

CURRICULUM VITAE

Anahit Ghochikyan, Ph.D

Personal Data:

Address 16371 Gothard St. Suite H,
Huntington Beach, CA 92647
Tel: (714)-596-3981
FAX: (714)-596-3791

Education:

1984 M.S., Biochemistry and Genetics
Yerevan State University, Armenia
1998 Ph.D., Molecular Biology, Institute of Biochemistry of the Academy of
Sciences of Armenia.
Ph.D. thesis " Molecular organization and expression of argBJ and ama
genes of *B.stearothermophilus*". Supervisor Prof. Vehary Sakanyan.

Employment:

2000-present Institute for Molecular Medicine, Huntington Beach, CA
Research Associate Professor at the Department of Immunology. Head of AD
vaccine laboratory.
Development of an effective and safe vaccines against Alzheimer's Disease,
Parkinson's disease and tauopathies-associated diseases.
Generation of BORIS-based anti-cancer vaccine in 4T1 breast cancer mouse
model. Analyses of immunosuppressor cells, anti-cancer immune responses in
vaccinated mice, dissemination of metastases into the distant organs.

1999-2000 University of Nantes, France.
Postdoctoral Scientist in Faculty of Science, Laboratory of Biocatalyse

1998-1999 Research Institute of Biotechnology, Armenia
Postdoctoral Scientist in Laboratory of Gene Engineering.

1996-1997 Weizmann Institute of Science, Israel
Department of Structural Biology. Visiting graduate student.

1993-1996 Research Institute of Biotechnology, Armenia.
Graduate student in Laboratory of Gene Engineering
Study of molecular organization of arginine biosynthesis genes and
aminoacylase gene of thermophilic bacterium *B. stearothermophilus*.

1984-1993 Research Institute of Biotechnology, Armenia.
Research Technician in laboratory of Gene Engineering.
Construction of strains producing arginine and aminoacylase.

Patents:

1. Mett I.L., **Kochikyan A.V.**, Mett A.L., Sakanyan V.A. (1985). Authorship certificate #1374782.
2. Sakanyan V.A., **Kochikyan A.V.**, Mett I.L., Chagchalyan A., Ter-Karapetyan V.G., Hovsepyan A.S. (1986). Authorship certificate # 1405312.
3. Mett I.L., Mett A.L., **Kochikyan A.V.**, Sakanyan V.A., Ivanov A.S. (1987). Authorship certificate # 1510360.
4. Mett I.L., Mett A.L. **Kochikyan A.V.**, Sakanyan V.A. (1989) Authorship certificate # 1639063
5. Sakanyan V., Snapyan M., **Ghochikyan A.**, Lecocq M. (2001). Improved methods of RNA and protein synthesis. EP 01402049.9, deposition 27.07.2001.
6. Sakanyan V., Snapyan M., **Ghochikyan A.**, Lecocq M., Guevel L., Weigel P., Braun F. (2001) Protein arrays, methods for their preparation and methods for the detection of intermolecular interactions. EP 01402050.7, deposition 27.07.2001.
7. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). Application No. AU 2004268001 B2. Priority date 2003.08.25.
8. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). CA 2537161 A1 2005/03/10. Priority date 2003.08.25.
9. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). CN000001871025B. Priority date 2003.08.25.
10. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). US 8114405 B2. Priority date 2003.08.25.
11. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). US 7579452B2. Priority date 2003.08.25.
12. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). EU No. 1667711 (in Germany, Austria, Switzerland/Liechtenstein, Denmark, Italy, Netherlands). Priority date 2003.08.25.
13. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). Патент на Изобретение РФ, No 2385163. Priority date 2003.08.25.
14. **Ghochikyan A.**, Agadjanyan M.G. Preventive cancer vaccine based on brother of regulator of imprinted sites molecule (BORIS). India, 312/MUMNP/2006 A. Priority date 2003.08.25

15. **Ghochikyan A.**, Agadjanyan M.G. Anti-Tau antibodies and compositions for and methods of making and using in treatment, diagnosis and monitoring of tauopathies. US 2014/0056901 A1
16. **Ghochikyan A.**, Agadjanyan M.G. Compositions and methods related to diseases associated with deposits of amyloid, Tau, and α -synuclein. WO 2014/031697 A3
17. **Ghochikyan A.**, Ataullakhanov R., Agadjanyan M.G., Pichugin A., Bagaev A. Method for the cancer treatment and prevention of metastatic disease. PCT/US15/57427

Publications:

1. Nersisyan A., Mett I., Badalyan Z., **Kochikyan A.**, Kocharyan A., Kocharyan Sh., Sakanyan V. (1986). Restriction mapping of recombinant plasmids carrying genes for arginine biosynthesis of *Escherichia coli* K-12. *Genetica*, v. 12, 1061-1065.
2. Sakanyan V.A., Hovsepian A.S., Mett I.L., **Kochikyan A.V.**, Petrosyan P. K. (1990). Molecular cloning and structural-functional analysis of the arginine biosynthesis genes of the thermophilic bacterium *Bacillus stearothermophilus*. *Genetica*, v. 26, 1915-1925.
3. Sakanyan V., **Kochikyan A.**, Mett I., Legrain C., Charlier D., Pierard, A. and Glansdorff N. (1992). A re-examination of the path way for ornithine biosynthesis in a thermophilic and two mesophilic *Bacillus* species. *J. Gen. Microbiology*, v. 138, 125-130.
4. Sakanyan V., Charlier D., Legrain C., **Kochikyan A.**, Mett I., Pierard A. and Glansdorff N. (1993). Primary structure, partial purification and regulation of key enzymes of the acetyl cycle of arginine biosynthesis in *Bacillus stearothermophilus*: dual function of ornithine acetyltransferase. *J. Gen. Microbiol.*, v. 139, 393-402.
5. Sakanyan V., Desmarez L., Legrain C., Charlier D., Mett I., **Kochikyan A.**, Savchenko A., Boyen A., Falmagne P., Pierard A. and Glansdorff N. (1993). Gene cloning, sequence analysis, purification, and characterization of a thermostable aminoacylase from *Bacillus stearothermophilus*. *Appl. Environm. Microbiology*. v. 59, 3878-3888.
6. Sakanyan V., Legrain C., Charlier D., **Kochikyan A.**, Osyna N. K., Glansdorff N. (1993). N-acetylglutamate-5-phosphotransferase of thermophilic bacterium *Bacillus stearothermophilus*: Nucleotide Sequence and Enzyme Characterization. *Genetica*, v.29, 556-569.
7. Zevin-Sonkin D., Liberzon A., **Ghochikyan A.**, Hovhannisyan H., Lvovsky L. and Ulanovsky L. (1999) DENS (Differential Extension with Nucleotide Subsets) - application to the sequencing of human genomic DNA and cDNA. *DNA Seq.*10(4-5):245-54.
8. Panossian A., **Kochikian A.**, Gabrielian E., Muradian R., Stepanian H., Arsenian F., Wagner H. (1999). Effect of *Andrographis paniculata* extract on progesterone in blood plasma of pregnant rats. *Phytomedicine*. 6(3) :157-61.

9. Mamikonyan G., **Ghochikyan A.**, Hovhannisyan A., Panossian A., Gabrielian E., Wikman G. "Andrographolide binding by blood proteins" *Medical Science of Armenia* XLI, 2001, N1, pp 30-34.
10. **Ghochikyan, A.** Vasilevko, V., Holterman, M.J., Agadjanyan, M.G. CD80 (B7-1) and CD86 (B7-2) are Functionally Equivalent in the Initiation and Maintenance of CD4⁺ T cell Proliferation after Activation with Suboptimal Doses of PHA. *DNA and cell Biology*, 2002, 21, 137-149.
11. Parisot J., **Ghochikyan A.**, Langlois V., Sakanyan V., Rabiller C. Exopolygalacturonate lyase from *Thermotoga maritima*: cloning, characterization and organic synthesis application. *Carbohydr Res*, 2002, 337(16):1427
12. **Ghochikyan A.**, Miltcheva-Karaivanova I., Lecocq M., Weigel P., Vusio P., Van Duyne G., Sakanyan V. DNA binding and gene repression *in vitro* by chimeric proteins designed from ArgR repressors of *Bacillus stearothermophilus* and *Escherichia coli* : the linker peptide can affect the operator DNA binding specificity. *J Bacteriol.*, 2002, 184 (23):6602-14.
13. **Ghochikyan A.**, Agadjanyan M.G., Cribbs D.H. Different approaches to the development of vaccine against animal model of Alzheimer's disease. *Neurobiology of Aging*. 2002, 23(1) S237-S237 888 Supl.1.
14. Petrushina I., Tran M., Sadzikava N., **Ghochikyan A.**, Vasilevko V., Cribbs H.D, and Agadjanyan G.M. Importance of detection of murine IgG2c antibodies in APP/Tg 2576 mice immunized with human β -amyloid peptide. *Neuroscience Letters*. 2003, 338(1):5-8.
15. Cribbs, D.H., **Ghochikyan A.**, Vasilevko, V., Tran, M., Petrushina, I., Sadzikava, N., Babikyan D., Kieber-Emmons, T., Agadjanyan, M.G. Adjuvant-dependent modulation of Th1 and Th2 responses to immunization with β -amyloid. *Int. Immunol.*, 2003, 15 :505-14.
16. Vasilevko V., **Ghochikyan A.**, Sadzikava N., Petrushina I., Tran M., Cohen E.P., Kessler P.J., Cribbs D.H., Agadjanyan M.G. Generation of tumor-specific immune responses after gene-gun immunization with plasmids, encoding MUC1 and B7 costimulatory molecules. *Clin. Exp. Metastas*. 2003,20:489-498.
17. Snapyan M., Lecocq M., Guevel L., Arnaud M-C., **Ghochikyan A.**, Sakanyan V. Dissecting DNA-protein and protein-protein interactions involved in bacterial transcriptional regulation by a sensitive protein array method combining a near-infrared fluorescence detection. *Proteomics*. 2003, 3:647-657.
18. Agadjanyan M., Vasilevko V., **Ghochikyan A.**, Berns P., Kessler P., Settineri R.A. and Nicolson G.L. Nutritional Supplement (NT Factor™) Restores Mitochondrial Function and Reduces Moderately Severe Fatigue in Aged Subjects. *Journal of Chronic Fatigue Syndrome* 2003; vol. 11, no. 23-36
19. **Ghochikyan A.**, Vasilevko V., Petrushina I., Movsesyan N., Babikyan D., Tian W., Sadzikava N., Ross T., Head L., Cribbs D. & Agadjanyan M. Generation and characterization of the humoral immune response to DNA immunization with a chimeric β -amyloid-Interleukin-4 minigene. *Eur J Immunol*. 2003, 33(12), 3232-41.

20. Gevorkian G., Petrushina I., Manucharian K., **Ghochikyan A.**, Acero G., Vasilevko V., Cribbs D.H., Agadjanyan M.G. Mimotopes of conformational epitopes in fibrillar beta-amyloid. *J. Neuroimmunol.* 2004 256(1-2): 10-20.
21. Agadjanyan M.G., **Ghochikyan A.**, Petrushina I., Vasilevko V., Movsesyan N., Mkrtychyan M., Saing T., Cribbs D.H. Prototype Alzheimer's disease vaccine utilizing the immunodominant B cell epitope from beta-amyloid and promiscuous T cell epitope PADRE. *J Immunol.* 2005, 174 (3):1580-6.
22. **Ghochikyan A.**, Mkrtychyan M., Petrushina I., Movsesyan N., Karapetyan A., Cribbs D.H., Agadjanyan M.G. Prototype Alzheimer's disease epitope vaccine induced strong Th2-type anti-Abeta antibody response with Alum to Quil A adjuvant switch. *Vaccine.* 2006, 24(13):2275-82.
23. Loukinov D., **Ghochikyan A.**, Mkrtychyan M., Itchim T.E., Lobanenkov V.V., Cribbs D.H., Agadjanyan M.G. Antitumor efficacy of DNA vaccination to the epigenetically acting tumor promoting transcription factor BORIS and CD80 molecular adjuvant. *J Cell Biochem.* 2006, 98(5):1037-43.
24. **Ghochikyan A.**, Petrushina I., Lees A., Vasilevko V., Movsesyan N., Karapetyan A., Agadjanyan M.G., Cribbs D.H., Abeta-immunotherapy for Alzheimer's disease using mannan-amyloid-Beta peptide immunoconjugates 2006. *DNA Cell Biol.* 2006, 25(10):571-80.
25. **Ghochikyan A.**, Mkrtychyan M., Loukinov D., Mamikonyan G., Pack S.D., Movsesyan N., Itchim T.E., Cribbs D.H., Lobanenkov V.V., Agadjanyan M.G. Elicitation of T Cell Responses to Histologically Unrelated Tumors by Immunization with the Novel Cancer-Testis Antigen, Brother of the Regulator of Imprinted Sites. *J Immunol.* 2007, 178, 566-573.
26. Mamikonyan G, Necula M, Mkrtychyan M, **Ghochikyan A**, Petrushina I, Movsesyan N, Mina E, Kiyatkin A, Glabe C, Cribbs DH, Agadjanyan MG. Anti-Abeta 1-11 antibody binds to different beta-amyloid species, inhibits fibril formation, and disaggregates preformed fibrils, but not the most toxic oligomers. *J Biol Chem.* 2007 282:22376-86.
27. Petrushina I, **Ghochikyan A**, Mkrtychyan M, Mamikonyan G, Movsesyan N, Davtyan H, Patel A, Head E, Cribbs DH, Agadjanyan MG. Alzheimer's disease peptide epitope vaccine reduces insoluble but not soluble/oligomeric Abeta species in amyloid precursor protein transgenic mice. *J Neurosci.* 2007 Nov 14;27(46):12721-31.
28. Mkrtychyan M, **Ghochikyan A**, Loukinov D, Davtyan H, Itchim TE, Cribbs DH, Lobanenkov VV, Agadjanyan MG. DNA, but not protein vaccine based on mutated BORIS antigen significantly inhibits tumor growth and prolongs the survival of mice. *Gene Ther.* 2008 Jan;15(1):61-4.
29. Mkrtychyan M, **Ghochikyan A**, Movsesyan N, Karapetyan A, Begoyan G, Yu J, Glenn GM, Ross TM, Agadjanyan MG, Cribbs DH. Immunostimulant adjuvant patch enhances humoral and cellular immune responses to DNA immunization. *DNA Cell Biol.* 2008 Jan;27(1):19-24.
30. Dougherty CJ, Itchim TE, Liu L, Reznik G, Min WP, **Ghochikyan A**, Agadjanyan MG, Reznik BN. Selective apoptosis of breast cancer cells by siRNA targeting of BORIS. *Biochem Biophys Res Commun.* 2008 May 23;370(1):109-12.

31. Movsesyan N, **Ghochikyan A**, Mkrtychyan M, Petrushina I, Davtyan H, Olkhanud PB, Head E, Biragyn A, Cribbs DH, Agadjanyan MG. Reducing AD-like pathology in 3xTg-AD mouse model by DNA epitope vaccine - a novel immunotherapeutic strategy. PLoS ONE. 2008 May 7;3(5):e2124.
32. Mamikonyan G, Kiyatkin A, Movsesyan N, Mkrtychyan M, **Ghochikyan A**, Petrushina I, Hwang J, Ichim TE, Keledjian H, Agadjanyan MG. Detection of the active components of calf thymus nuclear proteins (TNP), histones that are binding with high affinity to HIV-1 envelope proteins and CD4 molecules. Curr HIV Res. 2008 Jun;6(4):318-26.
33. Petrushina I., **Ghochikyan A.**, Mkrtychyan M., Mamikonyan G., Movsesyan G., Ajdari R., Vasilevko V., Karapetyan A., Lees A., Agadjanyan MG, Cribbs DH. Mannan-A β ₂₈ conjugate prevented A β -plaque deposition, but increased microhemorrhages in the brains of vaccinated Tg2576 (APPsw) mice. J.Neuroinflammation, 2008 Sep 29;5:42.
34. Movsesyan N, Mkrtychyan M, Petrushina I, Ross T, Cribbs DH, Agadjanyan MG, **Ghochikyan A**. Generation of functional anti-amyloid antibodies after immunization with DNA encoding multiple copies of A β -peptide immunogen fused with C3d. Journal of Neuroimmunology, 2008 Dec 15;205(1-2):57-63 PMID:PMC2637203
35. **Ghochikyan A**. Rationale for peptide and DNA based epitope vaccines for Alzheimer's disease immunotherapy. CNS Neurol Disord Drug Targets. 2009 Apr;8(2):128-43
36. Davtyan H., Mkrtychyan M., Movsesyan N., Petrushina I., Mamikonyan G., Cribbs DH., Agadjanyan MG., **Ghochikyan A**. DNA prime/protein boost increased the titer, avidity and persistence of anti-A β antibodies in wild-type mice. Gene Therapy, 2010 Feb; 17, 261–271.
37. Movsesyan N, Davtyan H, Mkrtychyan M, Petrushina I, Tiraturyan T, Ross TM, Agadjanyan MG, **Ghochikyan A**, Cribbs DH. Low concentrations of anti-A β antibodies generated in Tg2576 mice by DNA epitope vaccine fused with 3C3d molecular adjuvant do not affect AD pathology. Hum Gene Ther., 2010, 21(11): 1569-1576.
38. Robert R, Lefranc MP, **Ghochikyan A**, Agadjanyan MG, Cribbs DH, Van Nostrand WE, Wark KL, Dolezal O. Restricted V gene usage and VH/VL pairing of mouse humoral response against the N-terminal immunodominant epitope of the amyloid β peptide. Mol Immunol. 2010 Nov-Dec;48 (1-3):59-72.
39. Mkrtychyan M, **Ghochikyan A**, Davtyan H, Movsesyan N, Loukinov D, Lobanenkov V, Cribbs DH, Laust AK, Nelson EL, Agadjanyan MG. Cancer-testis antigen, BORIS based vaccine delivered by dendritic cells is extremely effective against a very aggressive and highly metastatic mouse mammary carcinoma. Cell Immunol. 2011, 270(2):188-97.
40. Davtyan H, **Ghochikyan A**, Cadagan R, Zamarin D, Petrushina I, Movsesyan N, Martinez-Sobrido L, Albrecht RA, García-Sastre A, Agadjanyan MG. The immunological potency and therapeutic potential of a prototype dual vaccine against influenza and Alzheimer's disease. J Transl Med. 2011 Aug 1;9:127.

41. de Necochea-Campion R, **Ghochikyan A**, Josephs SF, Zacharias S, Woods E, Karimi-Busheri F, Alexandrescu DT, Chen CS, Agadjanyan MG, Carrier E. Expression of the epigenetic factor BORIS (CTCF) in the human genome. *J Transl Med*. 2011 Dec 14;9:213.
42. Davtyan H, **Ghochikyan A**, Movsesyan N, Ellefsen B, Petrushina I, Cribbs DH, Hannaman D, Evans CF, Agadjanyan MG. Delivery of a DNA vaccine for Alzheimer's disease by electroporation or gene gun generates potent and similar immune responses. *Neurodegenerative Diseases*. 2012;10(1-4):261-4.
43. **Ghochikyan A**, Davtyan H., Petrushina, I, Hovakimyan, A., Movsesyan, N., Davtyan, A., Kiyatkin, A., Cribbs, D.H., Agadjanyan, M.G. Refinement of a DNA based Alzheimer's disease epitope vaccine in rabbits, *Hum Vaccin Immunother*. 2013 Feb 11;9(5).
44. Davtyan, H., **Ghochikyan, A.**, Petrushina,I., Hovakimyan, A., Davtyan, A., Poghosyan, A., Marleau, A.M., Movsesyan, N., Kiyatkin, A., Rasool, S., Larsen, S.A., Madsen, P.J., Wegener, K.M., Ditlevsen, D.K., Cribbs, D.H., Pedersen, L.O., Agadjanyan, M.G. Immunogenicity, Efficacy, Safety, and Mechanism of Action of Epitope Vaccine (Lu AF20513) for Alzheimer's Disease: Prelude to a Clinical Trial. *J. Neuroscience* 2013, Mar 13; 33(11):4923-34.
45. Evans C.F., Davtyan H, Petrushina I., Hovakimyan A., Davtyan A., Hannaman D., Cribbs D.H., Agadjanyan M.G., **Ghochikyan A**. Epitope-based DNA vaccine for Alzheimer's disease: translational study in macaques. *Alzheimers Dement*. 2014 May;10(3):284-95.
46. **Ghochikyan A**, Petrushina I., Davtyan H., Hovakimyan A., Saing T., Davtyan A., Cribbs D.H., Agadjanyan M.G., Immunogenicity of epitope vaccines targeting different B cell antigenic determinants of human α -synuclein: Feasibility study. *Neurosci Lett*. 2014 Feb 7;560:86-91.
47. Davtyan H., Bacon A., Petrushina I., Zagorski K., Cribbs D.H., **Ghochikyan A**, Agadjanyan M.G., Immunogenicity of DNA- and recombinant protein-based Alzheimer Disease Epitope Vaccines. *Hum Vaccin Immunother*. 2014 Feb 13;10(5):1-8.
48. **Ghochikyan A**, Davtyan A, Hovakimyan A, Davtyan H, Poghosyan A, Bagaev A, Ataulakhanov RI, Nelson EL, Agadjanyan MG. Primary 4T1 tumor resection provides critical "window of opportunity" for immunotherapy. *Clin Exp Metastasis*. 2014 Feb;31(2):185-98.
49. Davtyan H., **Ghochikyan A**, Hovakimyan A., Petrushina I., Yu J., Flyer D., Madsen P.J., Pedersen L.O., Cribbs D.H., Agadjanyan M.G., Immunostimulant patches containing Escherichia coli LT enhance immune responses to DNA- and recombinant protein-based Alzheimer's disease vaccines. *J Neuroimmunol*. 2014 Mar 15; 268 (1-2):50-7.
50. Davtyan H, **Ghochikyan A**, Petrushina I., Hovakimyan A., Davtyan A., Cribbs D.H., Agadjanyan M.G., MultiTEP platform-based AD epitope vaccine activates broad repertoire of T helper cells in non-human primates. *Alzheimers Dement*. 2014 May; 10(3):271-83.
51. Davtyan H, Petrushina I, **Ghochikyan A**. Immunotherapy for Alzheimer's disease: DNA- and protein-based epitope vaccines. *Methods Mol Biol*. 2014; 1143:259-81.
52. Davtyan H, Hovakimyan A., Zagorski K., Davtyan A., Petrushina I., Agdashian D., Murthy V., Cribbs D.H., Agadjanyan M.G., **Ghochikyan A**, BTX AgilePulse^{MT} System is an Effective Electroporation Device for Intramuscular and Intradermal Delivery of DNA Vaccine. *Curr Gene Ther*. 2014;14(3):190-9.

53. **Ghochikyan A**, Pichugin A, Bagaev A, Davtyan A, Hovakimyan A, Tuxvatulin A, Davtyan H, Shcheblyakov D, Logunov D, Chulkina M, Savilova A, Trofimov D, Nelson EL, Agadjanyan MG, Ataulakhanov RI. Targeting TLR-4 with a novel pharmaceutical grade plant derived agonist, Immunomax®, as a therapeutic strategy for metastatic breast cancer. *J Transl Med.* 2014 Nov 29;12:322.
54. Davtyan H, **Ghochikyan A**, Hovakimyan A, Davtyan A, Cadagan R, Marleau AM, Albrecht RA, García-Sastre A, Agadjanyan MG. A dual vaccine against influenza & Alzheimer's disease failed to enhance anti- β -amyloid antibody responses in mice with pre-existing virus specific memory. *J Neuroimmunol.* 2014 Dec 15;277(1-2):77-84.
55. Agadjanyan MG, Petrovsky N, **Ghochikyan A**. A fresh perspective from immunologists and vaccine researchers: Active vaccination strategies to prevent and reverse Alzheimer's disease. *Alzheimers Dement.* 2015 Oct;11(10):1246-59.
56. Davtyan H., Zagorski K., Rajapaksha H., Hovakimyan A., Davtyan A., Petrushina I., Kazarian K., Cribbs D.H., Petrovsky N., Agadjanyan M.G., **Ghochikyan A**. Alzheimer's disease Advax^{CpG}-adjuvanted MultiTEP-based dual and single vaccines induce high-titer antibodies against various forms of tau and A β pathological molecules. *Scientific Reports*, 2016, 6:28912.
57. Petrushina I., Davtyan H., Hovakimyan A., Davtyan A., Passos G.F., Cribbs D.H., **Ghochikyan A**, Agadjanyan M.G. Comparison of Efficacy of Preventive and Therapeutic Vaccines Targeting the N Terminus of β -Amyloid in an Animal Model of Alzheimer's Disease. *Mol Ther.* 2017 Jan 4;25(1):153-164.
58. Davtyan H., Chen W.W., Zagorski K., Davis J., Petrushina I., Kazarian K., Cribbs D.H., Agadjanyan M.G., Blurton-Jones M., **Ghochikyan A**. MultiTEP platform-based DNA epitope vaccine targeting N-terminus of tau induces strong immune responses and reduces tau pathology in THY-Tau22 mice. *Vaccine*, 2017, 35(16):2015-2024.
59. Agadjanyan MG, Zagorski K, Petrushina I, Davtyan H, Kazarian K, Antonenko M, Davis J, Bon C, Blurton-Jones M, Cribbs DH, **Ghochikyan A**. Humanized monoclonal antibody armanezumab specific to N-terminus of pathological tau: characterization and therapeutic potency. *Mol Neurodegener.* 2017 May 5;12(1):33.
60. Davtyan H, Zagorski K, Petrushina I, Kazarian K, Goldberg NRS, Petrosyan J, Blurton-Jones M, Masliah E, Cribbs DH, Agadjanyan MG, **Ghochikyan A**. MultiTEP platform-based DNA vaccines for alpha-synucleinopathies: preclinical evaluation of immunogenicity and therapeutic potency. *Neurobiol Aging.* 2017 Aug 10. pii: S0197-4580(17)30261-0. doi: 10.1016/j.neurobiolaging.2017.08.006. [Epub ahead of print].

Conference presentations:

1. Charlier D., Sakanyan V., **Kochikyan A.**, Mett I., Legrain C., Pierard A. and Glansdorff N. (1992). Organization and expression of arginine biosynthetic genes of *Bacillus stearothermophilus*. International Conference "Thermophiles: Science and Technology" Reikjavik.

2. Sakanyan V., Mett I., **Kochikyan A.**, Savchenko A., Desmarez L., Legrain C., Charlier D., Pierard A. and Glansdorff N. (1992). Isolation, sequence and expression in *Escherichia coli* of the aminoacylase gen from *Bacillus stearotherophilus*. International Conference "Thermophiles: Science and Technology" Reikjavik.

3. Zevin-Sonkin D., **Ghochikyan A.**, Liberzon A., Lvovsky L. and Ulanovsky L. Sequencing of Human Telomeric Region DNA by Differential Extension with Nucleotide Subsets (DENS). in: DOE Human Genome Program, Contractor-Grantee Workshop VI, Santa Fe, NM, Nov 9-13, 1997, p.18.

4. Zevin-Sonkin D., Mugasimangalam R.C., Liberzon A., **Ghochikyan A.**, Hovhannisyan H., Lvovsky L., Ben-Asher E., Glusman G., Lancet D. and Ulanovsky L. DNA Sequencing Using Differential Extension with Nucleotide Subsets (DENS): Application to the Sequencing of Human Genomic DNA. In: Abstracts of papers presented at the 1998 meeting on "Genome mapping, Sequencing and Biology", Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1998, p.242.

5. Cribbs, D.H., **Ghochikyan, A.**, Tran, M., Vasilevko, V., Petrushina, I., Sadzikava, N., Patrick Kessler, Kieber-Emmons, T., Agadjanyan, M.G. Detection of conformational antigenic determinant in wildtype & APP/TG mice immunized with A β 42 peptide. Presentation on the 8th International Conference on Alzheimer's Disease and Related Disorders. Stockholm, Sweden, 2002.

6. **Ghochikyan, A.**, Cribbs, D.H., Agadjanyan, M.G. Different approaches to the development of vaccine against animal model of Alzheimer's disease. Presentation on the 8th International Conference on Alzheimer's Disease and Related Disorders. Stockholm, Sweden, 2002.

7. **Ghochikyan, A.**, Petrushina, I., Tran, M., Sadzikava, N., Vasilevko, V., Cribbs, D.H., and Agadjanyan, M.G. Immunization of wildtype and APP/Tg animals with fibrillar A β 42 induces antibodies to conformational antigenic determinants. Presentation on the Eighth National Symposium : Basic Aspects of Vaccines. Bethesda, May 1-3, 2002.

8. Vasilevko, V., Tran, M., Petrushina, I., **Ghochikyan, A.**, Kieber-Emmons, T., Agadjanyan, M.G., Cribbs, D.H. The role of adjuvant in the humoral and cellular immune responses to immunization with β -amyloid. . Presentation on the Eighth National Symposium : Basic Aspects of Vaccines. Bethesda, May 1-3, 2002

9. Gevorkian G., Petrushina I., **Ghochikyan A.**, Manoutcharian K.G., Acero G., Cribbs D.H., and Agadjanyan M.G. Anti-A β polyclonal sera from wildtype mice recognized predominantly EFRH epitope. Publication of the Proceedings of the 6th International Conference on Progress in Alzheimer's and Parkinson's Disease AP / DP (Seville, Spain, May 8-12, 2003).

10. Cribbs D.H., Lees A., **Ghochikyan A.**, Vasilevko V., Petrushina I., Babikyan D., Movsesyan N., Tran M., DeVolger A. and Agadjanyan M.G. Mannan as a Molecular Adjuvant for Ab- Immunotherapy. Publication of the Proceedings of the 6th International Conference on Progress in Alzheimer's and Parkinson's Disease AP / DP (Seville, Spain, May 8-12, 2003).

11. Cribbs D., Lees A., Vasilevko V., **Ghochikyan A.**, Petrushina I., Movsesyan N., Agadjanyan M. Alternative strategies for A β Immunotherapy using Active Immunization.

12th International Congress of Immunology and 4th Annual Conference on FOCIS.

12. **Ghochikyan A.**, Petrushina I., Vasilevko V., Movsesyan N., Mkrtychyan M., Oddo S., LaFerla F., Cribbs D. H., Agadjanyan M. G. Peptide epitope vaccine for A β immunotherapy. Presentation on the 10th National Symposium : Basic Aspects of Vaccines. Bethesda, April 28-30, 2004.

13. **Ghochikyan A.**, Mkrtychyan M., Loukinov D., Mamikonyan G. , Lobanenkov V., Cribbs D. H., Agadjanyan M. G. *BORIS*, Controlling Other Cancer Testis Genes, Induces Cytotoxic T Cell Responses and Protection Against Poorly Immunogenic, Very Aggressive, and Highly Metastatic 4T1 Mammary Carcinoma Cells. Translational Imm. cancer conference. Bethesda, 2005.

14. **Ghochikyan A.**, Mkrtychyan M., Loukinov D., Mamikonyan G., Lobanenkov V., Cribbs D. H., Agadjanyan M. G. *BORIS*, Controlling Other Cancer Testis Genes, Induces Cytotoxic T Cell Responses and Protection Against Poorly Immunogenic, Very Aggressive, and Highly Metastatic 4T1 Mammary Carcinoma Cells. Presentation on the Annual Meeting of The American Association of Immunologists (AAI), Immunology Boston, May 12-16, 2006.

15. **Ghochikyan A.**, Movsesyan N., Mkrtychyan M., Mamikonyan G., Petrushina I., Cribbs, D. H., Agadjanyan, M.G. DNA-based AD epitope vaccine induced therapeutically potent anti-A β antibodies in AD mouse model. Presentation on the 10th International Conference on Alzheimer's Disease and Related Disorders. Madrid, Spain, July 14-21, 2006.

16. **Ghochikyan A.**, Mkrtychyan M., Agadjanyan, M.G. Immunotherapy of Breast Cancer Based on a Novel Tumor Associated Antigen, *BORIS*. 3rd International Conference on CTCF/Boris. S. Carolina, May, 2006.

17. **Ghochikyan, A.**, Movsesyan, N., Mkrtychyan, M., Petrushina, I., Biragyn, A., Cribbs, D. H., Agadjanyan, M.G. DNA epitope vaccine induced strong anti-A β antibodies inhibiting AD like pathology in 3xTg-AD mice and protecting them from cognitive decline. 8th International Conference AD/PD, Salzburg, Austria, March 14-18, 2007.

18. **Ghochikyan, A.**, Movsesyan, N., Mkrtychyan, M., Petrushina, I., Arya Biragyn, Cribbs, D. H., Agadjanyan, M.G. DNA epitope vaccine prevents AD like pathology in 3xTg-AD mice and protects them from cognitive decline. International Conference on Prevention of Dementia. Washington, DC, June 9-12, 2007.

19. **Ghochikyan A.**, Martinez L., Movsesyan N., Mkrtychyan M., Petrushina I., Davtyan H., Cribbs D.H., Garcia-Sastre A., Agadjanyan M.G. The novel strategy for generation of effective and safe Alzheimer's Disease vaccine based on conventional influenza virus vaccine modified to express A β ₁₋₁₁. International Conference on Prevention of Dementia. Chicago, IL, 2008.

20. **Ghochikyan, A.**, PhD, Davtyan, H., PhD, Movsesyan, N., PhD, Mkrtychyan, M., PhD; Petrushina, I. Ph.D., Cribbs, D. H., Ph.D., Agadjanyan, M.G., PhD. Third generation epitope vaccine (EV): A new Strategy for A β immunotherapy. 9th International Conference AD/PD, Prague, Czech Republic, March 11-15, 2009.

21. **Ghochikyan A.**, Davtyan H., Movsesyan N., Mkrtychyan M., Petrushina I., Cribbs D.H., Agadjanyan M.G. Induction of rapid and robust anti-A β antibody production by reactivation of

pre-existing memory Th cells generated from conventional vaccines. Presentation on the International Conference on Alzheimer's Disease. Vienna, Austria, July 11-16, 2009.

22. Mkrtychyan M., Khlghatyan J., Loukinov D., Movsesyan N., Davtyan H., **Ghochikyan A.**, Agadjanyan M.G. DNA vaccine based on cancer-testis antigen, BORIS and IL21 molecular adjuvant is extremely effective for treatment of metastatic disease. DNA Vaccine International Conference. New Orleans, USA, March 2-4, 2010.

23. Davtyan H., Mkrtychyan M., Movsesyan N., Petrushina I., Mamikonyan G., Cribbs D.H., Agadjanyan M.G., **Ghochikyan A.** Improvement of Alzheimer's Disease (AD) DNA vaccine efficacy by DNA prime/protein boost regimen in mice and rabbits
DNA Vaccine International Conference. New Orleans, USA, March 2-4, 2010.

24. Davtyan H., **Ghochikyan A.**, Albrecht R.A., Movsesyan N., Petrushina I., Cribbs D.H., García-Sastre A., Agadjanyan M.G. The novel strategy for generation of effective and safe Alzheimer's disease vaccine based on conventional Influenza virus vaccine modified to express A β ₁₋₁₀. 10th International Conference AD/PD, Barcelona, Spain, March 6-10, 2011.

25. Davtyan H., **Ghochikyan A.**, Petrushina I., Hovakimyan A., Davtyan A., Poghosyan A., Cribbs D.H., Agadjanyan M.G. Multiple approaches to immunotherapy against Alzheimer's disease. "Brain Waves" Alz Symposium, Santa Barbara, April 19, 2012.

26. Davtyan H., **Ghochikyan A.**, Petrushina I., Hovakimyan A., Movsesyan N., Kiyatkin A., Evans C., Hannaman D., Cribbs D.H., Agadjanyan M.G. Translational study: refinement of DNA based Alzheimer's disease (AD) epitope vaccine in rabbits. Alzheimer's Association International Conference (AAIC), Vancouver, Canada, July 14-19, 2012.

27. Davtyan A., **Ghochikyan A.**, Hovakimyan A., Davtyan H., Poghosyan A., Bagaev A., Ataulakhanov R.I., Nelson E.L., Agadjanyan M.G. Primary breast 4T1 tumor resection model for the testing for anti-cancer therapeutics. X Immunology Fair, UCI, Irvine, CA, November 15-16, 2012.

28. **Ghochikyan A.**, Davtyan H., Petrushina I., Hovakimyan A., Davtyan A., Movsesyan N., Kiyatkin A., Hannaman D., Evans C.F., Cribbs D.H., Agadjanyan M.G. Refinement of Alzheimer's Disease DNA-based epitope vaccine: broad coverage of MHC polymorphism and targeting pre-existing memory T cells. 11th International Conference AD/PD, Florence, Italy, March 6-10, 2013.

29. Davtyan H., Petrushina I., Evans C.F., Hovakimyan A., Davtyan A., Hannaman D., Cribbs D.H., **Ghochikyan A.**, Agadjanyan M.G. MultiTEP platform based AD vaccine immunogenic in rabbits and monkeys. Clinical Trials on Alzheimer's Disease (CTAD), San Diego, CA, November 14-16, 2013.

30. Amado A.J. Davtyan H., Serraneau K., Zagorski K., Gordon M. N., Cribbs D.H. **Ghochikyan A.**, Petrovsky N., Agadjanyan M. G., Morgan D. Active immunization with highly immunogenic tau epitope induced a strong immune response together with improvement in short memory but failed to significantly reduce tau pathology in a mouse model of tauopathy. Neuroscience, Chicago, IL, October 17-21, 2015.

31. **Ghochikyan A.**, Zagorski K., Kazarian K., Davtyan H., Petrushina I., Davis J., Chen W., Antonenko M., Blurton-Jones M., Cribbs D.H., Agadjanyan M.G. Humanized mAb, Armanezumab targeting N-terminus of pathological tau: characterization and therapeutic potency. Alzheimer's Association International Conference (AAIC), Toronto, Canada, July 24-28, 2016.

32. Agadjanyan M.G., Petrovsky N., **Ghochikyan A.** Preventive Immunotherapy Strategy: Combining A β vaccine with adjuvants inducing pro-inflammatory or anti-inflammatory immune responses. Alzheimer's Association International Conference (AAIC), London, July 16-20, 2017.