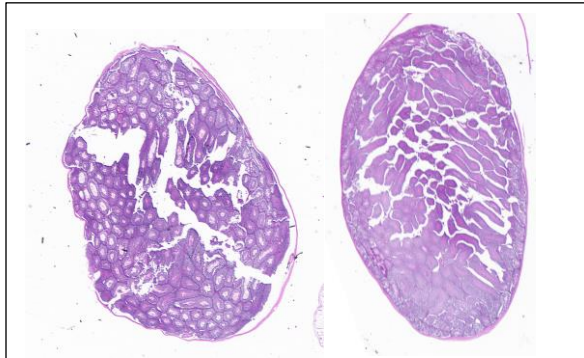


Supplementary Data



Supplementary Figure: Differentiated nhpESC do not form Teratomas. Left Panel: Histology of testes from nude mice 6 months after injection with approximately 5×10^5 nhpESC. Histology is the same as Right Panel: negative control, wherein testes were injected with adult primary NHP fibroblasts.

Supplementary Table 1: Table of genes significantly changed after analysis of GeneChip Rhesus Macaqua Genome Array from Affymetrix. The table lists genes and genetic loci that were changed as a result of 100 nM nicotine treatment during differentiation of nhpESC from pluripotency to fibroblast-like cells, $p < 0.001$.

	Parametric p-value	Gene symbol	Description
1	1.06E-05	LOC702700	similar to choline/ethanolaminephosphotransferase
2	1.67E-05	MYCN	v-myc myelocytomatosis viral related oncogene, neuroblastoma derived (avian)
3	2.82E-05	GSTT2	glutathione S-transferase theta 2
4	3.79E-05	SAMHD1	SAM domain and HD domain 1
5	6.12E-05	LOC705398	similar to ribosome associated membrane protein 4
6	7.01E-05	LOC696076	similar to cytochrome P450, family 2, subfamily U, polypeptide 1
7	7.96E-05	LOC708713	similar to F56A8.1
8	9.13E-05	LOC716117	similar to hairy/enhancer-of-split related with YRPW motif-like
9	9.25E-05	F11R	F11 receptor
10	9.84E-05	LOC697751	hypothetical protein LOC697751

11	0.000113	LOC704106	similar to guanine nucleotide binding protein (G protein), alpha activating activity polypeptide, olfactory type isoform 1
12	0.000113	LOC704953	similar to longevity assurance homolog 6
13	0.000116	CXCL10	chemokine (C-X-C motif) ligand 10
14	0.000129	SLC16A2	solute carrier family 16, member 2
15	0.000135	LOC706073	similar to cyclic nucleotide gated channel beta 1
16	0.000136	LOC719634	similar to regulator of G-protein signalling 3 isoform 5
17	0.000137	LOC711079	hypothetical protein LOC711079
18	0.000147	GPR158	G protein-coupled receptor 158
19	0.000153	LOC705497	similar to transforming, acidic coiled-coil containing protein 2 isoform d
20	0.000161	LOC721695	similar to Nucleoside diphosphate-linked moiety X motif 8, mitochondrial precursor (Nudix motif 8)
21	0.000162	LOC712589	similar to ATPase, Class VI, type 11A isoform b
22	0.000163	IFNA14	interferon, alpha 14
23	0.000165	LOC700632	similar to tumor protein p53 inducible nuclear protein 1
24	0.000165	LOC721873	similar to squamous cell carcinoma antigen recognized by T cells 1
25	0.000166	LOC707383	similar to amyloid beta (A4) precursor protein-binding, family B, member 1 interacting protein
26	0.000171	LOC693274	similar to NGFI-A binding protein 1
27	0.000197	LOC715297	similar to N-ethylmaleimide-sensitive factor
28	0.000203	LOC700715	similar to copine family member IX
29	0.000204	LOC701602	similar to inter-alpha (globulin) inhibitor H5
30	0.000209	LOC712994	similar to secreted modular calcium-binding protein 1 isoform 2
31	0.000221	LOC712932	similar to Ku70-binding protein 3
32	0.000228	FMO4	flavin containing monooxygenase 4
33	0.000243	LOC715297	similar to N-ethylmaleimide-sensitive factor
34	0.00025	MT	mitochondrial malonyltransferase
35	0.000254	SRD5A2	steroid-5-alpha-reductase, alpha polypeptide 2 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 2)
36	0.00026	LOC712374	similar to CG14535-PA
37	0.000265	LOC713280	similar to meningioma 1
38	0.000285	LOC695267	similar to supervillin isoform 2
39	0.000287	LOC695267	similar to supervillin isoform 2
40	0.000292	CXCL10	chemokine (C-X-C motif) ligand 10
41	0.000298	LOC702886	similar to E74-like factor 4 (ets domain transcription factor)

42	0.000304	LOC719482	similar to chromosome 10 open reading frame 64
43	0.000304	LOC705975	similar to cyclin-dependent kinase-like 1
44	0.000316	LOC700866	hypothetical protein LOC700866
45	0.00032	LOC707725	similar to platelet-derived growth factor alpha isoform 2 preproprotein
46	0.000336	LOC697003	similar to ovary-specific acidic protein
47	0.000341	F11R	F11 receptor
48	0.000355	LOC705032	similar to SLIT and NTRK-like family, member 5
49	0.000365	PA2G4	proliferation-associated 2G4, 38kDa
50	0.000372	LOC704106	similar to guanine nucleotide binding protein (G protein), alpha activating activity polypeptide, olfactory type isoform 1
51	0.000373	LOC706437	hypothetical protein LOC706437
52	0.000401	LOC715100	similar to mitochondrial ribosomal protein L4 isoform a
53	0.000403	LOC700135	similar to Probable ubiquitin carboxyl-terminal hydrolase FAF-X (Ubiquitin thioesterase FAF-X) (Ubiquitin-specific-processing protease FAF-X) (Deubiquitinating enzyme FAF-X) (Fat facets protein-related, X-linked) (Ubiquitin-specific protease 9, X c...
54	0.000404	LOC706304	hypothetical protein LOC706304
55	0.000406	CPA4	carboxypeptidase A4
56	0.000506	SMAD1	SMAD family member 1
57	0.000516	LOC699343	similar to spermatogenesis associated 11
58	0.000568	LOC708498	similar to hippocampus abundant transcript-like 1
59	0.000588	LOC709833	hypothetical protein LOC709833
60	0.000593	LOC715058	similar to zinc finger, matrin type 5
61	0.000605	LOC694299	similar to serum deprivation response protein
62	0.000611	IVD	isovaleryl Coenzyme A dehydrogenase
63	0.000613	LOC715394	similar to laminin alpha 2 subunit precursor
64	0.000616	LOC696973	similar to SWI/SNF-related matrix-associated actin-dependent regulator of chromatin a2 isoform a
65	0.000633	LOC716726	similar to isocitrate dehydrogenase 3, beta subunit isoform b precursor
66	0.000638	HSPB8	heat shock 22kDa protein 8
67	0.000646	ALK	anaplastic lymphoma kinase (Ki-1)
68	0.000649	ZNF436	zinc finger protein 436
69	0.000654	LOC713549	similar to 3-hydroxysteroid epimerase
70	0.00067	LOC694369	similar to G protein-regulated inducer of neurite outgrowth 2 (GRIN2)
71	0.000673	LOC694818	similar to cytochrome b reductase 1

72	0.000674	OGFR	opioid growth factor receptor
73	0.000676	LOC695466	similar to scavenger receptor class F, member 2 isoform 2
74	0.000697	LOC713232	similar to phospholipid scramblase 1
75	0.000704	LOC693823	similar to LPS-responsive vesicle trafficking, beach and anchor containing
76	0.000718		
77	0.000735	LOC693823	similar to LPS-responsive vesicle trafficking, beach and anchor containing
78	0.000749		Cytidine monophosphate N-acetylneuraminic acid synthetase
79	0.000753	LOC715394	similar to laminin alpha 2 subunit precursor
80	0.000761	LOC696973	similar to SWI/SNF-related matrix-associated actin-dependent regulator of chromatin a2 isoform a
81	0.000763	SLC11A2	solute carrier family 11 (proton-coupled divalent metal ion transporters), member 2
82	0.000764	LOC697117	similar to absent in melanoma 1
83	0.000764	LOC695267	similar to supervillin isoform 2
84	0.000792	LOC702799	hypothetical protein LOC702799
85	0.000796		Similar to 60S ribosomal protein L21
86	0.000823	LOC709054 /// LOC711640	hypothetical protein LOC709054 /// similar to CDK2-associated protein 2
87	0.000831	GNAI2	guanine nucleotide binding protein (G protein), alpha inhibiting activity polypeptide 2
88	0.000845	LOC715853	similar to interphase cytoplasmic foci protein 45
89	0.000866	SEMG1	semenogelin I
90	0.000891	LOC715195	similar to SRR1-like protein
91	0.000897	TNIK	TRAF2 and NCK interacting kinase
92	0.000911	LOC714530	similar to growth arrest-specific 2 like 1 isoform a
93	0.000918	LOC720175	similar to proteasome (prosome, macropain) subunit, alpha type 7
94	0.00093	LOC721230	similar to tumor suppressing subtransferable candidate 5
95	0.000935	LOC722609	similar to WD repeat domain 34
96	0.000952	LOC716166	similar to Sjogrens syndrome/scleroderma autoantigen 1
97	0.000987	LOC701345	similar to neurogenin 2
98	0.000989	LOC722330	similar to phosphofructokinase, platelet
99	0.000996	LOC706437	hypothetical protein LOC706437