

Figure S1. ECM protein composition of FCF matrix and XF medium.

Western blotting was performed on FCF matrix using antibodies against Collagen IV (A), fibronectin (B) and laminin (C). Western blots of XF medium were probed with antibodies against fibronectin (D) and vitronectin (E). Collagen IV, fibronectin and laminin are purified proteins purchased from Sigma.

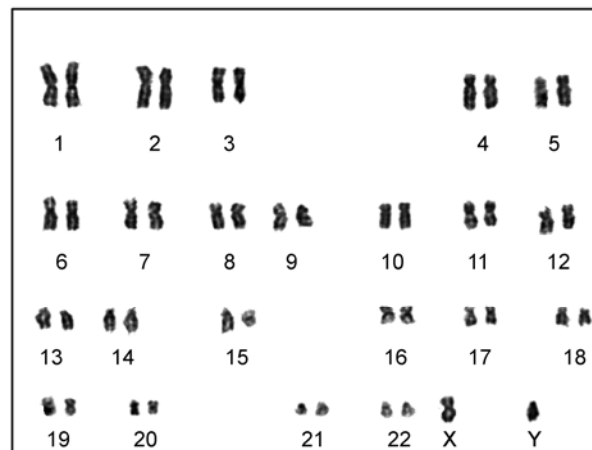


Figure S2. G-banding analysis of the hiPSCs generated. G-banding analysis confirmed that C1-OSN hiPSCs had a normal karyotype.

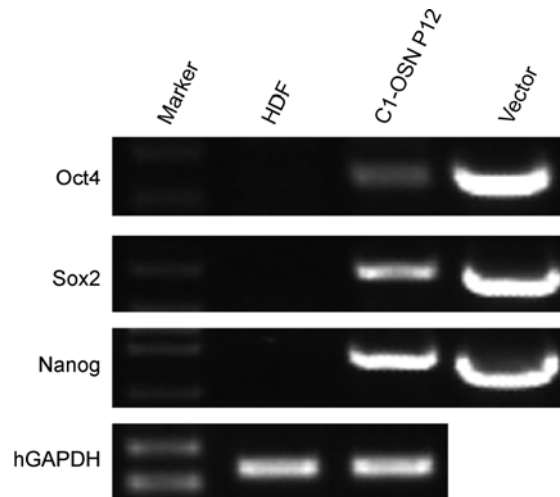


Figure S3. Confirmation of the integration of exogenous genes in C1-OSN hiPSCs. Genomic DNA was extracted and amplified with primers for lentiviral Oct4, Sox2 and Nanog.

Table S1 STR profiles of H7 hESCs, parental HDFs and C1-OSN hiPSCs

Locus	HDF	hiPSCs	H7
Amel	X, Y	X, Y	X, X
D3S1358	15, 18	15, 18	15, 16
D13S317	8, 9	8, 9	11, 12
D7S820	11, 11	11, 11	10, 11
D16S539	9, 9	9, 9	12, 13
Penta E	15, 20	15, 20	11, 13
TPOX	8, 8	8, 8	8, 11
TH01	6, 9	6, 9	6, 6
D2S1338	19, 23	19, 23	20, 24
CSF1PO	9, 10	9, 10	12, 12
D19S433	13.2, 14	13.2, 14	13, 14.2
vWA	14, 17	14, 17	14, 15
D5S818	10, 12	10, 12	11, 13
FGA	22, 25	22, 25	21, 22
D6S1043	13, 14	13, 14	18, 18
D8S1179	15, 15	15, 15	13, 14
D21S11	29, 30	29, 30	30, 31.2
D18S51	14, 19	14, 19	12, 15

Table S2 Supplements for XF medium

Trace elements	ng/L
AgNO ₃	1.80E-04
AlCl ₃ · 6H ₂ O	1.20E-03
(CH ₃ COO) ₂ Ba	2.00E-03
CdSO ₄ · 2.67H ₂ O	1.16E-02
CoCl ₂ · 6H ₂ O	2.00E-03
Cr ₂ (SO ₄) ₃ · xH ₂ O	6.00E-04
GeO ₂	6.00E-04
Na ₂ SeO ₃	1.40E-03
H ₂ SeO ₃	4.00E-03
KBr	1.20E-04
KI	1.80E-04
MnCl ₂ · 4H ₂ O	4.00E-04
NaF	4.00E-03
Na ₂ SiO ₃	8.60E-02
NaVO ₃	1.20E-03
(NH ₄) ₆ Mo ₇ O ₂₄ · 4H ₂ O	1.20E-02
NiSO ₄ · 6H ₂ O	2.00E-04
RbCl	1.40E-03
SnCl ₂	6.00E-05
ZrOCl ₂ · xH ₂ O	4.00E-03
Amino acids	mg/L
Glycine	3.00E+01
L-Histidine	1.88E+02
L-Isoleucine	6.80E+02
L-Methionine	1.80E+01
L-Phenylalanine	3.60E+02
L-Proline	8.00E+02
L-Hydroxyproline	2.00E+01
L-Serine	1.60E+02
L-Threonine	4.40E+02
L-Tryptophan	8.80E+01
L-Tyrosine	1.54E+01
L-Valine	4.80E+02
Other components	mg/L
Thiamine	3.00E-01
Reduced glutathione	1.88E+00
L-Ascorbic acid-2-phosphate	
magnesium	6.80E+00
Sodium selenium	1.40E-02
insulin	2.00E+01

Holo-transferrin	1.10E+01
L-glutamine	1.46E-01
bFGF	1.00E-01
TGF β 1	6.00E-04
LiCl	4.24E+01
NaCl sedimentation plasma extract	1.66E+04

Table S3 Primers used for PCR, RT-PCR and quantitative RT-PCR

Primers		Sequences (5' to 3')	Size (bp)
For qRT-PCR			
Oct4 (Yang et al., 2008)	F	AACCTGGAGTTTGTGCCAGGGTTT	123
	R	TGAACTTCACCTTCCCTCCAACCA	
Sox2 (Park et al., 2008)	F	AGCTACAGCATGATGCAGGA	126
	R	GGTCATGGAGTTGTACTGCA	
Nanog (self-designed)	F	CCTATGCCTGTGATTTGTGGG	165
	R	AGTGGGTTGTTTGCCTTTGG	
GAPDH (Zhang et al., 2011)	F	GAAATCCCATCACCATCTTCCAGG	120
	R	GAGCCCCAGCCTTCTCCATG	
For RT-PCR			
hCG- β (Liu et al., 2006)	F	CCCAGCATCCTATCACCTCC	216
	R	AGCCCTCCTTCTCCACAGC	
NFH (Liu et al., 2006)	F	TGAACACAGACGCTATGCGCTCAG	400
	R	CACCTTTATGTGAGTGGACACAGAG	
Pax6 (Liu et al., 2006)	F	TCAGGCTTCGCTAATGGG	269
	R	AAAAGGCCTCACACATCTG	
Thy1 (Liu et al., 2006)	F	CATGAGAATACCAGCAGTTCACCCA	272
	R	CACTTGACCAGTTTGTCTCTGAGCA	
Cardiac-actin (Liu et al., 2006)	F	TCTATGAGGGCTACGCTTTG	630
	R	CCTGACTGGAAGGTAGATGG	
AFP (Liu et al., 2006)	F	AGAACCTGTCACAAGCTGTG	680
	R	GACAGCAAGCTGAGGATGTC	
GAPDH (Liu et al.,	F	AATCCCATCACCATCTTCC	382

2006)	R	CATCACGCCACAGTTTCC	
Oct4 (Liu et al., 2006)	F	ATTCAGCCAAACGACCAT	388
	R	CCCTGAGAAAGGAGACCC	
Sox2 (Liu et al., 2006)	F	CCCCCGGCGGCAATAGCA	488
	R	TCGGCGCCGGGGAGATACA	
Nanog	F	TGCCTCACACGGAGACTG	353
	R	GCTATTCTTCGGCCAGTT	
For provirus integration PCR			
Oct4 (Yu et al., 2007)	F	CAGTGCCCGAAACCCACAC	656
Nanog (Yu et al., 2007)	F	CAGAAGGCCTCAGCACCTAC	732
Sox2 (Yu et al., 2007)	F	TACCTCTTCCTCCCCTCCA	467
SP3 (Yu et al., 2007)	R	AGAGGAACTGCTTCCTTCACGACA	
For bisulfite-sequencing PCR			
mOct4 (Li et al., 2011)	meth F1	TTATTGTTATTATTATTAGGTAAATATTT	336
	meth R1	AAAATCCCCCACACCTCAAACCTAACC	
	meth F2	GGGGTTAGAGGTTAAGGTTAGTGGGTG	282
	meth R2	AAACCTTAAAACTTAACCAAATC	
mNanog (Li et al., 2011)	meth F1	TGGTTAGGTTGGTTTTAAATTTTTG	375
	meth F2	TTAATTTATTGGGATTATAGGGGTG	282
	meth R	AACCCACCCTTATAAATTCTCAATTA	

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