



ZHENZHONG MA, Ph.D.

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EDUCATION & TRAINING:

- Postdoctoral Research**, *University of Texas Southwestern Medical Center at Dallas, TX* 2011 – 2017
Mentor: Dr. Jane E. Johnson (Sept. 2015 – Sept. 2017)
Mentor: Dr. Luis F. Parada (Sept. 2011 - Aug. 2015)
- Ph.D.** Molecular Biology & Genetics, *Wayne State University School of Medicine, Detroit, MI* 2004 – 2011
Mentor: Dr. Jeffrey A. Loeb
- B.S.** Biotechnology, *Soochow University, Suzhou Medical College, Suzhou, CHINA* 1998 – 2002

PROFESSIONAL EXPERIENCE:

- Assistant Instructor**, *Department of Neurology and Neurotherapeutics* 2017 – present
UT Southwestern Medical Center at Dallas, TX.
- Explore the molecular and cellular basis of the cognition with mouse models for autism
- Postdoctoral Fellow, PI: Dr. Jane E. Johnson;** 2015 - 2017
Department of Neuroscience, UT Southwestern Medical Center at Dallas, TX.
- Explore the role of PRDM13 in neurogenesis during mouse cerebellum development.
 - Identify co-factors of ASCL1 and PRDM13 for cell specification during neurogenesis.
- Postdoctoral Fellow, PI: Dr. Luis F. Parada;** 2011 - 2015
Department of Developmental Biology, UT Southwestern Medical Center at Dallas, TX.
- BDNF/TrkB signaling and adult neurogenesis: cellular and behavioral antidepressant response.
 - Neuregulin1/ErbB4 signaling in hippocampal inhibitory neurons: adult neurogenesis and sustained antidepressant effect.
- Graduate Research Assistant, PI: Dr. Jeffrey A. Loeb;** 2004 - 2011
Center for Molecular Medicine and Genetics, Wayne State University School of Medicine, Detroit, MI.
- Characterize a novel fusion protein as a potent antagonist for soluble Neuregulin-1.
 - Identify the critical *in vivo* roles of axon-glia communication through soluble Neuregulin-1 and BDNF in regulating glial cell development.
- Research Assistant, PI: Dr. Jing-de Zhu;** 2002 - 2003
National key laboratory for Oncogenes & Related genes, Shanghai Cancer Institute, Shanghai, China.
- Investigated the methylation profiles of promoter CpG island of genes in liver cancer.
- Undergraduate Research Assistant, PI: Dr. Ze-guang Han;** 2001 - 2002
Division of Functional Genomics, National Human Genome Center, Shanghai, China.
- Identify and characterize the interacting proteins of hLZP by using yeast two-hybrid system.

PUBLICATIONS

Peer-Reviewed Journal Articles:

1. **Ma Z**, Uruena A, Johnson JE. Prdm13 is essential for the inhibitory neuronal specification during cerebellum development. (In Preparation).
2. **Ma Z***, Lin PY, Xie X, Sanchez-Ortiz E, Wang Z, Birnbaum SG, Parada LF*. BDNF derived from newborn cells in the dentate gyrus is required for maintaining fluoxetine's long-lasting antidepressant effect. (In Preparation). *Corresponding authors
3. **Ma Z***, Zang T, Birnbaum SG, Wang Z, Johnson JE, Zhang CL, Parada LF* (2017) TrkB dependent adult hippocampal progenitor differentiation mediates sustained ketamine antidepressant response. **Nature Communications** 8(1):1668. PMID: 29162814. *Corresponding authors
4. Uruena A, Mona B, Kollipara RK, **Ma Z**, Borromeo MD, Chang JC, Johnson JE (2017) Repression by PRDM13 is critical for generating precise neuronal identity. **eLife** 2017;6:e25787. PMID: 28850031.
5. Jeng D, **Ma Z**, Berrett JW, McFadden G, Loeb JA, Essani K (2013) The tanapoxvirus 15L protein is a virus-encoded Neuregulin that promotes viral replication in human endothelial cells. **Journal of Virology** 87(6):3018-26. PMID: 23269801.
6. **Ma Z**, Wang J, Song F, Loeb JA (2011) Critical period of axoglial signaling between Neuregulin1 and BDNF required for early Schwann cell survival and differentiation. **Journal of Neuroscience** 31(26):9630-40. PMID: 21715628. *Editorial's pick in "This week in the Journal". J Neurosci. 29 June 2011, 31(26): i; Recommended by Faculty of 1000: 14 Oct. 2011, F1000.com/13340004*
7. Calvo M, Zhu N, Grist J, **Ma Z**, Loeb JA, Bennett DL (2011) Following nerve injury neuregulin-1 drives microglial proliferation and neuropathic pain via the MEK/ERK pathway. **Glia** 59(4): 554-68. PMID: 21319222.
8. Calvo M, Zhu N, Tsantoulas C, **Ma Z**, Grist J, Loeb JA, Bennett DL (2010) Neuregulin-ErbB signaling promotes microglial proliferation and chemotaxis contributing to microgliosis and pain after peripheral nerve injury. **Journal of Neuroscience** 30(15): 5437-50. PMID: 20392965.
9. **Ma Z**, Li Q, An H, Pankonin MS, Wang J, Loeb JA (2009) Targeting human epidermal growth factor receptor signaling with the Neuregulin's heparin-binding domain. **Journal of Biological Chemistry** 284(46): 32108-15. PMID: 19717564.
10. Yu J, Zhang HY, **Ma ZZ**, Lu W, Wang YF, Zhu JD (2003) Methylation profiling of twenty-four genes and concordant methylation behaviors of nineteen genes that may contribute to hepatocellular carcinogenesis. **Cell Research** 13(5):319-333. PMID: 14672555.
11. Xu ZG, Du JJ, Zhang X, Cheng ZH, **Ma ZZ**, Xiao HS, Yu L, Wang ZQ, Li YY, Huo KK, Han ZG (2003) A novel liver-specific zona pellucida domain containing protein that is expressed rarely in hepatocellular carcinoma. **Hepatology** 38:735-744. PMID: 12939600.

Book Chapters:

1. Wang J, **Ma Z**, Loeb JA (2013) Cell-specific targeting of fusion proteins through heparin-binding. In Fusion Protein Technologies for Biopharmaceuticals: Applications and Challenges. Schmidt S., editor. John Wiley & Sons, Inc. Hoboken, NJ.

Published Meeting Abstracts

1. **Ma Z**, Parada LF. SSRI-induced endogenous BDNF from newborn cells regulates adult neurogenesis and the prolonged anti-depressant effect. 426.01/AA10; **2014 Society for Neuroscience Annual Meeting, Washington DC**. (Nomination for the *SfN* travel award by Dallas Neuroscience chapter)
2. **Ma Z**, Loeb JA. Neurotrophin-induced targeting of heparin-binding forms of Neuregulin1 from axons to glia regulates Schwann cell Development. 126.16/A43; **2009 Society for Neuroscience Annual Meeting, Chicago, IL**.
3. **Ma Z**, Pankonin MS, An H, Loeb JA. Targeting heparin-binding forms of Neuregulin1 from axons to glia promotes Schwann cell survival. 540.19/N13; **2006 Society for Neuroscience Annual Meeting, Atlanta, GA**.

HONORS & AWARDS

MARC Travel Award of FASEB	2017
<i>SfN</i> travel award nomination by Dallas Neuroscience Chapter	2014
Graduate Student Professional Travel Award, School of Medicine, Wayne State University	2006 & 2009
Excellent Oral Presentation Award, Graduate Student Research Day, Wayne State University	2008
Thomas C. Rumble University Graduate Fellowship (<i>Top 1 in the program</i>), Wayne State University	2005
Excellent Thesis Award (<i>Top 2%</i>), Dept. of Biotechnology, Soochow University	2002
Undergraduate Scholarship Award, Suzhou Medical College / Soochow University	2000 - 2002
Outstanding Student Award, Dept. of Biotechnology, Suzhou Medical College	1999

PRESENTATIONS

Poster Presentation, <i>Society for Neuroscience</i> Annual Meeting, Washington DC	11/17/2014
Invited Talk by Dr. Yingxi Lin's Laboratory, McGovern Institute for Brain Research, MIT	6/24/2011
Invited Talk by Dr. ES Anton's Laboratory, Neuroscience Center, UNC at Chapel Hill	6/20/2011
Poster Presentation, CMMG Retreat, Wayne State University School of Medicine	10/26/2010
Poster Presentation, <i>Society for Neuroscience</i> Annual Meeting, Chicago	10/18/2009
Oral Presentation, GSRD, Wayne State University School of Medicine	9/25/2008
Oral Presentation, Summer Undergraduate Research Program, Wayne State University	8/8/2007
Poster Presentation, GSRD, Wayne State University School of Medicine	9/20/2007
Poster Presentation, <i>Society for Neuroscience</i> Annual Meeting, Atlanta	10/17/2006

PROFESSIONAL SERVICE**Ad Hoc Journal Review** (publons.com/a/1302810/):

Brain Research
 CNS & Neurological Disorders - Drug Targets
 Current Stem Cell Research & Therapy
 Development, Growth and Differentiation
 Experimental Brain Research
 International Journal of Neuroscience
 Journal of Molecular Neuroscience
 Journal of Neuroscience Research
 Journal of the Neurological Sciences
 Molecular Brain
 Molecular Cancer
 Neurochemistry International
 Neuroscience Letters

Protein and Peptide Letters

Rubriq (*Research Square LLC*) for Independent peer review service

Academic Committees

Planning Committee for Graduate Student Research Day, WSU Medical School 2008 - 2010

PhD Student Committee for the Summer Undergraduate Research Program, WSU Medical School 2007

PROFESSIONAL MEMBERSHIP

Society for Neuroscience

2006 - present