



Mohammad Sayyah, Ph.D.

Professor of Pharmacology | Neuropharmacology Research Leader

Contact & Professional Profiles

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Research Summary

A distinguished Professor and Chair of Pharmacology with a prolific career focused on understanding the neurobiological mechanisms of epilepsy, neuroinflammation, and CNS infections. My research program integrates neuroimmunology and neuropharmacology to explore novel therapeutic strategies for traumatic brain injury, epileptogenesis, and parasitosis. With a strong record of securing and leading national grants, my work has extensively investigated the roles of the endocannabinoid system, microglial activation, and Toll-like receptor signaling, translating findings from basic models toward potential clinical applications.

Education

- **Post-doctoral Fellow**, Neuropharmacology (2005-2006)
Innsbruck University of Medical Sciences, Austria
 - **Ph.D.**, Pharmacology (1993-1997)
Shaheed Beheshti University of Medical Sciences, Tehran, Iran
 - **Pharm.D.** (1988-1993)
Tehran University of Medical Sciences, Tehran, Iran
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Academic & Research Appointments

- **Professor & Head**, Department of Physiology & Pharmacology (2013-2024)
Pasteur Institute of Iran, Tehran
 - **Head**, Department of Physiology & Pharmacology (2007-2009)
Pasteur Institute of Iran, Tehran
 - **Post-doctoral Fellow**, Neuropharmacology (2005-2006)
Innsbruck University of Medical Sciences, Austria
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Leadership & Service

- **Member of the Board**, Iranian Society of Physiology and Pharmacology (2015-Present)
 - **Editorial Board Member**, *Iranian Biomedical Journal* (2013-Present)
 - **Member**, Grant Judgment & Monitoring Committee, Pasteur Institute of Iran (2007-Present)
 - **Member**, Scientific Faculty Evaluation Committee, Pasteur Institute of Iran (2007-2020)
 - **Member**, Scientific Committee for Physiology Proposal Evaluation, Tarbiat Modares University (2006-2015)
 - **Advisor**, Ministry of Health & Food and Drug Organization (1998-2000)
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Research Funding & Projects

Current Research Focus (Active Grants)

- **Neuroparasitology & Behavior:** Investigating the impact of chronic *Toxoplasma gondii* infection on high-risk decision-making and synaptic function via the fronto-striatal circuit. (Grant #2398, Pasteur Institute of Iran)
- **Viral Glycoproteins & Behavior:** Assessing a rabies virus-derived glycoprotein for its potential as a novel anxiolytic agent. (Grant #4030153, NIMAD)

Major Completed Research Themes (Selected)

1. Post-Traumatic Epileptogenesis & Neuroimmunomodulation

- **Grants #1198 (Pasteur) & #995741 (NIMAD):** Demonstrated that immediate post-injury administration of Monophosphoryl lipid A significantly modulates epileptogenesis following traumatic brain injury (TBI).
- **Grant #943697 (NIMAD):** Established the role of interleukin-4 (IL-4) in the acquisition of epilepsy post-TBI.
- **Grant #634 (Pasteur):** Elucidated the mechanism by which LPS pretreatment affects epilepsy acquisition, involving IL-1 β and TNF- α .

2. Cannabinoid System in Seizure & Parasite-Host Interaction

- **Grant #982645 (NIMAD):** Characterized the anticonvulsant properties of endocannabinoids (DHEA & EPEA) and their interaction with cannabinoid receptors.
- **Grant #971015 (NIMAD):** Defined the proconvulsant role of *T. gondii* and its mediation through cannabinoid receptors.
- **Grant #990 (Pasteur):** Investigated the disruption of synaptic plasticity in chronic toxoplasmosis and the involvement of the cannabinoid system.

3. Innovative Therapeutic & Diagnostic Strategies

- **Grant #859 (Pasteur):** Pioneered the use of a lentiviral vector pseudotyped with rabies glycoprotein for optogenetic control of drug-resistant epilepsy networks.
- **Grant #751 (Pasteur):** Conducted translational clinical and experimental studies confirming a link between toxoplasmosis and epilepsy acquisition.
- **Grant #594 (Pasteur):** Applied in silico techniques to design, synthesize, and evaluate novel DHA-like molecules with anticonvulsant activity.

A comprehensive list of 24+ successfully completed projects is available upon request.

Honors & Awards

- **Winner, Medical Basic Sciences Award** (2000)
6th Razi Festival of Medical Sciences
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Scholarly Output

- **Peer-Reviewed Publications:** Extensive publication record in international pharmacology and neuroscience journals. For a complete, updated list, please see my ORCID, Scopus, and Google Scholar profiles.
- **Book Contribution: Contributing Author,** *Iranian National Formulary*, 1st to 6th Editions (1999-2014). Ministry of Health and Medical Education, Food and Drug Organization.