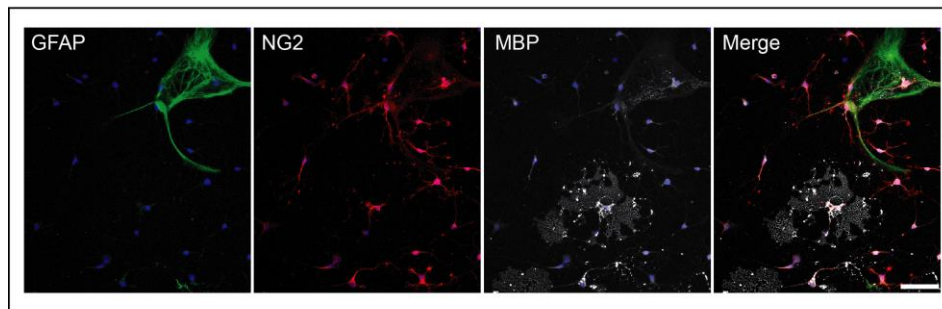
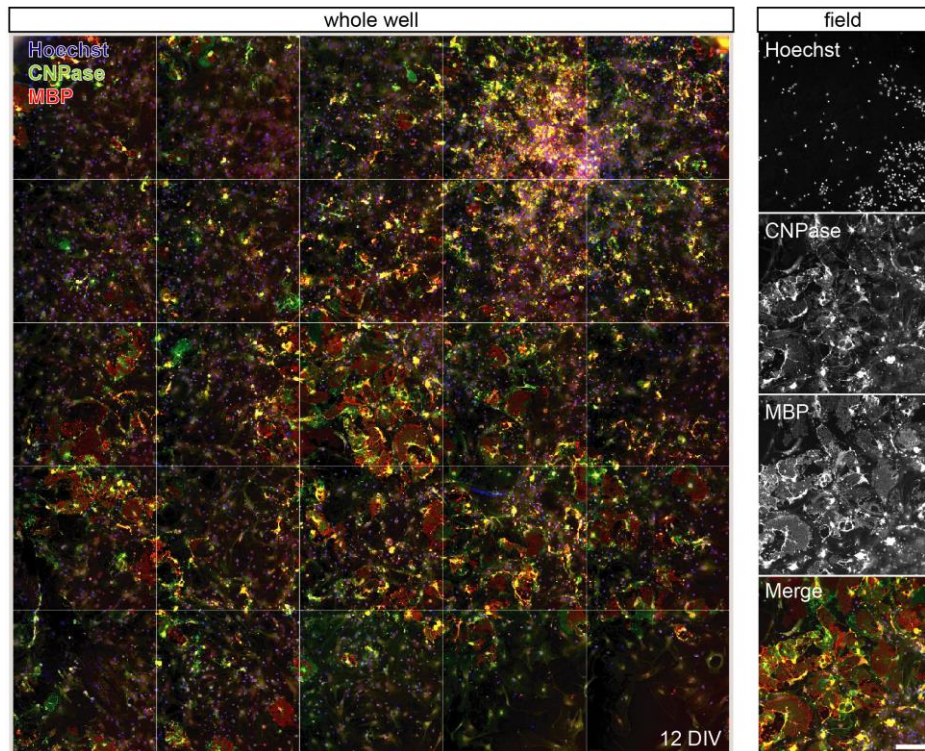


### A. Simultaneous lineage-specific marker identification



### B. Cell-based HCS imaging of the whole culture



### Additional Figure 1 Lineage-specific marker analysis and high content screening imaging.

(A) Panel shows a representative four-color image marking nuclei (blue, Hoechst) and specific cell types: astrocytes (GFAP-positive), OPCs (NG2-positive) and OLs (MBP-positive) at 6 DIV (half of differentiation phase). Scale bar: 100  $\mu\text{m}$ . (B) Panel shows a representative image of cell-based HCS imaging of a whole 96-well plate of an NSC-derived OL culture at the end of the differentiation phase (12 DIV). A picture of a single field with split channels is included. Scale bar: 100  $\mu\text{m}$ . Immunofluorescence reactions were performed as already described, using lineage-specific markers and confocal microscope (A) or cell-based HCS (B). CNPase: 2',3'-Cyclic-nucleotide 3'-phosphodiesterase; DIV: day *in vitro*; GFAP: glial fibrillary acidic protein; MBP: myelin basic protein; NG2: neural/glial 2 chondroitin sulfate proteoglycan; OLs: oligodendrocytes; OPCs: oligodendrocyte precursor cells.