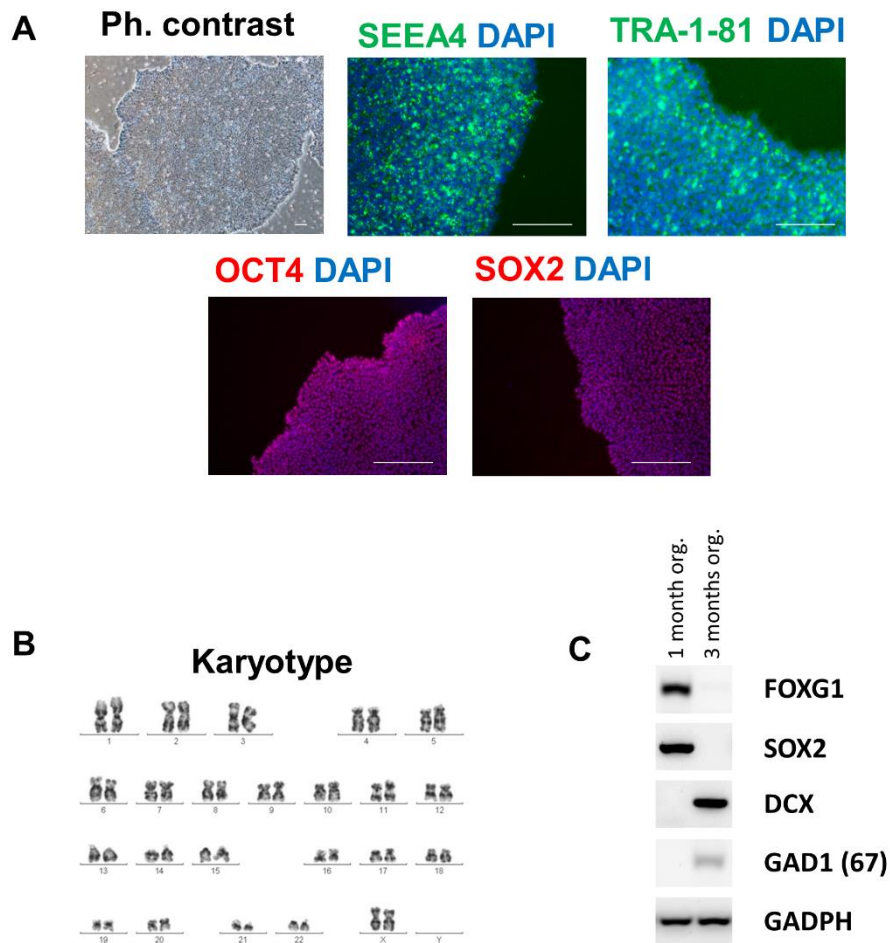


**Fig. S1 (to Fig.1). TOP**



**Figure S1: iPSC and organoid quality controls.** A) Phase contrast image of iPSC colonies and expression of the pluripotency markers SEEA4, TRA-1-81, OCT4 and SOX2 prior organoid generation. Scale bar: 100  $\mu$ m. B) iPSC used for organoid generation showed normal karyotype. C) Analysis of different markers expressed during human brain development at different time points of organoid culture.

**Table S1.** List of antibodies used.

Primary antibodies	Dilution	Company (Cat)
Olig2	1:500	R&D System, Minneapolis, Minnesota, USA (AF2418)
Tuj1 ( $\beta$ -III Tubulin)	1:1000	Covance, Princeton, New Jersey, USA (MMS-43SP)
MAP2	1:100	Santa Cruz Biotechnology, Dallas, USA (sc-32791)
SATB2	1:100	Abcam, Cambridge, UK (ab34735)
CTIP2	1:100	Abcam, Cambridge, UK (ab18465)
TUB $\beta$ IV ( $\beta$ -IV Tubulin)	1:100	Sigma, San Luis, Misuri, USA (T7941)
FOXJ1	1:500	Abcam, Cambridge, UK (ab18259)
TTR (Transthyretin)	1:200	Agilent Technologies, Santa Clara, CA, USA (A0002)
GFP Rabbit	1:200	Invitrogen, Waltham, Massachusetts, USA (A11122)
GFP Chicken	1:200	Abcam, Cambridge, UK (ab13970)
Ki67	1:100	Dako by Agilent Tech, Santa Clara, CA, USA (M7240)
Nestin	1:1000	Abcam, Cambridge, UK (ab22035)
DCX (Doublecortin)	1:1000	Millipore, Burlington, Massachusetts, USA (AB2253)
GFAP Rabbit	1:500	Millipore, Burlington, Massachusetts, USA (AB5804)
GFAP Chicken	1:1000	Abcam, Cambridge, UK (ab4674)
HNA (Human Nuclei)	1:200	Abcam, Cambridge, UK (ab191181)
IBA1	1:200	Abcam, Cambridge, UK (ab5076)
Ku80	1:100	Cell Signaling Tech, Danvers, Massachusetts, USA (#2753)
hGFAP (human GFAP)	1:500	Takara Bio, Shiga, Japan (Y40420)
SSEA4	1:100	Cell Signaling Tech, Danvers, Massachusetts, USA (MC813)
Tra-1-81	1:100	Millipore, Burlington, Massachusetts, USA (MAB4381)
OCT4	1:400	Cell Signaling Tech, Danvers, Massachusetts, USA (C30A3)
SOX2	1:500	Millipore, Burlington, Massachusetts, USA (AB5603)
NKX2.1	1:100	R&D System, Minneapolis, Minnesota, USA (MAB94581)
Secondary antibodies	Dilution	Company (Cat)
Donkey anti-Rabbit IgG (H+L) (Alexa Fluor 488, Green)	1:500	Invitrogen, Waltham, Massachusetts, USA (A21206)
Donkey anti-Mouse IgG (H+L) (Alexa Fluor 488, Green)	1:500	Invitrogen, Waltham, Massachusetts, USA (A21202)
Donkey anti-Guinea pig IgG (H+L) (Alexa Fluor 488, Green)	1:400	Jackson ImmunoR, Cambridge, UK (706-454-148)
Donkey anti-Rat IgG (H+L) (Alexa Fluor 488, Green)	1:500	Invitrogen, Waltham, Massachusetts, USA (A48269)
Donkey anti-Rabbit IgG (H+L) (Alexa Fluor 594, Red)	1:500	Invitrogen, Waltham, Massachusetts, USA (A21207)
Donkey anti-Goat IgG (H+L) (Alexa Fluor 594, Red)	1:500	Invitrogen, Waltham, Massachusetts, USA (A11058)
Donkey anti-Chicken IgG (H+L) (Alexa Fluor 594, Red)	1:400	Jackson ImmunoR, Cambridge, UK (703-585-155)