

Supplemental Figures and Figure Legends

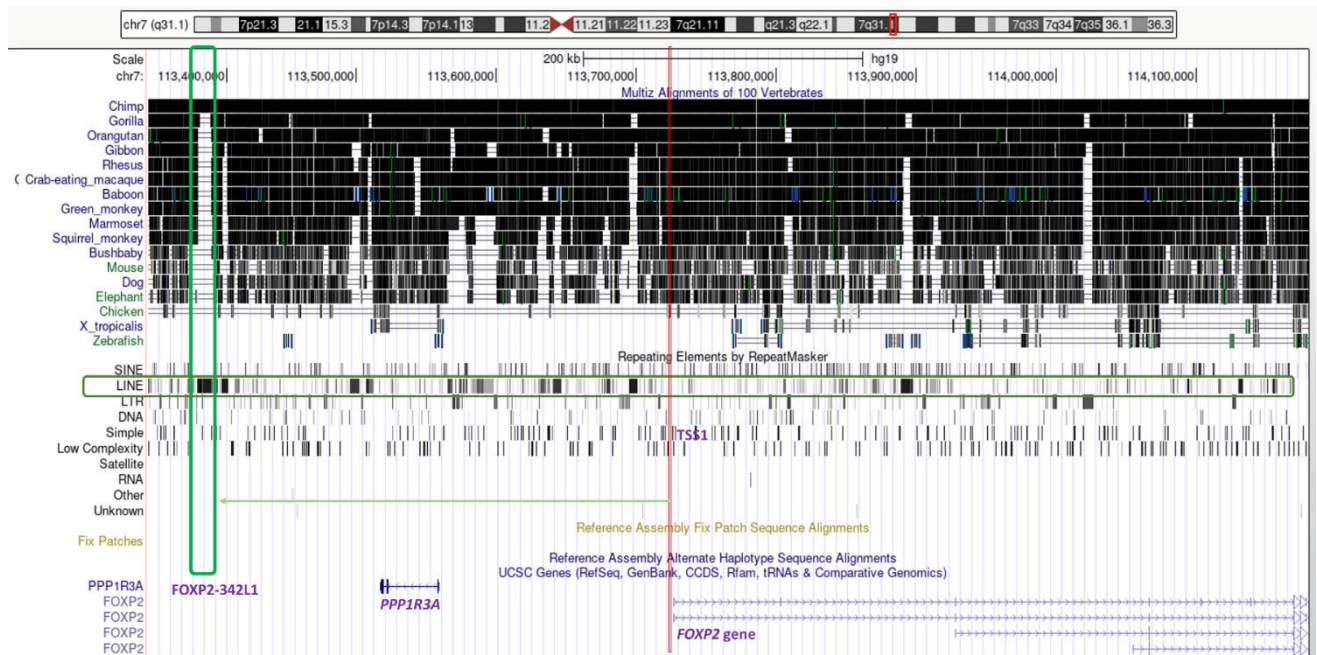


Fig. S1 Genomic comparison of LINE-1 elements surrounding the *FOXP2* gene locus across different species.

A genomic alignment of LINE-1 elements, FOXP2-342L1 (highlighted in green boxes), along with the *PPP1R3A* and *FOXP2* genes in the human genome (hg19) and various vertebrate genomes shown by the Multiz Alignment track and the RepeatMasker track in the UCSC genome browser. FOXP2-342L1 is present in both chimpanzees and humans. TSS1 refers to the transcription starting site of *FOXP2*.

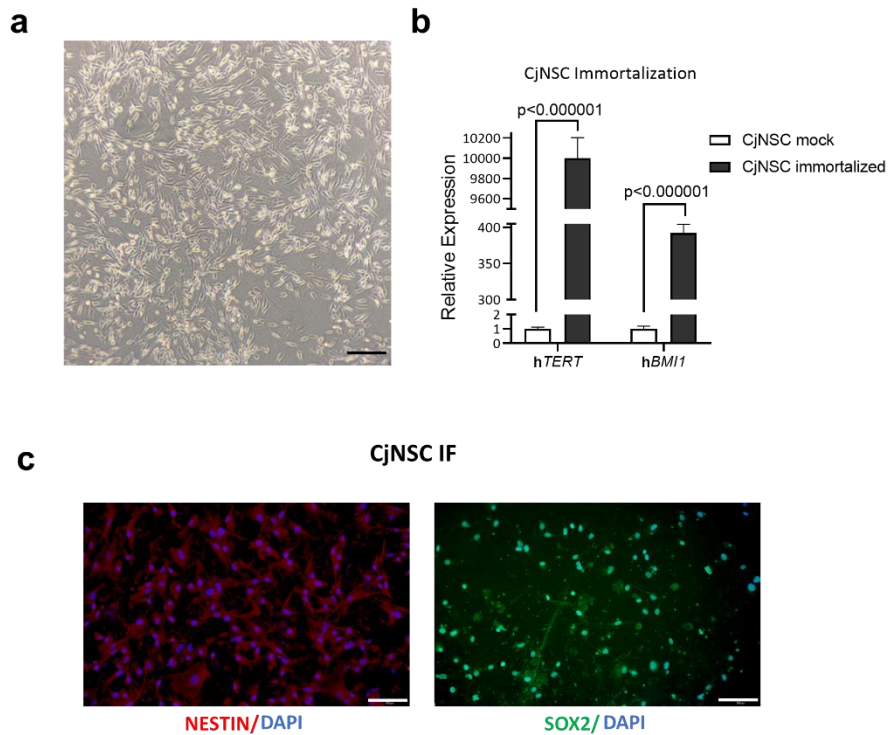


Fig. S2 Identification of immortalized CjNSC cells.

- a** Phase contrast microscope observation of immortalized marmoset neural stem cells (CjNSC) from fetal marmoset brain hippocampal tissues. Bar, 100 μ m.
- b** qPCR analysis of *hTERT* and *hBMI* gene expression levels in CjNSC cells. N, 3.
- c** Immunostaining of CjNSC cells using antibodies against neural progenitor cell markers, including NESTIN and SOX2. Bar, 100 μ m.

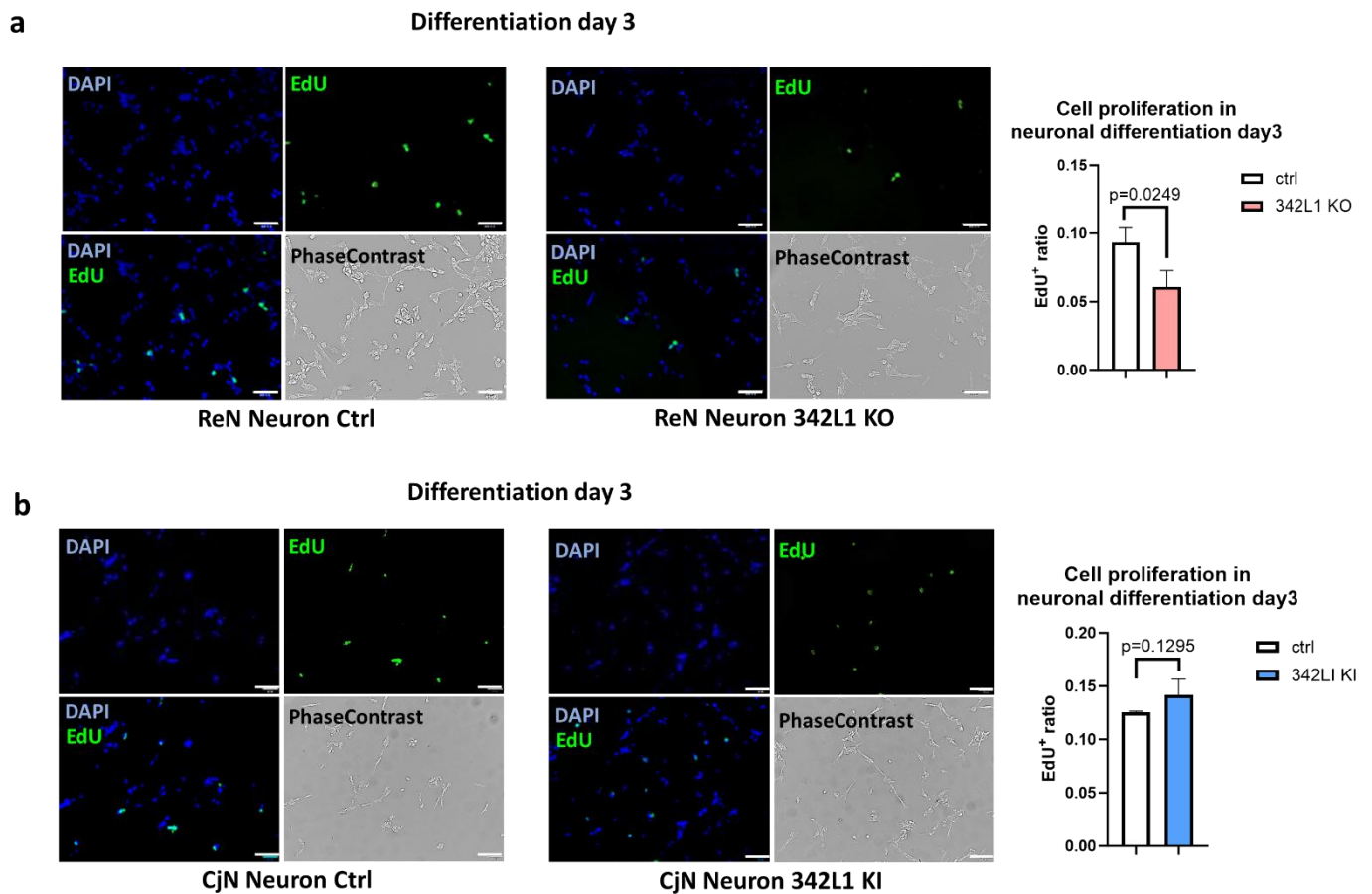


Fig. S3 Cell proliferation capacity assay at 3 days after neuronal differentiation induction.

- a** Fluorescence images show proliferation capacity of control (ReN Neuron Ctrl) and 342L1 KO (ReN Neuron 342L1 KO) human neurons at 3 days after neuronal induction, with statistical comparison of EdU⁺ nuclei ratio on the right. The ratio of EdU-positive nuclei to total DAPI-stained nuclei indicates the level of cell proliferation. Phase-contrast images illustrate neuron morphology. Bar, 50 μ m. N, 3.
- b** Fluorescence images show proliferation capacity of control (CjN Neuron Ctrl) and 342L1 KI (CjN Neuron 342L1 KI) marmoset neurons at 3 days after neuronal induction, with statistical comparison of EdU⁺ nuclei ratio on the right. The ratio of EdU-positive nuclei to total DAPI-stained nuclei indicates the level of cell proliferation. Phase-contrast images illustrate neuron morphology. Bar, 50 μ m. N, 3.

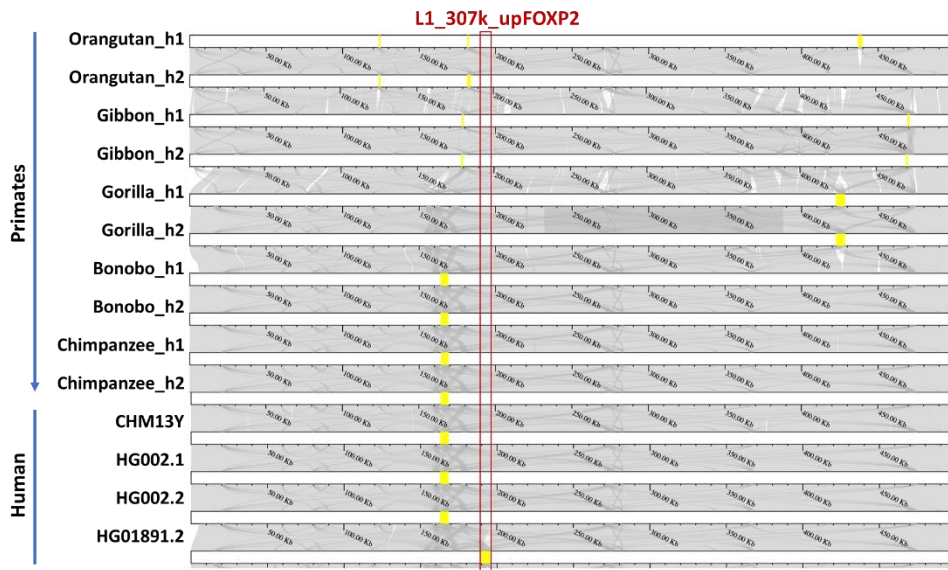


Fig. S4 Genomic comparison of another LINE-1 element 307kb upstream of *FOXP2* gene in primate genomes.

A pangenomic view shows another insertion of LINE-1 element in a small cohort of human populations ($n=1/58$ in CPC, and $n=5/47$ in HPRC), locating at 307 kb upstream of *FOXP2* gene, according to a joint CPC–HPRC pangenome reference. The suffixes, h1 and h2, refer to T2T assemblies from two haplotype. The shown assemblies, HG002.1, HG002.2 and HG01891.2, come from HPRC. HG01891.2 is one of the five assemblies harboring this LINE-1 insertion, all of which are African samples.