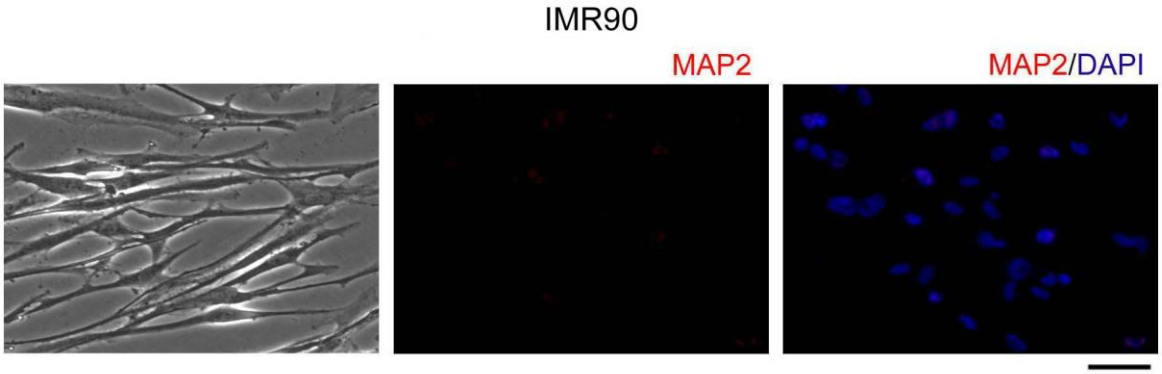
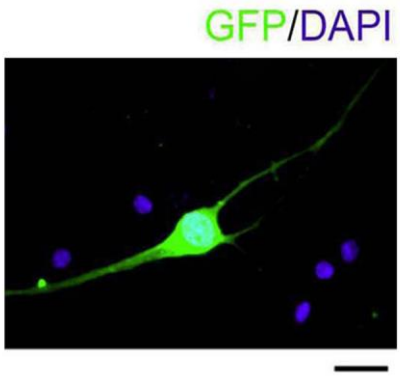
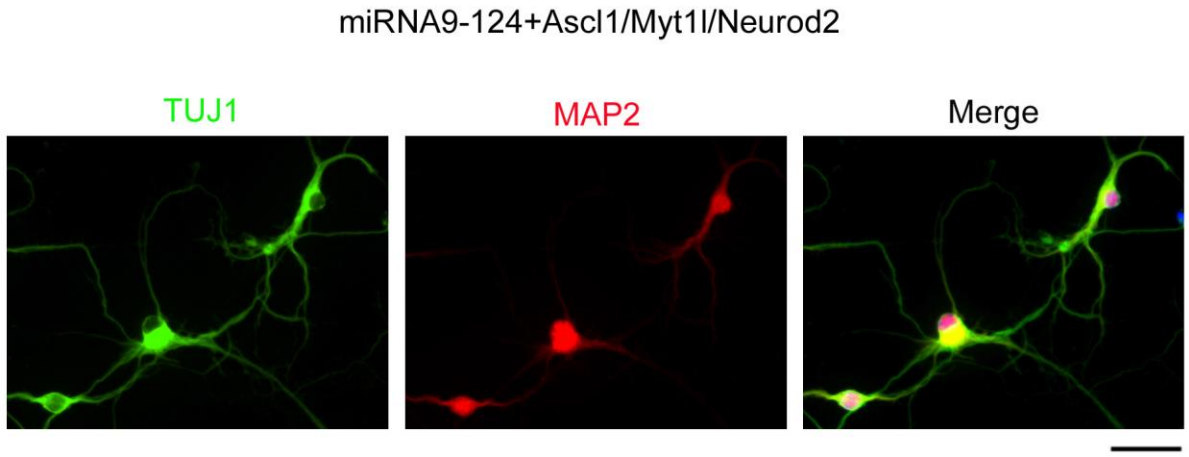


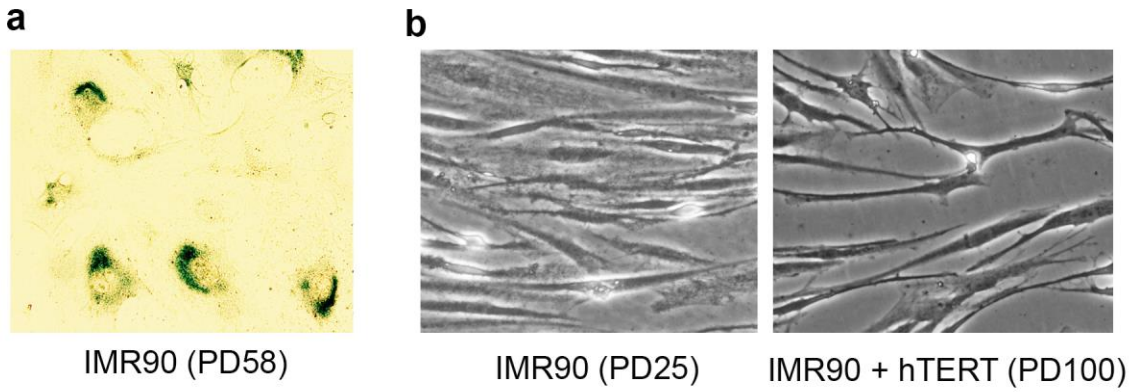
Supplementary Fig. 1. Wild-type IMR90 cells still keep fibroblast morphology. Morphology and immunostaining for IMR90 fibroblasts 4 weeks after induction. Wild-type IMR90 cells still kept fibroblast morphology and negative staining for MAP2. Scale bar, 10 μm.



Supplementary Fig. 2. Co-culture of induced IMR90 cells with primary rat neurons. IMR90 cells expressing GFP and shp19 were induced for 7 days and were placed onto a monolayer culture of primary rat neurons. iN cells were identified by GFP fluorescence 2 weeks after induction. Scale bar, 10 μm.



Supplementary Fig. 3. Expression of miRNA9-124+Ascl1/Myt1l/Neurod2 in IMR90 cells induces their conversion into neuron. The images show the immunostaining of the iN cells by expression of the miRNA9-124+Ascl1/Myt1l/Neurod2 3 weeks after induction. Scale bar, 10 µm.



Supplementary Fig. 4. Overexpression of hTERT overcomes cellular senescence. a. IMR90 cells at passage 58 show senescence morphology with SA-β-Gal positive staining. **b**. The images show different passages of IMR90 and hTERT IMR90 cells.