ,Iran

- Ph.D. Thesis project: "Designing and Construction of two specific suicide gene therapy constructs for colon cancer gene therapy" 2005 -2008⁹
- Working in the project of Tehran University of Medical Science "Studying the resistance of colon cancer cells to 5-FU induced by k-ras mutation"2009 - 2012
- Conducting the project of "Studying the autophagy genes in Iranian Crohn's patients"2010 till now
- Working in the project of "Immortalization of cells for usage in prenatal diagnosis" 2011
- Conducting the project of "Studying the resistance of lung cancer cell lines to cisplatin and gemcitabine by silencing k-ras signaling pathway" 2011-2012
- Conducting the project of UNESCO of "Studying the methylation status of wnt inhibitory factors as markers of colorectal cancer in the blood" 2011-2013
- Conducting the project of Pasteur Institute of Iran "Studying the methylation and expression of Wnt inhibitory factors in colon cancer patients" 2011-2014
- Conducting the project of Iranian National Science Foundation (INSF) "Studying the relationship between methylation and expression of wnt inhibitory factors in colon cancer tissues to response of patients to chemotherapy" , 2012 -2016
- Conducting the project of "Studying the k-ras mutation by Real Time PCR", Pasteur Institute of Iran, Finished
- Conducting project of "Studying the methylation of MLH1, APC, UNC5C, P16 and P14 as biomarkers of colorectal cancer", Pasteur Institute of Iran, Finished
- Conducting Project of "Designing peptides against LRP6 by studying the common parts of all DKK family members", Tehran University of Medical Sciences, Finished
- Conducting the Project of "Rational design, synthesis of Dipkofpp3 or DKK3-derived peptides and evaluating their effects on proliferation and apoptosis of colon cancer cell lines." , Pasteur Institute of Iran, Finished
- Conducting the project of "Application of herpes simplex virus expressing IL-12 and Fas ligand for inducing death in pancreatic cancer cell lines", Pasteur Institute of Iran, Finished

- Conducting the project of "Studying the genetic factors predisposing to COVID patients to severe types of disease", National Institute of Medical Research Development (NIMAD), Ongoing
- Conducting the project of "Studying the genetic and epigenetic biomarkers in blood cfDNA of Non-Small Cell Lung Cancer patients and introducing diagnostic panel according to these biomarkers, Charity foundation of Cancer, ongoing
- Conducting the project of "Designing screening kit for diagnosis of colorectal and Pancreatic cancer from blood samples based on assessing the methylation by real Time PCR method"
- Conducting the project of "Detection of pathogenic mutations in hereditary colorectal cancer patients affected Familial Adenomatous Polyp (FAP) by standard methods and when needed NGS and investigating the mutation of Lynch patients whose mutations were not identified by the conventional methods using NGS method", Pasteur Institute of Iran, ongoing

Publications:

- 1- Kelishadi M, Shahsavarani H, Tabarraei A, Shokrgozar MA, Rahimi A, **Teimoori-Toolabi L**, Azadmanesh K. **Exploiting non-permissive CHO cells as a rapid and efficient method for recombinant HSV-1 isolation**. *AMB Express*. 2024 May 9; 14(1):53.
- 2- Khalili E, Afgar A, Rajabpour A, Aghaee-Bakhtiari SH, Jamialahmadi K, **Teimoori-Toolabi L**. **MiR-548c-3p through suppressing *Tyms* and *Abcg2* increases the sensitivity of colorectal cancer cells to 5-fluorouracil**. *Heliyon*. 2023 Nov 5; 9(11):e21775.
- 3- Kelishadi M, Shahsavarani H, Tabarraei A, Shokrgozar MA, **Teimoori-Toolabi L**, Azadmanesh K. **The chicken chorioallantoic membrane model for isolation of CRISPR/cas9-based HSV-1 mutant expressing tumor suppressor p53**. *PLoS One*. 2023 Oct 20;18(10):
- 4- Nejatipour Z, **Teimoori-Toolabi L**, Forooshani RS, Barough MS, Farahmand M, Biglari A, Azadmanesh K. **Looking for biomarkers in interferon response pathway to predict response to oncolytic HSV-1 in breast cancer: An ex vivo study**. *Cancer Biomark*. 2023; 38(1):37-47.
- 5- Khatami F, Shahriari S, Aminimoghaddam S, Klashami ZN, Farahani MS, **Teimoori-Toolabi L**, Amoli MM, Asadi M, Rashidi BH. ***PTEN* promoter methylation and expression in endometrial cancer tissues**. *Epigenomics*. 2023 Apr;15(8):507-516.

- 6- Shahbazi B, Mafakher L, Arab SS, **Teimoori-Toolabi L. Kallistatin as an inhibitory protein against colorectal cancer cells through binding to LRP6.** J Biomol Struct Dyn. 2023 Apr 28;1-17.
- 7- Sheikholeslami S, Zarif-Yeganeh M, Farashi S, Azizi F, Kia SK, **Teimoori-Toolabi L, Hedayati M. Promoter Methylation of Tumor Suppressors in Thyroid Carcinoma: A Systematic Review.** Iran J Public Health. 2021 Dec; 50(12):2461-2472.
- 8- Gheidari F, Arefian E, Saadatpour F, Kabiri M, Seyedjafari E, **Teimoori-Toolabi L, Soleimani M. The miR-429 suppresses proliferation and migration in glioblastoma cells and induces cell-cycle arrest and apoptosis via modulating several target genes of ERBB signaling pathway.** Mol Biol Rep. 2022 Dec;49(12):11855-11866
- 9- Sheikholeslami S, Azizi F, Ghasemi A, Alibakhshi A, Parsa H, Shivaee S, Zarif-Yeganeh M, Hedayati M, Teimoori-Toolabi L. **The Epigenetic Modification of SLC5A8 in Papillary Thyroid Carcinoma and its Effects on Clinic-Pathological Features.** Iran J Public Health. 2022 Mar; 51(3):634-642.
- 10- Kiani-Zadeh M, Rezvany MR, Namjoo S, Barati M, Mohammadi MH, Ghasemi B, Tabatabaei T, Ghavamzadeh A, Zaker F, **Teimoori-Toolabi L. Studying the potential of upregulated PTGS2 and VEGF-C besides hyper-methylation of PTGS2 promoter as biomarkers of Acute myeloid leukemia.** Mol Biol Rep. 2022 Jun 22.
- 11- Shahbazi B, Arab SS, Mafakher L, Azadmansh K, **Teimoori-Toolabi L. Computational assessment of pigment epithelium-derived factor as an anti-cancer protein during its interaction with the receptors.** J Biomol Struct Dyn. 2022 May 5:1-17.
- 12- Poorebrahim M, Abazari MF, Moradi L, Shahbazi B, Mahmoudi R, Kalhor H, Askari H, **Teimoori-Toolabi L. Multi-targeting of K-Ras domains and mutations by peptide and small molecule inhibitors.** PLoS Comput Biol. 2022 Apr 26; 18(4):e1009962.
- 13- Shoushtari M, Mafakher L, Rahmati S, Salehi-Vaziri M, Arashkia A, Roohvand F, **Teimoori-Toolabi L, Azadmanesh K. Designing vaccine candidates against dengue virus by in silico studies on structural and nonstructural domains.** Mol Cell Probes. 2022 Jun; 63:101818. Epub 2022 Apr 21.
- 14- Alizadeh-Sedigh M, Mahmoodzadeh H, Fazeli MS, Haddadi-Aghdam M, **Teimoori- Toolabi L. The potential of PIK3CA, KRAS, BRAF, and APC hotspot**

- mutations as a non-invasive detection method for colorectal cancer.** Mol Cell Probes. 2022 Jun; 63:101807.
- 15- Shahbazi B, Mafakher L, **Teimoori-Toolabi L. Different compounds against Angiotensin-Converting Enzyme 2 (ACE2) receptor potentially containing the infectivity of SARS-CoV-2: an in silico study.** J Mol Model. 2022 Mar 5; 28(4):82.
 - 16- Alizadeh-Sedigh M, Fazeli MS, Mahmoodzadeh H, Sharif SB, **Teimoori-Toolabi L. Methylation of FBN1, SPG20, ITF2, RUNX3, SNCA, MLH1, and SEPT9 genes in circulating cell-free DNA as biomarkers of colorectal cancer.** Cancer Biomark. 2021 Dec 17. Online ahead of print.
 - 17- Sharifiaghdam M, Shaabani E, Sharifiaghdam Z, De Keersmaecker H, Lucas B, Lammens J, Ghanbari H, **Teimoori-Toolabi L**, Vervaet C, De Beer T, Faridi-Majidi R, De Smedt SC, Braeckmans K, Fraire JC. **Macrophage reprogramming into a pro-healing phenotype by siRNA delivered with LBL assembled nanocomplexes for wound healing applications.** Nanoscale. 2021 Sep 10.
 - 18- Haghighi-Najafabadi N, Roohvand F, Shams Nosrati MS, **Teimoori-Toolabi L**, Azadmanesh K. **Oncolytic herpes simplex virus type-1 expressing IL-12 efficiently replicates and kills human colorectal cancer cells.** Microb Pathog. 2021 Sep 1; 160:105164.
 - 19- Fakhr E, Zare F, Azadmanesh K, **Teimoori-Toolabi L. LEF1 silencing sensitizes colorectal cancer cells to oxaliplatin, 5-FU, and irinotecan.** Biomed Pharmacother. 2021 Aug 30; 143:112091
 - 20- Gheidari F, Arefian E, Adegani FJ, Kalhori MR, Seyedjafari E, Kabiri M, **Teimoori-Toolabi L**, Soleimani M. **miR-424 induces apoptosis in glioblastoma cells and targets AKT1 and RAF1 oncogenes from the ERBB signaling pathway.** Eur J Pharmacol. 2021 Sep 5; 906
 - 21- Khaligh A, Fazeli MS, Mahmoodzadeh H, Mehrtash A, Kompanian S, Zeinali S, **Teimoori-Toolabi L . Improved Microsatellite Instability detection in colorectal cancer patients by a combination of fourteen markers especially DNMT3a, DCD, and MT1X.** Cancer Biomark. 2021 May 6. doi: 10.3233/CBM-203226. Online ahead of print.
 - 22- Sheikholeslami s, Azizi F, Ghasemi A, Alibakhshi A, Parsa H , Tavangar SM , Shivaee S , Zarif Yeganeh M , Hedayati M, **Teimoori-Toolabi L, NOL4 is Downregulated and Hyper-Methylated in Papillary Thyroid Carcinoma**

- Suggesting Its Role as a Tumor Suppressor Gene**, International Journal of Endocrinology and Metabolism: 18 (4); e108510
- 23- Jahangiri R, Mosaffa F, Emami Razavi A, **Teimoori-Toolabi L**, Jamialahmadi K. **PAX2 promoter methylation and A/B1 overexpression promote tamoxifen resistance in breast carcinoma patients.** J Oncol Pharm Pract. 2021 Jan 28;1078155221989404
- 24- Enayatkhani M, Salimi M, Azadmanesh K, **Teimoori-Toolabi L**. **In-silico identification of new inhibitors for Low-density lipoprotein receptor-related protein6 (LRP6).** J Biomol Struct Dyn. 2020 Dec 18:1-11.
- 25- Kalhor H, Rahimi H, Akbari Eidgahi MR, **Teimoori-Toolabi L**. **Novel Small Molecules against Two Binding Sites of Wnt2 Protein as potential Drug Candidates for Colorectal Cancer: A Structure Based Virtual Screening Approach.** Iran J Pharm Res. 2020 Spring;19(2):160-174.
- 26- Mafakher L, Rismani E, Rahimi H, Enayatkhani M, Azadmanesh K, **Teimoori-Toolabi L**. **Computational design of antagonist peptides based on the structure of secreted frizzled-related protein-1 (SFRP1) aiming to inhibit Wnt signaling pathway.** J Biomol Struct Dyn. 2020 Nov 6:1-20.
- 27- Khatami F, Larijani B, Heshmat R, Nasiri S, Haddadi-Aghdam M, **Teimoori-Toolabi L**, Tavangar SM; **Hypermethylated RASSF1 and SLC5A8 promoters alongside BRAF^{V600E} mutation as biomarkers for papillary thyroid carcinoma.** J Cell Physiol. 2020 Feb 4.
- 28- Poorebrahim M, Sadeghi S, Ghanbarian M, Kalhor H, Mehrtash A, **Teimoori-Toolabi L**. **Identification of candidate genes and miRNAs for sensitizing resistant colorectal cancer cells to oxaliplatin and irinotecan.** Cancer Chemother Pharmacol. 2019 Nov 28
- 29- Khatami F, **Teimoori-Toolabi L**, Heshmat R, Nasiri S, Saffar H, Mohammadamoli M, Aghdam MH, Larijani B, Tavangar SM. **Circulating ctDNA methylation quantification of two DNA methyl transferases in papillary thyroid carcinoma.** J Cell Biochem. 2019 May 24.
- 30- Abdoli S, Roohvand F, **Teimoori-Toolabi L**, Shayan S, Shokrgozar MA. **Cytotoxic effect of dual fluorescent-labeled oncolytic herpes simplex virus type 1 on mouse tumorigenic cell lines.** Res Pharm Sci. 2019 Feb;14(1):27-35

- 31- Dianat-Moghadam H, **Teimoori-Toolabi L. Implications of Fibroblast Growth Factors (FGFs) in Cancer: From Prognostic to Therapeutic Applications.** Curr Drug Targets. 2019; 20(8):852-870.
- 32- Sedaghat F, Cheraghpour M, Hosseini SA, Pourvali K, **Teimoori Toolabi L, Mehrtash A, Talaei R, Zand H. Hypomethylation of NANOG promoter in colonic mucosal cells of obese patients: a possible role of NF- κ B - CORRIGENDUM.** Br J Nutr. 2019 Jan 11:1.
- 33- Ghanbarian M, Afgar A, Yadegarazari R, Najafi R, **Teimoori-Toolabi L. Through oxaliplatin resistance induction in colorectal cancer cells, increasing ABCB1 level accompanies decreasing level of miR-302c-5p, miR-3664-5p and miR-129-5p.** Biomed Pharmacother. 2018 Dec; 108:1070-1080.
- 34- Kalhor H, Poorebrahim M, Rahimi H, Shabani AA, Karimipoor M, Akbari Eidgahi MR, **Teimoori-Toolabi L. Structural and dynamic characterization of human Wnt2-Fzd7 complex using computational approaches.** J Mol Model. 2018 Sep 6;24(10):274.
- 35- Sadeghi S, Poorebrahim M, Rahimi H, Karimipoor M, Azadmanesh K, Khorramizadeh MR, **Teimoori-Toolabi L. In Silico studying of the whole protein structure and dynamics of Dickkopf family members showed that N terminal domain of Dickkopf 2 in contrary to other Dickkopfs facilitates its interaction with Low Density Lipoprotein Receptor Related Protein 5/6.** J Biomol Struct Dyn. 2018 Jul 23:1-46.
- 36- **Teimoori-Toolabi L, Samadpoor S, Mehrtash A, Ghadir M, Vahedi H. Among autophagy genes, ATG16L1 but not IRGM is associated with Crohn's disease in Iranians.** Gene. 2018 Jun 27.
- 37- Ostadrahimi S, Fayaz S, Parvizhamidi M, Abedi-Valugerdi M, Hassan M, Kadivar M, **Teimoori-Toolabi L, Asgari M, Shahrokh H, Abolhasani M, Mahdian R, Fard-Esfahani P. Downregulation of miR-1266-5P, miR-185-5P and miR-30c-2 in prostatic cancer tissue and cell lines.** Oncol Lett. 2018 May; 15(5):8157-8164.
- 38- Jahangiri R, Mosaffa F, Emami Razavi A, **Teimoori-Toolabi L, Jamialahmadi K. Altered DNA methyltransferases promoter methylation and mRNA expression are associated with tamoxifen response in breast tumors.** J Cell Physiol. 2018 Sep; 233(9):7305-7319.
- 39- Khorasani M, **Teimoori-Toolabi L, Farivar TN, Asgari M, Abolhasani M, Shahrokh H, Afgar A, Kalantari E, Peymani A, Mahdian R. Aberrant expression**

- of miR-141 and nuclear receptor small heterodimer partner in clinical samples of prostate cancer.** Cancer Biomark. 2018; 22(1):19-28.
- 40- Khatami F, Larijani B, Heshmat R, Keshtkar A, Mohammadamoli M, **Teimoori-Toolabi L**, Nasiri S, Tavangar SM. **Meta-analysis of promoter methylation in eight tumor-suppressor genes and its association with the risk of thyroid cancer.** PLoS One. 2017 Sep 19;12(9)
- 41- Rajabpour A, Afgar A, Mahmoodzadeh H, Radfar JE, Rajaei F, **Teimoori-Toolabi L**. **MiR-608 regulating the expression of ribonucleotide reductase M1 and cytidine deaminase is repressed through induced gemcitabine chemoresistance in pancreatic cancer cells.** Cancer Chemother Pharmacol. 2017 Sep 8.
- 42- Zaker F, Nasiri N, Amirizadeh N, Razavi SM, Yaghmaie M, **Teimoori-Toolabi L**, Maleki A, Bakhshayesh M. **Aberrant Methylation-Mediated Suppression of APAF1 in Myelodysplastic Syndrome.** Int J Hematol Oncol Stem Cell Res. 2017 Apr 1;11(2):114-120
- 43- Azizi M, Fard-Esfahani P, Mahmoodzadeh H, Fazeli MS, Azadmanesh K, Zeinali S, **Teimoori-Toolabi L**. **MiR-377 reverses cancerous phenotypes of pancreatic cells via suppressing DNMT1 and demethylating tumor suppressor genes.** Epigenomics. 2017 Jul 31.
- 44- Abdoli Sh, Roohvand F, **Teimoori-Toolabi L**, Shokrgozar MA, Bahrololoumi M, Azadmanesh K. **Construction of Various γ 34.5 Deleted Fluorescent-Expressing Oncolytic herpes Simplex type 1 (oHSV) for Generation and Isolation of HSV-Based Vectors.** Iran Biomed J. 2017 Jul;21(4):206-217
- 45- Johari B, Ebrahimi-Rad M, Maghsood F, Lotfinia M, Saltanatpouri Z, **Teimoori-Toolabi L**, Sharifzadeh Z, Karimipoor M, Kadivar M. **Myc Decoy Oligodeoxynucleotide Inhibits Growth and Modulates Differentiation of Mouse Embryonic Stem Cells as a Model of Cancer Stem Cells.** Anticancer Agents Med Chem. 2017
- 46- Rismani E, Fazeli MS, Mahmoodzadeh H, Movassagh A, Azami S, Karimipoor M, **Teimoori-Toolabi L**. **Pattern of LRP6 gene expression in tumoral tissues of colorectal cancer.** Cancer Biomark. 2017 Mar 31
- 47- Poorebrahim M, Sadeghi S, Rahimi H, Karimipoor M, Azadmanesh K, Mazlomi MA, **Teimoori-Toolabi L**. **Rational design of DKK3 structure-based small peptides as antagonists of Wnt signaling pathway and in silico evaluation of their efficiency.** PLoS One. 2017 Feb 24;12(2):e0172217.

- 48- Mousavi Ardehaie R, Hashemzadeh S, Behrouz Sharif S, Ghojzadeh M, **Teimoori-Toolabi L, Sakhinia E. Aberrant methylated EDNRB can act as a potential diagnostic biomarker in sporadic colorectal cancer while KISS1 is controversial.** Bioengineered. 2017 Jan 31:1-10.
- 49- Behrouz Sharif S, Hashemzadeh S, Mousavi Ardehaie R, Eftekharsadat A, Ghojzadeh M, Mehrtash AH, Estiar MA, **Teimoori-Toolabi L, Sakhinia E. Detection of aberrant methylated SEPT9 and NTRK3 genes in sporadic colorectal cancer patients as a potential diagnostic biomarker.** Oncol Lett. 2016 Dec;12(6):5335-5343. doi: 10.3892/ol.2016.5327.
- 50- Rajabpour A, Rajaei F, **Teimoori-Toolabi L. Molecular alterations contributing to pancreatic cancer chemoresistance.** Pancreatology. 2016 Dec 28. pii: S1424-3903(16)31260-1.Review.
- 51- Taji F, Kouchesfahani HM, Sheikholeslami F, Romani B, Baesi K, Vahabpour R, Edalati M, **Teimoori-Toolabi L, Jazaeri EO, Abdoli A. Autophagy induction reduces telomerase activity in HeLa cells.** Mech Ageing Dev. 2016 Dec 30. pii: S0047-6374(16)30218-4.
- 52- Adabi E, Saebi F, Moradi Hasan-Abad A, **Teimoori-Toolabi L, Kardar GA. Evaluation of an Albumin-Binding Domain Protein Fused to Recombinant Human IL-2 and Its Effects on the Bioactivity and Serum Half-Life of the Cytokine.** Iran Biomed J. 2017 Mar;21(2):77-83.
- 53- Afgar A, Fard-Esfahani P, Mehrtash A, Azadmanesh K, Khodarahmi F, Ghadir M, **Teimoori-Toolabi L. MiR-339 and especially miR-766 reactivate the expression of tumor suppressor genes in colorectal cancer cell lines through DNA methyltransferase 3B gene inhibition.** Cancer Biol Ther. 2016 Nov; 17(11):1126-1138.
- 54- Zaker F, Amirizadeh N, Nasiri N, Razavi SM, **Teimoori-Toolabi L, Yaghmaie M, Mehrasa R. Gene Expression and Methylation Pattern in HRK Apoptotic Gene in Myelodysplastic Syndrome.** Int J Mol Cell Med. 2016 spring; 5(2):90-9. Epub 2016 Jun 19.
- 55- Fakhr E, Zare F, **Teimoori-Toolabi L. Precise and efficient siRNA design: a key point in competent gene silencing.** Cancer Gene Ther. 2016 Apr; 23(4):73-82. doi: 10.1038/cgt.2016.4. Epub 2016 Mar 18. Review.
- 56- Ebrahimi A, Kardar GA, **Teimoori-Toolabi L, Ghanbari H, Sadroddiny E. Inducible expression of indoleamine 2, 3-dioxygenase attenuates acute rejection of tissue-engineered lung allografts in rats.** Gene. 2016 Jan 15; 576

- (1 Pt 3):412-20. Epub 2015 Oct 23. Erratum in: Gene. 2016 May 15; 582 (2):178. Toolabi, Ladan Teimoori [corrected to **Teimoori-Toolabi**, Ladan].
- 57- Mousavi B, Hedayati MT, **Teimoori-Toolabi L**, Guillot J, Alizadeh A, Badali H cyp51A gene silencing using RNA interference in azole-resistant *Aspergillus fumigatus*. *Mycoses*. 2015 Dec; 58(12):699-706.
- 58- MicroRNA profiling during germline differentiation of mouse embryonic stem cells. Ebrahimzadeh-Vesal R, Shokrgozar MA, Nayernia K, **Teimoori-Toolabi L**, Estiar MA, Miryounesi M, Nourashrafeddin S, Modarressi MH. *Cell Mol Biol (Noisy-le-grand)*. 2015 Jul 31; 61(3):84-91.
- 59- Ahmadivand S, Farahmand H, **Teimoori-Toolabi L**, Mirvaghefi A, Eagderi S, Geerinckx T, Shokrpour S, Rahmati-Holasoo H. **Boule gene expression underpins the meiotic arrest in spermatogenesis in male rainbow trout (*Oncorhynchus mykiss*) exposed to DEHP and butachlor.** *Gen Comp Endocrinol*. 2015 May.
- 60- Rasekhian M, **Teimoori-Toolabi L**, Amini S, Azadmanesh K. **An Enterovirus-Like RNA Construct for Colon Cancer Suicide Gene Therapy.** *Iran Biomed J*. 2015 May 30.
- 61- Ebrahimzadeh-Vesal R, Shokrgozar MA, Nayernia K, **Teimoori-Toolabi L**, Miryounesi M, Nourashrafeddin S, Ranji N, Modarressi MH. **A vector-based system for the differentiation of mouse embryonic stem cells toward germ-line cells.** *Iran J Basic Med Sci*. 2014 Aug; 17(8):566-70.
- 62- **Teimoori-Toolabi L**, Hashemi S, Azadmanesh K, Eghbalpour F, Safavifar F, Khorramizadeh MR. **Silencing the wild-type and mutant K-ras increases the resistance to 5-fluorouracil in HCT-116 as a colorectal cancer cell line.** *Anticancer Drugs*. 2015 Feb;26(2):187-96
- 63- Gheidari F, Bakhshandeh B, **Teimoori-Toolabi L**, Mehrtash A, Ghadir M, Zeinali S. **TCF4 silencing sensitizes the colon cancer cell line to oxaliplatin as a common chemotherapeutic drug.** *Anticancer Drugs*. 2014 Sep; 25(8):908-16.
- 64- Rasekhian M, Roohvand F, **Teimoori-Toolabi L**, Amini S, Azadmanesh K. **Application of the 3'-noncoding region of poliovirus RNA for cell-based regulation of mRNA stability: Implication for biotechnological applications.** *Biotechnol Appl Biochem*. 2014 Feb 25

- 65- Moazeni M, Khoramizadeh MR, **Teimoori-Toolabi L**, Noorbakhsh F, Rezaie S. **The effect of EFG1 gene silencing on down-regulation of SAP5 gene, by use of RNAi technology.** Acta Med Iran. 2014; 52(1):9-14
- 66- Azizi M, **Teimoori-Toolabi L**, Arzanani MK, Azadmanesh K, Fard-Esfahani P, Zeinali S. **MicroRNA-148b and microRNA-152 reactivate tumor suppressor genes through suppression of DNA methyltransferase-1 gene in pancreatic cancer cell lines.**Cancer Biol Ther. 2014 Jan 21; 15(4).
- 67- Kainimoghaddam Z , Valaei A, Bayat F, Taghavi Basmanj M, Navabmoghaddam F, Mortezaazadeh M, **Teimoori-Toolabi L**, Ahmadi S, Sadegh SH, Kordafshari A, Karimipoor M, Zeinali S. **Prenatal Diagnosis of β -thalassemia in Twin Pregnancies in Iran.** Achieves of Iranian Medicine, 2013, 16(10)
- 68- Moazeni M, Khoramizadeh MR, **Teimoori-Toolabi L**, Noorbakhsh F, Fallahi AA, Rezaie S. **Down-regulation of the ALS3 gene as a consequent effect of RNA-mediated silencing of the EFG1 gene in Candida albicans.** Iranian Biomedical Journal. 2012.16(4):172-8
- 69- Moazeni M, Khoramizadeh MR, Kordbacheh P, Sepehrizadeh Z, Zeraati H, Noorbakhsh F, **Teimoori-Toolabi L**, Rezaie S. RNA-Mediated Gene Silencing in Candida albicans: Inhibition of Hyphae Formation by Use of RNAi Technology. Mycopathologia. 2012 Apr 7
- 70- **Teimoori-Toolabi L**, Vahedi H, Mullahajian H, Kamali E, Hajizadeh-Sikaroodi SH et al ;” **Three common CARD15 mutations are not responsible for the pathogenesis of Crohn’s Disease in Iranians”** , Hepato-Gastroenterology. 2010 Mar-Apr;57(98):275-82
- 71- **Ladan Teimoori-Toolabi**, Kayhan Azadmanesh, Amir Amanzadeh, Sirous Zeinali, “**Selective suicide gene therapy of colon cancer exploiting Urokinase Plasminogen Activator receptor promoter**”: Biodrugs, 2010 Apr 1;24(2):131-46
- 72- **Ladan Teimoori-Toolabi**, Kayhan Azadmanesh, Sirous Zeianli, **Selective suicide gene therapy of colon cancer cell lines exploiting fibroblast growth factor 18 promoter: Cancer Biotherapy and radiopharmaceuticals**,2010 Feb;25(1):105-16
- 73- **Ladan Teimoori-Toolabi**, Kayhan Azadmanesh, Somayeh Jamali, Amir Amanzadeh, Morteza Karimipoor Sirous Zeinali: “**Studying the Activity of Fibroblast Growth Factor 18 and Urokinase Plasminogen Activator Receptor**

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74- Koochmeshgi J, Hosseini-Mazinani SM, Morteza Seifati S, Hosein-Pur-Nobari N, Teimoori-Toolabi L: **“Apolipoprotein E genotype and age at menopause”**; **Ann NewYork Academy of Science, Vol 1019 June 2004**

75- Jamali S, Emtiazjoo M, Teimoori-Toolabi L et al: **“Antimicrobial activity of the Persian Gulf Sea cucumber *Holoturia. SP* extracts on Three strain of *E.coli* (K12, TG1, TOP 10 F’)”** in **Tarbiat Modares Journal** , summer 2009

76- Rismani E, Rahimi H, Azadmanesh K, Arab S, Karimipoor M, Teimoori-Toolabi L. **“Abstract B2-44: Structure-based design of inhibitory peptides for LRP6”**. Cancer Research 75 (22_Supplement_2), B2-44-B2-44, 2015

77- Khodarahmi F, Fazeli MS, Mahmoodzadeh H, Mehrtash A, Keikhosravi N, Ghadir M, Teimoori-Toolabi L. **“P-214 Pattern of Dipkoff-2 gene expression in tumoral tissues of colorectal cancer and two tumor tissues of colorectal cancer and three cell lines (HUVEC, SW480 and HCT116)”**. Annals of Oncology 26, iv62, 2015

Presentations:

- 1- Poster presentation of **“Pattern of Dipkoff-1 gene expression in two normal colonic samples and three cell lines(A549,HCT116 and SW480)”** in International congress of Gastroenterology and Hepatology (ICGH), 2013, Tehran, Iran
- 2- Poster presentation of **“ Studying the predisposing mutations in IRGM gene in Iranian patients affected with Crohn’s Disease”** in Iranian Medical Genetics congress, May2013, Tehran, Iran
- 3- Poster presentation of **“ Studying the expression of DKK3 gene in pateints affected with colorectal cancer”** in Iranian Medical Genetics congress, May2013, Tehran, Iran
- 4- Poster presentation of **“Secreted frizzled related protein 1expression profiling in 11 patients of colorectal cancer and its clinical implication”** in International congress of Gastroenterology and Hepatology (ICGH), 2012, Tehran, Iran
- 5- Poster presentation of **“SFRP-5 gene expression profiling in colorectal cancer patients and its clinical implications”** in International congress of Gastroenterology and Hepatology (ICGH), 2012, Tehran, Iran

- 6- Poster presentation of **“Studying the effect of Tcf4 silencing on sensitivity of SW480 colon cancer cell line to Oxaliplatin, a common chemotherapeutic drug”** in International congress of Gastroenterology and Hepatology (ICGH), 2012, Tehran, Iran
- 7- Poster Presentation of **“Wnt signaling pathway seems a better target than k-ras pathway for colon cancer specific suicide gene therapy”** in 5th modern Drug Discovery and Development Summit, San Diego, USA, 15-17 October 2009
- 8- Poster Presentation of **“Designing and constructing a new package for further suicide gene therapy”** in European Human Genetics conference 2008 , Barcelona, Spain , **31st May- 3rd June 2008**
- 9- Oral presentation of **“Predicting GVHD grade by PCR-VNTR ”**at APBMTG(Asia Pacific Bone Marrow Transplantation Group)Congress in Mumbai ,India November 2002
- 10- Oral presentation of **“Designing and Constructing reporter constructs exploiting Wnt signaling pathway”** in International Health Genomics Congress 2007,Tehran, Iran
- 11- Poster presentation of **“Strategies for choosing inhibitors of Ras pathway”** 9th Iranian congress of biochemistry and 2nd International congress of biochemistry and molecular biology, Shiraz, Iran, 29th October-1st November 2007
- 12- Poster presentation of **“A mutated HTLV1 Tax expressing DNA vaccine may help suppressing Tax expressing tumor cell line in BALB/c mouse”** in Fourth Iranian Congress of Virology, 1-3 May 2007, Tehran, Iran.
- 13- Poster presentation **“Studying the 980fs981 mutation in CARD15 gene among Iranians affected by Crohn’s Disease”** Vahedi H, Mullahajian HR, Chalian H, Malekzadeh R, Teimoori-Toolabi L in 5th Iranian Congress of Gastroenterology and Hepatology(ICGH5), 2005

Patents:

Peptides for targeting LRP6-overexpressed cells

Patent number: US20210198329A1

Publication number: US 2021/0198329 A1

Granted: 7 Feb 2023

Publication date: July 1. 2021

Inventors: RISMANI ELHAM [IR]; TEIMOORITOLABI LADAN [IR]; KARIMIPOOR MORTEZA [IR]; ARAB SEYED SHAHRIAR [IR]

Applicants: RISMANI ELHAM [IR]; TEIMOORITOLABI LADAN [IR]; KARIMIPOOR MORTEZA [IR]; ARAB SEYED SHAHRIAR [IR]; PASTEUR INST OF IRAN [IR]

Projects of Ph.D. students:

- Construction of a Recombinant Oncolytic Herpes Simplex Virus Using hTETR as a Tumor Specific Promoter
- Studying the effect of methylation reducing miRNAs on inducing cell death and cancer phenotypes in colorectal cancer cells
- Studying the effect of inhibiting peptides against LRPs in proliferation and apoptosis of colon cancer cell lines
- Study of relationship between expression of Gemcitabine metabolizing genes (RRM1, CDA, DCK, SLC29A1) and their targeting microRNAs in pancreatic cancer cell lines and samples
- Designing peptides against LRP5/6 simulating DKK3
- Designing inhibitory peptides against LRP5/6 according to conserved domains of Dkk1 to DKK4 and studying its inhibitory effects on colorectal cancer cells
- Designing and selection of small molecules to inhibit Wnt signaling pathways at the cellular level and studying its effect on proliferation and apoptosis in colon cancer cells
- Studying the expression level of ERCC1, cFLIP, GSTp1, ABCB1 and predicted miRNAs during the development of oxaliplatin-resistant colorectal cancer cell lines
- Cloning, Expression and Purification of Recombinant HMW1, HMW2 and Hia proteins and the effects of immunization as a Vaccine Candidate of Nontypeable Haemophilus influenza
- Small molecule design and candidate against LRP 5/6 at extracellular level in Wnt signaling pathway in colon cancer
- Designing WNT inhibitory peptide on the basis of SFRPs homologous structures and study its inhibitory effect on colorectal cancer cell lines

- Engineering the herpes simplex virus in order to delete ICP34.5 and ICP47 and expression of IL-12 and targeted expression of ICP4 and studying its effect on colorectal cancer cells
- Assessment the Biomarkers of Microsatellite Instability in Iranian patients with Colorectal Cancer
- Evaluation of genetic and epigenetic biomarkers in circulating cell-free tumor DNA for early detection of colorectal cancer
- Design of small molecules candidates against LRP6 receptor based on the interaction of this receptor with serine protease inhibitor
- Studying the alterations in Tyms, Mdm2, AbcG2, and Smug and their targeting miRNAs in Colorectal cancer cell lines during their resistance induction
- Designing and construction of ICP34.5 deleted HSV-1 expressing P53 using *CRISPR/Cas9* mediated genome editing and evaluation of in vitro and in vivo anti-tumoral effects of the recombinant virus.
- Study of effect of miRNA on expression and function of genes which involve in resistance of colorectal cancer to irinotecan
- Assessment of DAPK1, SLC5A8, SOCS6, RSK4, NOL4 tumor Suppressor Genes methylation in Papillary Thyroid Cancer patients and the effect of Selenium on Methylation, of MRNA and Protein Expression in a Papillary thyroid Cancer Cell Line

Teaching experiences:

- 1- "Bioinformatics" course for Ph.D. students of Neuroscience, Tehran University of Medical Sciences
- 2- "Bioinformatics" course for Ph.D. students of Tissue Engineering, Tehran University of Medical Sciences.
- 3- "New Molecular Systems" course for Ph.D. students of Tissue Engineering, Tehran University of Medical Sciences.

- 4- "Gene Therapy" course for Ph.D. and M.Sc. students of Tehran University, Science Campus for six terms.
- 5- "Cancer Biology" course for Ph.D. and M.Sc. students of the Tehran University, Science Campus for three terms.
- 6- "Biomarkers" for the Ph.D. students of Systems Biology for more than two terms
- 7- "Primer design and gene prediction" in bioinformatics course for Ph.D. and M.Sc. students
- 8- "Cancer Biology and Cancer Genetics" in "Genetics course" for M.Sc. students of medical biotechnology
- 9- "Mitochondria" in biology course for Ph.D. students of Medical Biotechnology
- 10- "Gene transfer to animal cell" for Ph.D. students of Molecular Medicine
- 11- "Signaling based drug design" in New Technology Course for Ph.D. students of Medical Biotechnology
- 12- "Post transcriptional modifications" in advanced biology for Ph.D. students of medical biotechnology
- 13- "Post translational and post transcriptional modifications" in advanced genetics for Ph.D. students of pharmaceutical biotechnology
- 14- "Primer Design" for Ph.D. students of Medical Biotechnology in the course of Molecular diagnostics methods in Tehran University of Medical Sciences
- 15- Teaching as the conductor of the whole course of "Cellular and Molecular Mechanism of Cancer" for M.Sc. students of Cellular and Molecular Biology at Azad University of Drug Science
- 16- Teaching "Molecular diagnosis of Cancer" for Ph.D. students of Medical biotechnology in the course of "Molecular Diagnostics Methods" in Tehran University of Medical Science
- 17- Teaching the "Tumor Vaccines" in the course of "Application of biotechnology in vaccine, recombinant drugs and gene therapy" for Ph.D. students of medical biotechnology in Tehran University of medical sciences

- 18- Teaching “Gene Therapy” in the course of “ application of biotechnology in vaccine, recombinant drugs and gene therapy” for Ph.D. students of medical biotechnology in Tehran University of medical sciences
- 19- Being as the coordinator of “Genetic Engineering” in genetic engineering course for Ph.D. students of Medical Biotechnology in Tehran University of Medical Sciences
- 20- Teaching “Viral Vectors” in genetic engineering course for Ph.D. students of Medical Biotechnology in Tehran University of Medical Sciences
- 21- Teaching “Cloning and Transformation” in genetic engineering course for Ph.D. students of Medical Biotechnology in Tehran University of Medical Sciences and Pasteur Institute of Iran
- 22- Teaching “Genetic engineering in Gene therapy” in genetic engineering course for Ph.D. students of Medical Biotechnology

Teaching Experiences in Workshops:

- Being as a conductor and trainer in workshop of bioinformatics (Shahid Beheshti University), 2006
- Being as conductor in Bioinformatics workshop in Molecular Medicine network, 2006-2013
- Being as conductor in two series of methylation workshop, Molecular Medicine network, 2011 and 2012
- Being as a conductor and trainer in 3 workshops of basic methods in biotechnology workshops (Biotechnology Research Center, Pasteur Institute of Iran), 2005-2007
- Being as the manager and instructor of PCR and primer design workshop in Eastern Mediterranean genomic network (EMGEN), 2013
- Being as the instructor of primer design workshop webinar for Eastern Mediterranean genomic network (EMGEN), 2013
- Being as the manager and instructor of “Principles of Real-Time PCR” for more than 10 rounds from 2013
- Being the manager and instructor of “ Principles of HRM in genetic and epigenetic studies” for more than 8 rounds from 2014

- Being the manager and instructor of “ siRNA design” for one round, 2016

Technical Abilities:

Cloning, Protein Expression, protein purification, PCR, Animal study, Enzyme detection, Analysis of flowcytometry data, gene delivery methods including transfection and transduction, Real-time PCR, ELISA, Quality Control of biologic products, Designing of tests for biological products, Statistical analysis, bioinformatics (primer designing, promoter and sequence analysis, protein analysis, siRNA designing, protein structure analysis, peptide analysis), MonoClonal Antibody production, virus engineering, drug design by bioinformatics studies, Molecular Modelling, Molecular Docking, analysis and prediction of the protein structure, patent writing, patent searching, and intellectual property analysis.

Professional Interests:

Cancer Biology, Cancer Biomarkers, Gene therapy of Cancer, Drug Design, Protein design, Bioinformatics analysis of different molecules, Apoptosis signaling, Oncolytic Virotherapy, Drug resistance in Cancer, Early detection of cancer,

Social Activities:

- Being the member of Parents-School council for five years
- Being the head of Parent- School Council for two teaching years
- Editorial of a student journal in Tehran University of Medical Sciences,1997-2000
- Winner of Third prize in Student’s Report in Second Festival of Students Journals (A report about Women’s role in our country), 2000

Other Interests and Activities:

Swimming, Photographing, Mountain climbing, Indo-European language studies, linguistics studies, Historical studies, Archeological studies

Language Abilities:

- **Mother Tongue:** Persian, Lori (all dialects)
- **Other Languages:** Professional in English and Arabic ; Able to understand: Kurdish and French

- Score 633 in TOEFL exam