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Supplementary Information for:

Nanotopography-mediated Reverse Uptake for siRNA Delivery into Neural Stem Cells to Enhance Neuronal Differentiation

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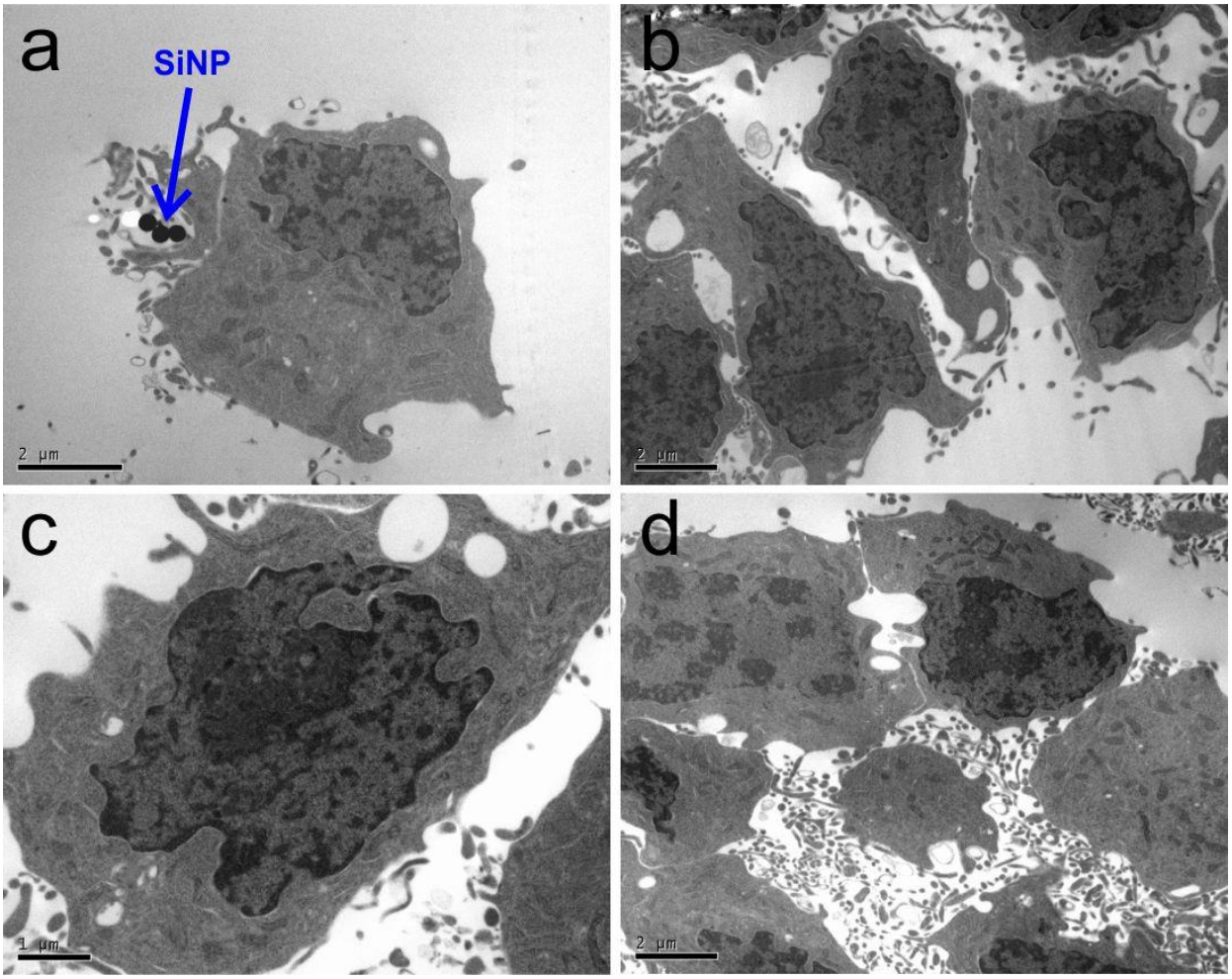

Figure S1. Transmission Electron Microscopy (TEM) to confirm SiNPs are not taken up by the NSCs. (a) and (b) TEM of NSCs seeded on NanoRU containing 300 nm SiNPs. The blue arrow shows the presence of SiNPs outside of the cell. (c) and (d) TEM of NSCs seeded on NanoRU containing 100 nm SiNPs.

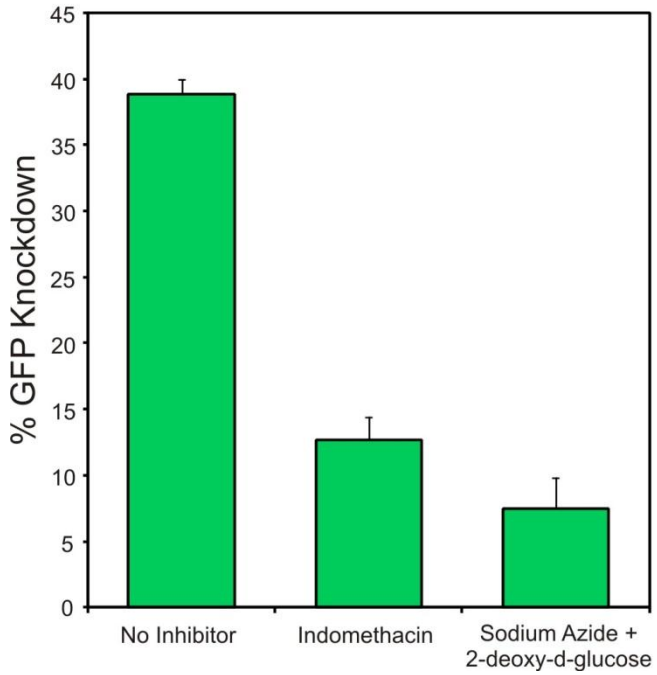

Figure S2. Effect of endocytosis inhibitors on GFP knockdown. Quantitative comparison of the percentage of GFP knockdown in the presence of endocytosis inhibitors, indomethacin and sodium azide plus 2-deoxy-d-glucose.

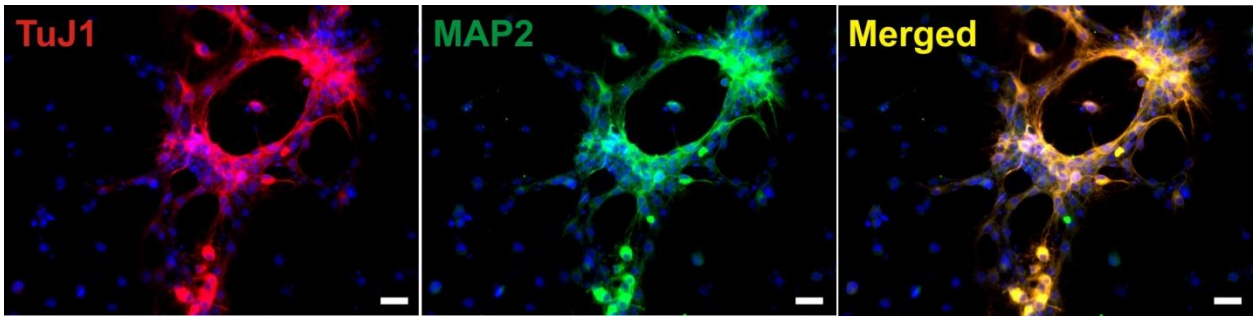

Figure S3. Colocalization of neuronal markers. Fluorescence images of NSCs grown on NanoRU coated with si*SOX9*, stained for the neuronal markers TuJ1 and MAP2. The merged image shows the co-localization of the two neuronal markers. Scale bars: 20 µm.

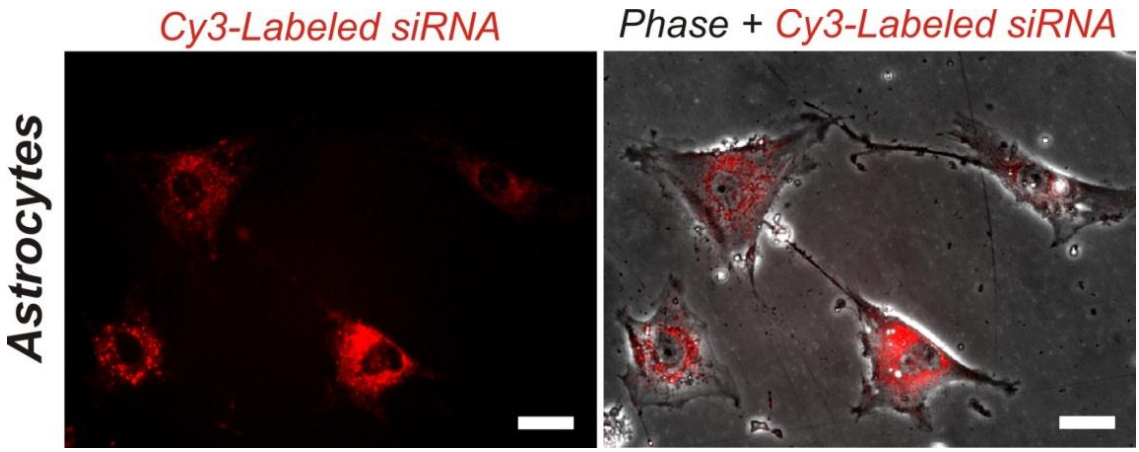

Figure S4. siRNA uptake within Astrocytes. Fluorescence and phase images depicting the cellular uptake of *Silencer*® negative control Cy3-labeled siRNA into human astrocytes. Scale bars: 20 µm

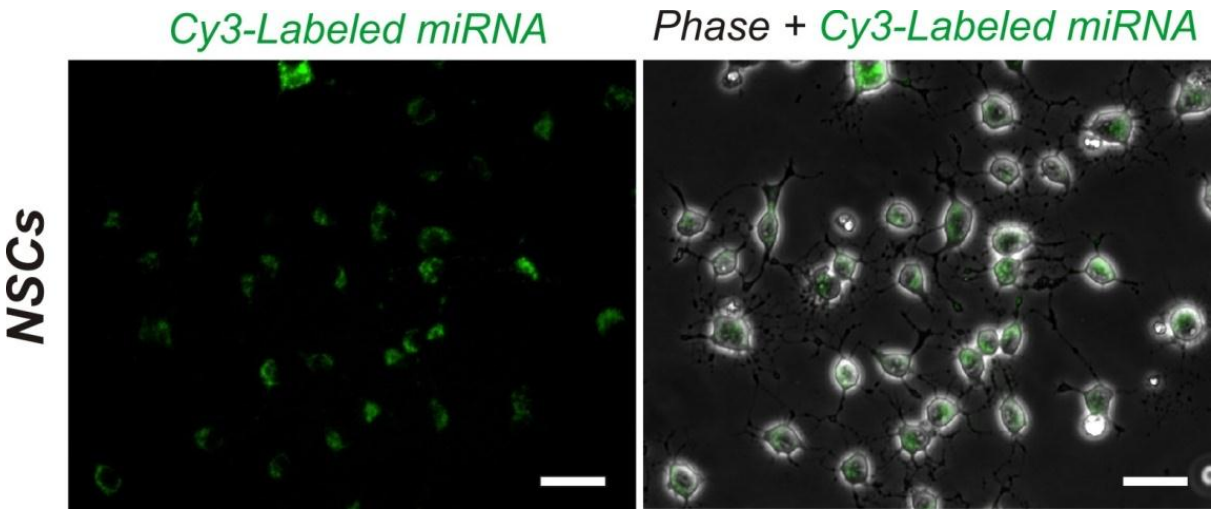

Figure S5. NanoRU for miRNA uptake. Fluorescence and phase images depicting the cellular uptake of Cy3-labeled miRNA (pseudocolored green) into rat neural stem cells. Scale bars: 20 µm

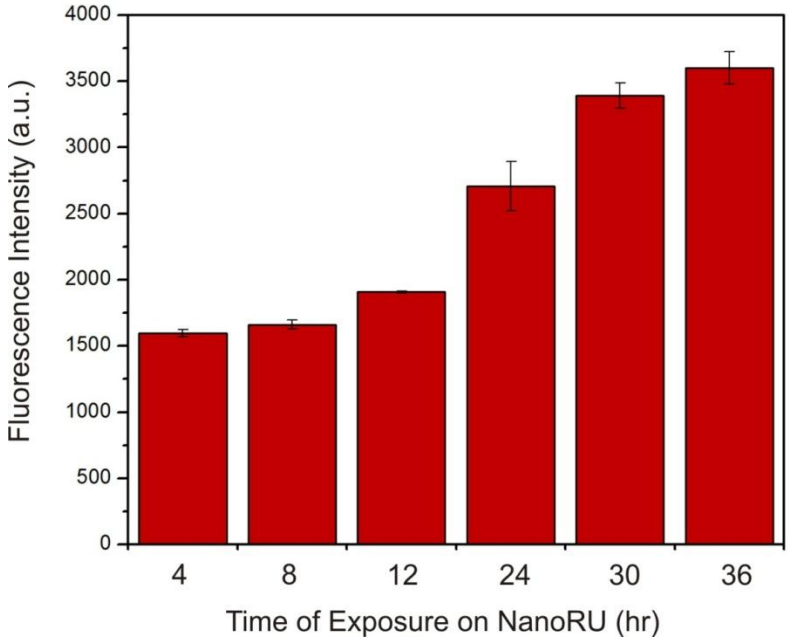

Figure S6. Time-dependent siRNA Uptake. Time-dependent uptake of *Silencer*® negative control Cy3-labeled siRNA into rat neural stem cells.