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Transport Pathways and Kinetics of Cerebrospinal Fluid Tracers in Mouse Brain Observed by Dynamic Contrast-Enhanced MRI

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Running headline: Transport of CSF tracers in mouse brain

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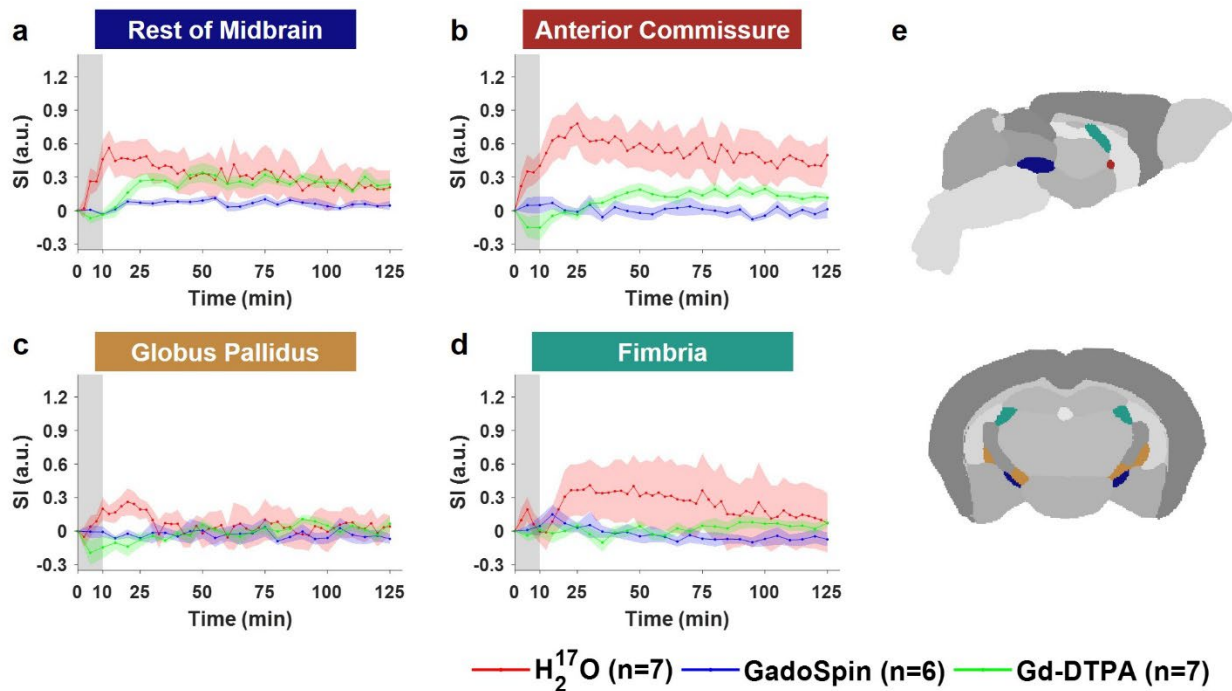


Fig. S1 Contrast agent transport in the rest of midbrain, anterior commissure, globus pallidus, and fimbria. **a-d**: Time courses of signal changes in the selected ROIs. Gray bands indicate the period of contrast agent infusion. Red, blue, and green lines represent the mean time courses of signal changes induced by $H_2^{17}O$, GadoSpin, and Gd-DTPA, respectively. Shaded areas represent standard errors. **e**: Segmentation of selected ROIs.

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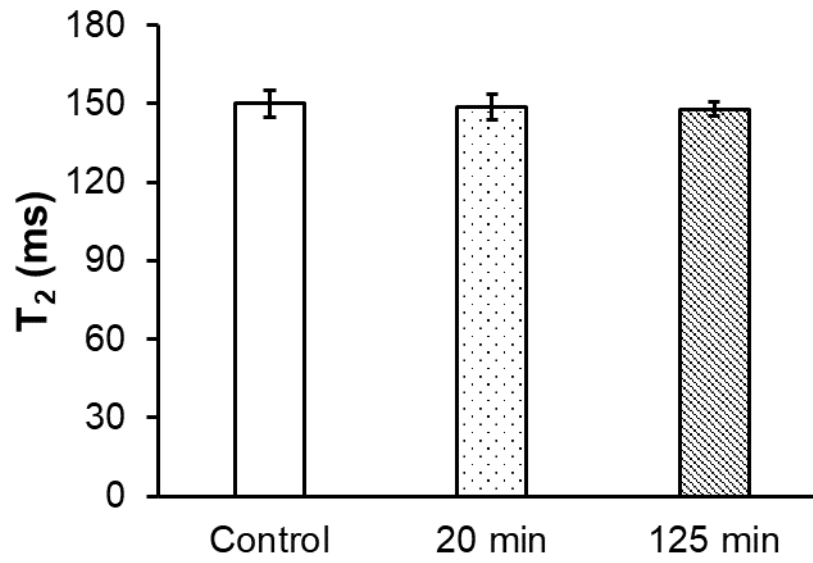
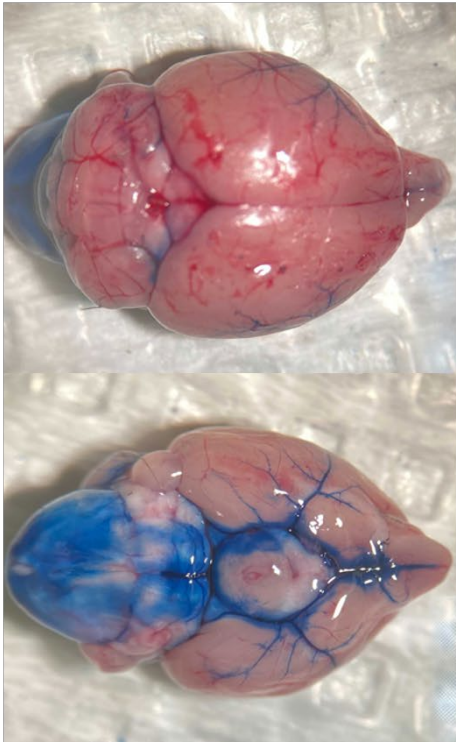


Fig. S2 T₂ of plasma from mice without H₂¹⁷O infusion (control) and at 20 and 125 min after H₂¹⁷O infusion.

a



b



Fig. S3 Validation of intracisternal tracer delivery. **a:** Bright-field microscopy of Evans blue staining. Top: dorsal view; bottom: ventral view. **b:** Cryoimaging of co-injected CF594 hydrazide (MW=740 Da, red, top) and FITC-dextran (MW=2,000 kDa, green, bottom). CF594 hydrazide showed penetration into the parenchyma while Evans blue and FITC-dextran were confined to the subarachnoid and perivascular spaces.

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Table. S1 Volumes of each region-of-interest.

Structure Name	Volume (mm³)
Whole Brain	493.2
Neocortex	165.4
Brain Stem	73.6
Cerebellum	63.5
Olfactory Bulbs	31.1
Thalamus	25.8
Caudate Putamen	24.5
Hippocampus	24.4
Basal Forebrain	13.3
Rest of Midbrain	12.9
Amygdala	12.4
Hypothalamus	12.3
CC & EC	8.6
Superior Colliculi	8.2
Inferior Colliculi	5.2
Central Gray	3.9
Globus Pallidus	2.6
Internal Capsule	2.0
Fimbria	2.0
Lateral Ventricles	1.0
Anterior Commissure	0.6