

Supplementary Files

- 1) List of Cellular Process regulated by the neuronal genes expressed on treatment with Metadichol**
- 2) Western Blots**
- 3) Raw RT-PCR-Data**

Cellular Process
regulated by the
neuronal genes
expressed
on treatment with
Metadichol®

Gene Set Seed	Cell processes regulated	Total # of Neighbors	Overlap	Percent Overlap	Overlapping Entities	p-value
neuron development	Protein regulators of neuron development	484	21	4	NEUROG, FOXA, LMX1A; NEUROD1; ISL, NEUROG1; TERT; PITX3; GATA3; POU3F, LHX3; PHOX2B; KLF7; NR4A, HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	1.22932E-28
neuron differentiation	Protein regulators of neuron differentiation	380	18	4	NEUROG, LMX1A; NEUROD1; ISL, NEUROG1; PITX3; GATA, GATA3; POU3F, LHX3; PHOX2B; KLF7; NR4A, DLX1; HAND, BCL11B; ASCL1; TP53	2.74428E-24
nervous system development	Protein regulators of nervous system development	1674	21	1	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; GATA, GATA3; POU3F, KL, LHX3; PHOX2B; KLF7; NR4A, DLX1; HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	2.71085E-17
stem cell differentiation	Protein regulators of stem cell differentiation	2141	22	1	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; PITX3; GATA, GATA3; POU3F, KL, LHX3; PHOX2B; KLF7; NR4A, DLX1; HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	1.02225E-16
nerve cell differentiation	Protein regulators of nerve cell differentiation	2182	22	1	NEUROG, FOXA, LMX1A; NEUROD1; ISL, NEUROG1; TERT; PITX3; GATA, GATA3; POU3F, LHX3; PHOX2B; KLF7; NR4A, DLX1; HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	1.54504E-16
neurogenesis	Protein regulators of neurogenesis	2277	22	0	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; PITX3; GATA, GATA3; POU3F, KL, LHX3; PHOX2B; KLF7; NR4A, DLX1; HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	3.90533E-16
cell fate	Protein regulators of cell fate	2258	19	0	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; GATA, GATA3; POU3F, LHX3; PHOX2B; NR4A, DLX1; HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	8.39952E-12
cell fate determination	Protein regulators of cell fate determination	689	13	1	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; GATA, GATA3; POU3F, LHX3; HAND, BCL11B; ASCL1; TP53	8.85426E-12
cell fate commitment	Protein regulators of cell fate commitment	558	12	2	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; GATA, GATA3; LHX3; DLX, BCL11B; ASCL1; TP53	1.69741E-11
central nervous system development	Protein regulators of central nervous system development	787	13	1	NEUROG, NEUROD1; GATA, GATA3; POU3F, PHOX2B; KLF7; NR4A, DLX, MYT1L; BCL11B; ASCL1; TP53	4.70667E-11
midbrain development	Protein regulators of midbrain development	89	7	7	NEUROG, FOXA, LMX1A; NR4A, PITX3; GATA, ASCL1	8.30757E-11
developmental process	Protein regulators of developmental process	2637	19	0	NEUROG, FOXA, LMX1A; NEUROD1; ISL, NEUROG1; TERT; PITX3; GATA, GATA3; LHX3; PHOX2B; NR4A, DLX1; HAND, DLX, BCL11B; ASCL1; TP53	1.39677E-10
transcription activation	Protein regulators of transcription activation	3198	19	0	NEUROG, FOXA, LMX1A; NEUROD1; TERT; GATA, GATA3; POU3F, KL, LHX3; PHOX2B; KLF7; NR4A, DLX1; HAND, DLX, BCL11B; ASCL1; TP53	4.39598E-09
stem cell development	Protein regulators of stem cell development	529	10	1	PHOX2B; NEUROG, TERT; GATA, GATA3; MYT1L; KL, BCL11B; ASCL1; TP53	4.82791E-09
inner ear development	Protein regulators of inner ear development	167	7	4	LMX1A; NEUROD1; KLF7; NEUROG1; DLX1; GATA, GATA3	7.03806E-09
cell fate specification	Protein regulators of cell fate specification	411	9	2	PHOX2B; NEUROG, NEUROD1; NEUROG1; GATA, GATA3; BCL11B; ASCL1; TP53	9.85059E-09
cell transdifferentiation	Protein regulators of cell transdifferentiation	976	12	1	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; GATA3; POU3F, KL, DLX, MYT1L; ASCL1; TP53	1.04762E-08
ectopic expression	Protein regulators of ectopic expression	578	10	1	PHOX2B; NEUROG, FOXA, NEUROD1; NEUROG1; TERT; GATA, DLX, ASCL1; TP53	1.12806E-08
GABAergic neuron differentiation	Protein regulators of GABAergic neuron differentiation	17	4	22	FOXA, DLX1; DLX, ASCL1	1.36338E-08
midbrain dopaminergic neuron differentiation	Protein regulators of midbrain dopaminergic neuron differentiation	20	4	19	FOXA, LMX1A; NR4A, PITX3	2.76626E-08
neuron fate specification	Protein regulators of neuron fate specification	21	4	18	NEUROG, LMX1A; NEUROG1; LHX3	3.41336E-08
olfactory bulb interneuron differentiation	Protein regulators of olfactory bulb interneuron differentiation	5	3	50	DLX1; DLX, ASCL1	3.99623E-08
sympathetic nervous system development	Protein regulators of sympathetic nervous system development	22	4	17	PHOX2B; GATA, GATA3; HAND2	4.16728E-08
brain development	Protein regulators of brain development	1795	14	0	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; PITX3; GATA3; POU3F, NR4A, DLX1; DLX, ASCL1; TP53	1.12847E-07
cell count	Protein regulators of cell count	3896	19	0	NEUROG, FOXA, LMX1A; NEUROD1; ISL, NEUROG1; TERT; PITX3; GATA, GATA3; KL; PHOX2B; NR4A, HAND, DLX, MYT1L; BCL11B; ASCL1; TP53	1.40315E-07
cell population	Protein regulators of cell population	2208	15	0	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; GATA, GATA3; KL; PHOX2B; NR4A, HAND, DLX, ASCL1; TP53	1.78547E-07
retinogenesis	Protein regulators of retinogenesis	82	5	6	NEUROD1; NEUROG1; DLX1; POU3F, DLX2	2.01418E-07
stem cell formation	Protein regulators of stem cell formation	418	8	1	FOXA, TERT; DLX1; GATA, HAND, DLX, ASCL1; TP53	2.21651E-07
photoreceptor cell differentiation	Protein regulators of photoreceptor cell differentiation	170	6	3	NEUROG, NEUROD1; NEUROG1; DLX, ASCL1; TP53	2.71332E-07
embryonal development	Protein regulators of embryonal development	4055	19	0	NEUROG, FOXA, LMX1A; NEUROD1; NEUROG1; TERT; PITX3; GATA, GATA3; POU3F, KL; LHX3; PHOX2B; NR4A, DLX1; HAND, DLX, ASCL1; TP53	2.80159E-07
neuroblast proliferation	Protein regulators of neuroblast proliferation	96	5	5	PHOX2B; NEUROG1; GATA3; HAND, DLX2	4.44333E-07
stem cell fate	Protein regulators of stem cell fate	473	8	1	NEUROG, NEUROD1; NEUROG1; GATA, GATA3; POU3F, ASCL1; TP53	5.68278E-07

cell cycle	Protein regulators of cell cycle	5571	21	0	NEUROG,FOXA,LMX1A;NEUROD1;NEUROG1;TERT;PITX3;GATA,GA TA3;POU3F,KL;PHOX2B;KLF7;NR4A,DLX1;HAND,CAMK2D;DLX,B CL11B;ASCL1;TP53	9.85801E-07
dopaminergic neuron differentiation	Protein regulators of dopaminergic neuron differentiation	47	4	8	FOXA,LMX1A;NR4A,PITX3	9.88399E-07
stem cell proliferation	Protein regulators of stem cell proliferation	1871	13	0	NEUROG,NEUROG1;TERT;GATA,GATA3;POU3F,KL;NR4A,DLX,MYT 1L;BCL11B;ASCL1;TP53	1.68133E-06
endocrine pancreas development	Protein regulators of endocrine pancreas development	54	4	7	FOXA,NEUROD1;NEUROG1;TP53	1.73896E-06
axon guidance	Protein regulators of axon guidance	755	9	1	NEUROG,LMX1A;ISL,DLX1;GATA3;DLX,BCL11B;TP53;LHX3	1.75425E-06
cell development	Protein regulators of cell development	4071	18	0	NEUROG,FOXA,NEUROD1;NEUROG1;TERT;GATA,GATA3;POU3F,K L;LHX3;PHOX2B;NR4A,DLX1;HAND,DLX,BCL11B;ASCL1;TP53	2.50439E-06
enteric nervous system	Protein regulators of enteric nervous system	260	6	2	PHOX2B;DLX1;HAND,DLX,ASCL1;TP53	3.2518E-06
neural crest formation	Protein regulators of neural crest formation	145	5	3	PHOX2B;NEUROG1;GATA,HAND,TP53	3.43177E-06
dorsal/ventral pattern specification	Protein regulators of dorsal/ventral pattern specification	276	6	2	FOXA,LMX1A;DLX1;DLX,ASCL1;TP53	4.58907E-06
alphabeta T-cell development	Protein regulators of alphabeta T-cell development	69	4	5	GATA3;BCL11B;ASCL1;TP53	4.67533E-06
regeneration	Protein regulators of regeneration	2852	15	0	NEUROG,FOXA,NEUROD1;TERT;GATA,GATA3;POU3F,KL;KLF7;NR4 A,DLX1;HAND,MYT1L;ASCL1;TP53	5.37198E-06
stem cell population	Protein regulators of stem cell population	660	8	1	NEUROG,GATA,GATA3;POU3F,KL;ASCL1;TP53;LHX3	6.87469E-06
cell maturation	Protein regulators of cell maturation	1156	10	0	NEUROG,FOXA,NEUROD1;NR4A,GATA,GATA3;DLX,KL;ASCL1;TP5 3	7.04246E-06
thyrotrope differentiation	Protein regulators of thyrotrope differentiation	3	2	50	GATA,LHX3	7.8961E-06
neuroblast delamination	Protein regulators of neuroblast delamination	3	2	50	NEUROD1;NEUROG1	7.8961E-06
ontogeny	Protein regulators of ontogeny	494	7	1	NEUROG,NEUROD1;NR4A,GATA,BCL11B;TP53;LHX3	1.07923E-05
nuclear reprogramming	Protein regulators of nuclear reprogramming	497	7	1	TERT;GATA3;POU3F,HAND,MYT1L;ASCL1;TP53	1.12269E-05
dedifferentiation	Protein regulators of dedifferentiation	970	9	0	PHOX2B;FOXA,NEUROD1;TERT;DLX1;GATA3;KL;ASCL1;TP53	1.37051E-05
behavior	Protein regulators of behavior	5756	20	0	NEUROG,FOXA,LMX1A;NEUROD1;NEUROG1;TERT;PITX3;GATA,GA TA3;POU3F,KL;LHX3;PHOX2B;KLF7;NR4A,DLX1;HAND,BCL11B;A SCL1;TP53	1.53215E-05
gene repression	Protein regulators of gene repression	737	8	1	NEUROG,NEUROG1;TERT;GATA,DLX,BCL11B;ASCL1;TP53	1.54364E-05
natural killer cell aging	Protein regulators of natural killer cell aging	4	2	40	TERT;TP53	1.57762E-05
lymphopoiesis	Protein regulators of lymphopoiesis	358	6	1	NEUROD1;GATA,GATA3;KL;BCL11B;TP53	2.02582E-05
stem cell maintenance	Protein regulators of stem cell maintenance	779	8	1	NEUROG,NEUROD1;TERT;GATA,GATA3;KL;ASCL1;TP53	2.30878E-05
cochlea development	Protein regulators of cochlea development	34	3	8	LMX1A;NEUROD1;GATA3	2.31703E-05
odontogenesis	Protein regulators of odontogenesis	370	6	1	DLX1;HAND,DLX,KL;BCL11B;TP53	2.44048E-05
Cajal-Retzius cell differentiation	Protein regulators of Cajal-Retzius cell differentiation	5	2	33	NEUROG,NEUROG1	2.6267E-05
inner ear morphogenesis	Protein regulators of inner ear morphogenesis	36	3	8	LMX1A;GATA,GATA3	2.75863E-05
morphogenesis	Protein regulators of morphogenesis	2826	14	0	NEUROG,FOXA,LMX1A;NEUROD1;NEUROG1;GATA,GATA3;POU3F ,KLF7;DLX1;HAND,DLX,BCL11B;TP53	3.04472E-05
dentate gyrus development	Protein regulators of dentate gyrus development	38	3	7	NEUROG,NEUROD1;BCL11B	3.25227E-05
progenitor cell renewal	Protein regulators of progenitor cell renewal	390	6	1	PHOX2B;NEUROG1;TERT;GATA,BCL11B;TP53	3.28223E-05
determination of glial fate	Protein regulators of determination of glial fate	6	2	28	NEUROG1;ASCL1	3.93606E-05
photoreceptor cell fate commitment	Protein regulators of photoreceptor cell fate commitment	6	2	28	NEUROD1;ASCL1	3.93606E-05
posterior pituitary development	Protein regulators of posterior pituitary development	6	2	28	NEUROD1;ASCL1	3.93606E-05
postnatal development	Protein regulators of postnatal development	874	8	0	FOXA,LMX1A;NR4A,PITX3;DLX1;GATA3;BCL11B;TP53	5.27992E-05
stem cell fate commitment	Protein regulators of stem cell fate commitment	262	5	1	NEUROG,GATA,POU3F,ASCL1;TP53	5.99585E-05
stem cell renewal	Protein regulators of stem cell renewal	1176	9	0	NEUROG,NEUROD1;KLF7;TERT;GATA,GATA3;BCL11B;ASCL1;TP53	6.36823E-05
thymus development	Protein regulators of thymus development	271	5	1	NR4A,DLX1;GATA3;BCL11B;TP53	7.03783E-05
fertilization	Protein regulators of fertilization	1197	9	0	NEUROD1;ISL,NEUROG1;GATA,GATA3;HAND,DLX,ASCL1;TP53	7.31756E-05
fibroblast replicative senescence	Protein regulators of fibroblast replicative senescence	8	2	22	TERT;TP53	7.33244E-05
cell differentiation	Protein regulators of cell differentiation	9771	24	0	FOXA,LMX1A;ISL,PHOX2B;NR4A,HAND,MYT1L;ASCL1;NEUROG,N EUROD1;NEUROG1;TERT;PITX3;GATA,GATA3;POU3F,KL;LHX3;KLF 7;DLX1;CAMK2D;DLX,BCL11B;TP53	7.93777E-05
cell renewal	Protein regulators of cell renewal	938	8	0	TERT;DLX1;GATA,GATA3;DLX,KL;ASCL1;TP53	8.72041E-05
neuronal migration	Protein regulators of neuronal migration	938	8	0	PHOX2B;NEUROG,NEUROD1;NEUROG1;PITX3;GATA3;POU3F,ASC L1	8.72041E-05
neural crest cell development	Protein regulators of neural crest cell development	285	5	1	PHOX2B;GATA3;HAND,ASCL1;TP53	8.93116E-05
memory	Protein regulators of memory	2284	12	0	NEUROG,NEUROD1;TERT;GATA,GATA3;POU3F,KL;NR4A,HAND,BC L11B;ASCL1;TP53	9.70245E-05
cell survival	Protein regulators of cell survival	6418	20	0	NEUROG,FOXA,LMX1A;NEUROD1;TERT;PITX3;GATA,GATA3;POU3 F,KL;PHOX2B;KLF7;NR4A,DLX1;HAND,CAMK2D;DLX,BCL11B;ASC L1;TP53	0.000101641
life span	Protein regulators of life span	2305	12	0	FOXA,NEUROD1;NEUROG1;TERT;PITX3;GATA3;KL;LHX3;PHOX2B; DLX1;ASCL1;TP53	0.000106325
natural killer cell differentiation	Protein regulators of natural killer cell differentiation	304	5	1	DLX1;GATA,GATA3;DLX,BCL11B	0.000121035
neuroblast differentiation	Protein regulators of neuroblast differentiation	60	3	4	NEUROG,NEUROD1;ASCL1	0.000128805

gliogenesis	Protein regulators of gliogenesis	309	5	1	NEUROG,NEUROD1;NEUROG1;HAND,ASCL1	0.000130669
cell formation	Protein regulators of cell formation	4708	17	0	NEUROG,FOXA,NEUROD1;NEUROG1;TERT;GATA,GATA3;POU3F,KL,NR4A,DLX1;HAND,CAMK2D;DLX,BCL11B;ASCL1;TP53	0.000135425
cell loss	Protein regulators of cell loss	999	8	0	FOXA,NEUROD1;NR4A,PITX3;GATA,KL;ASCL1,TP53	0.000135805
chromatin remodeling	Protein regulators of chromatin remodeling	1626	10	0	NEUROG,FOXA,NEUROD1;TERT;GATA,GATA3;CAMK2D;BCL11B;ASCL1;TP53	0.000138008
engraftment	Protein regulators of engraftment	743	7	0	LMX1A;NR4A,TERT;PITX3;GATA,GATA3;TP53	0.000146521
ear development	Protein regulators of ear development	63	3	4	NEUROD1;NEUROG1;GATA3	0.000148987
haematopoietic stem cell fate determination	Protein regulators of haematopoietic stem cell fate determination	12	2	15	GATA,GATA3	0.000172137
T-cell receptor beta gene rearrangement	Protein regulators of T-cell receptor beta gene rearrangement	12	2	15	GATA3;BCL11B	0.000172137
stress-induced premature senescence	Protein regulators of stress-induced premature senescence	67	3	4	TERT;KL;TP53	0.000178949
oligodendrocyte differentiation	Protein regulators of oligodendrocyte differentiation	539	6	1	NEUROD1;NEUROG1;MYT1L;KL;ASCL1;TP53	0.000196678
tumor differentiation	Protein regulators of tumor differentiation	179	4	2	NEUROD1;GATA3;ASCL1;TP53	0.000198007
neural crest cell differentiation	Protein regulators of neural crest cell differentiation	180	4	2	PHOX2B;GATA3;HAND,ASCL1	0.000202283
locus coeruleus development	Protein regulators of locus coeruleus development	13	2	14	PHOX2B;ASCL1	0.000203229
haematopoietic stem cell development	Protein regulators of haematopoietic stem cell development	182	4	2	GATA,GATA3;KL;TP53	0.000211034
ganglion development	Protein regulators of ganglion development	71	3	4	PHOX2B;NEUROG,NEUROG1	0.000212575
cell motility	Protein regulators of cell motility	3866	15	0	NEUROG,FOXA,NEUROD1;TERT;GATA,GATA3;POU3F,KL;KLF7;DLX1;CAMK2D;DLX,BCL11B;ASCL1;TP53	0.000246433
haematopoietic stem cell count	Protein regulators of haematopoietic stem cell count	190	4	2	GATA,GATA3;KL;TP53	0.000248795
glial cell differentiation	Protein regulators of glial cell differentiation	77	3	3	NEUROG,NEUROG1;ASCL1	0.000270295
hematopoietic cell development	Protein regulators of hematopoietic cell development	197	4	2	GATA,GATA3;BCL11B;TP53	0.000285638
bone marrow derived mesenchymal stem cell differentiation	Protein regulators of bone marrow derived mesenchymal stem cell differentiation	366	5	1	FOXA,NEUROD1;GATA,ASCL1;TP53	0.000287512
phenotypic plasticity	Protein regulators of phenotypic plasticity	83	3	3	TERT;GATA3;TP53	0.0003373
blastocyst formation	Protein regulators of blastocyst formation	208	4	1	GATA,GATA3;KL;TP53	0.000351251
delamination	Protein regulators of delamination	208	4	1	NEUROG,NEUROD1;NEUROG1;TP53	0.000351251
fibroblast fate	Protein regulators of fibroblast fate	17	2	11	HAND,TP53	0.000352914
telomeric loop formation	Protein regulators of telomeric loop formation	17	2	11	TERT;TP53	0.000352914
innervation	Protein regulators of innervation	603	6	0	NEUROG,LMX1A;NEUROD1;NEUROG1;NR4A,PITX3	0.000360702
enteric nervous system development	Protein regulators of enteric nervous system development	86	3	3	PHOX2B;HAND,ASCL1	0.000374472
hair cell differentiation	Protein regulators of hair cell differentiation	87	3	3	NEUROD1;NEUROG1;GATA3	0.000387425
parathyroid function	Protein regulators of parathyroid function	18	2	10	GATA3;KL	0.000396627
neuron maturation	Protein regulators of neuron maturation	88	3	3	NEUROD1;NR4A,ASCL1	0.000400663
beta selection	Protein regulators of beta selection	90	3	3	GATA3;BCL11B;TP53	0.000428006
stem cell phenotype	Protein regulators of stem cell phenotype	624	6	0	KLF7;TERT;POU3F,HAND,BCL11B;TP53	0.000433282
fibroblast differentiation	Protein regulators of fibroblast differentiation	402	5	1	POU3F,HAND,MYT1L;KL;ASCL1	0.000442758
motor neuron migration	Protein regulators of motor neuron migration	19	2	10	GATA,GATA3	0.00044284
response to gamma radiation	Protein regulators of response to gamma radiation	19	2	10	BCL11B;TP53	0.00044284
heart development	Protein regulators of heart development	1522	9	0	PHOX2B;FOXA,TERT;GATA,GATA3;HAND,CAMK2D;KL;TP53	0.00046175
telomeric repeat-containing RNA transcription	Protein regulators of telomeric repeat-containing RNA transcription	20	2	9	TERT;TP53	0.000491547
cell expansion	Protein regulators of cell expansion	1210	8	0	NEUROG,TERT;GATA,GATA3;KL;BCL11B;TP53;LHX3	0.000507793
tissue development	Protein regulators of tissue development	916	7	0	FOXA,LMX1A;NEUROG1;GATA,GATA3;POU3F,TP53	0.000530228
DNA methylation	Protein regulators of DNA methylation	1223	8	0	TERT;DLX1;GATA,GATA3;HAND,DLX,KL;TP53	0.000545797
gland development	Protein regulators of gland development	99	3	3	FOXA,GATA3;TP53	0.000565873
stem cell division	Protein regulators of stem cell division	239	4	1	TERT;GATA3;ASCL1;TP53	0.000593845
alpha-beta T-cell differentiation	Protein regulators of alpha-beta T-cell differentiation	22	2	8	GATA3;BCL11B	0.000596408
hematopoietic stem cell differentiation	Protein regulators of hematopoietic stem cell differentiation	434	5	1	GATA,GATA3;KL;ASCL1;TP53	0.000627928
visual learning	Protein regulators of visual learning	682	6	0	NEUROG,TERT;POU3F,KL;ASCL1;TP53	0.000694629
erythroid cell count	Protein regulators of erythroid cell count	24	2	8	GATA,TP53	0.00071115
fibroblast transdifferentiation	Protein regulators of fibroblast transdifferentiation	108	3	2	GATA3;ASCL1;TP53	0.000729375
chromatin organization	Protein regulators of chromatin organization	1283	8	0	NEUROG,FOXA,NEUROD1;TERT;GATA,GATA3;ASCL1;TP53	0.000752764
cell phenotype	Protein regulators of cell phenotype	4784	16	0	NEUROG,FOXA,NEUROD1;NEUROG1;TERT;PITX3;GATA,GATA3;POU3F,KL;NR4A,DLX1;MYT1L;BCL11B;ASCL1;TP53	0.00076555
hypothalamus development	Protein regulators of hypothalamus development	25	2	7	POU3F,ASCL1	0.000772208
haematopoietic stem cell formation	Protein regulators of haematopoietic stem cell formation	111	3	2	GATA,GATA3;TP53	0.000789885
lateral inhibition	Protein regulators of lateral inhibition	111	3	2	NEUROG,NEUROG1;ASCL1	0.000789885
drug sensitization	Protein regulators of drug sensitization	26	2	7	BCL11B;TP53	0.000835712
mast cell formation	Protein regulators of mast cell formation	27	2	7	GATA,GATA3	0.000901656

amacrine cell differentiation	Protein regulators of amacrine cell differentiation	27	2	7	NEUROD1;NR4A2	0.000901656
hearing	Protein regulators of hearing	472	5	1	LMX1A;GATA3;KL;BCL11B;TP53	0.000917713
prostate gland development	Protein regulators of prostate gland development	118	3	2	FOXA,GATA,TP53	0.000943288
thymocyte survival	Protein regulators of thymocyte survival	119	3	2	GATA3;BCL11B;TP53	0.000966633
urinary tract development	Protein regulators of urinary tract development	208	2	6	GATA,TP53	0.000970032
ossification	Protein regulators of ossification	2076	10	0	FOXA,KLF7;TERT;DLX1;GATA,HAND,DLX,KL;BCL11B;TP53	0.001029237
erythroid cell development	Protein regulators of erythroid cell development	122	3	2	GATA,GATA3;KL	0.001038861
ganglion formation	Protein regulators of ganglion formation	29	2	6	PHOX2B;NEUROG1	0.001040832
double negative thymocyte differentiation	Protein regulators of double negative thymocyte differentiation	31	2	6	GATA3;TP53	0.001189676
bone marrow derived mesenchymal stem cell proliferation	Protein regulators of bone marrow derived mesenchymal stem cell proliferation	128	3	2	TERT;GATA,TP53	0.001193396
response to cAMP	Protein regulators of response to cAMP	128	3	2	FOXA,NR4A,HAND2	0.001193396
fetus lung maturation	Protein regulators of fetus lung maturation	129	3	2	FOXA,NEUROD1;TP53	0.001220484
quiescence	Protein regulators of quiescence	1059	7	0	NR4A,TERT;GATA,KL;BCL11B;ASCL1;TP53	0.001259388
olfactory bulb development	Protein regulators of olfactory bulb development	32	2	6	ASCL1;TP53	0.001267705
neuron projection extension	Protein regulators of neuron projection extension	766	6	0	NR4A,DLX1;HAND,CAMK2D;ASCL1;TP53	0.001275076
hematopoietic cell survival	Protein regulators of hematopoietic cell survival	131	3	2	GATA,GATA3;TP53	0.00127582
smooth muscle development	Protein regulators of smooth muscle development	131	3	2	PHOX2B;GATA3;HAND2	0.00127582
DNA demethylation	Protein regulators of DNA demethylation	294	4	1	NR4A,GATA,GATA3;TP53	0.00128541
immunocompetent cell development	Protein regulators of immunocompetent cell development	132	3	2	GATA3;BCL11B;TP53	0.001304073
neurite outgrowth	Protein regulators of neurite outgrowth	2559	11	0	PHOX2B;NEUROG,NEUROD1;KLF7;NEUROG1;NR4A,DLX1;GATA3;DLX,ASCL1;TP53	0.001337938
bone marrow derived mesenchymal stem cell function	Protein regulators of bone marrow derived mesenchymal stem cell function	33	2	5	GATA,TP53	0.001348128
cell size	Protein regulators of cell size	1403	8	0	NEUROD1;NR4A,TERT;GATA3;HAND,KL;BCL11B;TP53	0.001359587
remyelination	Protein regulators of remyelination	517	5	0	NEUROD1,TERT;MYT1L;KL;ASCL1	0.001379094
neural tube development	Protein regulators of neural tube development	138	3	2	NEUROG,FOXA,TP53	0.00148191
cell lifespan	Protein regulators of cell lifespan	139	3	2	TERT;KL;TP53	0.001512955
cell elongation	Protein regulators of cell elongation	530	5	0	TERT;GATA,GATA3;ASCL1;TP53	0.001539806
nerve fiber regeneration	Protein regulators of nerve fiber regeneration	806	6	0	NEUROG,NEUROD1;KLF7;TERT;ASCL1;TP53	0.001657837
enteroendocrine cell differentiation	Protein regulators of enteroendocrine cell differentiation	37	2	5	FOXA,NEUROD1	0.001693614
adipocyte differentiation	Protein regulators of adipocyte differentiation	1455	8	0	FOXA,KLF7;NR4A,GATA,GATA3;KL;BCL11B;TP53	0.001723277
organ development	Protein regulators of organ development	544	5	0	FOXA,GATA,GATA3;ASCL1;TP53	0.001728016
stem cell death	Protein regulators of stem cell death	146	3	2	CAMK2D;ASCL1;TP53	0.001741781
RNA elongation	Protein regulators of RNA elongation	549	5	0	FOXA,TERT;BCL11B;ASCL1;TP53	0.001799196
aggressive behavior	Protein regulators of aggressive behavior	1838	9	0	FOXA,NR4A,TERT;DLX1;GATA3;POU3F,DLX,ASCL1;TP53	0.001834351
forebrain development	Protein regulators of forebrain development	149	3	2	LMX1A;DLX1;DLX2	0.001846124
neuroprotection	Protein regulators of neuroprotection	1485	8	0	FOXA,NEUROG1;NR4A,TERT;PITX3;GATA3;KL;TP53	0.001966401
haematopoietic stem cell apoptosis	Protein regulators of haematopoietic stem cell apoptosis	40	2	4	GATA,TP53	0.001977504
hypophysis development	Protein regulators of hypophysis development	40	2	4	TP53;LHX3	0.001977504
histone deacetylation	Protein regulators of histone deacetylation	337	4	1	GATA,GATA3;BCL11B;TP53	0.002121276
decidualization	Protein regulators of decidualization	573	5	0	FOXA,GATA,GATA3;HAND,TP53	0.002171468
tissue regeneration	Protein regulators of tissue regeneration	573	5	0	FOXA,GATA3;DLX,KL;TP53	0.002171468
cell organization and biogenesis	Protein regulators of cell organization and biogenesis	159	3	1	NEUROD1;NEUROG1;LHX3	0.002221951
photoreceptor development	Protein regulators of photoreceptor development	159	3	1	NEUROG,NEUROD1;ASCL1	0.002221951
anchorage independent growth	Protein regulators of anchorage independent growth	1893	9	0	LMX1A;NR4A,TERT;DLX1;GATA,GATA3;KL;ASCL1;TP53	0.002261302
retinal ganglion cell axon guidance	Protein regulators of retinal ganglion cell axon guidance	43	2	4	KLF7;ISL2	0.002282409
megakaryocyte differentiation	Protein regulators of megakaryocyte differentiation	344	4	1	TERT;GATA,GATA3;TP53	0.002286111
DNA repair	Protein regulators of DNA repair	2305	10	0	NR4A,TERT;GATA,GATA3;POU3F,CAMK2D;KL;BCL11B;ASCL1;TP53	0.002337466
kidney metabolism	Protein regulators of kidney metabolism	44	2	4	KL;TP53	0.00238868
pharynx development	Protein regulators of pharynx development	44	2	4	DLX1;DLX2	0.00238868
brain regeneration	Protein regulators of brain regeneration	44	2	4	GATA3;TP53	0.00238868
telomere assembly	Protein regulators of telomere assembly	44	2	4	TERT;TP53	0.00238868
monocyte homing	Protein regulators of monocyte homing	44	2	4	GATA,GATA3	0.00238868
pattern specification	Protein regulators of pattern specification	349	4	1	NEUROG,FOXA,DLX1;DLX2	0.002409159
response to estradiol	Protein regulators of response to estradiol	45	2	4	GATA,GATA3	0.002497256
notochord formation	Protein regulators of notochord formation	46	2	4	FOXA,TP53	0.002608131
histone modification	Protein regulators of histone modification	885	6	0	NR4A,TERT;GATA,GATA3;KL;TP53	0.002668135
T cell lineage commitment	Protein regulators of T cell lineage commitment	47	2	4	GATA3;BCL11B	0.002721296
endothelial cell aging	Protein regulators of endothelial cell aging	172	3	1	TERT;KL;TP53	0.002777321

telomere capping	Protein regulators of telomere capping	48	2	4	TERT;TP53	0.002836746
B-cell development	Protein regulators of B-cell development	901	6	0	FOXA,NEUROD1;GATA,GATA3;BCL11B;TP53	0.002919978
response to gemcitabine	Protein regulators of response to gemcitabine	49	2	4	TERT;TP53	0.002954472
response to 5-fluorouracil	Protein regulators of response to 5-fluorouracil	49	2	4	TERT;TP53	0.002954472
pancreatic beta cell development	Protein regulators of pancreatic beta cell development	49	2	4	FOXA,NEUROD1	0.002954472
genome stability	Protein regulators of genome stability	914	6	0	TERT;GATA3;CAMK2D;KL;BCL11B;TP53	0.003137574
embryo implantation	Protein regulators of embryo implantation	626	5	0	FOXA,GATA,GATA3;HAND,TP53	0.003191001
T-cell aging	Protein regulators of T-cell aging	51	2	3	KL;TP53	0.003196725
keratinocyte differentiation	Protein regulators of keratinocyte differentiation	629	5	0	GATA3;POU3F,KL;BCL11B;TP53	0.003257568
stem cell aging	Protein regulators of stem cell aging	184	3	1	TERT;KL;TP53	0.003359991
stem cell homeostasis	Protein regulators of stem cell homeostasis	185	3	1	TERT;GATA,TP53	0.003411672
cell plasticity	Protein regulators of cell plasticity	385	4	1	FOXA,GATA3;KL;TP53	0.003433705
cell cycle regulation	Protein regulators of cell cycle regulation	2013	9	0	FOXA,NR4A,TERT;GATA,GATA3;POU3F,HAND,BCL11B;TP53	0.003476436
haematopoietic stem cell renewal	Protein regulators of haematopoietic stem cell renewal	187	3	1	NR4A,GATA,TP53	0.0035165
adipogenesis	Protein regulators of adipogenesis	2019	9	0	FOXA,KLF7;NR4A,TERT;GATA,GATA3;KL;BCL11B;TP53	0.003548818
cell dedifferentiation	Protein regulators of cell dedifferentiation	389	4	1	PHOX2B;KL;ASCL1;TP53	0.00356337
cell priming	Protein regulators of cell priming	189	3	1	NEUROG,GATA3;TP53	0.003623292
epithelial to mesenchymal transition	Protein regulators of epithelial to mesenchymal transition	4355	14	0	FOXA,LMX1A;NEUROD1;NEUROG1;TERT;GATA3;KL;KLF7;NR4A,DLX1;HAND,DLX,ASCL1;TP53	0.003714812
haematopoietic stem cell fate commitment	Protein regulators of haematopoietic stem cell fate commitment	56	2	3	GATA,GATA3	0.003841694
embryonic pattern specification	Protein regulators of embryonic pattern specification	193	3	1	FOXA,GATA,GATA3	0.003842816
nuclear import	Protein regulators of nuclear import	952	6	0	PHOX2B;NEUROD1;TERT;GATA3;POU3F,TP53	0.003844465
lymphocyte development	Protein regulators of lymphocyte development	400	4	0	FOXA,DLX1,GATA3;TP53	0.003937195
motor performance	Protein regulators of motor performance	958	6	0	NEUROG,KLF7;NEUROG1;PITX3;KL;TP53	0.003966217
epithelial cell differentiation	Protein regulators of epithelial cell differentiation	404	4	0	FOXA,TERT;GATA3;TP53	0.004079525
hormone sensitivity	Protein regulators of hormone sensitivity	58	2	3	GATA,TP53	0.004115266
hindbrain development	Protein regulators of hindbrain development	59	2	3	PHOX2B;LMX1A	0.004255363
neural crest cell migration	Protein regulators of neural crest cell migration	412	4	0	PHOX2B;GATA3;HAND,TP53	0.004374653
primitive erythrocyte differentiation	Protein regulators of primitive erythrocyte differentiation	62	2	3	GATA,TP53	0.004688814
CD4+ T-cell death	Protein regulators of CD4+ T-cell death	62	2	3	KL;TP53	0.004688814
limb morphogenesis	Protein regulators of limb morphogenesis	62	2	3	HAND,TP53	0.004688814
hematopoietic stem cell proliferation	Protein regulators of hematopoietic stem cell proliferation	421	4	0	NR4A,GATA,GATA3;TP53	0.004723694
cell cycle progression	Protein regulators of cell cycle progression	4483	14	0	NEUROG,FOXA,LMX1A;NEUROD1;TERT;GATA,GATA3;KL;KLF7;NR4A,DLX,BCL11B;ASCL1;TP53	0.00498306
erythroblast differentiation	Protein regulators of erythroblast differentiation	64	2	3	GATA,TP53	0.004988677
endothelial cell homeostasis	Protein regulators of endothelial cell homeostasis	64	2	3	TERT;KL	0.004988677
definitive erythrocyte differentiation	Protein regulators of definitive erythrocyte differentiation	64	2	3	DLX1;GATA2	0.004988677
skin development	Protein regulators of skin development	212	3	1	GATA3;BCL11B;TP53	0.004996281
neural tube patterning	Protein regulators of neural tube patterning	65	2	3	NEUROG,FOXA2	0.005141857
proximal/distal pattern specification	Protein regulators of proximal/distal pattern specification	65	2	3	DLX1;HAND2	0.005141857
melanocyte migration	Protein regulators of melanocyte migration	66	2	2	POU3F,TP53	0.005297192
T-cell survival	Protein regulators of T-cell survival	435	4	0	KLF7;GATA3;BCL11B;TP53	0.005303509
lens development	Protein regulators of lens development	220	3	1	PITX3;GATA3;TP53	0.005538167
motor neuron apoptosis	Protein regulators of motor neuron apoptosis	68	2	2	TERT;TP53	0.005614303
erythrocyte apoptosis	Protein regulators of erythrocyte apoptosis	68	2	2	KL;TP53	0.005614303
telomere shortening	Protein regulators of telomere shortening	222	3	1	TERT;KL;TP53	0.005678964
lens fiber cell differentiation	Protein regulators of lens fiber cell differentiation	69	2	2	GATA3;TP53	0.005776065
calcium balance	Protein regulators of calcium balance	72	2	2	CAMK2D;KL	0.006274091
mesenchymal stem cell proliferation	Protein regulators of mesenchymal stem cell proliferation	232	3	1	TERT;GATA,TP53	0.006415376
vein development	Protein regulators of vein development	73	2	2	ISL,HAND2	0.006444324
nerve regeneration	Protein regulators of nerve regeneration	746	5	0	KLF7;TERT;GATA3;ASCL1;TP53	0.006727834
epithelium development	Protein regulators of epithelium development	237	3	1	FOXA,NR4A,TP53	0.006804082
mesoderm formation	Protein regulators of mesoderm formation	238	3	1	FOXA,GATA,TP53	0.00688348
neurulation	Protein regulators of neurulation	241	3	1	FOXA,ASCL1;TP53	0.007125008
Th9 cell differentiation	Protein regulators of Th9 cell differentiation	77	2	2	GATA3;TP53	0.007146194
stem cell function	Protein regulators of stem cell function	764	5	0	TERT;GATA,GATA3;KL;TP53	0.007431474
breathing	Protein regulators of breathing	1094	6	0	PHOX2B;FOXA,NEUROD1;NR4A,TERT;TP53	0.00758325
osteoblast differentiation	Protein regulators of osteoblast differentiation	1454	7	0	NR4A,DLX1,GATA,HAND,DLX,KL;TP53	0.007586867
hemopoiesis	Protein regulators of hemopoiesis	1459	7	0	NEUROG1;TERT;PITX3;GATA,GATA3;KL;TP53	0.007729401
megakaryocyte development	Protein regulators of megakaryocyte development	254	3	1	TERT;GATA,TP53	0.008229968

sister chromatid segregation	Protein regulators of sister chromatid segregation	83	2	2	TERT;TP53	0.008261069
clonal evolution	Protein regulators of clonal evolution	83	2	2	GATA,TP53	0.008261069
neural precursor cell proliferation	Protein regulators of neural precursor cell proliferation	494	4	0	POU3F,HAND,ASCL1;TP53	0.008275521
haematopoietic stem cell expansion	Protein regulators of haematopoietic stem cell expansion	256	3	1	GATA,GATA3;TP53	0.008408461
T-cell fate commitment	Protein regulators of T-cell fate commitment	85	2	2	GATA3;BCL11B	0.008649029
viral infectious cycle	Protein regulators of viral infectious cycle	85	2	2	TERT;TP53	0.008649029
nervous system physiology	Protein regulators of nervous system physiology	793	5	0	PHOX2B;NEUROD1;NR4A,ASCL1;TP53	0.00867247
T-helper cell differentiation	Protein regulators of T-helper cell differentiation	260	3	1	GATA3;BCL11B;TP53	0.008772315
learning	Protein regulators of learning	1128	6	0	NEUROD1;KLF7;NR4A,KL;BCL11B;TP53	0.008778586
aerobic respiration	Protein regulators of aerobic respiration	86	2	2	KL;TP53	0.008846043
mitosis	Protein regulators of mitosis	3226	11	0	NEUROG,FOXA,NEUROD1;NEUROG1;NR4A,TERT;PITX3;KL;BCL11B;ASCL1;TP53	0.008925165
stem cell expansion	Protein regulators of stem cell expansion	506	4	0	NR4A,TERT;GATA,TP53	0.008991476
haematopoietic stem cell fate	Protein regulators of haematopoietic stem cell fate	87	2	2	GATA,TP53	0.009045069
bone marrow function	Protein regulators of bone marrow function	88	2	2	GATA,TP53	0.009246102
synoviocyte proliferation	Protein regulators of synoviocyte proliferation	89	2	2	NR4A,TP53	0.009449134
hormone secretion	Protein regulators of hormone secretion	517	4	0	FOXA,GATA,GATA3;TP53	0.009682751
anticipation	Protein regulators of anticipation	91	2	2	TERT;TP53	0.009861172
interneuron migration	Protein regulators of interneuron migration	91	2	2	DLX1;DLX2	0.009861172
cell architecture	Protein regulators of cell architecture	521	4	0	NEUROD1;BCL11B;ASCL1;TP53	0.00994256


WESTERN BLOT STUDIES USING NHDF-C ADULT CELLS




NHDF-C adult cell line culture and treatment

Normal Human Dermal Fibroblasts (NHDF-c) adult cells were cultured in Fibroblast Growth media 2 Fibroblast Basal Media supplemented with Fibroblast Growth Kit components, fetal bovine serum (15%), 100units/ml penicillin G, and 100µg/ml streptomycin at 37°C, 5% CO₂ incubator. 80% confluence in culture flask. The cells were then conventionally subculture and counted using Hemocytometer. The cell count was adjusted to 5x10⁶ cells/2ml. 2ml of cell suspension is added to each dish in P35dishes and incubated until the cells reach 80% confluence. NHDF-c adult cells were then treated with various concentrations of test sample . Post incubation, the cells were harvested for isolation of protein using RIPA buffer (Sigma; R0-278).

Isolation of protein using RIPA buffer

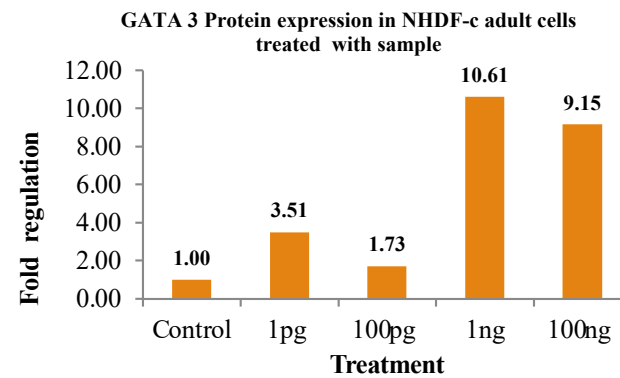
1. The cells, post harvesting, were washed twice using 1XPBS.
 2. The cell pellets were gently suspended in 500 μ l of RIPA buffer with 1X Protease Inhibitor (Sigma; P-8340)
 3. The cells were incubated for 30mins by gentle mixing every 5mins.
 4. Post incubation, the cells were centrifuged at 10,000rpm for 12-15 minutes.
 5. The protein lysates in the supernatant was transferred to fresh sterile tubes and stored in -20°C until further use.
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SDS-PAGE and Western Blot procedure

1. 100ug protein sample from each cell lysate was mixed with 5X loading dye and heated for 6 min at 98°C.
 2. Protein samples were loaded and separated on 12% SDS-PAGE gel using Mini protean Tetra cell (Bio-Rad).
 3. Methanol activated 0.45uM PVDF membrane was pre-wet in transfer buffer for 10 min @ RT.
 4. Protein transfer was done for 10 min in Turbo Transblot (Bio-Rad) apparatus.
 5. Blot was blocked in 5% BSA + TBST for 1 hr @RT.
 6. Blot was incubated with 1^o Ab @ dilution: 1: 1000 for overnight @ 4°C on shaker.
 7. Washed 3 times with TBST for 5min @ RT
 8. Blot was incubated with 2^o Ab (Anti-Rabbit HRP- IgG) @ dilution 1: 1000 for 1hr @ RT.
 9. Washed 3 times with TBST for 5min @ RT
 10. Blot was rinsed with ECL reagent (two component system) for 1 min in dark and image was captured with 40 sec exposure in Chemidoc MP imaging system (Bio-Rad).
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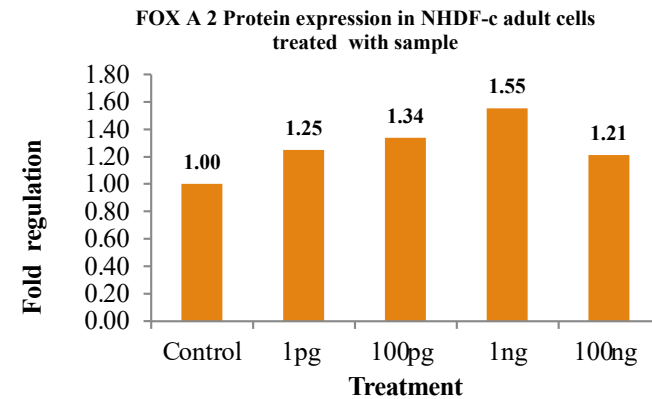
Western Blot for the expression of GAPDH, GATA 3 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	GATA3		
Control	37184.56	2809.933	0.08	1.00
1pg	33022.782	8758.368	0.27	3.51
100pg	31731.368	4144.146	0.13	1.73
1ng	26689.296	21406.51	0.80	10.61
100ng	32336.631	22363.12	0.69	9.15



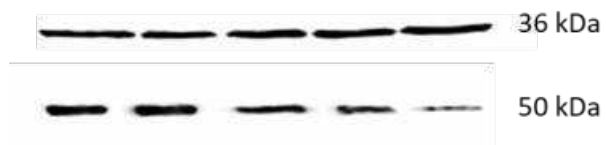
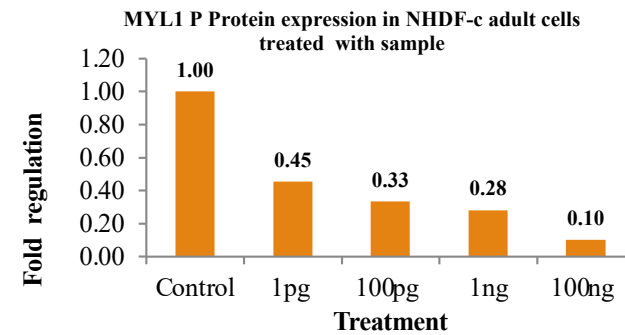
Western Blot for the expression of GAPDH, FOXA 2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	FOXA 2		
Control	37184.56	20222.095	0.54	1.00
1pg	33022.782	22414.075	0.68	1.25
100pg	31731.368	23085.853	0.73	1.34
1ng	26689.296	22567.974	0.85	1.55
100ng	32336.631	21313.317	0.66	1.21



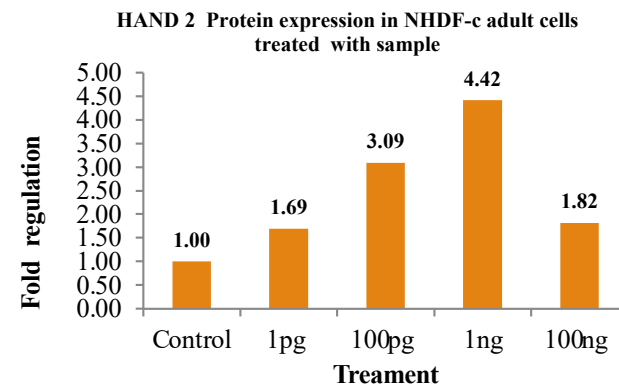
Western Blot for the expression of GAPDH, MYL1 P in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	MYL1 P		
Control	37184.56	51550.111	1.39	1.00
1pg	33022.782	20812.853	0.63	0.45
100pg	31731.368	14682.731	0.46	0.33
1ng	26689.296	10443.933	0.39	0.28
100ng	32336.631	4577.439	0.14	0.10



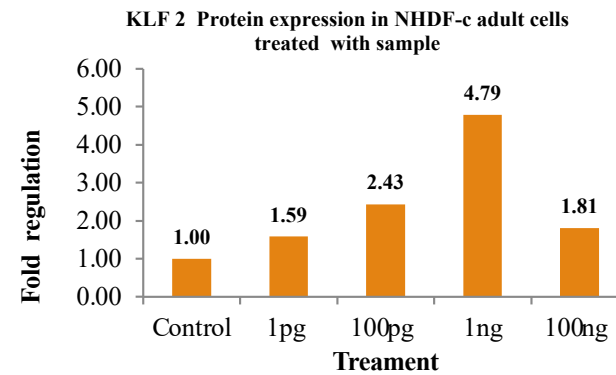
Western Blot for the expression of GAPDH, HAND 2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	HAND 2		
Control	37184.56	2738.205	0.07	1.00
1pg	33022.782	4118.752	0.12	1.69
100pg	31731.368	7217.856	0.23	3.09
1ng	26689.296	8683.128	0.33	4.42
100ng	32336.631	4330.075	0.13	1.82



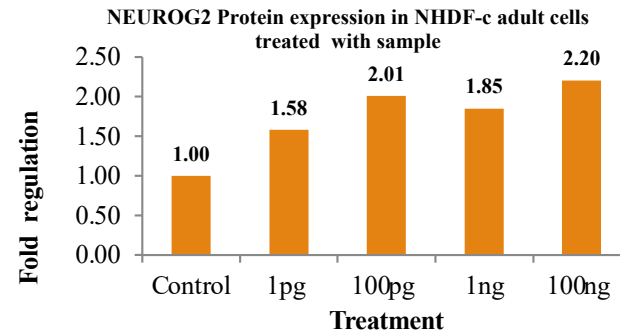
Western Blot for the expression of GAPDH, KLF 7 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	KLF 2		
Control	37184.56	5868.184	0.16	1.00
1pg	33022.782	8265.518	0.25	1.59
100pg	31731.368	12191.016	0.38	2.43
1ng	26689.296	20155.128	0.76	4.79
100ng	32336.631	9254.933	0.29	1.81



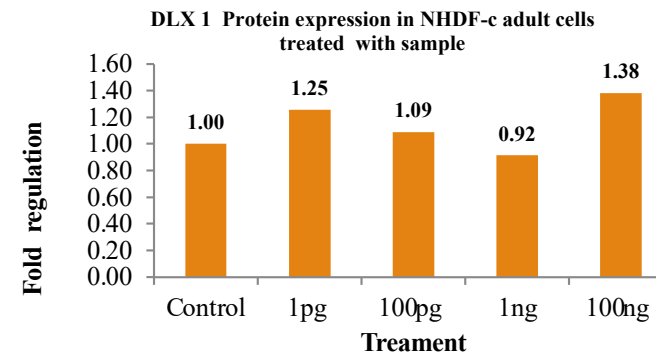
Western Blot for the expression of GAPDH, NEUROG 2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	NEUROG2		
Control	37184.56	9422.472	0.25	1.00
1pg	33022.782	13211.53	0.40	1.58
100pg	31731.368	16135.004	0.51	2.01
1ng	26689.296	12509.832	0.47	1.85
100ng	32336.631	18057.974	0.56	2.20



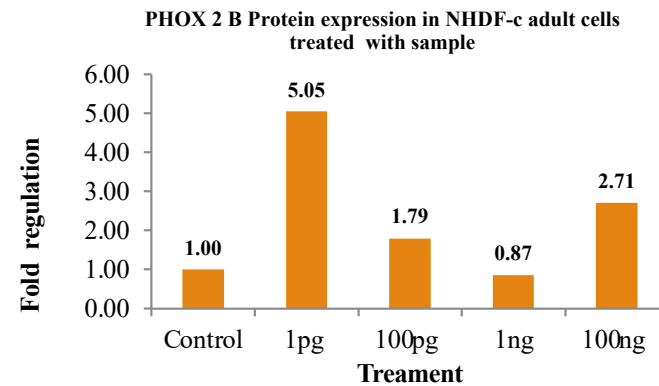
Western Blot for the expression of GAPDH, DLX 1 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	DLX 1		
Control	37184.56	15218.047	0.41	1.00
1pg	33022.782	16958.137	0.51	1.25
100pg	31731.368	14142.681	0.45	1.09
1ng	26689.296	10002.794	0.37	0.92
100ng	32336.631	18314.38	0.57	1.38



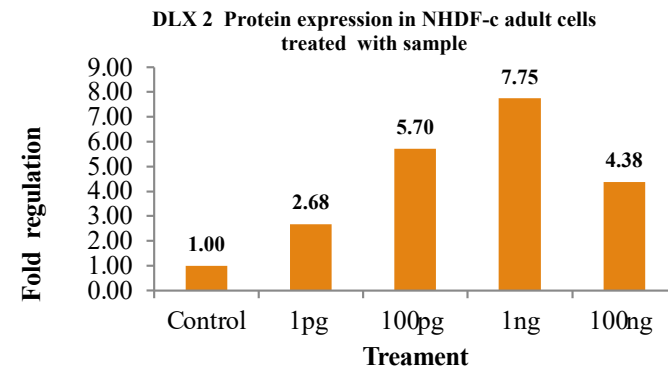
Western Blot for the expression of GAPDH, PHOX2B in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	PHOX2 B		
Control	37184.56	2302.234	0.06	1.00
1pg	33022.782	10318.685	0.31	5.05
100pg	31731.368	3523.276	0.11	1.79
1ng	26689.296	1432.163	0.05	0.87
100ng	32336.631	5430.368	0.17	2.71



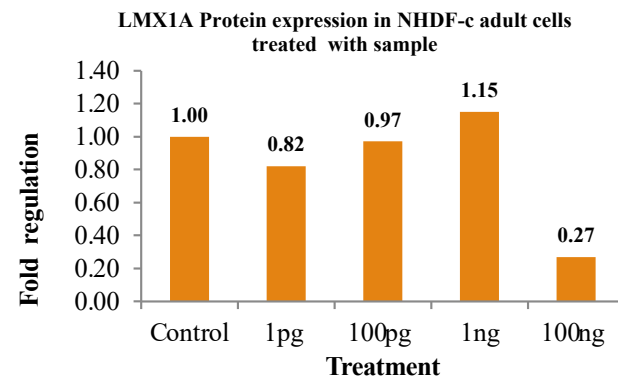
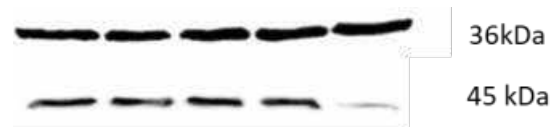
Western Blot for the expression of GAPDH, DLX2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	DLX 2		
Control	37184.56	1930.37	0.05	1.00
1pg	33022.78	4591.37	0.14	2.68
100pg	31731.37	9394.74	0.30	5.70
1ng	26689.30	10732.93	0.40	7.75
100ng	32336.63	7346.13	0.23	4.38



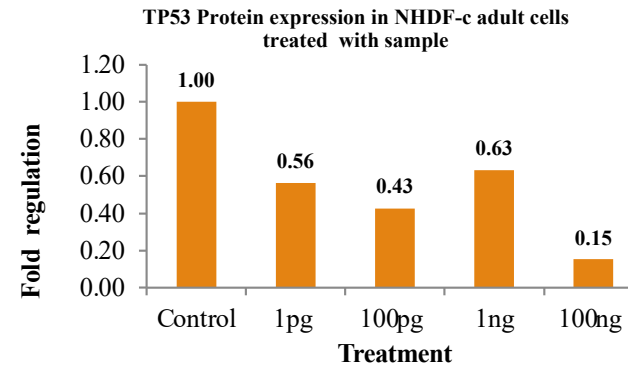
Western Blot for the expression of GAPDH, LMX1A in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	LMX1A		
Control	37184.56	18666.38	0.50	1.00
1pg	33022.782	13604.953	0.41	0.82
100pg	31731.368	15466.225	0.49	0.97
1ng	26689.296	15391.368	0.58	1.15
100ng	32336.631	4372.146	0.14	0.27



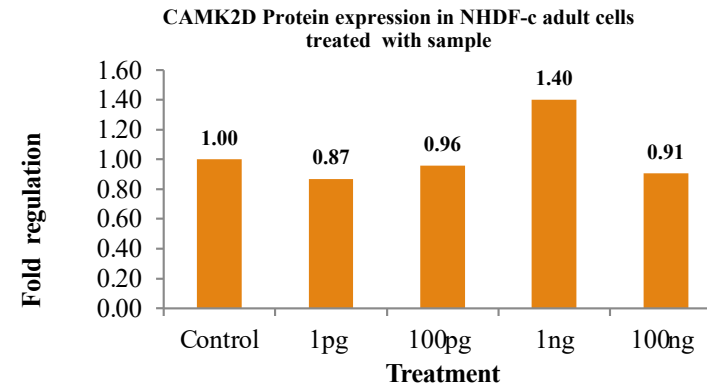
Western Blot for the expression of GAPDH, Tp53 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	TP53		
Control	37184.56	7300.016	0.20	1.00
1pg	33022.782	9342.51	0.28	0.56
100pg	31731.368	6795.844	0.21	0.43
1ng	26689.296	8490.752	0.32	0.63
100ng	32336.631	2471.945	0.08	0.15



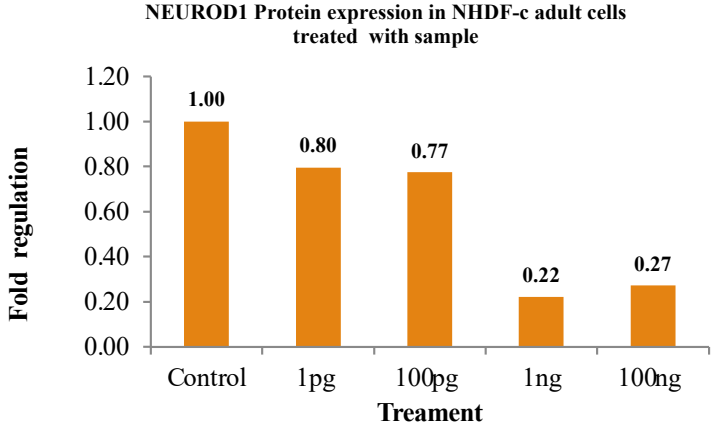
Western Blot for the expression of GAPDH, CAMK2D in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	CAMk2D		
Control	37184.56	8695.903	0.23	1.19
1pg	33022.782	6703.61	0.20	0.40
100pg	31731.368	7106.702	0.22	0.45
1ng	26689.296	8755.752	0.33	0.65
100ng	32336.631	6851.362	0.21	0.42



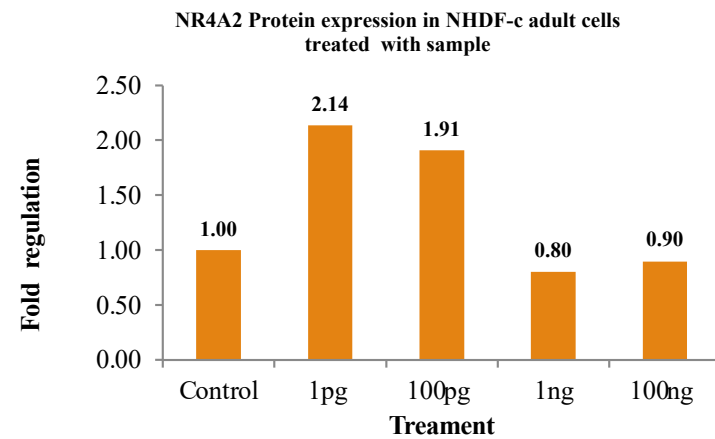
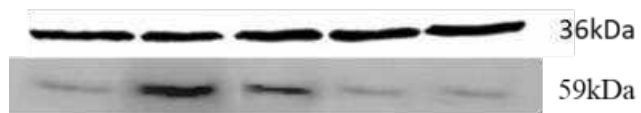
Western Blot for the expression of GAPDH, NEUROD1 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	NEUROD1		
Control	37184.56	7321.81	0.20	1.00
1pg	33022.78	5173.47	0.16	0.80
100pg	31731.37	4841.15	0.15	0.77
1ng	26689.30	1163.08	0.04	0.22
100ng	32336.63	1736.84	0.05	0.27



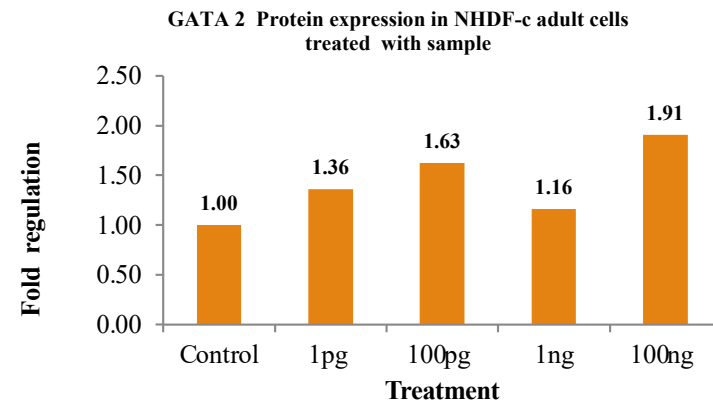
Western Blot for the expression of GAPDH, NR4A2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	NR4A2		
Control	37184.56	4704.13	0.13	1.00
1pg	33022.78	8921.64	0.27	2.14
100pg	31731.37	7664.44	0.24	1.91
1ng	26689.30	2701.52	0.10	0.80
100ng	32336.63	3666.25	0.11	0.90



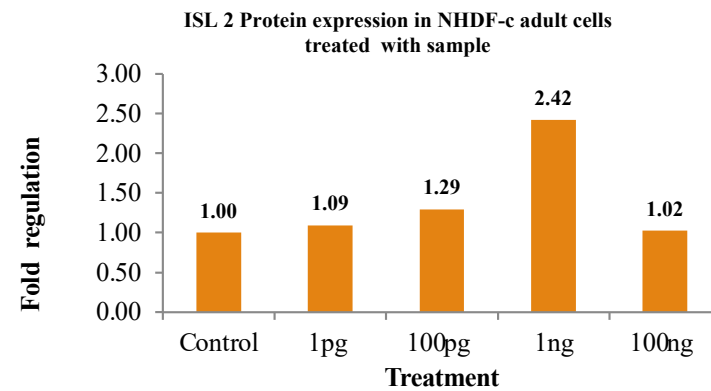
Western Blot for the expression of GAPDH, GATA 2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	GATA 2		
Control	37184.56	10540.79	0.28	1.00
1pg	33022.78	12749.75	0.39	1.36
100pg	31731.37	14622.41	0.46	1.63
1ng	26689.30	8804.28	0.33	1.16
100ng	32336.63	17474.05	0.54	1.91



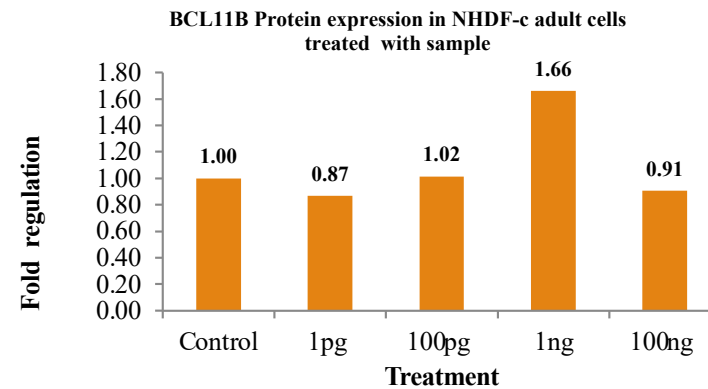
Western Blot for the expression of GAPDH, ISL 2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	ISL 2		
Control	37184.56	8231.90	0.22	1.00
1pg	33022.78	10239.61	0.31	1.09
100pg	31731.37	11642.70	0.37	1.29
1ng	26689.30	18291.75	0.69	2.42
100ng	32336.63	9387.36	0.29	1.02



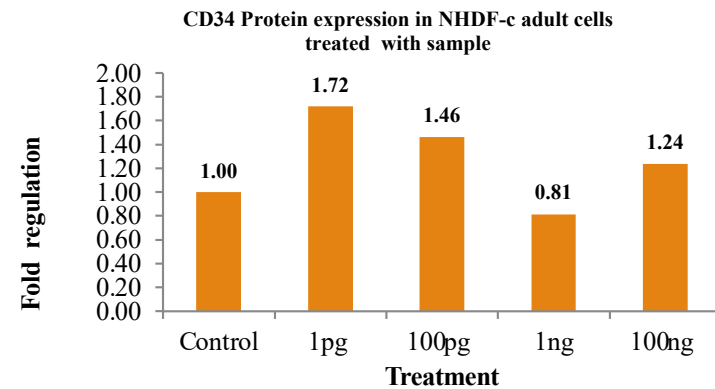
Western Blot for the expression of GAPDH, BCL11 Bin NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	BCL 11B		
Control	37184.56	12965.158	0.35	1.00
1pg	33022.78	10025.489	0.30	0.87
100pg	31731.37	11232.267	0.35	1.02
1ng	26689.30	15467.773	0.58	1.66
100ng	32336.63	10222.907	0.32	0.91



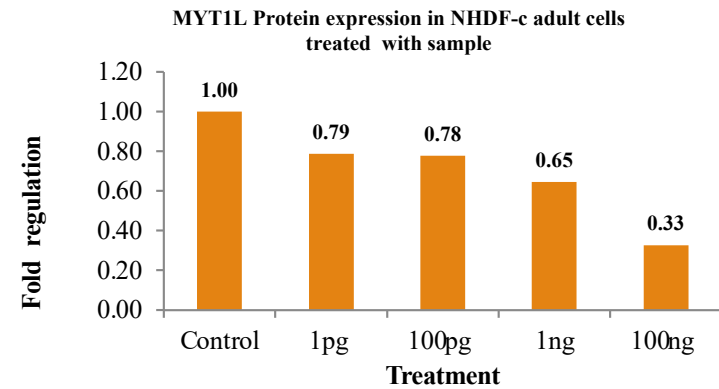
Western Blot for the expression of GAPDH,CD34 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	CD 34		
Control	37184.56	18683.388	0.50	1.00
1pg	33022.78	19803.51	0.60	1.72
100pg	31731.37	16186.317	0.51	1.46
1ng	26689.30	7572.581	0.28	0.81
100ng	32336.63	13925.602	0.43	1.24



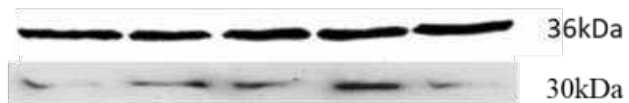
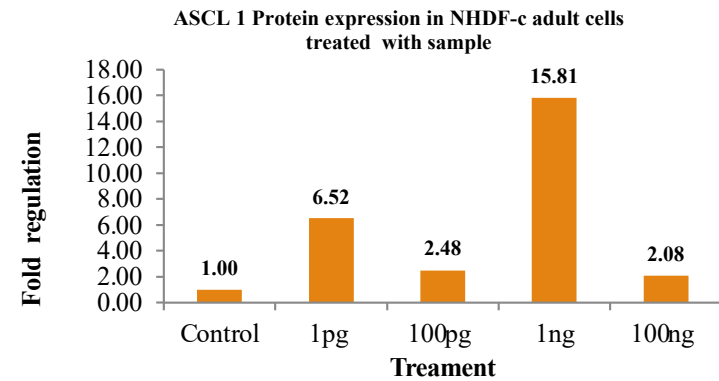
Western Blot for the expression of GAPDH, MYT1L in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	MYT1L		
Control	37184.56	14666.43	0.39	1.00
1pg	33022.78	9075.359	0.27	0.79
100pg	31731.37	8596.104	0.27	0.78
1ng	26689.30	6023.217	0.23	0.65
100ng	32336.63	3696.296	0.11	0.33



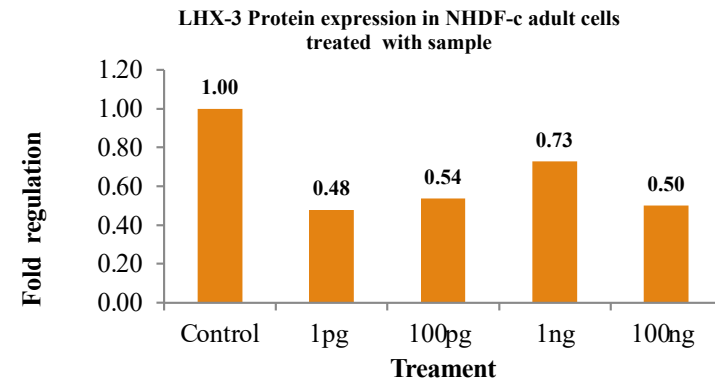
Western Blot for the expression of GAPDH, ASCL 1 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	ASCL1		
Control	37184.56	1690.61	0.05	1.00
1pg	33022.78	9783.53	0.30	6.52
100pg	31731.37	3572.752	0.11	2.48
1ng	26689.30	19182.484	0.72	15.81
100ng	32336.63	3064.113	0.09	2.08



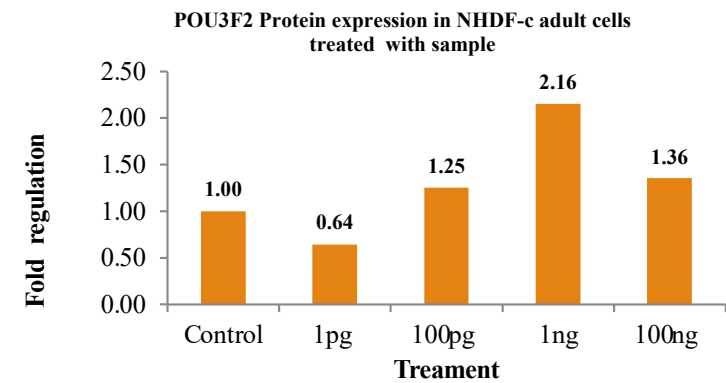
Western Blot for the expression of GAPDH, LHX3 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	LHX3		
Control	37184.56	10960.986	0.29	1.00
1pg	33022.78	4649.941	0.14	0.48
100pg	31731.37	5024.113	0.16	0.54
1ng	26689.30	5721.648	0.21	0.73
100ng	32336.63	4773.891	0.15	0.50



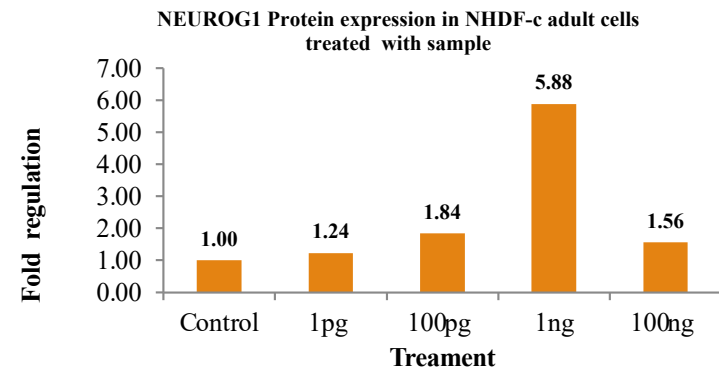
Western Blot for the expression of GAPDH, POU3F2 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	POU3F2		
Control	37184.56	7607.347	0.20	1.00
1pg	33022.78	4352.841	0.13	0.64
100pg	31731.37	8121.38	0.26	1.25
1ng	26689.30	11770.522	0.44	2.16
100ng	32336.63	8970.966	0.28	1.36



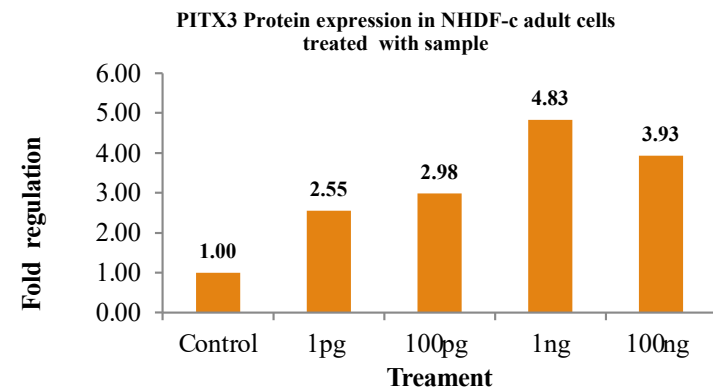
Western Blot for the expression of GAPDH, NEUROG1 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	NEUROG1		
Control	37184.56	2205.598	0.06	1.00
1pg	33022.78	2424.77	0.07	1.24
100pg	31731.37	3466.104	0.11	1.84
1ng	26689.30	9310.966	0.35	5.88
100ng	32336.63	2993.054	0.09	1.56



Western Blot for the expression of GAPDH, PITX3 in NHDF-C adult cells

Samples	Band Intensity Of Protein		Normalised	Relative Protein Expression
	GAPDH	PITX3		
Control	37184.56	2983.79	0.08	1.00
1pg	33022.78	6766.326	0.20	2.55
100pg	31731.37	7595.246	0.24	2.98
1ng	26689.30	10345.472	0.39	4.83
100ng	32336.63	10194.095	0.32	3.93



Evaluation of gene regulation in Normal Human Dermal Fibroblasts NHDF-c adult cells treated with Metadichol®

Evaluation of gene regulation in Normal Human Dermal Fibroblasts NHDF-c adult cells treated with Metadichol TM

Cell line:

SL NO	NAME	SEQUENCE	SIZE	Tm
1	GATA-2	F GGAACCGGAAGATGTCCAACA	169	60.27
		R ATGTGTCCGGAGTGGCTGAA		61.48
2	MYTIL	F GCAGGCAGTGATGAACAACC	201	59.76
		R GGTTTGGGACTTGGGATGGT		59.89
3	GATA-3	F TGGGCAATCAGTGTTACCGTT	309	60.2
		R CTCCGAGCACAACCACCTT		59.93
4	PHOX2B	F CCAAGGCTATTGTCGTCGCT	159	60.46
		R TGCGAAGCCAGGGAAGTTTG		61.17
5	NR4A2	F AACACCGTCCAACATTCCTTG	119	59.05
		R GCTGCTGCATGCAAGTTTT		58.09
6	KLF7	F CTTCTCTCGACGCCATCTCC	247	59.97
		R AGCCATCCAAAAGCCCCATT		60.25
7	FOXA2	F ACTCGCTCTCCTTCAACGAC	242	59.76
		R CTCCCCGAGTTGAGCCTGTG		62.51
8	NEUROG2	F CTGGGAAGAGATGATGGTGGC	106	60.48
		R GAGATTCACACGAACTGCACC		59.54
9	LMX1A	F TCTGTGTGGCTGATGGTGTT	256	59.53
		R AAGCCTTGGTGTTTCCCAGT		59.74
10	ISL2	F TGGTCTCCTTCTCCGAGTCC	106	60.32
		R GGAICTCGGCACCATACTGTT		59.75

SL NO	NAME	SEQUENCE		SIZE	Tm
11	ASCL1	F	GCGGCCAACAAAGAAGATGAG	308	59.55
		R	CCAAAGTCCATTCGCACCAG		59.48
12	POU3F2	F	TTCTCGCTTATCTCCGTGGC	387	59.9
		R	GTTTCCGCCGTGATGTTCTG		59.8
13	DLX1	F	TACTTTAAGCGCACGGGGAG	103	60.11
		R	CATTCGGCTCCAAACTCTCCA		60.34
14	DLX2	F	AAGTTTAGGTGCCTTTGCGG	140	59.04
		R	AACTCTGTGTCCAAGTCCAGG		59.58
15	TP53	F	AGGTTGGCTCTGACTGTACC	332	59.02
		R	CCCACGGATCTGAAGGGTGA		61.26
16	LHX3	F	CGAGGGGAGAGCGTTTACTG	131	60
		R	CAGTGCAGGTGGTACACGAA		60
17	BCL11B	F	TTGCCAGGACTAAGCCATCC	387	59.74
		R	TGCAGGGCTGAGTTACAAGG		59.96
18	HAND2	F	GACCCAGGACTCCGAAAAG	201	60.04
		R	ACGGGAGTGTCTCTTCGTA		59
19	NEUROD1	F	TCTTCCACGTTAAGCCTCCG	97	59.75
		R	CCATCAAAGGAAGGGCTGGT		59.85
20	NEUROG1	F	TCTTGGTCTGTTTCTCCGGC	162	59.85
		R	GGGTCAGTTCTGAGCCAGTC		60
21	MYLIP	F	TGATGGAGGTGGAGGTGGAG	121	60
		R	TCTGCTGGGAGATCCGTTT		60
22	PITX3	F	GAGCACAGCGACTCAGAAAAG	359	59.54
		R	CAGTTGCCGTACGAGTAGCC		60.8
23	CD-34	F	ACATCTTTACGCCCAACCC	255	59.75
		R	CTGTATTGCGGCAGAGAGGA		59.54

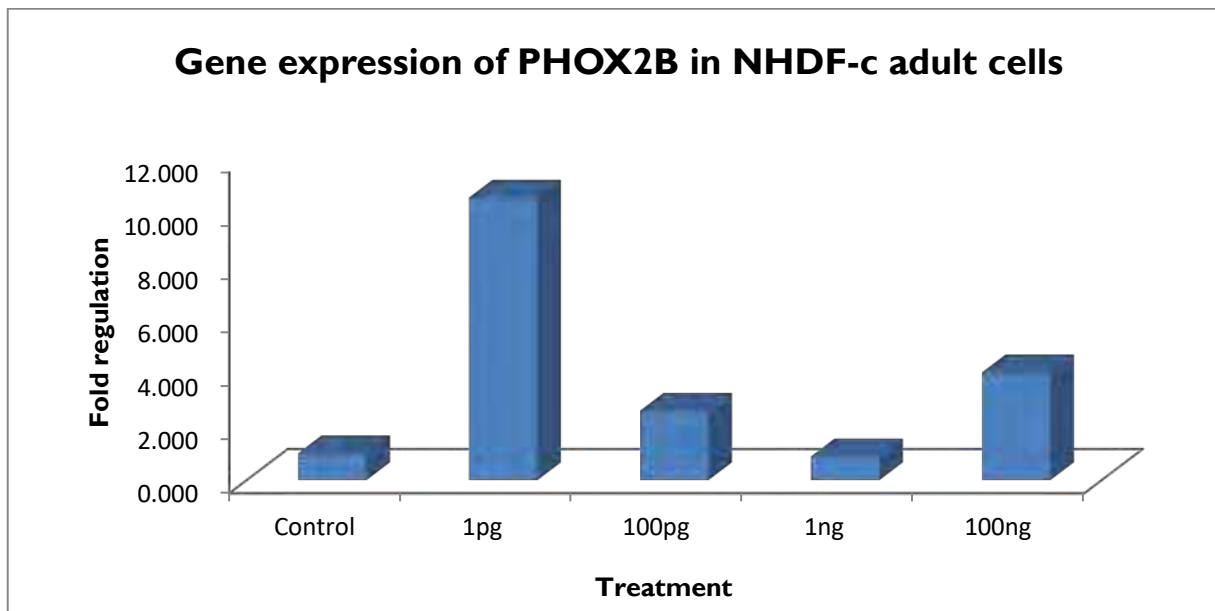
Relative expression of PHOX2B

Plate map and Cq of PHOX2B

	Fluor	Target	Content	Sample	Biologic al Set Name	Cq	Cq	Cq Mean
A01	SYBR	PHOX2 B	Unknown	CONTROL	cDNA	31.82	31.56	31.688
A02	SYBR	PHOX2 B	Unknown	1pg	cDNA	28.10	27.57	27.833
A03	SYBR	PHOX2 B	Unknown	100pg	cDNA	29.26	30.06	29.659
A04	SYBR	PHOX2 B	Unknown	1ng	cDNA	30.83	31.12	30.977
A05	SYBR	PHOX2 B	Unknown	100ng	cDNA	29.26	28.41	28.835
A06	SYBR	PHOX2 B	NTC	NTC	NTC	NA	NA	NA

Table I: Relative expression of PHOX2 B gene in NHDF-c adult cells

Sample	Actin	PHOX2 B	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	31.688	11.609	0.000	1.000
1pg	19.62	27.833	8.209	-3.400	10.559
100pg	19.42	29.659	10.236	-1.373	2.590
1ng	19.19	30.977	11.789	0.180	0.883
100ng	19.23	28.835	9.601	-2.008	4.023



Graph I: Relative Gene expression of PHOX2 B in NHDF-c adult cells

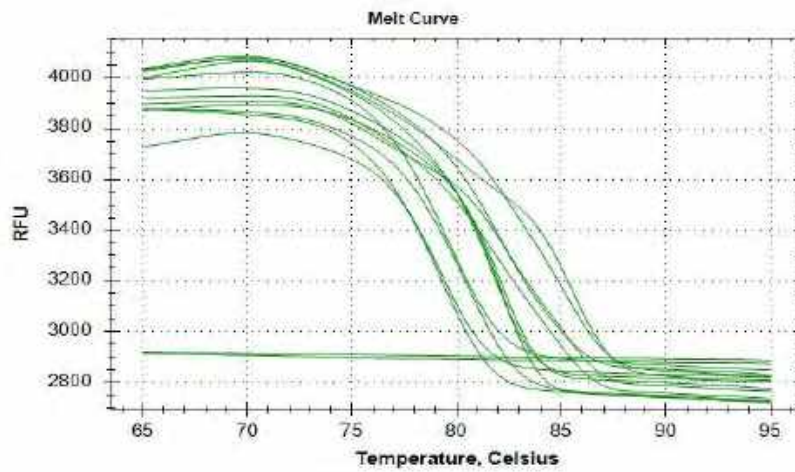


Figure I.1: PHOX2 B Amplification curve

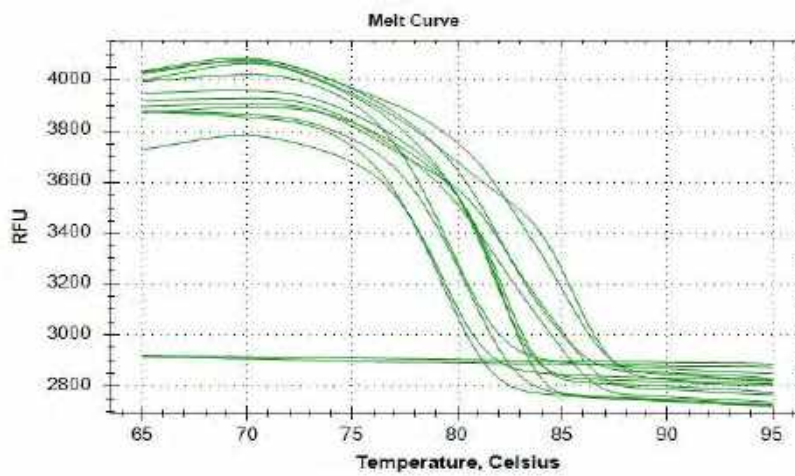


Figure I.2: PHOX2 B melt curve

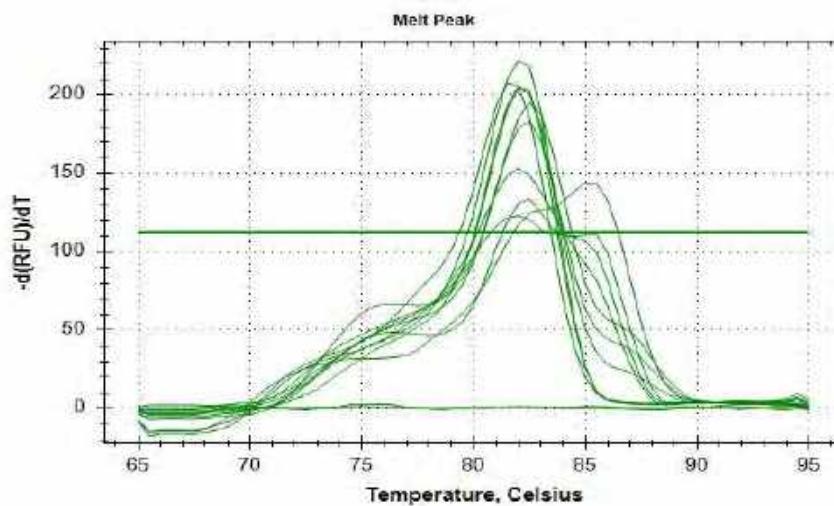


Figure I.3: PHOX2 B melt peak

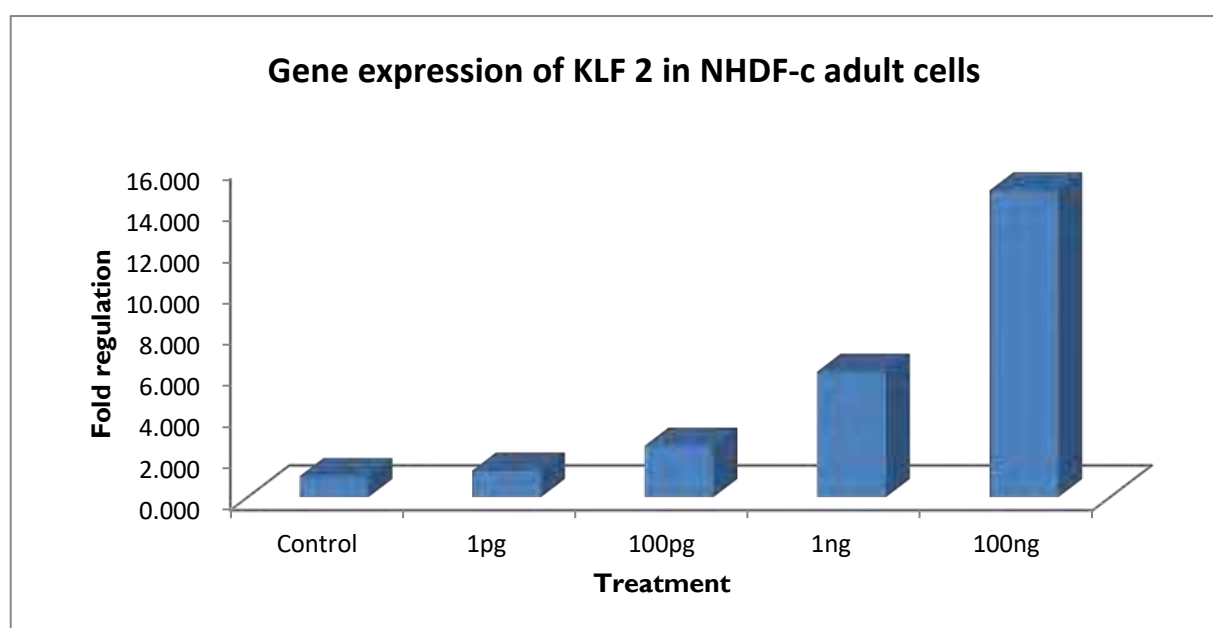
Relative expression of KLF7

Plate map and Cq of KLF2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
A07	SYBR	KLF 7	Unknown	CONTROL	cDNA	29.23	28.08	28.654
A08	SYBR	KLF 7	Unknown	1pg	cDNA	28.03	27.69	27.860
A09	SYBR	KLF 7	Unknown	100pg	cDNA	26.93	26.46	26.694
A10	SYBR	KLF 7	Unknown	1ng	cDNA	25.06	25.27	25.165
A11	SYBR	KLF 7	Unknown	100ng	cDNA	23.66	24.18	23.921
A12	SYBR	KLF 7	NTC	NTC	NTC	NA	NA	NA

Table 2: Relative expression of KLF 2gene in NHDF-c adult cells

Sample	Actin	KLF 2	Delta ct	Delta Delta ct	Fold change 2 ^{ΔΔCt}
Control	20.08	28.654	8.58	0.000	1.000
1pg	19.62	27.860	8.24	-0.339	1.265
100pg	19.42	26.694	7.27	-1.304	2.468
1ng	19.19	25.165	5.98	-2.597	6.052
100ng	19.23	23.921	4.69	-3.888	14.810



Graph 2: Relative expression of KLF 2 in NHDF-c adult cells

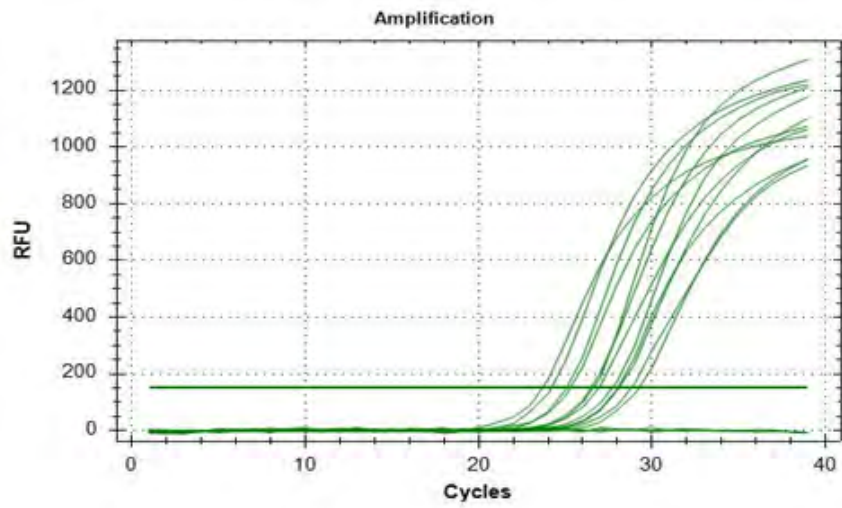


Figure 2.1: KLF 2 Amplification curve

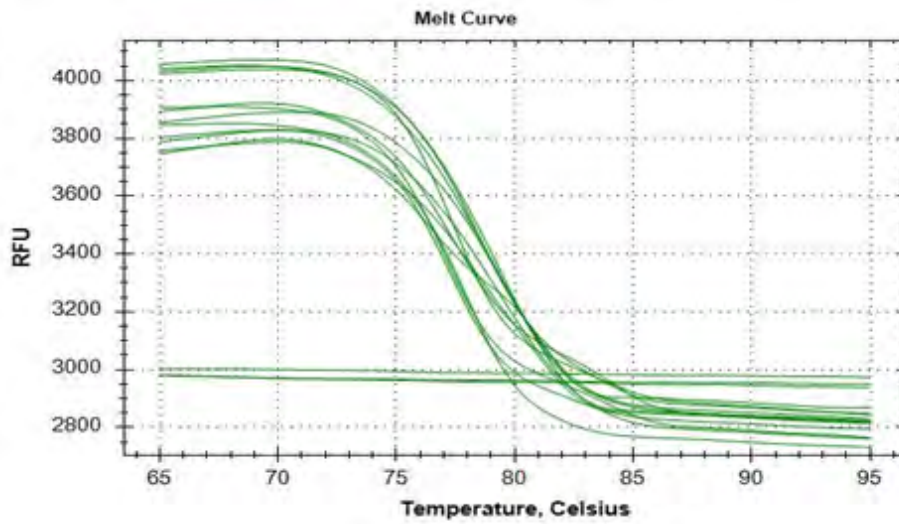


Figure 2.2: KLF 2 melt curve

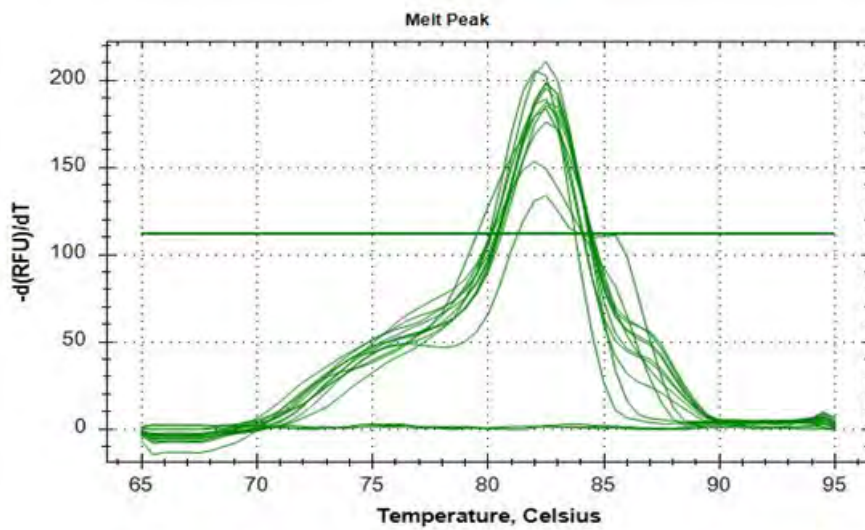


Figure 2.3: KLF 2 melt peak

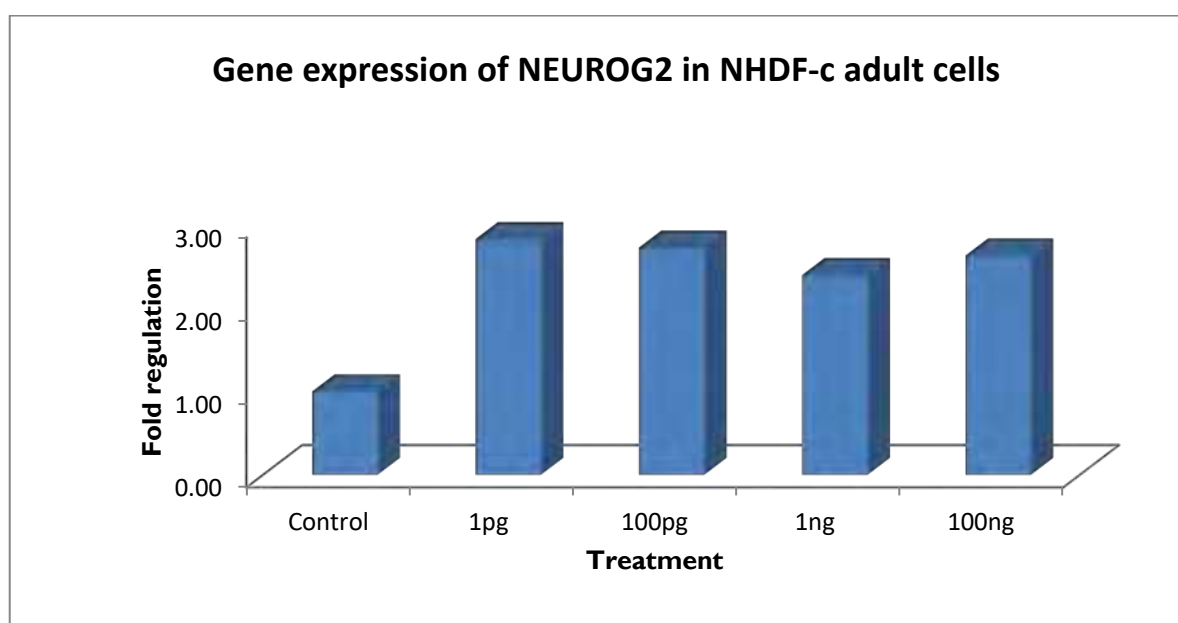
Relative expression of NEUROG2

Plate map and Cq of NEUROG2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	NEUROG2	Unkn	CONTROL	cDNA	28.48	26.71	27.59
C08	SYBR	NEUROG2	Unkn	1pg	cDNA	25.61	25.66	25.64
C09	SYBR	NEUROG2	Unkn	100pg	cDNA	25.48	25.51	25.49
C10	SYBR	NEUROG2	Unkn	1ng	cDNA	25.43	25.46	25.44
C11	SYBR	NEUROG2	Unkn	100ng	cDNA	25.27	25.44	25.35
C12	SYBR	NEUROG2	NTC	NTC	NTC	NA	NA	NA

Table 3: Relative expression of NEUROG2 gene in NHDF-c adult cells

Sample	Actin	NEUROG2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	27.59	7.52	0.00	1.00
1pg	19.62	25.64	6.01	-1.50	2.83
100pg	19.42	25.49	6.07	-1.45	2.73
1ng	19.19	25.44	6.25	-1.26	2.40
100ng	19.23	25.35	6.12	-1.40	2.63



Graph 3: Relative expression of NUROG2in NHDF-c adult cells

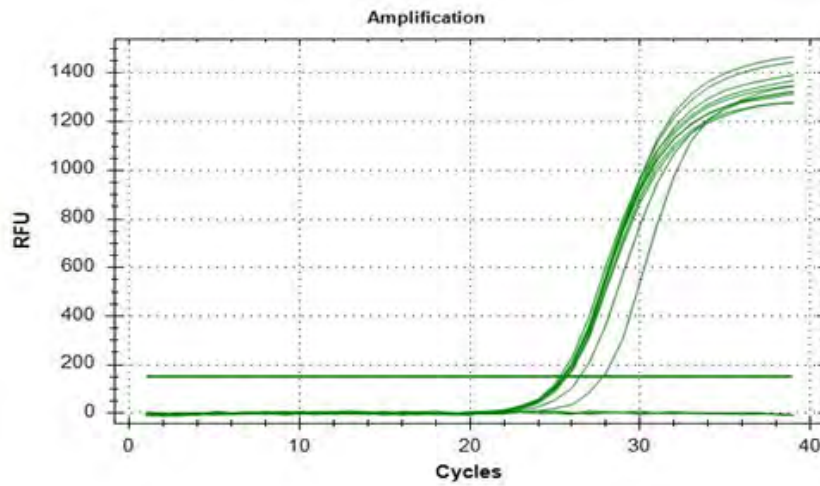


Figure 3.1: NEUROG2 Amplification curve

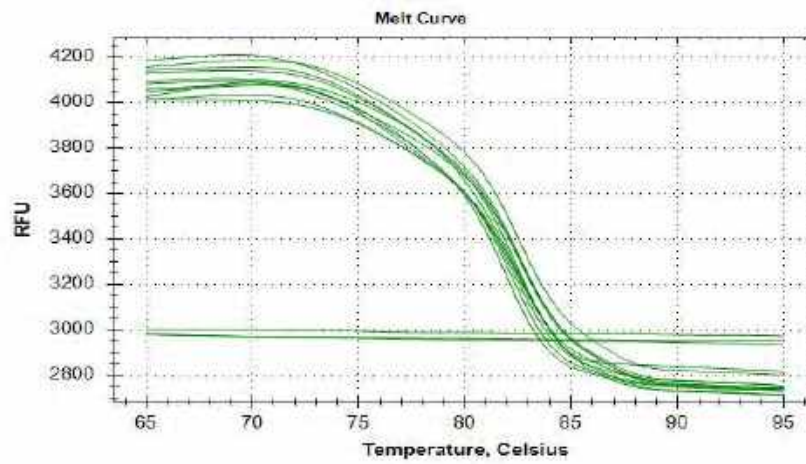


Figure 3.2: NEUROG2 melt curve

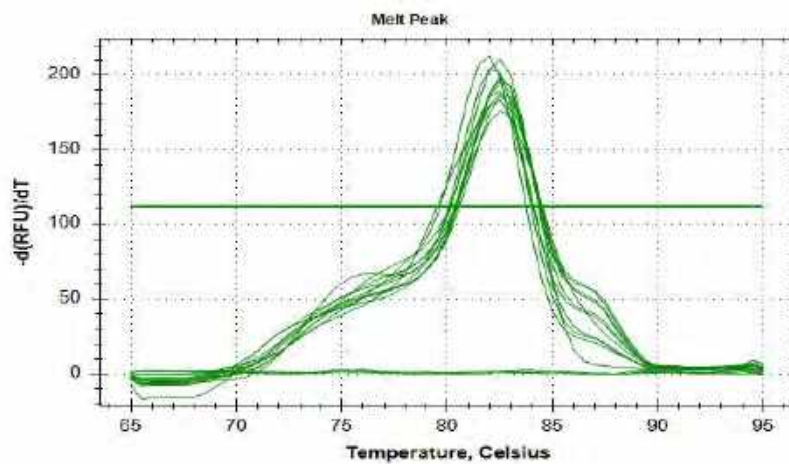


Figure 3.3: NEUROG2 melt peak

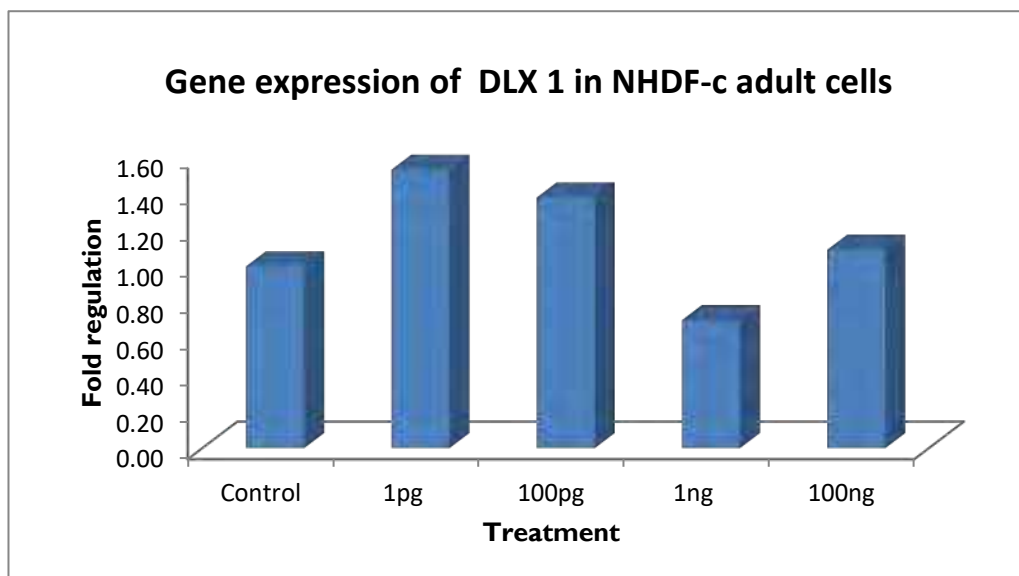
Relative expression of DLX 1

Plate map and Cq of DLX 1

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
E07	SYBR	DLX I	Unkn	CONTROL	cDNA	23.07	23.50	23.29
E08	SYBR	DLX I	Unkn	1pg	cDNA	23.09	23.34	23.21
E09	SYBR	DLX I	Unkn	100pg	cDNA	22.01	22.31	22.16
E10	SYBR	DLX I	Unkn	1ng	cDNA	22.68	23.12	22.90
E11	SYBR	DLX I	Unkn	100ng	cDNA	22.32	22.30	22.31
E12	SYBR	DLX I	NTC	NTC	NTC	NA	NA	NA

Table 4: Relative expression of DLX I gene in NHDF-c adult cells

Sample	Actin	DLX I	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	23.28	3.20	0.00	1.00
1pg	19.62	22.21	2.59	-0.62	1.53
100pg	19.42	22.16	2.74	-0.46	1.38
1ng	19.19	22.90	3.71	0.51	0.70
100ng	19.23	22.31	3.08	-0.13	1.09



Graph 4: Relative expression of DLX I in NHDF-c adult cells

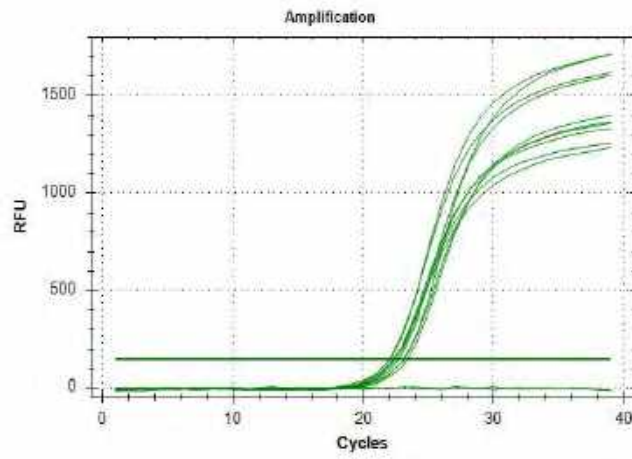


Figure 4.1: DLX I Amplification curve

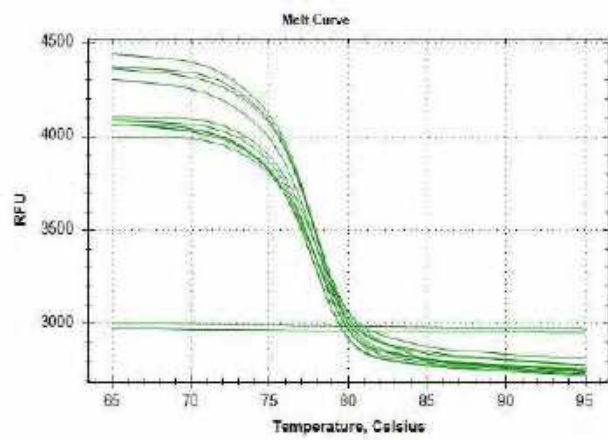


Figure 4.2: DLX I melt curve

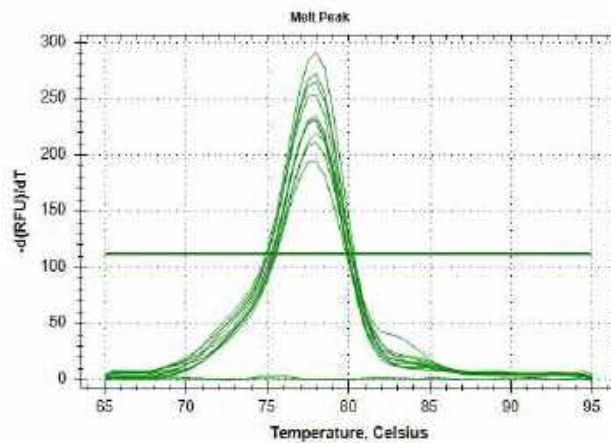


Figure 4.3: DLX I melt peak

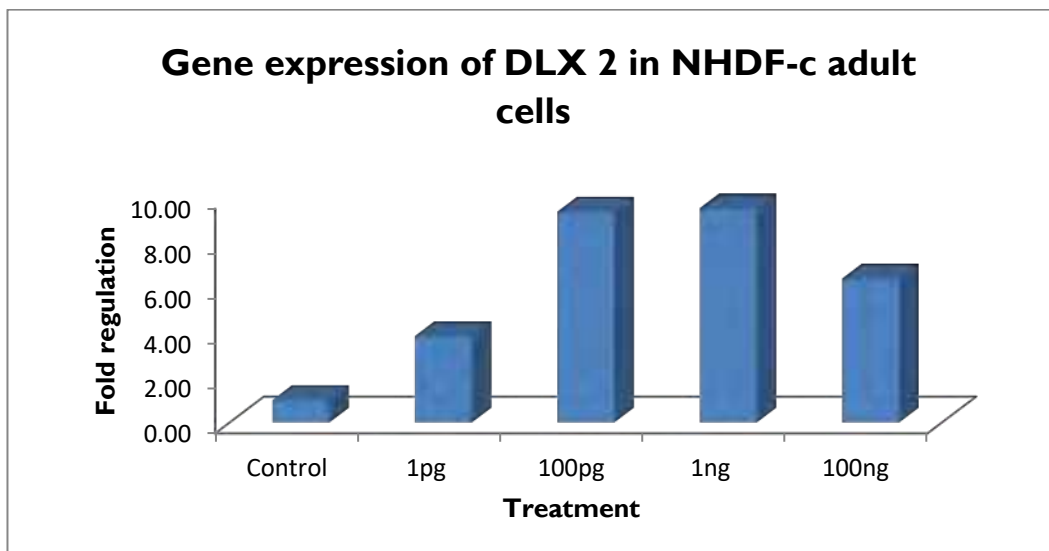
Relative expression of DLX 2

Plate map and Cq of DLX 2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
G01	SYBR	DLX 2	Unkn	CONTROL	cDNA	31.38	32.90	32.14
G02	SYBR	DLX 2	Unkn	1pg	cDNA	29.03	30.46	29.74
G03	SYBR	DLX 2	Unkn	100pg	cDNA	27.85	28.66	28.25
G04	SYBR	DLX 2	Unkn	1ng	cDNA	27.62	28.37	27.99
G05	SYBR	DLX 2	Unkn	100ng	cDNA	28.44	28.79	28.62
G06	SYBR	DLX 2	NTC	NTC	NTC	NA	NA	NA

Table 5: Relative expression of DLX 2 gene in NHDF-c adult cells

Sample	Actin	DLX 2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	32.14	12.06	0.00	1.00
1pg	19.62	29.74	10.12	-1.94	3.85
100pg	19.42	28.25	8.83	-3.23	9.38
1ng	19.19	27.99	8.81	-3.25	9.54
100ng	19.23	28.62	9.38	-2.68	6.41



Graph 5: Relative expression of DLX 2 in NHDF-c adult cells

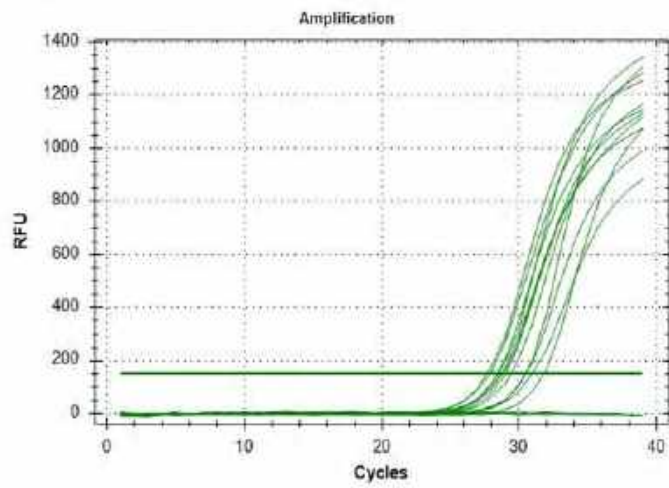


Figure 5.1: DLX 2 Amplification curve

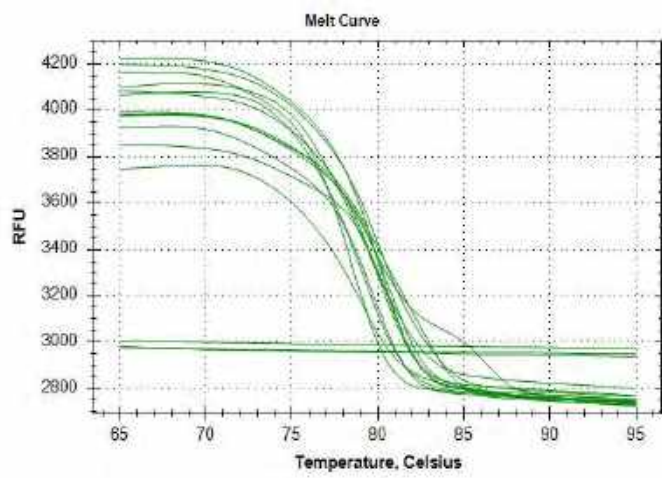


Figure 5.2: DLX 2 melt curve

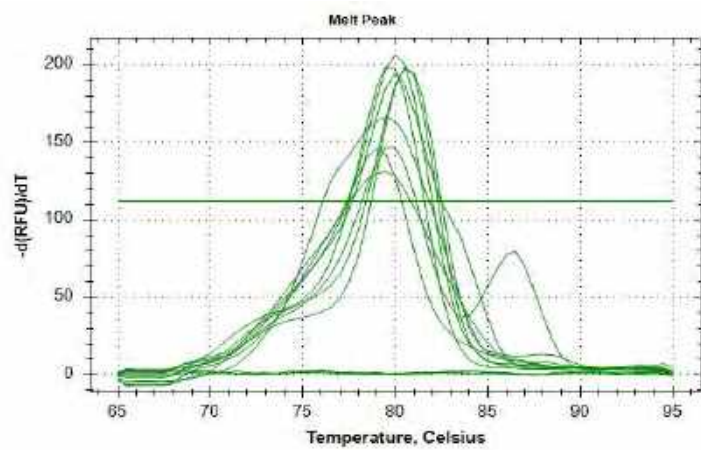


Figure 5.3: DLX 2 melt peak

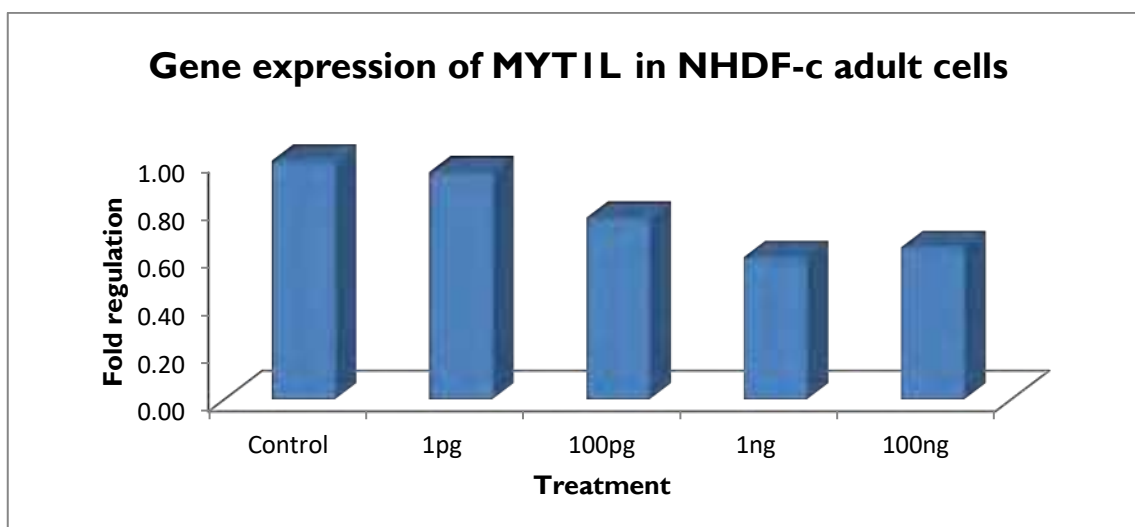
Relative expression of MYTIL

Plate map and Cq of MYTIL

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	MYTIL	Unkn	CONTROL	cDNA	15.97	15.60	15.784
C08	SYBR	MYTIL	Unkn	1pg	cDNA	15.18	15.60	15.39
C09	SYBR	MYTIL	Unkn	100pg	cDNA	15.09	15.97	15.531
C10	SYBR	MYTIL	Unkn	1ng	cDNA	15.73	15.54	15.637
C11	SYBR	MYTIL	Unkn	100ng	cDNA	15.39	15.80	15.597
C12	SYBR	MYTIL	NTC	ntc	ntc	N/A	N/A	N/A

Table 6: Relative expression of MYTIL gene in NHDF-c adult cells

Sample	Actin	MYTIL	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	15.78	-4.29	0.00	1.00
1pg	19.62	15.40	-4.22	0.07	0.95
100pg	19.42	15.52	-3.90	0.39	0.76
1ng	19.19	15.64	-3.55	0.75	0.60
100ng	19.23	15.59	-3.64	0.65	0.64



Graph 6: Relative expression of MYTIL in NHDF-c adult cells

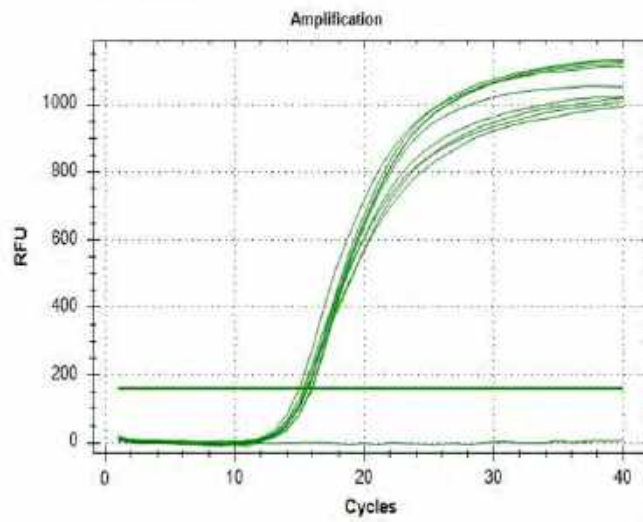


Figure 6.1: MYTIL Amplification curve

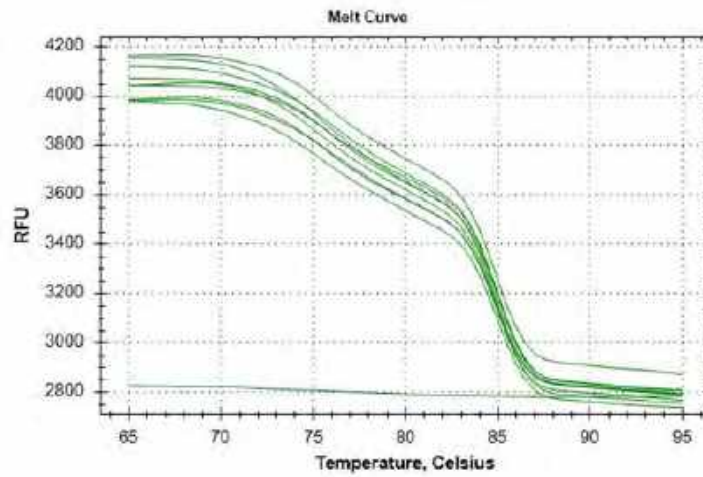


Figure 6.2: MYTIL melt curve

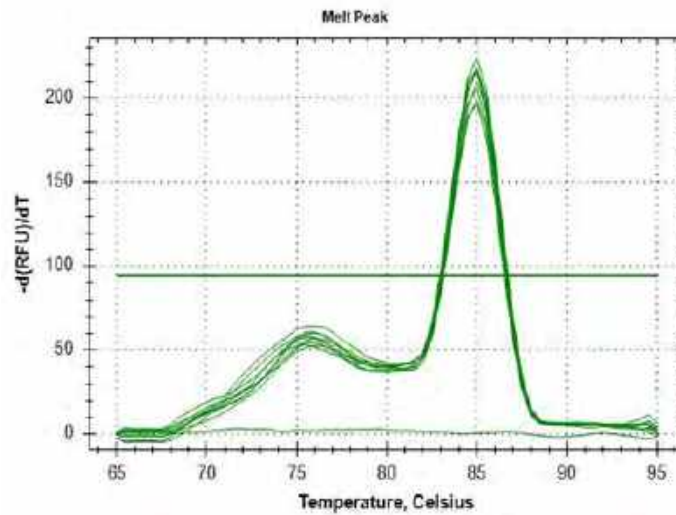


Figure 6.3: MYTIL melt peak

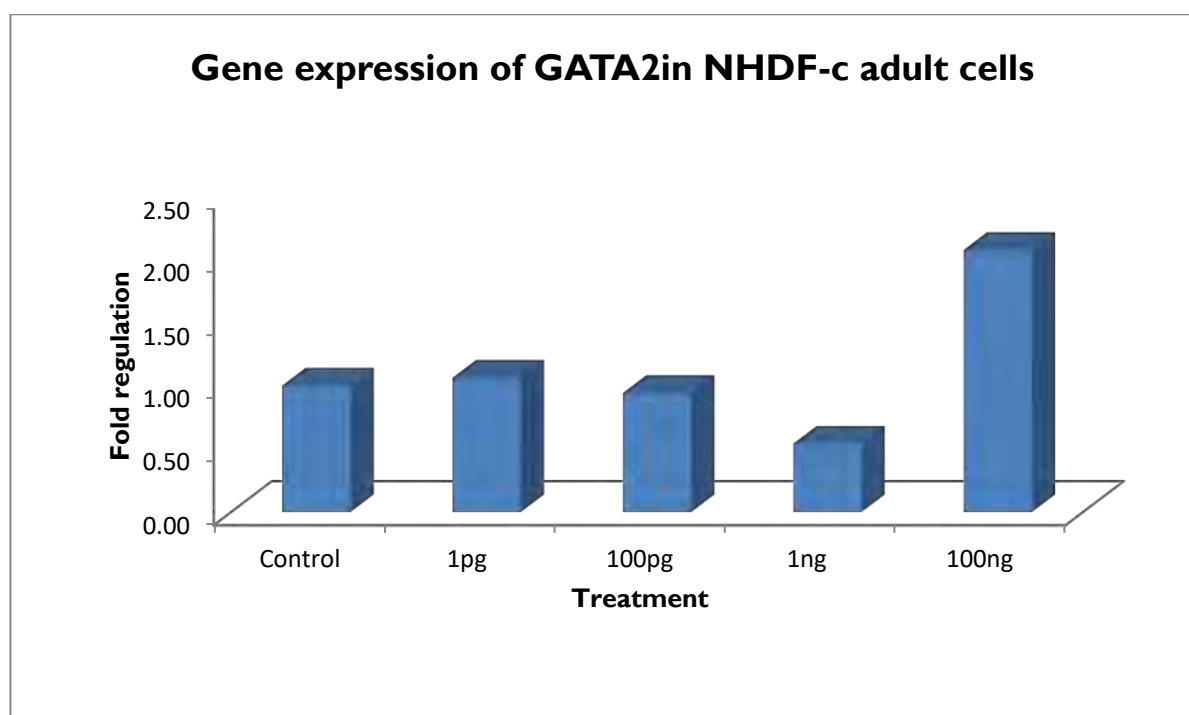
Relative expression of GATA2

Plate map and Cq of GATA2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
D01	SYBR	GATA2	Unkn	CONTROL	cDNA	21.08	19.78	20.428
D02	SYBR	GATA2	Unkn	1pg	cDNA	19.28	20.49	19.887
D03	SYBR	GATA2	Unkn	100pg	cDNA	19.95	19.76	19.859
D04	SYBR	GATA2	Unkn	1ng	cDNA	19.77	21.08	20.424
D05	SYBR	GATA2	Unkn	100ng	cDNA	18.75	18.32	18.532
D06	SYBR	GATA2	NTC	ntc	ntc	N/A	N/A	N/A

Table 7: Relative expression of GATA2 gene in NHDF-c adult cells

Sample	Actin	GATA2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	20.43	0.35	0.00	1.00
1pg	19.62	19.89	0.26	-0.09	1.06
100pg	19.42	19.86	0.44	0.09	0.94
1ng	19.19	20.42	1.24	0.89	0.54
100ng	19.23	18.53	-0.70	-1.05	2.07



Graph 7: Relative expression of GATA2 in NHDF-c adult cells

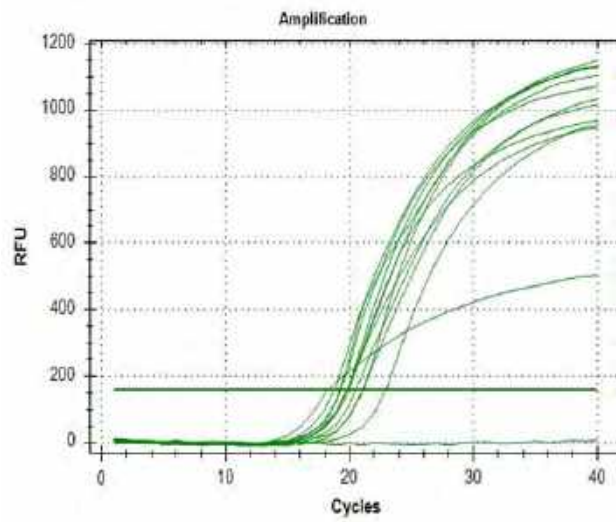


Figure 7.1: GATA2 Amplification curve

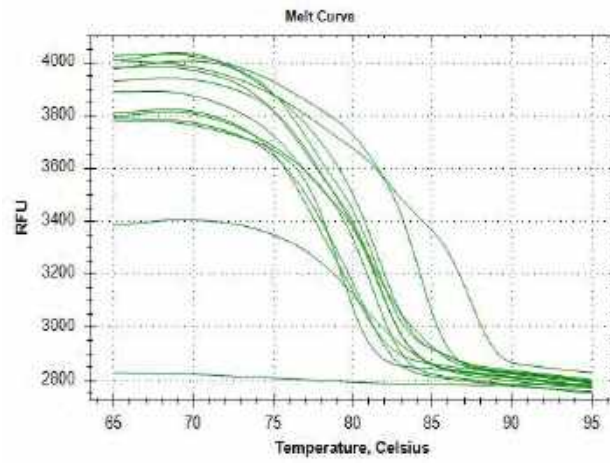


Figure 7.2: GATA2 melt curve

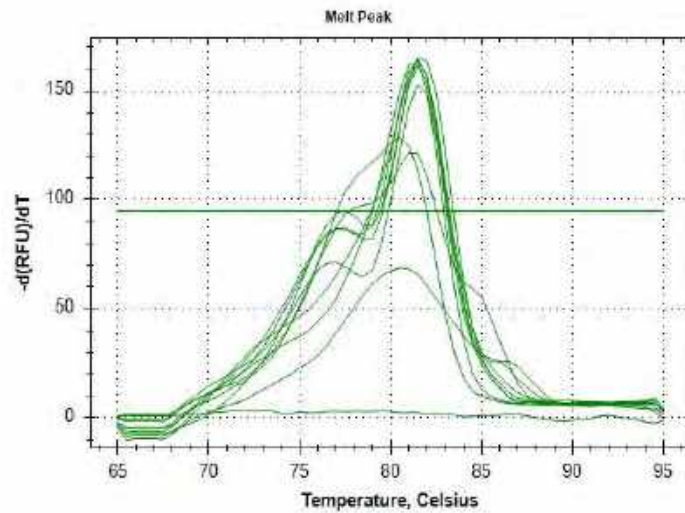


Figure 7.3: GATA2 melt peak

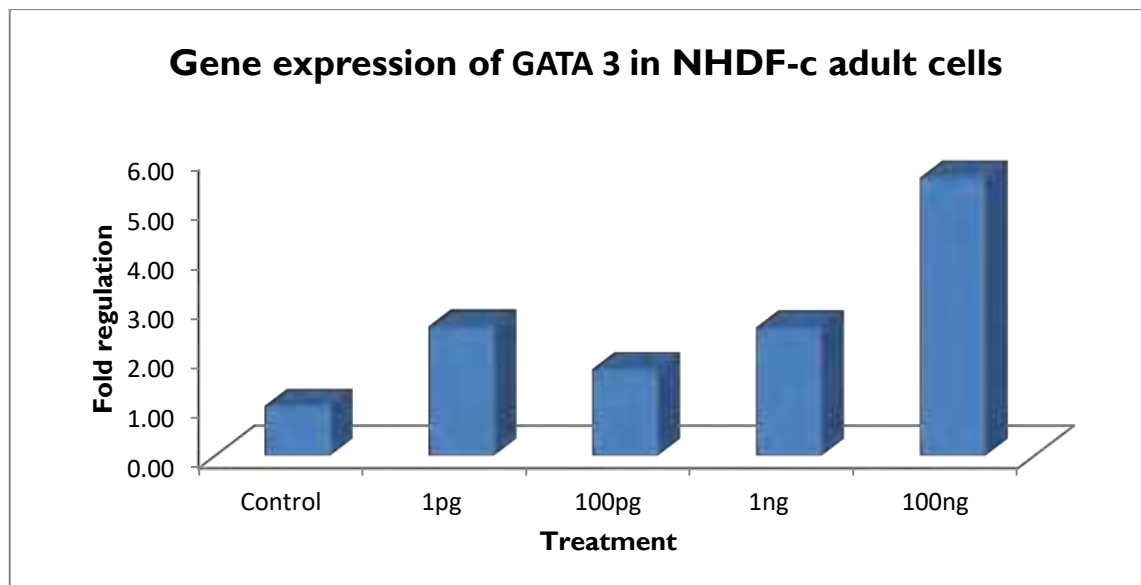
Relative expression of GATA3

Plate map and Cq of GATA3

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
E01	SYBR	GATA3	Unkn	CONTROL	cDNA	22.13	19.93	21.028
E02	SYBR	GATA3	Unkn	1pg	cDNA	18.35	20.04	19.195
E03	SYBR	GATA3	Unkn	100pg	cDNA	19.23	19.92	19.573
E04	SYBR	GATA3	Unkn	1ng	cDNA	18.08	19.46	18.768
E05	SYBR	GATA3	Unkn	100ng	cDNA	17.55	17.84	17.699
E06	SYBR	GATA3	NTC	ntc	ntc	N/A	N/A	N/A

Table 8: Relative expression of GATA3 gene in NHDF-c adult cells

Sample	Actin	GATA3	Delta ct	Delta Delta ct	Fold change 2 [^] DDct
Control	20.08	21.03	0.95	0.00	1.00
1pg	19.62	19.19	-0.43	-1.38	2.60
100pg	19.42	19.57	0.15	-0.80	1.74
1ng	19.19	18.77	-0.42	-1.37	2.58
100ng	19.23	17.70	-1.54	-2.49	5.60



Graph 8: Relative expression of GATA3 in NHDF-c adult cells

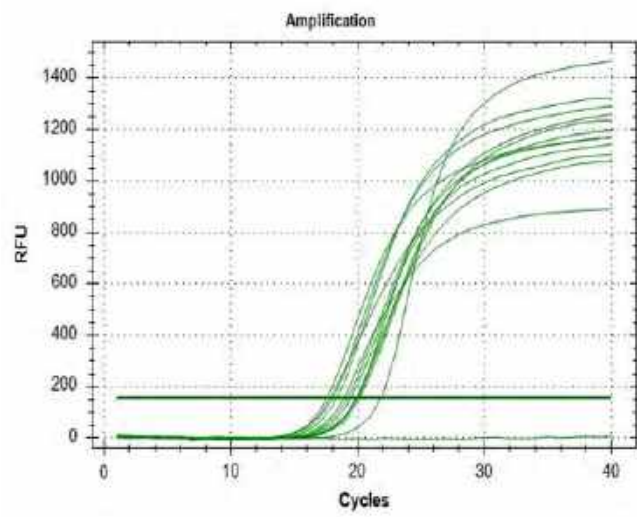


Figure 8.1: GATA3 Amplification curve

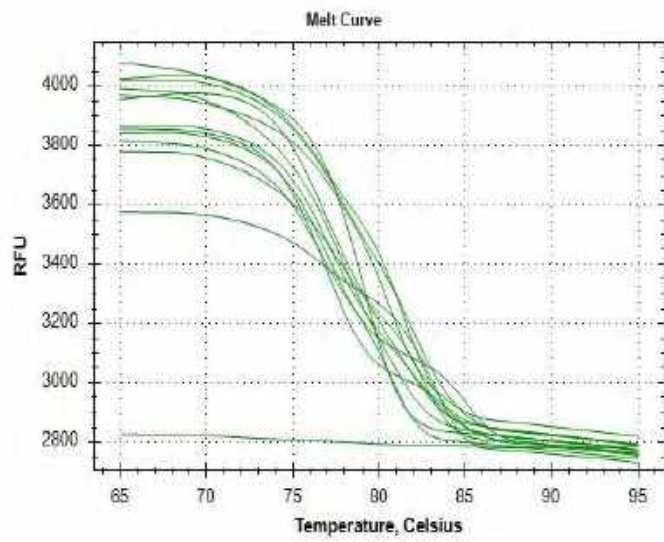


Figure 8.2: GATA3 melt curve

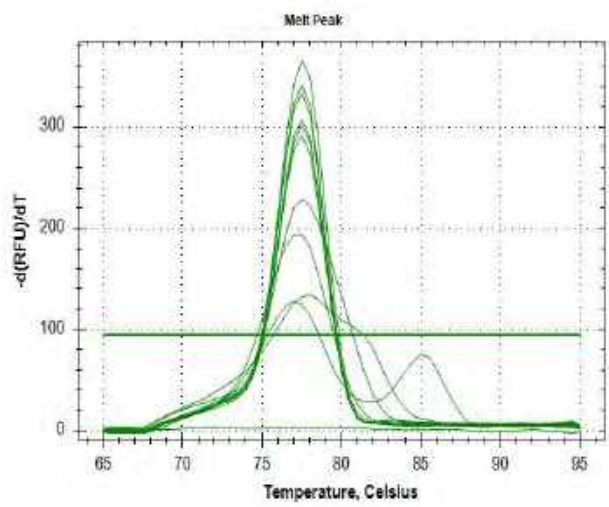


Figure 8.3: GATA3 melt peak

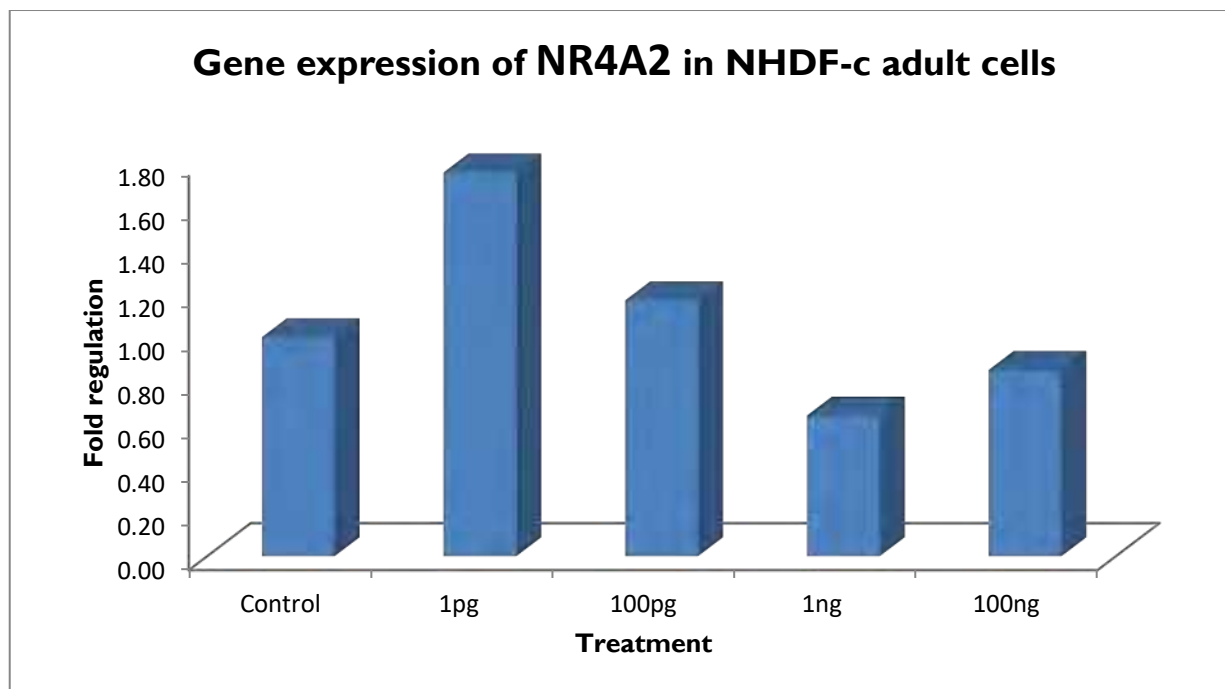
Relative expression of NR4A2

Plate map and Cq of NR4A2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
E07	SYBR	NR4A2	Unkn	CONTROL	cDNA	10.56	11.13	10.845
E08	SYBR	NR4A2	Unkn	1pg	cDNA	9.46	9.71	9.584
E09	SYBR	NR4A2	Unkn	100pg	cDNA	9.83	10.10	9.964
E10	SYBR	NR4A2	Unkn	1ng	cDNA	10.61	10.58	10.593
E11	SYBR	NR4A2	Unkn	100ng	cDNA	10.46	10.00	10.234
E12	SYBR	NR4A2	NTC	ntc	ntc	N/A	N/A	N/A

Table 9: Relative expression of NR4A2 gene in NHDF-c adult cells

Sample	Actin	NR4A2	Delta ct	Delta Delta ct	Fold change 2 ^{ΔΔCt}
Control	20.08	10.84	-9.23	0.00	1.00
1pg	19.62	9.58	-10.04	-0.81	1.75
100pg	19.42	9.96	-9.46	-0.23	1.17
1ng	19.19	10.59	-8.60	0.64	0.64
100ng	19.23	10.23	-9.00	0.23	0.85



Graph 9: Relative expression of NR4A2 in NHDF-c adult cells

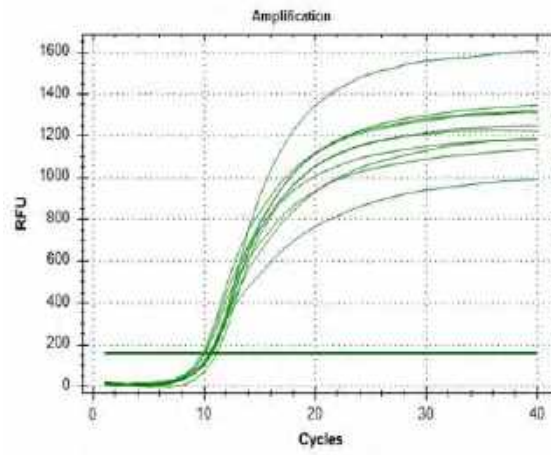


Figure 9.1: NR4A2 Amplification curve

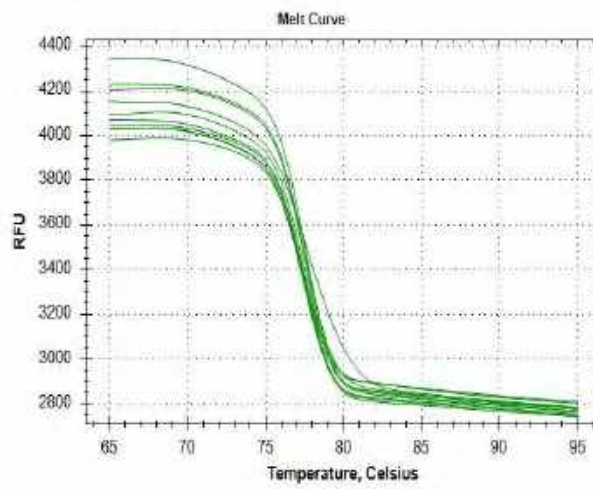


Figure 9.2: NR4A2 melt curve

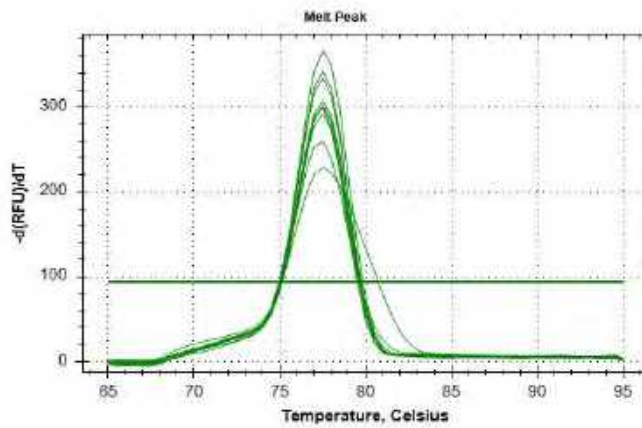


Figure 9.3: NR4A2 melt peak

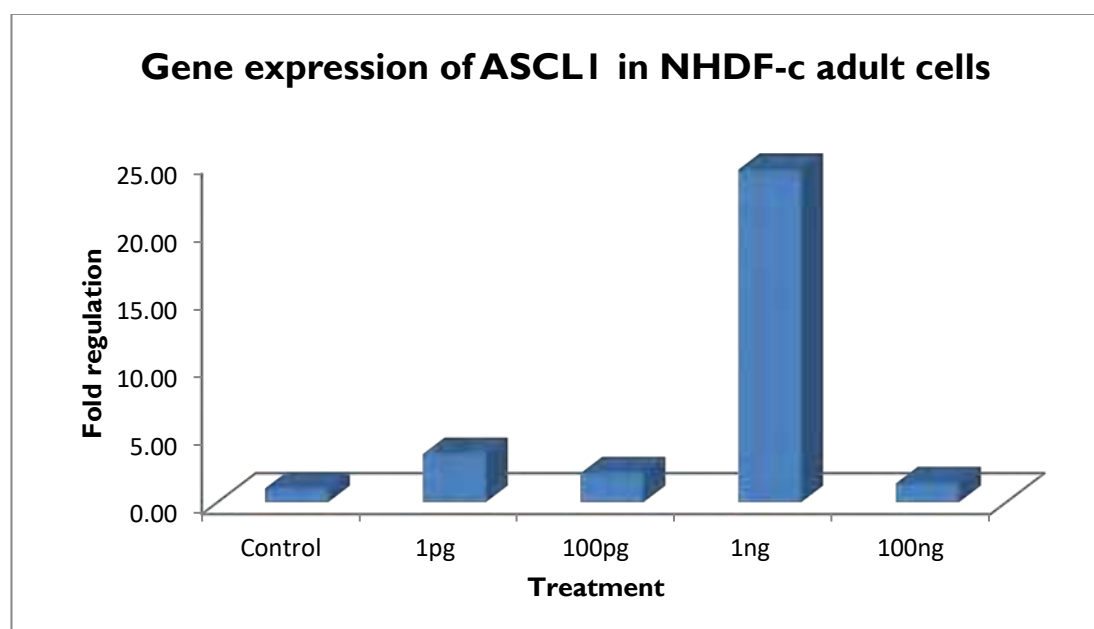
Relative expression of ASCLI

Plate map and Cq of ASCLI

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
G01	SYBR	ASCLI	Unkn	CONTROL	cDNA	19.44	21.03	20.232
G02	SYBR	ASCLI	Unkn	1pg	cDNA	17.69	18.24	17.962
G03	SYBR	ASCLI	Unkn	100pg	cDNA	17.72	19.27	18.499
G04	SYBR	ASCLI	Unkn	1ng	cDNA	13.54	15.92	14.731
G05	SYBR	ASCLI	Unkn	100ng	cDNA	19.80	18.07	18.933
G06	SYBR	ASCLI	Unkn	NTC	NTC	N/A	N/A	N/A

Table 10: Relative expression of ASCLI gene in NHDF-c adult cells

Sample	Actin	ASCLI	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	20.23	0.15	0.00	1.00
1pg	19.62	17.96	-1.66	-1.82	3.52
100pg	19.42	18.50	-0.92	-1.08	2.11
1ng	19.19	14.73	-4.46	-4.61	24.42
100ng	19.23	18.93	-0.30	-0.45	1.37



Graph 10: Relative expression of ASCLI in NHDF-c adult cells

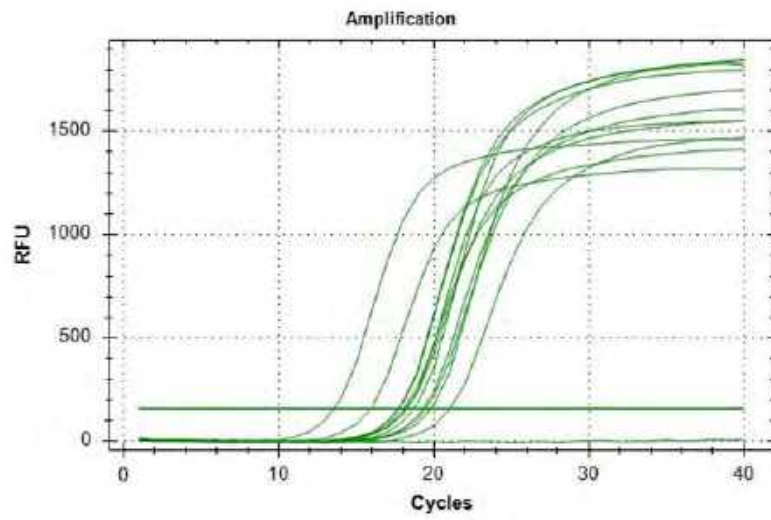


Figure 10.1: ASCLI Amplification curve

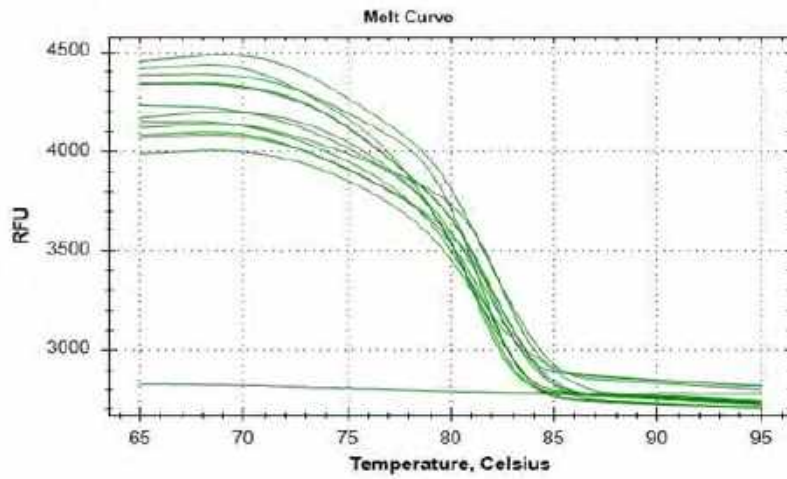


Figure 10.2: ASCLI melt curve

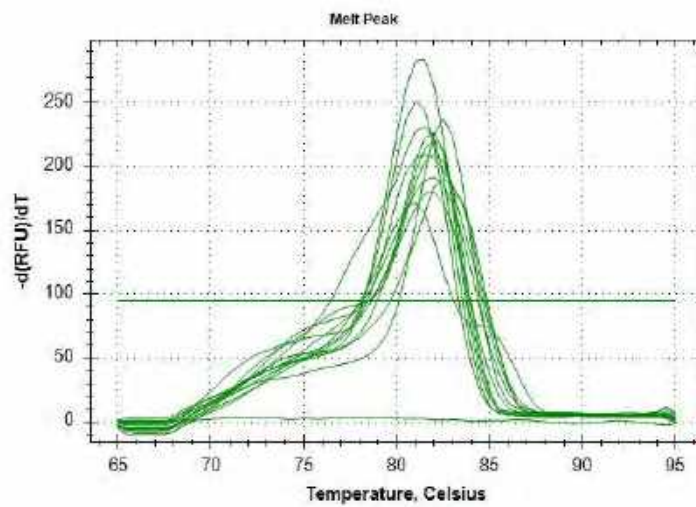


Figure 10.3: ASCLI melt peak

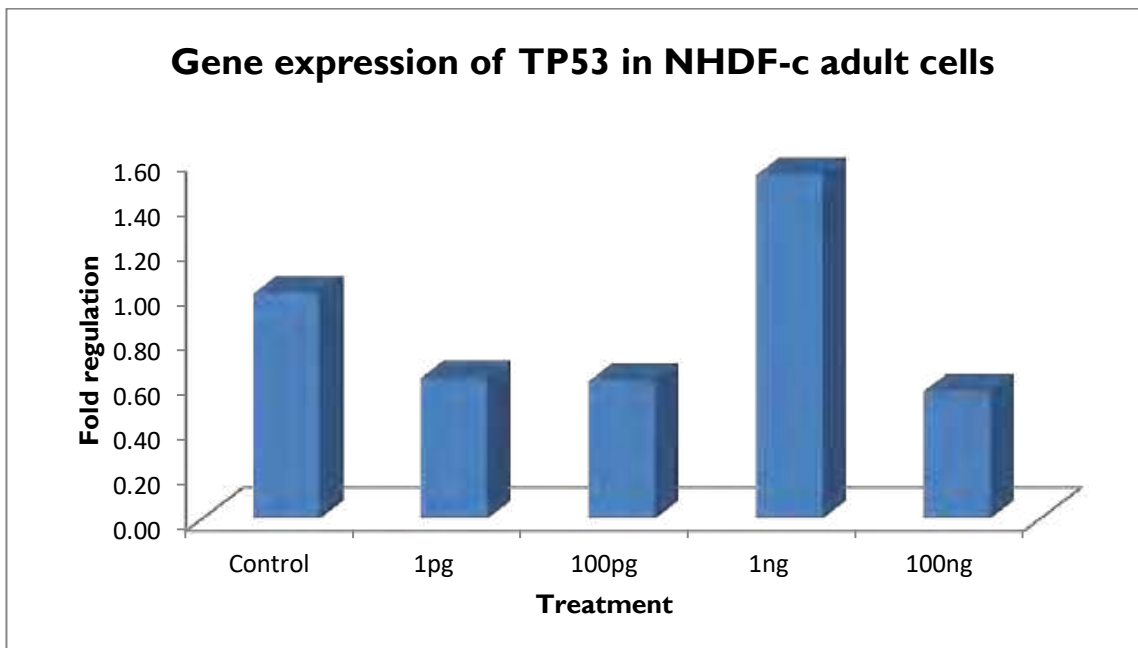
Relative expression of TP53

Plate map and Cq of TP53

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
A01	SYBR	TP53	Unkn	CONTROL	cDNA	17.96	18.19	18.08
A02	SYBR	TP53	Unkn	1pg	cDNA	18.99	17.62	18.30
A03	SYBR	TP53	Unkn	100pg	cDNA	17.77	18.03	17.90
A04	SYBR	TP53	Unkn	1ng	cDNA	16.35	16.80	16.57
A05	SYBR	TP53	Unkn	100ng	cDNA	18.00	18.11	18.06
A06	SYBR	TP53	NTC	ntc	ntc	N/A	N/A	N/A

Table II: Relative expression of TP53 gene in NHDF-c adult cells

Sample	Actin	TP53	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	18.08	-2.00	0.00	1.00
1pg	19.62	18.30	-1.32	0.68	0.62
100pg	19.42	17.90	-1.29	0.71	0.61
1ng	19.19	16.57	-2.61	-0.61	1.53
100ng	19.23	18.06	-1.18	0.83	0.56



Graph II: Relative expression of TP53 in NHDF-c adult cells

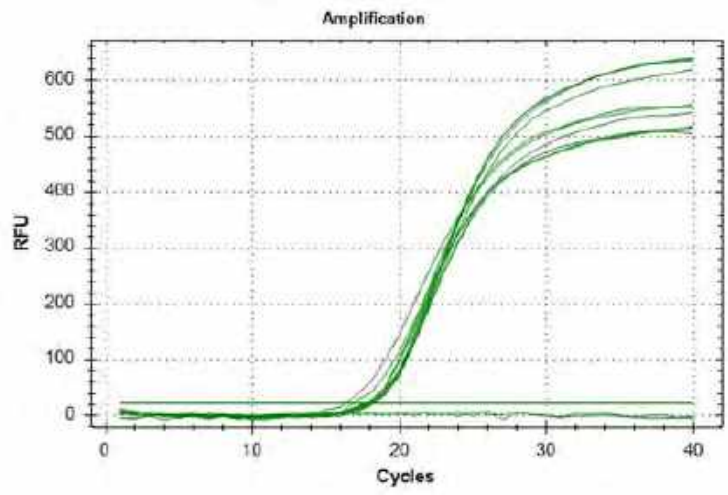


Figure 11.1: TP53 Amplification curve

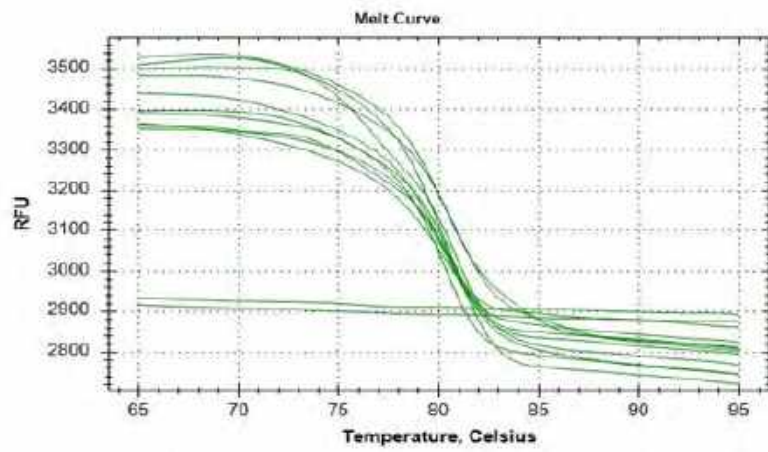


Figure 11.2: TP53 melt curve

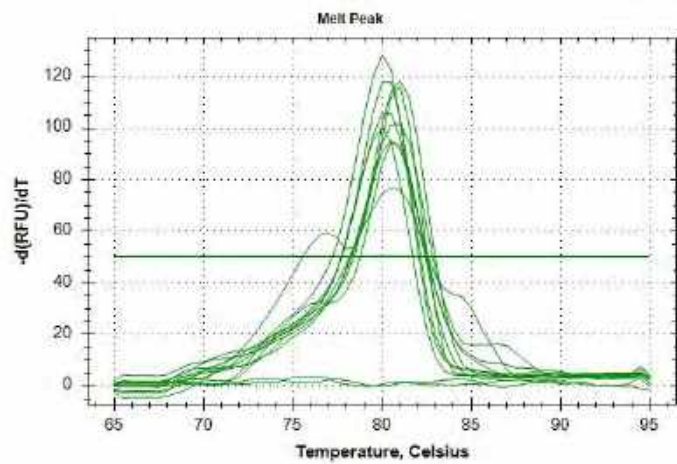


Figure 11.3: TP53 melt peak

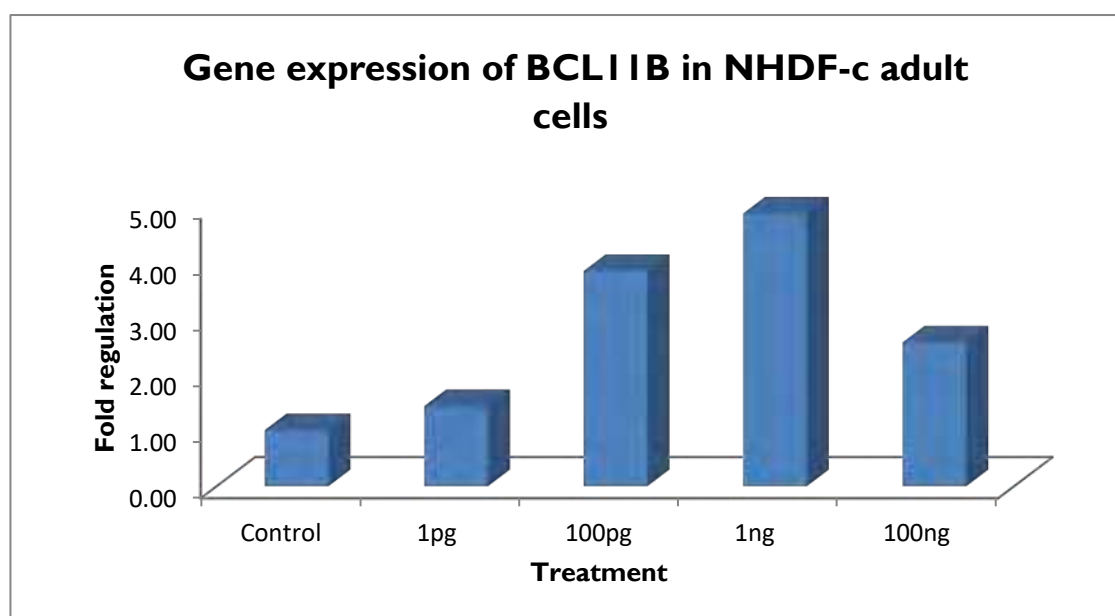
Relative expression of BCL-11B

Plate map and Cq of BCL-11B

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
A07	SYBR	BCL-11B	Unkn	CONTROL	cDNA	21.36	20.99	21.1742
A08	SYBR	BCL-11B	Unkn	1pg	cDNA	20.78	19.53	20.1578
A09	SYBR	BCL-11B	Unkn	100pg	cDNA	18.36	18.69	18.5284
A10	SYBR	BCL-11B	Unkn	1ng	cDNA	17.02	18.88	17.9512
A11	SYBR	BCL-11B	Unkn	100ng	cDNA	18.69	19.15	18.9224
A12	SYBR	BCL-11B	NTC	ntc	ntc	N/A	N/A	N/A

Table 12: Relative expression of BCL-11B gene in NHDF-c adult cells

Sample	Actin	BCL11B	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	21.129	1.05	0.00	1.00
1pg	19.62	20.158	0.53	-0.52	1.43
100pg	19.42	18.528	-0.89	-1.94	3.85
1ng	19.19	17.951	-1.24	-2.29	4.88
100ng	19.23	18.922	-0.31	-1.36	2.57



Graph 12: Relative expression of BCL-11B in NHDF-c adult cells

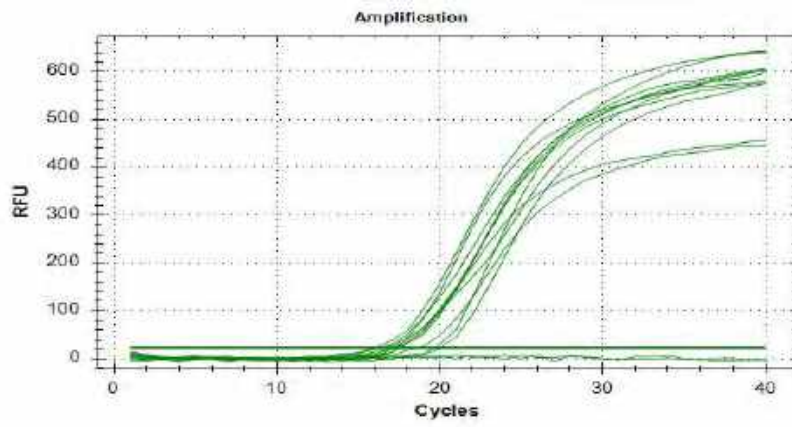


Figure 12.1: BCL-1 IB Amplification curve

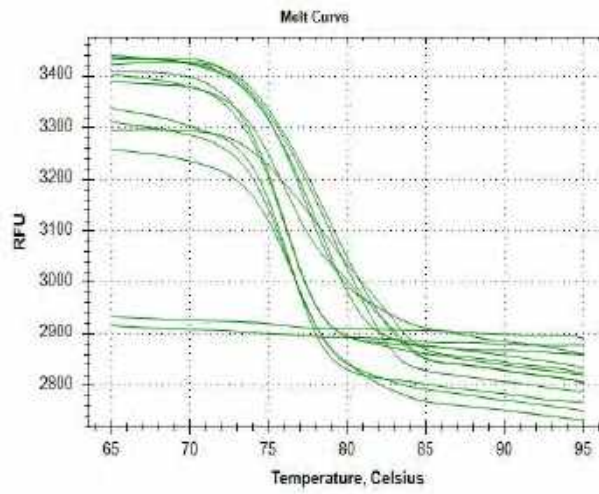


Figure 12.2: BCL-1 IB melt curve

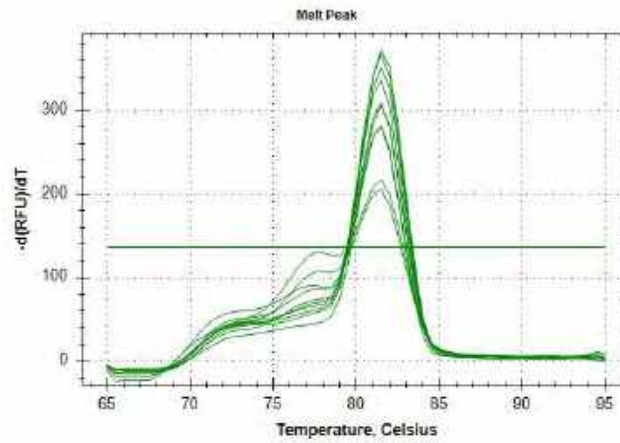


Figure 12.3: BCL-1 IB melt peak

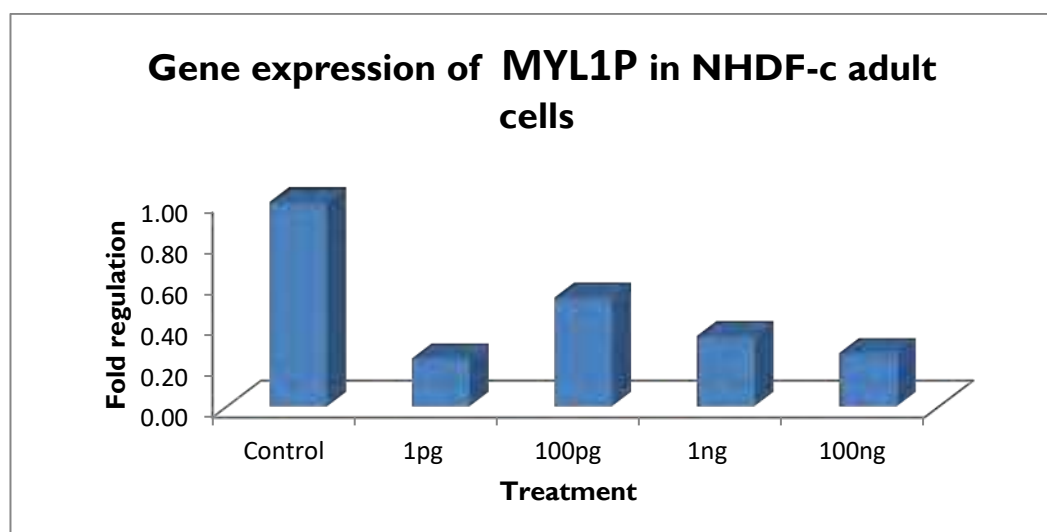
Relative expression of MYLIP

Plate map and Cq of MYLIP

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C01	SYBR	MYLIP	Unkn	CONTROL	cDNA	10.32	10.23	10.27
C02	SYBR	MYLIP	Unkn	1pg	cDNA	11.56	12.26	11.91
C03	SYBR	MYLIP	Unkn	100pg	cDNA	10.30	10.76	10.53
C04	SYBR	MYLIP	Unkn	1ng	cDNA	10.78	11.06	10.92
C05	SYBR	MYLIP	Unkn	100ng	cDNA	11.63	11.10	11.37
C06	SYBR	MYLIP	NTC	ntc	ntc	32.22	32.68	32.45

Table 13: Relative expression of MYLIP gene in NHDF-c adult cells

Sample	Actin	MYCIP	Delta ct	Delta Delta ct	Fold change 2 [^] DDct
Control	20.08	10.27	-9.80	0.00	1.00
1pg	19.62	11.91	-7.72	2.09	0.24
100pg	19.42	10.53	-8.90	0.91	0.53
1ng	19.19	10.92	-8.27	1.54	0.34
100ng	19.23	11.37	-7.87	1.94	0.26



Graph 13: Relative expression of MYLIP in NHDF-c adult cells

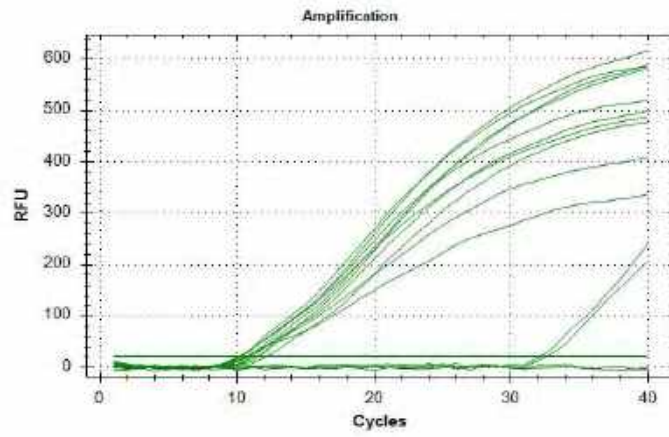


Figure 13.1: MYLIP Amplification curve

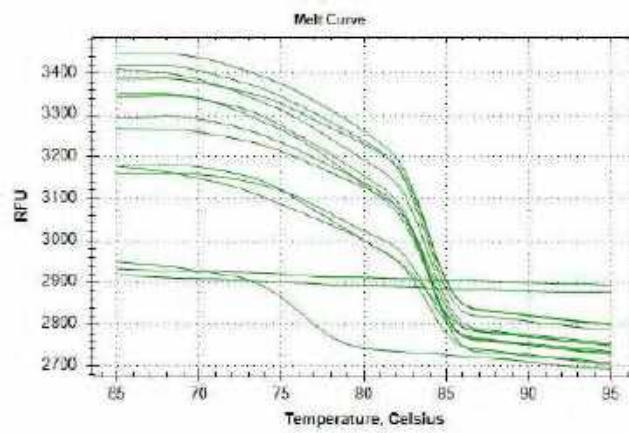


Figure 13.2: MYLIP melt curve

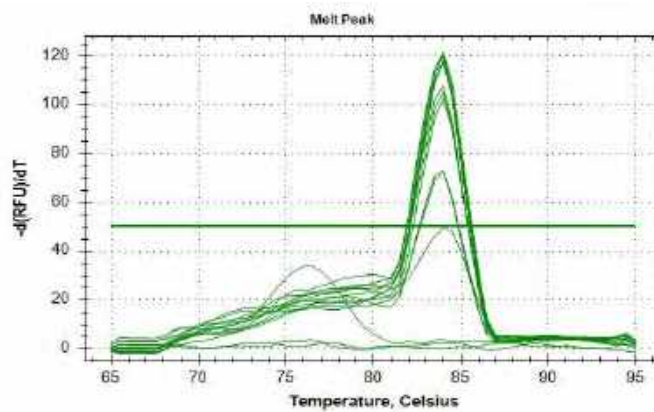


Figure 13.3: MYCIP melt peak

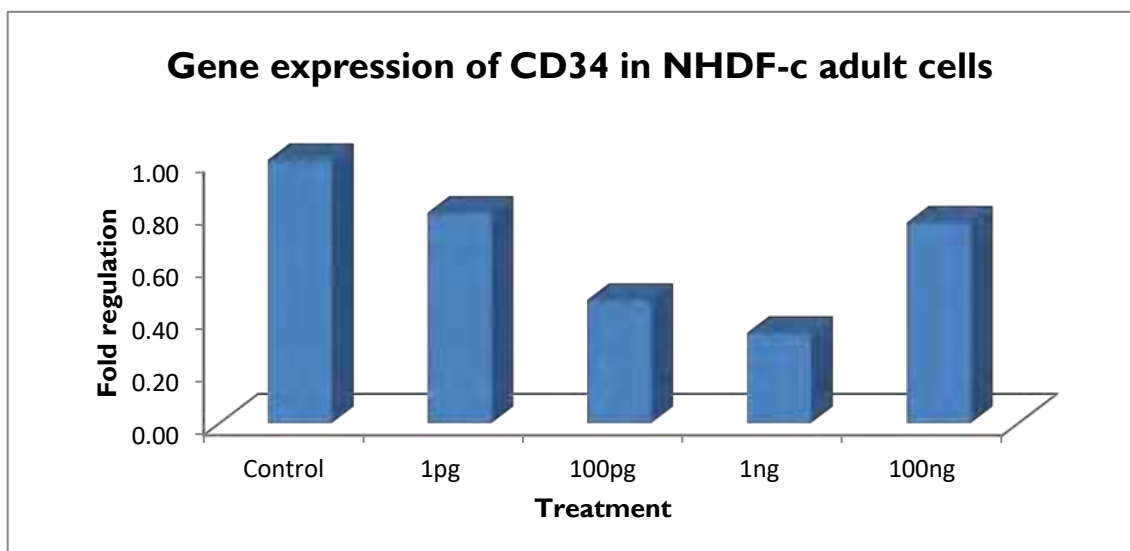
Relative expression of CD34

Plate map and Cq of CD34

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	CD34	Unkn	CONTROL	cDNA	15.88	16.71	16.29
C08	SYBR	CD34	Unkn	1pg	cDNA	16.20	16.12	16.16
C09	SYBR	CD34	Unkn	100pg	cDNA	17.16	16.31	16.73
C10	SYBR	CD34	Unkn	1ng	cDNA	17.53	16.37	16.95
C11	SYBR	CD34	Unkn	100ng	cDNA	15.71	15.98	15.84
C12	SYBR	CD34	Unkn	NTC	NTC	N/A	N/A	N/A

Table 14: Relative expression of CD34 gene in NHDF-c adult cells

Sample	Actin	CD34	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	16.29	-3.78	0.00	1.00
1pg	19.62	16.16	-3.46	0.32	0.80
100pg	19.42	16.73	-2.69	1.10	0.47
1ng	19.19	16.95	-2.24	1.55	0.34
100ng	19.23	15.84	-3.39	0.39	0.76



Graph 14: Relative expression of CD34 in NHDF-c adult cells

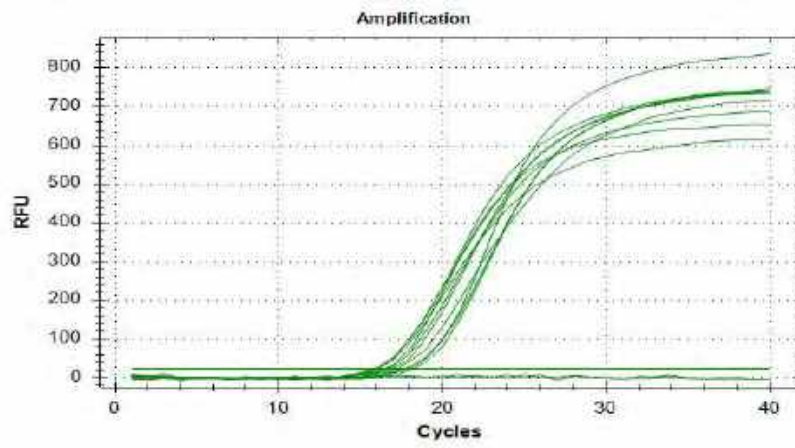


Figure 14.1: CD34 Amplification curve

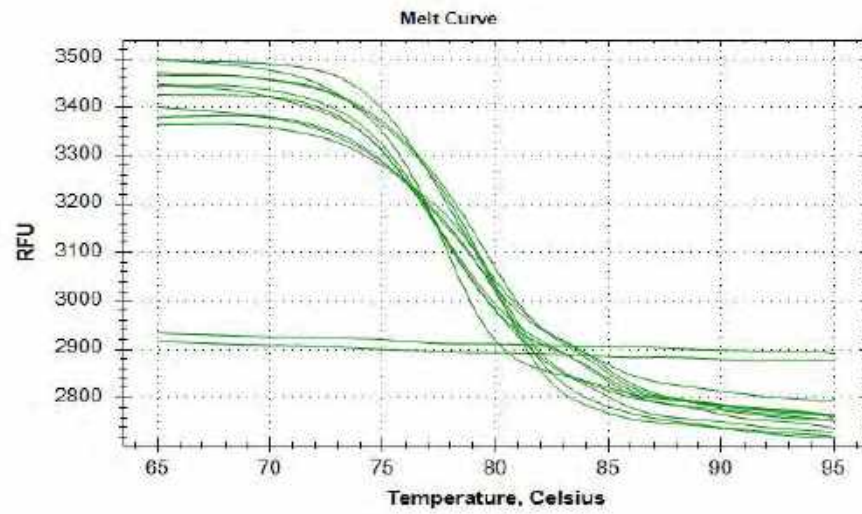


Figure 14.2: CD34 melt curve.

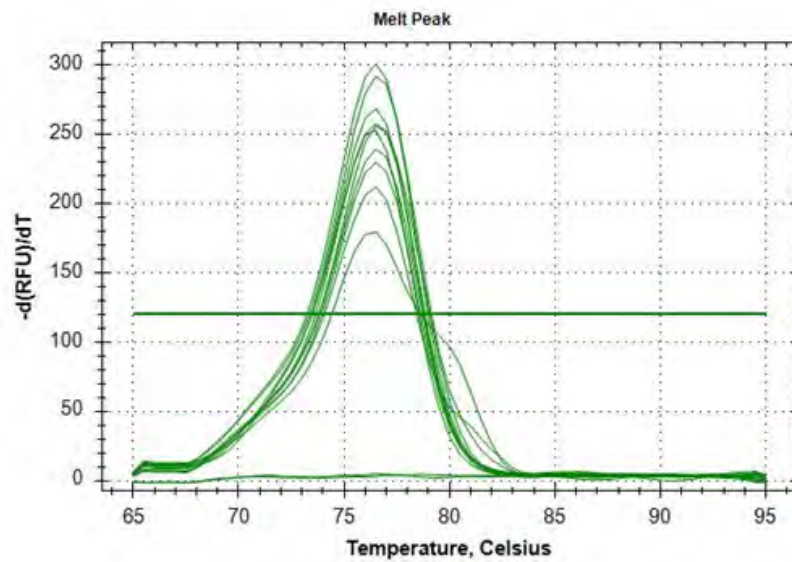


Figure 14.3: CD34 melt peak

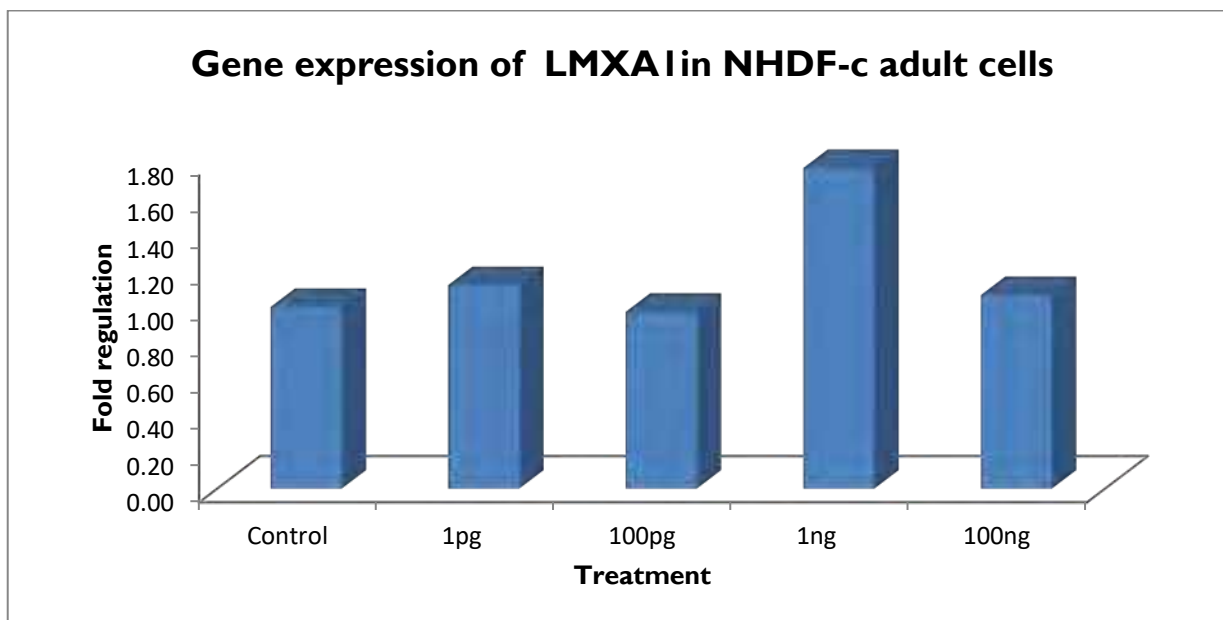
Relative expression of LMXIA

Plate map and Cq of LMXIA

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
A01	SYBR	LMXIA	Unkn	CONTROL	cDNA	29.23	28.43	28.831
A02	SYBR	LMXIA	Unkn	1PG	cDNA	28.34	28.09	28.212
A03	SYBR	LMXIA	Unkn	100PG	cDNA	28.46	27.97	28.214
A04	SYBR	LMXIA	Unkn	1NG	cDNA	28.01	26.23	27.120
A05	SYBR	LMXIA	Unkn	100ng	cDNA	27.99	27.80	27.895
A06	SYBR	LMXIA	NTC	ntc	ntc	N/A	N/A	N/A

Table 15: Relative expression of LMXIA gene in NHDF-c adult cells

Sample	Actin	LMXAI	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	28.83	8.75	0.00	1.00
1pg	19.62	28.21	8.59	-0.16	1.12
100pg	19.42	28.21	8.79	0.04	0.97
1ng	19.19	27.12	7.93	-0.82	1.76
100ng	19.23	27.90	8.66	-0.09	1.07



Graph 15: Relative expression of LMXAI in NHDF-c adult cells

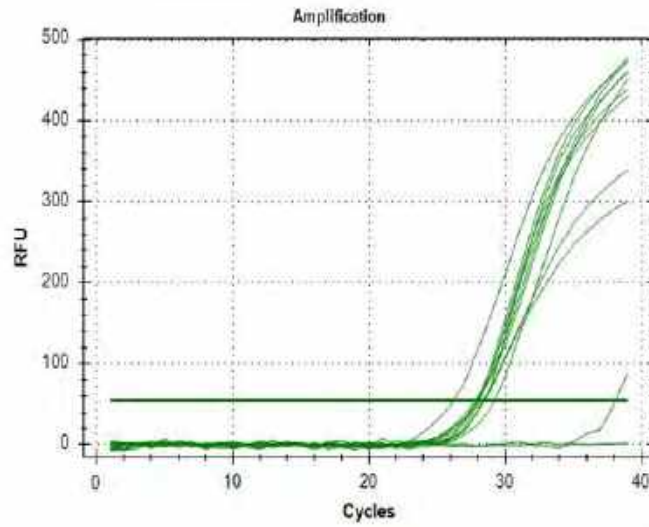


Figure 15.1: LMxIA Amplification curve

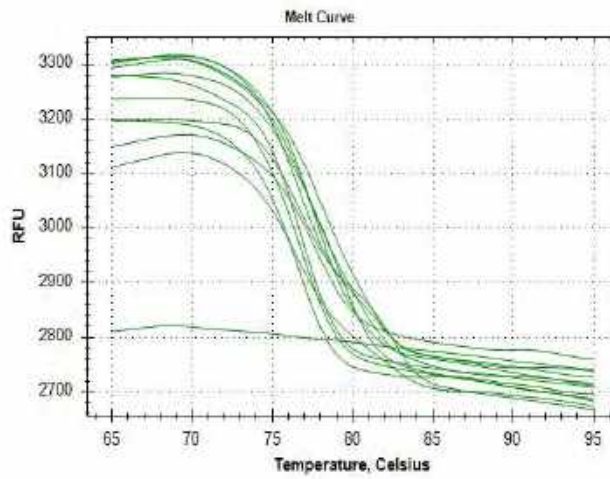


Figure 15.2: LMxIA melt curve

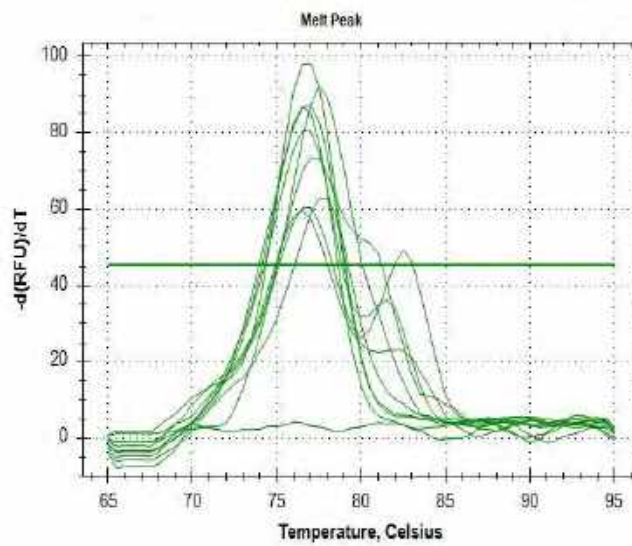


Figure 15.3: LMxIA melt peak

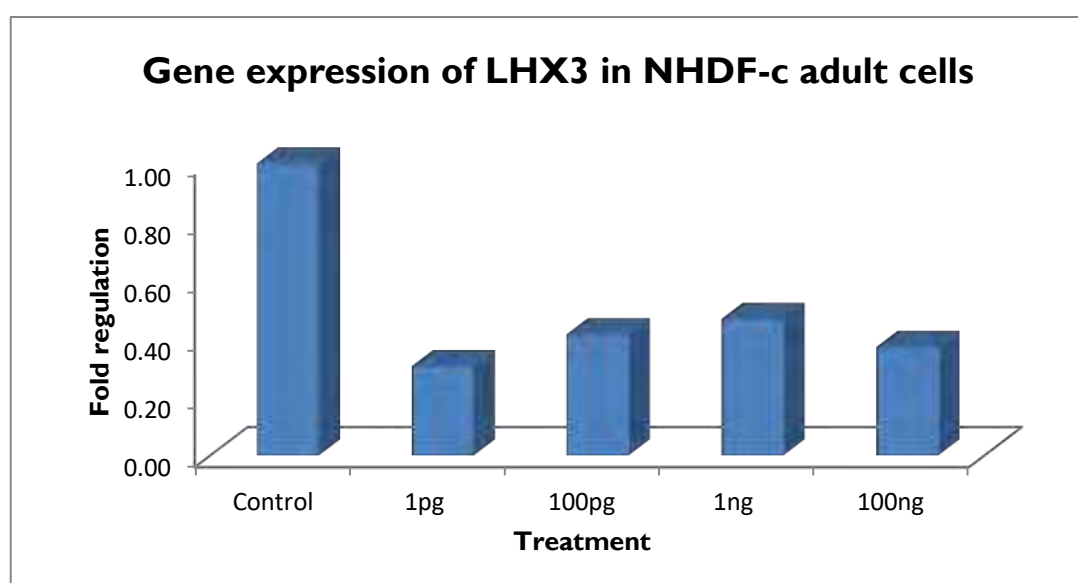
Relative expression of LHX3

Plate map and Cq of LHX3

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
A07	SYBR	LHX3	Unkn	CONTROL	cDNA	25.20	25.57	25.383
A08	SYBR	LHX3	Unkn	1PG	cDNA	26.55	26.73	26.643
A09	SYBR	LHX3	Unkn	100PG	cDNA	26.34	25.66	26.001
A10	SYBR	LHX3	Unkn	1NG	cDNA	25.41	25.77	25.593
A11	SYBR	LHX3	Unkn	100ng	cDNA	26.09	25.86	25.973
A12	SYBR	LHX3	NTC	ntc	ntc	N/A	N/A	N/A

Table 16: Relative expression of LHX3 gene in NHDF-c adult cells

Sample	Actin	LHX3	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta ct}$
Control	20.08	25.39	5.31	0.00	1.00
1pg	19.62	26.64	7.02	1.71	0.31
100pg	19.42	26.00	6.58	1.27	0.41
1ng	19.19	25.59	6.41	1.10	0.47
100ng	19.23	25.97	6.74	1.43	0.37



Graph 16: Relative expression of LHX3 in NHDF-c adult

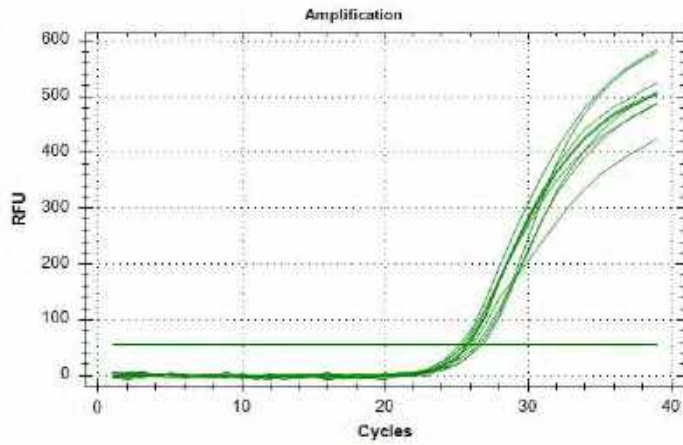


Figure 16.1: LHX3 Amplification curve

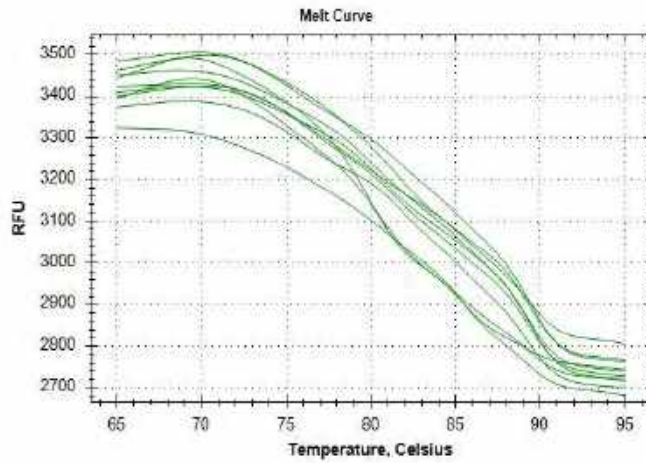


Figure 16.2: LHX3 melt curve

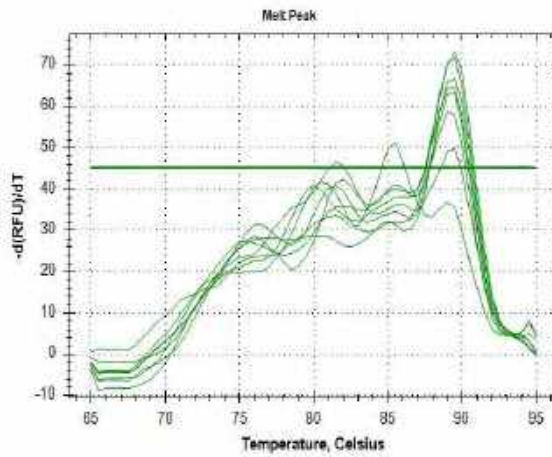


Figure 16.3: LHX3 melt peak

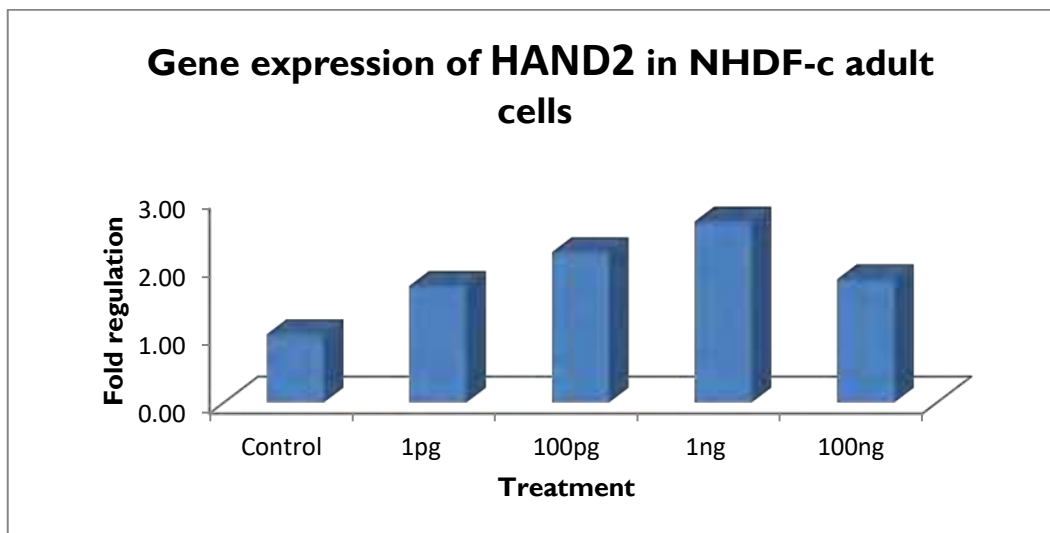
Relative expression of HAND 2

Plate map and Cq of HAND 2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C01	SYBR	HAND 2	Unkn	CONTROL	cDNA	27.40	28.14	27.768
C02	SYBR	HAND2	Unkn	1PG	cDNA	25.49	26.62	26.053
C03	SYBR	HAND2	Unkn	100PG	cDNA	25.79	26.14	25.964
C04	SYBR	HAND2	Unkn	1NG	cDNA	25.42	25.50	25.461
C05	SYBR	HAND2	Unkn	100ng	cDNA	25.82	26.30	26.061
C06	SYBR	HAND2	NTC	ntc	ntc	N/A	N/A	N/A

Table 17: Relative expression of HAND2 gene in NHDF-c adult cells

Sample	Actin	HAND2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	27.76	7.68	0.00	1.00
1pg	19.62	26.53	6.91	-0.77	1.71
100pg	19.42	25.96	6.54	-1.14	2.20
1ng	19.19	25.46	6.27	-1.41	2.65
100ng	19.23	26.06	6.83	-0.85	1.81



Graph 17: Relative expression of HAND2 in NHDF-c adult cells

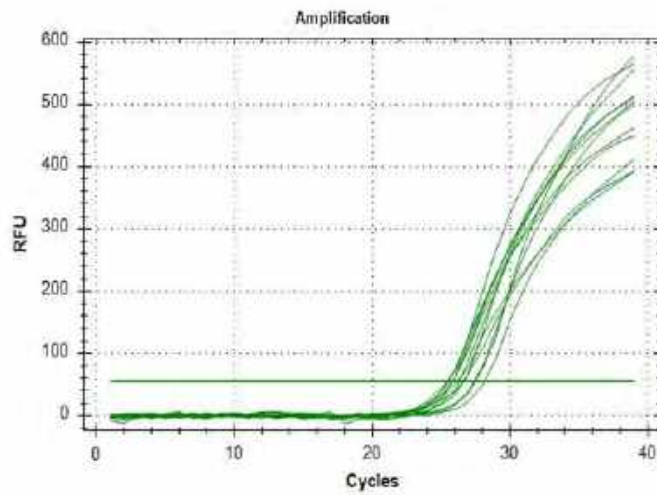


Figure 17.1: HAND2 Amplification curve

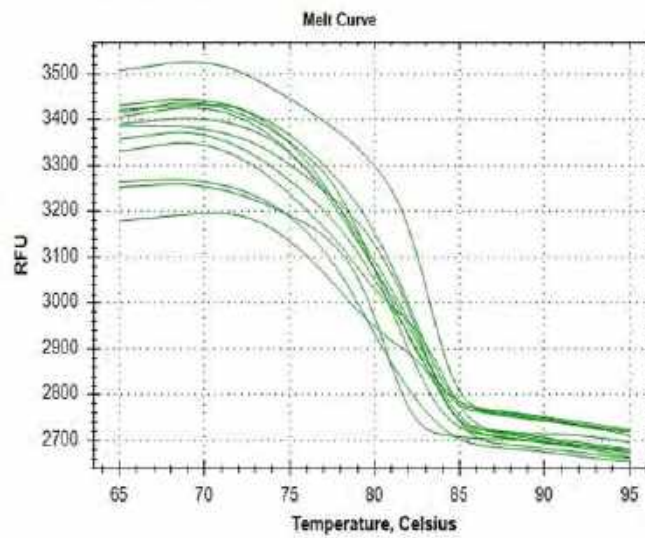


Figure 17.2: HAND2 melt curve

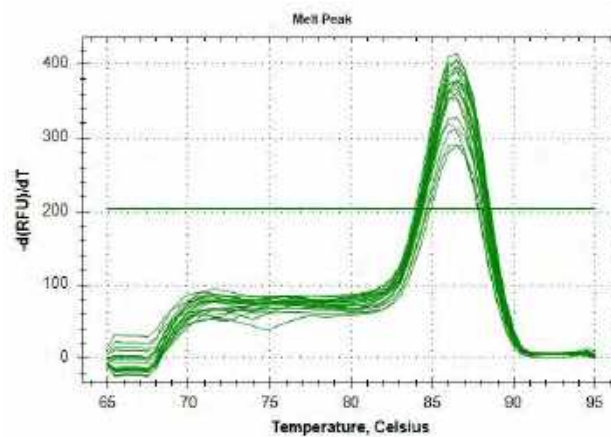


Figure 17.3: HAND2 melt peak

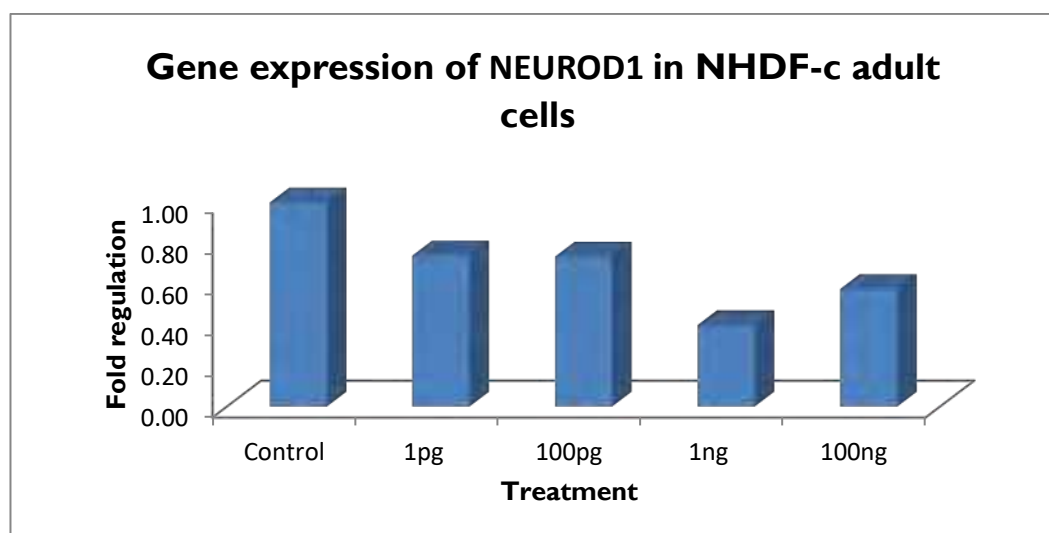
Relative expression of NEUROD1

Plate map and Cq of NEUROD1

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	NEUROD1	Unkn	CONTROL	cDNA	18.81	18.61	18.711
C08	SYBR	NEUROD1	Unkn	1PG	cDNA	18.85	18.53	18.691
C09	SYBR	NEUROD1	Unkn	100PG	cDNA	18.57	18.42	18.499
C10	SYBR	NEUROD1	Unkn	1NG	cDNA	19.05	19.24	19.144
C11	SYBR	NEUROD1	Unkn	100ng	cDNA	18.64	18.68	18.661
C12	SYBR	NEUROD1	Unkn	NTC	NTC	N/A	N/A	N/A

Table 18: Relative expression of NEUROD1 gene in NHDF-c adult cells

Sample	Actin	NEUROD1	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta ct}$
Control	20.08	18.71	-1.37	0.00	1.00
1pg	19.62	18.69	-0.93	0.43	0.74
100pg	19.42	18.50	-0.92	0.45	0.73
1ng	19.19	19.14	-0.04	1.33	0.40
100ng	19.23	18.66	-0.57	0.80	0.58



Graph 18: Relative expression of NEUROD1 in NHDF-c adult cells

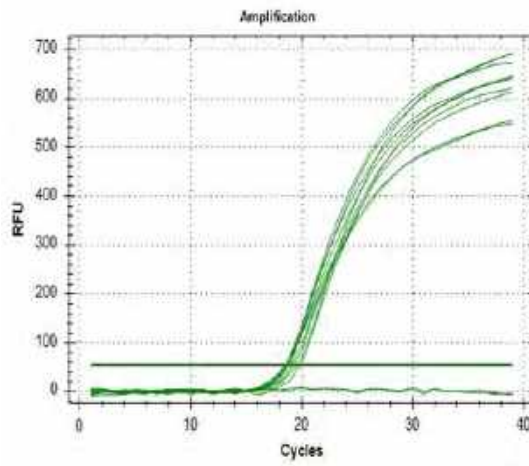


Figure 18.1: NEURODI Amplification curve

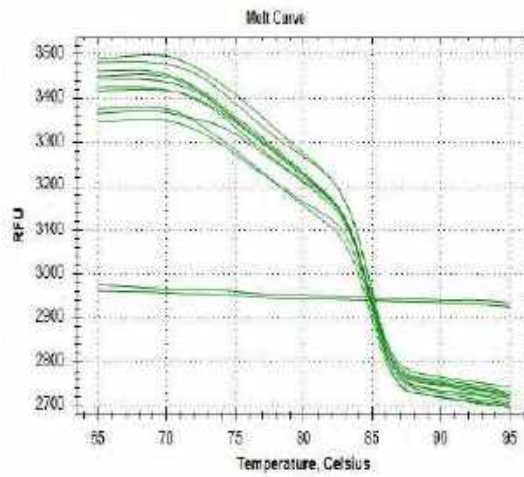


Figure 18.2: NEURODI melt curve

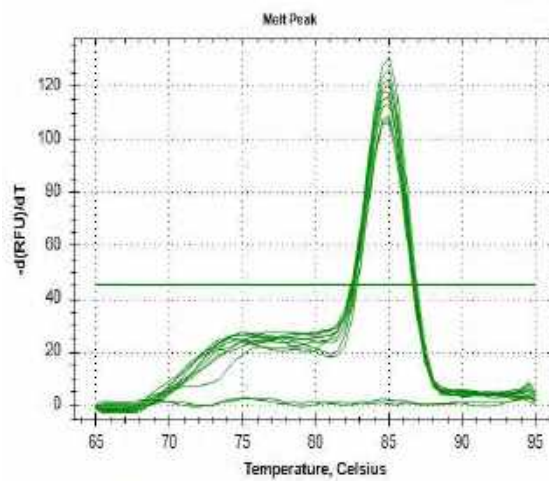


Figure 18.3: NEURODI melt peak

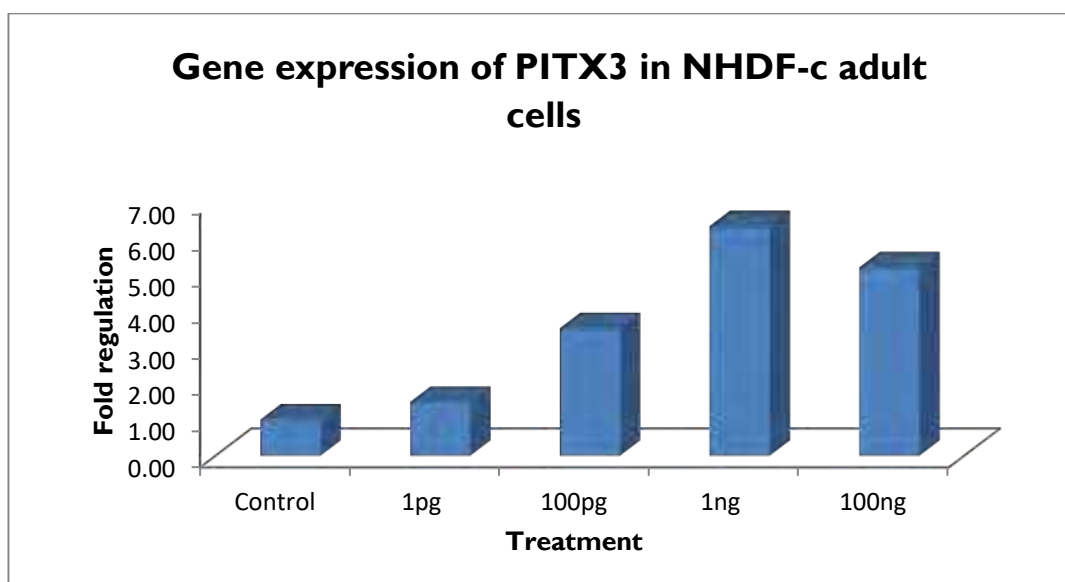
Relative expression of PITX3

Plate map and Cq of PITX3

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
E01	SYBR	PITX3	Unkn	CONTROL	cDNA	30.03	30.98	30.503
E02	SYBR	PITX3	Unkn	1pg	cDNA	30.54	29.32	29.929
E03	SYBR	PITX3	Unkn	100pg	cDNA	29.02	28.35	28.683
E04	SYBR	PITX3	Unkn	1ng	cDNA	27.44	28.23	27.835
E05	SYBR	PITX3	Unkn	100ng	cDNA	27.06	29.19	28.121
E06	SYBR	PITX3	NTC	ntc	ntc	N/A	N/A	N/A

Table 19: Relative expression of PITX3 gene in NHDF-c adult cells

Sample	Actin	PITX3	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	30.50	10.42	0.00	1.00
1pg	19.62	29.93	9.85	-0.57	1.49
100pg	19.42	28.68	8.60	-1.82	3.52
1ng	19.19	27.83	7.76	-2.67	6.34
100ng	19.23	28.12	8.04	-2.38	5.20



Graph 19: Relative expression of PITX3 in NHDF-c adult cells

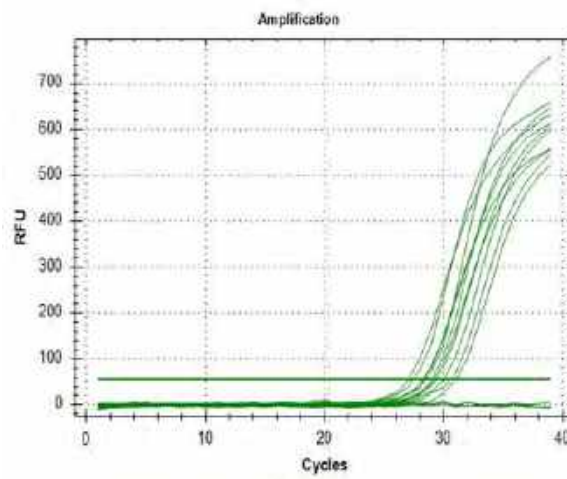


Figure 19.1: PITX3 Amplification curve

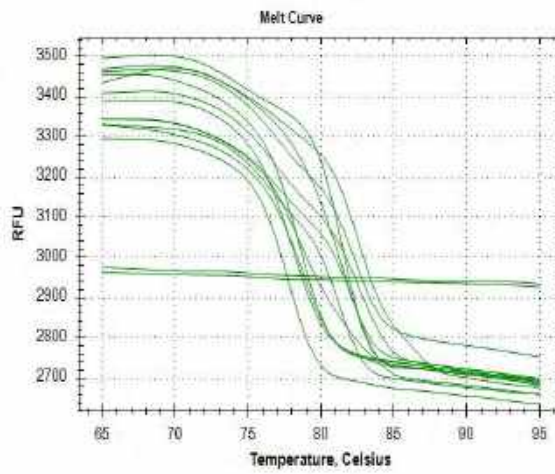


Figure 19.2: PITX3 melt curve

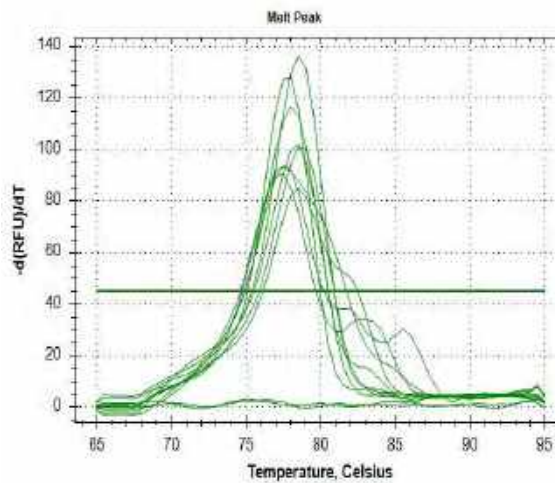


Figure 19.3: PITX3 melt peak

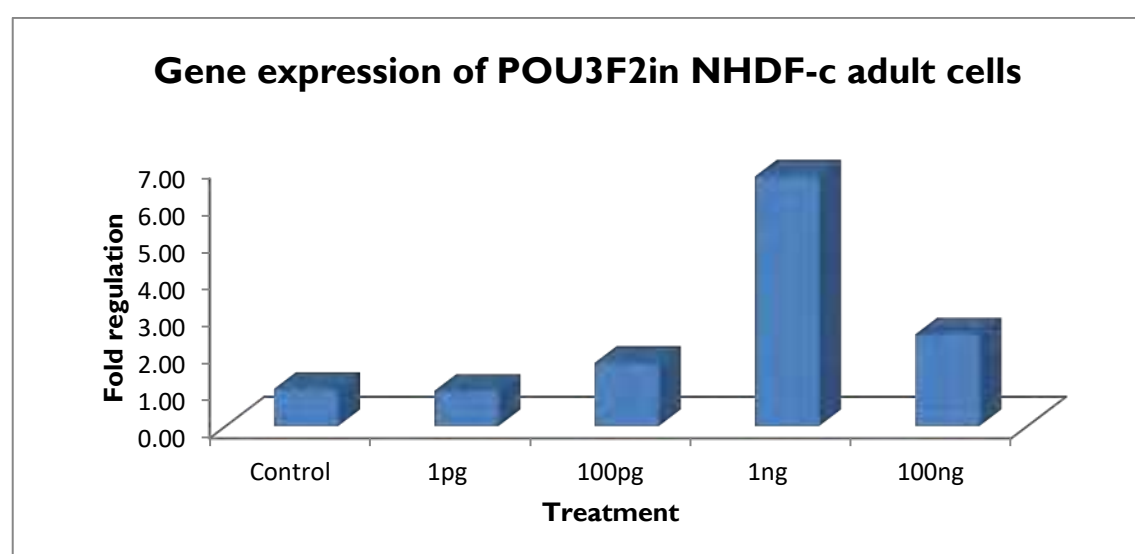
Relative expression of POU3F2

Plate map and Cq of POU3F2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
E07	SYBR	POU3F2	Unkn	CONTROL	cDNA	25.31	26.30	25.80
E08	SYBR	POU3F2	Unkn	1PG	cDNA	26.20	25.56	25.88
E09	SYBR	POU3F2	Unkn	100PG	cDNA	24.58	25.49	25.03
E10	SYBR	POU3F2	Unkn	1NG	cDNA	22.88	23.21	23.05
E11	SYBR	POU3F2	Unkn	100ng	cDNA	24.58	24.41	24.50
E12	SYBR	POU3F2	NTC	ntc	ntc	N/A	N/A	N/A

Table 20: Relative expression of POU3F2 gene in NHDF-c adult cells

Sample	Actin	POU3F2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	25.80	5.72	0.00	1.00
1pg	19.62	25.88	5.80	0.08	0.95
100pg	19.42	25.03	4.95	-0.77	1.70
1ng	19.19	23.05	2.97	-2.75	6.73
100ng	19.23	24.50	4.42	-1.30	2.47



Graph 20: Relative expression of POU3F2 in NHDF-c adult cells

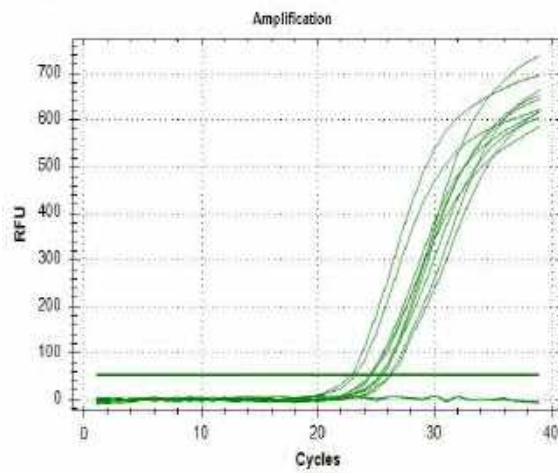


Figure 20.1: POU3F2 Amplification curve

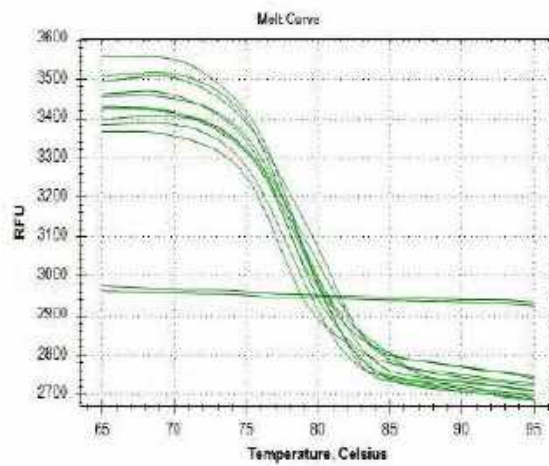


Figure 20.2: POU3F2 melt curve

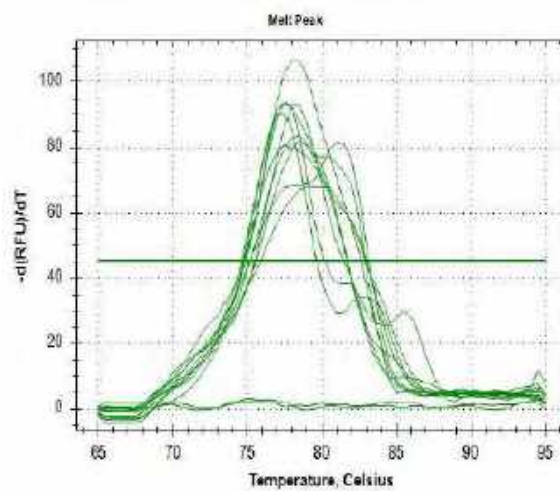


Figure 20.3: POU3F2 melt peak

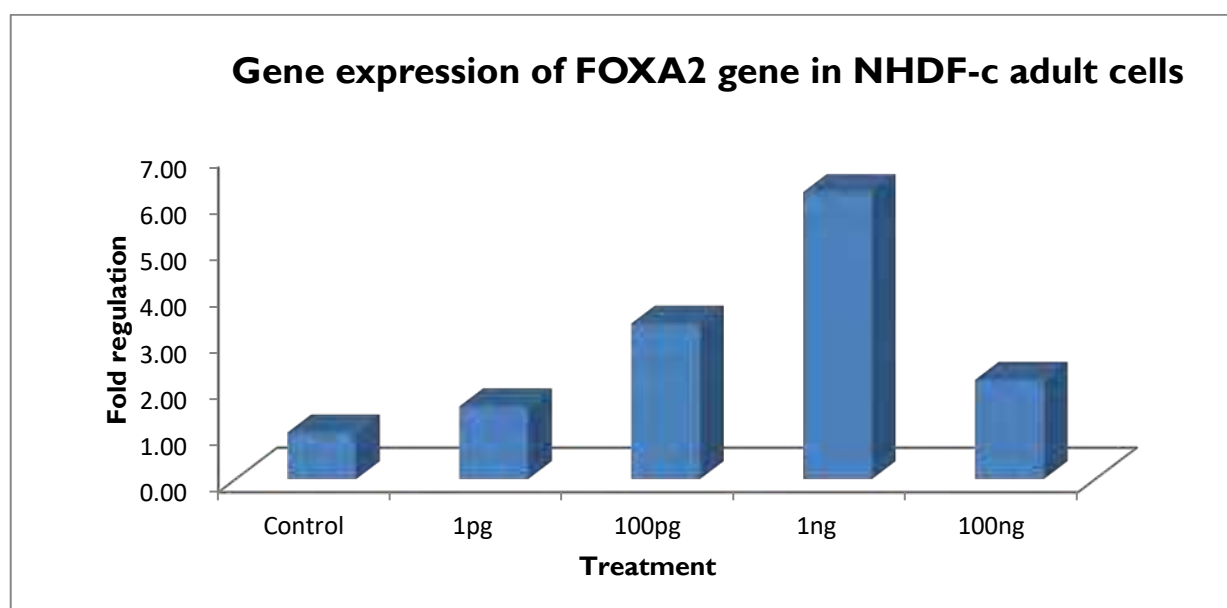
Relative expression of FOXA2

Plate map and Cq of FOXA2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	FOXA2	Unkn	CONTROL	cDNA	20.30	20.54	20.42
C08	SYBR	FOXA2	Unkn	1pg	cDNA	19.20	19.44	19.32
C09	SYBR	FOXA2	Unkn	100pg	cDNA	17.90	18.14	18.02
C10	SYBR	FOXA2	Unkn	1ng	cDNA	16.78	17.02	16.90
C11	SYBR	FOXA2	Unkn	100ng	cDNA	18.36	18.60	18.48
C12	SYBR	FOXA2	Unkn	NTC	NTC	N/A	N/A	N/A

Table 21: Relative expression of FOXA2 gene in NHDF-c adult cells

Sample	Actin	FOXA2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta ct}$
Control	20.08	20.42	0.34	0.000	1.00
1pg	19.62	19.32	-0.30	-0.645	1.56
100pg	19.42	18.02	-1.40	-1.744	3.35
1ng	19.19	16.90	-2.29	-2.629	6.19
100ng	19.23	18.48	-0.75	-1.096	2.14



Graph 21: Relative expression of FOXA2 in NHDF-c adult cells

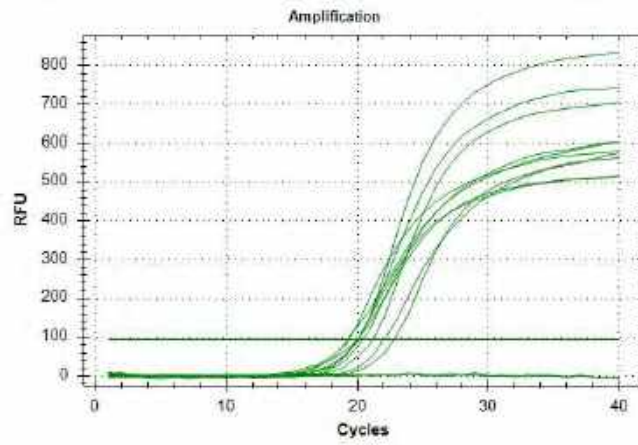


Figure 21.1: FOXA2 Amplification

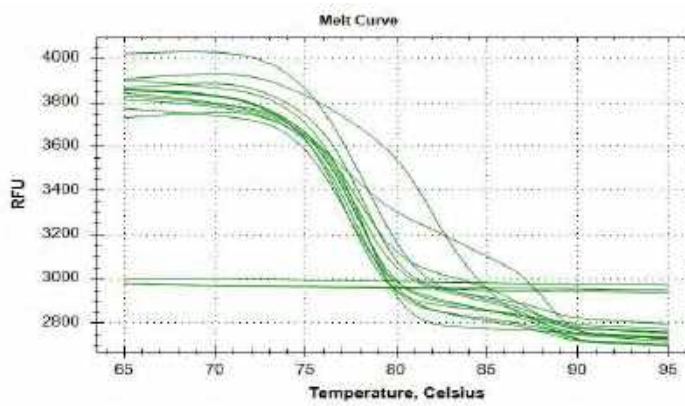


Figure 21.2: FOXA2 melt curve

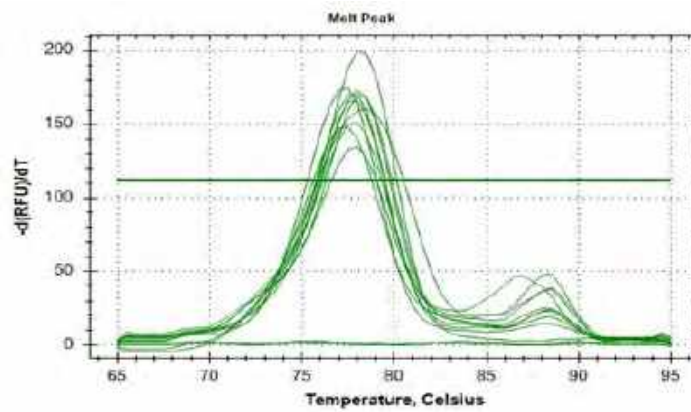


Figure 21.3: FOXA2 melt peak

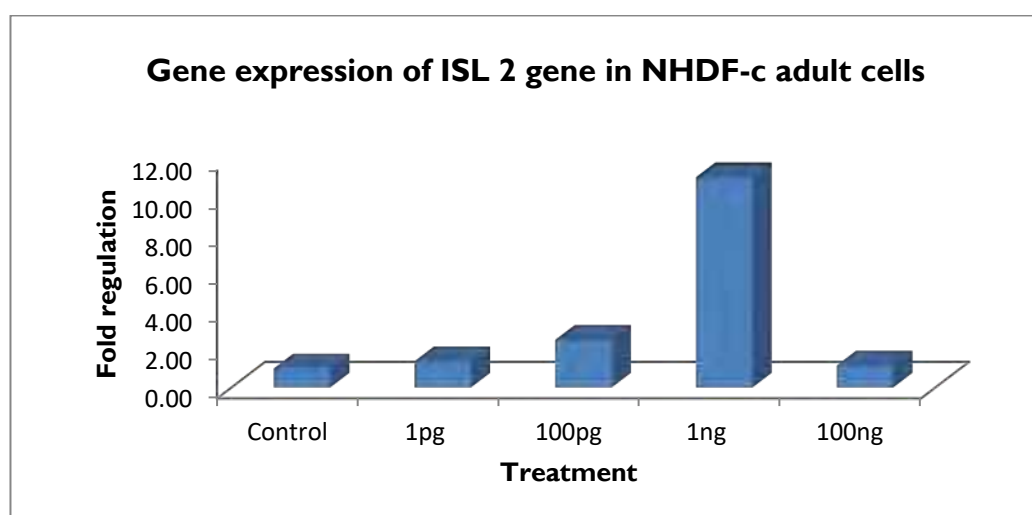
Relative expression of ISL 2

Plate map and Cq of ISL 2

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	ISL 2	Unkn	CONTROL	cDNA	20.30	20.08	20.19
C08	SYBR	ISL 2	Unkn	1pg	cDNA	19.36	19.18	19.27
C09	SYBR	ISL 2	Unkn	100pg	cDNA	17.99	18.42	18.21
C10	SYBR	ISL 2	Unkn	1ng	cDNA	15.78	15.88	15.83
C11	SYBR	ISL 2	Unkn	100ng	cDNA	18.42	19.84	19.13
C12	SYBR	ISL 2	Unkn	NTC	NTC	N/A	N/A	N/A

Table 22: Relative expression of ISL 2 gene in NHDF-c adult cells

Sample	Actin	ISL 2	Delta ct	Delta Delta ct	Fold change $2^{\Delta\Delta Ct}$
Control	20.08	20.19	0.11	0.00	1.00
1pg	19.62	19.27	-0.35	-0.46	1.38
100pg	19.42	18.21	-1.22	-1.33	2.51
1ng	19.19	15.83	-3.36	-3.47	11.08
100ng	19.23	19.13	-0.11	-0.22	1.16



Graph 22: Relative expression of ISL 2 in NHDF-c adult cells

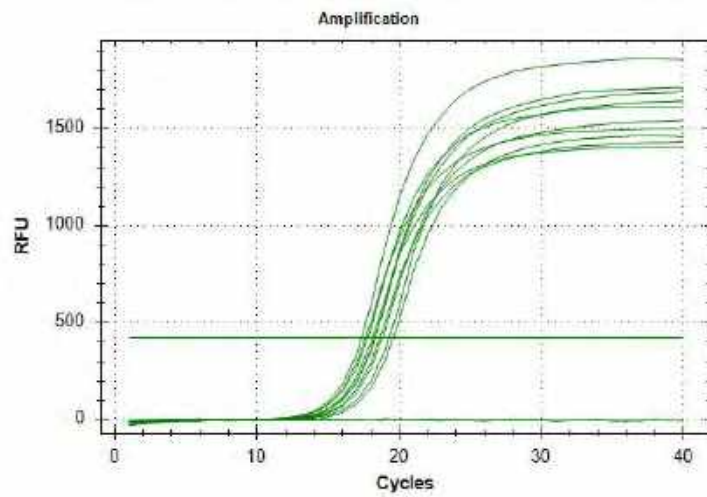


Figure 22.1: ISL2 Amplification

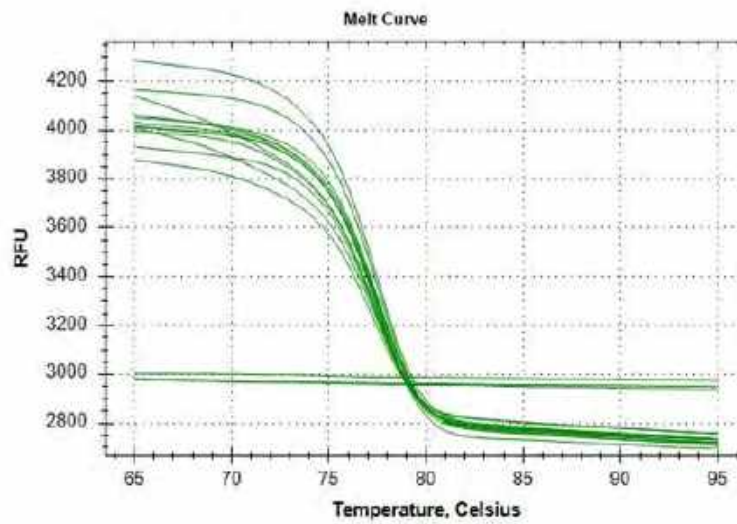


Figure 22.2: ISL 2 melt curve

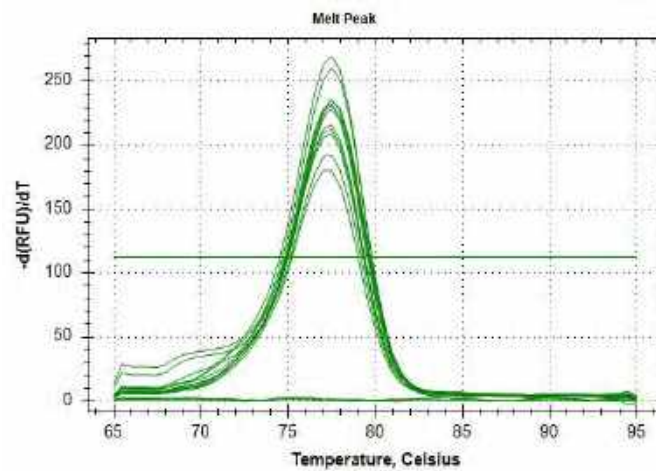


Figure 22.3: ISL 2 peak

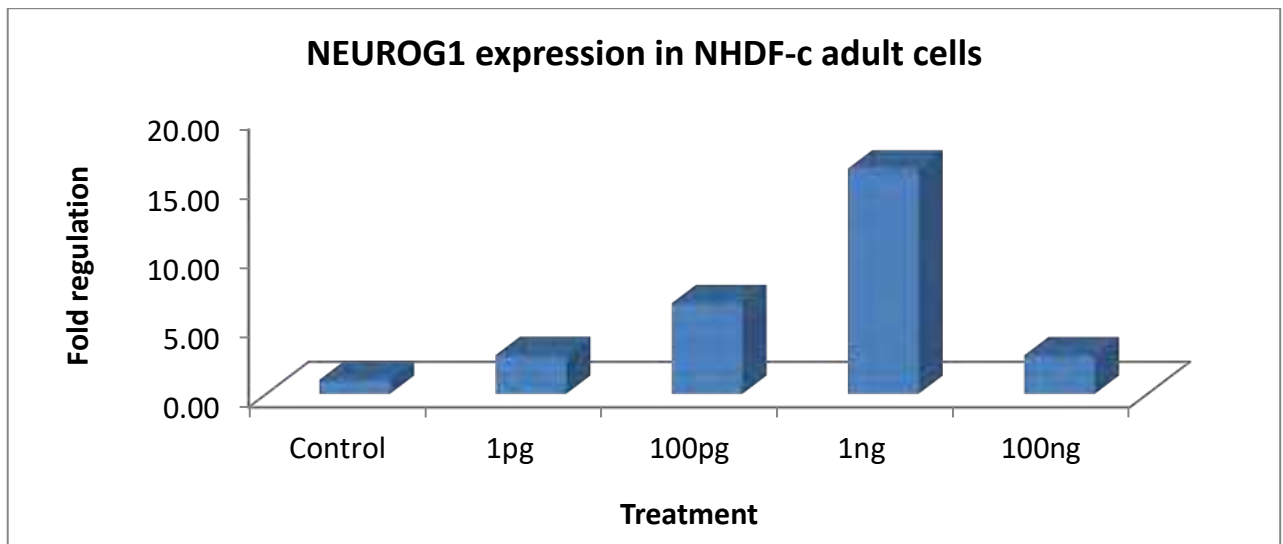
Relative expression of NEUROG1

Plate map and Cq of NEUROG1

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	NEUROG1	Unkn	CONTROL	cDNA	31.56	30.11	30.84
C08	SYBR	NEUROG1	Unkn	1pg	cDNA	28.69	29.12	28.91
C09	SYBR	NEUROG1	Unkn	100pg	cDNA	27.1	27.85	27.48
C10	SYBR	NEUROG1	Unkn	1ng	cDNA	26.45	25.4	25.93
C11	SYBR	NEUROG1	Unkn	100ng	cDNA	28.64	28.41	28.53
C12	SYBR	NEUROG1	Unkn	NTC	NTC	N/A	N/A	N/A

Table 23: Relative expression of NEUROG1 gene in NHDF-c adult cells

Sample	Actin	NEUROG1	Delta ct	Delta Delta ct	Fold change 2 ^{ΔΔCt}
Control	20.08	30.835	10.76	0.00	1.00
1pg	19.62	28.905	9.28	-1.48	2.78
100pg	19.42	27.475	8.05	-2.70	6.52
1ng	19.19	25.925	6.74	-4.02	16.21
100ng	19.23	28.525	9.29	-1.47	2.76



Graph 23: Relative expression of NEUROG1 in NHDF-c adult cells

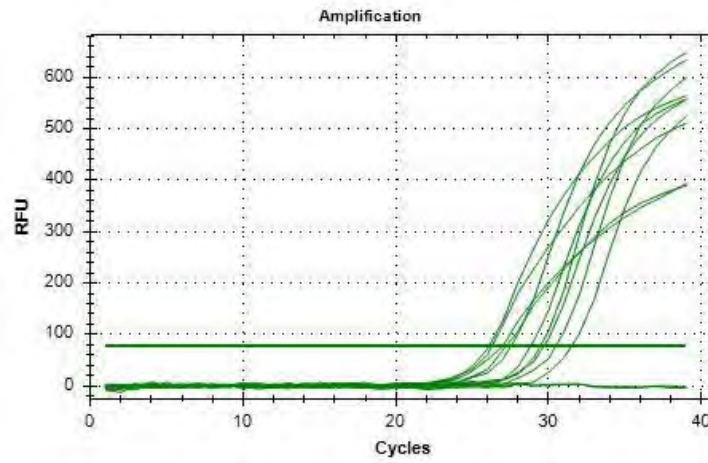


Figure 23.1: NEUROGI Amplification

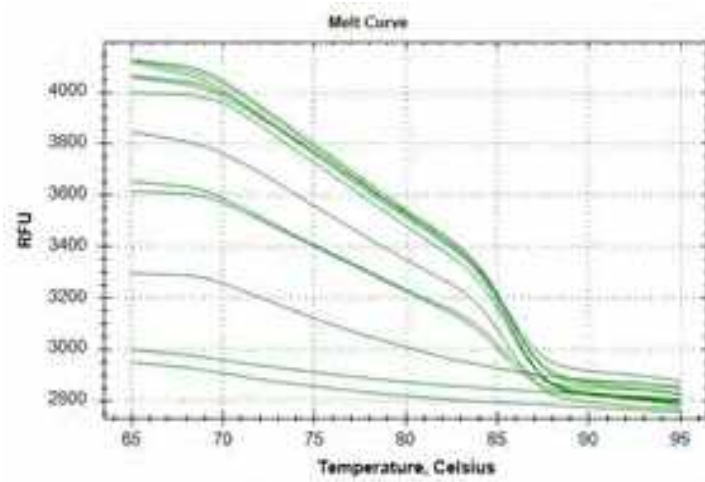


Figure 23.2: NEUROGI Melt curve

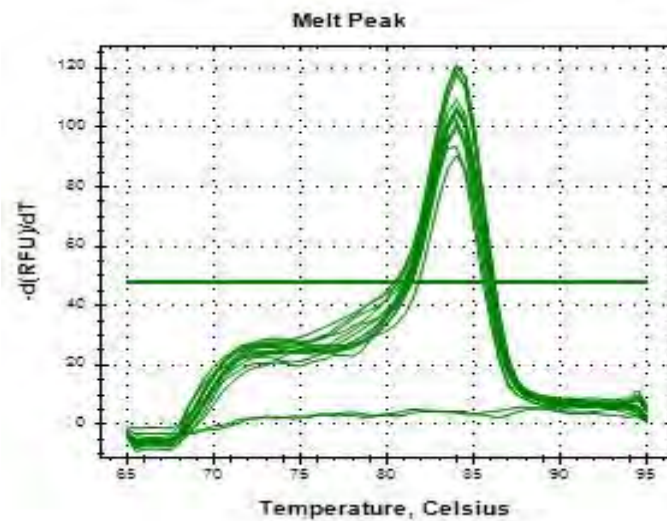


Figure 23.2: NEUROGI Melt peak

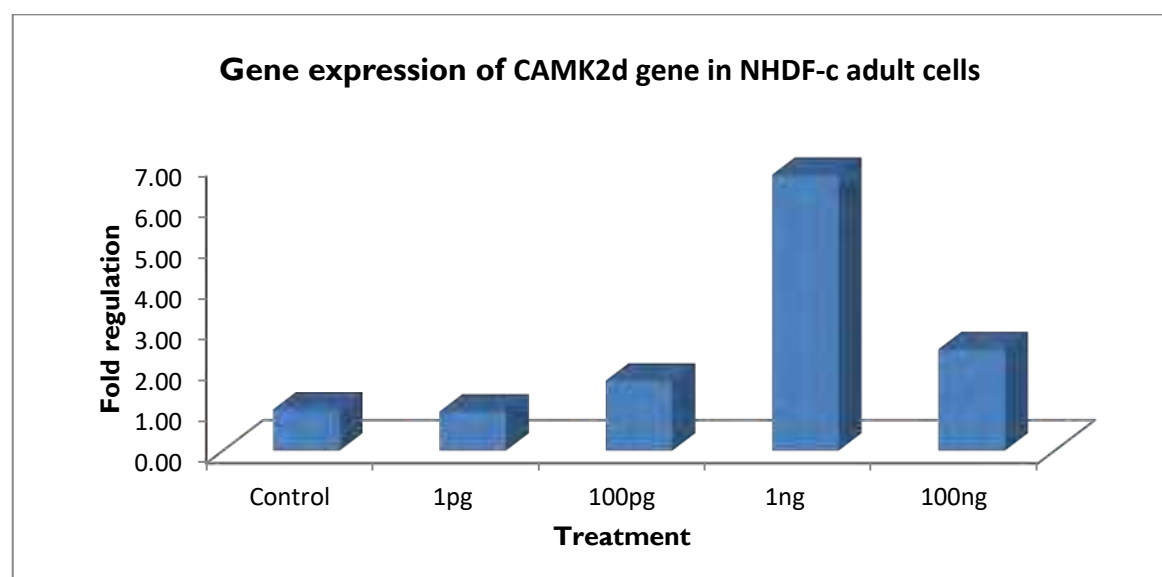
Relative expression of CAMK2d

Plate map and Cq of CAMK2d

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	CAMK2d	Unkn	CONTROL	cDNA	29.12	29.44	29.28
C08	SYBR	CAMK2d	Unkn	1pg	cDNA	28.69	29.12	28.91
C09	SYBR	CAMK2d	Unkn	100pg	cDNA	27.1	27.15	27.13
C10	SYBR	CAMK2d	Unkn	1ng	cDNA	25.45	25.37	25.41
C11	SYBR	CAMK2d	Unkn	100ng	cDNA	28.134	28.18	28.16
C12	SYBR	CAMK2d	Unkn	NTC	NTC	N/A	N/A	N/A

Table 24: Relative expression of CAMK2d gene in NHDF-c adult cells

Sample	Actin	CAMK2D	Delta ct	Delta Delta ct	Fold change 2 ^{ΔΔCt}
Control	20.08	29.28	9.20	0.00	1.00
1pg	19.62	28.91	9.28	0.08	0.95
100pg	19.42	27.13	7.70	-1.50	2.83
1ng	19.19	25.41	6.22	-2.98	7.88
100ng	19.23	28.16	8.92	-0.28	1.21



Graph 24: Relative expression of CAMK2D in NHDF-c adult cells

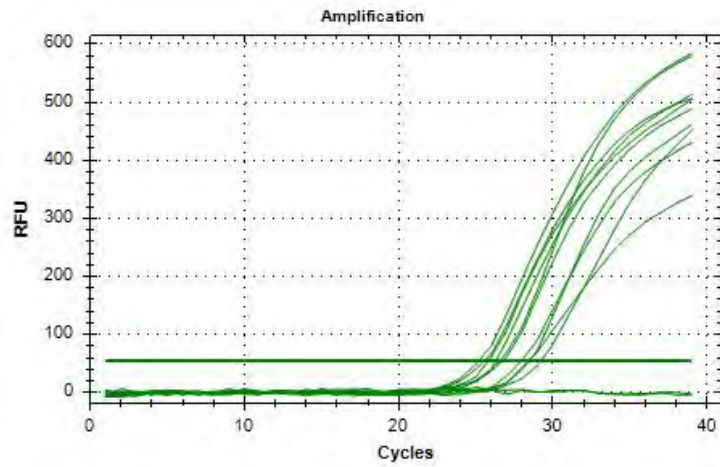


Figure 24.1: CAMK2d Amplification

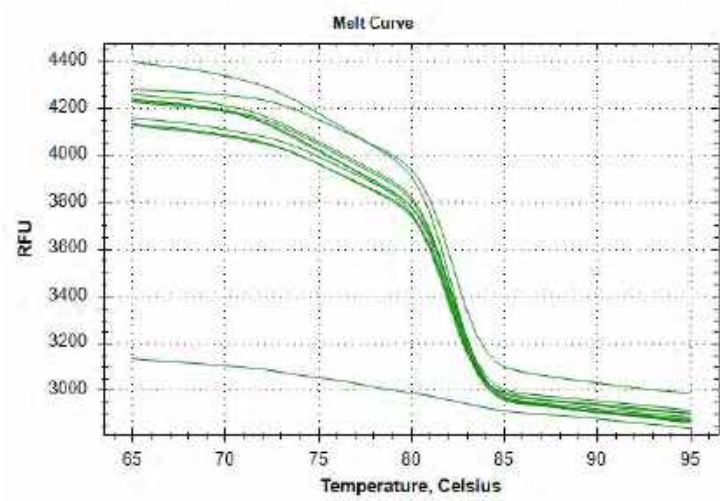


Figure 24.2: CAMK2d Melt curve

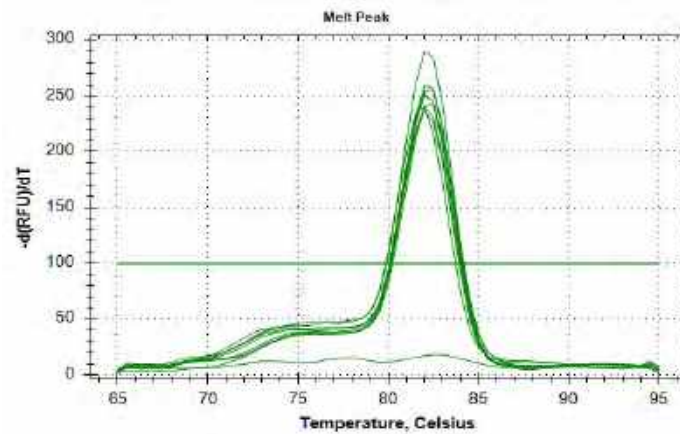


Figure 24.3: CAMK2d Melt Peak

Relative expression of ACTIN

Plate map and Cq of Actin

Well	Fluor	Target	Content	Sample	Biological Set Name	Cq	Cq	Cq Mean
C07	SYBR	Actin	Unkn	CONTROL	cDNA	20.08	20.08	20.08
C08	SYBR	Actin	Unkn	1pg	cDNA	19.62	19.62	19.62
C09	SYBR	Actin	Unkn	100pg	cDNA	19.42	19.42	19.42
C10	SYBR	Actin	Unkn	1ng	cDNA	19.19	19.19	19.19
C11	SYBR	Actin	Unkn	100ng	cDNA	19.23	19.23	19.23
C12	SYBR	Actin	Unkn	NTC	NTC	N/A	N/A	N/A

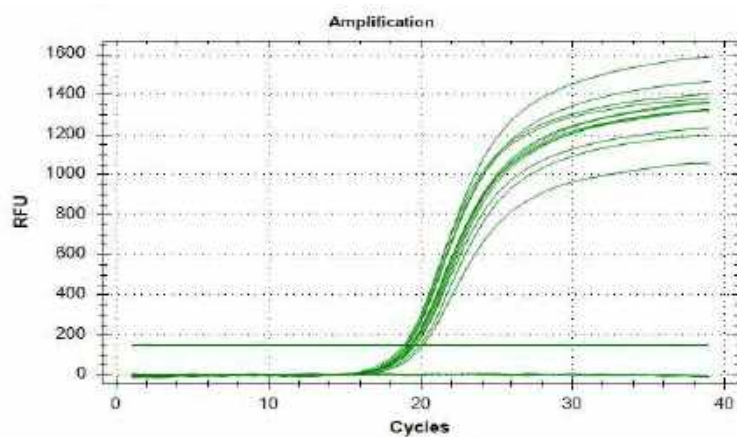


Figure 25.1: Actin Amplification

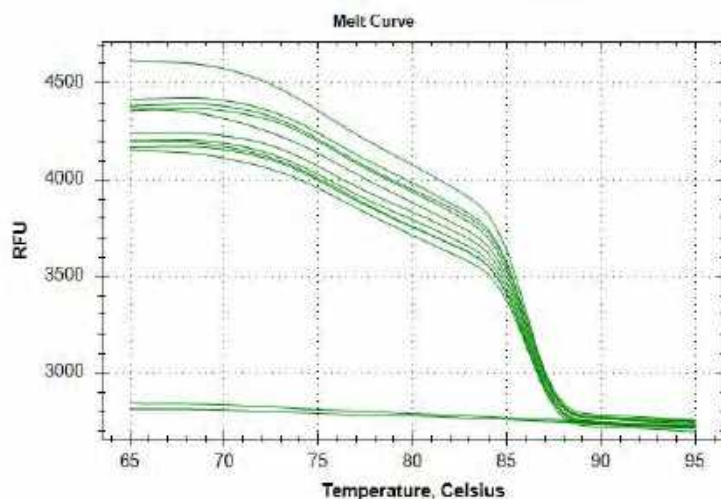


Figure 25.2: Actin melt curve

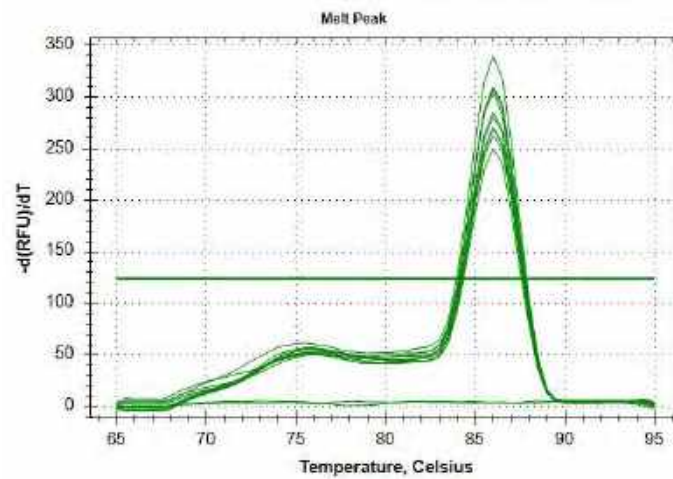


Figure 25.3: Actin melt curve

Conclusion:

NHDF-c adult cells were treated with sample at 1pg, 100pg, 1ng, 100ng and relative expression of target genes was quantified using β actin for normalization. Dose dependent increase in expression of NEUROG1, NEUROG2, GATA2 and GATA3 was observed with Metadichol treatment. Metadichol showed a dose dependent increase in treatment upto 1ng in DLX2, ASCL1, TP53, BCL11B, LMX1A, HAND2, PITX3, POU2F2, FOXA2, ISL2 and CAMK2D expression. Dose dependent downregulation of MYTIL, MYLIP, CD34, LHX3 and NEUROD1 was observed.