Chen, Jeng-Rung

Professor

Professional specialty: *Anatomy, Neuroanatomy, Histology, Embryology*

Courses Taught:

Undergraduate: *Veterinary anatomy, Embrology*

Graduate: *Seminar in Neural science*

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Educational Background

Ph. D., National Taiwan University (1998.9 ~ 2003.6)

M. S., National Taiwan University (1994.9 ~ 1996.6)

B. S., National Cheng-Kung University (1990.9 ~ 1994.6)

Professional Experiences

Professor, National Chung-Hsing University (20014.2 ~)

Associate Professor, National Chung-Hsing University (2010.8 ~2014.1)

Assistant Professor, National Chung-Hsing University (2004.2 ~2010.7)

Assistant Professor, Chung-Shan Medical University (2003.8 ~ 2004.1)

Teaching assistant, National Taiwan University (2000.8 ~2003.7)

Areas of Interest

My research interests concentrate on central neuronal plasticity under normal and diseased condition (hypogonadism, hepatic encephalopathy, hydrocephalus, aging, stroke, and fetal alcohol syndrome). The cortical pyramidal neurons are the major outputs cells and have a profound influence on cognitive functions of cerebral cortex. Dendrite, the major input receiving site, is dynamic and changes its structure with environment. We used intracellular dye injection and 3D reconstruction techniques to present and analyze the dendritic morphology of cortical neurons. Our results verified the fluctuation of gonadal hormones during the female sex cycle is likely to modulate cortical function and dendritic structure of primary somatosensory cortex and loss of gonadal hormones for instance following menopause might reflect the compromise of cortical function and the effect could be reversed by exogenous female sex hormones or phytoestrogen.

Publication List

1. Lin KH, Hsu AP, Shien JH, Chang TJ, Liao JW, **Chen JR**, Lin CF, Hsu WL* 2012 Avian reovirus sigma C enhances the mucosal and systemic immune responses elicited by antigen-conjugated lactic acid bacteria. Vaccine 30: 5019– 5029 (**SCI**)
2. **Chen JR**, Wang TJ, Lim SH, Wang YJ, Tseng GF* 2012 Testosterone modulation of dendritic spines of somatosensory cortical pyramidal neurons. Brain Structure and Function 218:1407-1417 (**SCI**)
3. Lim SH, Wang TJ, Tseng GF, Lee YF, Huang YS, **Chen JR***, Cheng CL* (2013) The Distribution of Muscles Fibers and Their Types in the Female Rat Urethra: Cytoarchitecture and Three-Dimensional Reconstruction. Anat Rec. 296:1640-9 (**SCI**)
4. Ni HC, Tseng TC, **Chen JR**, Hsu SH, Chiu IM* (2013) Fabrication of bioactive conduits containing the fibroblast growth factor 1 and neural stem cells for peripheral nerve regeneration across a 15 mm critical gap. Biofabrication **5** 035010 (**SCI**)
5. **Chen JR***, Wang BN, Tseng GF, Wang YJ, Huang YS, Wang TJ* (2014) Morphological changes of cortical pyramidal neurons in hepatic encephalopathy. BMC Neuroscience doi:10.1186/1471-2202-15-15 (**SCI**)
6. Wang TJ, **Chen JR**, Wang WJ, Wang YJ*, Tseng GF* (2014) Genistein partly eases aging and estropause-induced primary cortical neuronal changes in rats. Plos One 9(2): e89819. doi:10.1371/journal.pone.0089819 (**SCI**)
7. **Chen JR***, Tseng GF, Wang YJ, Wang TJ* (2014) Exogenous dehydroisoandrosterone sulfate reverses the dendritic changes of the central neurons in aging male rats. Experimental Gerontology doi:10.1016/j.exger.2014.06.010 (**SCI**)
8. Chen LJ**,** Wang, YJ, **Chen JR**, Tseng GF (2015) NMDA receptor triggered molecular cascade underlies compression-induced rapid dendritic spine plasticity in cortical neurons. Experimental neurology 266:86-98 (**SCI**)
9. Chen LJ**,** Wang, YJ, **Chen JR**, Tseng, GF (2016) Hydrocephalus compacted cortex and hippocampus and altered their output neurons in association with spatial learning and memory deficits in rats. Brain pathology 2017:419-436 (**SCI**)
10. **Chen JR**, Lim SH, Chung SC, Lee YF, Wang YJ, Tseng GF, Wang TJ (2017) Reproductive experience modified dendritic spines on cortical pyramidal neurons to enhance sensory perception and spatial learning in rats. Experimental animals. 66:59-72 (**SCI**)
11. Yu CH, Hsieh YS, Chen PN, **Chen JR**, Kuo DY (2018) Knockdown of the transcript of extracellular signal-regulated kinase in the brain modulated hypothalamic neuropeptide-mediated appetite control in amphetamine-treated rats. British Journal of Pharmacology DOI: 10.1111/bph.14120 (**SCI**)
12. Chu SC, Chen PN, **Chen JR**, Yu CH, Hsieh YS, Kuo DY (2018) Role of hypothalamic leptin-LepRb signaling in NPY-CART-mediated appetite suppression in amphetamine-treated rats. Hormones and Behavior 98(2):173-182 (**SCI**)
13. Chen MH, Wang TJ, Chen LJ, Jiang MY, Wang YJ, Tseng GF, **Chen JR** (2021) The effects of astaxanthin treatment on a rat model of Alzheimer's disease. Brain Research Bulletin 172: 151-163 (**SCI**)

Updated: 2021/7/19