**Supplementary Table 2**

Schoernig at al.

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| REAGENT or RESOURCE | SOURCE | IDENTIFIER |
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| CONSUMABLES |  |  |
| Cell culture test plates, sterile (6 well, 24 well) | TPP® | 92006, 92024 |
| Coverslips (pre-treated, 12 mm) | Kleinfeld Labortechnik  | GG-12-Pre |
| Cryogenic vials  | Thermo Fisher Scientific | 5000-0020 |
| Falcon tubes (15 ml, 50 ml) | Greiner bio-one | 188271, 210261 |
| Glass Pasteur pipettes | VWR | 612-1701 |
| Lens cleaning tissue  | GE Healthcare Life Sciences | 2105-841 |
| Microscope slides | Thermo Fisher Scientific | J3800AMNZ |
| Parafilm | Carl Roth | PM-996 |
| Pipette tips, filter tips | Eppendorf, Gilson |  |
| Precision wipes  | Kimtech science | 7552 |
| Serological pipets, sterile (5 ml, 10 ml, 25 ml, 50 ml) | Corning® |  |
| Single-use syringes (5 ml, 10 ml, 30 ml) | B Braun |  |
| Sterile square media bottle (125 ml, 250 ml) | Nalgene | 2019-0125, 2019-0250 |
| Syringe-Filter (0.22 µm) | TPP® | 99722 |
| Tissue culture dish (40 mm) | TPP® | 93040 |
| Tissue culture flask, sterile (75 cm²) | TPP® | 90076 |
| Tubes (0.5 ml, 1.5 ml, 2.0 ml) | Eppendorf |  |
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| DEVICES |  |  |
| Accu-jet® pro | Brand |  |
| Analytical balance | Kern | AEJ-CM |
| Beaker (100 ml, 500 ml) | Schott Duran |  |
| Bioanalyzer Instrument 2100 | Agilent | G2939Ba |
| Centrifuge  | Thermo Fisher Scientific | Heraeus Megafuge 40R |
| Clean bench  | Thermo Fisher Scientific | Heraeus Instruments |
| Confocal laser scanning microscope | OLYMPUS FV1200 Fluorescent Light Source: Power Supply:  | BX61W1 Multiphoton FV1000 MicroscopeU-HGLGPSFV10-MCPSU |
| Confocal laser scanning microscope | Zeiss LSM 780 NLO | Zeiss axio Examiner.Z1, upright stand |
| Countess™ automated cell counter | Invitrogen |  |
| EPC-10 amplifier | HEKA, Lambrecht, Germany |  |
| Freezing container | Nalgene |  |
| Glass bottles (100 ml, 500 ml) | Schott Duran |  |
| Glass electrodes for electrophysiology | Hilgenberg, Germany | 4.5-5.5 MΩ, oD/iD, borosilicate |
| HighSeq2500 | Ilumina |  |
| Incubator Heracell 240 | Thermo Fisher Scientific |  |
| Inverse microscope | ZeissMultiSpec-Micomager DualVFilter Set: | Axiovert 20046HEYFP |
| Inverted microscope | ZeissFluorescent Light Source:  | Axio Observer.Z1 SMC200HXP12OV232 |
| Magnetic stirring hot plate | Heidolph | MR3002 |
| Microcentrifuge | Carl Roth |  |
| Nucleofector™2b  | Lonza |  |
| Pipettes (10 µl, 100 µl, 200 µl, 1000 µl) | Eppendorf, Gilson |  |
| Spinning disc confocal microscope | Andor Revolution WD Borealis Mosaic | Andor IX 83, inverted stand |
| Stereo microscope | Olympus | SZX7 |
| Tweezers, Scoops |  |  |
| Upright microscope for electrophysiology | Olympus | BXW-51 |
| Vacusafe™ Vacuum aspiration system | Integra Biosciences |  |
| Vortex-Genie 2 | Scientific Industries |  |
|  |  |  |
| REAGENTS |  |  |
| Accutase® solution | Sigma Aldrich | A6964 |
| B27 Supplement (50x) | Gibco® | 17504-044 |
| BDNF, human | Promokine | C-66212 |
| Borax | Sigma Aldrich | B3545 |
| Boric acid | Merck | 1.00165.1000 |
| CaCl2 | Merck |  |
| Chromium Single Cell 3’ Library & Gel Bead Kit v2, 16 rxns | 10X Genomics | PN-120237 |
| Cytosine β-D-arabinofuranoside | Sigma Aldrich | C1768 |
| DAPI | Sigma Aldrich | D9542 |
| DMEM, high glucose | Gibco® | 11965-092 |
| DMEM/F-12 | Gibco® | 31330-038 |
| Dnase I | New England Biolabs | 2 U/µl |
| Doxycycline | Sigma Aldrich | D9891 |
| Dulbecco’s Phosphate-Buffered Saline (DPBS) | Gibco® | 14190-094 |
| Ethylenediaminetetraacetic acid (EDTA) | Gibco® | 15575-038 |
| Ethanol | Carl Roth | K928.1 |
| Fetal bovine serum | Sigma Aldrich | F2442 |
| G418 disulfate salt solution | Sigma Aldrich | 68168 |
| Gelatine | Carl Roth | 4308.1 |
| Glucose | Sigma-Aldrich | 158968-500G |
| GlutaMAX | Gibco® | 35050-038 |
| Glycine | Serva | 23390.03 |
| HEPES | Sigma-Aldrich | H3375-250G |
| Hygromycin B-solution | Carl Roth | CP12.2 |
| Isopropanol | Merck | 1.09634.2511 |
| KCl | Merck |  |
| K-gluconate | Merck |  |
| Knockout DMEM/F12 | Gibco® | 12660-012 |
| Kynurenic acid | Sigma Aldrich | K3375 |
| Laminin | Sigma Aldrich | L2020 |
| Lipofectamine 3000 Transfection Kit | Invitrogen | C3000-008 |
| Matrigel Matrix | Corning® | 354277 |
| MEM non-essential amino acid solution (100x) | Sigma Aldrich | M7145 |
| mFreSR™ | Stemcell™ Technologies | 05853 |
| MgCl2 | Merck |  |
| Mowiol 4-88 | Sigma Aldrich | 81381 |
| mTeSR™1 | Stemcell™ Technologies | 85851 |
| mTeSR™1 5x Supplement | Stemcell™ Technologies | 85852 |
| N2-Supplement (100x) | Thermo Fisher Scientific | 17502048 |
| NaCl | Merck | 1.06404.1000 |
| NaHCO3 | Sigma-Aldrich | S5761-1KG |
| Na2HPO4 • 2 H2O | Merck | 1.06580.1000 |
| NaH2PO4 • H2O | Merck | 1.06346.1000 |
| NaOH | Merck | 1.06462.1000 |
| Neurobasal™ Medium | Gibco® | 21103-049 |
| NT3, human | Promokine | C-66425 |
| Opti-MEM™ | Gibco® | 31985-070 |
| Paraformaldehyde, 96 % | ACROS Organics™ | 30525-89-4 |
| Pen/Strep | Gibco® | 15140-122 |
| Percoll  | Sigma-Aldrich | P1644-100ML |
| Phosphate-Buffered Saline (PBS) | Gibco® | 10010-015 |
| Poly-D-Lysine solution  | Sigma Aldrich | A-003-E |
| Puromycin dihydrochloride | Sigma Aldrich | P9620 |
| Rock-Inhibitor Y-27632 | Stemcell™ Technologies | 72305 |
| Sucrose | Merck | 1.07653.100 |
| Triton X-100 Solution | Sigma Aldrich | 93443 |
| TrypLE™ Express (1x) | Gibco® | 12605-010 |
| UltraPure™ Destilled Water | Invitrogen | 10977-035 |
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| ANTIBODIES |  |  |
| Anti MAP2 Antibody | Invitrogen | PA1-16751Dilution 1:1000 |
| Anti-Synapsin 1-2 guineapig antiserum | Synaptic Systems | 106004Dilution 1:1000 |
| Purified anti-Tubulinβ3 (TUBB3), Clone: TUJ1Coupled to AlexaFlourTM 488 or Alexa FlourTM 555 | BioLegend | 801202Dilution 1:1000 |
| Purified anit-Neurofilament Marker (pan-axonal, cocktail), Clone: SMI312 | BioLegend | 8379074Dilution 1:400 |
| Anti-ISL1 Monoclonal Antibody (1H9) | Invitrogen | MA5-15515Dilution 1:1000 |
| Anti-Peripherin antibody | Abcam | ab39374Dilution 1:1000 |
| Anti-BRN2 antibody (goat) | Santa Cruz  | sc-6029Dilution 1:100 |
| Anti-TBR1 antibody (rabbit) | Abcam | Ab31940Dilution 1:200 |
| Anti-CUX1 antibody (mouse) | Santa Cruz | sc-514008Dilution1:500 |
| Donkey anti-Mouse IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa FluorTM 555 | Invitrogen | A21202Dilution 1:1000 |
| Goat anti-Rabbit IgG (H+L) Highly Cross-Adsorbed Secondary Antibody, Alexa FluorTM Plus 555 | Invitrogen | A32732Dilution 1:1000 |
| Goat anti-Chicken IgG Highly Cross-Adsorbed Secondary Antibody, Alexa FluorTM 488 | Invitrogen | A11039Dilution 1:1000 |
| Goat anti-Guinea Pig IgG Highly Cross-Adsorbed Secondary Antibody, Alexa FluorTM 568 | Invitrogen | A11075Dilution 1:1000 |
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| CELLS |  |  |
| Human | 409B2 iPS cell line409B2\_Ngn2  | Riken BRC Cellbank Generated by Maria Schörnig |
| Human | SC102A-1 iPS cell lineSC102A-1\_Ngn2  | Systems BiosciencesGenerated by Maria Schörnig |
| Human | HmRNA iPS cell lineHmRNA\_Ngn2 | Generated by Anne WeigertGenerated by Anne Weigert |
| Human | H9 ES cell lineH9\_Ngn2 | WiCellGenerated by Maria Schörnig |
| Chimpanzee | Sandra ASandra A\_Ngn2 | Generated in a previous study.Generated by Maria Schörnig |
| Chimpanzee | Jo\_CJo\_C\_Ngn2 | Generated in a previous study.Generated by Maria Schörnig |
| Chimpanzee | ciPS01Chimp male iPSC Sendai CL5ciPS01\_Ngn2 | Provided by the Max-Delbrück-Centrum für Molekulare MedizinGenerated by Anne Weigert.  |
| Bonobo | BmRNABmRNA\_Ngn2 | Reprogramming by mRNAGenerated by Maria Schörnig |
| Primary Rat Astrocytes | RjHan:WI – Wistar rat from Janvier | Primary cortical rat astrocytes were freshly prepared for this study |
| Human dermal fibroblasts | Lonza | CC-2511 |
|  |  |  |
| PLASMIDS |  |  |
| pmax GFP | Lonza | D-00072 |
| pLVX-EF1α-(Tet-On-Advanced)-IRES-G418(R) | Provided by Nael Nadif Kasri |  |
| pLVX-(TRE-thight)-(MOUSE)Ngn2-PGK-Puromycin(R) | Provided by Nael Nadif Kasri |  |
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| SOFTWARE |  |  |
| AxioVision Rel. | 4.8 |
| FV10-ASW | 4.2 |
| Image J | v1.51w. |
| Imaris | 9.5. |
| Imaris File Converter | 9.2.0 |
| Imaris Stitcher | 9.2.0 |
| Origin | OriginLab version 2018-2019b |
| Patch-and Fitmaster software  | HEKA version 2.9x |
| R | 3.5.1 |
| ZEN |  |
|  |  |
| SOLUTIONS, BUFFERS AND MEDIA |  |
| PFA 4 %  | 4% PFA4% Sucrose120 mM sodium phosphate buffer pH 7.4 |
|  |  |
| Sodium phosphate buffer(240mM) | 240 mM Na2HPO4240 mM NaH2PO4, pH 7.4 |
|  |  |
| Astrocyte medium | DMEM high glucose10% FBS1% Pen/Strep |
|  |  |
| Borate-Buffer, pH 8.4 | boric acidborax |
|  |  |
| Immunofluorescence buffer (IF buffer) | 30 mM NaCL0.2% gelatine0.05% Triton X-100120 mM phosphate buffer |
|  |  |
| Glycine buffer | 0.2 M glycine120 mM phosphate buffer |
|  |  |
| Permeabilization buffer | 0.05% Triton X-100120 mM phosphate buffer |
|  |  |
| Artificial cerebrospinal fluid | 100 mM NaCl3.5 mM KCl1 mM MgCl22 mM CaCl230 mM NaHCO31.25 mM NaH2PO410 mM glucose |
|  |  |
| Internal solution electrophysiology | 130 mM K-gluconate10 mM NaCl4 mM Mg-ATP0.5 GTP10 mM HEPES0.05 mM EGTA |
|  |  |
| KITs |  |
| Stem MACS mRNA transfection Kit | Miltenyi Biotec | 130-104-463 |
| Human Pluripotent Stem Cell 3 Colour Immunohistochemistry Kit  | R&D Systems1 | SC021 |
| Human Pluripotent Stem Cell Functional Identification Kit | R&D Systems | SC027B |
| StemMACS Trilineage Differentiation Kit | Miltenyi Biotec | 130-115-660 |