



CHAN YOUNG SHIN

PROFESSOR

DEPT. OF PHARMACOLOGY,
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Educations

- 1991 B.S., Seoul National University, Republic of Korea
- 1993 M.S., Seoul National University, Republic of Korea
- 1999 Ph.D., Seoul National University, Republic of Korea

Professional Background

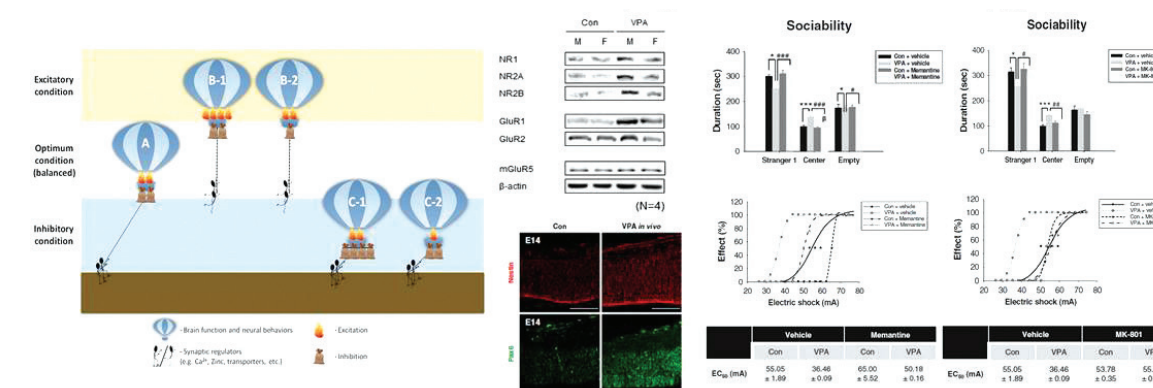
- 2015-Present Professor: Department of Pharmacology, School of Medicine, Konkuk University
- 2006-2015 Associate Professor: Department of Pharmacology, School of Medicine, Konkuk University
- 2005 Associate Research Scientist: Molecular Cellular and Developmental Biology, Yale University, New Haven, CT, USA
- 2003-2005 Postdoctoral: Associate Molecular Cellular and Developmental Biology, Yale University, New Haven, CT, USA
- 2002-2003 PostDoctoral: Fellow Molecular Cellular and Developmental Biology, Yale University, New Haven, CT, USA
- 2001-2002 Research Fellow: Creative Research Initiatives, College of Pharmacy, Seoul National University
- 1999-2000 PostDoctoral Fellow: Seoul National University, Republic of Korea

Top 5 Publications

- Kim, K. C., Rhee, J., Park, J. E., Lee, D. K., Choi, C. S., Kim, J. W., Lee, H. W., Song, M. R., Yoo, H. J., Chung, C., **Shin, C. Y.** (2015) Overexpression of Telomerase Reverse Transcriptase Induces Autism-like Excitatory Phenotypes in Mice. *Molecular neurobiology* 2015 Dec 22. [Epub ahead of print] IF5.137
- Kim, K.C., Choi, C.S., Kim, J.W., Han, S.H., Cheong, J.H., Ryu, J.H. and **Shin, C. Y.** (2015) MeCP2 Modulates Sex Differences in the Postsynaptic Development of the Valproate Animal Model of Autism. *Mol Neurobiol.* 2016 Jan;53(1):40-56
- Ko, H.M., Lee, S.H., Kim, K.C., Joo, S.H., Choi, W.S. and **Shin, C. Y.**(2015) The Role of TLR4 and Fyn Interaction on Lipopolysaccharide-Stimulated PAI-1 Expression in Astrocytes. *Mol Neurobiol.* 2014 Aug 9.52(1):8-25
- Kim, K.C., Lee, D-K., Go, H.S., Kim, P., Choi, C.S., Kim, J.W., Jeon, S.J., Song, M-R. and **Shin, C. Y.** (2014) Pax6-dependent cortical glutamatergic neuronal differentiation regulates autism-like behavior in prenatally valproic acid exposed rat offspring. *Mol. Neurobiol.* Feb;49(1):512-528
- Lee,S.H., Ko, H.M., Kwon, K.J., Lee, J., Han, S-H., Han, D.W., Cheong, J.H., Ryu, J.H. and **Shin, C. Y.** (2014) tPA regulates neurite outgrowth by phosphorylation of LRP5/6 in neural progenitor cells. *Mol. Neurobiol.* Feb;49(1):199-215

RESEARCH INTERESTS

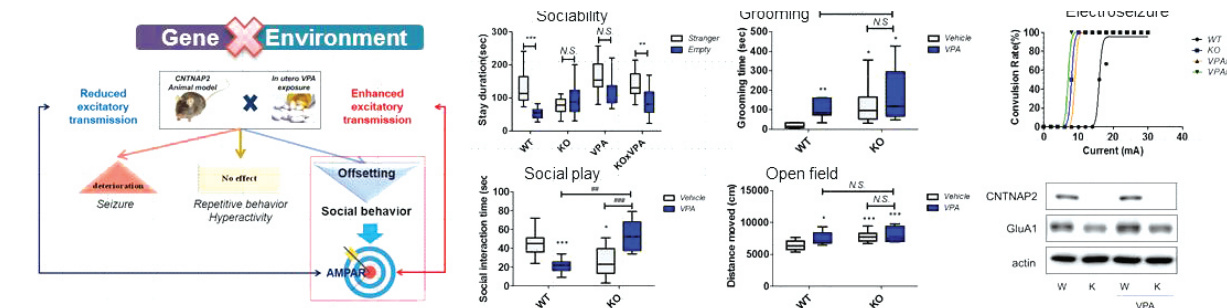
1. Targeting Excitatory/inhibitory (E/I) Imbalance for ASD



Autism spectrum disorder (ASD) remains one of the most challenging neurodevelopmental disorders because of its complex and heterogeneous, but not fully understood, pathophysiologic mechanisms. The E/I imbalance is one of the most promising models that explains the mechanisms underlying

the core symptoms of ASD. Our team is focused on the different receptors involved in the excitation/inhibition processes that are affected in validated animal models of ASD. We found that targeting the dysregulated receptors for excitation or inhibition rescued the ASD phenotypes in the animal models.

2. Gene x Environmental Interactions Underlying ASD



Autism spectrum disorder prevalence has continued to increase in recent years, and continues to intrigue scientists as to what may cause this phenomenon. Researchers have been focusing on both the genetic and environmental risk factors of ASD etiologies, independently of each other. However, either model alone does not ex-

plain the convergent mechanisms of ASD as well as the high rise in prevalence. A new theory has emerged that could explain this phenomenon through the interaction of both genetic susceptibility and environmental exposure. We are investigating a GxE model in the lab to answer these questions.

3. Other Projects

- Mechanisms of gender differences in the prevalence and pathophysiology of autism
- Transgenerational impact of environmental risk factors on CNS disorders
- Target identification and new drug development against ADHD and ADD
- Role of glial cells in the modulation of neurodegenerative diseases and stroke
- Role of the tPA/PAI-1 system in Alzheimer's disease and stroke