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Mohammad Sayyah

Date of birth 1969

Education

1988-1993

Pharm. D. Tehran University of Medical Sciences, Tehran

1993-1997

Ph. D. in Pharmacology Shaheed Beheshti University of Medical Sciences, Tehran

2005-2006

Post-doctoral fellow, Innsbruck University of Medical Sciences, Austria

Positions

2013-present

Professor of Pharmacology, Head of department of Physiology and Pharmacology, Pasteur Institute of Iran, Tehran

2013-present

Editorial board of Iranian Biomedical Journal

2007-2009

Head of department of Physiology and Pharmacology

2005-2006

Post-doctoral fellow, Innsbruck University of Medical Sciences, Austria

2006-present

Member of scientific committee evaluation of Physiology proposals of Tarbiat Modarres university

2007-present

Member of scientific faculty evaluation of Pasteur Institute of Iran

2007-present

Member of judgment and monitoring of the grants of Pasteur Institute of Iran

1998-2000

Advisor to Ministry of Health in Rational Prescribing Committee, Tehran

1998-2000

Advisor to Food and Drug Quality Control Laboratories, Tehran

Research projects

1. Clinical and experimental assessment of association between toxoplasmosis (*Toxoplasma gondii*) and acquisition of epilepsy. Supported by grant No. 751 of Pasteur Institute of Iran. Underway.
2. Possible prevention of plaque formation by early and specific microglia activation; an insight to Alzheimer's disease prevention. Supported by grant No. 702 of Pasteur Institute of Iran. Underway.
3. Evaluation of the lipopolysaccharide pretreatment on acquisition of epilepsy in rats underwent traumatic brain injury and possible involvement of IL-1 β and TNF- α . Supported by grant No. 634 of Pasteur Institute of Iran. Completed.
4. Design, synthesis and evaluation of the anticonvulsant activity of the Ducuso Hexaenoic acid "DHA" like molecules in experimental model of seizures using in silico techniques. Supported by grant No. 594 of Pasteur Institute of Iran. Completed.
5. Evaluation of the effect of neuroinflammation induced by lipopolysaccharide on gene and protein expression of connexins 30, 32, 36 and 43 in hippocampus of rats. Supported by grant No. 472 of Pasteur Institute of Iran. Completed.
6. Study on the effect of *Cicer arietinum* seed extract on seizures induced by pentylentetrazole and maximal electroshock in mice. Supported by grant No. 485 of Pasteur Institute of Iran. Completed.
7. Anticonvulsant effect of some plant species of Fabaceae family in mice. Supported by grant No. 374 of Pasteur Institute of Iran. Completed.
8. Determination of single nucleotide polymorphisms frequency in the multi drug resistance 1 gene (MDR1) in drug-resistant and drug-responsive epileptic patients. Supported by grant No. 332 of Pasteur Institute of Iran. completed.
9. Evaluation of mRNA and protein expression of connexins 36 and 43 in hippocampus of rats during pentylentetrazole kindling model of epilepsy. Supported by grant No. 301 of Pasteur Institute of Iran. completed.
10. Evaluation of the effect of intrahippocampal injection of lipopolysaccharide on development of kindling. Supported by grant No. 220 of Pasteur Institute of Iran. Completed.
11. Effect of intracerebroventricular injection of Interleukin-1 beta on development of kindled-seizures, involvement of prostaglandins and nitric oxide. Supported by grant No. 151 of Pasteur Institute of Iran. Completed.
12. Evaluation of cytotoxic effects of *Chenopodium botrys* and *Elaeagnus angustifolia* extracts on the different types of human cancer cell lines. Supported by grant No. 188 of Pasteur Institute of Iran. Completed.
13. Interaction of eugenol with NMDA receptor mediated synaptic transmission in CA1 area of rat hippocampal slices. Supported by grant No. 157 of Pasteur Institute of Iran. Completed.
14. Determination of the anticonvulsant activity of the fruit essential oil of *Ferula gummosa* in mice. Supported by grant No. 138 of Pasteur Institute of Iran. Completed.
15. Evaluation of the anticonvulsant activity of Progesterone and its metabolite allopregnanolone in kindling model of epilepsy and its possible interaction with GABAergic system. Supported by a grant of Shaheed Beheshti University of Medical Sciences. Completed.

Awards received Winner of Medical Basic Sciences award in 6th Razi Festival of medical sciences, 2000.

Publications

1. Eslami M, Ghanbari E, Sayyah M, Etemadi F, Choopani S, Soleimani M, Amiri Z, Hadjighassem M. Traumatic brain injury accelerates kindling epileptogenesis in rats. *Neurol Res.* 2015 Aug 27, Epub ahead of print.
2. Etemadi F, Sayyah M, Pourbadie GH, Babapour V. Assessment of the optimal stimulus pattern to achieve rapid dorsal hippocampal kindling in rats. *Basic and Clinical Neurosci.* 6(2): 39-44, 2015.
3. Gavzan H, Sayyah M, Sardari S, Babapour V. Synergistic effect of Docosahexaenoic acid on the anticonvulsant activity of valproic acid and

- lamotrigine in animal seizure models. *Naunyn Schmiedebergs Arch Pharmacol.* 388: 1029-1038, 2015.
4. Sardari S, Amiri M, Rahimi H, Kamalinejad M, Narenjkar J, Sayyah M. Anticonvulsant Effect of *Cicer arietinum* Seed in Animal Models of Epilepsy: Introduction of an Active Molecule with Novel Chemical Structure. *Iran Biomed J.* 19(1):45-50, 2015.
 5. Khatami S, Taheri Sh, Azmandian J, Sagheb M, Nazemian F, Razeghi E, Shahidi Sh, Atapour A, Shamshiri AR, Sayyah M. A one-year, multi-center, double-blind, randomized clinical trial, on the efficacy and safety of generic cyclosporine (Iminoral) in de novo kidney transplant recipients. *Experimental and Clinical Transplantation.* 13 (3): 233-238, 2015.
 6. Gavzan DH, Babapour V, Sardari S, Sayyah M. Inhibitory and Dose-dependent effect of intracerebroventricular docosahexaenoic acid on clonic seizures induced by pentylentetrazole in mice. *Physiology and Pharmacology,*17(4):478-486, 2014.
 7. Iranian National Formulary. Ministry of Health and Medical Education, Food and Drug Organization. 6th edition. 2013.
 8. Sayyah M, Majzoob S, Sayyah M. Metabolic and toxicological considerations for Obsessive-Compulsive disorder drug therapy. *Expert Opinion in Drug Metabolism and Toxicology,* 9 (6): 657-73, 2013.
 9. Niknazar M, Mousavi SR, Vosoughi Vahdat B, Sayyah M. A new framework based on recurrence quantification analysis for epileptic seizure detection. *IEEE Journal of Biomedical and Health Informatics.* 17 (3): 572-578, 2013.
 10. Niknazar M, Mousavi SR, Motaghi S, Dehghani A, Vosoughi Vahdat B, Shamsollahi MB, Sayyah M, Noorbakhsh SM. A unified approach for detection of induced epileptic seizures in rats using ECoG signals. *Epilepsy & Behavior.* 27: 355-364, 2013.
 11. Ghanbarabadi JK, Sayyah M. Blocking of rat hippocampal Cx36 by quinine accelerates kindling epileptogenesis. *EXCLI J.* 12: 251-259, 2013.
 12. Ahmadi A, Sayyah M, Khoshkholgh-Sima B, Choopani S, Kazemi J, Sadegh M, Moradpour F, Nahrevanian H. Intra-hippocampal injection of lipopolysaccharide inhibits kindled seizures and retards kindling rate in adult rats. *Exp Brain Res.* 226 (1): 107-120, 2013
 13. Niknazar M, Mousavi SR, Shamsollahi MB, Vosoughi Vahdat B, Sayyah M, Motaghi S, Dehghani A, Noorbakhsh SM. Application of a dissimilarity index of EEG and its sub-bands on prediction of induced epileptic seizures from rat's EEG signals. *IRBM.* 33: 298-307, 2012.
 14. Akbarpour A, Sayyah M, Babapour V, Mahdian R, Beheshti S, Kamyab AR. Expression of Connexin30 and Connexin32 in hippocampus of rat during epileptogenesis in the kindling model of epilepsy. *Neuroscience Bulletin.* 28 (6): 729-736, 2012
 15. Nahrevanian H, Jalalian M, Farahmand M, Asmar M, Esmaili Rastaghi AR, Sayyah M. Inhibition of murine systemic leishmaniasis by acetyl salicylic acid via nitric oxide modulation. *Iranian Journal of Parasitology.* 6(2): 21-28, 2012.
 16. Sayyah M, Sayyah M, Boostani H, Ghaffari SM, Hoseini A. Effect of aripiprazole augmentation in treatment resistant obsessive-compulsive disorder (a double blind clinical trial). *Depression and Anxiety.* 29: 850-854, 2012.
 17. Abbasian M, Sayyah M, Babapour V, Mahdian R, Choopani S, Kaviani B.: Upregulation of Connexin30 and 32 gap junctions in rat hippocampus at transcriptional level by chronic central injection of lipopolysaccharide. *Iranian Biomedical Journal.*16(3):, 2012.
 18. Akhlaghi Z, Sayyah M, Mokhtari M, Ahmadi A.: Effect of Intra-amygdala injection of lipopolysaccharide on kindling epileptogenesis in adult rats. *Archives of Iranian Medicine.* 15 (9): 557-559, 2012.
 19. Khodaparast, A., Sayyah, M., Sardari, S.: Anticonvulsant activity of hydroalcoholic extract and aqueous fraction of *Ebenus stellata* in mice. *Iranian Journal of Basic Medical Sciences.* 15 (3): 811-819, 2012.
 20. Sayyah, M., Kaviani, B., Khoshkholgh-Sima, B., Bagheri, M., Olad, M., Choopani, S., Mahdian, R. Chronic intracerebroventricular administration of lipopolysaccharide decreases connexin 43 protein expression in rat hippocampus. *Iranian Biomedical Journal.*16(1): 25-32, 2012.
 21. Motaghi S, Niknazar M, Sayyah M, Babapour V, Vosoughi Vahdat B, Shamsollahi

- MB. Alterations of the electroencephalogram sub-bands amplitude during focal seizures in the pilocarpine model of epilepsy. *Physiology and Pharmacology*, 16 (1): 11-20, 2012.
22. Sayyah, M., Khodaparast, A., Yazdi, A., Sardari, S.: Screening of the anticonvulsant activity of some plants from Fabaceae family in experimental seizure models in mice. *Daru* 19(4): 301-305, 2011.
 23. Sayyah, M., Kamgarpour, F., Maleki, M., Karimipoor, Gharagozli, K., Shamshiri, A.R.: Association analysis of interactable epilepsy with C3435T and G2677T/A ABCB1 gene polymorphisms in Iranian patients. *Epileptic Disorder*. 13: 155-165, 2011.
 24. Sayyah, M., Faraji, H., Dehghani, A., Bakhtiari, H., Kamalinejad, M., Narenjkar, J.: Screening of the anticonvulsant potential of some common medicinal plants of Iran in pentylenetetrazole and maximal electroshock seizure models in male mice. *Physiology and Pharmacology*, 15: 66-71, 2011.
 25. Yazdi, A., Sardari, S., Sayyah, M., Hassanpour Ezzati, M.: Evaluation of the anticonvulsant activity of the leaves of *Glycyrrhiza glabra* var. *glandulifera* grown in Iran, as a possible renewable source for anticonvulsant compounds. *Iranian J. Pharm. Res* 10: 75-82, 2011.
 26. Maleki, M., Sayyah, M., Kamgarpour, F., Karimipoor, M., Arab, A., Rajabi, A., Gharagozli, K., Shamshiri, A.R., Shahsavand Ananloo, E.: Association between ABCB1-T1236C polymorphism and drug-resistant epilepsy in Iranian female patients. *Iranian Biomed. J.* 14(3): 89-96, 2010.
 27. Beheshti, S., Sayyah, M., Golkar, M., Sepehri, H., Babaie, J., Vaziri, B.: Changes in hippocampal connexin 36 mRNA and protein levels during epileptogenesis in the kindling model of epilepsy. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*. 34: 510-515, 2010.
 28. Sadeghi, G., Khaksar, A.A., Jahromi, S.B., Amirkhani, A., Eslamifar, A., Ajdary, S., Katiraei, F., Taeb, J., Paskiabi, F.A., Sayyah, M.: Fungistatic effects of optimal brightener 220 against *Trichophyton tonsurans*, *Aspergillus fumigatus* and *Candida albicans*. *J. Dermatolog. Treat.*, 20 (2): 120-123, 2009.
 29. Sayyah, M., Rezaie, M., Haghighi, S., Amanzadeh, A.: Intra-amygdala all-trans retinoic acid inhibits amygdala-kindled seizures in rats. *Epilepsy Research*. 75: 97-103, 2007.
 30. Sayyah, M., Argani, H., Pourmand, G.H.R., Amini, H., Ahmadiani, A.: Pharmacokinetics, efficacy and safety of Iminoral compared with Neoral in healthy volunteers and renal transplant recipients. *Transplantation Proceedings*. 39: 1214-1218, 2007.
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 32. Loacker, S., Sayyah, M., Wittmann, W., Herzog, H., Schwarzer, C.: Endogenous dynorphin in epileptogenesis and epilepsy: anticonvulsant net effect via kappa opioid receptors. *Brain*, 130 (4):1-12, 2007.
 33. Sayyah, M., Sayyah, M., Kamalinejad M.: A preliminary randomized double blind clinical trial on the efficacy of aqueous extract of *Echium amoenum* in the treatment of mild to moderate major depression. *Progress in Neuro-Psychopharmacology & Biological Psychiatry*. 30(1):166-9, 2006.
 34. Ardjmand, A., Fathollahi, Y., Sayyah, M., Kamalinejad, M., Omrani, A.: Eugenol depresses synaptic transmission but does not prevent the induction of long-term potentiation in the CA1 region of rat hippocampal slices. *Phytomedicine*, 13: 146-151, 2006.
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 36. Sayyah, M., Yousefi-Pour, M., Narenjkar, J.: Anti-epileptogenic effect of beta-carotene and vitamin A in pentylenetetrazole-kindling model of epilepsy in mice. *Epilepsy Research*, 63: 11-16, 2005.
 37. Sayyah, M., Beheshti, S., Shokrgozar, M.A., Eslami-far, A., Deljoo, Z., Khabiri, A.R., Haeri Rohani, A.: Antiepileptogenic and anticonvulsant activity of interleukin-1 β in amygdala-kindled rats. *Experimental Neurology*, 191: 145-153, 2005.
 38. Sayyah, M., Nadjafnia, L., Kamalinejad, M.: Anticonvulsant activity and

- chemical composition of *Artemisia dracunculus* L. essential oil. *Journal of Ethnopharmacology*, 94: 283-287, 2004.
39. Sayyah, M., Hadidi, N., Kamalinejad, M.: Analgesic and anti-inflammatory activity of *Lactuca sativa* seed extract in rats. *Journal of Ethnopharmacology*, 92: 325-329, 2004.
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 41. Sayyah, M., Tobihaye Najafabadi, I., Beheshti, S., Majzoob, S.: Lipopolysaccharide retards development of amygdala kindling without affecting kindled seizures in rats. *Epilepsy research*, 57: 175-180, 2003.
 42. Sayyah, M., Javad-Pour, M., Ghazi-Khansari, M.: The bacterial endotoxin lipopolysaccharide enhances seizure susceptibility in mice; involvement of proinflammatory factors: nitric oxide and prostaglandins. *Neuroscience*, 122: 1073-1080, 2003.
 43. Sayyah, M., Saroukhani, G., Peirovi, A., Kamalinejad, M.: Analgesic and anti-inflammatory activity of the leaf essential oil of *Laurus nobilis* Linn. *Phytotherapy Research*, 17: 733-736, 2003.
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 45. Ahmadiani, A., Mandgary, A., Sayyah, M.: Anticonvulsant effect of flutamide on seizures induced by pentylentetrazole: involvement of benzodiazepine receptors. *Epilepsia*, 44 (5): 629-635, 2003.
 46. Homayoun, H., Sayyah, M., Dehpour, A.R.: The additive effect of opioids and nitric oxide in increasing pentylentetrazole-induced seizures threshold in cholestatic mice. *Journal of Gastroenterology Hepatology*, 17 (1): 96-101, 2002.
 47. Sayyah, M., Valizadeh, J., Kamalinejad, M.: Anticonvulsant activity of the leaf essential oil of *Laurus nobilis* against pentylentetrazole- and maximal electroshock-induced seizures. *Phytomedicine*, 9: 212-216, 2002.
 48. Sayyah, M., Mahboubi, A., Kamalinejad, M.: Anticonvulsant effect of the fruit essential oil of *Cuminum cyminum* in mice. *Pharmaceutical Biology*, 40 (6): 478-480, 2002.
 49. Sayyah, M., Mandgary, A., Kamalinejad, M.: Evaluation of the anticonvulsant activity of the seed acetone extract of *Ferula gummosa* Boiss. against seizures induced by pentylentetrazole and maximal electroconvulsive shock in mice. *Journal of Ethnopharmacology*, 82: 105-109, 2002.
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 53. Pourgholami, M.H., Kamalinejad, M., Javadi, M., Majzoob, S., Sayyah, M.: Evaluation of the anticonvulsant activity of the essential oil of *Eugenia caryophyllata* in male mice. *Journal of Ethnopharmacology*, 64: 167-171, 1999.
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 55. Sayyah, M., Pourgholami, M.H.: Lack of anticonvulsant activity of intracerebroventricular progesterone and allopregnanolone in male amygdala-kindled rats. *Medical Journal of the Islamic Republic of Iran*, 12 (4): 377-380, 1999.
 56. Iranian National Formulary. Ministry of Health and Medical Education, Food and Drug Organization. 1st edition. 1999.
 57. Seymour, R.A., Meehan, J.G., Yates, M.S.: *Pharmacology and dental therapeutics*. 3rd edition. 1999. Oxford University Press. Translated by M. Sayyah and J. Narenjkar.
 58. Sayyah, M., Ahmadiani, A., Pourgholami, M.H.: Evaluation of the anticonvulsant profile of progesterone in male amygdala-kindled rats. *Epilepsy Research*, 30: 195-202, 1998.

59. Sayyah, M., Ahmadiani, A., Pourgholami, M.H.: Progesterone and Medroxyprogesterone acetate retard the development of amygdala kindling in male rats. *Iranian Journal of Medical Sciences*, 22 (3&4) 1997.
60. Samini, M., Dehpour, A.R., Sayyah, M.: Apomorphine-induced alpha1-adrenoceptors mediated contractions and Oscillations in rat anococcygeus muscle. *Acta. Medica. Iranica*, 32 (3&4): 116-122, 1994.