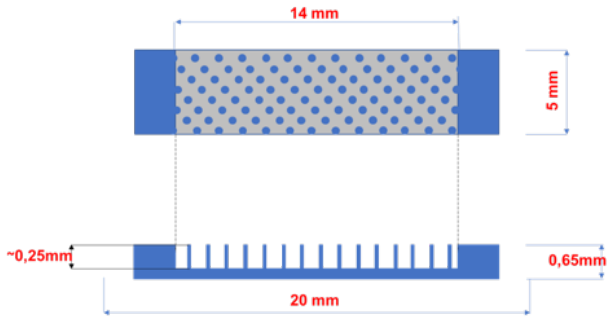
**A**




**B**

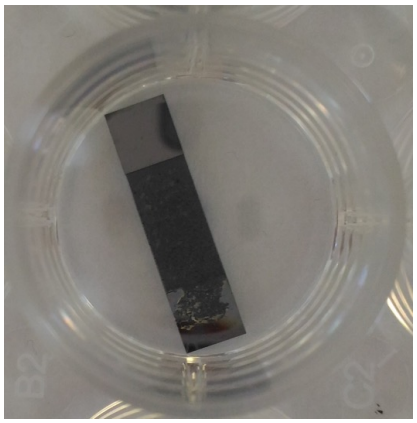


**Fig. S1.** Silicon devices were specifically designed to fit into 12 multiwell plates. (A) Schematic top-view and lateral-view of silicon devices. (B) Picture of a silicon device lodged into a well of a tissue culture 12-multiwell plate.

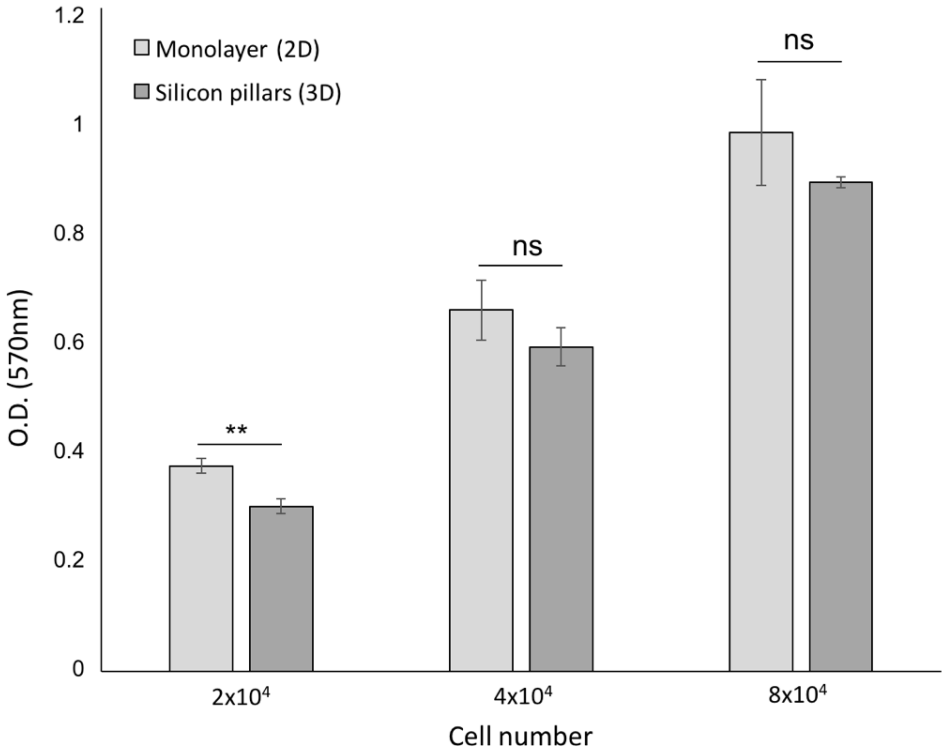



**Fig. S2.** Analysis of mouse NS cells viability seeded on 3D silicon micropillars arrays. MTT assay performed on cultures plated at different cell densities and grown for 2 days in 2D or 3D conditions.

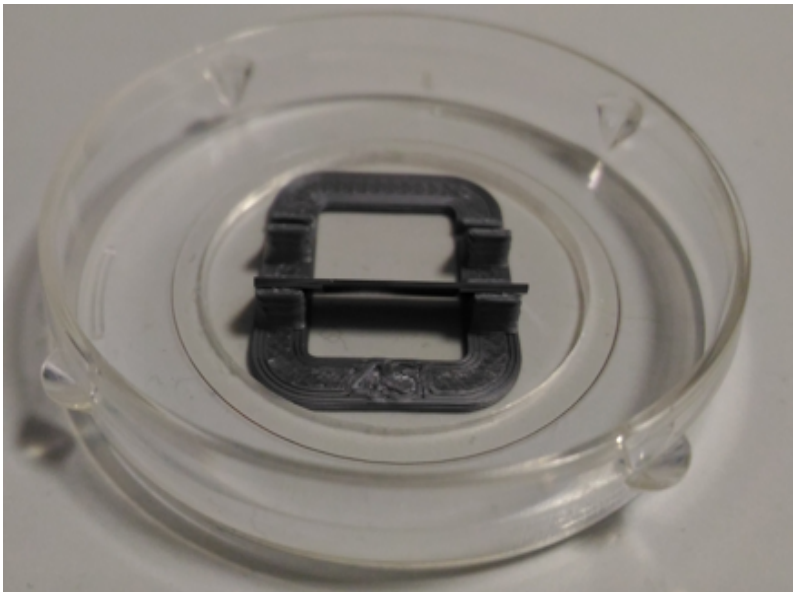


**Fig. S3.** Silicon slide holder device's picture. The slide lodges on a home-made holder inserted in a bottom glass dish. The holder is conceived to visualize fixed and stained cells on inverted microscopes with a 45° tilting.

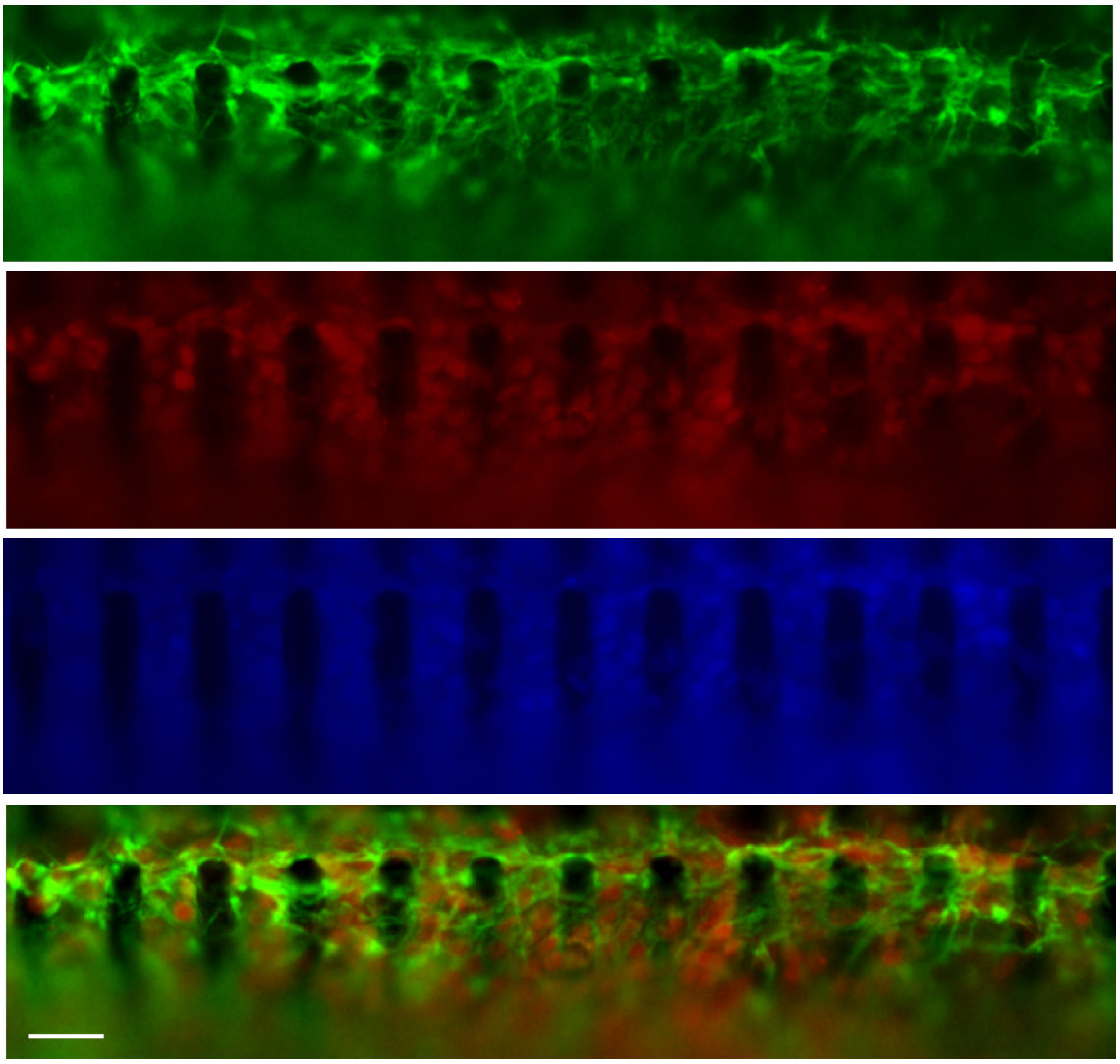


**Fig. S4.** hCPs seeded on 3D silicon slide preserve their multipotency and create a cell network. hCPs stained for the immature neural markers Nestin (green) and Sox2 (red). Nuclei are stained with Hoescht (blue). Culture exhibits homogeneous distribution and cell-cell and cell-micropillars interactions. Scalebar: 20μm.

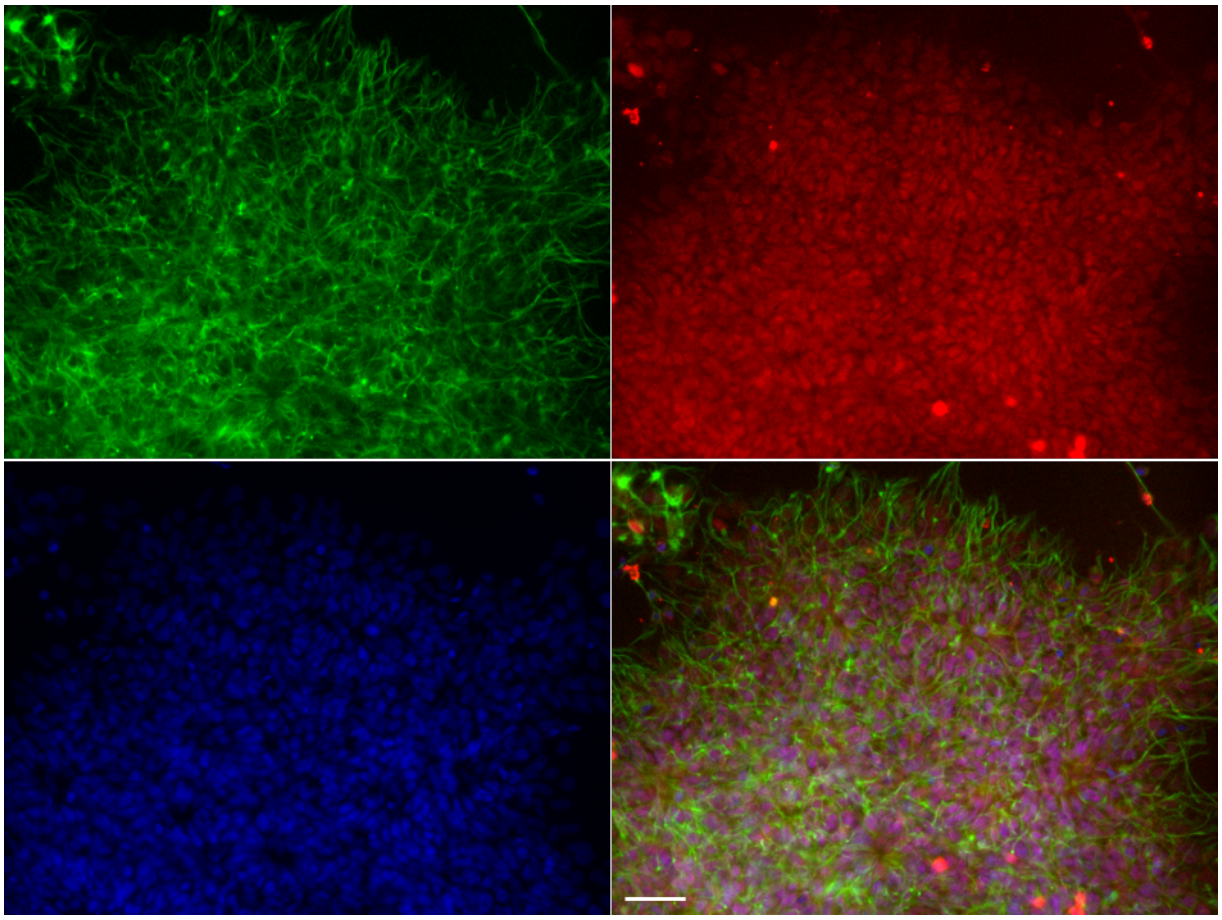


**Fig. S5.** hCPs grown in standard 2D conditions exhibit expression of cortical progenitor markers. hCPs cultured for 4 days are stained for Nestin (green), TBR2 (red). Hoescht was used for nuclear staining (blue). Scalebar: 100 μm.