

Stanford



May Han, MD

Associate Professor of Neurology at the Stanford University Medical Center
Neurology & Neurological Sciences

CLINICAL OFFICES

- **Stanford Neuroscience Health Center**

213 Quarry Rd Rm 2851

MC 5957

Palo Alto, CA 94304

Tel (650) 723-6469

Fax (650) 498-6262

Bio

CLINICAL FOCUS

- Neurology
- Neuroimmunology
- Multiple sclerosis (MS)
- Neuromyelitis optica
- High risk MS
- MS pregnancy

ACADEMIC APPOINTMENTS

- Associate Professor - Med Center Line, Neurology & Neurological Sciences
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

PROFESSIONAL EDUCATION

- Fellowship: Stanford University Behavioral Neurology Fellowship (2009) CA
- Residency: University of Washington Neurology Residency (2005) WA
- Internship: University of Washington Medical Center Dept of Medicine (2002) WA
- Medical Education: Institute of Medicine 1 Yangon (1996) Myanmar
- Board Certification: Neurology, American Board of Psychiatry and Neurology (2011)

LINKS

- Get a Second Opinion: <https://stanfordhealthcare.org/second-opinion/overview.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Multiple sclerosis

Neuromyelitis optica

Autoimmune CNS disorders

Teaching

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Ezzat Hashemi

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Immunology (Phd Program)
- Neurosciences (Phd Program)

Publications

PUBLICATIONS

- **Case series: Hearing loss in neuromyelitis optica spectrum disorders.** *Multiple sclerosis and related disorders*
Tugizova, M., Feng, H., Tomczak, A., Steenerson, K., Han, M.
2020; 41: 102032
- **Emergence of rheumatoid arthritis following exposure to natalizumab.** *Multiple sclerosis and related disorders*
Su Data, E., Novic, J., Han, M. H.
2020; 40: 101936
- **Collaborative International Research in Clinical and Longitudinal Experience Study in NMOsD.** *Neurology(R) neuroimmunology & neuroinflammation*
Cook, L. J., Rose, J. W., Alvey, J. S., Jolley, A. M., Kuhn, R., Marron, B., Pederson, M., Enriquez, R., Yearley, J., McKechnie, S., Han, M. H., Tomczak, A. J., Levy, et al
2019; 6 (5): e583
- **Immunological Aspects of Approved MS Therapeutics** *FRONTIERS IN IMMUNOLOGY*
Rommer, P. S., Milo, R., Han, M. H., Satyanarayan, S., Sellner, J., Hauer, L., Illes, Z., Warnke, C., Laurent, S., Weber, M. S., Zhang, Y., Stuve, O.
2019; 10
- **Changes in the immune cell profile in fingolimod-treated patients with relapsing multiple sclerosis: primary analysis of the FLUENT study**
Mao-Draayer, Y., Cohen, J., Bar-Or, A., Cree, B. C., Han, M., Singer, B., Kolodny, S., Meng, X., Schofield, L., Ziehn, M.
LIPPINCOTT WILLIAMS & WILKINS.2019
- **Immune Cell Subset and Biomarker Changes in Patients with Relapsing Multiple Sclerosis Receiving Fingolimod: Interim Analysis of the FLUENT Study**
Mao-Draayer, Y., Cohen, J. A., Bar-Or, A., Cree, B. C., Han, M. H., Singer, B. A., Kolodny, S., Meng, X., Schofield, L., Ziehn, M. O.
SAGE PUBLICATIONS LTD.2019: 25
- **White-matter-nulled MPAGE at 7T reveals thalamic lesions and atrophy of specific thalamic nuclei in multiple sclerosis.** *Multiple sclerosis (Houndmills, Basingstoke, England)*
Planche, V., Su, J. H., Mournet, S., Saranathan, M., Dousset, V., Han, M., Rutt, B. K., Tourdias, T.
2019: 1352458519828297
- **MR susceptibility contrast imaging using a 2D simultaneous multi-slice gradient-echo sequence at 7T.** *PloS one*
Bian, W., Kerr, A. B., Tranvinh, E., Parivash, S., Zahneisen, B., Han, M. H., Lock, C. B., Goubran, M., Zhu, K., Rutt, B. K., Zeineh, M. M.
2019; 14 (7): e0219705

- **Collaborative International Research in Clinical and Longitudinal Experience Study in NMOSD.** *Neurology(R) neuroimmunology & neuroinflammation*
Cook, L. J., Rose, J. W., Alvey, J. S., Jolley, A. M., Kuhn, R., Marron, B., Pederson, M., Enriquez, R., Yearley, J., McKechnie, S., Han, M. H., Tomczak, A. J., Levy, et al
2019; 6 (5)
- **A case of GFAP-astroglial autoimmunity presenting with reversible parkinsonism.** *Multiple sclerosis and related disorders*
Tomczak, A., Su, E., Tugizova, M., Carlson, A. M., Kipp, L. B., Feng, H., Han, M. H.
2019; 39: 101900
- **The FLUENT study design: investigating immune cell subset and neurofilament changes in patients with relapsing multiple sclerosis treated with fingolimod.** *Multiple sclerosis journal - experimental, translational and clinical*
Cohen, J. A., Bar-Or, A., Cree, B. A., Mao-Draayer, Y., Han, M. H., Singer, B., Jannu, A., Kolodny, S., Meng, X., Winger, R. C.
2019; 5 (1): 2055217318819245
- **Myeloid sphingosine-1-phosphate receptor 1 is important for CNS autoimmunity and neuroinflammation.** *Journal of autoimmunity*
Tsai, H. C., Nguyen, K., Hashemi, E., Engleman, E., Hla, T., Han, M. H.
2019
- **Immunological Aspects of Approved MS Therapeutics.** *Frontiers in immunology*
Rommer, P. S., Milo, R., Han, M. H., Satyanarayan, S., Sellner, J., Hauer, L., Illes, Z., Warnke, C., Laurent, S., Weber, M. S., Zhang, Y., Stuve, O.
2019; 10: 1564
- **Molecular signature of Epstein-Barr virus infection in MS brain lesions.** *Neurology(R) neuroimmunology & neuroinflammation*
Moreno, M. A., Or-Geva, N., Aftab, B. T., Khanna, R., Croze, E., Steinman, L., Han, M. H.
2018; 5 (4): e466
- **Investigating Immune Phenotype Biomarker Changes in Patients with Relapsing MS Treated with Fingolimod 0.5 mg/day: The FLUENT Study**
Cohen, J., Bar-Or, A., Cree, B., Mao-Draayer, Y., Han, M., Singer, B., Jannu, A., Kolodny, S., Meng, X., Winger, R.
LIPPINCOTT WILLIAMS & WILKINS.2018
- **Investigating Immune Phenotype Biomarker Changes in Patients with Relapsing MS Treated with Fingolimod 0.5 Mg/Day: The Fluent Study**
Cohen, J. A., Bar-Or, A., Cree, B. C., Mao-Draayer, Y., Han, M. H., Singer, B. A., Jannu, A., Kolodny, S., Meng, X., Winger, R.
SAGE PUBLICATIONS LTD.2018: 14
- **Fibrinogen Activates BMP Signaling in Oligodendrocyte Progenitor Cells and Inhibits Remyelination after Vascular Damage** *NEURON*
Petersen, M. A., Ryu, J., Chang, K., Etxeberria, A., Bardehle, S., Mendiola, A. S., Kamau-Devers, W., Fancy, S. J., Thor, A., Bushong, E. A., Baeza-Raja, B., Syme, C. A., Wu, et al
2017; 96 (5): 1003+
- **Phosphorylation of aB-crystallin supports reactive astroglialosis in demyelination.** *Proceedings of the National Academy of Sciences of the United States of America*
Kuipers, H. F., Yoon, J., van Horssen, J., Han, M. H., Bollyky, P. L., Palmer, T. D., Steinman, L.
2017; 114 (9): E1745-E1754
- **Integrative proteomics, genomics, and translational immunology approaches reveal mutated forms of Proteolipid Protein 1 (PLP1) and mutant-specific immune response in multiple sclerosis.** *Proteomics*
Qendro, V., Bugos, G. A., Lundgren, D. H., Glynn, J., Han, M. H., Han, D. K.
2017
- **Imaging B cells in a mouse model of multiple sclerosis using (64)Cu-Rituximab-PET.** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
James, M. L., Hoehne, A., Mayer, A. T., Lechtenberg, K., Moreno, M., Gowrishankar, G., Ilovich, O., Natarajan, A., Johnson, E. M., Nguyen, J., Quach, L., Han, M., Buckwalter, et al
2017
- **Exosomal proteome analysis of cerebrospinal fluid detects biosignatures of neuromyelitis optica and multiple sclerosis.** *Clinica chimica acta; international journal of clinical chemistry*
Lee, J., McKinney, K. Q., Pavlopoulos, A. J., Han, M. H., Kim, S., Kim, H. J., Hwang, S.
2016; 462: 118-126

- **In Vivo 7T MR Quantitative Susceptibility Mapping Reveals Opposite Susceptibility Contrast between Cortical and White Matter Lesions in Multiple Sclerosis** *AMERICAN JOURNAL OF NEURORADIOLOGY*
Bian, W., Tranvinh, E., Tourdias, T., Han, M., Liu, T., Wang, Y., Rutt, B., Zeineh, M. M.
2016; 37 (10): 1808-1815
- **Sphingosine-1-Phosphate (S1P) and S1P Signaling Pathway: Therapeutic Targets in Autoimmunity and Inflammation** *DRUGS*
Tsai, H., Han, M. H.
2016; 76 (11): 1067-1079
- **Intravenous Transplantation of Mesenchymal Progenitors Distribute Solely to the Lungs and Improve Outcomes in Cervical Spinal Cord Injury** *STEM CELLS*
White, S. V., Czisch, C. E., Han, M. H., Plant, C. D., Harvey, A. R., Plant, G. W.
2016; 34 (7): 1812-1825
- **Effects of sphingosine-1-phosphate receptor 1 phosphorylation in response to FTY720 during neuroinflammation.** *JCI insight*
Tsai, H., Huang, Y., Garris, C. S., Moreno, M. A., Griffin, C. W., Han, M. H.
2016; 1 (9)
- **Effects of sphingosine-1-phosphate receptor 1 phosphorylation in response to FTY720 during neuroinflammation** *JCI Insight*
Tsai, H.
2016; 1 (9)
- **Acute and Chronic Management of Neuromyelitis Optica Spectrum Disorder** *CURRENT TREATMENT OPTIONS IN NEUROLOGY*
Sherman, E., Han, M. H.
2015; 17 (11)
- **Update on biomarkers in neuromyelitis optica.** *Neurology® neuroimmunology & neuroinflammation*
Melamed, E., Levy, M., Waters, P. J., Sato, D. K., Bennett, J. L., John, G. R., Hooper, D. C., Saiz, A., Bar-Or, A., Kim, H. J., Pandit, L., Leite, M. I., Asgari, et al
2015; 2 (4)
- **HDL-bound sphingosine-1-phosphate restrains lymphopoiesis and neuroinflammation.** *Nature*
Blaho, V. A., Galvani, S., Engelbrecht, E., Liu, C., Swendeman, S. L., Kono, M., Proia, R. L., Steinman, L., Han, M. H., Hla, T.
2015; 523 (7560): 342-346
- **Use of Advanced Magnetic Resonance Imaging Techniques in Neuromyelitis Optica Spectrum Disorder** *JAMA NEUROLOGY*
Kremer, S., Renard, F., Achard, S., Lana-Peixoto, M. A., Palace, J., Asgari, N., Klawiter, E. C., Tenembaum, S. N., Banwell, B., Greenberg, B. M., Bennett, J. L., Levy, M., Villoslada, et al
2015; 72 (7): 815-22
- **Patient experience and practice trends in multiple sclerosis - clinical utility of fingolimod** *PATIENT PREFERENCE AND ADHERENCE*
Lee, J., Han, M. H.
2015; 9
- **Sphingosine-1-phosphate receptor 1 signalling in T cells: trafficking and beyond** *IMMUNOLOGY*
Garris, C. S., Blaho, V. A., Hla, T., Han, M. H.
2014; 142 (3): 347-353
- **Optimization of magnetization-prepared 3-dimensional fluid attenuated inversion recovery imaging for lesion detection at 7 T.** *Investigative radiology*
Saranathan, M., Tourdias, T., Kerr, A. B., Bernstein, J. D., Kerchner, G. A., Han, M. H., Rutt, B. K.
2014; 49 (5): 290-298
- **Defective sphingosine 1-phosphate receptor 1 (S1P1) phosphorylation exacerbates TH17-mediated autoimmune neuroinflammation.** *Nature immunology*
Garris, C. S., Wu, L., Acharya, S., Arac, A., Blaho, V. A., Huang, Y., Moon, B. S., Axtell, R. C., Ho, P. P., Steinberg, G. K., Lewis, D. B., Sobel, R. A., Han, et al
2013; 14 (11): 1166-1172
- **Piet Mondrian's trees and the evolution in understanding multiple sclerosis, Charcot Prize Lecture 2011** *MULTIPLE SCLEROSIS JOURNAL*
Steinman, L., Axtell, R. C., Barbieri, D., Bhat, R., Brownell, S. E., de Jong, B. A., Dunn, S. E., Grant, J. L., Han, M. H., Ho, P. P., Kuipers, H. F., Kurnellas, M. P., Ousman, et al
2013; 19 (1): 5-14

- **Janus-like opposing roles of CD47 in autoimmune brain inflammation in humans and mice** *JOURNAL OF EXPERIMENTAL MEDICINE*
Han, M. H., Lundgren, D. H., Jaiswal, S., Chao, M., Graham, K. L., Garris, C. S., Axtell, R. C., Ho, P. P., Lock, C. B., Woodard, J. I., Brownell, S. E., Zoudilova, M., Hunt, et al
2012; 209 (7): 1325-1334
- **Identification of Naturally Occurring Fatty Acids of the Myelin Sheath That Resolve Neuroinflammation** *SCIENCE TRANSLATIONAL MEDICINE*
Ho, P. P., Kanter, J. L., Johnson, A. M., Srinagesh, H. K., Chang, E., Purdy, T. M., Van Haren, K., Wikoff, W. R., Kind, T., Khademi, M., Matloff, L. Y., Narayana, S., Hur, et al
2012; 4 (137)
- **Protective effect of an elastase inhibitor in a neuromyelitis optica-like disease driven by a peptide of myelin oligodendroglial glycoprotein** *MULTIPLE SCLEROSIS JOURNAL*
Herges, K., de Jong, B. A., Kolkowitz, I., Dunn, C., Mandelbaum, G., Ko, R. M., Maini, A., Han, M. H., Killestein, J., Polman, C., Goodyear, A. L., Dunn, J., Steinman, et al
2012; 18 (4): 398-408
- **Impaired neurosteroid synthesis in multiple sclerosis** *BRAIN*
Noorbakhsh, F., Ellestad, K. K., Maingat, F., Warren, K. G., Han, M. H., Steinman, L., Baker, G. B., Power, C.
2011; 134: 2703-2721
- **T helper type 1 and 17 cells determine efficacy of interferon-beta in multiple sclerosis and experimental encephalomyelitis** *NATURE MEDICINE*
Axtell, R. C., de Jong, B. A., Boniface, K., Van der Voort, L. F., Bhat, R., De Sarno, P., Naves, R., Han, M., Zhong, F., Castellanos, J. G., Mair, R., Christakos, A., Kolkowitz, et al
2010; 16 (4): 406-U21
- **Blocking angiotensin-converting enzyme induces potent regulatory T cells and modulates TH1-and TH17-mediated autoimmunity** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Platten, M., Youssef, S., Hur, E. M., Ho, P. P., Han, M. H., Lanz, T. V., Phillips, L. K., Goldstein, M. J., Bhat, R., Raine, C. S., Sobel, R. A., Steinman, L.
2009; 106 (35): 14948-14953
- **Activation of kinin receptor B1 limits encephalitogenic T lymphocyte recruitment to the central nervous system** *NATURE MEDICINE*
Schulze-Topphoff, U., Prat, A., Prozorovski, T., Siffrin, V., Paterka, M., Herz, J., Bendix, I., Ifergan, I., Schadock, I., Mori, M. A., van Horsen, J., Schroetter, F., Smorodchenko, et al
2009; 15 (7): 788-793
- **Systems biology for identification of molecular networks in multiple sclerosis** *MULTIPLE SCLEROSIS*
Han, M. H., Steinman, L.
2009; 15 (5): 529-530
- **Proteomic analysis of active multiple sclerosis lesions reveals therapeutic targets** *NATURE*
Han, M. H., Hwang, S., Roy, D. B., Lundgren, D. H., Price, J. V., Ousman, S. S., Fernald, G. H., Gerlitz, B., Robinson, W. H., Baranzini, S. E., Grinnell, B. W., Raine, C. S., Sobel, et al
2008; 451 (7182): 1076-U2
- **Neurologic aspects of infections in international travelers** *NEUROLOGIST*
Han, M. H., Zunt, J. R.
2005; 11 (1): 30-44
- **Effects of protein kinase CK2, extracellular signal-regulated kinase 2, and protein phosphatase 2A on a phosphatidic acid-preferring phospholipase A1** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Han, M. H., Han, D. K., Aebersold, R. H., Glomset, J. A.
2001; 276 (29): 27698-27708
- **Cloning of a phosphatidic acid-preferring phospholipase A(1) from bovine testis** *JOURNAL OF BIOLOGICAL CHEMISTRY*
Higgs, H. N., Han, M. H., Johnson, G. E., Glomset, J. A.
1998; 273 (10): 5468-5477