SiRNA and qPCR Primer Design of Cepbα

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Target Gene Information

Protein Name : **CCAAT/enhancer-binding protein alpha**
Gene Name : **Cebpα**
Organism : *Mus musculus (Mouse)*
Description : This intronless gene encodes a transcription factor that contains a basic leucine zipper (bZIP) domain and recognizes the CCAAT motif in the promoters of target genes. The encoded protein functions in homodimers and also heterodimers with CCAAT/enhancer-binding proteins beta and gamma. Activity of this protein can modulate the expression of genes involved in cell cycle regulation as well as in body weight homeostasis. [provided by RefSeq, Sep 2014]
Source : https://www.ncbi.nlm.nih.gov/nuccore/NM_007678.3
Accession ID : NM_007678.3

SiRNA (designed by BLOCK_iT RNAi Designer)

```
SiRNA 1         : SiCEBPa_MX1
Targer Sequence: 5'- GCCGCTGGTGATCAAACAA-3'
SiRNA           : 5'  GCCGCUGGUGAUCAAACAA 3'
                  5'  UUGUUUGAUCACCAGCGGC 3'

SiRNA 2         : SiCEBPa_MX2
Targer Sequence: 5'- CCGAGATAAAGCCAAACAA-3'
SiRNA           : 5'  CCGAGAUAAAGCCAAACAA 3'
                  5'  UUGUUUGGCUUUAUCUCGG 3'

Source          :
https://rnaidesigner.thermofisher.com/rnaiexpress/desi
gn.do
```

qPCR Primers (designed by Primer and GeneBank)

```
Primer 1          : PriCEBPa_MX1
Amplication size: 130
Forward Primer : GAGGAGGACGAGGCGAAGCA     616 to 635
Reverse Primer : CGATCTGGAACTGCAAGTGGG    725 to 745

Primer 2          : PriCEBPa_MX2
Amplication size: 124
Forward Primer : CAAGAACAGCAACGAGTACCG    966 to 986
Reverse Primer : GTCACTGGTCAACTCCAGCAC   1069 to 1089
```

Target Total Sequence

```
gene            1..2651
exon            1..2636
CDS             127..1206
polyA_site      2636

ORIGIN
    1 attcgcgacc cgaagctgcg cgggcgcgag ccagttgggg cactgggtgg gcggcggcga
   61 cagcggcgcc acgcgcaggc tggaggccgc cgaggctcgc catgccggga gaactctaac
  121 tccccc…/atgg agtcggccga cttctacgag gtggagccgc ggcccccgat gagcagtcac
  181 ctccagagcc ccccgcacgc gcccagcaac gccgcctttg gctttccccg gggcgcgggc
  241 cccgcgccgc ccccagcccc acctgccgcc ccggagccgc tgggcggcat ctgcgagcac
  301 gagacgtcta tagacatcag cgcctacatc gacccggccg ccttcaacga cgagttcctg
  361 gccgacctct tccagcacag ccgacagcag gagaaggcca aggcggcggc gggccccgcg
  421 ggtggcggcg gtgactttga ctacccggga gccccggcgg gccccggcgg cgcggtcatg
  481 tccgcggggg cgcacgggcc ccctcccggc tacggctgtg cggcggccgg ctacctggac
  541 ggcaggctgg agcccctgta cgagcgcgtc ggggcgcccg cgctacggcc gctggtgatc
  601 aaacaagagc cccgcgagga ggacgaggcg aagcagctgg cgctggccgg cctcttcccc
  661 taccagccac cgccgccacc gccaccgccg cacccgcacg cgtctcccgc gcacctggcc
  721 gccccccact tgcagttcca gatcgcgcac tgcggccaga ccaccatgca cctgcagcct
  781 ggccacccca caccgccgcc cacgccccgtg cccagcccgc acgctgcgcc cgccttgggt
  841 gctgcgggcc tgcctggccc cgggagcgcg ctcaagggct tggccggtgc gcaccccgac
  901 ctccgcacgg gaggcggcgg cggtggcagc ggtgccggtg cgggcaaagc caagaagtcg
  961 gtggacaaga acagcaacga gtaccgggta cggcgggaac gcaacaacat cgccggtgcgc
 1021 aagagccgag ataaagccaa acaacgcaac gtggagacgc aacagaagt gctggagttg
 1081 accagtgaca atgaccgcct gcgcaagcgg gtggaacagc tgagccgtga actggacacg
 1141 ctgcggggca tcttccgcca gctgcctgag agctccttgg tcaaggccat gggcaactgc
 1201 gcgtga…/ggcg cgcggctgcg ggaccgcctt gggccggccc cctggctgga gacccagagg
 1261 atggtttcgg gtcgctggat ctctaggctg cccgggccgc gcaagccagg actaggagat
 1321 tccggtgtgg cctgaaagcc tggcctgctc cgcgtgtccc ctcccttcct ctgagccgga
 1381 ctcggtgcgt ctaagatgag ggagtcaggc cgtggtggtt tctccttgag accgagagac
```

SiRNA 1

Yuejian Mo
03/07/2018 20:42

#1 Forward Primer

Yuejian Mo
03/07/2018 20:34

#1 Reverse Primer

Yuejian Mo
03/07/2018 20:35

#2 Forward Primer

Yuejian Mo
03/07/2018 20:36

SiRNA 2

Yuejian Mo
03/07/2018 20:42

#2 Reverse Primer

Yuejian Mo
03/07/2018 20:40

```
1441 tttccgcgga gctgagctgg gggcccggca gtactagtat taaggaagta accttgtgcc
1501 ttggatactc aaaactcgct ccttttccta ccgagtaggg ggagcaaaaa tgtgccttga
1561 tattttattt ggaggattcc tgcttcctct cgggcctcag ctggccccgt gagaaaaatg
1621 aagggtgcag gcccagggca ggaggaagat acaggaagct gagatcccgg cagtgccctg
1681 agctgcccct cagtccctgt ctttagaggg gagggactta ggtgttgggg atttgagtct
1741 gtgtcctcac ccccagctac agggaggtgg agggctccta atcccttgct ttttgcacct
1801 ccacctacat cccccccccc ccactcagct tacaacaggc caggtttcct gggtgagttc
1861 atggagaatg ggggcaccac ccccagtcag accagaaagc tgagttgtga gttagccatg
1921 tggtaggaga cagagaccta ggtttctggg ctttgtgggg tggggatag gaggacacgg
1981 ggaccattag ccttgtgtgt actgtatgtc gccagccgct gttgctgaag gaacttgaag
2041 cacaatcgat ccatcccaga gggactggag ttatgacaag cttcccaaat attttgcttt
2101 atcatccgat atcaacactt gtatctggtc tctgtgtccc agcggtgcct tgtgcaatgg
2161 cagtgtgcac gtctatgcta aaccaccatt ttatttggtc ttttgttttg ttttggtttt
2221 gctctgattc ttgccaaact gagactcttc actaacggct gggggaagga gctgagtgag
2281 gctctcattc tttttggttt agggatgttt gggttttttc gtctgcctcc cagaggacca
2341 atgaaatgaa gtgggcttcc ccctctcccc tagttgtcca agggtgtatg tagtagtggg
2401 tcttagcttc ctccggctaa gacttaggct tccccaccca cccaacccca tccccaacgg
2461 ccctggctct gggtctggaa agaaggccac ctccagccag ttcatacaca caccectgtg
2521 gctgggagca gggctggacc gcttccttct cttctttttt ttggggggg gggacacaaa
2581 gtttcatgct agatgtcgta tgtattatat ctataatata aacatatcaa actcaaaaaa
2641 aaaaaaaaaa a
//
```

```
                #1 Forward Primer                    #2 Forward Primer
                GAGGAGGACGAGGCGAAGCA                 CAAGAACAGCAACGAGTACCG
                616------------->635                966--------------->986
                     ||                                   ||
                    \||/                                 \||/
   5'              \./                                  \./                           3'
  |<-UTR->|<------------------------CDS------------------------------------------->|<-----3' UTR------->|---------|
  |<---------------------------------------------Exon 1--------------------------------------------------->|<-Poly A->|
  1     126                                                                   1206              2626    2651
          /|\                        /\                     /|\                      /\
         / | \                      /||\                   / | \                    /||\
   5'    |    3'                   /|||\                5'  |    3'                 /|||\
  GCCGCUGGUGAUCAAACAA          CGATCTGGAACTGCAAGTGGG    CCGAGARAAAGCCAACAA      GTCACGGTCAACTCCAGCAC
  588------------>606          725<-------------745     1026--------->1044      1069<-----------1089
      siRNA 1                    #1 Reverse Primer          siRNA 2               #2 Reverse Primer
```