

## Supplementary Tables

**Table S1. Antibodies used for immunocytochemistry and flow cytometry**

	Antibody	Antibody Registry* Identifier	Dilution	Company (Cat #; LOT #)
<b>Neuronal markers</b>	Mouse anti-NESTIN	AB_2251134	1:1000	Merck (MAB5326; 2919678)
	Rabbit anti-PAX6	AB_291612	1:250	Covance (PRB278P; B201255)
	Rabbit anti-MAP2	AB_94856	1:1000	Merck (MAB3418; 2654330)
	Mouse anti-TUBB3	AB_1119489	1:1000	Santa Cruz (sc58888; B1815)
	Rabbit anti-NF200-KD	AB_306298	1:1000	Abcam (ab8135; GR3183142-8)
	Rabbit anti-VAMP2	AB_2798240	1:250	Cell Signalling (13508; 01/2018)
	Rabbit anti-Vglut1/2	AB_2285905	1:500	Synaptic Systems (135503; 135503/8)
	Rabbit anti-GAD65/67	AB_880149	1:1000	Abcam (ab49832; GR135533-2)
	Rabbit anti-VACHT	AB_887864	1:500	Synaptic Systems (139103; 2-46)
	Rabbit anti-TH	AB_297840	1:500	Abcam (ab112; 920883)
	Rabbit anti-AQP4	AB_2274338	1:100	Santa Cruz (sc20812; E3014)
	Rabbit anti-GFAP	AB_305808	1:500	Abcam (ab7260; GR3202608-2)
	Mouse anti-MBP	AB_325006	1:20	AbD Serotec (MCA686S; 260505)
<b>Others</b>	Rabbit anti-Ki-67	AB_302459	1:200	Abcam (ab16667; GR216200-2)
<b>Secondary Antibodies</b>	Alexa Fluor 488 donkey anti-mouse IgG	AB_141633	1:600	Thermo Fisher (A21202; 1890861)
	Alexa Fluor 488 goat anti-rabbit IgG	AB_143165	1:600	Thermo Fisher (A11008; 1869581)
	Alexa Fluor 594 donkey anti-mouse IgG	AB_2535789	1:2000	Thermo Fisher (A21203; 1820027)
	Alexa Fluor 594 donkey anti-rabbit IgG	AB_141637	1:3000	Thermo Fisher (A21207; 1890862)

\* <http://antibodyregistry.org/>

**Table S2. Primers used in the study**

Gene Symbol	Gene ID	Primer Sequence (5'-3')		PCR product (bp)
RT-qPCR primers				
<i>PAX6</i>	5080	F:	GCCAGCAACACACCTAGTCA	138
		R:	TGTGAGGGCTGTGTCTGTTC	
<i>NES</i>	10763	F:	ACTGAAGTCTGCGGGACAAG	64
		R:	CAGTGGTGCTTGAGTTTCTG	
<i>SOX1</i>	6656	F:	TAGTAAGGCAGGTCCAAGCA	98
		R:	GGGTGGTGGTGGTAATCTCT	
<i>SOX9</i>	6662	F:	GTGCTCAAAGGCTACGACTG	80
		R:	TTGACGTGCGGCTTGTTT	
<i>TUBB3</i>	10381	F:	AACGAGGCCTCTTCTCACAA	107
		R:	GGCCTGAAGAGATGTCCAAA	
<i>MAP2</i>	4133	F:	TTGTCTCTAACCGAGGAAGCA	103
		R:	TCGTTGTGTCGTGTTCTCAA	
<i>MKI67</i>	4288	F:	ACGGATTATACCTGGCCTTC	180
		R:	AGGAAGCTGGATACGGATGT	
<i>MAPT</i>	4137	F:	TTGGAAGTCTGCCATGATT	82
		R:	GGCACAAGTCCTTACAAAGAGAAC	
<i>DLG4</i>	1742	F:	ACAAGCGGATCACAGAGGAG	187
		R:	AGTCTCTCTCGGGCTGGAAC	
<i>RBFOX3</i>	146713	F:	GGAGAAGCTGAATGGGACGA	60
		R:	GCCGTGGCATTATTGACCT	
<i>AQP4</i>	361	F:	ATGGAGGTGGAGGACAACAG	85
		R:	GGTCAACGTCAATCACATGC	
<i>CLDN11</i>	5010	F:	TTCCTGAAATCCTCAATTCATC	133
		R:	ACATCATACAAACCTGAAATCAAA	
<i>GRIN1</i>	2902	F:	GCAACACCAACATCTGGAAG	68
		R:	ATCCGCATACTTGAAGACA	
<i>CHAT</i>	1103	F:	GCCTGCTGCAATCAGTTCTT	114
		R:	GTCCTCGTTGGAAGCCATT	
<i>TH</i>	7054	F:	TCCACGCTGTACTGGTTCAC	71
		R:	GCACCATAGGCCTTCACCTC	
<i>GAD1</i>	2571	F:	GCACAGGTCATCCTCGATTT	81
		R:	TTGATGTCAGCCATTCTCCA	
<i>SLC6A4</i>	6532	F:	GTGAGGATGTGGATGGAGGT	191
		R:	GCGAGATAGCATCCCTGTTC	
<i>GAPDH</i> <sup>1</sup>	2597	F:	CTCTCTGCTCCTCCTGTTTCGAC	69
		R:	TGAGCGATGTGGCTCGGCT	
RT-qPCR and RT-PCR primers used for XBP1-assay				
<i>XBP1</i> (S) <sup>2</sup>	7494 (NM_001079539.1)	F:	TGCTGAGTCCGCAGCAGGTG	169
		R:	GCTGGCAGGCTCTGGGGAAG	
<i>XBP1</i> (S) / <i>XBP1</i> (U)	7494 (NM_001079539.1; NM_005080.3)	F:	GGGAATGAAGTGAGGCCAGT	183/209
		R:	GGAAGGGCATTGGAAGAACA	

<sup>1</sup> The reference gene used in this study. <sup>2</sup> van Schadewijk et al. 2012; F, Forward; R, Reverse

**Table S3. Tested compounds and their concentration**

Compound name [chemical name]	CAS number	Supplier (Cat.N.)	Purity	Stock conc. (mM)	Stock solvent	Tested conc. ( $\mu$ M)
Paraquat dichloride hydrate [1,1'-Dimethyl-4,4'-bipyridinium dichloride hydrate]	75365-73-0	Carbosynth (FP40644)	$\geq 98\%$	100	water	1000, 600, 300, 100, 30, 10, 1
Doxorubicin hydrochloride	25316-40-9	Sigma-Aldrich (D1515)	$\geq 98.0\%$	200	water	200, 100, 30, 10, 1, 0.1, 0.01
Paracetamol [4'-Hydroxy-acetanilide]	103-90-2	Sigma-Aldrich (A7085)	$\geq 99\%$	100	DMSO	100, 50, 30, 10, 1, 0.1, 0.01
Rotenone	83-79-4	TCI Chemicals (R0090)	96.5 %	100	DMSO	100, 30, 10, 1, 0.1, 0.01, 0.001
Ibuprofen [ $\alpha$ -Methyl-4-(isobutyl)phenylacetic acid]	15687-27-1	TCI Chemicals (I0415)	99.9%	100	DMSO	100, 30, 10, 1, 0.1, 0.3, 0.01
Valproic acid [2-Propyl-pentanoic acid]	1069-66-5	Sigma-Aldrich (P4543)	$\geq 98\%$	400	water	400, 200, 100, 50, 30, 10, 1
Acrylamide [2-Propen-amide]	79-06-1	Sigma-Aldrich (A3553)	$\geq 99\%$	3500	water	3500, 2000, 1000, 600, 300, 100, 10
Rifampicin [3-(4-Methyl-piperazinylimino-methyl)rifamycin]	13292-46-1	Carbosynth (AR11351)	$\geq 96.5\%$	100	DMSO	100, 30, 10, 1, 0.1, 0.03, 0.01
Mercury(II) chloride	7487-94-7	Carbosynth (FM35310)	$\geq 99.5\%$	1000	DMSO	1000, 600, 100, 30, 10, 1, 0.1
Hexachlorophene [2,2'-Methylenebis(3,4,6-trichlorophenol)]	70-30-4	TCI Chemicals (M0219)	99.5%	100	DMSO	100, 10, 1, 0.3, 0.1, 0.03, 0.01
Colchicine [(S)-N-(5,6,7,9-Tetrahydro-1,2,3,10-tetramethoxy-9-oxobenzo[a]heptalen-7-yl)acetamide]	64-86-8	Carbosynth (FC11732)	$\geq 94\%$	50	water	10, 1, 0.1, 0.01, 0.001, 0.0003, 0.0001

**Table S4. Effective concentration (EC) values of compounds tested on D21, D28 and D42 3D neurospheres**

Compounds	D21 (log $\mu$ M)			D28 (log $\mu$ M)			D42 (log $\mu$ M)		
	EC50	EC25	EC10	EC50	EC25	EC10	EC50	EC25	EC10
	$\pm$ SD	$\pm$ SD	$\pm$ SD	$\pm$ SD	$\pm$ SD	$\pm$ SD	$\pm$ SD	$\pm$ SD	$\pm$ SD
Colchicine (COL)	-0.49 $\pm$ 0.17	-2.04 $\pm$ 0.21	-3.59 $\pm$ 0.37	-0.64 $\pm$ 0.11	-1.89 $\pm$ 0.15	-3.16 $\pm$ 0.24	-0.92 $\pm$ 0.14	-2.24 $\pm$ 0.18	-3.55 $\pm$ 0.29
Rotenone (ROT)	-0.61 $\pm$ 0.08	-1.25 $\pm$ 0.10	-1.89 $\pm$ 0.16	-0.74 $\pm$ 0.08	-1.46 $\pm$ 0.12	-2.19 $\pm$ 0.18	-0.62 $\pm$ 0.13	-1.48 $\pm$ 0.18	-2.35 $\pm$ 0.27
Doxorubicin (DOX)	0.67 $\pm$ 0.07	0.04 $\pm$ 0.10	-0.58 $\pm$ 0.15	1.11 $\pm$ 0.06	0.72 $\pm$ 0.11	0.33 $\pm$ 0.17	1.32 $\pm$ 0.07	0.9 $\pm$ 0.11	0.49 $\pm$ 0.18
Hexachlorophene (HE)	1.26 $\pm$ 0.08	0.53 $\pm$ 0.10	-0.2 $\pm$ 0.16	1.01 $\pm$ 0.05	0.21 $\pm$ 0.06	-0.59 $\pm$ 0.09	0.5 $\pm$ 0.09	-0.34 $\pm$ 0.10	-1.18 $\pm$ 0.16
Paraquat (PQ)	1.89 $\pm$ 0.07	1.52 $\pm$ 0.10	1.15 $\pm$ 0.15	1.98 $\pm$ 0.05	1.67 $\pm$ 0.08	1.35 $\pm$ 0.12	1.79 $\pm$ 0.08	1.44 $\pm$ 0.11	1.09 $\pm$ 0.18
Mercury(II) chloride (HgCl <sub>2</sub> )	1.87 $\pm$ 0.05	1.5 $\pm$ 0.06	1.1 $\pm$ 0.10	1.83 $\pm$ 0.03	1.60 $\pm$ 0.05	1.4 $\pm$ 0.07	1.74 $\pm$ 0.03	1.54 $\pm$ 0.04	1.34 $\pm$ 0.05
Paracetamol (PAR)	>2	>2	>2	>2	>2	>2	>2	>2	>2
Ibuprofen (IBU)	>2	>2	>2	>2	>2	>2	>2	>2	>2
Rifampicin (RIF)	>2	>2	>2	>2	>2	>2	>2	>2	>2
Valproic acid (VPA)	>2.6	>2.6	>2.6	>2.6	>2.6	>2.6	>2.6	>2.6	>2.6
Acrylamide (ACR)	>3.5	>3.5	>3.5	>3.5	>3.5	>3.5	>3.5	>3.5	>3.5