



Figure S1. Anatomy of the human lateral septum and corresponding single-molecule fluorescent *in situ* hybridization (smFISH) images used for anatomy confirmation. **a**, Schematic of the left hemisphere of postmortem human brain tissue slab at the level of the lateral septum and striatum. CN indicates caudate nucleus; Pu indicates putamen; AC indicates anterior commissure; GPe indicates globus pallidus externus; GPi indicates globus pallidus internus; CC indicates corpus callosum; LV indicates lateral ventricle (space); FX indicates fornix, IC indicates internal capsule. **b**, Zoomed-in image of the sample tissue block mounted on cryostat chuck. **c**, 2x magnification smFISH image of sample block, and **d**, 20x magnification images of the area demarcated white box in 2x magnification image. White bar indicates 100µm. **e**, 2x magnification smFISH image of the posterior end of sample collected from Donor 1, **f**, Donor 2, **g**, Donor 3. White dotted lines indicate score marks used to guide sample collection. White bar indicates 1000µm. **e'**, 20x magnification smFISH image taken approximately from the area indicated by white box shown in the corresponding 2x image of tissue section collected at the beginning of sample collection for Donor 1, **f'**, Donor 2, **g'**, Donor 3. White bar indicates 100µm. The letter A indicates "anteriorly adjacent to collected tissue sample". **e''**, 20x magnification smFISH image taken approximately from the area indicated by white box shown in the corresponding 2x image of tissue section collected at the end of sample collection Donor 1, **f''**, Donor 2, **g''**, Donor 3. White bar indicates 100µm. The letter P indicates "posteriorly adjacent to collected tissue sample".