



Curriculum Vitae

Hossein Safarpour

Ph.D. in Pharmaceutical Biotechnology

Current position: Assistant professor at Cellular & Molecular Research Center, Birjand University of Medical Sciences, Birjand, Iran

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Educational background: 2012-2017: Ph.D. in Pharmaceutical Biotechnology, Pharmaceutical Sciences Research center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Title of thesis: Development of scFv antibody against recombinant TNF- α protein

2009-2011: M.Sc. in Agricultural Biotechnology, Shahed University, Tehran, Iran.

Title of thesis: Development of recombinant monoclonal antibodies against *Polymyxa betae*

2005-2009: B.Sc. in plant breeding, University of Zabol, Zabol, Iran.

Title of thesis: Comparative study on cultivation and yield performance of *Pleurotus ostreatus* (oyster mushroom) grown on different substrates (wheat straw and barley straw) and supplemented at various levels of spawn

Research experiences & Skills:

- Gene co-expression network analysis using R (WGCNA package)
- Single cell RNA-seq analysis using Python (Scanpy and Seurat)
- Homology modelling and molecular docking analysis of proteins (BioLuminate)
- Gene manipulation and cloning in bacterial expression vectors
- Purification of DNA and RNA from bacterial cells
- Expression and purification of recombinant proteins in *E. coli*
- Proficient in common laboratory techniques such as animal cell culture, PCR, SDS-PAGE, Gel electrophoresis, Western blotting, Dot blot, ELISA, etc.
- Construction and characterization of Phage display libraries
- Generation of specific recombinant antibody fragments (scFv) against any given antigen through powerful Phage display technology
- Large scale expression and purification of recombinant antibody fragments in *E. coli*
- Immunization of Mice and Rabbits. Antiserum titration. Generation and purification of polyclonal antibodies. Preparation of immuno-conjugates and labeling antibodies
- Preparation of Nano detection kits based on FRET

Publications:

1. Shahmirzaie M, Safarnejad MR, Rakhshandehroo F, **Safarpour H**, Shirazi FH, Zamanizadeh HR, et al. Generation and molecular docking analysis of specific single-chain variable fragments selected by phage display against the recombinant nucleocapsid protein of fig mosaic virus. *Journal of Virological Methods*. 2020;276:113796.
2. Derakhshani A, Rostami Z, Taefehshokr S, **Safarpour H**, Astamal RV, Taefehshokr N, et al. An Overview of the Oncogenic Signaling Pathways in Different Types of Cancers. 2020.
3. Derakhshani A, Rezaei Z, **Safarpour H**, Sabri M, Mir A, Sanati MA, et al. Overcoming trastuzumab resistance in HER2-positive breast cancer using combination therapy. *Journal of Cellular Physiology*. 2020;235(4):3142-56.
4. Shoaie M, Khorashadizadeh M, Derakhshani A, Safarnejad MR, **Safarpour H**. An overview of the current status of engineered therapeutic monoclonal antibodies. *International Pharmacy Acta*. 2019;2(1):2-9: 1-10.
5. Shahmirzaie M, Safarnejad MR, Rakhshandehroo F, **Safarpour H**, Rabbani H, Zamanizadeh HR, et al. Production of a polyclonal antiserum against recombinant nucleocapsid protein and its application for the detection of fig mosaic virus. *Journal of virological methods*. 2019;265:22-5.
6. **Safarpour H**, Dehghani S, Nosrati R, Zebardast N, Alibolandi M, Mokhtarzadeh A, et al. Optical and electrochemical-based nano-aptasensing approaches for the detection of circulating tumor cells (CTCs). *Biosensors and Bioelectronics*. 2019:111833.
7. Raeisi H, Safarnejad MR, Alavi SM, Farrokhi N, Elahinia SA, **Safarpour H**, et al. Development and molecular analyses of *Xanthomonas pthA* specific scFv recombinant monoclonal antibodies. *Journal of Crop Protection*. 2019;8(4):417-29.
8. Parsamanesh N, **Safarpour H**, Etesam S, Shadmehri AA, Miri-Moghaddam E. Identification and In Silico Characterization of a Novel Point Mutation within the Phosphatidylinositol Glycan Anchor Biosynthesis Class G Gene in an Iranian Family with Intellectual Disability. *Journal of Molecular Neuroscience*. 2019;69(4):538-45.
9. Derakhshani A, Keshavarz K, Banadkoki SB, Shirazi FH, Barati M, Fereidouni M, **Safarpour H**. Optimization of induction parameters, structure quality assessment by ATR-FTIR and in silico characterization of expressed recombinant polcalcin in three different strains of *Escherichia coli*. *International journal of biological macromolecules*. 2019;138:97-105.
10. **Safarpour H**, Shahmirzaie M, Rezaei E, Barati M, Safarnejad MR, Shirazi FH. Isolation and characterization of novel phage displayed scFv fragment for human Tumor necrosis factor alpha and molecular docking analysis of their interactions. *Iranian journal of pharmaceutical research*. 2018;17(2):743.

11. Shabdini Pashaki A, Safarnejad MR, Asgari Safdar AH, **Safarpour H**, Tabatabaie M. Production of a phage-displayed single chain variable fragment antibody against infectious bursal disease virus. *Tropical Journal of Pharmaceutical Research*. 2017;16(12):2801-9.
12. Samiei F, Safarnejad M, Hosseini Salekdeh G, Shams-Bakhsh M, **Safarpour H**. Applying of Recombinant Major Coat Protein for Production of Specific Antibody and Efficient Detection of Citrus Tristeza Virus (CTV). *Iranian Journal of Virology*. 2017;11(4):8-15.
13. **Safarpour H**, Banadkoki SB, Keshavarzi Z, Morowvat MH, Soleimanpour M, Pourmolaei S, et al. Expression analysis and ATR-FTIR characterization of the secondary structure of recombinant human TNF- α from Escherichia coli SHuffle® T7 Express and BL21 (DE3) cells. *International journal of biological macromolecules*. 2017;99:173-8.
14. Barati M, Tabar zad M, **Safarpour H**, asad AG, Ghaderi O. Validation of a Simple and Rapid Method for Assessment of Intracellular Bacterial Asparaginase. *Iranian Journal of Pharmaceutical Sciences*. 2016;12(2):33-42.
15. Davarani FH, **Safarpour H**, Safarnejad MR, Mohsenifar A, Mahmoudi SB, Kakoueinejad M, et al. Large-scale high throughput screening of sugar beet germplasm using a nanobiosensor and its comparison with ELISA method for resistance to Polymyxabetae. *Euphytica*. 2014:1-11.
16. Davarani FH, Rezaee S, Mahmoudi SB, Norouzi P, Safarnejad MR, **Safarpour H**. Detection and molecular characterization of Polymyxa betae, transmitting agent of sugar beet rhizomania disease, in Iran. *Spanish journal of agricultural research*. 2014(3):787-94.
17. Safarnejad MR, **Safarpour H**, Shahryari F, Basirat M, Tabatabaei M, Kordenaeej A, et al. Selection of specific single chain variable fragments (scFv) against Polymyxa betae from phage display libraries. *Journal of plant protection research*. 2013;53(4):357-63.
18. Safarnejad M, Basirat M, Ebrahimi M, **Safarpour H**, Nazari S, Mahmoudi B, et al. Applying of Recombinant Protein Technology for Developing of Specific Antibody against Transmitting Agent of Rhizomania in Suger Beet. *Journal of Crop Biotechnology*. 2013.
19. **Safarpour H**, Safarnejad MR, Tabatabaei M, Mohsenifar A. Development of high-throughput quantum dot biosensor against Polymyxa speceies. *Communications In Agricultural Applied Biological Sciences*. 2012;77(3):7-14.
20. **Safarpour H**, Safarnejad MR, Tabatabaei M, Mohsenifar A, Rad F, Basirat M, et al. Development of a quantum dots FRET-based biosensor for efficient detection of Polymyxa betae. *Canadian Journal of Plant Pathology*. 2012;34(4):507-15.

21. **Safarpour H**, Safarnejad MR, Basirat M, Hasanzadeh F, Kamyab F. Development of a specific serological kit for detection of *Polymyxa betae*, transmitting agent of sugar beet Rhizomania disease. *Journal of Food, Agriculture and Environment*. 2012;10(3-4):729-32.
22. **Safarpour H**, Safarnejad M. Isolation, cloning and large scale expression of glutathione-s-transferase (gst) protein of *polymyxa betae*. *Communications in agricultural applied biological sciences*. 2012;77(3):145-50.
23. Rad F, Mohsenifar A, Tabatabaei M, Safarnejad M, Shahryari F, **Safarpour H**, et al. Detection of candidatus *phytoplasma aurantifolia* with a quantum dots FRET-based biosensor. *Journal of Plant Pathology*. 2012:525-34.
24. Dahmardeh M, Hossienabadi R, **Safarpour H**. Comparative study on cultivation and yield performance of *Pleurotus ostreatus* (oyster mushroom) grown on different substrates (wheat straw and barley straw) and supplemented at various levels of spawn. *Journal of Food, Agriculture Environment*. 2010;8(3/4 part 2):996-8.

Conferences:

1. H. Safarpour, M.R. Safarnejad, M. Tabatabaei, A. Mohsenifar & F. Rad. Development of a Quantum Dots FRET-Based nano-biosensor for efficient detection of *Polymyxa betae*. 64th International Symposium on Crop Protection, Belgium. 2012
2. **H. Safarpour**, M. Reza Safarnejad, Isolation, cloning and large scale expression of glutathione-S-transferase (GST) protein of *Polymyxa betae*. 64th International Symposium on Crop Protection, Belgium. 2012
3. F. Hassanzadeh, **H. Safarpour**, M. R. Safarnejad, P. Norouzi, S. Rezaee, S. B. Mahmoudi. Identification of Exon and Intron regions of Glutathione-S- Transferase in Iranian isolate of *Polymyxa betae*. 12th Iranian Genetics Congress, Iran. 2012
4. **Safarpour, H.** Kordenaeej, A. Safarnejad, M.R. Shahryari, F. Naji, A.M. Generation of monoclonal antibody against recombinant glutathione-S-transferase (GST) using phage display technology. 7th National Congress of Biotechnology, Iran. 2011
5. Basirat, M. Safarnejad, M.R. **Safarpour, H.** Shahryari, F. Development of a serological kit against rhizomania disease. 7th National Congress of Biotechnology, Iran. 2011
6. F. Hassanzadeh, S. Rezaee. S. B. Mahmoudi. P. Norouzi, **H. Safarpour**, M. R. Safarnejad., Quantitative estimation viruliferous and non- viruliferous of *Polymyxa betae* the vector of Beet Necrotic Yellow Vein Virus. 1st National Congress of plant virology, Iran. 2011.
7. Basirat, M. Safarnejad, M.R. **Safarpour, H.** Cloning, Expression and Purification of GST Protein of *Polymyxa betae*. 19th National Congress of Plant Pathology, Iran. 2010

References:

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