

ANNOTATION

Exons are highlighted in **yellow**; the transcription start point is the first nucleotide in the exon sequence.

ATG translational initiation codons are highlighted in **gray**.

Sequences near -25 used for evaluation of TATA Box quality are highlighted in **green**.

Aligned transcription factor-binding sites are highlighted in **pink**.

Nonaligned transcription factor-binding sites are shown above or below the relevant sequence and enclosed in brackets.

Sequences of functional relevance as determined by transcription factor binding assays (gel shift ,DNase I footprinting , methylation interference) and/or transient transfection experiments are underlined with asterisks (*****).

Sequences corresponding to transposable elements (sines for human and B1/B2 elements for mouse) are given in **red letters**.

seq1 = human rpSA
seq2 = mouse rpSA

57.6% identity.

```
-200
seq1      agtcacaagcgccccagatccgaccaggatgccgctacccgtgacagcccagaagcccgc
          |   |   |   |   |   |   |   |   |   |   |   |   |   |
seq2      tggggctctgtgcagcgactgcagccgcgcaggcgc-----gggccactttaacttccgc
          -200                                                    <GABP>

                    <-Sp1>                                -100
seq1      tcct---gcgcgcaagcccgccttctgaagaaaaagcccagtcccggcagcgttcttct
          |||   |||   |||   |||   |   |||   |||   ||   |||   |||   |||
seq2      tccgcgcgcgctacagcgggccactcactgaatctgcgc--gtgcgccagaggcttttt
          -100                                                    <GABP>

                    <-Sp1>  <---GABP-->                    -50
seq1      ccggctccgcccttcttcc-----gctcgactttctttgccattggctgacaacggagTc
          |||   |   |||   ||   |||   |   |||   |||   |||   |||   |||
seq2      ccggagcgggaagtctcccttttggcttagcctgctttgccattggctggctgtgggtTc
          ->  <GABP>

-25  ATF/CREB                                     --YY1--
seq1      cataaggagcgtcatttctgctgctgtCTTTTCCGTGCTACCTGCAGAGGGGTCCATAC
          |||   |||   |||   |||   |||   |||   |||   |||   |||   |||
seq2      tttaggagcgtcatttccggccgccgtCCTTT-CGCGCTACCCGGGGACGGGTCCATAC
          <GABP> <Sp1->                                                    +70

seq1      GGCGTTGTTCTGGgtgagttccgtgtagcgtccctggcgccttcc-agggctagaaaaat
          |||   |||   |||   |||   |||   |||   |||   |||   |||   |||
seq2      GGCGTTGTTCTGGgtgagtctcacgtggagccctcggcgtctccggacgccgcccggacgc

+100
seq1      gagcttttc
          |   |||
seq2      gcgcttact
          +100
```

seq1 = human rpS2
seq2 = mouse rpS2

53.89% identity.

```
-200
seq1      gct-----tttcgggtgacgtagattcccgggcccggcggctgggg
          ||                               || ||| || |||       || ||||| ||
seq2      gcgggcgcgagatatttatacgtccttccggctggtgta-----gggcgcggttcgg
-200                                <GABP>
seq1      ccggacgg-----gcaagagcactcagagcccgggtgagggcggggcaccgaggagcca
          | ||| | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      c--gagggaagtccgcaggcgcagacagatcacggcggggcgggacaagacgcagcca
                                           -100
                                           <--SP1-->
seq1      atcacaggttgcttataggagctcggcccgtcccgttggggcggggctgaggagatc
          | ||| | | | | | | | | | | | | | | | | | | | | | | | |
seq2      accaca-----gcctgcgggtgc-tgtgcgtaggcagtcgagatc

-25
seq1      tcgcggcgcttggcgtgcTataaaaGctgcttcccagtaggtctcg---ttCTTCTTTTC
          ||||| ||||| | ||||| | | | | | | | | | | | | | | | | |
seq2      tcgcgcttcttggagcactataaatTgtcccttccgcggcgcctccctcttCTTCTTCTT
          -28                                <GABP>

seq1      CGACAAAACACgtgagtcctggtgctgcagcgggcctctgcg---tgggcggcggg
          || | ||||| ||||| | || |||| | | || |||| | |||| | |||
seq2      CGGGAGAACACgtgagtc---tatgttgctgggacctggccttgcggcctgggcggtggg

+100
seq1      aatccgcgacatcgggtcgggtctaggctcccg
          ||||| ||||| || | | || |
seq2      aatccgtgacatccggacagacacagttttggc
          +100
```

seq1 = human rpS3
seq2 = mouse rpS3

59.88% identity.

```
-200
seq1  aattgaactctaagggtcccctgaagtttagaagtcctgctggatgaagcccctttcctgt
      |  |                || ||| |                || | | |||||
seq2  tttcaga-----ccggaact-----agatgtctacttctctgt
-200

seq1  tcctgcctacattcttctttccctgg-----acgccttac
      ||| ||||| || | ||                ||| | ||
seq2  tcc-gcctacattacaggttgctaggttacacccccctacgccgttttagacgcaaac

-100
seq1  ttacgta-----aaaactacatttcccatgagcaccacaggcgtgcacgcagcgcag
      || | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2  ttcatttcccatgcaaaaacttcatttcccatgaacacttgaagggt---cgccgcgctg
      -100

-25      -SP1--
      -GABP-
seq1  ccctccgctcgctcgctcgcgcccattatactcacttccgcccgcgagccacttCCTTTCCT
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2  cgcggcgctcattgctcccgcctatatactcacttccgcccgcgagccacttCCTTTCCT
      <-SP1-> -25

+25      -YY1--
seq1  TTCAGCGGAGCGCGGCGCAAGATGGCAGTGCAAATATCCAAGAAGAGGAAGgtgagcct
      ||||| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2  TTCAGCGGCGCGGCTGCAAGATGGCGGTGCAGATTCCAAGAAGAGGAAGgtaagcgt
      +25

+100
seq1  ctggggactgggttcggagaacgacggcgccg-----
      ||||| | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2  ctggg--cccggttcgg-----gagtcgcccgcggttc
      +100
```

Note: TATA motif conserved in Xenopus and Fugu orthologs

seq1 = human rpS3a
seq2 = mouse rpS3a

75.49% identity.

```
-200
seq1      -acacagcgcagcctccagtgagcccgcggcatgccgcgcggcctccccacacacgatgg
          |  |||  | ||  |||||  |||  |||||  |||||  |||||  |||||  ||
seq2      gctcccatgcacagcctagccagcccgcggcccgcgtgcgcgacctcccgacacacgaggg
-200
                                     -100
seq1      cgatgtcgcgaaccacagtagaaagagtggcg-ctctctactgtcccgggaattcttgaggc
          || |||||  | |||  | ||  | ||  | |||  ||||  || |||||  || ||
seq2      cgctgtcgc-agcacggcgggaaacgagccgcc-agctagtgtcgcgagattcttaaagc
                                     -100

          -GABP-          --AP1-          --SP1--          -25
seq1      cggaagaataacagggcaaagggtcacgtagacggcgcgccccgccccgtacgcccTaagt
          |||||  | || ||||  |||||  |||||  |||||  |||||  || |||||  ||
seq2      cggaagggcgaaagagcaagggtcacgtagacggcgcctccccgcccggctcgcgtTaagt

                                     -GABP-
seq1      TctcgcgcgactcccacttccgCCCTTTGGCTCTCTGACCAGCACCATGGCGGTTGGCA
          |||||  |||||  |  |||||  |||||  |||||  |||||  |||||  |||||  |||||
seq2      TctcgcgcgagttgtacttccgCCCTTTGGCTCTCCGGTCGGCACCATGGCGGTCGGCA

seq1      AGAACAAGCGCCTTACGAAAGGCGGCAAAAAGGGAGCCAAGAAGAAAGTgtaagtcgcga
          |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
seq2      AGAACAAGCGCCTGACGAAAGGTGGCAAGAAGGGAGCTAAGAAGAAAGTgtgagtgccgg

+100
seq1      ct
          |
seq2      at
+100
```

seq1 = human rpS4
seq2 = mouse rpS4

69.5% identity.

```
                -200                                <GABP>
seq1      aaggggagggaggaaatc--gcccttaggagacaccctctttccgcgggcgttcctcaac
          |  |||  |||||  |  ||  |||||  |||  ||  |  |||  |  |||  |
seq2      gaaaggactgaggaaaaacagtttttgggaga---ttctctcagcctcagtttcccagc
          -200
```

```

                                     -100
seq1      tcgggacttctgacctcccaccagcagatggcaagaaagagtcccggcgccagcaaag
          |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
seq2      ctgggacctctgacctcccaccagcagatggcaagagagagtccccgcccgctgggaaag
                                     -100
```

```

                --SP1--
seq1      ggctgagctgggcgagcagctgaaaatccg--gcgcgcgcagtctccagcccc
          |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
seq2      tctgaggctgggcgagcaaccaggtccagcgcgcgcagcctccgaccct
          -25
```

```

                -GABP-
seq1      tcacgcgcaccggaagacggaggtcCTCTTTCCTTGCCTAACGCAGCCATGgtaagccgtt
          |  ||  |  |||||  ||  |  |||||  ||  |||||  |||||  |||||  |||||  |
seq2      tccgttcgccggaagaaggcgagtCTCTTTCCTTGCCTAACGCAGCCATGgtaagccgag
```

```
seq1      tagttagcgagctcttaggacgatccgcctccatcctcccccgccggggctgcccag
          |||||  |||||  ||  |  |||  ||  |||||  |||||  ||  |  |||||  |
seq2      ggtacagcgagctctgggttgcacgcgcttccatcctccctgaccgat-gctgcccggg
```

```

+100
seq1      gttt-
          |  |
seq2      ttatc
          +100
```

seq1 = human rpS5
seq2 = mouse rpS5

62.26% identity.

```
                      -200
seq1  -----tccgccaggc-acgcttctagggccgcttctgcaactgcgcat
              ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
seq2  agctagtacttcagaggtccgccagaagacgggcgctggcgctgtttctaaaagtgcgcat
-200
```

```
seq1  gcgcttgggctgcaccattccgtctagccaaaaggttcctctacaaccttccctccgga
              ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
seq2  -----gctttacc-----ggctcaaagggcgctct-catcctagcgcttga
```

```
                                                -50  -GABP-
seq1  ttggtctatagggacacgatggccttttacgcaagcgtcaccggtgctgaccggaagt
      ||| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2  ttggttggtgagcagcgtgtttcatctgcgctgctctacctctgaccggaagt
                                                -50
```

```
                      -25
seq1  ttcttccagttataaaagtgttggcccgcgcgcgccCTCTTCCTGTCTGTACCAGGGC
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
seq2  ttcgcttgcataaaagcgtagtccgctgcgcgcgccCTCTTCCTGTCTGTATCAGGGC
                      -25
```

```
seq1  GCGCGTGGTCTACGCCGAGTGACAGAGACGCTCAGGCTGTGTTCTCAGgtgagaccgcc
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
seq2  GCGCGTGGTCCACGCCGAGCGACTGAGAAGCCCAGTCTGCGCCCTCAGgtgaggctgcg
```

```
                      +100
seq1  gcggggccgggatccta
      | | | | | | | |
seq2  gagggacaggagttcag
                      +100
```

seq1 = human rpS6 (D28348)
 seq2 = mouse rpS6 (Z54209)

56.47% identity.

```

-200
seq1      aattacacgcggtttgccttacc-----agactaccaccactggcac-----
          |          ||||          || |||          | ||| ||  | | | |||
seq2      a-----gcfg-----ctaaccccggtgataaacgacagaccccgctcaccaggaaggt
-200
  
```

```

seq1      -----aacctcaga-----ccacacccaaccgactttacctccagggcctgattaat
          || || | |          | | | | | ||||| |          | |||  || |||||
seq2      ccaggaagctaaaatgacagctcgctgcaaacggc---ctctccatagtctagttaat
  
```

```

-108      -GABP- <-SP1>          -GABP-          --
          *****          *****          **
seq1      ct-cgcccggaagtaccgcccacccatgctcacttccgctatcccgtacttctgctcatc
          || ||||| ||||| ||| |  ||||| |||||          | ||| ||
seq2      ctacgcccggaagtaacgccctctaaagtcacttccgc-----cggtctgttc
-97
  
```

```

BoxA--          -25          -GABP-
*****          *****
seq1      tcgcgagaactgaaagcgcctatgtgacctgcgctaagcggaagttggccCTCTTTTCCG
          ||||| ||||| | ||| | ||||| ||||| || ||||| || ||||| ||
seq2      tcgcgagaacttagagcgctatgtgccctgggttaagcggaagtcgggcCTCTTTTTCG
-25
  
```

```

                                     <YY1->
seq1      TGGCGCCTCGGAGGCGTTCAGCTGCTTCAAGATGAAGgtaggatgatgggagtggtta
          || ||||| ||||| || ||| | ||||| ||||| || ||||| || |||||
seq2      TGACGCCTCCCAGGCGCTCGGCTGTGTCAAGATGAAGgtaggcgtccccggccag-----
  
```

```

                                           +100
seq1      gactgggtttggg-----gaacgtgaatcgagtc
          | | | | |  |  | | | |  | | |
seq2      ggccgagtgaggccgccgagcccgagcgt-----gcggc
                                           +100
  
```


seq1 = human rpS7
 seq2 = mouse rpS7

56.07% identity.

```

-200      <GABP>                                <SP1/GABP>
seq1      aacgctcggaaacggcaccaaagtacgaatcctagggcggaaaagcgttaccaagacact
          |||||                                ||  |||  |  |  |||||  |||  ||  ||
seq2      -acgct-----gacgactaccgggaacaagcgaaccgggcacgct
          -200

seq1      cgtcccca-----gagccgcttctctgggactctctagcctc-ctac
          |  |||  |                                ||  |  ||  |  ||  |||||  |  |  |
seq2      catcctcccgcattagttcccagtagggaactattttccggtagactctagggcggtccaa
                                <GABP>

                                -80 <GABP/SP1>                <GABP>
seq1      cgcttctcagt-gatggtccggtttccgccctcctcctcgcgctgtttccgcctcttgcc
          |  |||  ||||  ||  |||||  |||||  |||  |||  ||  |||||  ||  |||||  |
seq2      ctcttttcagaagagcttccggtttccaccacacttccgctgtccccacctcttttc
                                <GABP>  -75                <GABP>

                                -25      --BoxA--
seq1      ttcggacgccggattttgacgtgctctcgcgagatttgggtCTCTTCCTAAGCCGGCGCT
          |||  |  |  |  |  |  |  |  |||||  |||||  |  |||||  |||||  |||||  |
seq2      ttccgccaccggatatgagccgttctcgcgagagccgtccCTCTTTCTAAGCCGGCGAT
          -25

seq1      CGGCAAGgtaggttggcggcctgctctccgacagaacttttcttcttggttgaggaaaa
          |  |  |||||  |||||  ||||  |  ||  |  |  |  ||||  |  |  |||  ||  ||
seq2      CCGTCAGgtaggttcgcggccgcaatgtggccgcggtttttcgcagagtttgggggaac

                                +100
seq1      cgccttttgagtcaggccct
          |  ||  ||||  |  |  ||
seq2      agactctggggggcggtccgg
                                +100
  
```

Note: BoxA is conserved in Xenopus and Fugu

seq1 = human rpS8
seq2 = mouse rpS8

59.5% identity.

```
-200  
seq1      cccc-----cagcccagggtc---ggaggcgagtcgccgggggt  
          | |                               | ||||| ||||  |||  ||| |  |||||  
seq2      cagcttaaggagccccgccctccagaccgcccaaggtcaagggatttgaggc---ggggt  
-200          <-SP1->          <-SP1>          <---SP1--->
```

```
seq1      cggcagaggtcagcagcctgcgagaccctcctaggctcgtg-gccctaggcgcggcagct  
          | |      ||  |||  | ||  ||||| ||||  | |  | |  ||  ||||  ||  
seq2      ccgctgagttcgcacgccgaggaccctcccctgtgccagcgtcccaggctcg-----
```

```
seq1      gacacgtaagtctcgtcgcccagcttgtttc-ggcgctcagaaacaacgtaaagtaaag  
          ||  ||||  | ||  ||  | |||  | |||  ||||| |||  |  
seq2      -----ccgcggccaggtccttcccggcaaccggaagagacgtaaagaa---  
                                     <GABP>
```

```
      --SP1--          -25  
seq1      gggcggggcagcgttttacaaccgaaaccgtgaatctttgcggtttCTCTTTCCAGCCAG  
          ||||| |||  ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2      -ggcggggctgagtttagaaaccggaccgtgaagctttgcgcttcCTCTTTCCAGCCAG  
          -25
```

```
seq1      CGCCGAGCGATGGgtgagtgtcgtctcgcattgaggcgggtgaagggaggttgagctcaa  
          ||||| ||||| ||||| ||||  |  |  ||||  |||  |  |||||  |  
seq2      CGCCGAGCGATGGgtgagtgttgcgcccgggtcgggccgccccggggagcgagctcca
```

```
          +100  
seq1      tcaggccccatcctgcttcacagcct  
          || | | ||||| || | |  
seq2      tccgtctccatcctgcctcccagcgc  
          +100
```

seq1 = human rpS9
seq2 = mouse rpS9

50.0% identity.

```
-200 <
seq1 ccctacttctcaggtttcc-----actccctggcc
      ||| | | | |
seq2 -----attcttgattaaccaaatgtcaccatagccctttaatcgctaaccacctcact
      -200
```

```
GABP>
seq1 ggaaaaaacctagtcctcccaggttagcacgcccgtctagcccagcctcacgtctccact
      || | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2 gg-----caagtcggcccagcgaag--cgcccgtctagccggcctgctcgtctctatg
```

```
-80 ATF/
seq1 gcttctcagccagccaacgcctcttctgattggctctgacgtgcggtggtgcggtgaaaacg
      ||| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2 gctttcctg-----cttctgattggcgtagtcgcgagcgggtgctgatgacg
      -80
```

```
CREB/API -25
seq1 tcacgagacgccggcggttactataagagcgcagccggtggcgcttgcgcgccCTTTCTCA
      ||| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2 tcactacaaggcgacgttactataagacctcgggtccaaccgc-----cttgtCTCTCTTT
      -25
```

```
seq1 GTGACCGGGTGGTTGCTTAGgtgaggtgcgccggtgtgcttttctctaggg-----t
      || | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2 GTCTCGGGCCTGAGTTCGTAGgtga-----gtgttctgattggttgagttcgccttt
```

```
-YY1-- +100
seq1 ttgggttgatggtggc-----ccgggccttccgagtttcc
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2 taggggttgatggtgtaaggtaacggagccattcgaatct-t
      +100
```

seq1 = human rpS10
seq2 = mouse rpS10

63.52% identity.

```
-200  
seq1  gtactgatagagcagcaagctcagaagttcccggcgg---cggtttcctagtgcgtgcg  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2  -----cacaactcacgggctagcaatctccagggtggggcggggtggaggagggggcg  
      -200                               <--SP1-->          <--SP1-->
```

```
seq1  tgag-----tcctcaggcggtcaggctccgtggtcagatccgccagttc  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2  ggaagcgtagcgggatggctcgcacatgctcctagcaccgt-----cccactc  
->
```

```
                                     <SP1>-50  --Sp1-  
seq1  ttcaggcaccgccgagggccaccccaggctccccgcggtcctggcggggggcggtccac  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2  ctcaggcactgcccagggcaccaggcagcgcgcgggtcctgcaggagggcgagccgc  
                                     -50
```

```
      -GABP--23          --Nrf1-  
seq1  gccagcccgaagagacgcagcaccgcgcatgctccttCCTTTCCAGCCCCGGTACCGGA  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2  g-cagcccgaagagacgcctgcgccgcgacgccccttCCTTTCCAGCCTCCGCCTCGGA  
      -25
```

```
                                     +50          --YY1--  
seq1  CCCTGCAGCCGCAGAGgtgagtttctgtggcgttcgagttccatcgggtcccacccggtc  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2  CCCTGCAGCCGCCGCGgtgagttcctccggcgtccgggtccatctgtcgccacccggtc  
                                     +50
```

```
                                     +100  
seq1  tatcctgccgccttagcg  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2  cgcagcgtgccggttagg  
                                     +100
```

seq1 = human rpS11
seq2 = mouse rpS11

53.13% identity.

```
-200
seq1      cctaag-----actctcgcgagacaccgtctagcacttcccgcccgtcagt
          ||| | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cctccacatcgtgctcctgaaatctcgcgaga---tgataggatcttcccgcccttagt
-200
```

```
seq1      ccttcacagtgccgaatcgcccgctggtttaagtgcagcctgtcaatcagagca-----
          ||| | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cctccccgctcatggcggcgtagc-----gacagttcccaggaacgcg
```

```

          <--SP1-->
seq1      -gctctcg----aggccccgcccaaggccgtgctgctggtttctccttacgtcacttctct
          ||| | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      ggctctcgcgggaagtacctcccacctccg---tgaggataaccccgctcacttccgc-
          <GABP>
          -50
```

```
-25
seq1      ccagcccctgcgtaatcgataaggaaaacccggacgctgctgcccctttCTTTTTTTCAGG
          || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cccgacctcgcgtggtgaataaggaagccggga-gcggccctgcctctCCCTTTCTCCGG
          -25
```

```

          --YY1--
seq1      CGGCCGGAAGATGGCGGACATTCAGgtgcggactcggggttgatgcca-----
          ||| | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      CGGCCGGAAGATGGCGGACATTCAGgttcgagcgttagttgctttcccccgacgcttc
```

```

          +100
seq1      -gggtgcggggtccgccttggccttcaggggcg
          | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      ggtgtggagcgtatcccttggcgt-----cc
          +100
```

seq1 = human rpS12
seq2 = mouse rpS12

62.33% identity.

```
-200  
seq1      gtagtgccctggtgcaactcgccaaggaccggcctggcagagat-----agaaaactcgc  
          |||      | || | ||| | | | ||| ||| | |||      ||||| | ||  
seq2      tccacgcc-----ccctgggcaaaggctgccc--gctgcgatgctgctagaaatccagc  
-200
```

```
-GABP-  
seq1      agtacgtttgccctcagaaccgcctcaatccggaaacagaaactccccaggcccggcactg  
          |      ||| | || | ||| ||| ||| ||||| ||||| ||||| ||||| |||||  
seq2      cgcgttcttaccacggacgctcctaaaggcggaaagtggaaactcctaaggcacggcacca
```

```
--Nrf1--  
seq1      cgggagccacctctttcgaggggtgggagtgcacatgcgcacaggggacctgaaaaaccd  
          | ||||| ||||| ||| ||| ||||| ||||| ||||| ||| | | | | | | | | | |  
seq2      ccggagccacctctttagtgaggaggtgcacatgcgcacagaagtcgagcggagcgc
```

```
-25  
seq1      taaataccggcatgcgtgcggatgaggCCTCTTCCCTGCCGCCGCGAGTCGCGCGGAG  
          ||||| ||||| ||||| | ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2      taaataccgtcatgcggccaccgcccgCCTTTTCCCTGCCGCCGCGACTTGCRCGGAG  
-25
```

```
seq1      GCGGAGGCTTGGGgtaagt-tgagcagggcggcaggggggtgattgggtataatttg  
          ||||| ||| ||||| ||| ||| | || | | | | | | | | | | | | | | |  
seq2      GCGGAAGCTCGGGgtgagtgatcccagctcgtgcgccggcgatagcgtgtctactgcg
```

```
+100  
seq1      gctcgttg  
          || |  
seq2      ccttg-gc  
          +100
```

seq1 = human rpS13
seq2 = mouse rpS13

60.75% identity.

```
-200  
seq1      g----accaaagac-----cgatgcatgccgggatgaggctggattgacgatc  
          |  ||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  
seq2      gcaagactagagacaagagttcaaggcgtagcaaccagccatacact-----  
-200
```

```
seq1      tcttgcgacgctgaaatgcatttcgggagatgtagtcacacagacgggcggtggctgcg  
          |  ||  |||  |  |||  ||  |||  ||  |||  |||  ||  ||  |||  |||  |||  |||  
seq2      taccgcctcgccgcatgccttctgggacgcgtagtctcccgggc-tccggtggccacac
```

```
          -90  --SP1--  -AP1--  
seq1      agcgtagctccgcctcctgctgagaggaagcggggacggtgaggtcacttcctgctg  
          |||  |||  |||  ||  |||  |||  ||  ||  ||  |||  |||  |||  |||  |||  
seq2      tatgtagccccgcc-cccgcgcgagagcaaacgctcggtagtggtggtcacttcct--gtg  
          -90
```

```
          -25  -YY1  
seq1      ttgggtggttcctgcggcggttccactctcgctctCCTTTCGTTGCCTGATCGCCGCA  
          |  ||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  
seq2      cggcttgatttcctgtgcccgtttcctacctcgttctCTCTTTGCTGCCAGACCTCCGCCA  
          -25
```

```
          --  
seq1      TCATGGGTCGCATGCATGCTCCCGGgtgagctcggggcatcaagccgattgctggg  
          |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  |||  
seq2      TCATGGGTCGCATGCACGCTCCCGGgtgagcccgcggcgcgacacctgggtgccccgctg
```

```
          +100  
seq1      ggggtgggaggaagac  
          |||  ||  |  
seq2      gggcgcgggctgaga  
          +100
```

seq1 = human S14
seq2 = mouse S14

62.22% identity.

```
-200
seq1    cc-----gacccgctcgcagcgcacaaccagccctctacctcttttcg
      |
seq2    tccgagagtttctcataggcagattcggtcacagcaacacgtagcac-cggcttctttt--
-200
```

```
seq1    ctctcccttaagtaataaacgctctttccttatgacgagtcttaaactctttgggaggaa
      ||| || ||| | | | | | | | | | | | | | | |
seq2    -----ataggccaacttccgtaccggcg-gttttagcttcgctggaaaccg
      <GABP>
```

```
seq1    taatgccggcgtcttccggaacccgacc--tcgccccgtgacctcagaggtataacttccg
      | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    tgatggaggtttcttccggaagcctgccctctctcagtgacctcagagatacacttccg
      -50
```

```
seq1    ggacacggaagtga cccccgtcgtcccgcctcccactCTCTCTTTCCGGTGT-GGAG
      | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    gaagacggaagtga--cccgtccgcccgccttccgctCTCTCTTTCCGGTGGAGGAG
      -25
```

```
seq1    TCTGGAGACGACGTGCAGgtaggaaggccggggcgc-gacaatcggggggcatcctgcgg
      | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    TCTGGAGACGACGATCAGgtagggaggcttgggccttgagaatcgtgcggcatcctttgg
```

```
seq1    cgaggggaccctgtggggcttgg
      | | | | | | | |
seq2    ccagggcctctgcggg---atc
      +100
```


seq1 = human rpS15
seq2 = mouse rpS15

51.54% identity.

```
-200
seq1   t-----cccaact-----ccgtggaggaagcggtctgcaga
            |  | | | |          | |   | | | | | | | |
seq2   aaaccagggacagagagacagacacactaacaaaaaccccaaagggagccacgc-----c
-200
```

```
seq1   cctcagggcg---cggtgctctaatacctgcagcctgtggtttgacctccagacggca
            | | | | | | | |   | | | | | | | | | | | | | |
seq2   cctccggagggtagcggc-----gcttttgctctggcctccggacagcg
```

```
                                -GABP-
seq1   gagggc-----gctgttcgccgcccgggaaagcgggaagcgcgtgtgcgcgcacggccga
            | | | | | | | | | | | | | | | | | | | | |
seq2   gggggcaatggcgagtatccgc-----agagcgggaagctgttgagcg-----gt
```

```
    --SP1--                                -25--Nrf1--
seq1   gggggcgggacatgccggcagt-ctcgcgataactgcgagggcgggaccaaagcgatCT
            | | | | | | | | | | | | | | | | | | | | | | |
seq2   ggaggcgggacctcccggcagagctcgcgataactgcgcaagcgcagcccgta-cttcCT
                                -25-
```

```
                                --YY1-
seq1   CTTCTGAGGATCCGGCAAGATGgtgagtgttgcgatttggcgcgtctctgc---cgggcc
            | | | | | | | | | | | | | | | | | | | | | | |
seq2   TTTCCGAGTAACCGCCAAGATGgtgagtattcgtgcacggcg-gtctgtgctccggg--
```

```
                                +100
seq1   tatccggctccatccaacctctgaccgtctcgcggggcc---gca-----
            | | | | | | | | | | | | | | | | | | | | |
seq2   tatccgtcgccatc-----ctcccggggccctttcgcaagactctg
                                +100
```

NOTE: GABP & YY1 sites conserved in chicken

seq1 = human rpS15a
seq2 = mouse rpS15a

59.2% identity.

```
-200
seq1   acgaacggc-----tcaccttgctctcccaggccccaccgggggagggtcgattccatc
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   --ggactgccgagtttcagagcgactagcag--cccacc-----att---tc
-200
```

```
seq1   gactctcaactgccaaccctgaggaggctccgcctttccctcaccctcgctcttctcct
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   tagtttcatctgcccctcccagaggaggccccg-----ccctcgcattgggtgtcctata
      <---SP1---->
```

```
seq1   aggc-----ggtccttggttttgcgggcctttga-----aagtctcgcgca
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   agaatcacagggttttggttttttttttaagtg--tgtgaccatgaagtctcgcgca
      <---BoxA---
```

```
seq1   tagctctcccgtttccataactccgtgcgctctcccctcccgtcCTCTTTCCGCCATCT
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   tagcgcttccgctttccataattccgtgcgctttgcccggccactCTCTTTCTGCCATCT
      <GABP>          -25          +10
```

```
seq1   TCCGCGCCGgtgagtagcactctctgagagctccaatttcacccgtctgccatcggcgc
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   TCCCTCGCCGgtgagtgagtgtttgtga-aactccgtgttcacccgtgtggtatctgtgc
      <---YY1> ---
```

```
seq1   YY1-          +100
      catcctgcaatctaaggttcgggtct-
      | | | | | | | | | | | | | | | |
seq2   catccctttaccccgtgttcgctttc
      +100
```

seq1 = human rpS16
 seq2 = mouse rpS16

73.85% identity.

```

-200                                --SP1--                                ←SP1→
seq1    cccgccccttccg---cccacagagc-ccgccacttccgcctc-acagggcccgcgccgct
      || | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    tccccaccctccgggtcccgcacagctccgccccttcccctccgcacaccgccccctcct
-200                                -175*****                                ←SP1→
  
```

```

                                --SP1--                                ←SP1→
seq1    ctgagcgcctaagggccttcccgccgctgaccagacgccccgccggttagccgcaacaga
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    -----tgctgaaggcgttcccgccgaattcacacgtccc-ctctcagggttcgacgtc
-125
  
```

```

                                ?NucFactor                                --Nrfl-- ?NucFactor
seq1    agccgtaaagctctctcccgtcgcgacgcagtgtcaaggcgcctgcgcagaccctgaaa
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    agccgtaaagcccgttctgtcgtgacgtagcactcaatgcgcctgcgcagaccctgaaa
      *****                                -50                                *****
  
```

```

-25
seq1    ag-cggccagggtggcccctagctttCCTTTCCGGTTGCGGCGCCGCGCGGTGAGGTTG
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    aatcggctgggttggccccgcgcttCCTTTCCGGTTCGCGGCGCTGCGCGGTGTGGAGC
      *****                                *****
  
```

```

seq1    TCTAGTCCACGCTCGGAGCCATGCCGTCCAAGGGCCCCTGCAGTCTGTGCAGGTCTTCG
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    TCGTGCTTGTGCTCGGAGCTATGCCGTCCAAGGGTCCGCTGCAGTCCGTGCAGGTCTTCG
  
```

```

+100
seq1    GACGCA
      | | | | |
seq2    GACGCA
+100
  
```

seq1 = human rpS17
seq2 = mouse rpS17

60.06% identity.

```

-200                                <GABP>                                <-SP1
seq1    gg-----gagcgg-----ggagcggaaagggag-----gagccgtcggggg
          |      |  |||      |||| |||||  ||      |||| |  ||| |
seq2    cgccaagagaagcacggaactatTTGGAGTggaaccaagacggccgagctgccggcgt
-200

    -->                                <-SP1->
seq1    cgggacagaca-----ccctgccaccggagggggcgccaccgcccccgctcc
          |  ||  ||      |||  |||||  |      |  |  |  |  ||||
seq2    ggcacgcgcagactttcgccccgccacag-----ccaggcagcctcactcc
          <-SP1->

                                          -60  -GABP
seq1    actccgccagggggcgctgtgtggtccccgagtaggctcagagcgaccgtggccggcg
          |||||  ||||  |||||  |  |||  ||  |      |||  |||||
seq2    actccgctaggggccgctgtgggactctcgcg-----agccaggcgg

    ---                                -25
seq1    aagcggctttctggcctaagctTTTaaaggcttcgcctgtgcttctgtttcCTCTTTTA
          |||||  |||||  |||||  |||||  |||  ||  |  ||||  |||||  |||||  |||||
seq2    aagcggctttctggcc-gcgcTTT-ataggcctctcttgtgtttcctgtttcCTCTTTTA
-50                                -25

                                          <-YY1->
seq1    CCAAGGACCCGCCAACATGgtaggtgttttggtcggagccgccatcctccacaatcgtc
          ||  |||||  |||||  |||||  |||||  ||  |||  |  ||||  |||||  ||
seq2    CCGA-GACCCGCCAACATGGTAGGTGTTGGCTCCCAGGGCTCTGTCCTTTTCAATCCTC

                                          +100
seq1    cccatctgcagcttcccgggtcctcag-ccc
          |||||  |  |||  |||||  |  ||  ||
seq2    gccatcctccgctcgtcgcggcctcaagtccg
                                          +100
```

seq1 = human rpS18
seq2 = mouse rpS18

64.08% identity.

```
-200  
seq1   agccccggaaccttcgctgttctcttacctatgaaccttacgaactgtaaagaaaggcgc  
      || ||                               || | |||| |||| || | |||| | ||  
seq2   cgcgcc-----cacacaagaacggtacg-acgacagagaaggccga  
-200
```

```
-140 -GABP-  
seq1   accggaagttgtggtacc-----caagcca--tactctcataaat  
      ||||| |||| | | ||                               ||| || | ||| | ||  
seq2   accggaagttatagctccggtcccttccaaaactgtctcaatacaactcctcccttaggg  
-160
```

```
                                -GABP-          -60          --SP1--  
seq1   ccagccaggtcgcgctgaaacagtttccggaagcacttctcctag-atcgcaccgcctct  
      || | || | | ||| || ||||| ||||| |||| | || | ||||| ||||| |||||  
seq2   ggagacggggag---agaagcaatttccggaagtggacctccggggatagccccgcctct  
                                                    <-
```

```
                                -25          -ATF--GABP-  
seq1   tcctcctggaagc tatataatgatatcgcgctcacttccgctct CTCTTCCACAGGAGGCC  
      ||| || |||| | ||||| | | ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2   tccgccaggaatc tatataagacttatacgtcacttccgctct CTCTTCCACAGGAGGCC  
GABP>                                -25
```

```
seq1   TACACGCCGCCGCTTGTGCTGCAGCCATGgtaagactggaatccggtgccgtgatccagcg  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2   TACACGCCGCCGCTTGTGCCGCCGCCATGgtaagagcggaatccgcgccgggatcctgcg
```

```
                                +100  
seq1   gcatcgcagctcgggcaaggaaa  
      ||||| ||| ||||| ||| |  
seq2   acatcggagccggggcagggaga  
                                +100
```


seq1 = human rpS20
seq2 = mouse rpS20

63.25% identity.

```
-200
seq1      cggggacccccaccctgcgggacttcgggtcctccgtgcggacagggggcgcccgcag--c
          |      || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      tg----tcctccgagtcaggacagggactccgccgagaggccagagggcgcgcgcgctc
-200

-140      --SP1--
seq1      cgtgcctttcccgccaactccactagtgtc----cagctcgcccttgtgcgaccgcctc
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      ctgcctttcccgccaactaggcggggacgcagcccggcctccccacggcgacctcttc
-140                      <--SP1-->

-GABP-      -50
seq1      tagggcccgggatatttctgttccggggcgtgtgggaccggatgcaagcgtgc tatat
          ||| ||| | | | | | | | | | | | | | | | | | | | | | | | |
seq2      gcggg--cgggcggttctgttccgggtcaaaagcaccggatgcgcacgtgc tttat
          <----SP1----->                      -50

-25
seq1      aagcgttgctcaagtcccaccctttCTTTTTGAGGAAGACGCGGTCGTAAGGGCTGAGG
          ||||| | | | | | | | | | | | | | | | | | | | | | | | |
seq2      aagcgcggcgcgcgctccggccctcCTTTCTG---AGCCCCGGCGGTGCGCGCTACGG
-25

seq1      ATTTTTGGTCCGCACGCTCCTGCTCCTGACTCACCGCTGTTGCTCTCGCCGAGGAACAA
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      A-GCTCGGCCAGCCTGCTCC--GTCTGACTCACCGCTGTTGCTCCTGCTGAGGAACAA

+140
seq1      GTCGGTCAGGAAGCCC GCGCAACAGCCATGgtgagggcg-----cagtcggcg
          ||||| | | | | | | | | | | | | | | | | | | | | | | | |
seq2      GTCGGTCAGGAAGC---CGCGCCTCAGCCATGgtgaggtggggggcgctcgccacgggcc
+140
```

seq1 = human rpS21
 seq2 = mouse rpS21

52.26% identity.

```

-200
seq1    cgacaacgacccccacgacgccccgcgccccagggccagcaggctgggggtccg-----
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    gcatgtcttggctggaggcg-----gagacagggaccgatgcctgtgctttgtgcgga
-200                                         <GABP
  
```

```

                        -GABP--GABP-                -110
seq1    agaacc-----tccttgc--cggaaagcgggaagtgcgtcacggcgacggccggcaagcac
      ||| || | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    agagccaggctttctttgcaccggaagcgggaagt-----taaaacacacaaaacag
>                                             -110
  
```

```

                                           -GABP-        -50
seq1    gcaccgcgcagactcgctgtggtgg-----cgtgaccggaagcgcctcgccgagg
      || | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    gcctc-----cggtatggtggatacaggtaccctgaccggaagcacttaccgagg
                                           -50
  
```

```

          <SP1->    -25
seq1    cccctccttgcccgcgatatctctgccgggtgactagctgcttcCTTTCT---CTCTCG
      ||| || | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    accgcctcctgcccgaatagtgctgcggaggcacgagctacttcCTTTCTGCGCTCTCG
<-SP1->          -25
  
```

```

seq1    CGCGCGGTGTGGTGGCAGCAGgtgtggcgcgcggcgcgggcttcgggctcagggctgggg
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    CTGGACAAGTG-----AGCAGgttaggcctcgggtgcgggctgtgtgagcggggc-cggg
      220           230           240           250           260
  
```

```

                                           +100
seq1    ctggggcgggagtgggggctt---ggacgcg
      ||||| |||| | | | | | | | | |
seq2    ctgggccgggctggggcgagttggggaggtc
                                           +100
  
```


seq1 = human rpS23
seq2 = mouse rpS23

65.06% identity.

-200
seq1 a-----accatgcaaattagatatctctgaatttcttgcaaattaaataagacgcaga
| || || | |||| | || | || | |||| | || | |||| || | || |
seq2 aggaaataacagcgtaaatgaaattgctttggatttgatacatattaaacaaaactc---
-200

seq1 ttctggctcaggaaagtgatgcaaacgcgtcgttt--tcaaaggagagaccccagcctcg
| || |||| |||| | | | |||| | | | || | | | | | | | | |
seq2 -tgtgtctcacaaaagtggaggcactgaatcgtttccctccacccacacac----tccccg

-50 **--SP1---**
seq1 ggtcaggcgcggcgagacagcggcggggccttggtggcggggcttgctcgcggg
| ||||| || | ||||| | | ||||| | | ||||| | || | | | |
seq2 gtacaggcgcggcgttgacagccgacgggaccttcggctggcggggctt-cccgaat
-50

-25 **-GABP-** **-**
seq1 **ggcttgt**gggtccttctctgcggtgcttct**CTCTTTCGCTCAGGCCCGTGGCGCCGACAGG**
| ||||| ||||| | | ||||| | | ||||| | ||||| | | | | | | |
seq2 **gccttgt**gggtccttctctgcacctcctct**CTCTTCTCTTGGGCCCGTGGCGCCGCAAG**

-YY1--
seq1 **ATGG**gtgagctggt-gtggccggtttaagg--cgctgcaagcgggacttggggtcttgg
| ||||| ||||| | || | | |||| | || | || | | | | | | | | |
seq2 **ATGG**gtgagctgtgcggggtgggtgagggcccgcca---gggctctagagctcggg

+100
seq1 ggacgggcgggc
||| | |
seq2 atacggcctatc
+100

```
seq1 = human rpS24
seq2 = mouse rpS24
```

58.67% identity.

```

-200
seq1      tag-----tcggctcgagttggtctggttctggattggtcagtctagagttc--
          |           ||  |  ||||  |  ||  ||||  ||           |  |  ||||  |
seq2      tgtgtaaccatacatcaatttgagtggatccaattcagg-----ccagccagagcccag
-200

```

```

                                <-SP1->
seq1      --caggggtgtggccaaaagtctgtgaggcgggcccgtagggcagcctaataatcaggcatcg
          |  ||||  ||||  ||  |  |  ||||  ||||  ||  |  |  |  ||||  ||||  |
seq2      gtctggggcgtggctaagggttagcgaggcgtggcttcaagtactttcggtcaggcattg

```

```

                                                                <GABP
seq1      gcgcggtcagcctcgtggcgcgc-ccacgccccacgcccgtcttcccggggtccttcc
          |  |||  ||  |  |||  ||||  ||||  ||  |  ||||  ||||  ||||
seq2      ctgtagtctacccaaggccttagccacgcccccg-----ctggggtccttcc

```

```

>
-25
seq1      gtgcgcggtgatatgattggccggcgaatcgtggttCTCTTTTCCTCCTTGGCTGTCTGA
          ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||
seq2      ttgcgcggtgatatgattggtcggcagtgagcggctCTCTTTTCCTCCTCTCCAG-CTCC
          -25

```

```

+30  --YY1--
seq1      AGATAGATCGCCATCATGgtgagtctcctcgggcccgtgcagtcactctgccgcgtatccg
          |  ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||  ||||
seq2      GGCGCCGTAGCCATCATGgtgagtctcctcgggctctcagcactatccgtcgttatccg
          +30

```

```

--YY1--           +100
seq1      agccatccgtgg-tccc
          ||||  ||  |
seq2      cgccatccctgcctgtt
          +100

```

Note: A/T block conserved in Xenopus
YY1 site conserved in Xenopus and Fugu

seq1 = human rpS25
seq2 = mouse rpS25

55.65% identity.

```
-200
seq1      cgctatagtatgcgtcacaactagc-----gcagactccggcagtatattaggcgg-
          || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      agc-agagaattagtggtgctggtgggtgacccgcagcaaagtgcagcaatTTTtacgaccag
-200
```

```
<GABP>
seq1      -----tgcggcttggaactagaatccacttctgtcttccgcctcaggctagag
          || | | | | | | | | | | | | | | | | | | | | | | | |
seq2      tctcagagtttgcaggttg-----gaagtcacgccccctatcccatccca--caagag
```

```
-60
seq1      ggcgagcgcttcgccgtgggacttcttctgcctggctccgccttttgccccggaagtact
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      gcgga--gtttagccaag-----acgtggctccaccattgccccggaagtact
          - 60
```

```
-25
seq1      cacagcggacggtggttttgggccggttctgagcagcgCTTCCTTTTTGTCCGACATC
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      ctctcgaggcagaggtttctgggattggtggccaccgggCTTCCTTTTTTTCCGACATC
          -25
```

```
seq1      TTGACGAGGCTGCGGTGTCTGCTGCTATTCTCCGAGCTTCGCAATGgtaagcttc---ag
          || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      TTAGCGAGGCTGCTGTGGTCTACACGACTCTCTGAGCTTCGCCATGgtaaggcccgcgag
```

```
+100
seq1      ggggtgtgaagtcgccggcggttc----t
          || | | | | | | | | | | | | | | | | | | | | | | | |
seq2      ggttgagcagt----ggggttcagagg
          +100
```

seq1 = human rpS26
seq2 = mouse rpS26

53.01% identity.

```
-200
seq1   aaatagtcccatgtgcactttggtccatggataaataaacactaggaacgcatttccacc
      || ||   ||| ||   ||| | |  ||||| ||  ||  | |||
seq2   -----ccactgatatttttcgtc-----atagaccatttctagggacttatcacaacc
      -200
```

```
seq1   ctagatttcagcagaaatgctgaatgtaaaggaatatttgag-----
      ||| ||||| |  ||| || | |  ||| | ||| |||
seq2   ctacatttcacaggaactctaagtaattaggtaaattcgagcataatagctgctaggg
```

```
seq1   -taaagtgagttgccgttcttgaagcccgctctcctaaggattctcc----cgggtgccgc
      |||| | | | | | |  || ||| || |  | | | | |
seq2   gtaaatagaattacaggtc-----gctgaggggttttttttttcagcggtgagc
```

```
-25
seq1   gtagggatctcatgctataatagaggccctgccaggcaccgctcCCTCTCTCCGGTCCG
      ||||| ||||| |  ||||| |  ||| |  || | |  ||||| ||  || |
seq2   gtaggaatctcgtactataatagcgggtcgggcaagcccgccgatCCTCTTTTCGAGT-CT
      -25
```

```
--YY1--
seq1   TGCCTCCAAGATGgtgagtccttcttgcgtggtgaggggtgggggttcgggtgcagactctg
      || ||||| ||||| ||||| |  ||||| ||||| |  || |  ||||  |||
seq2   TGCCTCCAAGATGgtgagtgctgcgccgctggtgagcgcgcgggctgggt-----actg
```

```
+100
seq1   ggattgtgg-----ggaagtgagagcct
      || | | |  ||| |  || | |
seq2   gggtagaagtagatctatggacggtaggacc
      +100
```


seq1 = human rpS27a
seq2 = mouse rpS27a

56.88% identity.

```
-200  
seq1   aaa-----cctacagtttcgaaagcattccgaaggctaaagtgaga  
      |           | | ||||| ||||| | | ||||| ||||  
seq2   tgaggcatttttttagttgagcacatcatttcgaggccattctga--ggtaaaccgaga  
-200
```

```
seq1   aataagcccaggctagggagaggagaaacgaagttcacgtcctagctggcaccgggttg  
      ||           || | | ||||| || ||| | | ||||| | |||  
seq2   aa-----agagcgtaaagaaaccgagcgaacgagcaaactggcactgcgtta
```

```
seq1   gattgtcgctgggacg-----gcagtcaggcatttggtgtggtcgcctaaggggtgggtc  
      || | ||| || | | ||||| | ||||| ||||| ||||| |||||  
seq2   gacagccgcgattccgctgcagcgcgaggcacgt-gtgtggccgcctaaggggctgggtc  
-60
```

--SP1---

```
<-SP1> -25  
seq1   cttcggcgggagctccgggaaaccccgtgggcctgcgcggcgttCTTCCTTTTCGATCCG  
      ||||| || ||| ||||| ||||| ||| | ||||| |||||  
seq2   cttcgg-----ccaggagaccccgtcggcc-acgctcggatCTTCCTTTCCGATCCG
```

-YY1-

```
seq1   CCATCTGCCgtgggtgtctgcacttcggctgctctcgggtag--caccctatgggtgcc  
      ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2   CCATCGTGGgtgagtgatgctctgtggccgcgctctggctagtgggcgtacgcgtcgct
```

```
seq1   ttctcttgatccctgacctaactg  
      || | ||| | || |||||  
seq2   ctcacgggtgtcgtcggatctaa---t  
+100
```

seq1 = human rpS28
seq2 = mouse rpS28

67.08% identity.

```
-200                               -GABP-  
seq1      c-----cgcgacccccggacgcccagttccgcagccgctggatgagacgggtggcgga  
          | ||||| | ||||| | ||||| | ||||| | ||||| | ||||| | |||||  
seq2      gaacagcacacgcaccccagacgcccagttccgcagcttttgataacgcgagtagcgga  
-200
```

```
<GABP>  
seq1      cgccatcttccgtccgcgataactgaagggcgcagccggtgacgtctccaccgctggggct  
          ||||| | |||| | |||| | ||||| | ||||| | ||||| | |||| | ||||  
seq2      cgccatattccttccgc---tccgaaggac---gctggtgacgactctgtcccaggatt  
          <GABP>
```

```
<-SP1>  
seq1      gctgggaaaaacgcggcgtg--gtatcgcgaga-cgggagtgggcggtgct-agaacgtc  
          ||||| | | ||||| | ||||| | ||||| | ||||| | |||| | ||||  
seq2      cctgggta-----ccgcgtgcggtctcgcgagagcgaaagtgaggcgtggtcagagccga
```

```
-25                               -AP1--                               -YY1  
seq1      ctataaagcgtctccccgaagcacgtgactcCTCTCCGCCAGACCGCCGCGCCGCCA  
          ||||| | |||| | ||||| | ||||| | ||||| | ||||| | |||||  
seq2      ctataaaaggcatcccctgctcacgtgactcCTCTCCGCCAGA-----TCGCCGCCA  
-25
```

```
--  
seq1      TCATGGACACCAGCCGTGTGCAGCCTATCAAGCTGGCCAGGgtgaggtgggggcccgaat  
          ||||| | |||| | ||||| | ||||| | ||||| | ||||| | |||| | ||||  
seq2      TCATGGACACGAGTCGCGTGCAGCCCATCAAGCTGGCTAGGgtgagggcactgcgggtgt
```

```
+100  
seq1      ttgggggc-----agg  
          || | | ||  
seq2      ttgaaacctgaataaaga  
          +100
```

seq1 = human rpS29
seq2 = mouse rpS29

42.81% identity.

```
-200
seq1      tcggataccggcgcagaatagcactagaagctgtggtatggtgacgtcatcaactgggcc
          |
seq2      t-----

seq1      agcccacaacgcctctaagatttcattttactcaccagcgaaacaacctgaccacactg
seq2      -----

seq1      cgcacgcgtttcctttgagcactgcattctgggtaaactgt-----ctcaaaaa|tttga|
          ||| || ||| ||||| || | ||| |||||
seq2      -----agcgttgattgtgggtagcgtggtagctccaaaaaac|tttga|
          -27
seq1      |agagcgc|atgcgtgggccagcttctt|CCTTTTACCTCGTTGCACTGCTGAGAGCAAGATG|
          ||||| ||| | ||| || ||||| ||||| ||| ||| |||||
seq2      |agagcgc|cctgcgagccgactcgtt|CCTTCTCCTCGTTGGGCGTCTGAAGGCAAGATG|

seq1      |GGTCACCAGCAGCTGTACTGGAGCCACCCGCGAAAATTTCGGCCAGGGTTCTCGCTCTTG|g
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
seq2      |GGTCACCAGCAGCTCTACTGGAGTCACCCACGGAAGTTCGGCCAGGGTTCCCGCTCTTG|g

seq1      +100
          tgagaa
          |||| |
seq2      +100
          tgagga
          +100
```


seq1 = human rpS30
seq2 = mouse rpS30

67.84% identity.

```
-200
seq1      cgccagccttctgtgcgcgcaactgt-ctgggtcccgcctcctgcgcgagctgctgctgc
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      tgagtgtcatatgcgcgcgagccgggctcgccccgcctccctctgcgcgcgagggc-ca
-200
```

```

seq1      ccaggcaggttcgccggtgcg---agcgtaaagggcgaggactaggactgccttgggagg
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      caaggaccgaacgcc--tgcgtacagcgt-aagggggcg-gctgggacggcggtgggagg
```

```

seq1      tacaat-aggaggaaccgcgcggtcgctcagcagtgacgtgacacgcagccacgggtc
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      tacaaccaccagcgatccgcgcggtcgcgctgacgtgacgtcacacgcagcaggcgggtg
```

```
-25
seq1      tgtactgacgcccctcgcttcttcCTCTTTCTCGACTCCATCTTCGCGGTAGCTGG---
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      aggacgtgcgcccccaacttcttcCTCTTTCTTACTCCATCTTCGCGGTAGCAGCAGC
-25
          +20
```

```

seq1      ---GACCGCCGTTTCAGgtaagaatgggccccttgctggatccgaagggtttagcaggt
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      GGCGTCCGCGGGCTAGgtgagacacgggggactgctggggccaggagcgt-----cggt
```

```

seq1      +100
          tggctgcgggg
          | | | | |
seq2      agccagcggtc
          +100
```

seq1 = human rpL3
seq2 = mouse rpL3

56.15% identity.

```
-200  
seq1  acccctcgccgtagagtgtg--taattt-----ctgtctccgaagctgacgtcaa  
      ||| || | || | ||| | | ||||| || |  
seq2  ----gtcgacgaggcgtttcgctaagcttgaacccaatcattctccgtag-----ac  
      -200
```

```
      <-GABP-->  
seq1  cttctgaacgaaagctaggagc--ggaagagcgtgctggaatggcgctcggtagctgc  
      | | | || ||| | |||| | ||| || ||||| | ||| | | | |  
seq2  cctatttgtcaatcctagtgggcgggaaaaatgtgtgt-aaaatgacattcgatgcgcgc  
      <-SP1->
```

```
                                -60  <GABP>-SP1--  
seq1  ccc-cgacctgtcgtctgccgcgggggcgcgctcgcaacgacggaaggggaggccag-a  
      || ||||| | || | ||| | || ||||| | | ||||| |||| |  
seq2  cttcgaccgacgct-atgctcaacacgcttcgcaacg-ctcagggggcgagccatca  
                                -50
```

```
                                -25                                <-YY1>  
seq1  tttggctt tatatagcggaccgtaaggccgaccggc CTCTACCGGCGGGATTTGATGGC  
      ||||| ||||| || | | | | ||||| | |||| | | | |  
seq2  cttggctt tatatagcctgcaactggctcctggtcgct CTCTATCTGCGGCGTGTGGCGGC  
      -25
```

```
      --YY1--  
seq1  GTGATGgtatgtgttgtaatggcgccgctttcattgtcaccggcgctcggcacggct-gaa  
      | ||||| || | | || || ||| | | | | | | | | || ||| |||| | |  
seq2  GAGATGgtacgtatggccat-gctgccttctaacttgggtctcctgtgggcctggcttcta
```

```
                                +100  
seq1  tccgacgacgcatcgccg  
      | | | | |||| |  
seq2  ttcacctcccatcggc-  
                                +100
```

seq1 = human rpL4
seq2 = mouse rpL4

67.65% identity.

```
          -200  
seq1    ---tccctat ttttctaagaattattattacg tttggaagaaaatagataccgtaatttcc  
          |||||  |||||  | | || |||  |||  ||  |||||  ||||  | |||  
seq2    gagtccctcctttctaatacactcttttttaacttt-aaaaaaaaatgaatacataattttaa  
          -200
```

```
seq1    cacaaataaagaaataacactctcg tttttactttt gtagtggtgtagagagatattttt  
          ||||  | | |||||  | | | |||  | ||||  |||  |||  |||||  |  
seq2    cacacgtcacgcaataatattac ttttgaaattttt acatgtagcagaaagatagatcg
```

```
                                <-SP1->      <-SP1->                                -25  
seq1    tgtatccg t gttggttcttaggcggggcaaggtggggcgg tcaaggggaaggtga catat  
          |||  ||  |||  || | |  |||||  | ||  ||  | | |||  ||||  || |||||  || |||||  
seq2    tgtctctaatttgat tttgataagggcaggatgcggaagacgagtggaag--ga tatat  
                                <GABP>                                -25
```

```
seq1    acagcgggagtggtgaagcacttc CTTTTCCTGTGGCAGCAGCCGGGCTGAGAGGAGCGTG  
          | ||  ||||  |||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  
seq2    agagtacaagtgacaagtctttc CTTTTCCTGTGGGAGCAGCCGGGTAGAGAGGAGCGTG
```

```
seq1    GCTGTCTCCTCTCTCCGCCATGgtgagtggaagttctctcttggtggccttaccctg tgc  
          ||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  
seq2    GCCTTCTCCTCTCCCGTCATGgtgagtggaagttctctacactgggcttccccctggtc
```

```
seq1    +100  
          tcg  
          | |  
seq2    +100  
          tgg
```

seq1 = human rpL5
seq2 = mouse rpL5

61.91% identity.

```
-200
seq1   taa-----tcctccc-----tgctcctcctcaccgcacggatcctgtgaga
      ||   | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   aaaaaaaagtccctcgcaaaaagcctctatttccctttctcatcgccc--atcct-----
-200
```

```
-110 ←--
seq1   taccgccgagcattggaacctggagagcttgggcaggcattcacccctccttcagcagggg
      || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   --catgctcgttgagaggagga-----agatgacattcatcctcctaccggcagggg
                                           -100
```

```
SP1>
seq1   gcggaacgtaaaacgccttgtggccgacgccctctctctttcacacgtcactggcggtgac
      || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   gcgatagcccgcgcatcttgaggcctacagc--cactctttctcacgtcgcttgcggtg-c
```

```
-25
seq1   cgtccgcgcTAcatactgcgctgcgcaaggg-ctgtggcCCTTTTCCCACCCCTAGCG
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   tgggtggtgcTAcatactgcgcatgcgtacgtgactccggtCTTTTTC---CCCCTTAGCG
```

```
--YY1-
seq1   CCGCTGGGCCTGCAGGTCTCTGTCGAGCAGCGGACGCCGGTCTCTGTTCCGCAGGATGgt
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   CGGCCGACTCTGCAGGTCTGCGTGGAGCCGCGGTTGCGGGTCTCTATTCCGCAGGATGgt
```

```
+100
seq1   gagtggatgcctcgggtctc---g
      || | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   gagtgggcatctgggtctcaggc
                                           +100
```

Note: Sequence blocks at -100 and -20 conserved in chicken

seq1 = human rpL6
seq2 = mouse rpL6

62.11% identity.

```
-200  
seq1      ctgccaacctcagaggatcctcctgcctcggcctcccaaagggtgggattaca-----  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      aggagaa----agcgcctttacttgctcagccatctca----gctgcccttacctattag  
-200
```

```
seq1      ---ggcgtgagccaccgcaccggcctagga-----tttactacttttttcttaacggg  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ggtgggggtg-----gggcctggggggacgttcocctaggtgcattgccacgga
```

```
                                          <GABP>  
seq1      g-----aaatactacattccccatgatgccccagatccggaaggaagtgagactcg-cac  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      gtaaagaaaaactacatttcccatgatgccccata-caggaaggaagtgatcttggtcac
```

```
          -25      -GABP-  
seq1      ttcccatgattgcttatagaccggaagccgggaccttaattCTCTTTCCCATCTTGCAAG  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ctcccgtcattgcttatagaccggaagccgctgccttagttCTCTTTCCCGTCTTGCAAG  
          -25
```

```
                                          +70  --YY1--  
seq1      gtaagaatcggggcctgtctgcaagacttgagttcaggactcccaatccttcgcatcc  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      gtaggaatggcgggcgtctgtgtggcagcggctttcgggac-cccaatcctcgatccatcc  
                                          +70
```

```
                                          +100  
seq1      gaacctggagggcatccagt-c  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      gaaattgggggacatccgggga  
                                          +100
```

seq1 = human rpL7
seq2 = mouse rpL7

68.7% identity.

```
-200  
seq1      taaaaagtctaataatcaaatgcataatTTTTCTTCAAACAAGTTTTACCCGAAAGTTTGTTG  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ---atgt---attcagtgcat---ttgTTTTCCGATGAGTTTTACCATAAAGTTGGCTG  
          -200
```

```
seq1      aaagaggctaaatcaggagttc--tttgcgctcgcaaggcggct---TTTTAGTTCTGG  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      gccgtgactaagccaagctgttcattttgCGCCAGCAAAGTGCAAAAATCTCAATTCTAG
```

```
          -GABP-  
seq1      attctttccggcttattctaagacacctatgagtcgtggggcttctctcggaagtc-T  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      attatttccggcttattctcaggacagctataaggcggtggggcttcgCGCCTGAGACC-T  
          -74
```

```
-25          --Nrf1--  
seq1      ttaagtgacagtagcatgCGCAA----CTTCCTCTTTTCCGGCTGGAACCATGGAG  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ttaagtagacagtagcatgCGCCACCTTTCTCTCTTTTCCGGCTGGAACCATGGAG  
          -27
```

```
          --YY1--  
seq1      GGTGTAGAGtgagttgcttctggtcctcttgagaatccttctccatctccagagccagat  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      GCTGTTCCgtaagtcgattcttctctccccagaatccttctccatcccccaaactagag
```

```
+100  
seq1      actttttgtg  
          | | | | | | | |  
seq2      gcattttgtc  
          +100
```

seq1 = human rpL7a
 seq2 = mouse rpL7a

51.29% identity.

```

-200                                --SP1-                                <-SP1->
seq1      cgg-----cctggccctcccgcc-----gcagtctctcttccccgcc
          |          | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      tcggagcctgcggtccggtgccaggcccgcctggacgaa-----cgcg
-200

                                <-SP1->-110
seq1      ggcgccggtccgaaaacctagtcagccgcgcagcctctcagccccgcctcgattttta
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cagccgcggcccgcaca-----cgccccgcctcaggctccgcccctctgtca
                                <-SP1->

                                -70                                BoxAfactor
seq1      gctttataggaatgc---tgttgctttaaatccgaaatcccgtgccggtatcaactctcg
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      gagtccgaagtgggtccttgcgctttaaatccgaaatcccgcgagggcgctgctctcg
                                -70                                *****

---                                -25                                BoxBfactor
seq1      cgatctccgaggccgcatacatattaccacaaattccctttcctttCTCTCTCCTCCCGC
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cgatatctgcgccacttacttatccccacaaattcccttcttctttCTTTCTCCAGCAGC
          ***                                -25

                                --YY1-
seq1      CGCCCAAGATGGtgagtgagctgtagttccgtggcactatagccagggtccggctgtatc
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      CGAGCAAGATGGtgagtg-----tctctgggcccccgcgctatc

                                <-YY1>                                +100
seq1      cgctgccatcctcctccaggcgc-----ggc
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cgcctccatccgcccccgtcgcccgtcagcggcgttctccgcgctc
                                +100
  
```

Note: BoxA is conserved in chicken, but not in Fugu

seq1 = human rpL9
seq2 = mouse rpL9

57.01% identity.

```
      -200  
seq1   cctctttaggactagcgcagtgagggggtgagggatcgctaactcccgggaaaggacag  
              ||| | | ||||| |    | | ||||| | ||| |  
seq2   -----agggatcgagggaac-agcacccccggcaccgggacgc  
              -200
```

```
seq1   gtcgaa-attacgtcgctccatttatgacaagcagc-----ca  
              ||| | | | ||||| | | ||||| | | | | | |  
seq2   gtccaacaactcgctcgcttgagtcacgacgcgatacgtcgctcgccgaccggcgcgactcg
```

```
                                           -60   ATF/CREB  
seq1   agctgctccacgattggctgctttagccttacgtgctgacgac-tcatgacgcaatac  
              | ||| | | | | | | ||||| | ||||| | | | ||||| | |||  
seq2   actagctcggcaatcgagtagttccgccttaaagccgctcgctcgggtcgtgacgcgacac  
                                           -60
```

```
                  -25   ATF/CREB  
seq1   gcaggccccttacgcgatacaagtacgtaatgacgacagacggtCTTTCTTTGCTGCGTC  
              ||||| ||||| ||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2   gcagggccctgacggaattacaaagaacgtgatgacgaaagacggtCTCTCTTTGCCCCATC  
                  -25
```

```
                                           <YY1>  
seq1   TACTGCGAGgtaaggatgtttctgtgctcgctgggggtactgggaatctgaaaccatctgc  
              ||||| ||||| ||||| || || | ||| | | ||||| ||||| ||||| |  
seq2   TACTGCGAGgtgaggagcttagggacc----gggtgccccgggaatctgaaaccatcctc
```

```
                                           +100  
seq1   tct--gggaaaggctgcggcgcgg--ct  
              | | | | | | ||||| || |  
seq2   tgtttggggacccccggcggcatggagcc  
                                           +100
```

seq1 = human rpL10
seq2 = mouse rpL10

60.38% identity.

```
-200      ←SP1→  
seq1      gctggccgcccgcggccctggtaccgggtcacctctctgatctgcgcatgtgctgggcta  
          || | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ----gcagttccctattccgggtatccagtcaccaataagctctgtgc-ttcgttcgggtcc  
          -200                                                                                               <-
```

```
seq1      cgcccgggcgcaaggccaagagcggc--tgcgtctatggtcatgacgtctgacagagcgt  
          || | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      cgcctggtacacatgcgagagcagcgtgcatctatgatcttagcgtctgatagagcgt  
          SP1>
```

```
seq1      ccaccgctcttcgacagg-----actctatggttcttacgcgagacagaccgcttat  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      cgacac--caccctggctgtaactctatggttggtacagtggaagataggccgcttat
```

```
-25  
seq1      ataa gccatgcgagggcggaggagcgcCTCTTTCCTTCGGTGTGgtgagtaagcgcagt  
          || | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ataa ggcgtgagcagggcgtgggagcgtCTCTTTCCTCTGGCGCGgtgagtgagttcgg  
          -25
```

```
seq1      tgcgtctcttgcggtgccgttgctggttctcacaccttttaggtctgttct----cgtc  
          || | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      cacggttttttacgatggtctcgtaattttc-----ttgggatttttttacactta  
          <-YY1>
```

```
+100  
seq1      ttccgttccg--a  
          || | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ttctgtgtctgta  
          +100
```

seq1 = human rpL10a
 seq2 = mouse rpL10a

54.92% identity.

```

-200
seq1      ggaccgcggg----gcgct-----caggactgcgacaactctgtgggttaccgcg
          |  |||   ||  ||   ||||| |||  |  |  |  |
seq2      ----cccggttcagccctgtcccaatgcaggactgc-----ctgctgctcctagag
          -200
  
```

```

seq1      ccggcctagcggccagcgacg-----ccccccagcggccagagaaggccgcgctt
          |  |  ||  |||  ||||  ||   ||||| ||||| |||  |  |  ||||  |
seq2      cggttctcacggtgcagccgctggtggcgccccccagcggccgcaaactgcagcgct
  
```

```

seq1      ctcggggttgcccacccaaccgctctgcgggtaggaccgaggagcaaagcattatcgcg
          |||  ||  |||||  |  |   ||  |  |  |  |  |  |  |  |||||
seq2      ctccggcttggtgagc-----gcggaacgtgcccgtaacgggcaactctcgcg
          --BoxA
  
```

```

seq1      agatcagggccacTatttgagcgcatgcgcaagacatgtagtCTCTTTTCCGGTTAGCG
          |||  |  ||  ||||| ||||| ||||| ||||| ||||| ||||| |||||
seq2      agaacgcgggctcTatttgagcgcatgcgcaagcgctct-gcCTTCTTTCCGGTTTCCG
          -25
          --Nrf1--
  
```

```

seq1      CGGCGTGAGAAGCCATGAGgtgagttggt--cctgaaagccctatccgcgttcatccg--
          ||||  |  ||||| ||||| ||||| ||||| ||||| ||||| |||||
seq2      CGGCAGCCGCAGCCATGAGgtaagttgttatcgtg--gcgctatccgccgcatccgtg
          <YY1>
  
```

```

seq1      -----cgcttcaggtgccccgccgagggttc
          ||||  |  |  |||||  |
seq2      cacccacagcccgcggacgcccg-----c
          +100
  
```

seq1 = human rpL11
seq2 = mouse rpL11

63.66% identity.

```
-200  
seq1      tcaa-----aaactatTTTTGGAAAACCAGATCCCGGTCTTCAGCCAGCGTCGCC  
          | |          | | | | | | | | | | | | | | | | | | | | | |  
seq2      tggactcaagaacataaccagcatcggacaaccacgacctagtctTTTgccaagatgac  
-200
```

```
seq1      tgcagtggctagcactaccacaagggagaagccgacgctgcagggctttgccaatgCG  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      tgcagtttcgaggacagtccacta-----gaggtggcagcgccacgacagctatG
```

```
                                          -50      --SP1--  
seq1      cctctcttctcgtcttcatctctgtggttagcctgggaaaagagcccgctcctggccC  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      cctctctttccccctctcccctcgtttgtctgcctagaagaaaagcccgctcctgaccC  
                                          -50
```

```
-27      -GABP-  
seq1      ataagGCC-ctcggccggaagctccgctttCTCTTCCTGCTCTCCATCATGGCGgtgagt  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ataagGCCacggggccggaagtctccctctCTCTTCCTGTTCTCCACCATGGCGgtgagt  
-27      ←-SP1-→
```

```
+60      --YY1--  
seq1      agctgggacctggatttgctttccttt-atccgtcgccatccatggcaggccgagcctgc  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      aggcgagagttggctttgctcgtttcatccgtctccatccgcagtcggcggagcccag  
+60
```

```
+100  
seq1      gggggctactt  
          | | | | | | |  
seq2      ggcggct-gtc  
+100
```

seq1 = human rpL12
seq2 = mouse rpL12

72.81% identity.

```
-200  
seq1      ggagcgaa----ctaccggaacc----ccctttcggaatctctagcttcagcgcaccgcg  
          ||  ||  ||  |||||  |||  ||  |||||  |  ||||  ||||  
seq2      ccaggcaaggtgct--ccgaacatttacccttccgaatcccagagct-----cacccac  
-200                                     <GABP>
```

```
seq1      gtgccctgcttgccagccgtcagcctcaggcgcctgcccacaacaacatggcgacaagg  
          ||  |||  |||  |  ||  |||  |||  |||||  |||||  ||  |||||  |||  |||  
seq2      agaccaagctctgcagtcctctgccgcagacgcctgcccataagaaacagggcgaccagg
```

```
seq1      gcgctctggaaggccgggcagtgacgacagttctcgcgatagccgcgttttctgctcta  
          |  |||  |  ||  |  |||  |  |  |  |  |||||  |||||  |||  |  |||  |  ||||  |||  
seq2      gtgtcgccagagactgggtggggccagcggttctcgcgagagctgagcttttccgctcta  
                                          <GABP>
```

```
-25                                     <GABP>  
seq1      tatctggttggtccgc-gcgatttccggcCTCTCGGCTTTCGGCTCGGAGGAGGCCAAGG  
          ||||  |||  ||  ||  ||  ||||  |||||  |||||  |||||  |||||  ||||  |||  |||  
seq2      tatccggcgtgggcgagcaggatccgtCTTTCGGCTTTCGGCTCGGAGGAGGCAACGG  
-26          ←SP1>
```

```
seq1      TGCAACTTCCTTCGGTCGTCCCGAATCCGGGTTTCATCCGACACCAGCCGCCTCCACCATG  
          |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  
seq2      TGCAACTTTCCTTCGGTCGTCCCGAATCCGGGTTTCATCCGACACCAGCCGCCTCCACCATG  
                                          +50
```

```
+100  
seq1      CCGCCGAAG  
          ||||  ||  
seq2      CCGCCCAA-  
          +100
```

seq1 = human rpL13
seq2 = mouse rpL13

54.51% identity.

```
          -200                               <--SP1-->  
seq1      --gtcggttactcagggcccaggaatcacggccgccccgcccgcattct----cagcgg--  
          || |  || || | | |||  || || | | ||  ||  |||||  
seq2      aggtgcgcccctgagcacgccggagatac--ccacactgcgaagttaggaaccagcgaga  
-200
```

```
seq1      -----caacatgtctgcga-----cggcggccctagggctgccgggagagccgcggcga  
          |||| | | || |  || || || || || | |||| | |  || |  
seq2      ataaccaacccgacggctagaaaggcgatggtccgccggcgggcggttcgc----gtga  
                               <--SP1-->
```

```
seq1      cgtcagttcctcctttcggggctctgattggtcagagcgcccggcgcttctggttgccg  
          ||||| |||| | | | | |||||  |||| | | | |||||  
seq2      cgtcacttccctttcgccctgattttgatt-----ggcgtttgagattggccg
```

```
          -28  
seq1      gccctgc tatcat cccagagtgcattgcggggccgcttc CTTTCCGCTCGGCTGTTTTCC  
          | |  ||| | ||||| |||| | ||||| |||  || ||||| ||||| ||| |||  
seq2      gactccc tacaag cccagggtgctttgcggtgcccggtc CTTTCCGCTCGGCCGTTCTCC  
          -28
```

```
                               --YY1--  
seq1      TGCGCAGGAGgtgagggagactgggtcctgg--cctttgggcatcatccagcgccatcgg  
          ||  ||||| ||||| |  | || | | | |||| | | |||||  
seq2      TGTATAGGAGgtgagtctctgcccgcgcccgtcccatcggtccatcgggctccatcgc
```

```
          +100  
seq1      cctggcgcttcagccaacgcg  
          |||  | | | ||  ||  
seq2      cctccatccgctgtca--tcg  
          +100
```

seq1 = human rpL13a
seq2 = mouse rpL13a

66.77% identity.

```
                <GABP>
-200
seq1  acagcgc-----tgaccgcgagggtccaaccggaagaatgtccggattggaca
      |  |||                || ||||  ||  |||||  |  |  |||||
seq2  atcccgccccgcacagtcatggccgccaagagccaactcaggcgacattctgattggaca
-200
```

```
                <GABP>      --SP1-
seq1  ttcggaagagggcccgcttccctggggaatctctgcgcacgcgcagaacgcttcgacca
      || | |||||
seq2  aaataaaaatggcccgcc-----tcgatagacgcgcactcaccgcttcgacca
```

```
                -60  -ATF/AP1-  --SP1--
seq1  atgaaaacacaggaagccgtccgcgcaaccggttgcgctcacttctgccgcccctgtttc
      || | || | || | || | || | || | || | || | || | || | || | || |
seq2  attagaagacggaactcttcggttcgagccgtctgcgctcacttctccgcccctgcagc
      <GABP>                -60
```

```
                -YY1--
seq1  aagg gataaga aaccctgcgacaaaacctctc CTTTCCAAGCGGCTGCCGAAGATGGC
      |||||
seq2  aagg gataaga aaccctgcgacaagacctctc CTTTCCCAGGCGGCTGCCGAAGATGGC
      -25
```

```
seq1  GGAGGTGCAG gtatgggctccgcgcgggccggggcggaaggggcccgggtgggatccagg
      |||||
seq2  GGAGGGGCAG gttcggactctgcgcgcgcc-gggcggtgtggggtcgggtgggtgccagg
```

```
                +100
seq1  ccggaatgggg-
      | ||| | ||
seq2  cgggagcgcagtg
      +100
```

seq1 = human rpL14
seq2 = mouse rpL14

57.68% identity.

```
-200                                <-SP1>  
seq1   atcaccaaaaa-----caatctcgccgcccaactttgcaaaaaagcaa  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2   acaaaatagaaaggagaaattacaacgccaagctcactgcacgtgtctgaggagaagcag  
-200
```

```
seq1   cttaacgccagccgactccgccatgtttt--cccagtgagcttgcgagcgcgtgcgtacg  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2   tccatagagagccggaaccgccatgtcataaccagtgagcatgc-----gtaaaag
```

```
seq1   cacgcacgcacgcacgcaccaaccaatcggtgctcacgtcggtgactcgttaccgcaggg  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2   cacgcacgtttccccg--tcgaccaatcggtgggcacgctgg-----acgtcgggg
```

```
seq1   -SP1--          -30  --Nrf1--  --SP1--  
      gcggtgcgttcttctacacatgcccaggggtggcggggtcttctctcCTTCTCGCCTAACG  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2   gcggggcttctgcccacacatgcccaggggcgggccctctctCTTCTCGCTGAGCG
```

```
seq1   CCGCCAACATGgtgagtcttactgttgcgggctccggggccgctcgaccatgccgctcgac  
      | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2   CCGCCAACATGgtgagtgtgtgtgccgagagctccgagtgccggccgctcgcgacgccgctc
```

```
seq1   ctccacctccgctgggaag  
      | | | | | | | | | |  
seq2   ttctgccccgggaggga  
      +100
```


seq1 = human rpL15
seq2 = mouse rpL15

66.24% identity.

```
                -200                                ←-Sp1-->
seq1    --ggccgctcagg-----ctcgaatcttgcg-gagcagggggcgggacaatagcggcc
          ||| ||||| || || ||||| || ||||| || ||||| |
seq2    ttggcagctcaggagcactgctgagagcttgggagagcatccgg-----aagcgg-c
-200                                ←---GABP----> <Sp1
```

```
                --Sp1--                                -100
seq1    gcggcgccccactcggcagaactccgcc-accaggcgcgatgccggaactacatgtccca
          | | | |||| | | ||||| ||||| ||||| ||||| | ||||| |
seq2    gggtgtccca---gcctgactccgccaccagggttgatgtcgggactacaagccca
-->
```

```
                -GABP-                                -50
seq1    tgacgctctgggaggccgcagctttccaccgaaaagaggggtggctgaggtggg-ggagga
          || | | | | | || | | ||||| ||||| || | ||||| |||||
seq2    agaggcacagtgcggctacaatgccccaccggaaggagggtcgccggggtgggaggagga
```

```
                -25                                --YY1--
seq1    gcc-caaaaggcattgtgggagtacagctctttCCTTTCCGTCTGGCGGCAGCCATCAGg
          ||| ||||| | | ||||| | | ||||| ||||| ||||| ||||| |||||
seq2    gcccaaaagggattgtgggagaaagccttcttCCTTTCC-TCTGGCGGCAGCCATCAGg
                                          +20
```

```
                --YY1--
seq1    taggctgcgttgaggatctttgctcttccatccgcctttgatcgtcttctcttcagcca
          |||| | | | |||| | | ||||| | |||| | ||||| |||||
seq2    tagggcggcggggtggtgtttgtgtgtctatccgctcgcgaatcgcgctagtcttcagcca
                                          +80
```

```
                --                                +100
seq1    tccagggtccgg-gg
          ||| |||| |
seq2    tccgaccccggcga
                --                                +100
```

seq1 = human rpL17
seq2 = mouse rpL17

69.25% identity.

```
-200
seq1      cctgaatttttatttctgtat-----acaaaaaagagaactttgagacagtcacctaaagta
          |  |||||  |||||  |  ||      |  |||||  |  ||      |||  ||  |||||  |
seq2      -atacattttaatttcggaattaaaaataaaaaataaaa----aagaaagttcctaaaga
          -200
                                     -100      <GABP>
seq1      ggca---attcgttttcacacgttcttaaaacatattccacactcccttcgctttccgcc
          |||  |  ||  |||||  ||  ||||  |||  |  |||||  ||||  ||||  |||  |||
seq2      cgcacgcactccttttcaaactttctaaaagc--attccacacttccttc-cttcgcggc
          <
                                     --Box A--
seq1      ttctgcctcctcagatctcgtttcttcggctacgaatctcgcgagaagtcaagttctca
          |  |||||  |||||  |||  ||||  |  |||||  ||||  |||  ||  |||||
seq2      ccgcccactcctcagatctcgttccttgggctggaagtctcgcgagaggtcgaggtctca
          -Sp1->
                                     -25
seq1      tgagttctcccaaatccaccgctcttcCTCTTCCCTAAGCAGCCTGAGGTGAgtgttt
          |||  |||||  ||  ||  |||  |||||  |||||  |||  |||||  |||||  |||
seq2      tgaattctcccagtagccttcgcgcttcCTCTTCTGTAAAGCGGCCAGAGGTGAgtgcta
          +60      --YY1--      <-YY1>
seq1      ctctgcggtgctc-cgagggcccaatcctcctgccatcgccgccatcctggcttcgggg
          |  |||  |  |  |  |||  |  |||||  |||||  |||||  |  ||  |||||  ||||
seq2      actcggcgccgggctctcggggcgaatcctcc-gccatcgttggtgctggtcggctccggga
          +100
seq1      gcgcccggcc
          ||||  ||
seq2      gcgctgggg
          +100
```

seq1 = human rpL18
 seq2 = mouse rpL18

51.27% identity.

```

-200
seq1      cccgacgtgctggcccttccctcttggacgttgcgcttggtcctgcgctctatgctctct
          |||  |  ||||  |  ||  ||
seq2      -----ctttggttctggaagcctcggt-----
          -200

seq1      gccgttatcgcccggctagtcagtcgtccaactcaccacagagaagtccggatcgtggta
          ||  ||  |||  |||  ||  ||||  |||||  ||  ||  |||||
seq2      -----tactcgtcctcccacataccatcgagaaacccaaattgtggta

          ATF/CREB/AP1  -45
seq1      gagcgccgctcgcacccatgtgacgtcacggcggcgccac-----
          ||||  |||||  ||  |||||  ||  ||||
seq2      gagctccgctcgcgctcatgtgacgtcacccgtgcaccacagagacgccagttccggat
          -100

          ---SP1---
seq1      -----tcgcttgaggct--ttccccgccacccc
          ||||  |  ||  |||||  |||||  ||
seq2      agagtgtcccgcattgcgtcacgagtgctctcgcaggccgctctttccccgccactcc
          -25

          --YY1--
seq1      agcccg-ttctctCTTTCCGGACCTGGCCGAGCAGGAGGCGCCATCATGgtgagctcgct
          ||  ||  |||  |||||  |||||  |||||  |||||  |||||  |||||  |||||  |||||
seq2      ggcgcggttcgctCTTTCCGGACCTGGCCGAGCAGGAGGCGCCATCATGgtaagctcgct
          +30

          --YY1--  +100
seq1      ttgcggcggttcggggctggataatccgctgccatccgccgtggttttgggcta
          ||||  |  |  |  |||  |||||  |||||  ||  |  |  |
seq2      gagcgtctccccgagtgggccatccgctgccatcctcagcaagtcccgtctcg
          +80  +100
  
```

Note: SP1 site in Xenopus ortholog, but not aligned

seq1 = human rpL19
seq2 = mouse rpL19

64.86% identity.

```
          -300          -GABP-  
seq1      ctgcgcaatccagctgacttccggttac--agataaccacgtgattgggaacccttgctg  
          |   |   |   |||||||||   ||   ||   |||||||||   ||||   |||  
seq2      c----gacttagcgtgacttccggtaccagaggaccacgtgaccaaacgccctcactg  
          -300
```

```
                                          -205 <GABP>  
seq1      cgcatgtctagtaggaagtcggactataaccacttt-ccctacggaaggggtactt-tttt  
          |||||||   |   |||||||||   ||||   |||   |||   |||   |||||||||   |   ||||  
seq2      cgcatgtgcgccgaggagtcggactgaaccattttgcggcagcgaaggggtaggtctttt  
                                          -200
```

```
                                          -150  
seq1      atgtttttaagtttaaaaccgatttctgatatttgacttttatcatttcaggcctatatg  
          |||||||   |||||||||   ||||   |||   |   |   ||   ||   |   ||||   |  
seq2      gtgttttacagtttaaaactgatttctcgatctccagtatctaggatcacgatttttagg  
                                          -150
```

```
seq1      gaggctatgagtgagtttagtggtggcagaagatgaaagaaccggacaggaatacggacga  
          ||   |   |   |||   |   ||   |   |||   |||||   |   |   |   |||||   |||   |  
seq2      aagaaaacaattagtgtagatgaaataaggtgaaatagcgtagcgtaaatacagacaa
```

```
                                          -25  
seq1      aattggagcagggttgggctctccccttcgcagataatgggaggagccgggcccagcg  
          |||||   |||   |||||||||||||||||||||||||||||||||||||||||||||   |||||   |   |  
seq2      tcatggagtgggcttgggctctccccttcgcagataatgggaggagcctgcggccaca  
                                          -26<-SP1>
```

```
seq1      agctCTTTCCTTTCGCTGCTGCGGCCGAGCCATGAGgtgagggcgagctggtctccatc  
          |||||||||||||||||||||||||||||||||||||||||||||   ||   |   |   ||||   |  
seq2      agctCTTTCCTTTCGCTGCTGCGGCCGAGCCATGAGgtgagcgggcccggctctcggtt
```

```
                                          +100  
seq1      aggcgctgacgcgtgtcgacaagggactgtcggcttggga---ccg  
          ||   ||   |   |||||||   |||   |   |||   ||   |   |  
seq2      cttggccgatgag-gtcgac--ggggccgacggggccggcaaggctt  
                                          +100
```

seq1 = human rpL21
seq2 = mouse rpL21

61.68% identity.

```
-200  
seq1      tga-----cacgatgcaagtgtcagcttgtggtggccggttgccctttctttcgcaag  
          |          || ||||| | || || || || ||||| | ||||| | ||  
seq2      gggatgtctagcaggatgcctgagtgagtttctggtggcctgctgcctttaatctgc-gc  
-200
```

```
seq1      aggggaaaatatcctcacagactttctgtgttctcagagacgatcttcttccctagaaag  
          ||||| | ||||| | | || || || ||||| ||| || | |  
seq2      cggggagcgtgtcctcacggcgtctccaggttatc-gggacgatgaggttctctcg--ac
```

```
seq1      aagtcgcttacggttggcgtttccct-caggcagcgcggtgggcagcccacaggccdttg  
          || | | | | ||||| || ||||| || ||||| | || |||||  
seq2      cagcctcgggggcccggttctcttcaggcagcttcgcgggcagccctc-gggcdttg
```

```
-29          --SP1--          --YY1--          +30  
seq1      taag-gcgcgcgcgcgcggcccgctcttCCTTTCGGCCGGAACCGCCATCTTCCAGgt  
          ||| ||| ||| ||||| || ||||| || ||||| ||||| ||||| |||||  
seq2      taagagcg-----cgcagccccgcctcctCCTTTCGGCCGCGCAGCCATCTTCCAGgt  
-25          +30
```

```
seq1      agggcctacgcgtggctcccggcgctacgtggttcgacagacttgaaccgaccttgtg  
          || | ||||| ||||| || | ||||| || || | ||| |||||  
seq2      tggtagcgcgcgtggctc----tctcgtcttgttctccacacacgctgcg-----tgtg
```

```
+100  
seq1      gc-----ctcagag---g  
          ||          | ||||| |  
seq2      gcgcccacgccgcagagactg  
          +100
```

seq1 = human rpL22
seq2 = mouse rpL22

61.23% identity.

```
          -200  
seq1      gg-----gcctccttccttccccagaaaccctccaggcctggg  
          | ||||| ||||| ||| | || | |||  
seq2      cattcgagtgaggacagcccgtctgactcctcccttcccagacagccgacttcgcc----  
          -200
```

```
seq1      agaggacgcgttttgcattcaggaaaaaccaatcgctcccctatcgt-acataaccaaga  
          | || ||||| ||||| ||| || ||||| || || |  
seq2      -----ctgggaaaagcaatagctggccgatcgttacttaggtggca
```

```
seq1      gaaaagggtggcggacgaggggctgg-caaagtgattagtgcggcctggaccct-gcgtg  
          | ||| ||||| ||||| || ||| | | ||||| | ||||| ||| |||||  
seq2      gggaag--ggcgatcgagaagcaagggctgatcgattgaagttgcctggctccttgctg
```

```
          -25  
seq1      ccttgcgcgctgcgggctctttgcgtctgcgtagttcgctcacctCCCTTTCTAACTCCG  
          || || ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2      ccctgtgcgctgcgggctctttgcgcctgcgtagtgcgccccctCCCTTTCTGCCTCCT  
          -25
```

```
seq1      CTGCCGCCATGGCTCCTGTGgtttagtatggctccgcgtagggcctcggctccaggggagg  
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||  
seq2      CTGCCGCCATGGCGCCTGTGgtttagtatggctccgcgtagggcctcggggtccgtgagcgg
```

```
          +100  
seq1      cacgtgggctcgccgagcccggca  
          ||||| ||||| | | |  
seq2      cacgtgggctggtgggctggctcg  
          +100
```

seq1 = human rpL23
seq2 = mouse rpL23

63.69% identity.

```
-200  
seq1      gctcgtagagaag----atacttcctatctcttgcgcttct--acctcaact--cccact  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      cgttg-ggtgtagccccaaaattactcgcccctacacatcttaagcgcagctttccca--  
-200
```

```
seq1      tcgcagagagggctaaaagcgacgctcgtaaacttattacgtaataaggcagcgcccagag  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      -cgcagaacggtc---ccgcggaggcccaggccttttacgtcatctagctgcgaccggg
```

```
          <GABP>                                -50      --SP1--  
seq1      gcggaagaggccgggtttt---gctccggccacgtgaggaggggtggcggggcgttaaag  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      gagg--gaggcgggctggacgaggtccggtcacgtg-gctgagtgggcggggc-ctcccg  
          <-SP1>                                -50
```

```
-25  
seq1      ttcatatcccagtgtcctttgaatcgacttcCTTTTTTCTTTTTTCCGG-CGTTCAAGAT  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      ttcatatcccagtgcccctgtactaacttcCTTTCTGACCCTTTCCGGGCGTTCAAGAT  
-25
```

```
          <-YY1>  
seq1      GTCGAAGCGAGgtgagg--ttttgtttctggaggatcctccaccatctgtcgtgcagtgg  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      GTCGAAGCGAGgtgaggaattttgagtttg-ggatccggttggcatctgccgcgc--ggg  
                                                                 <
```

```
          +100  
seq1      ctggcggattcgtc  
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |  
seq2      atgcccgcgccatc  
YY1->          +100
```


seq1 = human rpL23a
seq2 = mouse rpL23a

63.14% identity.

```
-200  
seq1      a-----ctacaacccccatgaagcttttagtgcctttgaggggaggagtgggcgcatggt  
          |         | |||      ||||  |||||      | ||  | ||||  ||||| ||||| |  
seq2      aaaaaacgccacatttccaagaagc-----cctttcaaagggaaaggtggcgcatgct  
-200
```

```
seq1      tgttcacgcacgaaaagaaattaaacctaactaccgttcccagagggcgccgctctgca  
          || || | |||      | | ||||| ||||| ||||| || || | ||  
seq2      tggctctccac-tctaggaattaaatggaactacaattccaagaagcctcatattaca
```

```
                                --BoxA--  
seq1      aattaccaatcagctctaagtacaaagcatcgcgagcttttagtgctctttggcgctat  
          | | ||||| |||  || | |  ||||| ||||  || | |  ||||  
seq2      gttcatccaatcagtgctatatataagctatcgcgagacttttatgagcctcatttat
```

```
-25                                     --YY1--                               +30  
seq1      aagcccggtggaacgagcattggagacCCTTTTCA--CAAGATGGCGCCGAAAGCGAAGA  
          |||| | |||||  | | ||  | ||||| ||||| ||||| ||||| ||||| |||||  
seq2      aagctcatggaattgggctgggcatCCTTTTCAGCCAAGATGGCGCCGAAAGCGAAGA
```

```
seq1      AGGAAGgtgtgtgttggatgggcccag-ctggtttaccgggattccgcgccgaga  
          ||||| |||  |||  ||||  | | | |||  | ||||  | ||||| |||||  
seq2      AGGAAGgtatgttgcggt-atgggaatctgtcaggtcggctcttgatac----ccgaga
```

```
                                +100  
seq1      gcgaac--gaat  
          |||||  |  
seq2      gcgaactcgcg  
                                +100
```

seq1 = human rpL24
seq2 = mouse rpL24

55.89% identity.

```
-200  
seq1  aggccct-----ctgggcccgagAAC-----cctccagcgc-ctctggatga  
      |||          || || ||  |||          |||| | | | ||| |  
seq2  gaaccaagccaagaaccaacttgaccttaaACgaacacctcaaaccactccccgcca  
-200                                     <SP1-->
```

```
seq1  attgcgccagaggaagtCagctgt--cagggAAAacgagatctttcgcctcgcgatgatt  
      ||  ||  |||||  |||||  |  |||||  ||          | | | | | | | |  
seq2  at---gctgtaggaagaaagctgtgctaggaAACaga-----ctgggcgctcgggaagtg  
                                           <GABP>
```

```
                                           <GABP>  
seq1  acgtcatcaaggaggccaggagcatcgaaggatattg-gggaggagatttccggccccc  
      || |||||  | | |||  ||  ||  |||||  |||  |||||  |||||  
seq2  acatcatctctgggcgcccgggtcaaggaagggaatttagggaggagat-----  
      120      130      140      150      160
```

```
-25                                     -YY1--  
seq1  atccccgcagcgacctataaggtctcttcccatgattctctCTTTCTTTTCGCCATCTT  
      || | | | | || |||||  |  |||||  |||||  |||||  |||||  |||||  
seq2  -tctctccctctgccctataagg--ttctcccatgattctttCTTTCTTTTCGCCATCT-  
      -25
```

```
seq1  TTGTCTTTCCGTGG-----AGCTGTCGCCATGAAgtaagcagaccctggttccc  
      || || ||  |  || || || |||||  |||||  || || | ||||  
seq2  -----TTACCCCGGCAGGCCGACATCTATCACCATGAAgtaagcgggcgcccgggtgtccc
```

```
+100  
seq1  aatccgcttacatcctcgggcagaaactcctc  
      |||||  |  |||||  |||  ||  ||  
seq2  aatccgcctccatcctgaggccga---gcta  
                                           +100
```


seq1 = human rpL27
seq2 = mouse rpL27

65.82% identity.

```
-200  
seq1      c-----tcttgtctactgctggagctgctaataaagtttcattcgaatactt  
          |          || ||||| ||||| | ||||| ||||| || || || ||  
seq2      ccggaacgctctgttctctgctgctcgtgctgctaataaagcttggttcaaaaac--  
-200
```

```
                                -GABP-  
seq1      gagctgccgcgccctgcgtttccctcatgagcttcttccgcccgcacacgagactcagc  
          || | |||| |   ||||| | ||||| ||||| ||||| |||| | || |  
seq2      -----gcagtgccc-gaccctccctgacgagctccttccgccaacaac-----tttgacc
```

```
                                --SP1--  -GABP-          -40  
seq1      accacacaatcagcgtggcaaagcctgaaggcgggacaggaagtgaggtcactcctcac  
          |||| |   || |||| |   ||||| ||||| ||||| ||||| |||| | || |  
seq2      accaaccgtggggcatggctgggctgggagggcgggacaggaagtgaagccacctctccg  
                                -60          -40
```

```
          -25          -GABP-  
seq1      cggggtgaaaggttagcggaagtgtccttcttCCTTTTGGCTGGTAGGGCCGGGTGGTT  
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||| | || |  
seq2      taaggtgaaaggttagcggaagtgcctccttCCTTTCTGCTGG--GTGCCGGCTGCCT  
          -25
```

```
                                +60          --YY1--  
seq1      GCTGCCGgtaagtagaagcttgggttgaatctttcaatccgctgccatccgcggttggg  
          |||| |||| |||| | || |||| |   ||||| ||||| ||||| ||||| |||| | || |  
seq2      GCTGTCGgtgagtaaaggcctggagagggcttggcaatccgcccgcacat-cgcggtcccgg  
                                +60
```

```
                                +100  
seq1      ggtcgaaggtccg---  
          |||| | ||  
seq2      ggtcgggttgctgggc  
                                +100
```


seq1 = human rpL29
seq2 = mouse rpL29

67.73% identity.

```
                -200                                ←SP1→
seq1    agacttaagagacaggtcctggagaaacagagaagggaggaggcagcctgaagggggcg
      | |      | ||  |||      | | | | | | | | | | | | | | | | | |
seq2    aatagcggggaggggt-----taagcaaagaaagaaatctgtgacgctaagagggcgt
      -200
```

```

                                -GABP--
seq1    aggcaagctcgtagaccgcctccacgtct--ggcttgcgttcttccgggcttcggaact
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    ggccaggctc----taaccctcccctttctaggcttcaactcttccggccttggaacc
```

```

                                -60                                -GABP-
seq1    tttcttcgaggcctg-----gggaagcttttccagtagtactttccggcggttgttga
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    tttttctc--cgccagcagtgaggaagcttttcc-gttggactttccggcggtgtcgg
      -65    <GABP >
```

```

                                -25
seq1    ccc tatttc ccgtgctgcaccgc-agc----cc CTTTCTCTCCGGTTCTAGGCGCTTCG
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    ccc tatttc ccgtgctgcactgcgggcctttct CTTTCTCTCCGGTCTCCGGCGCTGCG
      -25
```

```

                                <-YY1>
seq1    GGAGCCGCGGCTTATGgtgagtgtggccgcgcgccatccgatgccatccgcgacttacg
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2    GGAGCCGCGGGTTACCgtgagtgtggccttacggcatccgatgacatccgtgactacag
```

```

                                +100
seq1    ggtggcggcgggg
      | | | | | | | | |
seq2    ggcggcggcgggg
      +100
```


seq1 = human rpL34
seq2 = mouse rpL34

54.85% identity.

```
          -200                               ---Sp1---          <-Sp1->          -150  
seq1      ttgacacagacagctagtgtgaatccccgccacagaggggcggcacgttggtt--gccg  
          | |          |||||          ||||| || || || |||||          | ||||  
seq2      ctacc----ggggctagaaaacgcacccgcctacgga--agccgcactacacatccgccc  
          -200
```

```
                                <-Sp1>                                -GABP-  
seq1      tacaacgtggtggatccctgcatctccgccacgtcggagaggtgcgtcggcttccgt-c  
          ||||| ||          | || |||||          ||          ||||| ||||| ||  
seq2      ctcaacgagg-----cgccatccacacaggtccccgcgtccgcttccgtac
```

```
          -80  
seq1      aacacggatacgctctctctgacgca-----acttctgtcctgcgcaa  
          |||| | |   ||| ||| ||||| |          ||||| ||||| |||||  
seq2      aacatggcggcgcgctcgctgacgcgcccttcctgacgtacttctgtccggcgccc
```

```
          -25  
seq1      ttctatttgaccttgaactggcaaaggcttttttcttcCTCTTCCGGGGACGTTGTCTG  
          | | ||||| ||||| |   | || | ||||| ||||| ||||| ||||| ||  
seq2      tcacacttgaccctgaactcaccgcgcccttccttttcCTCTTCCGGGGACGGTGCTCA
```

```
                                --YY1--  
seq1      CAGgtatggatggttgttctctttccctgtctttatttcccttaccaatcggctgccatcc  
          ||||| || | | ||| || ||||| || | || | ||||| ||||| |||||  
seq2      GAGgtatgggtggccttctctgctctgtgtttttttaccgtttacgatccgtagccatcc
```

```
                                +100  
seq1      gaggagctgaggaagccta  
          |||| | |   ||  
seq2      gaggcgtcaggcgggccc  
                                +100
```

seq1 = human rpL35
seq2 = mouse rpL35

58.89% identity.

```

                                -200
seq1  -----acgccgacctcgctatcaggggtgccgtgaatgaggcgagca
                                ||| ||| ||| ||| ||| ||| ||| |||
seq2  ggtgttgctcatcgcgagactcag-tttccccagctgggtcgcttagagaccagccaacc
-200

      <--SP1-->                <--SP1-->
seq1  ctac-aaggcggggtccggcctaccaggcggg--gcgggcagtaccacggcggttcctc
      || ||||| || || |                |||| |||| | |||||
seq2  ttaggaaggcaggacttc-----cgggaagcggagggcaccacggc-----

<--SP1-->    --SP1--                <--
seq1  gggggcgggggagatgaggcggagccggggctcccccgctgcggcgccattggcgcgccc
      |||| | | | ||||| |||| |||| | ||| ||| ||||| |||
seq2  ---cgcggtgctgcaggggaggag-cgggcctcccaaaccgcgacgctattggcgtgcc
-110

SP1>                -25                --SP1--
seq1  cgccgccaccggcagtagttgcggaggtcagccccgcctacttcCTCTTTCCTCGGAG
      || ||||| ||||| |||| |||| ||||| ||||| ||||| |||||
seq2  cggcgccaccggcagtagttgaggaagtcggccccgcc-ctttcCTCTTCTCTCGAAC
-10

                                -YY1-
seq1  CGGGCGGCGGCGTTGGCGGCTTGTGCAGCAATGgtgagagctgcgg-aatcgggcccacat
      | ||| || | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2  CAGGCTGCTTCAGCCGTGAACAACGCCGAAATGgtgag-gctgcgggaatcgggtgccat
                                +70

-                +100
seq1  ccgagcgctgtgaggcgcggg----g
      | | | | | | | | | |
seq2  cggtcgccgggacacgtggggacag
                                +100
```

seq1 = human L35a
seq2 = mouse L35a

63.89% identity.

```
          -200  
seq1      --gttcccaagtagtacatthttgcagcctaccaagatgaaaggactt-aggaaaataatt  
          ||||| || || ||| | ||||| || ||| ||||| ||||| | ||| ||| ||||  
seq2      ttgttcctaaataatacgtggttgccgcttacaaagacgaaagggcaggaggggaaagaatt  
          -200
```

```
                                          <GABP>  
seq1      gtaagagtgcattgaatgtggcttatttcagtgcggaagc-----cgatttccgagga  
          || | | |||| | ||||| | ||| ||| | | | | | | | | | | | | | | | |  
seq2      taaa----gttcttgagcgcggcttggtgagc-cgagcctctctctctgtctctgacct
```

```
          -80                                <-Sp1>  
seq1      ttgtttttctggcgthttggagaagatgcctaaattgagggcggagtcgaaagatgtttaa  
          ||| ||||| ||||| | | || ||||| || ||||| | | | | | | | | | | | |  
seq2      ttg-ctttctggcgcagtggtg-agcggccta-----agcgcggagagggggcggggcggtgc
```

```
          -25          --Sp1--          --YY1--          +25  
seq1      -tcccacaaggccacgcggcggggcctcgtccttCTCTTACCGCCATCTTGGCTCCTGTG  
          ||||| ||||| ||||| ||| | | | ||||| ||||| ||||| ||||| ||||| |||||  
seq2      gtcccacaaggccgcgcggcgggg-cttgccttCTCTTCCGCCATCTTGGCGCCTGTG
```

```
seq1      GAGgtgagtgaagggtctgctgctgaaatttgggggcaaataaccggagtaggtttgttc  
          ||||| || | ||||| ||||| ||||| | || | || | || | || | || | || |  
seq2      GAGgtgaggggggttctgctgctgagctttggggcccgattgctggggtgcgtttagtt
```

```
          +100  
seq1      ctgtgccttg--g  
          | ||| |  
seq2      tcatccctcaccg  
          +100
```


seq1 = human rpL37
 seq2 = mouse rpL37

60.19% identity.

```

-200                               ←-SP1-                               ----><GABP>
seq1      ggtcgccagaaaactgggagtcgcc-----cgcctttccggcactgaaacgcg
          || ||| | | | |||| | | | | | | | | | | | | | | | | | |
seq2      ggccgctggggagggcggagccacagcgcaccagggcacgccccctaccggtggtgcagccca
-200                               <-SP1>
  
```

```

seq1      atcggc--cctgcctggtaccgcatcctcctcttgaccccac--ctacactacgacgacg
          ||||| | | | | | | | | | | | | | | | | | | | | | | |
seq2      atcggctccctggct-----ctctcgcccgggagactacacctccgcaccc
  
```

```

                               -60                               -SP1/GABP
seq1      gagcctcgagaacgctgcaccgcgccccgcaggaagtgcttccctgggcggaagcttctg
          || | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      gaggcctgatagggctgcaccaagaccgcccgaagttagtttctgggcggaagcttatc
                               <-SP1/GABP>                               -44
  
```

```

-25 <GABP>                               -GABP-
seq1      agcgtgatatagcggaagtgccttctcttccggtCTTTCTGGTCTCGGCCGCAGAAGCGA
          | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2      cacaggaagtggcgggggtgcttctcttccggtCTCTTTGGCCTCGCCGGTAGAAGCAA
                               ←-SP1-→
  
```

```

-YY1--                               +70                               --YY1--
seq1      GATGgtgagttgtgactgtggtgttgtgaatcgcgttccatcctcgtcctttgtgcctc
          ||||| | | | | | | | | | | | | | | | | | | | | | | |
seq2      GATGgtgagtggtttctgggctctgtaaactctctctccatccttcttctcgggctgt
  
```

```

+100
seq1      tctgtttgctgtgc
          ||| || | | |
seq2      cctgcctgttgccc
          +100
  
```


seq1 = human rpL40
seq2 = mouse rpL40

61.72% identity.

```
          -200                <Sp1--Sp1->                -GABP-                -150  
seq1      ctcaag-----tgactcggcgggcccacaaccggaagcgggtgggaccttca  
          |  ||      |  ||||      |  |  ||||  ||||| |||||      |  ||  
seq2      caggagctgctatcactcatgtgttaagctccac--ccggaagcgg-----ctcca
```

```
                                          -100←-Sp1->  
seq1      cccacgtgcgctgaggcttcggtccagcatccaagatggcggcagggcgggcccag  
          ||      ||  ||      ||||| ||  ||||  ||||| ||  ||||  ||||  |  
seq2      gaca-----gaacgactattctcgcaggaaccaacatggc-gcccggcgaagcccggg
```

```
                                ATF/CREB  
seq1      gcg-----cggcgcgaattgtgacgcaggcgtccggcgtgctccgt-cgcaagcg  
          |||      ||||| ||||| ||  ||  |  ||||| ||  ||||  |||  
seq2      gcgggacgacatgaggcgggattgtgacgtaaacgcgcagcgtgctcagtgcgcaggcg
```

```
          -25                -GABP-  
seq1      ctttcggcggcgattagggtggtttccggttccgctatCTTCTTTTCTTCAGCGAGGCGG  
          ||  ||  |  ||  ||  ||||| ||||| ||||| ||  ||||  ||||| ||||| |||||  
seq2      ctctcagaggagactagggggtttccggttccgctgtCCTCTTTCTTCAACGAGGCGG
```

```
seq1      CCGAGCTGGTTGgtggcggcggcgtgctgagg-----gttcgcgcgggcccagagcggg  
          ||||| ||||| ||||| ||  |  |  ||||      |||  |||  |  ||  |  |||||  
seq2      CCGAGCGGGTTGgtgccgtccgcgtcgcggctgggctgttggcggctgggcctgggagg
```

```
                                          +100  
seq1      ttgggggctgcgggaggctgcagg  
          |  |||  |  ||  |||  
seq2      gacgcggcgggggtcggc-----  
                                          +100
```

seq1 = human rpL41
seq2 = mouse rpL41

53.64% identity

```
-200                                     <GABP>
seq1   ctgggggggaactggtaactcgaaaaccaaatactcgggtcttccgaaagaactaactcaa
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   -----actgg-----aaacaggtgct-ggtggt-----gaaataatacaa
      -200

seq1   cctacccttctacaagagggt-----cc
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   --tatccttaaaatagacggaaggtgggcttgataaacacgcactctagtaaggcagcc
      <GABP> <

      -90 ---SP1---
seq1   gaaaaccactgttacgcccattgggtagccccgcccttggggggggcaaagggcgtgaaa
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   ggaagtcgctgt-----ctcgagcagccccgccctaagggacgacacacggg-gccggc
      GABP> -90

      -GABP--ATF-   -40           -25
seq1   gcggaagtgacgacaccggcgctccattaaatagccgtagacggaacttgcctttCTC
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   tcggaagtgacgacaccgagcagccattaaatagcagtaggc-ctccctctccggcCTC
      -50           -25

seq1   TCGGCCTTAGCGCCATTTTTTGGgtgagt-----gttttttggttctctgcggtgggat
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   TCGGTCTTAGCGCCATCTTCCTTGgttagtcgcggggttttctg-----gcgttcgggt
      <-YY1>

seq1   tccgtgtacaatccatagacatctgacctcggcacttagcatc
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
seq2   ttccagtgcaatccgtaaacatccgacctccacattcactatc
      +100
```

seq1 = human rpLP0
seq2 = mouse rpLP0

58.95% identity.

```
          -200                                <GABP>
seq1      gcagcgccttccttcgcgaccctacttaaaggcggctttccgctg-----gctggagt
          || ||||| |||| ||          | ||          | |||| | ||          |||||
seq2      gc-gcgcc-tcctgcgccgggtgct-----gtctttactttcccgacttgctggagt
          -200
```

```
                                          -100
seq1      ggcagcgatattatccaatggttgctgtattcgttcagctttgtctgacgggcgatggc
          ||||| | | | |||| | || | || || || | | || | |||||
seq2      ggcagcgggtctcagccaatagacgcgcatgtttattgagtgaggcaggacagtcgatgga
```

```
seq1      gc-agccaatagacaggagcgctatccgcggtttctgatt-----ggctactttgttcgc
          | ||||| || | || | || | || | || | | | |||| |
seq2      accagccaatagcatggacg---acgtcgtcttcgggtttcgaggaccgcctggttctc
```

```
          -25
seq1      at-tataaaaaggcacgcgcccgcgagggcccttCTCTCGCCAGGCGTCCTCGTGGAAgt
          ||||| ||||| ||||| | |||| | ||||| ||||| ||||| |||||
seq2      -c-tataaaaaggcacacgcgggcatgcggcccgtCTCTCGCCAGGCGTCCTCGTTGGAGgt
          -25
```

```
seq1      tcgtgtgctagtttagatgggcccaggggtcgccggcgggaagcatggaggggtctttgg
          | | | | | || | || |          | |||| ||| | | |||| | |||
seq2      tggggggttgttttgttg-----ggagggcggcaag-agcgcggggacgttgc
```

```
                                          +100
seq1      gggcct-----ttgggaa
          |||          | ||||
seq2      ggggagcgcgatgggctcgggaa
          +100
```

seq1 = human rpLP1
seq2 = mouse rpLP1

61.85% identity.

```
          -200
seq1      -----ttaacgttctc-----aggtcctataatttacccaataaagtgggaccgta
          ||| | ||| | || | | ||| | | ||| | | ||| |
seq2      gcctgttaa---tctctactgttgagcacttgtaaatattcgcaa-----gccccaa
          -200

seq1      tttgcaggcgctgagaaactttctcaacagtaagaaccaatcaggcgag-----tgcgc
          || ||| | || | | | | | | ||| | | | |||
seq2      aggccaatcgaccggaagt-----cgaacgcgcaaatccggaactgcgttctgcag
          <GABP>

seq1      agggccttcagtgggtcctgggtccgcctcttccgcccggtg-cgggcgccgattggtc
          | ||||| | | ||| ||| | ||| ||||| | | | ||||| |||||
seq2      acgcgctcctctcggttttggcctgcccttccgtctcgagtcgggcatcgattggtc
          -50
          -50

          -25
seq1      cgcgtagaca cataag aggctgcgtataggcgcgagagcc CCTTTCCTCAGCTGCCGCCA
          ||| | | ||||| | ||||| ||||| | | ||||| ||||| |||||
seq2      ggcgcggtcc cataag aagctgcgcgcaggcgatgat CTTTTCCTCAGCTGCCGCCA
          -25

          +30
seq1      AGGTGCTCGGTCCTTCCGAGGAAGCTAAGGCTGCGTTGGGGTGAGGCCCTCACTTCATCC
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
seq2      AGGTGCTCGGTCCTTCCGAGGAAGCTAAGGCCGCGTTGGGGTGAGGCCCTCACTTCATCC
          +40

seq1      GGCGACTAGCACC GCGTCCGGCAGCGCCAGCCCTACACTCGCCCGGCC ATGGCCTCTGT
          ||||| ||||| | ||||| | ||||| | ||||| ||| |
seq2      GGCGACTAGCACC GTG-CCGGCAG-----TCTACA-----GCATGGCTTCCGT

          +149
seq1      CTCCGAGCT-----
          ||||| |||
seq2      CTCCGAGCTCGCTTGCATCTACTCCGCC
          +150
```

seq1 = human rpLP2
seq2 = mouse rpLP2

55.42% identity.

```
-200  
seq1      ct-----gcccttcgcctttgccgcgaaaagtgcctga  
          |                               |||| | || ||      |||| | || |  
seq2      ttcgggagactctcgtccatggtgcagaggcccctggcactt----gaaaaatcct--  
-200
```

```
seq1      cgg----gggctgggnaanggggagggggaaggagtcaaggacttccctccccgttggt  
          ||      |   |||| ||      ||  ||||      || | |||| | ||  
seq2      cgttttgttggtgggaagacatgacagga-----aatgtcttccttc-----  
                                         <GABP
```

```
seq1      cattggctgagcgcctcgtgacgtcactctgaggcg-cctcatgcggcgccgcgcacggg  
          | | || | | | | |||| | | |||| | | | |||| | | | || | |  
seq2      -----cggtgacc-ctttcgtcaatgggagcgctcccgtgcccgcg--cgtacgcg  
->
```

```
                                -26--SP1--  
seq1      tcccagagccttctgggtagcggtttaaccccgcctcttgcgctgggccttcCTTTTCC  
          |||| | | |||| |||| |||| |||| |||| |||| |||| |||| |||| |  
seq2      tcccgggggcttctgggtagcggtttaaccccgccactgcgctcagcgtcttcCTTTCGC  
                                         -20
```

```
seq1      TCCCTGTCGCCACCGAGGTTCGCACGCGTGAGACTTCTCCGCCCTCCGCCGAGACGCC  
          || | |||| | |||| |||| |||| |||| |||| |||| |||| || || ||  
seq2      CGCCGACGCCGCCGAGGTTCGCACGCGTGAGGTCTGTCCCCCGAGCCGAgtgagtagcc
```

```
                                +100  
seq1      GCCGCgtgagtgtggtgaccgggcccggggtg  
          || | | | || | | ||||  
seq2      tggccgcctgggcccgcgaacagtgtggtgggac  
                                +100
```