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研究队伍

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简历介绍:

焦建伟，博士，中国科学院动物研究所研究员，博士生导师，神经干细胞增殖与分化研究组组长，中国科学院大学岗位教授。国家杰出青年科学基金项目获得者，国家重点研发计划首席科学家，科技部中青年科技创新领军人才。

2002年在北京大学生命科学学院获得博士学位，2002年到2007年在美国哈佛医学院从事博士后研究，2008年被提升为Instructor。2009年到2011年在中科院神经所任研究员。2011年8月加入中科院动物所任研究员。实验室主要从事脑发育及疾病机理研究，神经干细胞增殖与分化调控研究，遗传和表观遗传对神经发育调控机制研究，以及神经细胞转分化研究。研究成果发表于国际期刊 *Advanced Science, Science Advances, PNAS, Mol Psychiatry, Cell Res, Trends Cell Biol* 等50多篇。是神经学会理事，生理学会理事，细胞学会干细胞生物学分会委员，神经学会神经发育与再生分会委员等。目前承担国家基金委杰出青年基金，重点项目，科技部重点研发项目，中科院先导项目等。

研究领域:

神经系统发育是一个受时间和空间精细调控的过程，任何一个环节出现问题，都可能引起严重的脑发育异常及相关疾病。围绕脑发育的发生发展开展系统性研究，以遗传与表观遗传调控为切入点，多角度、多层次阐释脑发育及神经干细胞增殖分化的调控机制。主要研究方向: 1. 探讨神经干细胞增殖机制，发现新的调控神经干细胞自我更新和增殖的关键因子，探索脑大小及脑沟回形成的关键分子及机制，研究脑发育异常的调控因素及机制；2. 研究神经元及神经胶质细胞分化的调控机理，解析内源因子和外源信号通路如何协同调控神经干细胞-神经元及神经胶质细胞转化过程，研究关键基因与信号通路间动态变化的协同调控所发生的细胞命运转换、细胞形态以及细胞



迁移之间的关系，揭示神经细胞分化和迁移的调控机制；3.研究神经元转分化，为移植细胞治疗脑疾病治疗提供可能的细胞来源。以上发现将有助于阐明脑发育机制及疾病致病机理，为相关疾病的诊治提供潜在靶点，为转化研究奠定理论基础。

承担科研项目情况：

- 国家杰出青年科学基金，2019-2023，项目负责人
- 国家重点研发计划干细胞重点专项，2019-2023，项目负责人
- 国家自然科学基金重点项目，2018-2022，项目负责人
- 国家重大基础研究计划项目，2015-2019，课题负责人
- 中科院战略先导科技专项，2017-2021，课题负责人

代表论著：

1. Zhang D, Liu C, Li H, **Jiao J***. Deficiency of STING-signaling in embryonic cerebral cortex leads to neurogenic abnormalities and autistic-like behaviors. *Adv Sci.* 2020 DOI: 10.1002/advs.202002117
2. Zhang M, Zhao J, Lv Y, Wang W, Feng C, Zou W, Su L, **Jiao J***. Histone variants and histone modifications in neurogenesis. *Trends Cell Biol.* 2020 30:869-880.
3. Ji F, Wang W, Feng C, Gao F, **Jiao J***. Brain-specific Wt1 deletion leads to depressive-like behaviors in mice via the recruitment of Tet2 to modulate Epo expression. *Mol Psychiatry.* 2020 doi: 10.1038/s41380-020-0759-8.
4. Feng C, Zhao J, Ji F, Su L, Chen Y, **Jiao J***. TCF20 dysfunction leads to cortical neurogenesis defects and autistic-like behaviors in mice. *EMBO Rep.* 2020 21:e49239.
5. Liang Q, Su L, Zhang D, **Jiao J***. CD93 negatively regulates astrogenesis in response to MMRN2 through the transcriptional repressor ZFP503 in the developing brain. *Proc Natl Acad Sci USA.* 2020 117:9413-9422.
6. Su L, Lei X, Ma H, Feng C, Jiang J, **Jiao J***. PRDM16 orchestrates angiogenesis via neural differentiation in the developing brain. *Cell Death Differ.* 2020 doi: 10.1038/s41418-020-0504-5.
7. Li Y, **Jiao J***. Deficiency of TRPM2 leads to embryonic neurogenesis defects in hyperthermia. *Science Advances.* 2020 6:eaay6350.
8. Li Z, Li Y, **Jiao J***. Neural progenitor cells mediated by H2A.Z.2 regulate microglial development via Cxcl14 in the embryonic brain. *Proc Natl Acad Sci USA.* 2019 116:24122-24132.
9. Xia W, Su L, **Jiao J***. Cold-induced protein RBM3 orchestrates neurogenesis via modulating Yap mRNA stability during cold stress. *J Cell Biol.* 2018 217:3464-3479.
10. Su L, Xia W, Shen T, Liang Q, Wang W, Li H, **Jiao J***. H2A.Z.1 crosstalk with H3K56-acetylation controls



- gliogenesis through the transcription of folate receptor. *Nucleic Acids Res.* 2018 46:8817-8831.
11. Lei X, **Jiao J***. UTX affects neural stem cell proliferation and differentiation through PTEN signaling. *Stem Cell Reports.* 2018 10:1193-1207.
 12. Qiao H, Li Y, Feng C, Duo S, Ji F, **Jiao J***. Nap1l1 controls embryonic neural progenitor cell proliferation and differentiation in the developing brain. *Cell Rep.* 2018 22:2279-2293.
 13. Shen T, Ji F, Wang Y, Lei X, Zhang D, **Jiao J***. Brain-specific deletion of histone variant H2A.z results in cortical neurogenesis defects and neurodevelopmental disorder. *Nucleic Acids Res.* 2018 46:2290-2307.
 14. Liang Q, Xia W, Li W, **Jiao J***. RNF20 controls astrocytic differentiation through epigenetic regulation of STAT3 in the developing brain. *Cell Death Differ.* 2018 25:294-306.
 15. Li Y, **Jiao J***. Histone chaperone HIRA regulates neural progenitor cell proliferation and neurogenesis via β-catenin. *J Cell Biol.* 2017 216:1975-1992.
 16. Xia W, **Jiao J***. Histone variant H3.3 orchestrates neural stem cell differentiation in the developing brain. *Cell Death Differ.* 2017 24:1548-1563.
 17. Ji F, Shen T, Zou W, **Jiao J***. UCP2 regulates embryonic neurogenesis via ROS-Mediated Yap alternation in the developing neocortex. *Stem Cells.* 2017 35:1479-1492.
 18. Yan L, Li Y, Shi Z, Lu X, Ma J, Hu B, **Jiao J***, Wang H*. The zinc finger E-box-binding homeobox 1 (Zeb1) promotes the conversion of mouse fibroblasts into functional neurons. *J Biol Chem.* 2017 292:12959-12970.
 19. Zhang J, Chen S, Zhang D, Shi Z, Li H, Zhao T, Hu B, Zhou Q, **Jiao J***. Tet3-Mediated DNA demethylation contributes to the direct conversion of fibroblast to functional neuron. *Cell Rep.* 2016 17:2326-2339.
 20. Wang S, Liang Q, Qiao H, Li H, Shen T, Ji F, **Jiao J***. DISC1 regulates astrogenesis in the embryonic brain via modulation of RAS/MEK/ERK signaling through RASSF7. *Development.* 2016 143:2732-2740.
 21. Jiang H, Lv X, Lei X, Yang Y, Yang X, **Jiao J***. Immune regulator MCPIP1 modulates TET expression during early neocortical development. *Stem Cell Reports.* 2016 7:439-453.
 22. Shi Z, Zhang J, Chen S, Li Y, Lei X, Qiao H, Zhu Q, Hu B, Zhou Q, **Jiao J***. Conversion of Fibroblasts to Parvalbumin Neurons by One Transcription Factor, Ascl1, and the Chemical Compound Forskolin. *J Biol Chem.* 2016 291:13560-13570.

23. Shen T, Ji F, Yuan Z, **Jiao J**^{*}. CHD2 is required for embryonic neurogenesis in the developing cerebral cortex. *Stem Cells*. 2015 33:1794-1806.
24. Xia W, Liu Y, **Jiao J**^{*}. GRM7 regulates embryonic neurogenesis via CREB and YAP. *Stem Cell Reports*. 2015 4:795-810.
25. Lv X, Jiang H, Liu Y, Lei X, **Jiao J**^{*}. MicroRNA-15b promotes neurogenesis and inhibits neural progenitor proliferation by directly repressing TET3 during early neocortical development. *EMBO Rep*. 2014 15:1305-1314.
26. Wang S, Li B, Qiao H, Lv X, Liang Q, Shi Z, Xia W, Ji F, **Jiao J**^{*}. Autophagy-related gene Atg5 is essential for astrocyte differentiation in the developing mouse cortex. *EMBO Rep*. 2014 15:1053-1061.
27. Zhang J, Ji F, Liu Y, Lei X, Li H, Ji G, Yuan Z, **Jiao J**^{*}. Ezh2 regulates adult hippocampal neurogenesis and memory. *J Neurosci*. 2014 34:5184-5199.
28. Huang W, She L, Chang X, Yang R, Wang L, Ji H, **Jiao J**, Poo M. Protein kinase LKB1 regulates polarized dendriteformation of adult hippocampal newborn neurons. *Proc Natl Acad Sci USA*. 2014 111:469-474.
29. Shi Z, Shen T, Liu Y, Huang Y, **Jiao J**^{*}. Retinoic acid receptor gamma (Rarg) and nuclear receptor subfamily 5, group A, member 2 (Nr5a2) promote conversion of fibroblasts to functional neurons. *J Biol Chem*. 2014 289:6415-6428.
30. Lv X, Jiang H, Li B, Liang Q, Wang S, Zhao Q, **Jiao J**^{*}. The crucial role of Atg5 in cortical neurogenesis during early brain development. *Sci Rep*. 2014 4:6010.
31. Meng F, Chen S, Miao Q, Zhou K, Lao Q, Zhang X, Guo W, **Jiao J**^{*}. Induction of fibroblasts to neurons through adenoviral gene delivery. *Cell Res*. 2012 22:436-440.
32. **Jiao J**, Feldheim DA, Chen DF. Ephrins as negative regulators of adult neurogenesis in diverse regions of the central nervous system. *Proc Natl Acad Sci USA*. 2008 105: 8778-8783.
33. **Jiao J**, Chen DF. Induction of neurogenesis in non-conventional neurogenic regions of the adult CNS by niche astrocyte-produced signals, *Stem Cells*. 2008 26:1221-1230.
34. **Jiao J**, Huang X, Feit-Leithman RA, Neve RL, Snider W, Dartt DA, Chen DF. Bcl-2 enhances Ca²⁺ signaling to support the intrinsic regenerative capacity of CNS axons. *EMBO J*. 2005 24:1068-1078.

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