Mahdi Behzad

Professor of Immunology, School of Medicine, Hamadan University of Medical Sciences, Hamadan

PERSONAL& CONTACT INFORMATION

Place of birth: Iran

Gender: Male

Marital status: Married

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EDUCATION

PhD in Medical Immunology

Thesis: The functional evaluation of regulatory T cells in myasthenia gravis.

DVM in Veterinary Medicine

Thesis: Comparison of the effect of diltiazem on pentylenetetrazole-induced clonic seizure threshold in mice.

WORK EXPERIENCE

2015 - Present Department of Immunology, School of Medicine, Hamadan University of Medical Sciences, Hamadan, Iran (Research & Teaching of immunology to undergraduate, MSc and PhD students).

PUBLICATION (ENGLISH)

1. Sardarmelli Z, Sheikh V, Solgi G, Behzad M. Enhanced production of interleukin-29 and related genes are associated with T helper 1 cell parameters in patients with type 2 diabetes mellitus. Human immunology. 2023;84(3):235-40, doi: 10.1016/j.humimm.2023.01.002.

2. Gholamian-Hamadan M, Behzad M, Molaei S, Zarei Ghane Z, Talebi-Ghane E, Zamani A. Effect of 50-Hz magnetic fields on the expression of activation-induced deaminase, B-cell lymphoma 6 and serum

levels of interleukin-6, interleukin-21. International journal of radiation biology. 2023;99(9):1456-62, doi: 10.1080/09553002.2023.2177767.

3. Mohammadkhani R, Komaki A, Karimi SA, Behzad M, Heidarisasan S, Salehi I. Maternal high-intensity interval training as a suitable approach for offspring's heart protection in rat: evidence from oxidative stress and mitochondrial genes. Frontiers in physiology. 2023;14:1117666, doi: 10.3389/fphys. 2023.1117666. eCollection 2023.

4. Borzouei S., Gholamian-Hamadan M., Behzad M. Impact of interleukin-32α on T helper cell-related cytokines, transcription factors, and proliferation in patients with type 2 diabetes mellitus. Immunopharmacol Immunotoxicol, 2022:1-9, doi: 10.1080/08923973.2022.2138430.

5. Tahamoli-Roudsari A., Tabatabaei R., Alvandpur, N., Basiri Z., Behzad M.,…& Solgi G. Peripheral distributions of IL-4-producing CD4+ T cells and CD4+CD25+FoxP3+ T cells (Tregs) in rheumatoid arthritis patients with poor response to therapy are associated with HLA shared epitope alleles and ACPA status. Immunologic Research, 2022; 70(4), 481-492. doi: 10.1007/s12026-022-09281-0.

6. Borzouei S., Moghimi H., Zamani A., & Behzad M. Reduced frequency and functional potency of CD49d− T regulatory cells in patients with newly diagnosed type 2 diabetes mellitus. Immunobiology, 2021; doi: 0.1016/j.imbio.2021.152113.

7. Borzouei S., Moghimi H., Zamani A., & Behzad M. Changes in T helper cell-related factors in patients with type 2 diabetes mellitus after empagliflozin therapy. Hum Immunol, 2021; 82(6), 422-428. doi: 10.1016/j.humimm.2021.03.004.

8. Rasouli-Saravani A., Tahamoli-Roudsari A., Behzad M., Hajilooi M., & Solgi G. Clinical Relevance of HLA-DRB1 and -DQB1 Alleles in Iranian Systemic Lupus Erythematosus Patients. Iran J Allergy Asthma Immunol, 2021; 20(1), 67-75. doi: 10.18502/ijaai.v20i1.5413

9. Rezaeepoor M., Hoseini-Aghdam M., Sheikh V., Eftekharian M. M., & Behzad M. Evaluation of Interleukin-23 and JAKs/STATs/SOCSs/ROR-gammat Expression in Type 2 Diabetes Mellitus Patients Treated With or Without Sitagliptin. J Interferon Cytokine Res, 2020; 40(11), 515-523. doi: 10.1089/jir.2020.0113

10. Jahangard L., Behzad M. Diminished functional properties of T regulatory cells in major depressive disorder: The influence of selective serotonin reuptake inhibitor. J Neuroimmunol, 2020; 344, 577250. doi: 10.1016/j.jneuroim.2020.577250

11. Alvandpur, N., Tabatabaei R., Tahamoli-Roudsari A., Basiri Z., Behzad M., Rezaeepoor M., . . . Solgi G. Circulating IFN-gamma producing CD4+ T cells and IL-17A producing CD4+ T cells, HLA-shared epitope and ACPA may characterize the clinical response to therapy in rheumatoid arthritis patients. Hum Immunol, 2020; 81(5), 228-236. doi: 10.1016/j.humimm.2020.02.008

12. Hoseini-Aghdam M., Sheikh V., Eftekharian M. M., Rezaeepoor M., Behzad M. Enhanced expression of TIGIT but not neuropilin-1 in patients with type 2 diabetes mellitus. Immunol Lett, 2020; 225, 1-8. doi: 10.1016/j.imlet.2020.06.003

13. Askari M., Jahangard L., Zamani A., Haghighi M., Salehi I., Zareighane Z., Solgi G., Shahbazi R., A. H (behzad) M. Interleukin-6 signaling pathway involved in major depressive disorder: selective serotonin reuptake inhibitor regulates IL-6 pathway. Turkish Journal of Biochemistry, 2019; doi: 10.1515/tjb-2019-0010.

14. Kazemi S., Vaisi-Raygani A., Keramat F., Saidijam M., Soltanian A. R., A. H (behzad) M., Hashemi SH., Alikhani M. Y. Evaluation of the relationship between IL-12, IL-13 and TNF-alpha gene polymorphisms with the susceptibility to brucellosis: a case control study. BMC Infect Dis, 2019; 19(1), 1036. doi: 10.1186/s12879-019-4678-8

15. Molaei S., A. H (behzad) M., Gholamian-Hamadan M., Zaerieghane Z., Zamani A. Effect of 50-Hz Magnetic Fields on Serum IL-1beta and IL-23 and Expression of BLIMP-1, XBP-1, and IRF-4. Inflammation, 2019; 42(5):1800-7. doi:10.1007/s10753-019-01042-w.

16. Zagheh M., Golmohammadi R., A. H (behzad) M., Najafi-Vosough R., Zareighane Z., Zamani A. Effects of Light on In Vitro Production of Melatonin by Human Peripheral Blood Mononuclear, Polymorphonuclear, and Whole Blood Cells. Neurophysiology, 2019; 51(2):120-5. doi:10.1007/s11062-019-09802-y.

17. Mahabadi-Ashtiyani E., Sheikh V., Borzouei S., Salehi I., A. H (behzad) M. The increased T helper cells proliferation and inflammatory responses in patients with type 2 diabetes mellitus is suppressed by sitagliptin and vitamin D3 in vitro. Inflamm Res, 2019; 68(10):857-66. doi:10.1007/s00011-019-01265-5.

18. Telikani Z., Sheikh V., Zamani A., Borzouei S., Salehi I., Amirzargar M. A., A. H (behzad) M. Effects of sitagliptin and vitamin D3 on T helper cell transcription factors and cytokine production in clinical subgroups of type 2 diabetes mellitus: highlights upregulation of FOXP3 and IL-37. Immunopharmacol Immunotoxicol, 2019;1-13. doi:10.1080/08923973.2019.1593447.

19. Borzouei S., Sheikh V., Ghasemi M., Zamani A., Telikani Z., Zareighane Z., Salehi I., Mozayanimonfared A., Amirzargar M. A., A. H (behzad) M. Anti-Inflammatory Effect of Combined Sitagliptin and Vitamin D3 on Cytokines Profile in Patients with Type 2 Diabetes Mellitus. J Interferon Cytokine Res, 2019; 39(5):293-301. doi:10.1089/jir.2018.0144.

20. Mahdavinejad L., A. H (behzad) M., Eftekharian M. M., Zaerieghane Z., Salehi I., Hajilooi M., Mahaki H., Zamani A. Extremely Low Frequency Electromagnetic Fields Decrease Serum Levels of Interleukin-17, Transforming Growth Factor-beta and Downregulate Foxp3 Expression in the Spleen. J Interferon Cytokine Res, 2018; 38(10):457-62. doi:10.1089/jir.2018.0048.

21. Sheikh V., Zamani A., Mahabadi-Ashtiyani E., Tarokhian H., Borzouei S., A. H (behzad) M. Decreased regulatory function of CD4(+)CD25(+)CD45RA(+) T cells and impaired IL-2 signalling pathway in patients with type 2 diabetes mellitus. Scandinavian journal of immunology, 2018; 88(4):e12711. doi:10.1111/sji.12711.

22. Sohrabi M., A. H (behzad) M., Gholami Mahmoodian Z., Hosseini Siyar S. A., Zamani A. Effect of Cinnamon and Turmeric Aqueous Extracts on Serum Interleukin-17F Level of High Fructose-Fed Rats. Iranian journal of immunology, IJI. 2018; 15(1):38-46. doi:IJIv15i1A4.

23. Sheikh V., Kasapoglu P., Zamani A., Basiri Z., Tahamoli-Roudsari A., A. H (behzad) M. Vitamin D3 inhibits the proliferation of T helper cells, downregulate CD4(+) T cell cytokines and upregulate inhibitory markers. Human immunology, 2018; 79(6):439-45. doi:10.1016/j.humimm.2018.03.001.

24. Zamani A., Salehi I., A. H (behzad) M. Moderate Exercise Enhances the Production of Interferon-gamma and Interleukin-12 in Peripheral Blood Mononuclear Cells. Immune network, 2017; 17(3):186-91. doi:10.4110/in.2017.17.3.186.

25. A. H (behzad) M., Durmus H., Aysal F., Gulsen-Parman Y., Oflazer P., Deymeer F., Saruhan-Direskeneli G. The effect of interleukin (IL)-21 and CD4(+) CD25(++) T cells on cytokine production of CD4(+) responder T cells in patients with myasthenia gravis. Clinical and experimental immunology, 2017; 190(2):201-7. doi:10.1111/cei.13006.

26. Saruhan-Direskeneli G., Hughes T., Yilmaz V., Durmus H., Adler A., A. H (behzad) M., Aysal F., Yentur S. P., Akalin M. A., Dogan O., Marx A., Gulsen-Parman Y., Oflazer P., Deymeer F., Sawalha A. H. Genetic heterogeneity within the HLA region in three distinct clinical subgroups of myasthenia gravis. Clinical immunology, 2016; 166-167:81-8. doi:10.1016/j.clim.2016.05.003.

27. A. H (behzad) M., Kasapoglu P., Jafari R., Rezaei N. The role of T regulatory cells in immunopathogenesis of myasthenia gravis: implications for therapeutics. Expert review of clinical immunology, 2015; 11(7):859-70. doi:10.1586/1744666X.2015.1047345.

28. A. H (behzad) M., Oflazer P., Aysal F., Durmus H., Gulsen-Parman Y., Marx A., Deymeer F., Saruhan-Direskeneli G. Regulatory function of CD4+CD25++ T cells in patients with myasthenia gravis is associated with phenotypic changes and STAT5 signaling: 1,25-Dihydroxyvitamin D3 modulates the suppressor activity. Journal of neuroimmunology, 2015; 281:51-60. doi:10.1016/j.jneuroim.2015.03.008.

29. A. H (behzad) M., Yilmaz V., Gulsen-Parman Y., Aysal F., Oflazer P., Deymeer F., Saruhan-Direskeneli G. Association of HLA-DRB1 *14, -DRB1 *16 and -DQB1 *05 with MuSK-myasthenia gravis in patients from Turkey. Human immunology, 2013; 74(12):1633-5. doi:10.1016/j.humimm.2013.08.271.

PUBLICATION (PERSIAN)

1-Sheikh V., Sardarmelli Z, Behzad M. Association of Interleukin-32α with Interleukin-35 and Transforming Growth Factor-β Produced by the Peripheral Blood Mononuclear Cells from Patients with Type 2 Diabetes Mellitus, Avicenna Journal of Clinical Medicine, 2023; 30(1):5-13. doi: 10.32592/ajcm.30.1.5.

2- Moghimi H., Borzouei S., Zamani A., Behzad M. Evaluation of the Effect of Empagliflozin Therapy on T Helper 22 Cell-Related Factors in Patients with Type 2 Diabetes Mellitus. Avicenna Journal of Clinical Medicine, 2021; 27(4): 193-200. doi: 10.29252/ajcm.27.4.193.

3- Sheikh V., Hoseini-Aghdam M., Behzad M. Evaluation of Percentage of Interferon-Gamma Secreting T Helper Cells and Expression of Related Genes in Patients with Type 2 Diabetes Mellitus. Avicenna Journal of Clinical Medicine, 2020; 27(3): 140-148. doi: 10.29252/ajcm.27.3.140

4- Rezaee S., Mazdeh M., Behzad M., Zamani A., Eftekharian M. M. Interleukin-34 Gene Expression in the Peripheral Blood Leukocytes of Guillain-Barre Patients. Avicenna Journal of Clinical Medicine, 2020; 27(2):77-88. doi: 10.21859/ajcm.27.2.77.

5. Telikani Z., Sheikh V., Zamani A., Borzouei S., Salehi I., Amirzargar M. A., A. H (Behzad) M. Effect of sitagliptin on serum levels of TNF-α, IL-1β and IL-10 in patients with type 2 diabetes mellitus. Koomesh. 2020: 22(1):71-77.

6. Mahabadi-Ashtiyani E., Sheikh V., Borzouei S., Salehi I., A. H (Behzad) M. Effect of sitagliptin and vitamin D3 on secretion of IL-6 and TNF-α inflammatory factors in patients with type 2 diabetes. Avicenna Journal of Clinical Medicine. 2018; 25(3):134-141. doi: 10.21859/ajcm.25.3.134.

CONGRESS

1. Evaluation of tumor necrosis factor-α and nuclear factor-κB in patients with newly diagnosed type 2 diabetes mellitus.
16th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2023

2. Evaluation of Jak1, T-bet and Foxp3 gene expression in major depression disorder.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

3. Evaluation of the T-bet, RORγt and Foxp3 gene expression in patients with type 2 diabetes mellitus.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

4. The effect of vitamin D3 on proliferation of $CD4^+$ T lymphocytes in patients with type 2 diabetes mellitus.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

5. Frequency and functional evaluation of Treg cells in patients with type 2 diabetes mellitus.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

6. Effect of extremely low frequency electromagnetic fields (ELF-EMFs) on serum levels of IL-6, IL-21 and expression of BCL-6, AID genes in spleens of rats.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

7. Extremely low frequency electromagnetic fields (ELF-EMF) decreases serum levels of IL-17, TGF-β and down regulates Foxp3 expression in the spleen.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

8. Effect of cinnamon and turmeric aqueous extracts on serum interleukin-17F level of high-fructose fed rats.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

9. Effects of Monochromatic Different Colored Lights on Melatonin Secretion from in vitro Peripheral Blood Mononuclear Cells, Polymorphonuclear Cells and Whole Blood Cultures.
14th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2018

10. Cytokine production of $CD4^+$ responder and regulatory T cells and the effect of IL-21 in myasthenia gravis in co-culture.
International Congress of Immunology, Melbourne, Australia- 2016

11. Evaluation effect of garlic extract on Foxp3 gene expression and suppression capacity of rats thymocytes.
13th International Congress of Immunology& Allergy of IRAN, Tabriz, Iran- 2016

12. Evaluation of Tregs in AChR- and Musk-Myasthenia Gravis: Functional Impairment and Modulatıon by Vitamin D3 and Il-21.

12th International Society of Neuroimmunology Congress, Mainz, Germany- 2014

13. Late-onset non-thymomatous generalized myasthenia gravis.
19th International Congress of the World Muscle Society, Berlin, Germany- 2014

14. Circulating Follicular Helper T cells in Myasthenia Gravis.
Molecular Immunology and Immunogenetics Congress, Antalya, Turkey- 2014

15. Participated in "6th Neuroimmunology Course Congress" Antalya, Turkey- 2013

16. Participated in "Immunodeficiency symposium" Istanbul, Turkey- 2013

17. Dietary effect of pomegranate seed oil rich on serumic levels of lipids and lipoproteins in cholesterol-fed male rats.
11th International Congress of Immunology& Allergy of IRAN, Tehran, Iran- 2012

18. Association of HLA-DRB1*14, DRB1*16 and HLA-DQ5 with MuSK-myasthenia gravis in Turkish patients.
11th International Society of Neuroimmunology Congress, Boston, USA- 2012

19. Assocaition of HLA-DRB1*14 And DRB1*16 With Musk-Myasthenia Gravis in Turkish Patients
Molecular Immunology and Immunogenetics Congress, Antalya, Turkey- 2012

BOOKS

1- Medical Immunology, Published by Hamadan University of Medical Sciences, 2020, Hamadan, Iran, ISBN: 978-622-6916-03-2 (Persian)

2- Diagnostic Flow Cytometry, Published by Hamadan University of Medical Sciences, 2017, Hamadan, Iran, ISBN: 978-600-97357-3-0 (Persian).

PRACTICAL COURSES

2016

- Immunohistochemistry& immunofluorescence training course, 13th International Congress of Immunology& Allergy of IRAN, Tabriz, IRAN.

2014

- Cell culture & CFSE based cell proliferation assay by flow cytometry training course, and applied luminex assay training course, tuberculosis research centre, Istanbul Medical Faculty, Turkey.

2013

- 4th US- Turkish Flow Cytometry Workshop, University of Yeditepe, Turkey.
- Applied cell sorting by flow cytometry (cooperation with Becton Dickinson), and development of animal model, Neuroscience research center, Istanbul Medical Faculty, Turkey.

2012

- 12th ESNI course- European School of Neuroimmunology, Boston, USA.
- XVIII. Applied Flow Cytometry Training Course, Istanbul Medical Faculty, Turkey.

2011

- XVII. Applied Flow Cytometry Training Course, and ELISA, RIA, PCR and dot blot hybridization training course, Istanbul Medical Faculty, Turkey.

MEMBERSHIP

Medical council (IR), Veterinary council (IR)

COMPUTER SKILLS

FoxPro, Microsoft office, SPSS, Graph Pad, Adobe Photoshop

LANGUAGE

Persian, English, Turkish

RESEARCH FIELDS

T cells, Cell signaling, Cytokines, Autoimmune and inflammatory diseases