Jong-Woo Sohn, M.D., Ph.D.

Curriculum Vitae

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Contact Information

Current Affiliation:

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Professional Experience

2020. 09 – present	**Associate Professor** Department of Biological Sciences, KAIST, Daejeon, Korea
2020. 03 – 2021. 02	**Visiting Assistant Professor** Center for Hypothalamic Research, Department of Internal Medicine, University of Texas Southwestern Medical Center, Dallas, TX, USA
2014. 03 – 2020. 08	**Assistant Professor** Department of Biological Sciences, KAIST, Daejeon, Korea
2009. 07 – 2014. 01	**Postdoctoral Researcher** Division of Hypothalamic Research, Department of Internal Medicine, University of Texas Southwestern Medical Center, Dallas, TX, USA
2008. 09 – 2009.07	**Postdoctoral Fellow** BK21 Research Division of Human Life Science, Seoul National University, Seoul, Korea
2008. 03 – 2008.09	**Senior Researcher** Neuroscience Research Institute, Seoul National University Medical Research Center, Seoul, Korea
2003. 03 – 2008. 02	**Teaching Assistant** Department of Physiology, Seoul National University College of Medicine, Seoul, Korea

Education

2003. 09 – 2008. 02	**Ph. D.** from Department of Physiology, Seoul National University College of Medicine, Seoul, Korea
1997. 03 – 2003. 02	**M.D.** from Seoul National University College of Medicine, Seoul, Korea

Honors and Awards

2022. 03: Hamchoon Medical Award, Seoul National University College of Medicine Alumni Association
2021. 10: Young Physiologist Award, The Korean Physiological Society
2015. 01: TJ Park Science Fellowship for Junior Faculty, POSCO TJ Park Foundation
2013. 03: Finalist in Excellence Award in Postdoctoral Research at UT Southwestern: 2012-2013
2009. 04: Academic Award in Basic Medical Science (Physiology), Korea Medical Association
2008. 02: Excellent Graduate Student Award, BK21 Research Division of Human Life Science, Seoul National University
2007. 11: Excellence in Research Award: Student Category, AKN (Association of Korean Neuroscientists) Annual Symposium at the 2007 Society for Neuroscience meeting

Key Publications

Ju SH, Yun H, Oh Y, Choi Y, Sohn JW. (2022) Melanocortin-4 receptors activate sympathetic preganglionic neurons and elevate blood pressure via TRPV1. **Cell Reports**, 41(5): 111579.

Li L, Wyler SC, Leon-Mercado LA, Xu B, Oh Y, Swati, Chen X, Wan R, Arnold AG, Jia L, Wang G, Nautiyal K, Hen R, Sohn JW*, Liu C*. (2022) Delineating a serotonin 1B receptor circuit for appetite suppression in mice. **Journal of Experimental Medicine**, 219(8): e20212307. (*co-corresponding authors)

Park S, Williams KW, Sohn JW. (2022) Leptin-inhibited neurons in the lateral parabrachial nucleus do not alter food intake or glucose balance. **Animal Cells and Systems**, 26(3): 92-98.

Hyun U, Sohn JW. (2022) Autonomic control of energy balance and glucose homeostasis. **Experimental & Molecular Medicine**, 54(4): 370-376.

Park S*, Sohn JW*. (2021) Protocol for sodium depletion and measurement of sodium appetite in mice. **STAR Protocols**, 2(4): 101026. (*co-corresponding authors)

Yoo ES, Li L, Jia L, Lord CC, Lee CE, Birnbaum SG, Vianna CR, Berglund ED, Cunningham KA, Xu Y, Sohn JW*, Liu C*. (2021) $G\alpha_{i/o}$-coupled *Htr2c* in the paraventricular nucleus of the hypothalamus antagonizes the anorectic effect of serotonin agents. **Cell Reports**, 37(7): 109997. (*co-corresponding authors)

Koh HY, Jang J, Ju SH, Kim R, Cho GB, Kim DS, Sohn JW*, Paik SB*, Lee JH*. (2021) Non-cell autonomous epileptogenesis in focal cortical dysplasia. **Annals of Neurology**, 90(2): 285-299. (*co-corresponding authors)

Li L, Yoo ES, Li X, Wyler SC, Chen X, Wan R, Arnold AG, Birnbaum SG, Jia L, Sohn JW*, Liu C*. (2021) The atypical antipsychotic risperidone targets hypothalamic melanocortin 4 receptors to cause weight gain. **Journal of Experimental Medicine**, 218(7): e20202484. (*co-corresponding authors)

Yoo ES, Yu J, Sohn JW. (2021) Neuroendocrine control of appetite and metabolism. **Experimental & Molecular Medicine**, 53(4): 505-516.

Lee CH, Song DK, Park CB, Choi J, Kang GM, Shin SH, Kwon I, Park S, Kim S, Kim JY, Dugu H, Park JW, Choi JH, Min SH, Sohn JW*, Kim MS*. (2020) Primary cilia mediate early life programming of adiposity through lysosomal regulation in the developing hypothalamus. **Nature Communications**, 11(1): 5772. (*co-corresponding authors)

Sohn JW*, Ho WK*. (2020) Cellular and systemic mechanisms for glucose sensing. **Pflugers Archiv - European Journal of Physiology**, 472(11): 1547-1561. (*co-corresponding authors)

Park S, Williams KW, Liu C*, Sohn JW*. (2020) A neural basis for tonic suppression of sodium appetite. **Nature Neuroscience**, 23(3): 423-432. (*co-corresponding authors)

Yu W*, Sohn JW*, Lee SH, Kim S, Ho WK. (2018) Enhancement of dendritic persistent Na^+ currents by mGluR5 leads to an advancement of spike timing with an increase in temporal precision. **Molecular Brain**, 11(1): 67. (*equal contribution)

Ju SH, Cho GB, Sohn JW. (2018) Understanding melanocortin-4 receptor control of neuronal circuits: toward novel therapeutics for obesity syndrome. **Pharmacological Research**, 129: 10-19.

Gao Y*, Yao T*, Deng Z*, Sohn JW*, Sun J, Huang Y, Kong X, Yu KJ, Wang RT, Chen H, Guo H, Yan J, Cunningham KA, Chang Y, Liu T, Williams KW. (2017) *TrpC5* mediates acute leptin and serotonin effects via *Pomc* neurons. **Cell Reports**, 18(3): 583-592. (*equal contribution)

Sohn JW*, Oh Y, Kim KW, Lee S, Williams KW*, Elmquist JK. (2016) Leptin and insulin engage specific PI3K subunits in hypothalamic SF1 neurons. **Molecular Metabolism**, 5(8): 669-679. (*co-corresponding authors)

Kim HH, Lee KH, Lee D, Han YE, Lee SH, Sohn JW*, Ho WK*. (2015) Co-stimulation of AMPA and metabotropic glutamate receptors underlies PLC activation by glutamate in hippocampus. **Journal of Neuroscience**, 35(16): 6401-6412. (*co-corresponding authors)

Sohn JW. (2015) Network of hypothalamic neurons that control appetite. **BMB Reports**, 48(4): 229-233.

Sohn JW, Elmquist JK, Williams KW. (2013) Neuronal circuits that regulate feeding behavior and metabolism. **Trends in Neurosciences**, 36(9), 504-512.

Sohn JW. (2013) Ion channels in the central regulation of energy and glucose homeostasis. **Frontiers in Neuroscience**, 7:85.

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Sohn JW, Yu WJ, Lee D, Shin HS, Lee SH, Ho WK. (2011) Cyclic ADP ribose-dependent Ca^{2+} release by group I metabotropic glutamate receptors in acutely dissociated rat hippocampal neurons. **PLoS ONE**, 6(10): e26625.

*Sohn JW, Xu Y, Jones JE, Wickman K, Williams KW, Elmquist JK. (2011) Serotonin 2C receptor activates a distinct population of arcuate pro-opiomelanocortin neurons via TRPC channels. **Neuron**, 71(3): 488-497.
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Sohn JW, Lim A, Lee SH, Ho WK. (2007) Decrease in PIP_2-channel interactions is the final common mechanism involved in PKC- and arachidonic acid-mediated inhibitions of $GABA_B$-activated K^+ current. **Journal of Physiology (London)**, 582(3): 1037-1046.

Sohn JW, Lee D, Cho H, Shin HS, Lim W, Lee SH, Ho, WK. (2007) Receptor-specific inhibition of $GABA_B$-activated K^+ currents by muscarinic and metabotropic glutamate receptors in immature rat hippocampus. **Journal of Physiology (London)**, 580(2): 411-422.