



Curriculum vitae

Vahid Khalaj

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PERSONAL INFORMATION:

Date of Birth: 16.09.66

Sex: male

Marital status: Married, two children

Nationality: Iranian

WORK EXPERIENCE:

Jan 2015-present Editor-In-Chief, Iranian Biomedical Journal, Published by Pasteur Institute of Iran since 1996

Jan 2015-present A member of Editorial board, Journal of Medical Microbiology and Infectious Disease (JOMMID), Published by Pasteur Institute of Iran

Sep 2008- 2014 Head of Medical Biotechnology, Pasteur Institute of Iran
Tehran-Iran

Feb 2005-Present Associate Professor, Pasteur Institute of Iran Tehran-Iran

Aug 2002 - Feb 2005 Senior Scientist f2g Ltd
Manchester, UK

Jun 1993 – Sep- 1997 Scientist Pasteur Institute of Iran Tehran-Iran

EDUCATION:

Sep 1997 - Dec 2001 University of Manchester
Manchester, UK
Molecular Biotechnology, Doctorate (PhD)

Sep 1987 - Jul 1993 Tehran University of Medical Sciences Tehran-Iran

Medical Laboratory Sciences, Doctorate, (first honor)

Field of research:

Fungal biotechnology and functional genomics of fungi with focus on *Aspergillus fumigatus*

Antifungal drug discovery

Recombinant pharmaceuticals

Publications

1: Agha Amiri S, Shahhosseini S, Zarei N, Khorasanizadeh D, Aminollahi E, Rezaie F, Zargari M, Azizi M, **Khalaj V**. A novel anti-CD22 scFv-apoptin fusion protein induces apoptosis in malignant B-cells. *AMB Express*. 2017 Dec;7(1):112. doi: 10.1186/s13568-017-0410-5. Epub 2017 Jun 2. PubMed PMID: 28582973; PubMed Central PMCID: PMC5457376.

2: Zarei N, **Khalaj V**. Human-Yeast Hybrids: New Visions to Genetic Disorders and Drug Discovery. *Iran Biomed J*. 2017 Jul;21(4):205. PubMed PMID: 28525953.

3: Rezaie F, Davami F, Mansouri K, Agha Amiri S, Fazel R, Mahdian R, Davoudi N, Enayati S, Azizi M, **Khalaj V**. Cytosolic expression of functional Fab fragments in *Escherichia coli* using a novel combination of dual SUMO expression cassette and EnBase(®) cultivation mode. *J Appl Microbiol*. 2017 May 8. doi: 10.1111/jam.13483. [Epub ahead of print] PubMed PMID: 28482126.

4: Malekzadeh S, Sardari S, Azerang P, Khorasanizadeh D, Agha Amiri S, Azizi M, Mohajerani N, **Khalaj V**. Identification and Evaluation of Novel Drug Targets against the Human Fungal Pathogen *Aspergillus fumigatus* with Elaboration on the Possible Role of RNA-Binding Protein. *Iran Biomed J*. 2017 Mar;21(2):84-93. PubMed PMID: 28000798; PubMed Central PMCID: PMC5274715.

5: Kazemi-Lomedasht F, **Khalaj V**, Bagheri KP, Behdani M, Shahbazzadeh D. The first report on transcriptome analysis of the venom gland of Iranian scorpion, *Hemiscorpius lepturus*. *Toxicon*. 2017 Jan;125:123-130. doi: 10.1016/j.toxicon.2016.11.261. PubMed PMID: 27914888.

6: Enayati S, Azizi M, Aminollahi E, Ranjvar Shahrivar M, **Khalaj V**. T7-RNA polymerase dependent RNAi system in *Aspergillus fumigatus*: a proof of concept study. *FEMS Microbiol Lett*. 2016 Mar;363(5). pii: fnw029. doi: 10.1093/femsle/fnw029. Epub 2016 Feb 5. PubMed PMID: 26850443.

7: Talebkhan Y, Samadi T, Samie A, Barkhordari F, Azizi M, **Khalaj V**, Mirabzadeh E. Expression of granulocyte colony stimulating factor (GCSF) in *Hansenula polymorpha*. *Iran J Microbiol*. 2016 Feb;8(1):21-8. PubMed PMID: 27092221; PubMed Central PMCID: PMC4833737.

8: Khalaj K, Aminollahi E, Bordbar A, **Khalaj V**. Fungal annexins: a mini review. *Springerplus*. 2015 Nov 24;4:721. doi: 10.1186/s40064-015-1519-0. eCollection 2015. Review. PubMed PMID: 26636009.

- 9: Farahmand M, **Khalaj V**, Mohebalı M, Khalılı G, Naderi S, Ghaffarinejad P, Nahrevanian H. Comparison of recombinant A2-ELISA with rKE16 dipstick and direct agglutination tests for diagnosis of visceral leishmaniasis in dogs in Northwestern Iran. *Rev Soc Bras Med Trop.* 2015 Mar-Apr;48(2):188-93. doi: 10.1590/0037-8682-0285-2014. PubMed PMID: 25992934.
- 10: Jahandar H, Vaziri B, Nematollahi L, Afsharirad T, Mirabzadeh E, Torkashvand F, **Khalaj V**. Effect of Cysteamine on Cell Growth and IgG4 Production in Recombinant Sp2.0 Cells. *Iran J Pharm Res.* 2015 Winter;14(1):177-87. PubMed PMID: 25561924; PubMed Central PMCID: PMC4277631.
- 11: Zarei N, Vaziri B, Shokrgozar MA, Mahdian R, Fazel R, **Khalaj V**. High efficient expression of a functional humanized single-chain variable fragment (scFv) antibody against CD22 in *Pichia pastoris*. *Appl Microbiol Biotechnol.* **2014** Dec;98(24):10023-39. doi: 10.1007/s00253-014-6071-2. Epub 2014 Sep 21. PubMed PMID: 25239038.
- 12: Fazel R, Zarei N, Ghaemi N, Namvaran MM, Enayati S, Mirabzadeh Ardakani E, Azizi M, **Khalaj V**. Cloning and expression of *Aspergillus flavus* urate oxidase in *Pichia pastoris*. *Springerplus.* 2014 Jul 30;3:395. doi: 10.1186/2193-1801-3-395. eCollection **2014**. PubMed PMID: 25105091; PubMed Central PMCID: PMC4124111.
- 13: Kazemali M, Majidzadeh-A K, Sardari S, Saadatirad AH, **Khalaj V**, Zarei N, Barkhordari F, Adeli A, Mahboudi F. Design of a novel chimeric tissue plasminogen activator with favorable Vampire bat plasminogen activator properties. *Enzyme Microb Technol.* 2014 Dec;67:82-6. doi: 10.1016/j.enzmictec.2014.09.005. Epub 2014 Sep 22. PubMed PMID: 25442953.
- 14: Shargh SA, Sakizli M, **Khalaj V**, Movafagh A, Yazdi H, Hagigatjou E, Sayad A, Mansouri N, Mortazavi-Tabatabaei SA, Khorram Khorshid HR. Downregulation of E-cadherin expression in breast cancer by promoter hypermethylation and its relation with progression and prognosis of tumor. *Med Oncol.* **2014** Nov;31(11):250. doi: 10.1007/s12032-014-0250-y. Epub 2014 Sep 27. PubMed PMID: 25260805.
- 15: Katirae F, **Khalaj V**, Khosravi AR, Hajiabdolbaghi M. Sequences type analysis of *Candida albicans* isolates from Iranian human immunodeficiency virus infected patients with oral candidiasis. *Acta Med Iran.* **2014**;52(3):187-91. PubMed PMID: 24901719.
- 16: Yahyaraeyat R, Khosravi AR, Shahbazzadeh D, **Khalaj V**. The potential effects of *Zataria multiflora* Boiss essential oil on growth, aflatoxin production and transcription of aflatoxin biosynthesis pathway genes of toxigenic *Aspergillus parasiticus*. *Braz J Microbiol.* **2013** Oct 30;44(2):643-9. doi: 10.1590/S1517-83822013000200045. eCollection 2013. PubMed PMID: 24294264; PubMed Central PMCID: PMC3833170.
- 17: Farahtaj F, Zandi F, **Khalaj V**, Biglari P, Fayaz A, Vaziri B. Proteomics analysis of human brain tissue infected by street rabies virus. *Mol Biol Rep.* **2013** Nov;40(11):6443-50. doi: 10.1007/s11033-013-2759-0. Epub 2013 Sep 24. PubMed PMID: 24057270.

- 18: Nematollahi L, Mahboudi F, Rahimpour A, Jahandar H, **Khalaj V**. [A novel human bone morphogenetic protein-7 variant with an enriched heparin-binding site]. *Mol Biol (Mosk)*. **2013** May-Jun;47(3):453-60. Russian. PubMed PMID: 23888776.
- 19: Moradi S, Azerang P, **Khalaj V**, Sardari S. Antifungal indole and pyrrolidine-2,4-Dione derivative peptidomimetic lead design based on in silico study of bioactive Peptide families. *Avicenna J Med Biotechnol*. **2013** Jan;5(1):42-53. PubMed PMID: 23626876; PubMed Central PMCID: PMC3572706.
- 20: Azizi M, Yakhchali B, Ghamarian A, Enayati S, Khodabandeh M, **Khalaj V**. Cloning and Expression of Gumboro VP2 Antigen in *Aspergillus niger*. *Avicenna J Med Biotechnol*. **2013** Jan;5(1):35-41. PubMed PMID: 23626875; PubMed Central PMCID: PMC3572705.
- 21: Hamedei H, Misaghi A, Modarressi MH, Salehi TZ, Khorasanizadeh D, **Khalaj V**. Generation of a Uracil Auxotroph Strain of the Probiotic Yeast *Saccharomyces boulardii* as a Host for the Recombinant Protein Production. *Avicenna J Med Biotechnol*. **2013** Jan;5(1):29-34. PubMed PMID: 23626874; PubMed Central PMCID: PMC3572704.
- 22: Nematollahi L, **Khalaj V**, Babazadeh SM, Rahimpour A, Jahandar H, Davami F, Mahboudi F. Periplasmic Expression of a Novel Human Bone Morphogenetic Protein-7 Mutant in *Escherichia coli*. *Avicenna J Med Biotechnol*. **2012** Oct;4(4):178-85. PubMed PMID: 23407680; PubMed Central PMCID: PMC3558220.
- 23: Zandi F, Eslami N, Torkashvand F, Fayaz A, **Khalaj V**, Vaziri B. Expression changes of cytoskeletal associated proteins in proteomic profiling of neuroblastoma cells infected with different strains of rabies virus. *J Med Virol*. 2013 Feb;85(2):336-47. doi: 10.1002/jmv.23458. Epub **2012** Nov 20. PubMed PMID: 23168799.
- 24: Mahmoudzadeh-Niknam H, Abrishami F, Doroudian M, Moradi M, Alimohammadian M, Parvizi P, Hatam G, Mohebbi M, **Khalaj V**. The Problem of Mixing up of *Leishmania* Isolates in the Laboratory: Suggestion of ITS1 Gene Sequencing for Verification of Species. *Iran J Parasitol*. **2011** Mar;6(1):41-8. PubMed PMID: 22347273; PubMed Central PMCID: PMC3279869.
- 25: **Khalaj V**, Azizi M, Enayati S, Khorasanizadeh D, Ardakani EM. NCE102 homologue in *Aspergillus fumigatus* is required for normal sporulation, not hyphal growth or pathogenesis. *FEMS Microbiol Lett*. **2012** Apr;329(2):138-45. doi: 10.1111/j.1574-6968.2012.02513.x. Epub 2012 Feb 13. PubMed PMID: 22289033.
- 26: **Khalaj V**, Azarian B, Enayati S, Vaziri B. Annexin C4 in *A. fumigatus*: a proteomics approach to understand the function. *J Proteomics*. 2011 Sep 6;74(10):1950-8. doi: 10.1016/j.jprot.2011.05.018. Epub **2011** May 27. PubMed PMID: 21640208.
- 27: Majidzadeh-A K, Mahboudi F, Hemayatkar M, Davami F, Barkhordary F, Adeli A, Soleimani M, Davoudi N, **Khalaj V**. Human Tissue Plasminogen Activator Expression in *Escherichia coli* using Cytoplasmic and Periplasmic Cumulative Power. *Avicenna J Med Biotechnol*. **2010** Jul;2(3):131-6. PubMed PMID: 23408156; PubMed Central

PMCID: PMC3558155.

28: Majidzadeh-A K, **Khalaj V**, Fatemeh D, Mahdi H, Farzaneh B, Ahmad A, Mahboudi F. Cloning and expression of functional full-length human tissue plasminogen activator in *Pichia pastoris*. *Appl Biochem Biotechnol*. **2010** Nov;162(7):2037-48. doi: 10.1007/s12010-010-8979-z. Epub 2010 May 9. PubMed PMID: 20455033.

29: **Khalaj V**, Eslami H, Azizi M, Rovira-Graells N, Bromley M. Efficient downregulation of alb1 gene using an AMA1-based episomal expression of RNAi construct in *Aspergillus fumigatus*. *FEMS Microbiol Lett*. 2007 May;270(2):250-4. Epub **2007** Mar 2. PubMed PMID: 17343676.

30: **Khalaj V**, Hey P, Smith L, Robson GD, Brookman J. The *Aspergillus niger* annexin, anx3.1 is constitutively expressed and is not essential for protein secretion. *FEMS Microbiol Lett*. **2004** Oct 1;239(1):163-9. PubMed PMID: 15451115.

31: **Khalaj V**, Smith L, Brookman J, Tuckwell D. Identification of a novel class of annexin genes. *FEBS Lett*. **2004** Mar 26;562(1-3):79-86. PubMed PMID: 15044005.

32: **Khalaj V**, Brookman JL, Robson GD. A study of the protein secretory pathway of *Aspergillus niger* using a glucoamylase-GFP fusion protein. *Fungal Genet Biol*. **2001** Feb;32(1):55-65. PubMed PMID: 11277626.

33: Gordon CL, **Khalaj V**, Ram AF, Archer DB, Brookman JL, Trinci AP, Jeenes DJ, Doonan JH, Wells B, Punt PJ, van den Hondel CA, Robson GD. Glucoamylase::green fluorescent protein fusions to monitor protein secretion in *Aspergillus niger*. *Microbiology*. **2000** Feb;146 (Pt 2):415-26. PubMed PMID: 10708380.

U.S.PATENT: Aliphatic amino acid biosynthesis inhibitors and a method of synthesizing the same (US 8569361 B1)

RECENT PRESENTATIONS:

1-First international and 9th National Biotechnology congress of Iran, Tehran, Iran. 24-26 May 2015. Oral presentation

1-5th Advances against Aspergillosis, Istanbul, Turkey, 26-30 Jan, 2012. Poster presentation

2-The Biology of Fungi, Edinburgh, UK, 1-6 August 2010. Poster presentation

3- The second Iranian Proteomics Congress, Tehran, Iran. 23-24 April, 2009. Oral presentation

4- 9th European Conference on Fungal Genetics, 5-8 April 2008, Edinburgh, Scotland. Poster presentation

5- Second advances against Aspergillosis, February 22-25 2006, Athens, Greece. Poster Presentation

TEACHING EXPERIENCE:

- 1- Advanced genetic engineering (For PhD students)
- 2- Advanced molecular biology (For PhD students)
- 3- Cloning and expression in fungi (For MS and PhD students)
- 4- Transposons and their applications in functional genomics (For MS and PhD students)
- 5- DNA-Protein Interactions (For PhD students)
- 6- Microarray and Next Generation sequencing and their application in biology (For PhD students)