Figure S1

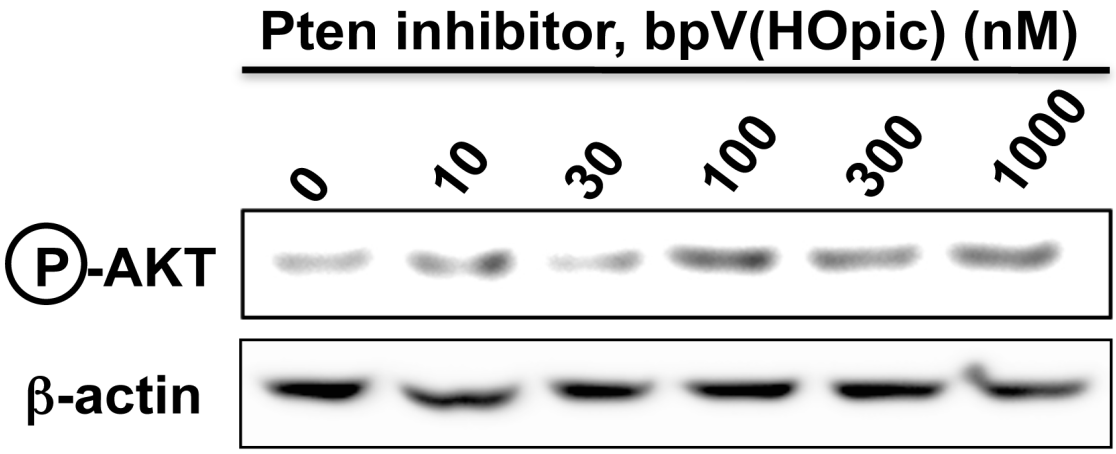


Figure S2

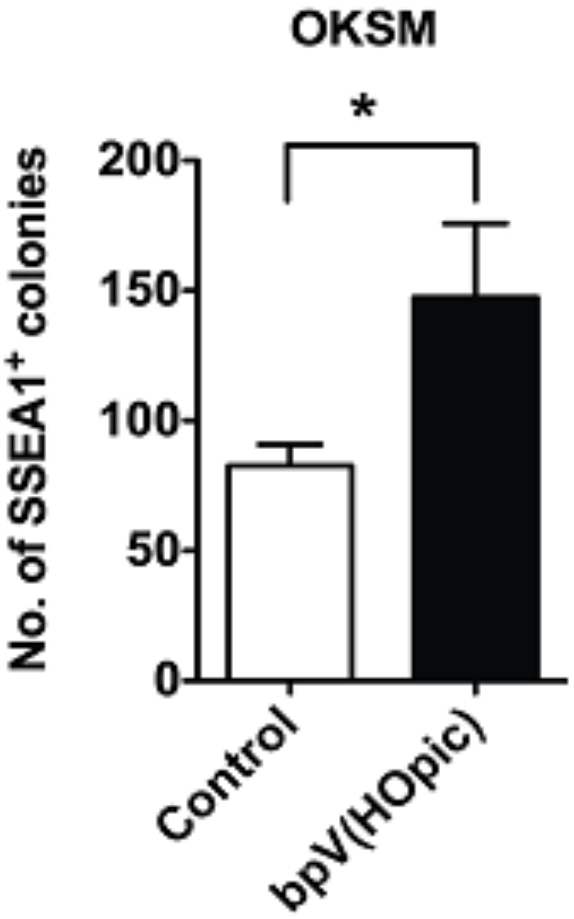


Figure S3

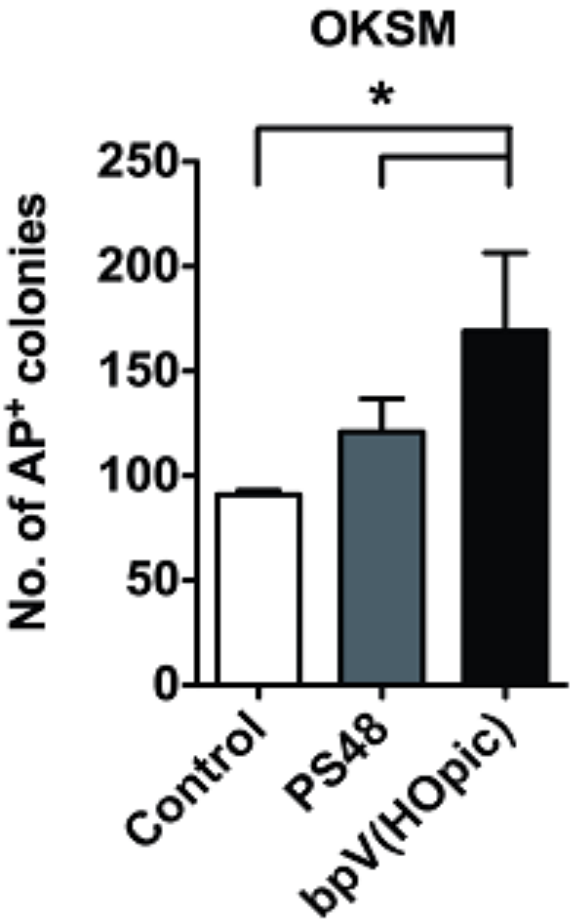

OKSM
*
No. of AP+ colonies
250
200
150
100
50
0
Control
PS48
bpV(HOpic)

Figure S4

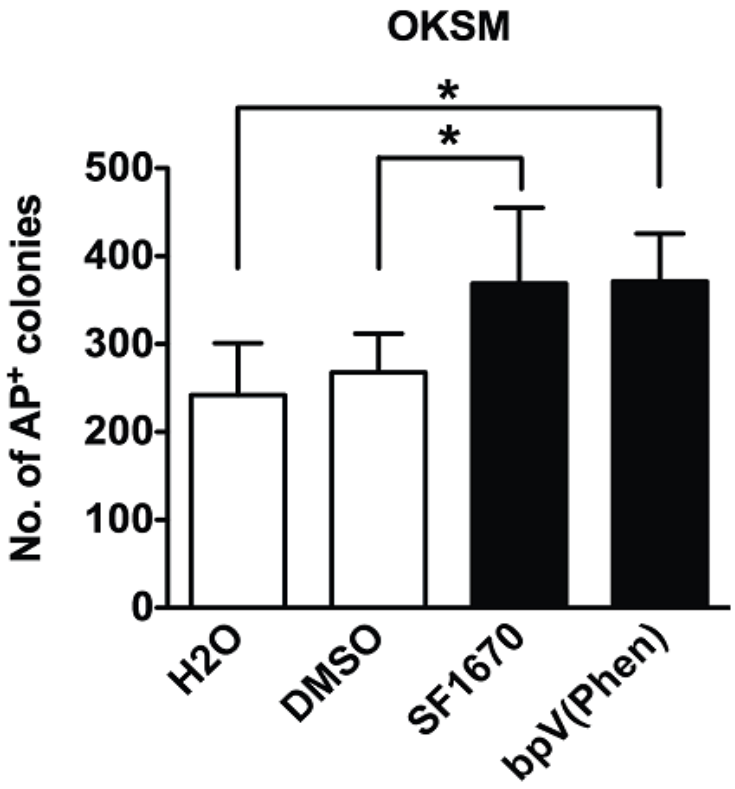

OKSM
*
*
No. of AP+ colonies
500
400
300
200
100
0
H2O
DMSO
SF1670
bpV(Phen)

Figure S5

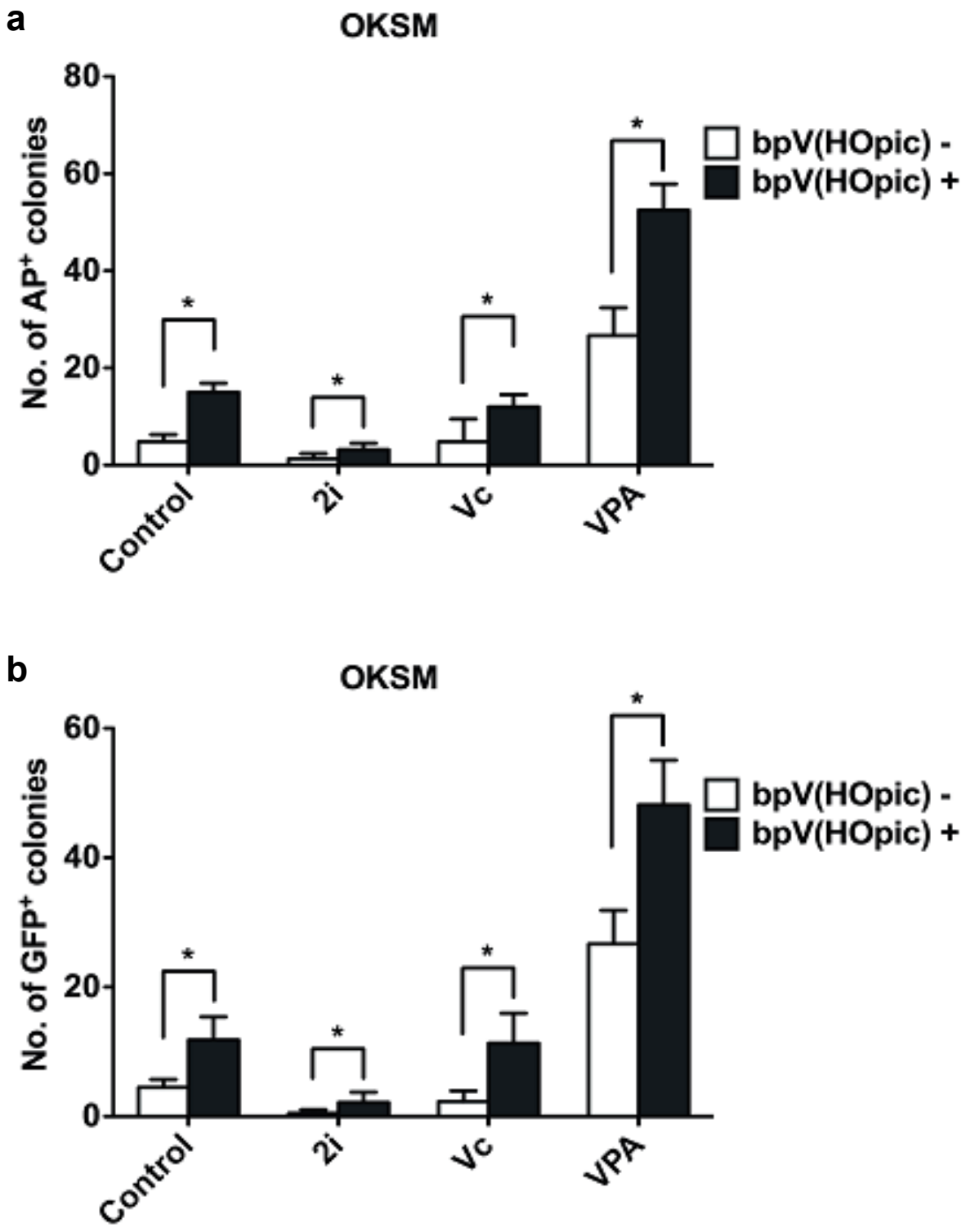

a
OKSM
No. of AP+ colonies
80
60
40
20
0
*
*
*
*
bpV(HOpic) -
bpV(HOpic) +
Control
2i
Vc
VPA
b
OKSM
No. of GFP+ colonies
60
40
20
0
*
*
*
*
bpV(HOpic) -
bpV(HOpic) +
Control
2i
Vc
VPA

Figure S6

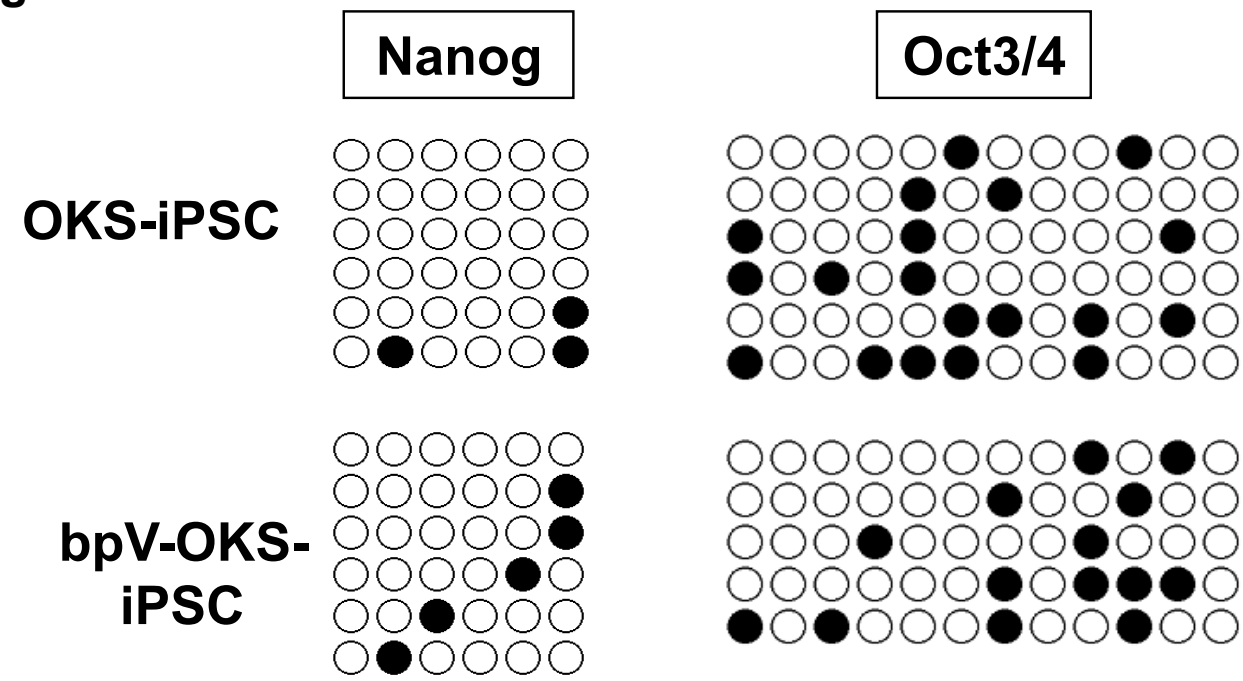


Figure S7

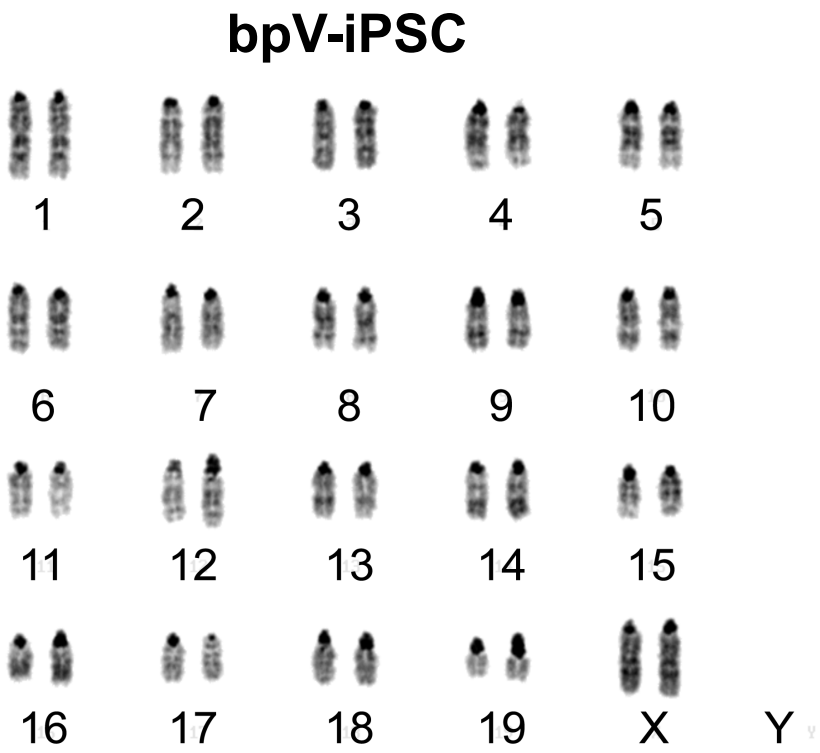


Figure S8

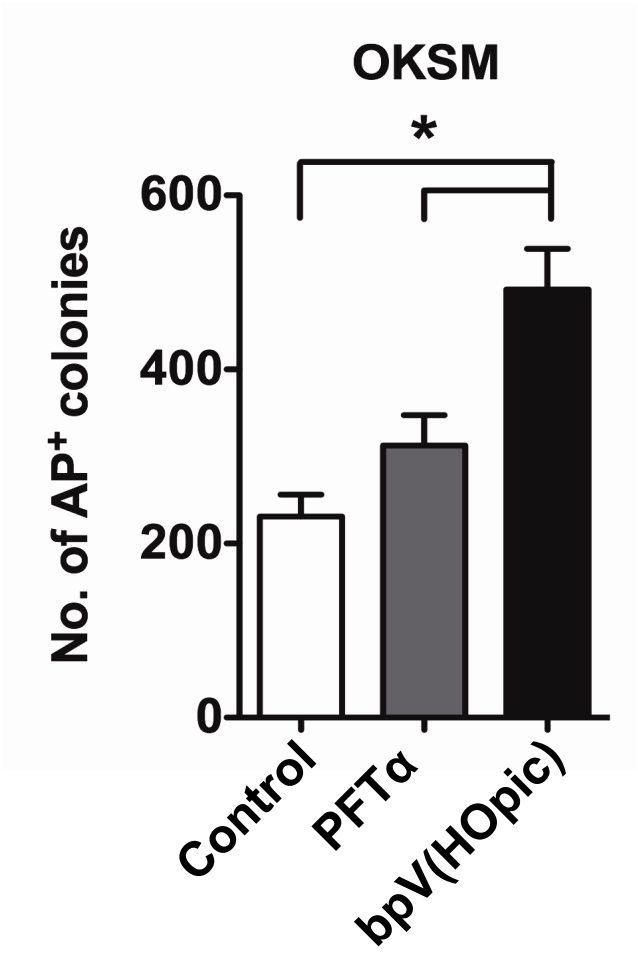
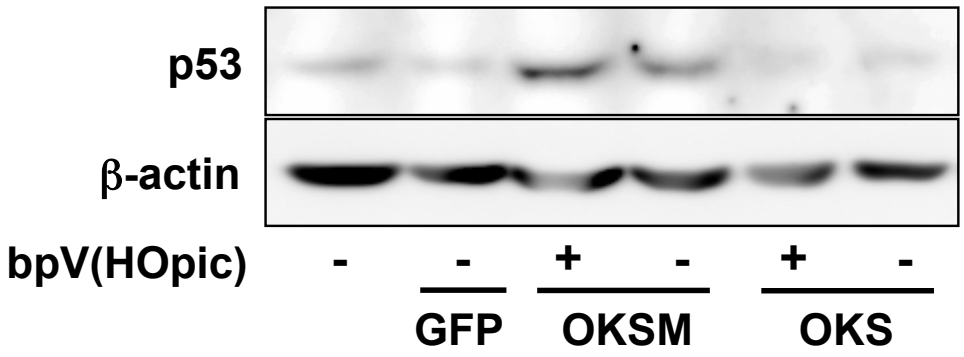


Figure S9



Supplementary Tables

Table S1 Summary of established bpV-iPSC cell lines

Mouse iPSC	Induction factors	Cell source	AP Stain	RT-PCR	Teratoma Formation	Karyotype analysis	Blastocyst Injectionion	Number of Chimeras
bpV-iPSC-1	OKSM	ICR MEF	√	√	ND	ND	ND	ND
bpV-iPSC-2	OKSM	ICR MEF	√	√	√	ND	√	0
bpV-iPSC-3	OKSM	ICR MEF	√	√	ND	ND	ND	ND
bpV-iPSC-4	OKSM	ICR MEF	√	√	ND	ND	ND	ND
bpV-iPSC-5	OKSM	ICR MEF	√	√	ND	ND	ND	ND
bpV-iPSC-6	OKSM	ICR MEF	√	√	√	40, XY	√	8
bpV-iPSC-7	OKSM	ICR MEF	√	√	√	40, XX	√	0
bpV-iPSC-8	OKSM	ICR MEF	√	√	√	40, XY	√	1

ND means not determined.

Table S2 Primers used for RT-PCR

Gene	Forward primer (5′ to 3′)	Reverse primer (5′ to 3′)
pMXs	GCCGGATCTAGCTAGTTAA	/
ERas	ACTGCCCCTCATCAGACTGCTACT	CACTGCCTTGTACTCGGGTAGCTG
Fgf4	CGTGGTGAGCATCTTCGGAGTGG	CCTTCTTGGTCCGCCCGTTCTTA
Cript	TCACTCCAGACACATGGAAAGA	CCATATGGATCAAACCTTGCTT
Dax1	TGCTGCGGTCCAGGCCATCAAGAG	GGGCACTGTTCAGTTCAGCGGATC
Zfp296	CCATTAGGGGCCATCATCGCTTTC	CACTGCTCACTGGAGGGGGCTTGC
β-actin	ATGGATGACGATATCGCTGC	TGCGCTCAGGAGGAGCAATG
Nanog	AAGGCAGCCCTGATTCTTCT	GTGCTGAGCCCTTCTGAATC
c-Myc	GACTCCGTACAGCCCTATT	TTGGCAGCTGGATAGTCCTTCCTT
Sox2	ATGATGGAGACGGAGCTGA	GTGGGAGGAAGAGGTAACCA
Oct3/4	GATCCTCGAACCTGGCTAAG	CGCCGGTTACAGAACCATAC
Klf4	GCTCTGCTCCCGTCCTCCTC	GGCATGAGCTCTTGATAATGG

Table S3 Endogenous primers used for RT-PCR

Endo-Gene	Forward primer (5' to 3')	Reverse primer (5' to 3')
c-Myc	TGAAGAAGAGCAAGAAGATGAGG	CTTTGAGCATGCATTTTAATTCC
Sox2	GTGGTTACCTCTTCCTCCCACT	CTTTGAAAATCTCTCCCCTTCTC
Oct3/4	TCTACTCAGTCCCTTTTCCTGAG	AACAGCATCACTGAGCTTCTTTC
Klf4	CCTTACACATGAAGAGGCACTTT	CTGATTATCCATTCACAAGCTGA

Table S4 Primers used for bisulfite sequencing

Gene	Forward primer (5' to 3')	Reverse primer (5' to 3')
Oct3/4 promoter	F1: GTTGTTTTGTTTTGGTTTTGGATAT F2: ATGGGTTGAAATATTGGGTTTATTTA	CCACCCTCTAACCTTAACCTCTAAC
Nanog promoter 1	GTTATTTAAGGTAATAGAGAAAAATTTGTT	ACAAAAAAAACTATAAAATAACCCAAACTA
Nanog promoter 2	F1: GAGGATGTTTTTTAAGTTTTTTTT F2: AATGTTTATGGTGGATTTTGTAGGT	CCCACACTCATATCAATATAATAAC

Supplemental Materials and Methods

Chemical compounds

Compounds used for reprogramming (day 5–14 post-transduction of OKSM) were PFTα (20 μM; MBL, Woburn, MA), PD0325901 (1 μM; Wako), CHIR99021 (3 μM; Cayman Chemical Company, Ann Arbor, MI), Vc (50 μg/ml; Sigma) and VPA (1 mM; Sigma) with or without bpV(HOpic) (100 nM; Calbiochem).

Western blot analysis

MEFs transduced with OKSM or OKS on days 4 post-transduction were lysed in NP-40 lysis buffer (50 mM Tris-HCl, pH 7.4, 150 mM NaCl, 1 mM EDTA and 0.5% NP-40) with a protease inhibitor (Nacalai Tesque) and a Phosphatase inhibitor cocktail (Roche Diagnostics). The cell lysates were resolved by SDS-PAGE, and then transferred to a PVDF membrane. The membrane was blocked in PBS containing 0.1% Tween20 and 5% skim milk powder for 1 hr, and then incubated with antibodies against p53 (Novocastra, Newcastle, UK), β-actin (Santa Cruz Biotechnology) or phospho-Akt (Ser473) (Cell Signaling Technology, Boston, MA). After incubation with secondary antibodies for 1 hr, specific protein bands were detected by chemiluminescence on a LAS-3000 luminescent image analyzer (FUJIFILM, Tokyo, Japan).