

Featured Publication List

(2021.01-2021.12)

1. Zhang, H., Wang, H., Shen, X., Jia, X., Yu, S., Qiu, X., Wang, Y., **Du, J.***, **Yan, J.***, **He, J.*** (2021) The landscape of regulatory genes in brain-wide neuronal phenotypes of a vertebrate brain. *elife* 10:e68224.
2. Jiang, M., Wang, M., Shi, Q., Wei, L., Lin, Y., Wu, D., Liu, B., Nie, N., Qiao, H., Xu, L., Yang, T., **Wang, Z.*** (2021) Evolution and neural representation of mammalian cooperative behavior. *Cell Rep.* 37: 110029.
3. Zheng, Q., Zhou, L., **Gu, Y.*** (2021) Temporal synchrony effects of optic flow and vestibular inputs on multisensory heading perception. *Cell Rep.* 37: 109999.
4. Yang, K., Shi, Y., Du, X., Wang, J., Zhang, Y., Shan, S., Yuan, Y., Wang, R., Zhou, C., Liu, Y., Cai, Z., Wang, Y., Fan, L., Xu, H., Yu, J., Cheng, J., Li, Fei., **Qiu, Z.*** (2021) SENP1 in the Retrosplenial Agranular Cortex Regulates Core Autistic-Like Symptoms in Mice. *Cell Rep.* 37: 109939.
5. Chen, Z., Zhang, Z., Zhang, W., Xie, T., Li, Y., Xu, X., **Yao, H.*** (2021) Direct and indirect pathway neurons in ventrolateral striatum differentially regulate licking movement and nigral responses *Cell Rep.* 37: 109847.
6. **Mao, D*.**, Avila, E., Caziot, B., Laurens, J., Dickman, J.D., Angelaki, D.E. (2021) Spatial modulation of hippocampal activity in freely moving macaques. *Neuron* 109: pp.1-14
7. Mu, D., **Sun, Y.*** (2021) Circuit mechanisms of itch in the brain. *J. Invest. Dermatol.* 142(1):23-30.
8. Lu, B., Lou, S., Xu, R., Kong, D., Wu, R., Zhang, J., Zhuang, L., Wu, X., He, J., Wu, Z., **Xiong, Z.*** (2021) Cerebellar spreading depolarization mediates paroxysmal movement disorder. *Cell Rep.* 36:109743.
9. Sun, S.#, Li S.#, Luo, Z.#, Ren, M., He, S., Wang, G., **Liu, Z.*** (2021) Dual expression of Atoh1 and Ikzf2 promotes transformation of adult cochlear supporting cells into outer hair cells. *eLife.* 10:e66547.
10. Hasanpour M.; Mitricheva E.; Logothetis N.; **Noori H.R.*** (2021) Intensive longitudinal characterization of multidimensional biobehavioral dynamics in laboratory rats. *Cell Rep.* 35:108987.
11. Yuan, T., Yan, N., Fei, T., Zheng, J., Meng, J., Li, N., Liu, J., Zhang, H., Xie, L., Ying, W., Li, D., Shi, L., Sun, Y., Li, Y., Li, Y., **Sun, Y.*** & Zuo, E.* (2021) Optimization of C-to-G base editors with sequence context preference predictable by machine learning methods. *Nat. Commun.* 12:4902.
12. Zhang, Y., Ye, F., Zhang, T., Lv, S., Zhou, L., Du, D., Lin, H., Guo, F., Luo, C.* & **Zhu, S.*** (2021) Structural basis of ketamine action on human NMDA receptors. *Nature* 596(7871):301-305.
13. Zeng, H., Huang, J., Li, J., Shen, Z., Gong, N., Wen, Y., **Wang, L.***, **Poo, M.*** (2021) Distinct neuron populations for simple and compound calls in the primary auditory cortex of awake marmosets. *NSR* 8(11):nwab126.
14. Wang, H., Lv, S., Stroebel, D., Zhang, J., Pan, Y., Huang, X., Zhang, X., Paoletti, P., **Zhu, S.*** (2021) Gating mechanism and a modulatory niche of human GluN1-GluN2A NMDA

- receptors. *Neuron*. 109:2443-2456.
15. Zhang, B.*, Kan, J., Yang, M., Wang, X., Tu, J. Dorris, M.*(2021)Transforming absolute value to categorical choice in primate superior colliculus during value-based decision making. *Nat. Commun.* 12:3410
 16. Yang, Q., Zhai, Y., Wang, H., Zhang, X., Hu, G.*, **Zhou, J.***(2021) Nuclear isoform of FGF13 regulates post-natal neurogenesis in the hippocampus through an epigenomic mechanism. *Cell Rep.* 35:109127.
 17. Ma, G., Liu, Y., Wang, L., Xiao, Z., Song, K., Wang, Y., Peng, W., Liu, X., Wang, Z., Jin, S., Tao, Z., Li, C., Xu, T., Xu, F., **Xu, M.***, Zhang, S.* (2021) Hierarchy in sensory processing reflected by innervation balance on cortical interneurons. *Sci. Adv.* 7:eabf5676.
 18. Duan, C.*, Pan, Y., Ma, G., Zhou,T., Zhang, S., **Xu, N.***(2021)A cortico-collicular pathway for motor planning in a memory-dependent perceptual decision task. *Nat. Commun.* 12:2727.
 19. Liu, Y., Xin, Y., **Xu, N.*** (2021) A cortical circuit mechanism for structural knowledge-based flexible sensorimotor decision-making. *Neuron*. 109:2009-2024.
 20. **Chang, L.***, Egger, B., Vetter, T., Tsao, D.* (2021) Explaining face representation in the primate brain using different computational models. *Curr. Biol.* 31:2785-2795.
 21. **Liu, Z.***, Li, K., Cai, Y., Liu, Q., Zhang, T., Lu, Y., Nie, Y., Wang, Y., Yan, Z., Qu, Y., Li, Y., Wang, Z., **Xiong, Z.***, **Sun, Q.*** (2021) Accelerated passage of gene-modified monkeys by hormone-induced precocious puberty. *NSR* 8(7):nwab083.
 22. Xu, C., Zhou, Y.*, Xiao, Q., He, B., Geng, G., Wang, Z., Cao, B., Dong, X., Bai, W., Wang, Y., Wang, X., Zhou, D., Yuan, T., Huo, X., Lai, J.*, **Yang, H.***(2021) Programmable RNA editing with compact CRISPR–Cas13 systems from uncultivated microbes. *Nat. Methods* 18:499-506.
 23. Wei, Y., Zhou, Y., Liu, Y., Ying, W., Lv, R., Zhao, Q., Zhou, H., Zuo, E.*, **Sun, Y.***, **Yang, H.***, **Zhou, C.***(2021) Indiscriminate ssDNA cleavage activity of CRISPR-Cas12a induces no detectable off-target effects in mouse embryos. *Protein Cell* 12(9):741-745.
 24. Liu, B., Tian, Q., **Gu, Y.***(2021)Robust vestibular self-motion signals in macaque posterior cingulate region. *eLife* 10:e64569.
 25. Wang, F., Li, E., De, L., Wu, Q., **Zhang, Y.***(2021) OFF-transient alpha RGCs mediate looming triggered innate defensive response. *Curr. Biol.* 31:2263-2273.
 26. Wang, G., Li, C., He, S., **Liu, Z.*** (2021) Mosaic CRISPR-stop enables rapid phenotyping of nonsense mutations in essential genes. *Development.* 148:dev196899.
 27. Zhang, C., Kim, S., Li, J., Zhang, Y., Lv, Q., Zeljic, K., Gong, H., Wei, H., Liu, W., Sun, B., **Wang, Z.***, Voon, V.*(2021) Anterior limb of the internal capsule tractography: relationship with capsulotomy outcomes in obsessive-compulsive disorder. *J. Neurol. Neurosurg. Psychiatry.* 92:637-644.
 28. Wang, H., Zhu, Z., Li, Y., Lou, S., Yang, G., Feng, X., Xu, W., Huang, Z., Cheng, X., **Xiong, Z.***. (2021) CDKL5 deficiency in forebrain glutamatergic neurons results in recurrent spontaneous seizures. *Epilepsia.* 62:517-528.
 29. Liu, K., Luo, J., Ma, T., Fang, M., Xu, Z., Wang, L., Zhang, X., Wen, J., Liu, C., Cao, Y., Li, X., Zhang, L., Wang, N., Gao, A., Yi, P., **Liu, J.***. (2021) Germline mutation of PLCD1 contributes to human

multiple pilomatricomas via PKD/ERK1/2 cascade and TRPV6. *J. Invest. Dermatol.* 141:533-544.

30. Wu, S., Li, X., Qin, D., Zhang, L., Cheng, T., Chen, Z., Nie, B., Ren, X., Wu, J., Wang, W., Hu, Y., Gu, Y., Lv, L., Yin, Y., * Hu, X., * **Qiu, Z.** * (2021) Induction of core symptoms of autism spectrum disorders by in vivo CRISPR/Cas9-based gene editing in the brain of adolescent rhesus monkeys. *Sci. Bull.* 66:937-946.
31. Zhan, Y., Wei, J., Liang, J., Xu, X., He, R. *, Robbins, T., **Wang, Z.** * (2021) Diagnostic classification for human autism and obsessive-compulsive disorder based on machine learning from a primate genetic model. *Am. J. Psychiatry* 178: 65-76.
32. Gao, N., Hu, J., He, B., Ji, Z., Hu, X., Huang, J., Wei, Y., Peng, J., Wei, Y., Zhou, Y., Shen, X., Li, H., Feng, X., Xiao, Q., Shi, L., Sun, Y., Zhou, C., **Zhou, H.** * & **Yang, H.** * (2021) Endogenous promoter-driven sgRNA for monitoring the expression of low-abundance transcripts and lncRNAs. *Nat. Cell Biol.* 23:99-108.
33. **Ye, Z.** *, Zhang G., Zhang Y. *, Li S., Liu N., Zhou X., Xiao W., Münte, T. * (2021) The role of the subthalamic nucleus in sequential working memory in De Novo parkinson's disease. *Mov. Disord.* 36:87-95.
34. Xiong, M., Tao, Y., Gao, Q., Feng, B., Yan, W., Zhou, Y., Kotsonis, T., Yuan, T., You, Z., Wu, Z., Xi, J., Haberman, A., Graham, J., Block, J., Zhou, W., **Chen, Y.** *, Zhang, S. (2021) Human Stem Cell-Derived Neurons Repair Circuits and Restore Neural Function. *Cell Stem Cell* 28:112-126.
35. Zhang, Z., Bai, L., Cong, L., Yu, P., Zhang, T., Shi, W., Li, F., Du, J. & **Wang, K.** * (2021) Imaging volumetric dynamics at high speed in mouse and zebrafish brain with confocal light field microscopy. *Nat. Biotechnol.* 39:74-83.
36. Wang, Z., Li, Y., Yang, X., Wang, Y., Nie, Y., Xu, Y., Zhang, X., Lu, Y., Zhang, T., Liu, Q., Jing, N., **Liu, Z.** *, and **Sun, Q.** * (2021) Mitochondrial replacement in macaque monkey offspring by first polar body transfer. *Cell Res.* 31:233-236.
37. Lv, Q., Yin, D., Zhang, C., Sun, B., Voon, V. *, **Wang, Z.** * (2021) Neuroanatomical substrates and predictors of response to capsulotomy in intractable obsessive-compulsive disorder. *Biol. Psychiat.* 6:29-38.