Fig S1

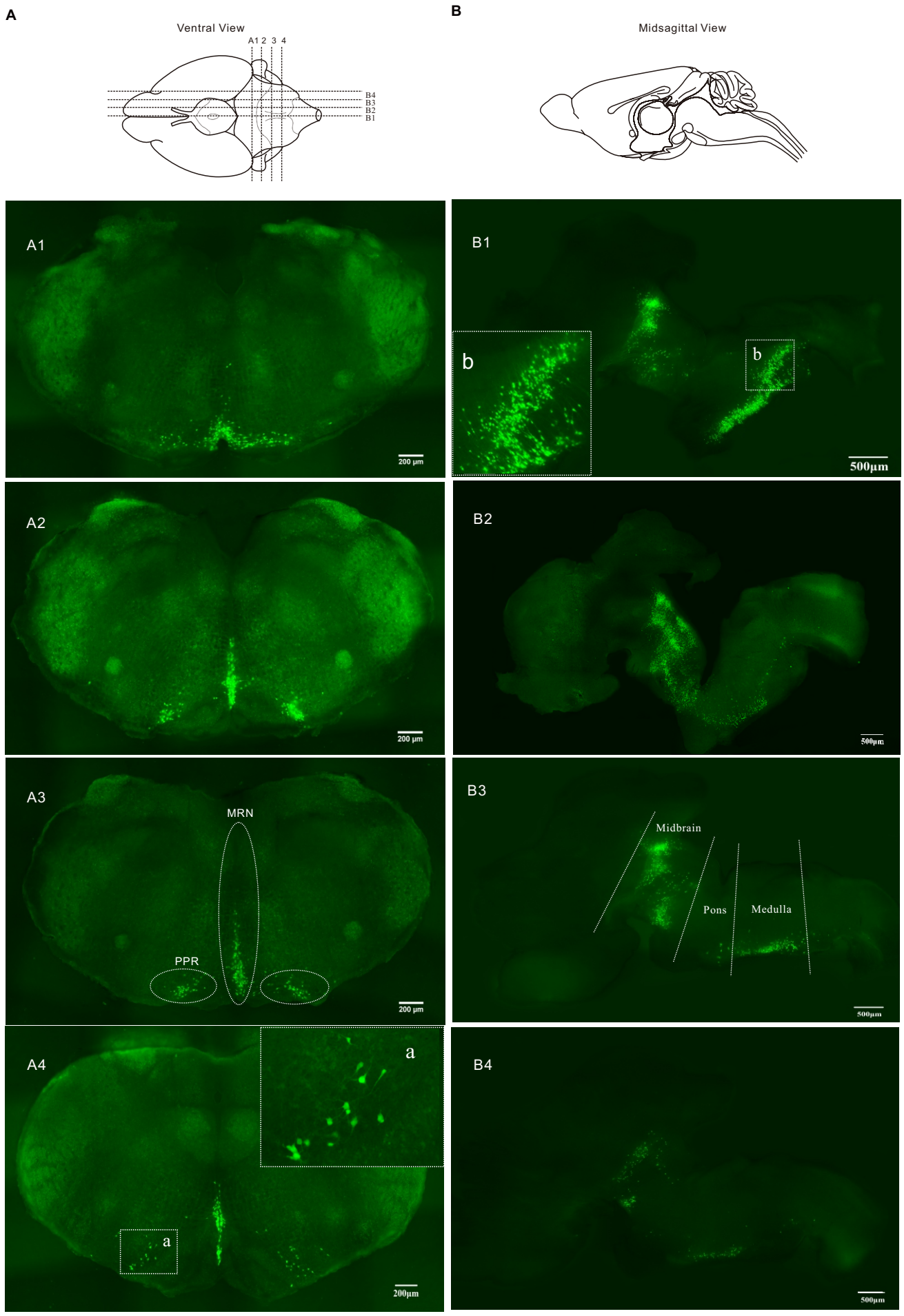
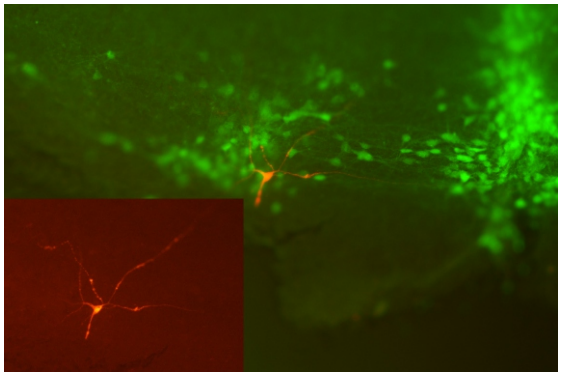

A
Ventral View
A1 2 3 4
B4
B3
B2
B1
B
Midsagittal View
A1
200 μm
B1
b
b
500μm
A2
200 μm
B2
500μm
A3
MRN
PPR
200 μm
B3
Midbrain
Pons
Medulla
500μm
A4
a
a
200μm
B4
500μm

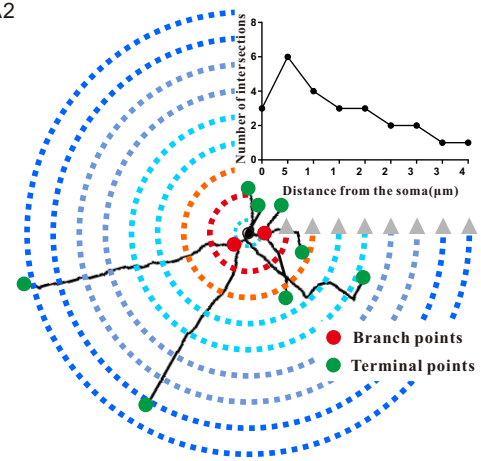
Fig S2

A

A1

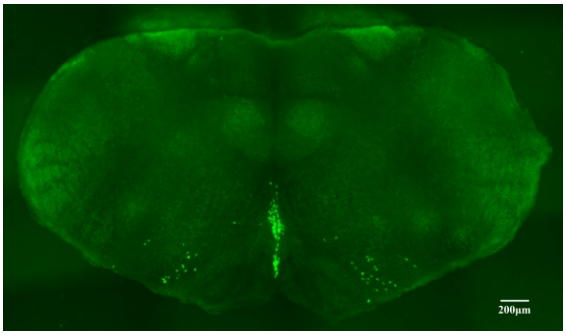


A2



B

B1



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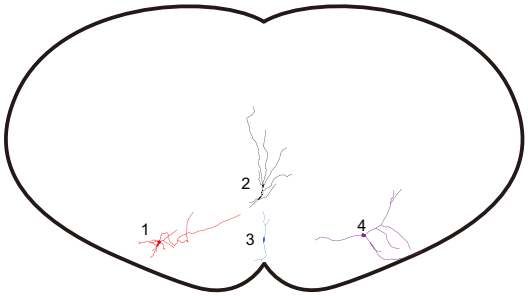

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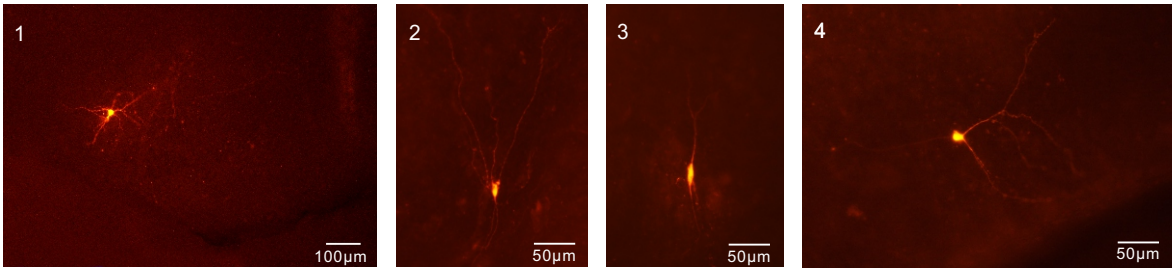

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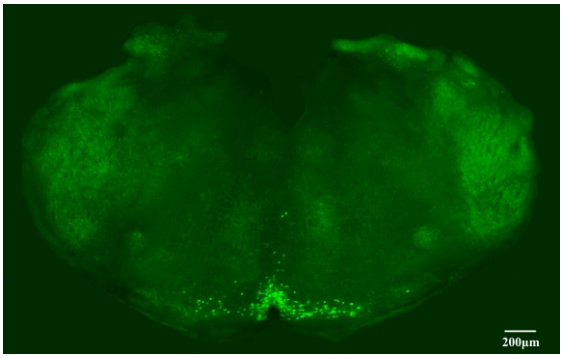
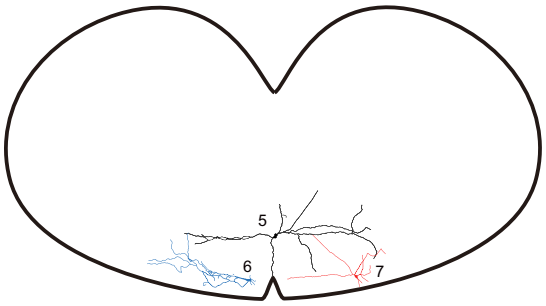


B5



B6

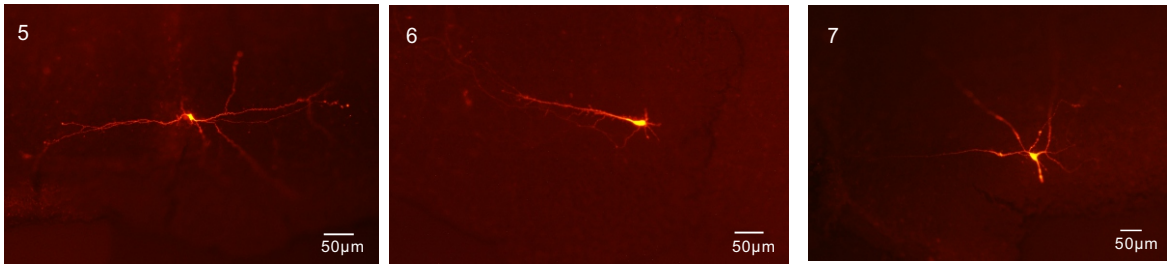


Figure S1 Distribution of 5-HT neurons in the brainstem. Schematic diagram of a mouse brain (ventral view and midsagittal view). The dashed lines A1-A4 indicate the positions of the coronal slices, and the dashed lines B1-B4 indicate the positions of the sagittal slices. **A1-A4:** Distribution of 5-HT neurons in the medullary coronal slice. **A2.** Medullary slice with 5-HT neurons. **A3.** The dotted circles represent the two nuclei of 5-HT neuronal distribution: the parapyramidal region (PPR) and the midline raphe nuclei (MRN). **A4.** The dotted rectangle indicates detained morphology of 5-HT neurons in the PPR region. **B1-B4:** Distribution of 5-HT neurons in the brainstem sagittal slice. **B1.** The dotted rectangle indicates detained morphology of 5-HT neurons in the medulla. **B2.** Brainstem with 5-HT neurons. **B3.** The dashed line divides the brainstem into the midbrain, pons, and medulla. 5-HT neurons are distributed across the midbrain, pons, and medulla.

Figure S2. Morphology of 5-HT neurons. **A1.** An example of a 5-HT neuron labeled with the fluorescent dye Dextran tetramethylrhodamine. **A2.** Schematic diagram of the Sholl analysis used to obtain morphological parameters such as the number of intersections, branch points, and terminal points. **B.** Morphology of 5-HT neurons in medulla. **B1.** Cross-sectional slices of the medulla from transgenic mice (ePet-EYFP). **B2.** Diagram of the morphology of neurons 1-4. **B3. D**iagram of the staining neurons 1-4. **B4.** Cross-sectional slices of the medulla. **B5.** Schematic diagram of the morphology of neurons 5-7. **B6.** Diagram of the staining of neurons 5-7.