

Supplementary References:

1. Keane TM, Goodstadt L, Danecek P, White MA, Wong K, Yalcin B, et al. Mouse genomic variation and its effect on phenotypes and gene regulation. *Nature*. 2011;477: 289–294.
2. Yalcin B, Wong K, Agam A, Goodson M, Keane TM, Gan X, et al. Sequence-based characterization of structural variation in the mouse genome. *Nature*. 2011;477: 326–329.
3. Pierleoni A, Martelli PL, Casadio R. PredGPI: a GPI-anchor predictor. *BMC Bioinformatics*. 2008;9: 392.
4. Deverman BE, Pravdo PL, Simpson BP, Kumar SR, Chan KY, Banerjee A, et al. Cre-dependent selection yields AAV variants for widespread gene transfer to the adult brain. *Nat Biotechnol*. 2016;34: 204–209.
5. Chan KY, Jang MJ, Yoo BB, Greenbaum A, Ravi N, Wu W-L, et al. Engineered AAVs for efficient noninvasive gene delivery to the central and peripheral nervous systems. *Nat Neurosci*. 2017;20: 1172–1179.
6. Zelikowsky M, Hui M, Karigo T, Choe A, Yang B, Blanco MR, et al. The Neuropeptide Tac2 Controls a Distributed Brain State Induced by Chronic Social Isolation Stress. *Cell*. 2018;173: 1265–1279.e19.
7. Allen WE, Kauvar IV, Chen MZ, Richman EB, Yang SJ, Chan K, et al. Global Representations of Goal-Directed Behavior in Distinct Cell Types of Mouse Neocortex. *Neuron*. 2017;94: 891–907.e6.
8. Hillier D, Fiscella M, Drinnenberg A, Trenholm S, Rompani SB, Raics Z, et al. Causal evidence for retina-dependent and -independent visual motion computations in mouse cortex. *Nat Neurosci*. 2017;20: 960–968.
9. Hordeaux J, Wang Q, Katz N, Buza EL, Bell P, Wilson JM. The Neurotropic Properties of AAV-PHP.B Are Limited to C57BL/6J Mice. *Mol Ther*. 2018;26: 664–668.