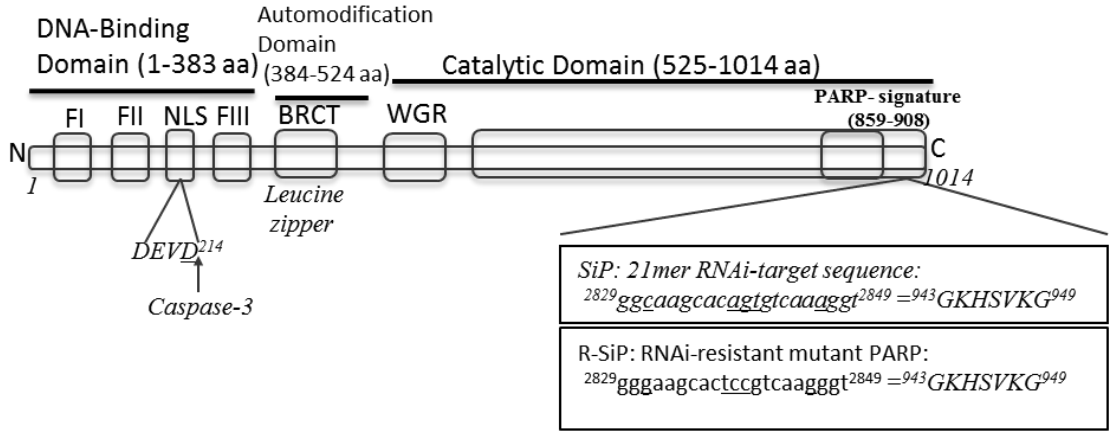
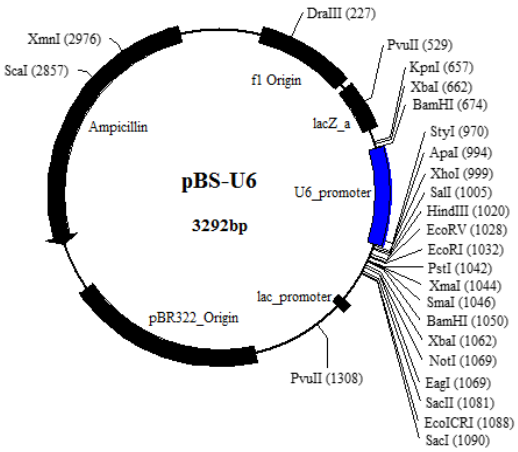
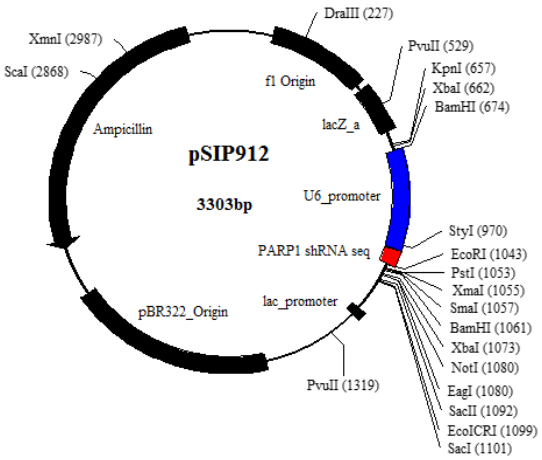
APPENDIX

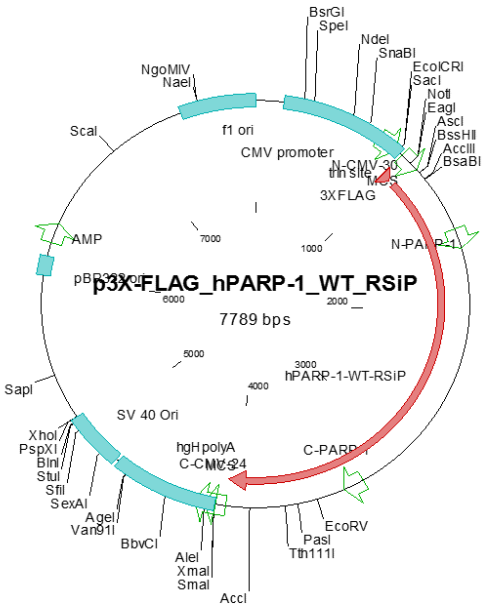
Appendix I





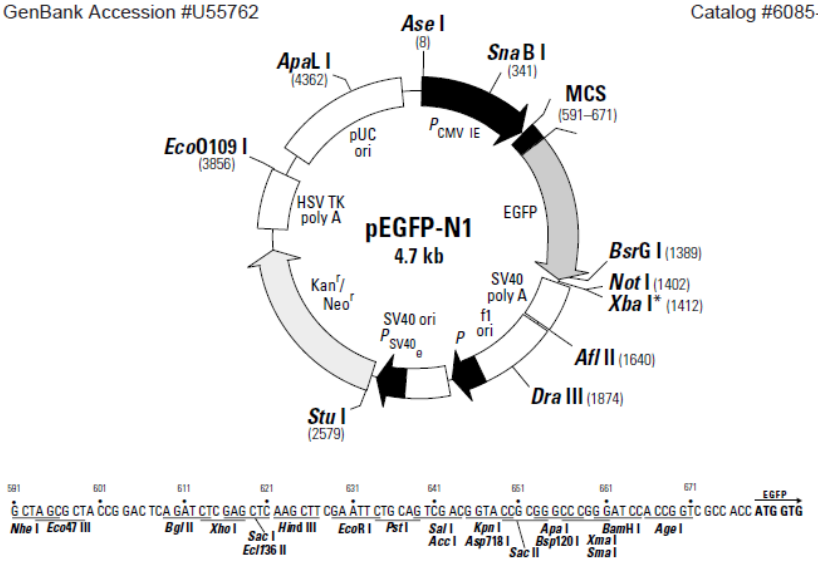


Appendix 1: The figure represents general structure of PARP-1 gene and site from which the shRNA sequence was cloned. Maps of pBS/U6 plasmid where PARP-1 targeted shRNA sequences 5'-GGGCAAGCACAGTGTCAAAGG-3' was introduced under the control of U6 promoter to create SiP912 shRNA against PARP-1 gene. The forward double-stranded oligo pair was cloned in pBS-U6 at ApaI (blunt)–HindIII sites, followed by cloning of the reverse oligo pair at HindIII–EcoRI sites. This DNA would direct cellular RNA polymerase III to create an RNA that would form a short hairpin (shRNA) with the two underlined complementary sequences forming double-stranded stem and intervening AAGCTT sequence (HindIII site) forming the loop of the hairpin (Rashmi G Shah et al., 2005).



pEGFP-N1 Vector Information PT3027-5

GenBank Accession #U55762 Catalog #6085-1



Appendix 1: The figure represents general structure of PARP-1 recovery vector R-Sip:RNAi resistant mutant PARP-1 vector, as explained above. The other vector is pEGFP-N1 used for cotransfecting along with pBSU6 and pSIP912 for its selection and reporter.

Appendix II

	1	2	3	4	5	6	7	8	9	10	11	12
A	18S	HPRT1	GUSB	HNF1B	18S	HPRT1	GUSB	HNF1B	18S	HPRT1	GUSB	HNF1B
B	FOXA2	REG3A	PDX1	NEUROG3	FOXA2	REG3A	PDX1	NEUROG3	FOXA2	REG3A	PDX1	NEUROG3
C	NEUROD1	MAFA	MAFB	PAX4	NEUROD1	MAFA	MAFB	PAX4	NEUROD1	MAFA	MAFB	PAX4
D	NKX2-2	ISL1	PAX6	MMP2	NKX2-2	ISL1	PAX6	MMP2	NKX2-2	ISL1	PAX6	MMP2
E	MMP9	INS	INSR	GCG	MMP9	INS	INSR	GCG	MMP9	INS	INSR	GCG
F	ACVR1	ACVR1B	ACVR2A	ACVR2B	ACVR1	ACVR1B	ACVR2A	ACVR2B	ACVR1	ACVR1B	ACVR2A	ACVR2B
G	TGFB1	TGFBR1	PROM1	NES	TGFB1	TGFBR1	PROM1	NES	TGFB1	TGFBR1	PROM1	NES
H	SOX17	GATA6	PARP1	PARP2	SOX17	GATA6	PARP1	PARP2	SOX17	GATA6	PARP1	PARP2

Taqman Low density Array 96 well fast plate format for transcriptome analysis during islet differentiation (specific to human)

	1	2	3	4	5	6	7	8	9	10	11	12
A	Hs99999901_s1	Hs99999909_m1	Hs99999908_m1	Hs01001602_m1	Hs99999901_s1	Hs99999909_m1	Hs99999908_m1	Hs01001602_m1	Hs99999901_s1	Hs99999909_m1	Hs99999908_m1	Hs01001602_m1
B	Hs00232764_m1	Hs00170171_m1	Hs00236830_m1	Hs01875204_s1	Hs00232764_m1	Hs00170171_m1	Hs00236830_m1	Hs01875204_s1	Hs00232764_m1	Hs00170171_m1	Hs00236830_m1	Hs01875204_s1
C	Hs00159598_m1	Hs01651425_s1	Hs00534343_s1	Hs00173014_m1	Hs00159598_m1	Hs01651425_s1	Hs00534343_s1	Hs00173014_m1	Hs00159598_m1	Hs01651425_s1	Hs00534343_s1	Hs00173014_m1
D	Hs00159616_m1	Hs00158126_m1	Hs00240871_m1	Hs01548727_m1	Hs00159616_m1	Hs00158126_m1	Hs00240871_m1	Hs01548727_m1	Hs00159616_m1	Hs00158126_m1	Hs00240871_m1	Hs01548727_m1
E	Hs00234579_m1	Hs00355773_m1	Hs00961557_m1	Hs00174967_m1	Hs00234579_m1	Hs00355773_m1	Hs00961557_m1	Hs00174967_m1	Hs00234579_m1	Hs00355773_m1	Hs00961557_m1	Hs00174967_m1
F	Hs00153836_m1	Hs00923299_m1	Hs00155658_m1	Hs00609603_m1	Hs00153836_m1	Hs00923299_m1	Hs00155658_m1	Hs00609603_m1	Hs00153836_m1	Hs00923299_m1	Hs00155658_m1	Hs00609603_m1
G	Hs99999918_m1	Hs00610319_m1	Hs01009250_m1	Hs00707120_s1	Hs99999918_m1	Hs00610319_m1	Hs01009250_m1	Hs00707120_s1	Hs99999918_m1	Hs00610319_m1	Hs01009250_m1	Hs00707120_s1
H	Hs00751752_s1	Hs00232018_m1	Hs00242302_m1	Hs00193931_m1	Hs00751752_s1	Hs00232018_m1	Hs00242302_m1	Hs00193931_m1	Hs00751752_s1	Hs00232018_m1	Hs00242302_m1	Hs00193931_m1

TaqMan Array 96 - Well FAST Plate P/N: 4413259

Production Order: 2018621; Plate Name: Custom Config. 3X32; Sales Order: 0005087737

Assay IDs

Gene Symbols

Appendix III

Identification of TATA box (promoter) Reg3a gene

```
>FP006991 Reg3a_1 :+U EU:NC; range -1000 to 100.
tcttatggtcacatattcataaggattccaagagtcttctttcagaaatgattcaagctt
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tgtaggtttatgtgagtatgtgtatcattgtgagagaacatacatgttcctataggtgct
caagaagactaaaacagggaatcataccacctggagatggttatgaattgcctgatttgt
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atcactggcacctgaacacagaacatgtttgctaataggaaatagccccaatgtgtgtta
gtttctgtctttgccaggaagtgtcctgcaagttttgctgggaagttttctgaatgtatg
ccaagcactagctatcacccagacttaaataagcattcacttaatcactttgatgccctt
ccttcaaatcctatcataaagcagtcacctttgtcctgacAAACCATCTCAGATCTCTAC
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AGATACAGAAGAATCTCTGT
```

```
TATA-box found at: [-707 .. -691]
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TATA-box found at: [-369 .. -346]
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TATA-box found at: [-311 .. -290]
TATA-box found at: [-265 .. -249]
TATA-box found at: [-83 .. -67]
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Primer pair	Sequence (5'->3')	Template strand	Length	Tm	GC%	Self complementarity	Self 3' complementarity
Forward primer	CTGCAAGTTTTGCTGGGAAGT	Plus	21	59.59	47.62	5.00	1.00
Reverse primer	AGACACAAGGCTCTCACCATC	Minus	21	59.72	52.38	3.00	0.00
Product length	200 for -67 to -83 tata box						

Identification of TATA box (promoter) Pdx-1 gene

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tgaaaaatgggttttctgtgcgggggggggggacgggacgactagagactagaaattcc
actaaagacgccaggatggtcacagatctgaaaacccggtgccaacccccttgcccaactg
ctcaaccacaaaggcaacacttctctgtgccttccgcacatttgggagtgtgttctgagt
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taagccactgtgattcccccccccccagacctaacagtcagaaggctagaagtatagggga
acgcagatacagataaaaataaaacgaaataaagggatagtttgagcaataaaacaaaaa
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GCCTAAGGCCTGGCTTGTAGC
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TATA-box found at: [-319 .. -303]
TATA-box found at: [-255 .. -239]
TATA-box found at: [-234 .. -218]
TATA-box found at: [-207 .. -191]
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Primer pair	Sequence (5'->3')	Template strand	Length	Tm	GC%	Self complementarity	Self 3' complementarity
Forward primer	AGCTCATTGGGAGCGGTTT	Plus	19	59.62	52.63	4.00	0.00
Reverse primer	GTGGAGCTCTCCAAAACGGG	Minus	20	60.96	60.00	8.00	0.00
Product length	73 (tata box -207....-191)						

Identification of TATA box (promoter) Neurog3 gene

AAAGGGGGCAGAAAGTAGATCTGCTTTTCTCCCAGGGCCTGCACACGGAGGCATTGAAAA
GACAAAAAAGGCTAGCAGAGAACAAGTCCCTCCTTGACCTTTCCCTATCACCTGCCTCTC
GGGTCAGGCCTTCCCGATAGCATCCATAGTGGGGCGGGGCGTGATGAGATGCCCCCTCTG
CACTCTCTCTACAACCACCCTCGCCTCCGGAATAGAACCCAATGTCTCGGATGAGGACTA
TGGTGGGGGTTTTCAAGGTCTGGTCTGGGGGCTGGAGGGTTGGATCCCAAGGTGATATTG
AACCTGGCCAAGCAATAGTTTCTGAGTAGAAAGGACTTGAGCAGGGACCGTCTCTGGTCA
CTCTGTCCTCTTTCCCAGGATGGAGTCAGTCTGTGAAACATGGTTGCACACACATTTCCT
GACCCAACCCATAGTGGCGGAGAGCTGGATAGCACTTTGAACTAATGGGCGCTCCTCCCA
GCTGCCAGCCAAGAAGACACTTGACTCCTTGATCGCTGGTTCATTTAGACAAGCCGTTTC
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TATA-box found at: [-418 .. -387]
TATA-box found at: [55 .. 71]
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Primer pair	Sequence (5'->3')	Template strand	Length	Tm	GC%	Self complementarity	Self 3' complementarity
Forward primer	AGCAGATAAAGCGTGCCAGG	Plus	20	60.75	55.00	3.00	3.00
Reverse primer	CTCGCCTGGAGTAAATTGCG	Minus	20	59.35	55.00	4.00	2.00
Product length	136 tata 55 to 71						

Identification of TATA box (promoter) NeuroD gene

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aaactagctttagacacaaaattctagggtttagagttgaagactcttagtgaagtctct
ggggtaggagcaggtgaccgttaggtttacatttggagtgttcaagtgtagggtatggaa
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CAACAGGTAATTATGATTCCT

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TATA-box found at: [-327 .. -311]
TATA-box found at: [-301 .. -278]
TATA-box found at: [-39 .. -16]
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Primer pair	Sequence (5'->3')	Template strand	Length	Tm	GC%	Self complementarity	Self 3' complementarity
Forward primer	CGCTCAGCATCAGCAACTC	Plus	19	59.29	57.89	5.00	0.00
Reverse primer	GTGGGCGAATTCCTCGTGTC	Minus	20	61.36	60.00	6.00	1.00
Product length	70 FOR TATA BOX -16....-39						

Identification of TATA box (promoter) Pax4 gene

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cagcaccctaccctacccagacactggtttttctcacccttgcaatggcccagacaatctg
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cgcagaaggacacagccggtcactggctgtgggttaccctgcctcagggccagtgtcagc
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TATA-box found at: [-534 .. -518]
TATA-box found at: [-401 .. -385]

Primer pair	Sequence (5'->3')	Template strand	Length	Tm	GC%	Self complementarity	Self 3' complementarity
Forward primer	CACACATGATCTGGGGGTTGA	Plus	21	60.00	52.38	5.00	1.00
Reverse primer	AGTACTGATATCGTTTCCCAGCC	Minus	23	59.93	47.83	6.00	1.00
Product length	70 tata box -401....-385						

Identification of TATA box (promoter) Nkx6.1 gene

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tttaattaatcccttcaaaagaaggaagtcggcctgggatatgcctcctgcctgctccat
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TATA-box found at: [-730 .. -714]
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TATA-box found at: [-683 .. -660]
TATA-box found at: [-633 .. -617]
TATA-box found at: [-511 .. -495]
TATA-box found at: [21 .. 37]

Primer pair	Sequence (5'->3')	Template strand	Length	Tm	GC%	Self complementarity	Self 3' complementarity
Forward primer	AAGAGGACGGACGATCGGAA	Plus	20	60.68	55.00	6.00	1.00
Reverse primer	CGGACTAGCCGGATCGAAAA	Minus	20	59.90	55.00	6.00	0.00
Product length	87 tata box 21...37						