



Curriculum vitae

Name: Hamid

Surname: Madanchi

Birth date: 4, December, 1982

Place of birth: Mashhad

Nationality: Iranian

Present position : Assistant Professor (PhD) of Pharmaceutical Biotechnology, Department and Center for Biotechnology Research, Semnan University Of Medical Sciences

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(2012 – 2019) , **Ph.D of pharmaceutical biotechnology** , pasteur institute of iran , Iran ,Tehran

Field of research

- ☐ Pharmaceutical biotechnology
- ☐ Molecular and medical biotechnology, Molecular Cloning Bioinformatic
- ☐ Drug discovery, Designing and drug delivery
- ☐ Molecular biology and genetic engineering
- ☐ Immunology, Immunogenetic, immunoinformatic, Epitope mapping and vaccine
- ☐ Monoclonal antibody, phage display
- ☐ Genomics and proteomics, system biology
- ☐ Anti cancer and anti microbial peptide
- ☐ Identification and purification of antimicrobial agents

Title of theses in Ms.c :

A vaccine candidate challenge : Fusion of CtxB with StxB gene, Cloning and Expression of in Escherichia coli , A challenge for Improvement of Immune Response Against StxB

Title of theses in PhD :

Design and production of chimeric antimicrobial peptides with human origin for study of its properties , structure , measurement of the antimicrobial activity and cytotoxic effect on human cells

Skills and expertise

1- Molecular biology and biotechnology techniques

- ☐ **Genom and plasmid isolation and purification**
- ☐ **PCR** (PCR, RT-PCR, Real time PCR, SoeingPCR, Multiplex PCR)
- ☐ **Molecular Cloning and subcloning techniques**
 - **DNA digestion**
 - **DNA ligation**

- **DNA Transformation**

- ☐ **Gene gun and biolistics method for gene transfer to plant & animal hosts**
- ☐ **Electroporation method**
- ☐ **Electrophoresis** (Agarose gel electrophoresis , SDS-PAGE ,2D electrophoresis , capillary electrophoresis...)
- ☐ **DNA sequencing**
- ☐ **Southern blotting**
- ☐ **Fusion protein technique**
- ☐ **protein expression** : in bacterial ,yeast , fungi , plant and animals cell hosts...

2- Protein purification

- ☐ **Centrifuge techniques**
 - Sucrose-Density-Gradient-Centrifugation
 - Cscl2 gradient centrifugation
 - Centricon techniques
- ☐ **mineral and organic precipitation techniques**
- ☐ **Chromatography** (gel filtration chromatography , column affinity and Ion exchange chromatography , zonal or gradient chromatography)
- ☐ **Ultrafiltration and dialysis**
- ☐ **Ultrasonic degradation**

3- Analysis and validation techniques :

- ☐ HPLC , GC , FPLC
- ☐ UV – Vis spectrophotometry
- ☐ Nano drop & pico drop
- ☐ Circular dichroism Spectropolarimetry

4- Mammalian cell techniques

- ☐ animal cell culture
- ☐ gene transfer and transfection,
- ☐ cloning and protein production in mammalian hosts
- ☐ apoptosis studies
- ☐ biocompatibility test : MTT assay , ..
- ☐ cell toxicity test
- ☐ hemolytic test

5- extraction and purification of plants

- ☐ **juice extracting from plants**
 - filtration and ultrafiltration
 - Chromatography
 - Organic Solvents methods
- ☐ **DNA and protein extraction of plants**

6- Immunologic tests

- ☐ Immunization and serum study
- ☐ ELISA and RIA

- ☐ Western blotting
- ☐ Flowcytometry
- ☐ Cytotoxicity tests
- ☐ SRID
- ☐ Human and medical Serological test by kits
- ☐ Antibodise production
- ☐ Vaccine Challenge
- ☐ Adjvant usage and Study
- ☐ Ig purification by column
- ☐ Pathologic serology

7 – Monoclonal Antibody production

- ☐ Hybridoma technique
- ☐ Phage display & gene library methods
- ☐ Peptide library methods

8- Plant and bacterial toxin study

- ☐ production of bacterial toxin by biotechnological techniques
- ☐ Toxin isolation and purification from plants

9- Bioinformatics

- ☐ Data submitting
- ☐ different molecular biology data bases
- ☐ Genbank ,NCBI, EMBL ,Protein Data Bank(PDB),Kegg ,Expasy , swissprot and uniprot , biocarta , medline, omim ,Gene script,
- ☐ Primer designing by bioinformatics tools such as
 - Primer 3
 - Primer express
 - NCBI site
 - Primer plex
 - DNA sis
 - Gene Runner
 - Oligo
 - Vector
- ☐ Nucleotids and amino acid Alignment:
 - nBLAST
 - pBLAST
- ☐ Rare codon calculator
- ☐ NEB cutter & Web Cutter
- ☐ miRNA Study
 - miRWALK
 - miRGen
 - miRDB
 - DIANA lab

- miRecords
 - mirDIP
 - microcosm
 - Target scan human
 - TarMiR
 - miRmap
 - ☐ primary and secondary protein structure analyses
 - Rama plot software
 - SPDViewer
 - ☐ Third protein structure analyses and prediction
 - Modeler
 - Pymol
 - Structure
 - PDB
 - ☐ Antigene discovery
 - Protscale
 - Epitope maping
 - Predict Antimicrobial Peptides
 - ☐ Protein biothermodynamics
 - SPDViewer
 - ☐ Antimicrobial Peptide Calculator
 - ☐ Artificial Neural Network algoritm
 - ☐ Random Forest algoritm
 - ☐ Discriminant Analysis
 - ☐ SVM algoritm
 - ☐ Multiple alignment
 - ClustalW
 - T coffy
 - PRATT
 - ☐ Peptide cutter
 - ☐ Molecular Docking
 - ☐ Peptide Designing
- 10 – drug discovery**
- ☐ Molecular docking method
 - ☐ Anti cancer and Anti microbialpeptids
 - Discovery ,identity , purification
 - Chemo and bioinformatics study
 - Challenge for expression in bacterial cell
 - Artifitial synthesis
 - Challenge for study of anticeptics and anti cancer feature
 - ☐ Molecular simulation

11- genetice techniques : SNP , RFLP , STR , Karyotyping, probe assay, FISH , genetic engineering methods , site directed mutation

12- cytology techniques

- ☐ microscopy technique (classic and electronic microscopy (TEM) , AFM)
- ☐ cytochemistry
- ☐ gametogenesis study
- ☐ cell culture
- ☐ animal& plant tissue and fungal cell fixing and sectioning
- ☐ virus culture in egg and animal cell , pock assay , plaque assay
- ☐ immunohistochemistry

13- microbiology techniques

- ☐ culture and media preparation
- ☐ Bacterial staining(gram- acid fast ,...)
- ☐ antibiogram test & well assay , disk – gel diffusion assay.
- ☐ diagnostics test
- ☐ genome and plasmid extraction
- ☐ gene transfer to microbial hosts
- ☐ antibiotics screening and study of antibiotic resistance
- ☐ Isolation and identification
- ☐ MIC Measurement
- ☐ live-dead staining
- ☐ Bacterial Viability by CFU test

14- hematological tests

- ☐ Hematocrit test
- ☐ ESR
- ☐ ZSR
- ☐ Diff and CBC (cytometry& Cell counter)
- ☐ Coagulation test (BT , PT, PTT, ..)

15 – virology methods

- ☐ plaque assay
- ☐ Pock assay
- ☐ Animal cell transfection
- ☐ Plant cell transfection
- ☐ B lymphocyte Cell immortalization by EBV
- ☐ Antigen design
- ☐ Bacterial transfection by bacteriophage

16-Animal studies (mouse, rabbit, Rat ,chick , hamster , Guinea Pig)

- ☐ Nude mice drug delivery
- ☐ Nude mice tumor graft
- ☐ *in vivo* study

Language skills : Persian (native language) , English (speaking/writing and listening: good)
MSRT 52

Books

- 1- IQB biotechnology test, Drkhalili publication, 2017
- 2- Scientific editor and translator : hamidmadanchi **Basic immunology**, A.K. Abbas and et all. eshraghieh& baba zadeh publisher, 2017
- 3- Scientific editor : hamidmadanchi, **Molecular Biotechnology**, Bernard R Glick & Jack J. Pasternak. , eshraghieh& baba zadeh publisher, ISBN:978-964-6772-35-5, 2016
- 4- Translate and scientific editor : hamidmadanchi& et al ,**immunology for pharmacy**, Dennis Flaherty ,ELSEVIR publisher , eshraghieh& baba zadeh publisher, ISBN: 978-964-6772-35-9, 2016
- 5- Hamid madanchi, **immunogenetics**, , eshraghieh& baba zadeh publisher, ISBN : 978-964- 6772- 41 - 0 , 2015
- 6- Hamid madanchi , **Abstract of molecular biology** , baraye farad Publisher , ISBN : 964-8169-47-0 , 2007
- 7- Hamid madanchi , biophysics test for examination ,SIB books, mir publisher, 2015

Publications

- Hamid Madanchi, Vahid Khalaj, Soojin Jang, Ali Akbar Shabani, Ramin Ebrahimi Kiasari, Seyed Javad Seyed Mousavi, Shima Kazemi Sealani, Soroush Sardari. AurH1, a new heptapeptide derived from Aurein1.2 antimicrobial peptide with specific and exclusive fungicidal activity. *Journal of Peptide Science*, 2019 May 7
- Nazemian M, Hojati V, Zavareh S, Madanchi H, Hashemi-Moghaddam H. Immobilized Peptide on the Surface of Poly l-DOPA/Silica for Targeted Delivery of 5-Fluorouracil to Breast Tumor. *International Journal of Peptide Research and Therapeutics*. 2019:1-1.
- Madanchi H, Sardari S. The role of antimicrobial peptides in the prevention of sexually transmitted infection (STI). *MOJ Women's Health*, 2019.DOI: 10.15406/mojwh.2019.08.00234
- Johari B, Asadi Z, Rismani E, Maghsood F, Rezaei ZS, Farahani S, Madanchi H, Kadivar M. Inhibition of transcription factor T-cell-factor 3 (TCF3) using oligodeoxynucleotide strategy increases embryonic stem cell stemness: The possible application in regenerative medicine. *Cell biology international*. 2019 Apr 2
- Madanchi, H., Akbari, S., Shabani, A. A., Sardari, S., FarmahiniFarahani, Y., Ghavami, G., &EbrahimiKiasari, R. (2019). Alignment-based design and synthesis of new antimicrobial Aurein-derived peptides with improved activity against Gram-negative bacteria and evaluation of their toxicity on human cells. *Drug development research*, 80(1), 162-170.
- Farshadi M, Johari B, Ezadyar EE, Gholipourmalekabadi M, Azami M, Madanchi H, Haramshahi SM, Yari A, karimizade A, Nekouian R, Samadikuchaksaraei A. Nanocomposite scaffold seeded with mesenchymal stem cells for bone repair. *Cell biology international*. 2019 Feb 27.

- Hashemi-Moghaddam H, Zavareh S, Karimpour S, Madanchi H. Evaluation of molecularly imprinted polymer based on HER2 epitope for targeted drug delivery in ovarian cancer mouse model. *Reactive and Functional Polymers*. 2017 Dec 1;121:82-90.
- Abbas Keyvani, Seyed Mohammad Atyabi, SoroushSardari, DariushNorouzian and Hamid madanchi. Effects of cold atmospheric plasma jet on collagen structure in different treatment times. *Basic Research Journal of Medicine and Clinical Sciences*, 2017,p84-90
- Mozafari E, Sardari S, Madanchi H. Introducing, Report and Immunoinformatics Study of Allergic Protein Sequences in Wheat (*Triticum Aestivum*) and Identification of Effective Allergen Epitopes by Epitope Mapping Method. *Iranian Journal of Allergy, Asthma & Immunology*. 2018 Jan 2;17.
- Madanchi H, Honari H, Sadraeian M, Hesarak M. Fusion of CtxB with StxB, Cloning and Expression of in *Escherichia coli*: A challenge for Improvement of Immune Response Against StxB. *Iranian Journal of Pharmaceutical Sciences*. 2011 Jul 1;7(3):185-90.
- Sadraeian M, Honari H, Madanchi H, Hesarak M. Extraction, Cloning and Expression of RTB, as a vaccine adjuvant/carrier, in *E. coli* and production of mouse polyclonal antibody (Anti-B chain Abs). *Iranian Journal of Pharmaceutical Sciences*. 2011 Oct 1;7(4):247-54.
- Madanchi, Hamid, Hossein Honari, Mahdi Hesarak, and Ali Sayadnanesh. "Cloning and expression of stxB Gene from *Shigella dysenteriae* Gype I in *E. coli* Rosseta DE3." (2012).
- Madanchi H, Honari H, Safaei S, Sayadmanesh A. Fusion of Cholera toxin B subunit (ctxB) with *Shigella dysenteriae* type I toxin B subunit (stxB), Cloning and Expression that in *E. coli*. *Journal of Fasa University of Medical Sciences*. 2012;2(3):135-41.

Abstracts and presentations

- Hamid madanchi, Hosseinhonari, Sadeghsafaei, Cloning and expression of cholera toxin B subunit in *E. coli* and its purification, 2011, 11th iran congress of biochemistry, ghazvin, iran
- Sadeghsafaei, Hosseinhonari, SeadJafarmusavi, Mahdi ghofrani, Hamid madanchi. cloning of recin toxin B subunit(RTB) and shigellaDysenteriae N terminal IpaD gene in *E.coli*. 2011, 11thiran congress of biochemistry, ghazvin, iran
- Mahdi ghofrani, Hosseinhonari, Mojtabasaadati, Sadeghsafaei, Aghilesmaeeli, Hamid madanchi, cloning of CTB and N terminal IpaD from shigelladysenteriae gene in *E. coli*: a vaccine Challenge, 2011, 11th iran congress of biochemistry, ghazvin, iran
- Mojtabasaadati, Mahdihesarak, Hosseinhonari, Gholamrezaolad, Mohammad heayat, RaziyeKhalesi, Mahdi tat, Hamid madanchi. Proteomics analysis of N terminal IpaD gene optimize expression in pET 28 (a) vector, , 2011, 11th iran congress of biochemistry, ghazvin, iran

- **Hamid madanchi** ,HosseinHonari . Adjuvant and gene delivery , 14 th national congress of application modern war defense ,2010 , Imam hossein university, Tehran , Iran
- Homadadgarnia ,**Hamidmadanchi** .Study of metabolism energy in Stem cells, 2014, national congress biological science ,Islamic azad university, Damghan, Iran
- Hassan noori, **Hamid madanchi**, Miladmahdi , Elmira noori, Utilize of AB class bacterial toxin for drug delivery to tumor cells, 2014 , 12 st Iranian seminar of knowledge and health , Shahrood University of Medical Sciences,shahrood , iran
- Ghanbarmahmoodi ,**Hamid madanchi** . miRNA application in cancer ,2014, national congress biological science ,Islamic azad university, Damghan, Iran
- Ramtinkhani ,**Hamid madanchi**, Neutrophil Extracellular Traps,2016, national congress biological science ,Islamic azad university, Damghan, Iran
- Ashkandehghan, **Hamid madanchi**,Peptidenucleic acid(PNA) and its application, 2016, national congress biological science ,Islamic azad university, Damghan, Iran
- Parisamaleki, **Hamid madanchi**, Use of cholera toxin B subunit as an adjuvant to increase the immunogenic potential of oral vaccine,2016, national congress biological science ,Islamic azad university, Damghan, Iran
- Shayanlatifi, **Hamid madanchi**, Study of Streptococcus pneumoniae vaccine based on virus-like particles (VLP), 2016. national congress biological science ,Islamic azad university, Damghan, Iran
- Shimakazemi, **Hamid madanchi**, Gene Regulation By riboswitches,2016. national congress biological science ,Islamic azad university, Damghan, Iran
- Shabnamakbari, **Hamid madanchi**, Anti microbial peptides and its usage in 2014, national congress biological science ,Islamic azad university, Damghan, Iran
- Fatemesadat hakim, Sadafkamaledin, **Hamid madanchi**. Anti sense therapy in Cancer, 2016.national congress biological science ,Islamic azad university, Damghan, Iran
- BelalTaghipour, HosseinHonari, **Hamid madanchi**, DanialJahantigh, Mehdi Rezai, Mostafabakhshi, Cloning and Expression of recombinant *Bacillus anthracis* protective antigen Domain 4 fusion with cholera toxin B-subunit in *E.coli*. international congress application biology(I.C.A.B), iran , mashhad,September 2012

Workshops

- **Microscopy And Its Usage In Disease ,Teach by** Dr.DanielaQuaglino , PhD, universita di Modena e Reggio Emilia. 2009, **performed by** Research Institute of Gastroenterology and Liver Diseases ,ShahidBeheshti university of medical Sciences , international Cell Death Society & Cell death Society of Iran(CDSI)
- **Transgenic Mice And Its Relation To Disease .teach by** Dr. FrancescoCecconi , university of Rome .2009, **performed by** Research Institute of Gastroenterology and Liver Diseases ,ShahidBeheshti university of medical Sciences , international Cell Death Society & Cell death Society of Iran(CDSI)
- **Methods In Detection Of Cell Death , teach by** Dr. Simone Fulda,PhD,University Children' s Hospital, Ulm , Germany.2009, **performed by** Research Institute of Gastroenterology and Liver Diseases ,ShahidBeheshti university of medical Sciences , international Cell Death Society & Cell death Society of Iran(CDSI)

- **Immunopathogenesis Of Inflammatory Bowel Disease. Teach by Dr.David.**
B.Sachar, PhD, Mount Sinai school of medicine . 2009, **performed by** Research Institute of Gastroenterology and Liver Diseases ,ShahidBeheshti university of medical Sciences , international Cell Death Society & Cell death Society of Iran(CDSI)
- **Basic Of FlowCytometry And Its Application .teach by**Dr. Andrea Cossarizza, PhD,
universita di Modena e Reggio Emilia.2009, **performed by** Research Institute of Gastroenterology and Liver Diseases ,ShahidBeheshti university of medical Sciences , international Cell Death Society & Cell death Society of Iran(CDSI)
- **Scientific writing and thinking .teach by** Dr.Richard Lockshy, PhD , prof.of Biological Sciences St.John' University , 2009 , **performed by** Research Institute of Gastroenterology and Liver Diseases ,ShahidBeheshti university of medical Sciences , international Cell Death Society & Cell death Society of Iran(CDSI)
- **Monoclonal Antibody methods .teach by** Dr.mohsenbolhassani, prof. of Pasteur Institute of Iran , **performed by** Pasteur Institute of Iran Immunology group , 2014

Teaching experience

1- For Ph.D students

- **Computational and system biology**

1- For pharmacy students(Pharm.D)

- **Molecular biology & Genetic . For pharmacy students , Pharmaceutical college of** of Islamic Azad University of Damghan, **2 term , 2014 – yet**
- **Immunology .For pharmacy students , Pharmaceutical college of** of Islamic Azad University of Damghan, **2 term , 2014 – yet**
- **Immunology lab.For pharmacy students, Pharmaceutical college of** of Islamic Azad University of Damghan, **2 term , 2014 – yet**
- **Pharmaceutical biotechnology, For pharmacy students, Pharmaceutical college of** of Islamic Azad University of Damghan, **2 term , 2014 – yet**
- **Pharmaceutical products, For pharmacy students, Pharmaceutical college of** of Islamic Azad University of Damghan, **2 term , 2014 – yet**
- **Cell Culture, For pharmacy students, Pharmaceutical college of** of Islamic Azad University of Damghan, **2 term , 2014 – yet**

2- For Ms.C Students

- **Metabolism control for Ms.c student** of biochemistry.biology group of Islamic Azad University of Damghan , **2014 – yet**
- **Advanced molecular biology for Ms.c student** of biochemistry. biology group of Islamic Azad University of Damghan , **2014 – yet**
- **Immunogenetics for Ms.c student** of genetics.biology group of Islamic Azad University of Damghan , **2014 – yet**
- **Computer in protein modeling and simulation for Ms.c student** of biochemistry.biology group of Islamic Azad University of Damghan , **2014 – yet**
- **Pharmaceutical biotechnology for Ms.c Student** of biotechnology .biology group of Islamic Azad University of Damghan , **2014 – yet**
- **Enzymology for Ms.c student** of biotechnology.biology group of Islamic Azad University of Damghan , **2014 – yet**
- **Advanced Topic in biotechnology for Ms.c Student** of biotechnology .biology group of Islamic Azad University of Damghan , **2014 – yet**

☐ **Modeling of Proteins by bioinformatics**, for **Ms.c student** of biochemistry.biology group of Islamic azad university of damghan , 2014 – yet

3- For B.Sc Student

☐ **Microbiology and lab** for **B.Sc student.semnan university of medical science** ,behdasht university of damghan , 2 term, 2012-2013

☐ **Biophysics** for **B.Sc student.semnanuniversityof medical science** ,behdasht university of damghan , 3 term, 2012-2015

☐ **Cellular and molecular biology**, for **B.Sc student.semnan university**, Biology group, 2 term, 2015-yet

☐ **molecular biology**, for **B.Sc student. semnan university**, Biology group, 2 term, 2015-yet

☐ **Laboratory of cellular and molecular biology**, for **B.Sc student.semnan university**, Biology group, 2 term, 2015-yet

☐ **Cellular and molecular biology**, for **B.Sc student.SemnanFarzaneganuniversity**, Biology group, 2 term, 2016-yet

☐ **Laboratory of cellular and molecular biology**, for **B.Sc student.SemnanFarzaneganuniversity**, Biology group, 2 term, 2016-yet

☐ **Immunology**, for **B.Sc student.SemnanFarzaneganuniversity**, Biology group, 1 term, 2016-yet

Immunology, for **B.Sc student.Damghanuniversity**, Biology group, 1 term, 2017

☐ **Molecular biology** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 - yet

☐ **Advanced Cellular biology** , for **B.Sc student. biology group of Islamic azad university of damghan** , 2011 - yet

☐ **Immunology and lab** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 - yet

☐ **Hematology and lab** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 - yet

☐ **Immunogenetic**for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 - yet

☐ **Animal biotechnology** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 - yet

☐ **Molecular biotechnology** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 – yet

☐ **Radiobiology** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 – yet

☐ **Biophysics** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 – yet

☐ **Biochemistry and biophysics methods** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 – yet

☐ **Cellular and molecular biology methods and tools** for **B.Sc student.biology group of Islamic azad university of damghan** , 2011 – yet

□ **Bioinformatics** for B.Sc student.biology group of Islamic azad university of damghan , 2011 – yet

□ **Laboratory of cellular and molecular biology** , for **B.Sc student**. biology group of Islamic azad university of damghan , 2011 – yet

Research and projects

□ Cloning and expression of cholera toxin B subunit and its purification ,nanobiotechnology group of imam hossein university, 2010,Tehran , iran

□ Cloning and expression of shigella toxin B subunit and its purification ,nanobiotechnology group of imam hossein university, 2010,Tehran , iran

□ Fussion of cholera toxin B subunit gene with shigella toxin B subunits gene and expression in *E. coli* rosseta and purification .nanobiotechnology group of imam hossein university, 2010,Tehran , iran

□ Study and analysis of CtxB(Cholera toxin B subunit) adjvant feature , nanobiotechnology group of imam hossein university, 2011,Tehran , iran

□ Production and purification of CtxB-StxBfussion protein and injection to mice and Guinea Pig for study of CtxBadvanticy and analysis of antibodies titr by ELIZA, nanobiotechnology group of imam hossein university, 2011,Tehran , iran

□ Extraction and isolation of recin toxin for study its toxicity .nanobiotechnology group of imam hossein university, 2011,Tehran , iran

□ Cloning and Expresion of recombinant *Bacillus anthracis*protective antigen Domain 4 fusion with cholera toxin B-subunit in *E.coli*,nanobiotechnology group of imam hossein university, 2012,Tehran , iran

□ Extraction, Cloning and Expression of RTB(Recin toxin B subunit), as a Vaccine Adjuvant/Carrier, in *E.coli*and Production of Mouse Polyclonal Antibody (Anti-B chain Abs), nanobiotechnology group of imam hossein university, 2011,Tehran , iran

□ Monoclonal Antibody module and optimization of its steps ,2014,immunology group ,pasteure institute of iran, Tehran , iran

□ Study of Anti microbialpeptids and anti cancerpeptids: A challenge for drug discovery,2014 ,pharmaceutical biotechnology group, pasteure institute of iran, Tehran , iran

□ Design and combinatorial peptide synthesis and study of its antibiotic effect, pasteure institute of iran& Islamic azad university of damghan . 2015

□ Design and synthesis of peptides derived of caerin from Australian frog *LitoriaRothii*for determine the antimicrobial activity against *P. aeruginosa*and *S. aureus*. pasteure institute of iran& Islamic azad university of damghan . 2016

□ *In silico*designing and synthesis of peptides derived of maximin from Chinese red belly toad *Bombin maxima* for determine the antimicrobial activity against *P. aeruginosa*and *S. aureus*. . pasteure institute of iran& Islamic azad university of damghan . 2016

□ Design and construction of identification kit and Purification column for LPS by LBP.pasteure institute of iran. 2016

□ Design and synthesis of peptides derived of Aurein for determine the antimicrobial activity against *P. aeruginosa*and *S. aureus*. pasteure institute of iran& Islamic azad university of damghan and **semnan university of medical science** . 2016

□ Epitope imprinting for doxorubicin anti cancer drug delivery, pasteure institute of iran& Islamic azad university of damghan . 2016

□An *in vivo* study of antimicrobial effects of three newly designed antimicrobial peptides based on aurin, kaerin and maximin on mouse model. pasteur institute of iran& Islamic azad university of damghan,2017

□Study of antimicrobial effects of *Hirudoorientalis* extract on *Staphylococcus aureus*, *Bacillus subtilis* and *Escherichia coli* bacteria to isolate fractions containing proteins and antimicrobial peptides.pasteur institute of iran& Islamic azad university of damghan,2017

□Study of antimicrobial effects of *Ampullariacuprina* extract on *Staphylococcus aureus*, *Bacillus subtilis* and *Escherichia coli* bacteria to isolate fractions containing proteins and antimicrobial peptides.pasteur institute of iran& Islamic azad university of damghan,2017

□review in antimicrobial effects of dry powder and aqueous and organic extract Iranian lichens on the bacteria *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Escherichia coli*.pasteur institute of iran& Islamic azad university of damghan,2017

□New designing and modification of antimicrobial peptides Max11 and Car5.9 for determine the antibacterial and antifungal activity against *E. coli*, *P. aeruginosa* and *C. Albicans* and evaluation of serum stability in human serum. pasteur institute of iran& Islamic azad university of damghan,2017

□Designing , modification and synthesis of AurH peptide derived from Aurein peptide of Australian frog(*Litoria aurea*) and study of its antifungal activity on *Candida albicans* and *Aspergillus ficuum* .pasteur institute of iran& Islamic azad university of damghan,2017

□Construction of gene constructs containing the E7 and E6 with CTxB molecular adjuvant, cloning and its expression in *E. coli* . pasteur institute of iran& Islamic azad university of damghan,2016

□Designing and synthesis of DNA binding antimicrobial peptides(DBA) and determine the antimicrobial activity against *E. Coli*, *S. aureus* and *P. aeruginosa* .pasteur institute of iran& Islamic azad university of damghan, semnan university of medical science,2016

□Study of antimicrobial effects of mucousal and dermal fractions from *Periophthalmus waltoni* fish on *E. Coli*, *S. aureus* and *P. Aeruginosa*. pasteur institute of iran& Islamic azad university of damghan,2016

□Design and construct of gene construction to cloning and expression of LL37 antimicrobial peptide and evaluation of its expression and antimicrobial effects on *E. coli* and *Staphylococcus aureus*.pasteur institute of iran& Islamic azad university of damghan,2015