

Table S1. List of Small molecules

Small molecule	Concentration	Receptor	Pathway
SB431542	20 μ M	ALK4/5/7 inhibitor	SMAD2/3 (TGF- β)
dorsomorphin	2 μ M	ALK2/3/6 inhibitor	SMAD1/5/8 (BMP)
CHIR99021	3 μ M	GSK3 inhibitor	β -catenin (Wnt)
SAG	0.4 μ M	Smo activator	Hedgehog

Table S2. Antibodies

Primary antibody	Host	Supplier (Catalog #)	Dilution
Sox1	rabbit	R&D (AF3369)	1:10
Pax6	rabbit	Abcam (ab5790)	1:50
Nestin	mouse	Beyotime (AN203)	1:10
Olig2	rabbit	Millipore (AB9610)	1:50
Nkx2.2	rabbit	Sigma (SAB2101599)	1:100
Sox10	rabbit	Abcam (ab155279)	1:250
MBP	mouse	Covance (SMI-99P)	1:200
GFAP	mouse	BD (556328)	1:20
Oct3/4	mouse	SANTA (sc-5279)	1:50
SSEA1	mouse	SANTA (sc-21702)	1:50
PLZF	rabbit	SANTA (sc-22839)	1:50
ZO-1	rabbit	SANTA (sc-10804)	1:50
<u>GFP</u>	<u>mouse</u>	<u>Beyotime (AF0159)</u>	<u>1:100</u>

Table S3. PCR Primers

Gene	Sequence (5'-3')	NCBI ID	Length
Ascl1	GGAACGAGAGAGCAATTAGAAA AAAAGGAGAGGGGAGAAACGAG	NM_008553.4	396
Calcr1	CTTTCCCACTCTGATGCTCTCC GTTGTTTGTGCTTATTTCTTTCCA	XM_006499918.1	433
Cspg4	CTGTCTGTTGACGGAGTGTGAA GCTGTTGCGGAGTAGCATGGTAC	NM_139001.2	465
Egfr	TGAAGAAGTGCCCCGAAA GCAGCCCAGTGATGTGATGT	XM_006514491.1	477
Grm5	TGATGTCGCAGAGGCAGAGGA GGAGACTGGAGAGTTTGGGGTG	XM_006507183.1	535
Neto1	TCAATCCTCTCCCTACCACCGA CTGAAAATCCCATAGACTCCAGCTC	XM_006526486.1	530
Olig1	ACAGGCTCCCTTGCTCTCTCC CTCGCCCACTCCGCTTACTT	NM_016968.4	454
Olig2	CCCTCCTGTTGTCTCTCCTGTTG ATCGCGCATTTGTTGATATTATAT	NM_016967.2	404
Pdgfra	GTGCTGTTGGTGATTGTCATTGTCT TTCTTCGGCTTCTCTGGGTGTT	XM_006504263.1	512
Sox10	CAGGAAGGGTTAGGGTAGGAGG GGCTGACAGAAGGCGAGAAGA	XM_006520672.1	401
GAPDH	GGTGAAGGTCGGTGTGAACGGA GCAGAAGGGGCGGAGATGATG	XM_011241212.1	369
Cldn11	GTGGATTGGGAAAGAAATAAAAGAT ACAGAATGGAGACAGAAATAGAAGG	NM_008770.3	501
Elovl7	AACTCAAGAAAGCGATGATAACGTA TAGTGACAAGAACAACCTGGACAAG	NM_029001.5	471
Enpp6	GGTGTGCTCCTGGATGGTTTT GATGCGCTCATGGTATATGGCT	NM_177304.3	496
Mag	CATGGCGTCTGGTATTTCAATAGTC AGGCACGAAGTGATAGCAGCGAC	XM_006539595.1	453
Mbp	TCCCTTTTCGTTTGAAGATTGAGTT AGATGGTGACATTTGGCGGC	XM_006526458.1	538
Mobp	CCCAGTGAGATGAGTCAGAAAATG TAGAGGGGACAAAAGGCAAGAGAT	NM_001039365.2	550
Mog	TGTTTGTTATTGTGCCTGTTCTTG TATTGTGGGCTCTTCTGTTCTGA	NM_010814.2	550
Plp1/DM-20	CTCCAACCTTCTGTCCATCTGC AGCTTTCACCTCTGCGACTTG	NM_001290561.1	445
Myrf	GAGGGCAGAGCAAGACCAAGAA ACACAGGCGGTAGAAGTGGAAGTAG	XM_006526934.1	551
Tubb4a	CAGCAAGATCCGAGAGGAGTTTC ACAGCAGCCACAGTCAGGTAGC	NM_009451.3	492