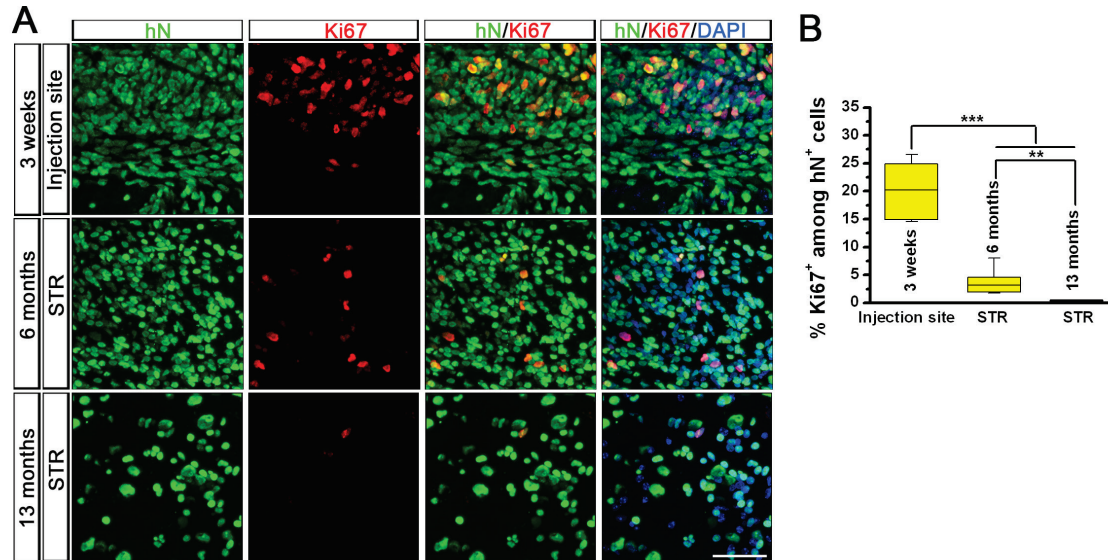
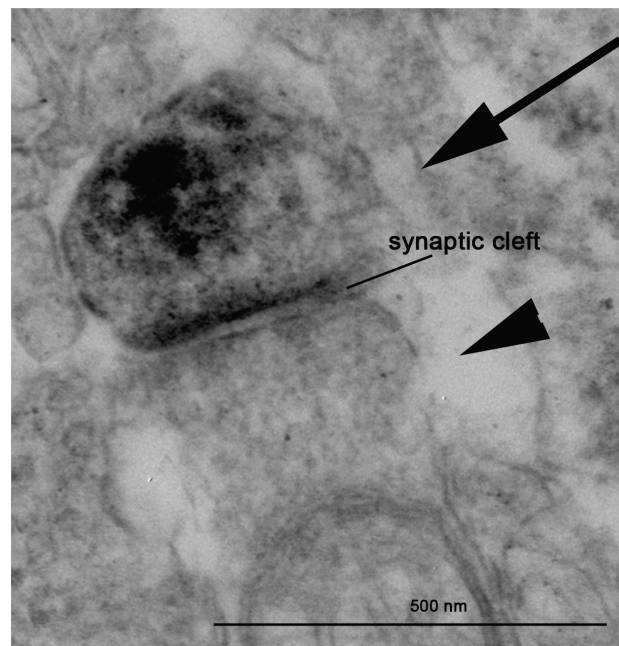


Supplemental Figure 1. A schematic diagram showing the differentiation of rosette-type primitive NPCs from hiPSCs. hiPSCs, human induced pluripotent stem cells; NPCs, neural progenitor cells; hLIF, human leukemia inhibitory factor; FGF-2, fibroblast growth factor-2.



Supplemental Figure 2. The proliferation of engrafted hiPSC-pNPCs in the mouse brain.

(A) Representatives of hN⁺ and Ki67⁺ proliferating cells at the injection site at 3 weeks and in the striatum (STR) at 6 and 13 months. Scale bar represents 50 μ m. (B) The percentage of Ki67⁺ proliferating cells in the hN⁺ human cells from 3 weeks to 13 months (n = 6 for each group). All quantitative data are analyses of pooled data collected from transplantation of hiPSC1- and hiPSC2-pNPCs. Data are presented as whisker-box plots. The central horizontal bars indicate the medians, boxes indicate 25th to 75th percentiles, and whiskers indicate the range of the data points. One-way ANOVA was performed to assess the significance. **P < 0.01 and ***P < 0.001. hN, human nuclei; hiPSC-pNPCs, hiPSC-derived primitive neural progenitor cells.



Supplemental Figure 3. A synaptic terminal formed between human neurons labeled by DAB staining against hN-CAM (arrow) and mouse neurons that were not labeled by the DAB staining (arrowhead). Synaptic cleft structure was seen in the synaptic terminal. Scale bar represents 500 nm. hN-CAM, human specific neural cell adhesion molecule; DAB, diaminobenzidine.

Supplemental Table 1. A list of antibodies used.

Antibodies	Vendor/Catalog #.	Type	Dilution
GFAP	Millipore/AB5804	Rabbit IgG	1:1000
Human Nestin	R&D/MAB1259	Mouse IgG	1:400
Human nuclei	Millipore/MAB4383	Mouse IgG	1:100
Human MAP2	Santa Cruz/sc-390543	Mouse IgG	1:50
Human N-CAM	Millipore/CBL275	Mouse IgG	1:50
β III-tubulin	Covance/PRB-435P	Rabbit IgG	1:1000
Ki67	Cell signaling/9129	Rabbit IgG	1:400
NG2	Millipore/AB5320	Rabbit IgG	1:200
MBP	Millipore/MAB386	Rat IgG	1:100
Olig2	Phosphosolutions/1538	Rabbit IgG	1:1000
Pax6	GeneTex/GTX113241	Rabbit IgG	1:400
Doublecortin	Cell signaling/4604	Rabbit IgG	1:500
NeuN	Millipore/ABN78	Rabbit IgG	1:500
GABA	Sigma/A2052	Rabbit IgG	1:1000
Tbr1	Millipore/AB2261	Chicken IgY	1:200
Synapsin-1	Millipore/MAB1543	Rabbit IgG	1:1000
c-Fos	Santa Cruz/sc-390543	Rabbit IgG	1:50
PSD-95	Invitrogen/51-6900	Rabbit IgG	1:400
OCT4	Santa Cruz/sc-5279	Mouse IgG	1:100