

Curriculum Vitae

Name: Dongsheng Cai

Degree: MD, PhD

Affiliation: Albert Einstein College of Medicine

Position Title: Professor

Dr. Dongsheng Cai is Professor in Department of Molecular Pharmacology, YMD Chair in Physiology, and founding director of Institute for Neuroimmunology and Inflammation (INI) at Albert Einstein College of Medicine in Bronx, New York, USA. Dr. Cai's laboratory has research interest in studying neuroendocrine and neuroimmunological basis of aging, metabolic syndrome and related problems (such as neurodegenerative diseases). His lab has also been studying the biological and physiological significance of novel neural stem cells, in particular hypothalamic neural stem cells (htNSC) that his lab initially identified, including neurogenesis and neuroendocrine functions (such as microRNA exosomes) of these cells, for targeting aging and related diseases. His lab research has led to the development of several paradigms on "hypothalamic microinflammation", "hypothalamic control of aging" and "htNSC". Dr. Cai's research has been funded by NIA, NIDDK and NHLBI and other foundations. Dr. Cai was the recipient of Lilly Outstanding Achievement Award from the Obesity Society in 2015 and Vincent of American Federation for Aging Research (AFAR) Vincent Cristofalo Award in 2017.

Selected Publication

1. Wang Z, Wu W, Kim M, and **Cai D***. GnRH pulse frequency and irregularity play a role in male aging. *Nature Aging*. <https://doi.org/10.1038/s43587-021-00137-0>; 1: 904-918, 2021.
2. Shen Q, Chen Z, Zhao F, Pan S, Zhang T, Cheng X, Zhang L, Zhang S, Qi J, Li J, **Cai D***, Zhang G*. Reversal of prolonged obesity-associated cerebrovascular dysfunction by inhibiting microglial Tak1. *Nature Neuroscience*. 23(7):832-841. doi: 10.1038/s41593-020-0642-6; 2020.
3. Zhang Y, Kim MS, Jia B, Yan J, Zuniga-Hertz JP, Han C, **Cai D***. Hypothalamic stem cells control ageing speed partly through exosomal miRNAs. *Nature*. 548(7665):52-57. doi: 10.1038/nature23282; 2017.
4. Kim MS, Yan J, Wu W, Zhang G, Zhang Y, **Cai D***. Rapid linkage of innate immunological signals to adaptive immunity by the brain-fat axis. *Nature Immunology*. 16(5):525-33. doi: 10.1038/ni.3133; 2015.
5. Yan J, Zhang H, Yin Y, Li J, Tang Y, Purkayastha S, Li L, **Cai D***. Obesity- and aging-induced excess of central transforming growth factor- β potentiates diabetic development via an RNA stress response. *Nature Medicine*. 20(9):1001-8. doi: 10.1038/nm.3616; 2014.
6. Zhang G, Li J, Purkayastha S, Tang Y, Zhang H, Yin Y, Li B, Liu G, **Cai D***. Hypothalamic programming of systemic ageing involving IKK- β , NF- κ B and GnRH. *Nature*. 497(7448):211-6. doi: 10.1038/nature12143; 2013.
7. Li J, Tang Y, **Cai D***. IKK β /NF- κ B disrupts adult hypothalamic neural stem cells to mediate a neurodegenerative mechanism of dietary obesity and pre-diabetes. *Nature Cell Biology*. 14(10):999-1012. doi: 10.1038/ncb2562; 2012.