Fig 1a:

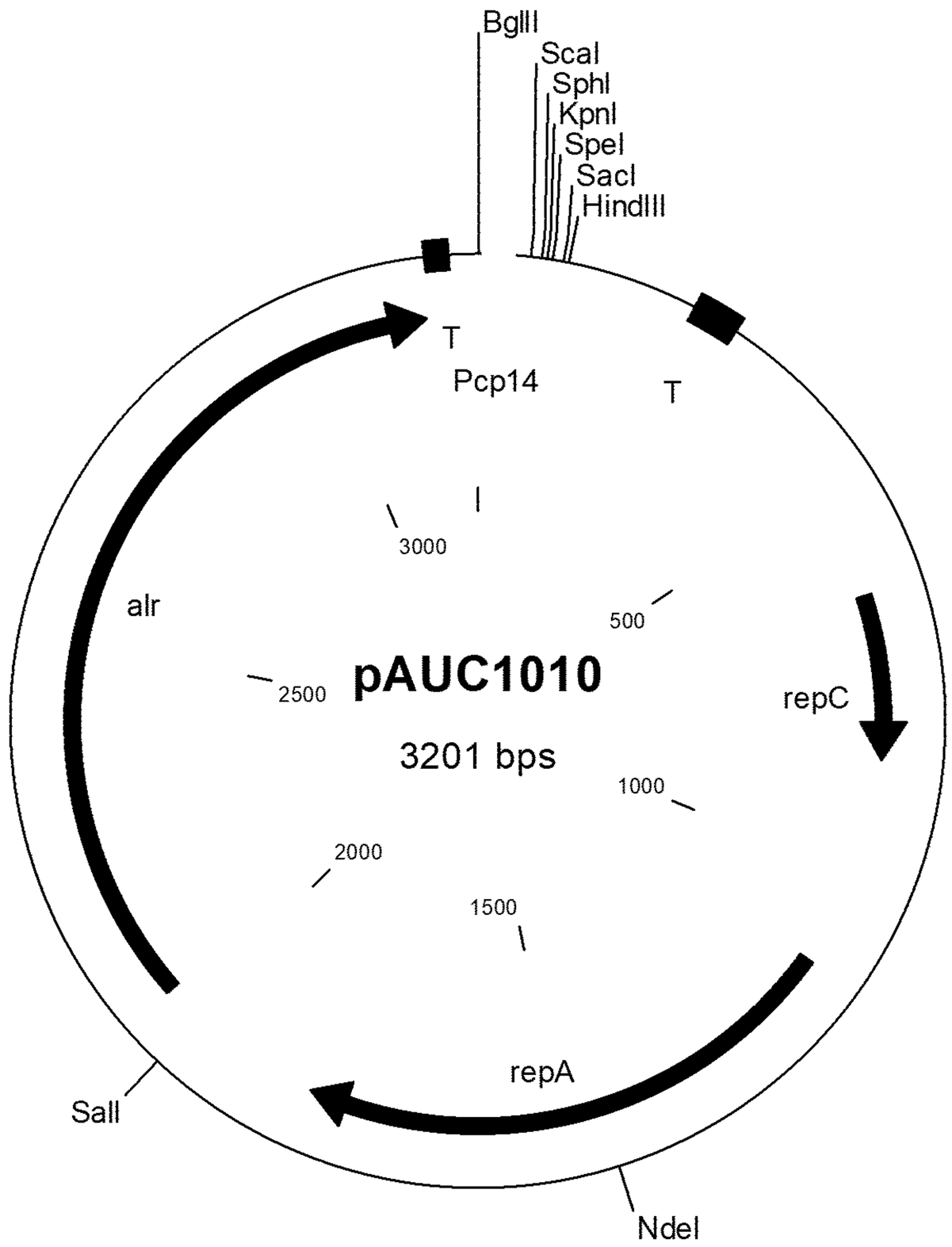


Fig. 1b:

```
     BglII
    -+----
1   agatctcatg acggagttta ttcttgacac aggtatggac ttatgatata ataaaacagt
       >>..............Pcp14..............>>

                      KpnI                      HindIII
                    -----+-                     --+----
 ScaI          SphI          SpeI          SacI
 ---+--      ------+       -+----       -----+
 61  actctgcagg catgcggtac cactagttct agagagctca agctttcttt gaaccaaaat

121  tagaaaacca aggcttgaaa cgttcaattg aaatggcaat taaacaaatt acagcacgtg

181  ttgctttgat tgatagccaa aaagcagcag ttgataaagc aattactgat attgctgaaa

241  aattgtaatt tataaataaa aatcaccttt tagaggtggt ttttttattt ataaattatt
        >>.........................T.........................>>

301  cgtttgattt cgctttcgat agaacaatca aatcgtttct gagacgtttt agcgtttatt

361  tcgtttagtt atcggcataa tcgttaaaac aggcgttatc gtagcgtaaa agcccttgag
```

```
421  cgtagcgtgg ctttgcagcg aagatgttgt ctgttagatt atgaaagccg atgactgaat

481  gaaataataa gcgcagcgtc cttctatttc ggttggagga ggctcaaggg agtttgaggg

541  aatgaaattc cctcatgggt ttgattttaa aaattgcttg caattttgcc gagcggtagc

601  gctggaaaat ttttgaaaaa aatttggaat ttggaaaaaa atgggggggaa aggaagcgaa
                                                >>......repC........>

661  ttttgcttcc gtactacgac cccccattaa gtgccgagtg ccaatttttg tgccaaaaac
     >.............................repC.............................>

721  gctctatccc aactggctca agggtttgag gggtttttca atcgccaacg aatcgccaac
     >.............................repC.............................>

781  gttttcgcca acgtttttta taaatctata tttaagtagc tttatttttg tttttatgat
     >.............................repC.............................>

841  tacaaagtga tacactaatt ttataaaatt atttgattgg agtttttttaa atggtgattt
     >..repC.>>

901  cagaatcgaa aaaaagagtt atgatttctc tgacaaaaga gcaagataaa aaattaacag

961  atatggcgaa acaaaaagat ttttcaaaat ctgcggttgc ggcgttagct atagaagaat

1021 atgcaagaaa ggaatcagaa caaaaaaaat aagcgaaagc tcgcgttttt agaaggatac

1081 gagttttcgc tacttgtttt tgataaggta attatatcat ggctattaaa aatactaaag
                                                >>........repA.........>

1141 ctagaaattt tggattttta ttatatcctg actcaattcc taatgattgg aaagaaaaat
     >.............................repA.............................>

1201 tagagagttt gggcgtatct atggctgtca gtcctttaca cgatatggac gaaaaaaaag
     >.............................repA.............................>

1261 ataaagatac atggaatagt agtgatgtta tacgaaatgg aaagcactat aaaaaaccac
     >.............................repA.............................>

1321 actatcacgt tatatatatt gcacgaaatc ctgtaacaat agaaagcgtt aggaacaaga
     >.............................repA.............................>

1381 ttaagcgaaa attggggaat agttcagttg ctcatgttga gatacttgat tatatcaaag
     >.............................repA.............................>

          NdeI
         --+---
1441 gttcatatga atatttgact catgaatcaa aggacgctat tgctaagaat aaacatatat
     >.............................repA.............................>

1501 acgacaaaaa agatattttg aacattaatg attttgatat tgaccgctat ataacacttg
     >.............................repA.............................>

1561 atgaaagcca aaaaagagaa ttgaagaatt tacttttaga tatagtggat gactataatt
     >.............................repA.............................>

1621 tggtaaatac aaaagattta atggctttta ttcgccttag gggagcggag tttggaattt
     >.............................repA.............................>

1681 taaatacgaa tgatgtaaaa gatattgttt caacaaactc tagcgccttt agattatggt
     >.............................repA.............................>
```

```
1741  ttgagggcaa ttatcagtgt ggatatagag caagttatgc aaaggttctt gatgctgaaa
      >.............................repA.............................>

1801  cgggggaaat aaaatgacaa acaaagaaaa agagttattt gctgaaaatg aggaattaaa
      >......repA.....>>

1861  aaaagaaatt aaggacttaa aagagcgtat tgaaagatac agagaaatgg aagttgaatt

1921  aagtacaaca atagatttat tgagaggagg gattattgaa taaataaaag ccccccctgac

           SalI
          -+----
1981  gaaagtcgac atggtcgatg tctagatgct taaactagag aaaggtttaa aagatgaaaa
                                                        >>alr.>

2041  cttcaccaca tcgtaatact tcagctattg ttgatttaaa agcgattaga aataatattg
      >.............................alr.............................>

2101  aaaaatttaa aaagcatatt aaccctaatg cagagatttg gccagcagtg aaagcagatg
      >.............................alr.............................>

2161  cttatggtca tggctcgatt gaggtttcta aagcggtgag cgatttggta ggtggttttt
      >.............................alr.............................>

2221  gtgtatcaaa cctagatgag gcaattgaat tacgaaatca tctggtgact aaaccgattt
      >.............................alr.............................>

2281  tagttttatc cggaattgtt ccagaagatg ttgatattgc agctgccctt aatattagtc
      >.............................alr.............................>

2341  ttactgcccc gagtttagaa tggttgaaat tggttgttca agaagaagca gaactttcag
      >.............................alr.............................>

2401  atttaaaaat tcatattggt gtagattctg gtatgggtcg gattggtatt cgtgatgttg
      >.............................alr.............................>

2461  aagaagctaa tcagatgatt gaacttgctg ataaatatgc gattaatttt gaaggaattt
      >.............................alr.............................>

2521  tcactcattt tgcgactgcg gatatggctg atgaaacaaa atttaaaaat caacaggcaa
      >.............................alr.............................>

2581  gatttaacaa aattatggcc ggattatcac gtcaaccaaa atttatacac tcaactaata
      >.............................alr.............................>

2641  cggccgctgc tttatggcat aaggaacaag ttcaagctat tgaacgttta gggatttcaa
      >.............................alr.............................>

2701  tgtatggctt gaatccaagt ggtaaaactt tggaacttcc ttttgaaatt gaacccgctc
      >.............................alr.............................>

2761  tctctttagt ttctgaattg actcatataa aaaaaatagc tgcaggtgaa acggttggtt
      >.............................alr.............................>

2821  atggtgcaac ttatgagacg agtgaagaaa cttggattgg aactgttcca attggttacg
      >.............................alr.............................>

2881  ctgacgggtg gacccgtcaa atgcaaggtt tcaaagtgct tgttgatgga aagttttgtg
      >.............................alr.............................>

2941  agattgttgg tcgagtttgt atggatcaaa tgatgataaa acttgataag tcttaccctt
      >.............................alr.............................>
```

```
3001  tgggaacgaa ggtcactttg attggtcgag ataaggctaa tgaaatcacg acaacagacg
      >.............................alr.............................>

3061  ttgctgattg gcgtggaacg attaattatg aagtgctttg cttactttct gatagaatca
      >.............................alr.............................>

3121  aaagaatcta taaataaaat taaaaaaact gtatttttac agtttttttg ttttctgtta
      >......alr......>>
                             >>............T............>>

3181  aaagcagatg ataacctcac t
```

Fig. 2a

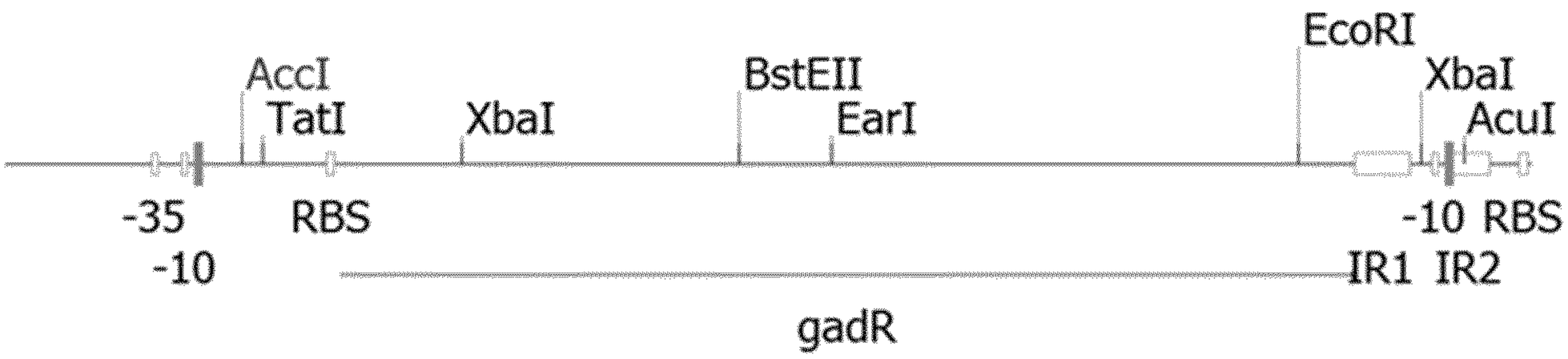


Fig. 2b:

```
   1  tgagcgttgt ataagctttt atgtctttct atatcaactt ttaatagaaa tataaagtaa

  61  tataaatgtt tttataataa attatgtgag atatattttt ttgtccgtac tggtatagat

 121  ttgacgatta agtcttaaat aagttataat ctcaattgcg taatttctta aatacagaaa
      >>..>> -35
                            -10 >>..>>
                                                Start <

 181  taacaactac attggtagac tgattaaaaa gtgtacttga tgaactgtta taaaccttaa

 241  aaaaataaaa ataatagttt gggggatgtt aaagatgtat aaaaaatatg gagattgttt
                               >>RBS>>
                                                  >>..........gadR..........>

 301  taaaaagttg cgaaaccaaa agaatttagg gttatcatac tttagtaaac ttggaataga
      >.............................gadR.............................>

 361  ccgttcaaat atatctagat ttgaacatgg aaaatgtatg atgagttttg agcgtataga
      >.............................gadR.............................>

 421  tttgatgtta gaagaaatgc aagttccgtt atctgagtac gaattgattg taaataattt
      >.............................gadR.............................>

 481  tatgccgaat ttccaagaat tttttatatt agaattggaa aaagctgaat ttagccaaaa
      >.............................gadR.............................>

 541  tcgagataaa ataaaagagt tgtattctga ggtcaaagaa acggggaatc atttactgac
      >.............................gadR.............................>

 601  ggttaccgtg aaaacgaagc ttgggaatat aagtcagaca gaagttaaag aaattgaagc
```

```
     >.............................gadR.............................>

661  ttatctttgc aatattgaag agtggggata ttttgaactt actttatttt attttgtatc
     >.............................gadR.............................>

721  tgattatctc aatgtcaatc aattagaatt gctgcttttt aattttgata aaagatgtga
     >.............................gadR.............................>

781  aaattactgt agagtcttaa aatatagaag gagactattg caaatagcct ataaaagtgt
     >.............................gadR.............................>

841  tgcgatatac gcggctaaag gagaaagaaa aaaagccgaa aatattttag aaatgactaa
     >.............................gadR.............................>

 901  aaaatatcga actgtgggag tcgatttata ttcagaagta ttaagacatc ttgctagagc
     >.............................gadR.............................>

 961  tatcattatt tttaattttg aaaatgcaga gattggggaa gaaaaaataa attatgctct
     >.............................gadR.............................>

1021  tgagattttg gaagaatttg gaggaaagaa gataaaagaa ttctatcaga ataaaatgga
     >.............................gadR.............................>

1081  aaagtatttg aaaaggtcaa tttagtctct tttgagctgt tgctttaaag caacagctca
     >..........gadR..........>>
                              >>................IR1.................>

1141  aaagagattt tctttattct agagcatata ctagagggtg aagataggtt gtctgaagca
     >..IR1.>>
                                    >>-10>>
                                                    >>.......IR2........>
                                                    Start >

 1201  ttataacttg tcttttaaaa aattcaatca taaatataag gaggtATG
     >.....IR2....>>
                                                          >>.RBS.>>
```

Fig.3

```
MKKKIISAIL MSTVILSAAA PLSGVYA
```

Fig.4

```
5′  GGAUCACCUCCUUUCU  3′
```

Fig. 5a

```
MAAGSITTLP ALPEDGGSGA FPPGHFKDPK RLYCKNGGFF LRIHPDGRVD
GVREKSDPHI KLQLQAEERG VVSIKGVCAN RYLAMKEDGR LLASKCVTDE
CFFFERLESN NYNTYRSRKY TSWYVALKRT GQYKLGSKTG PGQKAILFLP
MSAKS
```

Fig. 5b

AGSITTLPAL PEDGGSGAFP PGHFKDPKRL YCKNGGFFLR IHPDGRVDGV
REKSDPHIKL QLQAEERGVV SIKGVCANRY LAMKEDGRLL ASKCVTDECF
FFERLESNNY NTYRSRKYTS WYVALKRTGQ YKLGSKTGPG QKAILFLPMS
AKS

Fig. 5c

MKKKIISAIL MSTVILSAAA PLSGVYAAGS ITTLPALPED GGSGAFPPGH
FKDPKRLYCK NGGFFLRIHP DGRVDGVREK SDPHIKLQLQ AEERGVVSIK
GVCANRYLAM KEDGRLLASK CVTDECFFFE RLESNNYNTY RSRKYTSWYV
ALKRTGQYKL GSKTGPGQKA ILFLPMSAKS

Fig. 6a

HKCDITLQEI IKTLNSLTEQ KTLCTELTVT DIFAASKNTT EKETFCRAAT
VLRQFYSHHE KDTRCLGATA QQFHRHKQLI RFLKRLDRNL WGLAGLNSCP
VKEANQSTLE NFLERLKTIM REKYSKCSS

Fig. 6b

AHKCDITLQE IIKTLNSLTE QKTLCTELTV TDIFAASKNT TEKETFCRAA
TVLRQFYSHH EKDTRCLGAT AQQFHRHKQL IRFLKRLDRN LWGLAGLNSC
PVKEANQSTL ENFLERLKTI MREKYSKCSS

Fig. 6c

MKKKIISAIL MSTVILSAAA PLSGVYAAHK CDITLQEIIK TLNSLTEQKT
LCTELTVTDI FAASKNTTEK ETFCRAATVL RQFYSHHEKD TRCLGATAQQ
FHRHKQLIRF LKRLDRNLWG LAGLNSCPVK EANQSTLENF LERLKTIMRE
KYSKCSS

Fig. 7a

EEVSEYCSHM IGSGHLQSLQ RLIDSQMETS CQITFEFVDQ EQLKDPVCYL
KKAFLLVQDI MEDTMRFRDN TPNAIAIVQL QELSLRLKSC FTKDYEEHDK
ACVRTFYETP LQLLEKVKNV FNETKNLLDK DWNIFSKNCN NSFAECSSQD
VVTKPDCNCL YPKAIPSSDP ASVSPHQPLA PSMAPVAGLT WEDSEGTEGS
SLLPGEQPLH TVDPGSAKQR PPRSTCQSFE PPETPVVKDS TIGGSPQPRP

SVGAFNPGME DILDSAMGTN WVPEEASGEA SEIPVPQGTE LSPSRPGGGS
MQTEPARPSN FLSASSPLPA SAKGQQPADV TGTALPRVGP VRPTGQDWNH
TPQKTDHPSA LLRDPPEPGS PRISSLRPQG LSNPSTLSAQ PQLSRSHSSG
SVLPLGELEG RRSTRDRR

Fig. 7b

AEEVSEYCSH MIGSGHLQSL QRLIDSQMET SCQITFEFVD QEQLKDPVCY
LKKAFLLVQD IMEDTMRFRD NTPNAIAIVQ LQELSLRLKS CFTKDYEEHD
KACVRTFYET PLQLLEKVKN VFNETKNLLD KDWNIFSKNC NNSFAECSSQ
GHERQSEGS

Fig. 7c

MKKKIISAIL MSTVILSAAA PLSGVYAAEE VSEYCSHMIG SGHLQSLQRL
IDSQMETSCQ ITFEFVDQEQ LKDPVCYLKK AFLLVQDIME DTMRFRDNTP
NAIAIVQLQE LSLRLKSCFT KDYEEHDKAC VRTFYETPLQ LLEKVKNVFN
ETKNLLDKDW NIFSKNCNNS FAECSSQGHE RQSEGS

Figure 8a

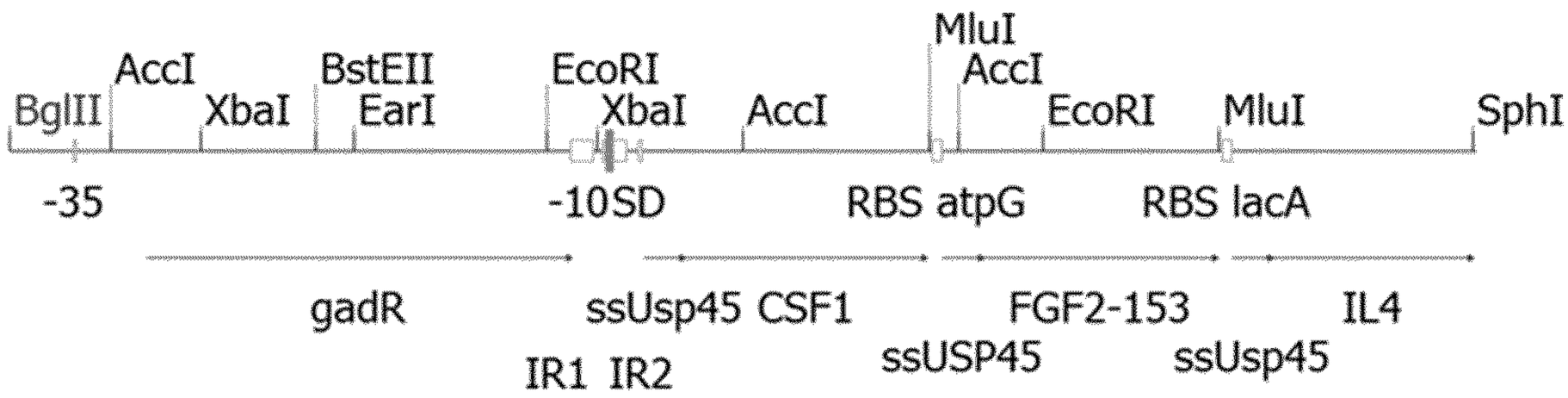


Figure 8b

```
     BglII
     -+----
   1 agatctgagc gttgtataag cttttatgtc tttctatatc aacttttaat agaaatataa agtaatataa

  71 atgtttttat aataaattat gtgagatata ttttttttgtc cgtactggta tagatttgac gattaagtct
                                                          >>-35>>

 141 taaataagtt ataatctcaa ttgcgtaatt tcttaaatac agaaataaca actacattgg tagactgatt

 211 aaaaagtgta cttgatgaac tgttataaac cttaaaaaaa taaaaataat agtttggggg atgttaaaga
                                                                >>.gadR..>

 281 tgtataaaaa atatggagat tgttttaaaa agttgcgaaa ccaaaagaat ttagggttat catactttag
     >.....................................gadR.....................................>
```

```
351  taaacttgga atagaccgtt caaatatatc tagatttgaa catggaaaat gtatgatgag ttttgagcgt
     >.....................................gadR.....................................>

421  atagatttga tgttagaaga aatgcaagtt ccgttatctg agtacgaatt gattgtaaat aattttatgc
     >.....................................gadR.....................................>

491  cgaatttcca agaatttttt atattagaat tggaaaaagc tgaatttagc caaaatcgag ataaaataaa
     >.....................................gadR.....................................>

561  agagttgtat tctgaggtca aagaaacggg gaatcattta ctgacggtta ccgtgaaaac gaagcttggg
     >.....................................gadR.....................................>

                                                                  EarI
                                                                  ------
631  aatataagtc agacagaagt taaagaaatt gaagcttatc tttgcaatat tgaagagtgg ggatattttg
     >.....................................gadR.....................................>

701  aacttacttt attttatttt gtatctgatt atctcaatgt caatcaatta gaattgctgc tttttaattt
     >.....................................gadR.....................................>

771  tgataaaaga tgtgaaaatt actgtagagt cttaaaatat agaaggagac tattgcaaat agcctataaa
     >.....................................gadR.....................................>

841  agtgttgcga tatacgcggc taaaggagaa agaaaaaaag ccgaaaatat tttagaaatg actaaaaaat
     >.....................................gadR.....................................>

911  atcgaactgt gggagtcgat ttatattcag aagtattaag acatcttgct agagctatca ttatttttaa
     >.....................................gadR.....................................>

981  ttttgaaaat gcagagattg gggaagaaaa aataaattat gctcttgaga ttttggaaga atttggagga
     >.....................................gadR.....................................>

1051 aagaagataa aagaattcta tcagaataaa atggaaaagt atttgaaaag gtcaatttag tctcttttga
     >.....................................gadR.....................................>>

                                                                        >>...IR1....>

1121 gctgttgctt taaagcaaca gctcaaaaga gattttcttt attctagagc atatactaga gggtgaagat
     >................IR1..............>>

                                                      -10 >>..>>

                                                                  Start >
                                                                    IR2 >>..>

1191 aggttgtctg aagcattata acttgtcttt taaaaaattc aatcataaat ataaggaggt atgatgaaaa
     >............IR2...........>>

                                                           >>.SD.>>
                                                               ssUsp45 >>....>

1261 agaaaatcat ttcagcgatt ttgatgtcaa cggttatttt aagcgcagca gctccattat ctggagttta
     >.....................................ssUsp45.....................................>

                                          NdeI
                                          --+---
1331 tgcagcagaa gaagttagtg agtactgtag tcatatgatt ggttctggac acttacaatc acttcagcgt
     >.>> ssUsp45
        >>.....................................CSF1.....................................>

1401 cttattgata gtcaaatgga aacctcttgt caaattacat ttgaatttgt agaccaagaa caacttaaag
     >.....................................CSF1.....................................>

1471 atccagtatg ttatcttaag aaagcttttc ttttagtcca agacataatg gaagatacaa tgagattcag
     >.....................................CSF1.....................................>

1541 agacaatact cctaacgcta tcgccattgt ccaattacaa gaactttctt taagattgaa aagttgcttc
     >.....................................CSF1.....................................>

1611 actaaagatt atgaggaaca tgataaagct tgtgttcgaa cattttatga aactcctttg caattattgg
     >.....................................CSF1.....................................>

1681 aaaaagtgaa aaatgttttc aatgagacga agaatttgtt ggataaagat tggaatatat tcagtaagaa
```

```
      >.................................CSF1.................................>

MluI
                                                                        -+-
---
 1751 ttgtaataac tcatttgccg aatgttcaag ccagggtcat gaacgtcaat cagaaggctc ttaataaacg
      >.................................CSF1.................................>>

 1821 cgtattaata aggaggctaa ctaatgaaaa aaaagattat ctcagctatt ttaatgtcta cagtgatact
        >>.....RBS atpG......>>
                               >>.....................ssUSP45.....................>

 1891 ttctgctgca gccccgttgt caggtgttta cgctgctggt tccattacga ccttgccggc tttaccagag
      >..............ssUSP45.............>>
                                          >>.............FGF2-153..............>

 1961 gacggaggtt caggagcctt tccaccaggg cactttaaag atcccaaacg tctatattgt aaaaatggag
      >.................................FGF2-153.............................>

 2031 gcttctttct gcgaattcat cctgatggac gtgtagatgg tgtgcgtgag aaaagtgatc ctcatatcaa
      >.................................FGF2-153.............................>

 2101 actccaactt caggcagaag aaagaggcgt cgtaagtata aaaggagttt gcgcgaatcg ttacttagct
      >.................................FGF2-153.............................>

 2171 atgaaagaag acggtcgatt attggcctct aagtgtgtta ctgatgaatg ttttttttt gaacggcttg
      >.................................FGF2-153.............................>

 2241 aatctaataa ttataacact tatagaagca gaaaatatac atcatggtac gttgcactta aaaggacagg
      >.................................FGF2-153.............................>

 2311 tcaatataaa ttagggtcta agacaggacc tggtcaaaaa gcaattttgt tcttaccaat gtcggctaaa
      >.................................FGF2-153.............................>

                MluI
              --+----
 2381 agttaataaa cgcgtgaaat ttaggaggta gtccaaatga agaaaaagat tattagtgca attttaatgt
      >......>> FGF2-153
                      >>.....RBS lacA.....>>
                                            >>.............ssUsp45.............>

 2451 caacggtcat cttaagcgct gctgccccat tgtcaggtgt ttatgcagca cataagtgtg atataacatt
      >.....................ssUsp45.....................>>
                                                        >>.........IL4.........>

 2521 acaagaaatt atcaaaaccc ttaatagttt aactgaacag aagactttgt gtaccgaatt aactgtaact
      >.................................IL4..................................>

 2591 gatatttttg ctgcttctaa aaatacaact gaaaaagaga cattttgtcg agctgccaca gtgttaagac
      >.................................IL4..................................>

 2661 aattttacag tcatcatgaa aaagacacaa gatgtcttgg tgctacggca caacaatttc atagacacaa
      >.................................IL4..................................>

 2731 acaacttatc cgttttctta aacgtttgga tcgtaatctg tggggcttgg caggattgaa cagttgtcct
      >.................................IL4..................................>

 2801 gttaaagaag ccaatcaatc tactcttgaa aatttcttag agagattgaa aacaattatg cgagaaaaat
      >.................................IL4..................................>

                                SphI
                               -----+
 2871 attctaagtg ttcatcttaa taagcatgc
```

>.....IL4.....>>

Fig. 9a

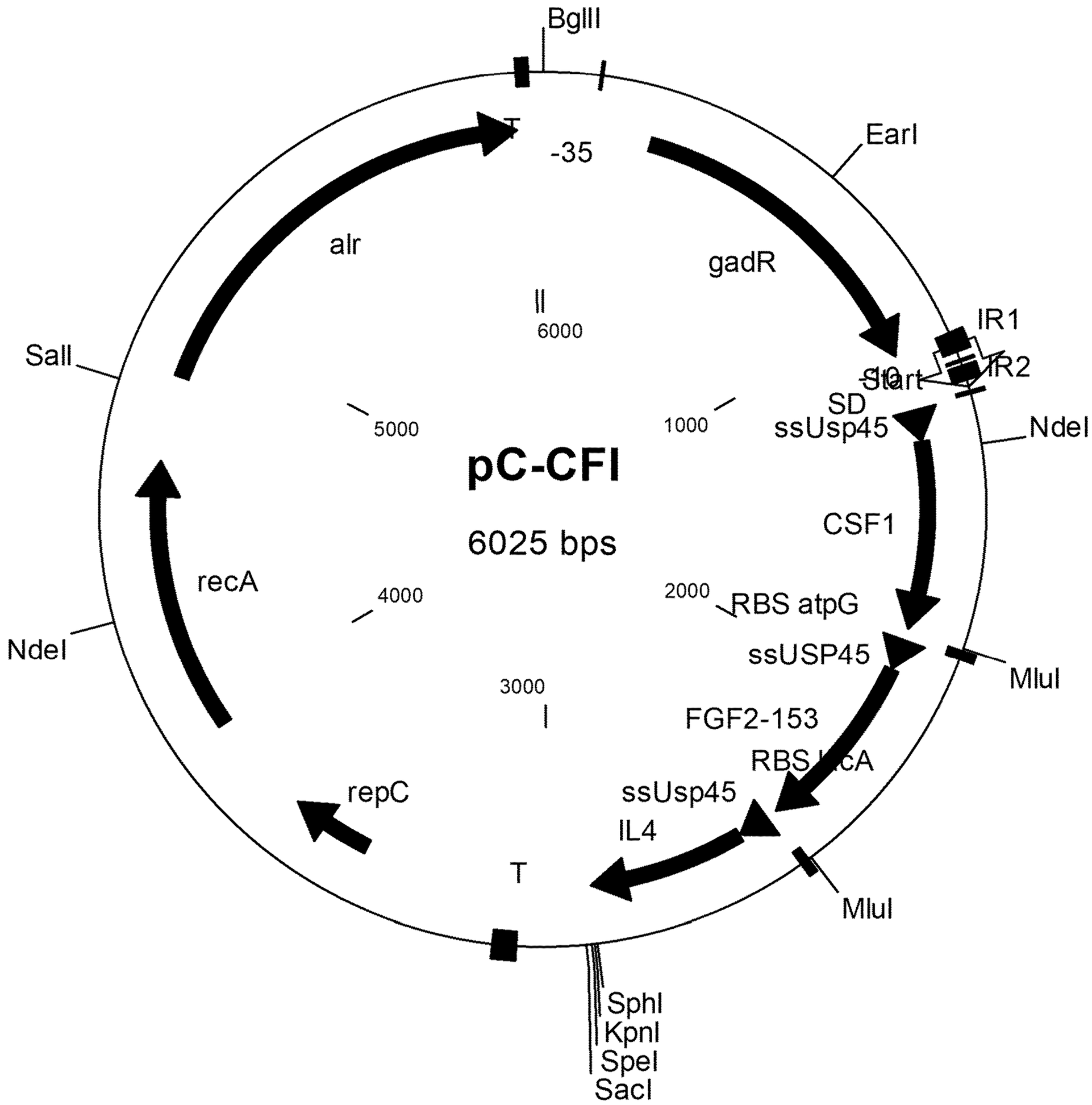


Fig. 9b

```
     BglII
    -+----
1   agatctgagc gttgtataag cttttatgtc tttctatatc aacttttaat agaaatataa agtaatataa

71  atgtttttat aataaattat gtgagatata ttttttttgtc cgtactggta tagatttgac gattaagtct
                                                          >>-35>>

141 taaataagtt ataatctcaa ttgcgtaatt tcttaaatac agaaataaca actacattgg tagactgatt

211 aaaaagtgta cttgatgaac tgttataaac cttaaaaaaa taaaaataat agtttggggg atgttaaaga
                                                              >>.gadR..>

281 tgtataaaaa atatggagat tgttttaaaa agttgcgaaa ccaaaagaat ttagggttat catactttag
    >.....................................gadR.....................................>

351 taaacttgga atagaccgtt caaatatatc tagatttgaa catggaaaat gtatgatgag ttttgagcgt
    >.....................................gadR.....................................>
```

```
421  atagatttga tgttagaaga aatgcaagtt ccgttatctg agtacgaatt gattgtaaat aattttatgc
     >.................................gadR.................................>

491  cgaatttcca agaatttttt atattagaat tggaaaaagc tgaatttagc caaaatcgag ataaaataaa
     >.................................gadR.................................>

561  agagttgtat tctgaggtca aagaaacggg gaatcattta ctgacggtta ccgtgaaaac gaagcttggg
     >.................................gadR.................................>

                                                                  EarI
                                                                 ------
631  aatataagtc agacagaagt taaagaaatt gaagcttatc tttgcaatat tgaagagtgg ggatattttg
     >.................................gadR.................................>

701  aacttacttt attttatttt gtatctgatt atctcaatgt caatcaatta gaattgctgc tttttaattt
     >.................................gadR.................................>

771  tgataaaaga tgtgaaaatt actgtagagt cttaaaatat agaaggagac tattgcaaat agcctataaa
     >.................................gadR.................................>

841  agtgttgcga tatacgcggc taaaggagaa agaaaaaaag ccgaaaatat tttagaaatg actaaaaaat
     >.................................gadR.................................>

911  atcgaactgt gggagtcgat ttatattcag aagtattaag acatcttgct agagctatca ttatttttaa
     >.................................gadR.................................>

981  ttttgaaaat gcagagattg gggaagaaaa aataaattat gctcttgaga ttttggaaga atttggagga
     >.................................gadR.................................>

1051 aagaagataa aagaattcta tcagaataaa atggaaaagt atttgaaaag gtcaatttag tctcttttga
     >.............................gadR.............................>>
                                                                 >>...IR1....>

1121 gctgttgctt taaagcaaca gctcaaaaga gattttcttt attctagagc atatactaga gggtgaagat
     >................IR1..............>>
                                                    -10 >>..>>
                                                                Start >
                                                                  IR2 >>..>

1191 aggttgtctg aagcattata acttgtcttt taaaaaattc aatcataaat ataaggaggt atgatgaaaa
     >............IR2............>>
                                                              >>.SD.>>
                                                                  ssUsp45 >>....>

1261 agaaaatcat ttcagcgatt ttgatgtcaa cggttatttt aagcgcagca gctccattat ctggagttta
     >................................ssUsp45................................>

                                        NdeI
                                       --+---
1331 tgcagcagaa gaagttagtg agtactgtag tcatatgatt ggttctggac acttacaatc acttcagcgt
     >.>> ssUsp45
        >>.............................CSF1.............................>

1401 cttattgata gtcaaatgga aacctcttgt caaattacat ttgaatttgt agaccaagaa caacttaaag
     >.................................CSF1.................................>

1471 atccagtatg ttatcttaag aaagcttttc ttttagtcca agacataatg gaagatacaa tgagattcag
     >.................................CSF1.................................>

1541 agacaatact cctaacgcta tcgccattgt ccaattacaa gaactttctt taagattgaa aagttgcttc
     >.................................CSF1.................................>

1611 actaaagatt atgaggaaca tgataaagct tgtgttcgaa cattttatga aactcctttg caattattgg
     >.................................CSF1.................................>

1681 aaaaagtgaa aaatgttttc aatgagacga agaatttgtt ggataaagat tggaatatat tcagtaagaa
     >.................................CSF1.................................>
```

```
MluI
                                                                    -+-
---
 1751  ttgtaataac tcatttgccg aatgttcaag ccagggtcat gaacgtcaat cagaaggctc ttaataaacg
       >.............................CSF1.............................>>

 1821  cgtattaata aggaggctaa ctaatgaaaa aaaagattat ctcagctatt ttaatgtcta cagtgatact
         >>.....RBS atpG......>>
                               >>.....................ssUSP45.....................>

 1891  ttctgctgca gccccgttgt caggtgttta cgctgctggt tccattacga ccttgccggc tttaccagag
       >..............ssUSP45.............>>
                                           >>.............FGF2-153..............>

 1961  gacggaggtt caggagcctt tccaccaggg cactttaaag atcccaaacg tctatattgt aaaaatggag
       >.............................FGF2-153.............................>

 2031  gcttctttct gcgaattcat cctgatggac gtgtagatgg tgtgcgtgag aaaagtgatc ctcatatcaa
       >.............................FGF2-153.............................>

 2101  actccaactt caggcagaag aaagaggcgt cgtaagtata aaaggagttt gcgcgaatcg ttacttagct
       >.............................FGF2-153.............................>

 2171  atgaaagaag acggtcgatt attggcctct aagtgtgtta ctgatgaatg ttttttttt gaacggcttg
       >.............................FGF2-153.............................>

 2241  aatctaataa ttataacact tatagaagca gaaaatatac atcatggtac gttgcactta aaaggacagg
       >.............................FGF2-153.............................>

 2311  tcaatataaa ttagggtcta agacaggacc tggtcaaaaa gcaattttgt tcttaccaat gtcggctaaa
       >.............................FGF2-153.............................>

                 MluI
               --+----
 2381  agttaataaa cgcgtgaaat ttaggaggta gtccaaatga agaaaaagat tattagtgca attttaatgt
       >......>> FGF2-153
                      >>.....RBS lacA.....>>
                                           >>.............ssUsp45.............>

 2451  caacggtcat cttaagcgct gctgccccat tgtcaggtgt ttatgcagca cataagtgtg atataacatt
       >.....................ssUsp45.....................>>
                                                  >>.........IL4.........>

 2521  acaagaaatt atcaaaaccc ttaatagttt aactgaacag aagactttgt gtaccgaatt aactgtaact
       >.................................IL4.................................>

 2591  gatatttttg ctgcttctaa aaatacaact gaaaaagaga cattttgtcg agctgccaca gtgttaagac
       >.................................IL4.................................>

 2661  aattttacag tcatcatgaa aaagacacaa gatgtcttgg tgctacggca caacaatttc atagacacaa
       >.................................IL4.................................>

 2731  acaacttatc cgttttctta aacgtttgga tcgtaatctg tggggcttgg caggattgaa cagttgtcct
       >.................................IL4.................................>

 2801  gttaaagaag ccaatcaatc tactcttgaa aatttcttag agagattgaa aacaattatg cgagaaaaat
       >.................................IL4.................................>

                                    KpnI
                                  ------+
                          SphI          SpeI         SacI
                        -----+       -+-----      ------+
 2871  attctaagtg ttcatcttaa taagcatgcg gtaccactag ttctagagag ctcaagcttt ctttgaacca
       >.........IL4.........>>

 2941  aaattagaaa accaaggctt gaaacgttca attgaaatgg caattaaaca aattacagca cgtgttgctt

 3011  tgattgatag ccaaaaagca gcagttgata aagcaattac tgatattgct gaaaaattgt aatttataaa
                                                                    >>...T.....>
```

```
3081  taaaaatcac cttttagagg tggtttttt atttataaat tattcgtttg atttcgcttt cgatagaaca
      >.....................T.....................>>

3151  atcaaatcgt ttctgagacg ttttagcgtt tatttcgttt agttatcggc ataatcgtta aaacaggcgt

3221  tatcgtagcg taaaagccct tgagcgtagc gtggctttgc agcgaagatg ttgtctgtta gattatgaaa

3291  gccgatgact gaatgaaata ataagcgcag cgtccttcta tttcggttgg aggaggctca agggagtttg

3361  agggaatgaa attccctcat gggtttgatt ttaaaaattg cttgcaattt tgccgagcgg tagcgctgga

3431  aaatttttga aaaaaatttg gaatttggaa aaaaatgggg ggaaaggaag cgaattttgc ttccgtacta
                                              >>..............repC.................>

3501  cgacccccca ttaagtgccg agtgccaatt tttgtgccaa aaacgctcta tcccaactgg ctcaagggtt
      >.................................repC.................................>

3571  tgaggggttt ttcaatcgcc aacgaatcgc caacgttttc gccaacgttt tttataaatc tatatttaag
      >.................................repC.................................>

3641  tagctttatt tttgttttta tgattacaaa gtgatacact aattttataa aattatttga ttggagtttt
      >..............repC..............>>

3711  ttaaatggtg atttcagaat cgaaaaaaag agttatgatt tctctgacaa aagagcaaga taaaaaatta

3781  acagatatgg cgaaacaaaa agatttttca aaatctgcgg ttgcggcgtt agctatagaa gaatatgcaa

3851  gaaaggaatc agaacaaaaa aaataagcga aagctcgcgt ttttagaagg atacgagttt tcgctacttg

3921  tttttgataa ggtaattata tcatggctat taaaaatact aaagctagaa attttggatt tttattatat
                           >>.....................recA.....................>

3991  cctgactcaa ttcctaatga ttggaaagaa aaattagaga gtttgggcgt atctatggct gtcagtcctt
      >.................................recA.................................>

4061  tacacgatat ggacgaaaaa aaagataaag atacatggaa tagtagtgat gttatacgaa atggaaagca
      >.................................recA.................................>

4131  ctataaaaaa ccacactatc acgttatata tattgcacga aatcctgtaa caatagaaag cgttaggaac
      >.................................recA.................................>


NdeI                                                                      --
+---
4201  aagattaagc gaaaattggg gaatagttca gttgctcatg ttgagatact tgattatatc aaaggttcat
      >.................................recA.................................>

4271  atgaatattt gactcatgaa tcaaaggacg ctattgctaa gaataaacat atatacgaca aaaaagatat
      >.................................recA.................................>

4341  tttgaacatt aatgattttg atattgaccg ctatataaca cttgatgaaa gccaaaaaag agaattgaag
      >.................................recA.................................>

4411  aatttacttt tagatatagt ggatgactat aatttggtaa atacaaaaga tttaatggct tttattcgcc
      >.................................recA.................................>

4481  ttaggggagc ggagtttgga attttaaata cgaatgatgt aaaagatatt gtttcaacaa actctagcgc
      >.................................recA.................................>

4551  ctttagatta tggtttgagg gcaattatca gtgtggatat agagcaagtt atgcaaaggt tcttgatgct
      >.................................recA.................................>

4621  gaaacggggg aaataaaatg acaaacaaag aaaaagagtt atttgctgaa aatgaggaat taaaaaaaga
      >........recA........>>

4691  aattaaggac ttaaaagagc gtattgaaag atacagagaa atggaagttg aattaagtac aacaatagat
                                                          SalI
```

```
                                                        -+-----
4761  ttattgagag gagggattat tgaataaata aaagcccccc tgacgaaagt cgacatggtc gatgtctaga

4831  tgcttaaact agagaaaggt ttaaaagatg aaaacttcac cacatcgtaa tacttcagct attgttgatt
                                  >>.....................alr.....................>

4901  taaaagcgat tagaaataat attgaaaaat ttaaaaagca tattaaccct aatgcagaga tttggccagc
      >.................................alr.................................>

4971  agtgaaagca gatgcttatg gtcatggctc gattgaggtt tctaaagcgg tgagcgattt ggtaggtggt
      >.................................alr.................................>

5041  ttttgtgtat caaacctaga tgaggcaatt gaattacgaa atcatctggt gactaaaccg attttagttt
      >.................................alr.................................>

5111  tatccggaat tgttccagaa gatgttgata ttgcagctgc ccttaatatt agtcttactg ccccgagttt
      >.................................alr.................................>

5181  agaatggttg aaattggttg ttcaagaaga agcagaactt tcagatttaa aaattcatat tggtgtagat
      >.................................alr.................................>

5251  tctggtatgg gtcggattgg tattcgtgat gttgaagaag ctaatcagat gattgaactt gctgataaat
      >.................................alr.................................>

5321  atgcgattaa ttttgaagga attttcactc attttgcgac tgcggatatg gctgatgaaa caaaatttaa
      >.................................alr.................................>

5391  aaatcaacag gcaagattta acaaaattat ggccggatta tcacgtcaac caaaatttat acactcaact
      >.................................alr.................................>

5461  aatacggccg ctgctttatg gcataaggaa caagttcaag ctattgaacg tttagggatt tcaatgtatg
      >.................................alr.................................>

5531  gcttgaatcc aagtggtaaa actttggaac ttccttttga aattgaaccc gctctctctt tagtttctga
      >.................................alr.................................>

5601  attgactcat ataaaaaaaa tagctgcagg tgaaacggtt ggttatggtg caacttatga gacgagtgaa
      >.................................alr.................................>

5671  gaaacttgga ttggaactgt tccaattggt tacgctgacg ggtggacccg tcaaatgcaa ggtttcaaag
      >.................................alr.................................>

5741  tgcttgttga tggaaagttt tgtgagattg ttggtcgagt ttgtatggat caaatgatga taaaacttga
      >.................................alr.................................>

5811  taagtcttac cctttgggaa cgaaggtcac tttgattggt cgagataagg ctaatgaaat cacgacaaca
      >.................................alr.................................>

5881  gacgttgctg attggcgtgg aacgattaat tatgaagtgc tttgcttact ttctgataga atcaaaagaa
      >.................................alr.................................>

5951  tctataaata aaattaaaaa aactgtattt ttacagtttt tttgttttct gttaaaagca gatgataacc
      >...alr...>>
                     >>.............T.............>>

6021  tcact
```

Fig. 10a

```
NFGRLHCTTA VIRNINDQVL FVDKRQPVFE DMTDIDQSAS EPQTRLIIYM YKDSEVRGLA
VTLSVKDSKM STLSCKNKII SFEEMDPPEN IDDIQSDLIF FQKRVPGHNK MEFESSLYEG
HFLACQKEDD AFKLILKKKD ENGDKSVMFT LTNLHQS
```

Fig. 10b

ANFGRLHCTT AVIRNINDQV LFVDKRQPVF EDMTDIDQSA SEPQTRLIIY MYKDSEVRGL
AVTLSVKDSK MSTLSCKNKI ISFEEMDPPE NIDDIQSDLI FFQKRVPGHN KMEFESSLYE
GHFLACQKED DAFKLILKKK DENGDKSVMF TLTNLHQS

Fig. 10c

MKKKIISAIL MSTVILSAAA PLSGVYAANF GRLHCTTAVI RNINDQVLFV DKRQPVFEDM
TDIDQSASEP QTRLIIYMYK DSEVRGLAVT LSVKDSKMST LSCKNKIISF EEMDPPENID
DIQSDLIFFQ KRVPGHNKME FESSLYEGHF LACQKEDDAF KLILKKKDEN GDKSVMFTLT
NLHQS

Fig. 11a

SAPTRSPITV TRPWKHVEAI KEALNLLDDM PVTLNEEVEV VSNEFSFKKL TCVQTRLKIF
EQGLRGNFTK LKGALNMTAS YYQTYCPPTP ETDCETQVTT YADFIDSLKT FLTDIPFECK
KPGQK

Fig. 11b

AAPTRSPITV TRPWKHVEAI KEALNLLDDM PVTLNEEVEV VSNEFSFKKL TCVQTRLKIF
EQGLRGNFTK LKGALNMTAS YYQTYCPPTP ETDCETQVTT YADFIDSLKT FLTDIPFECK
KPGQK

Fig. 11c

MKKKIISAIL MSTVILSAAA PLSGVYAAAP TRSPITVTRP WKHVEAIKEA LNLLDDMPVT
LNEEVEVVSN EFSFKKLTCV QTRLKIFEQG LRGNFTKLKG ALNMTASYYQ TYCPPTPETD
CETQVTTYAD FIDSLKTFLT DIPFECKKPG QK

Fig. 12a

```
     BglII
    -+----
  1 agatctgagc gttgtataag cttttatgtc tttctatatc aacttttaat agaaatataa agtaatataa

 71 atgtttttat aataaattat gtgagatata ttttttgtc cgtactggta tagatttgac gattaagtct
                                                          >>-35>>

141 taaataagtt ataatctcaa ttgcgtaatt tcttaaatac agaaataaca actacattgg tagactgatt

211 aaaaagtgta cttgatgaac tgttataaac cttaaaaaaa taaaaataat agtttggggg atgttaaaga
```

```
                                                                >>.gadR..>

281  tgtataaaaa atatggagat tgttttaaaa agttgcgaaa ccaaaagaat ttagggttat catactttag
     >.....................................gadR.....................................>

351  taaacttgga atagaccgtt caaatatatc tagatttgaa catggaaaat gtatgatgag ttttgagcgt
     >.....................................gadR.....................................>

421  atagatttga tgttagaaga aatgcaagtt ccgttatctg agtacgaatt gattgtaaat aattttatgc
     >.....................................gadR.....................................>

491  cgaatttcca agaatttttt atattagaat tggaaaaagc tgaatttagc caaaatcgag ataaaataaa
     >.....................................gadR.....................................>

561  agagttgtat tctgaggtca aagaaacggg gaatcattta ctgacggtta ccgtgaaaac gaagcttggg
     >.....................................gadR.....................................>

                                                          EarI
                                                         ------
631  aatataagtc agacagaagt taaagaaatt gaagcttatc tttgcaatat tgaagagtgg ggatattttg
     >.....................................gadR.....................................>

701  aacttacttt attttatttt gtatctgatt atctcaatgt caatcaatta gaattgctgc tttttaattt
     >.....................................gadR.....................................>

771  tgataaaaga tgtgaaaatt actgtagagt cttaaaatat agaaggagac tattgcaaat agcctataaa
     >.....................................gadR.....................................>

841  agtgttgcga tatacgcggc taaaggagaa agaaaaaaag ccgaaaatat tttagaaatg actaaaaaat
     >.....................................gadR.....................................>

911  atcgaactgt gggagtcgat ttatattcag aagtattaag acatcttgct agagctatca ttatttttaa
     >.....................................gadR.....................................>

981  ttttgaaaat gcagagattg gggaagaaaa ataaattat gctcttgaga ttttggaaga atttggagga
     >.....................................gadR.....................................>

1051 aagaagataa aagaattcta tcagaataaa atggaaaagt atttgaaaag gtcaatttag tctcttttga
     >.....................................gadR.....................................>>
                                                                    >>...IR1....>

1121 gctgttgctt taaagcaaca gctcaaaaga gattttcttt attctagagc atatactaga gggtgaagat
     >.................IR1...............>>
                                                      -10 >>..>>
                                                                 Start >
                                                                   IR2 >>..>

1191 aggttgtctg aagcattata acttgtcttt taaaaaattc aatcataaat ataaggaggt atgatgaaga
     >.............IR2............>>
                                                             >>RBS.>>
                                                                 ssUsp45 >>....>

1261 aaaagattat tagtgcaatt ttaatgtcaa cggtcatctt aagcgctgct gccccattgt caggtgttta
     >.....................................ssUsp45.....................................>

1331 tgcagcaaat tttggtagat tacattgtac aacagcagta atacgtaata ttaatgatca agttttattt
     >.>> ssUsp45
        >>.............................mIL18.....................................>

1401 gttgataaaa gacaacctgt ttttgaagat atgactgata ttgatcaatc tgcatctgaa ccacaaacta
     >.....................................mIL18.....................................>

1471 gattaataat ttatatgtat aaagatagtg aagttagagg attagctgta acattaagtg ttaaagatag
     >.....................................mIL18.....................................>

1541 taaaatgagt acattatcat gtaaaaacaa aataatttca tttgaagaaa tggacccacc tgaaaatatt
     >.....................................mIL18.....................................>

1611 gatgatattc aatcagattt aattttcttt caaaaacgtg ttccaggtca taacaaaatg gaatttgaat
     >.....................................mIL18.....................................>
```

```
1681  ctagtttata tgaaggtcac tttttagctt gtcaaaaaga agatgatgct tttaaattaa ttttaaagaa
      >.................................mIL18.................................>

1751  aaaagatgaa aatggagata aatcagttat gtttacatta actaatttac atcaatcata ataaacgcgt
      >.................................mIL18.............................>>
                                                                      RBS atpG >

1821  attaataagg aggctaacta atgaaaaaga aaatcatttc agcgattttg atgtcaacgg ttattttaag
      >......RBS atpG....>>
                           >>.........................ssUsp45.....................>

1891  cgcagcagct ccattatctg gagtttatgc agccccaaca cgtagtccaa taacagtaac tagaccttgg
      >.............ssUsp45...........>>
                                      >>..............mGM-CSF.................>

1961  aaacatgttg aagcaattaa agaagcatta aatttattag atgatatgcc agtaacatta aatgaagaag
      >.................................mGM-CSF.................................>

2031  ttgaagtagt aagtaatgaa tttagtttta aaaaattaac atgtgttcaa actagattaa aaatttttga
      >.................................mGM-CSF.................................>

2101  acaaggatta agaggtaatt ttactaaatt aaaaggtgct ttaaatatga cagctagtta ttatcaaaca
      >.................................mGM-CSF.................................>

2171  tattgtccac caacacctga aactgattgt gaaacacaag taactacata tgctgatttt attgattcat
      >.................................mGM-CSF.................................>

                                                                        SphI
                                                                       -----+
2241  taaaaacatt tttaactgat attccttttg aatgtaaaaa accaggacaa aaataataat aaggcatgc
      >.........................mGM-CSF.....................>>
```

Fig. 12b

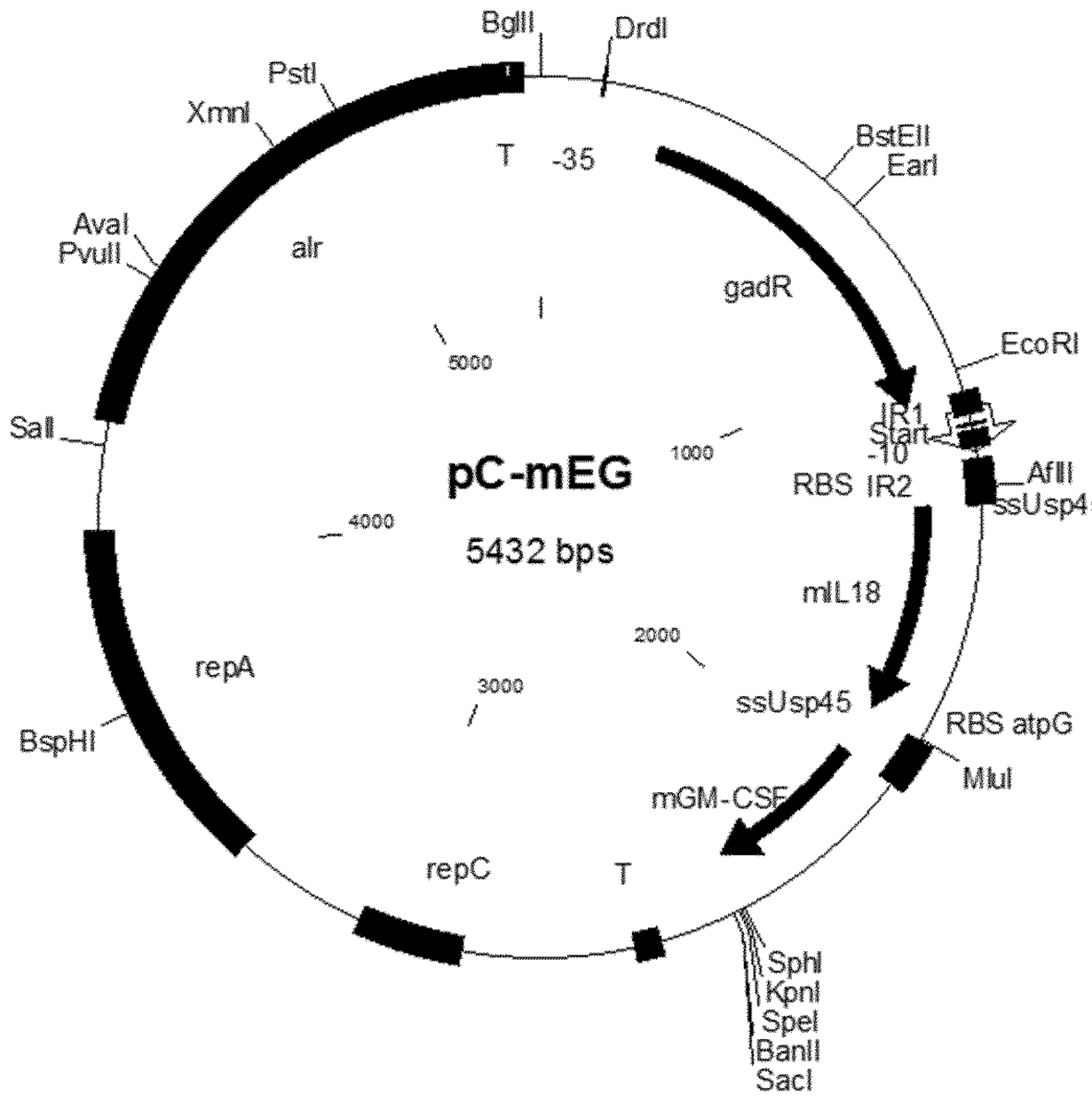


Fig. 12c

```
   1  gatctgagcg ttgtataagc ttttatgtct ttctatatca acttttaata gaaatataaa

  61  gtaatataaa tgtttttata ataaattatg tgagatatat ttttttgtcc gtactggtat

 121  agatttgacg attaagtctt aaataagtta taatctcaat tgcgtaattt cttaaataca
      -35 >>..>>

 181  gaaataacaa ctacattggt agactgatta aaaagtgtac ttgatgaact gttataaacc

 241  ttaaaaaaat aaaaataata gtttgggga tgttaaagat gtataaaaaa tatggagatt
                                    >>.............gadR.............>

 301  gttttaaaaa gttgcgaaac caaaagaatt tagggttatc atactttagt aaacttggaa
      >.........................gadR.............................>

 361  tagaccgttc aaatatatct agatttgaac atggaaaatg tatgatgagt tttgagcgta
      >.........................gadR.............................>

 421  tagatttgat gttagaagaa atgcaagttc cgttatctga gtacgaattg attgtaaata
      >.........................gadR.............................>

 481  attttatgcc gaatttccaa gaatttttta tattagaatt ggaaaaagct gaatttagcc
      >.........................gadR.............................>

 541  aaaatcgaga taaaataaaa gagttgtatt ctgaggtcaa agaaacgggg aatcatttac
      >.........................gadR.............................>

 601  tgacggttac cgtgaaaacg aagcttggga atataagtca gacagaagtt aaagaaattg
      >.........................gadR.............................>

 661  aagcttatct ttgcaatatt gaagagtggg gatattttga acttacttta ttttattttg
      >.........................gadR.............................>

 721  tatctgatta tctcaatgtc aatcaattag aattgctgct ttttaatttt gataaaagat
      >.........................gadR.............................>

 781  gtgaaaatta ctgtagagtc ttaaaatata gaaggagact attgcaaata gcctataaaa
      >.........................gadR.............................>

 841  gtgttgcgat atacgcggct aaaggagaaa gaaaaaaagc cgaaaatatt ttagaaatga
      >.........................gadR.............................>

 901  ctaaaaaata tcgaactgtg ggagtcgatt tatattcaga agtattaaga catcttgcta
      >.........................gadR.............................>

 961  gagctatcat tatttttaat tttgaaaatg cagagattgg ggaagaaaaa ataaattatg
      >.........................gadR.............................>

1021  ctcttgagat tttggaagaa tttggaggaa agaagataaa agaattctat cagaataaaa
      >.........................gadR.............................>

1081  tggaaaagta tttgaaaagg tcaatttagt ctcttttgag ctgttgcttt aaagcaacag
      >............gadR............>>
                                   >>.............IR1..............>

1141  ctcaaaagag attttcttta ttctagagca tatactagag ggtgaagata ggttgtctga
      >....IR1....>>
                                   -10 >>..>>
                                                 Start >
                                                       >>.....IR2......>
```

```
1201  agcattataa cttgtctttt aaaaaattca atcataaata taaggaggta tgatgaagaa
      >.......IR2......>>
                                                  >>RBS.>>
                                                      ssUsp45 >>.....>

1261  aaagattatt agtgcaattt taatgtcaac ggtcatctta agcgctgctg ccccattgtc
      >.............................ssUsp45.............................>

1321  aggtgtttat gcagcaaatt ttggtagatt acattgtaca acagcagtaa tacgtaatat
      >..ssUsp45..>>
                    >>.......................mIL18.......................>

1381  taatgatcaa gttttatttg ttgataaaag acaacctgtt tttgaagata tgactgatat
      >.............................mIL18.............................>

1441  tgatcaatct gcatctgaac cacaaactag attaataatt tatatgtata aagatagtga
      >.............................mIL18.............................>

1501  agttagagga ttagctgtaa cattaagtgt taaagatagt aaaatgagta cattatcatg
      >.............................mIL18.............................>

1561  taaaaacaaa ataatttcat ttgaagaaat ggacccacct gaaaatattg atgatattca
      >.............................mIL18.............................>

1621  atcagattta attttctttc aaaaacgtgt tccaggtcat aacaaaatgg aatttgaatc
      >.............................mIL18.............................>

1681  tagtttatat gaaggtcact ttttagcttg tcaaaaagaa gatgatgctt ttaaattaat
      >.............................mIL18.............................>

1741  tttaaagaaa aaagatgaaa atggagataa atcagttatg tttacattaa ctaatttaca
      >.............................mIL18.............................>

1801  tcaatcataa taaacgcgta ttaataagga ggctaactaa tgaaaaagaa aatcatttca
      >....>> mIL18
                          >>.....RBS atpG......>>
                                                 >>......ssUsp45.......>

1861  gcgattttga tgtcaacggt tattttaagc gcagcagctc cattatctgg agtttatgca
      >.............................ssUsp45.............................>>

1921  gccccaacac gtagtccaat aacagtaact agaccttgga aacatgttga agcaattaaa
      >>.............................mGM-CSF.............................>

1981  gaagcattaa atttattaga tgatatgcca gtaacattaa atgaagaagt tgaagtagta
      >.............................mGM-CSF.............................>

2041  agtaatgaat ttagttttaa aaaattaaca tgtgttcaaa ctagattaaa aatttttgaa
      >.............................mGM-CSF.............................>

2101  caaggattaa gaggtaattt tactaaatta aaaggtgctt taaatatgac agctagttat
      >.............................mGM-CSF.............................>

2161  tatcaaacat attgtccacc aacacctgaa actgattgtg aaacacaagt aactacatat
      >.............................mGM-CSF.............................>

2221  gctgatttta ttgattcatt aaaaacattt ttaactgata ttccttttga atgtaaaaaa
      >.............................mGM-CSF.............................>

2281  ccaggacaaa aataataagg catgcggtac cactagttct agagagctca agctttcttt
      >..mGM-CSF.>>

2341  gaaccaaaat tagaaaacca aggcttgaaa cgttcaattg aaatggcaat taaacaaatt
```

```
2401  acagcacgtg ttgctttgat tgatagccaa aaagcagcag ttgataaagc aattactgat

2461  attgctgaaa aattgtaatt tataaataaa aatcaccttt tagaggtggt ttttttattt
                    >>.....................T.....................>

2521  ataaattatt cgtttgattt cgctttcgat agaacaatca aatcgtttct gagacgtttt
      >..T..>>

2581  agcgtttatt tcgtttagtt atcggcataa tcgttaaaac aggcgttatc gtagcgtaaa

2641  agcccttgag cgtagcgtgg ctttgcagcg aagatgttgt ctgttagatt atgaaagccg

2701  atgactgaat gaaataataa gcgcagcgtc cttctatttc ggttggagga ggctcaaggg

2761  agtttgaggg aatgaaattc cctcatgggt ttgattttaa aaattgcttg caattttgcc

2821  gagcggtagc gctggaaaat ttttgaaaaa aatttggaat ttggaaaaaa atgggggggaa
                                                        >>.repC..>

2881  aggaagcgaa ttttgcttcc gtactacgac cccccattaa gtgccgagtg ccaatttttg
      >.............................repC.............................>

2941  tgccaaaaac gctctatccc aactggctca agggtttgag gggtttttca atcgccaacg
      >.............................repC.............................>

3001  aatcgccaac gttttcgcca acgtttttta taaatctata tttaagtagc tttatttttg
      >.............................repC.............................>

3061  tttttatgat tacaaagtga tacactaatt ttataaaatt atttgattgg agtttttttaa
      >.......repC.......>>

3121  atggtgattt cagaatcgaa aaaaagagtt atgatttctc tgacaaaaga gcaagataaa

3181  aaattaacag atatggcgaa acaaaaagat ttttcaaaat ctgcggttgc ggcgttagct

3241  atagaagaat atgcaagaaa ggaatcagaa caaaaaaaat aagcgaaagc tcgcgttttt

3301  agaaggatac gagttttcgc tacttgtttt tgataaggta attatatcat ggctattaaa
                                                        >>..repA....>

3361  aatactaaag ctagaaattt tggattttta ttatatcctg actcaattcc taatgattgg
      >.............................repA.............................>

3421  aaagaaaaat tagagagttt gggcgtatct atggctgtca gtcctttaca cgatatggac
      >.............................repA.............................>

3481  gaaaaaaaag ataaagatac atggaatagt agtgatgtta tacgaaatgg aaagcactat
      >.............................repA.............................>

3541  aaaaaaccac actatcacgt tatatatatt gcacgaaatc ctgtaacaat agaaagcgtt
      >.............................repA.............................>

3601  aggaacaaga ttaagcgaaa attggggaat agttcagttg ctcatgttga gatacttgat
      >.............................repA.............................>

3661  tatatcaaag gttcatatga atatttgact catgaatcaa aggacgctat tgctaagaat
      >.............................repA.............................>

3721  aaacatatat acgacaaaaa agatattttg aacattaatg attttgatat tgaccgctat
      >.............................repA.............................>

3781  ataacacttg atgaaagcca aaaaagagaa ttgaagaatt tacttttaga tatagtggat
```

```
     >.............................repA.............................>

3841 gactataatt tggtaaatac aaaagattta atggctttta ttcgccttag gggagcggag
     >.............................repA.............................>

3901 tttggaattt taaatacgaa tgatgtaaaa gatattgttt caacaaactc tagcgccttt
     >.............................repA.............................>

3961 agattatggt ttgagggcaa ttatcagtgt ggatatagag caagttatgc aaaggttctt
     >.............................repA.............................>

4021 gatgctgaaa cgggggaaat aaaatgacaa acaaagaaaa agagttattt gctgaaaatg
     >...........repA...........>>

4081 aggaattaaa aaaagaaatt aaggacttaa aagagcgtat tgaaagatac agagaaatgg

4141 aagttgaatt aagtacaaca atagatttat tgagaggagg gattattgaa taaataaaag

4201 ccccccctgac gaaagtcgac atggtcgatg tctagatgct taaactagag aaaggtttaa

4261 aagatgaaaa cttcaccaca tcgtaatact tcagctattg ttgatttaaa agcgattaga
        >>.............................alr.............................>

4321 aataatattg aaaaatttaa aaagcatatt aaccctaatg cagagatttg gccagcagtg
     >.............................alr.............................>

4381 aaagcagatg cttatggtca tggctcgatt gaggtttcta aagcggtgag cgatttggta
     >.............................alr.............................>

4441 ggtggttttt gtgtatcaaa cctagatgag gcaattgaat tacgaaatca tctggtgact
     >.............................alr.............................>

4501 aaaccgattt tagttttatc cggaattgtt ccagaagatg ttgatattgc agctgccctt
     >.............................alr.............................>

4561 aatattagtc ttactgcccc gagtttagaa tggttgaaat tggttgttca agaagaagca
     >.............................alr.............................>

4621 gaactttcag atttaaaaat tcatattggt gtagattctg gtatgggtcg gattggtatt
     >.............................alr.............................>

4681 cgtgatgttg aagaagctaa tcagatgatt gaacttgctg ataaatatgc gattaatttt
     >.............................alr.............................>

4741 gaaggaattt tcactcattt tgcgactgcg gatatggctg atgaaacaaa atttaaaaat
     >.............................alr.............................>

4801 caacaggcaa gatttaacaa aattatggcc ggattatcac gtcaaccaaa atttatacac
     >.............................alr.............................>

4861 tcaactaata cggccgctgc tttatggcat aaggaacaag ttcaagctat tgaacgttta
     >.............................alr.............................>

4921 gggatttcaa tgtatggctt gaatccaagt ggtaaaactt tggaacttcc ttttgaaatt
     >.............................alr.............................>

4981 gaacccgctc tctctttagt ttctgaattg actcatataa aaaaaatagc tgcaggtgaa
     >.............................alr.............................>

5041 acggttggtt atggtgcaac ttatgagacg agtgaagaaa cttggattgg aactgttcca
     >.............................alr.............................>

5101 attggttacg ctgacgggtg gacccgtcaa atgcaaggtt tcaaagtgct tgttgatgga
```

```
     >.............................alr.............................>

5161 aagttttgtg agattgttgg tcgagtttgt atggatcaaa tgatgataaa acttgataag
     >.............................alr.............................>

5221 tcttaccctt tgggaacgaa ggtcactttg attggtcgag ataaggctaa tgaaatcacg
     >.............................alr.............................>

5281 acaacagacg ttgctgattg gcgtggaacg attaattatg aagtgctttg cttactttct
     >.............................alr.............................>

5341 gatagaatca aaagaatcta taaataaaat taaaaaaact gtatttttac agttttttg
     >............alr..........>>
                              >>............T............>>

 5401  ttttctgtta aaagcagatg ataacctcac ta
```

Fig. 13a

```
MWELEKDVYV VEVDWTPDAP GETVNLTCDT PEEDDITWTS DQRHGVIGSG KTLTITVKEF
LDAGQYTCHK GGETLSHSHL LLHKKENGIW STEILKNFKN KTFLKCEAPN YSGRFTCSWL
VQRNMDLKFN IKSSSSSPDS RAVTCGMASL SAEKVTLDQR DYEKYSVSCQ EDVTCPTAEE
TLPIELALEA RQQNKYENYS TSFFIRDIIK PDPPKNLQMK PLKNSQVEVS WEYPDSWSTP
HSYFSLKFFV RIQRKKEKMK ETEEGCNQKG AFLVEKTSTE VQCKGGNVCV QAQDRYYNSS
CSKWACVPCR VR
```

Fig. 13b

```
RVIPVSGPAR CLSQSRNLLK TTDDMVKTAR EKLKHYSCTA EDIDHEDITR DQTSTLKTCL
PLELHKNESC LATRETSSTT RGSCLPPQKT SLMMTLCLGS IYEDLKMYQT EFQAINAALQ
NHNHQQIILD KGMLVAIDEL MQSLNHNGET LRQKPPVGEA DPYRVKMKLC ILLHAFSTRV
VTINRVMGYL SSA
```

Fig. 13c

```
ADMWELEKDV YVVEVDWTPD APGETVNLTC DTPEEDDITW TSDQRHGVIG SGKTLTITVK
EFLDAGQYTC HKGGETLSHS HLLLHKKENG IWSTEILKNF KNKTFLKCEA PNYSGRFTCS
WLVQRNMDLK FNIKSSSSSP DSRAVTCGMA SLSAEKVTLD QRDYEKYSVS CQEDVTCPTA
EETLPIELAL EARQQNKYEN YSTSFFIRDI IKPDPPKNLQ MKPLKNSQVE VSWEYPDSWS
TPHSYFSLKF FVRIQRKKEK MKETEEGCNQ KGAFLVEKTS TEVQCKGGNV CVQAQDRYYN
SSCSKWACVP CRVR SGGGGS GGGGSGGGGS RVIPVSGPAR CLSQSRNLLK TTDDMVKTAR
EKLKHYSCTA EDIDHEDITR DQTSTLKTCL PLELHKNESC LATRETSSTT RGSCLPPQKT
SLMMTLCLGS IYEDLKMYQT EFQAINAALQ NHNHQQIILD KGMLVAIDEL MQSLNHNGET
LRQKPPVGEA DPYRVKMKLC ILLHAFSTRV VTINRVMGYL SSA
```

Fig. 13d:

MKKKIISAIL MSTVILSAAA PLSGVYAADM WELEKDVYVV EVDWTPDAPG ETVNLTCDTP
EEDDITWTSD QRHGVIGSGK TLTITVKEFL DAGQYTCHKG GETLSHSHLL LHKKENGIWS
TEILKNFKNK TFLKCEAPNY SGRFTCSWLV QRNMDLKFNI KSSSSSPDSR AVTCGMASLS
AEKVTLDQRD YEKYSVSCQE DVTCPTAEET LPIELALEAR QQNKYENYST SFFIRDIIKP
DPPKNLQMKP LKNSQVEVSW EYPDSWSTPH SYFSLKFFVR IQRKKEKMKE TEEGCNQKGA
FLVEKTSTEV QCKGGNVCVQ AQDRYYNSSC SKWACVPCRV RSGGGGSGGG GSGGGGSRVI
PVSGPARCLS QSRNLLKTTD DMVKTAREKL KHYSCTAEDI DHEDITRDQT STLKTCLPLE
LHKNESCLAT RETSSTTRGS CLPPQKTSLM MTLCLGSIYE DLKMYQTEFQ AINAALQNHN
HQQIILDKGM LVAIDELMQS LNHNGETLRQ KPPVGEADPY RVKMKLCILL HAFSTRVVTI
NRVMGYLSSA

Fig. 14a:

GCDLPHTYNL RNKRALKVLA QMRRLPFLSC LKDRQDFGFP LEKVDNQQIQ KAQAIPVLRD
LTQQTLNLFT SKASSAAWNT TLLDSFCNDL HQQLNDLQTC LMQQVGVQEP PLTQEDALLA
VRKYFHRITV YLREKKHSPC AWEVVRAEVW RALSSSVNLL PRLSEEKE

Fig. 14b:

AGCDLPHTYN LRNKRALKVL AQMRRLPFLS CLKDRQDFGF PLEKVDNQQI QKAQAIPVLR
DLTQQTLNLF TSKASSAAWN TTLLDSFCND LHQQLNDLQT CLMQQVGVQE PPLTQEDALL
AVRKYFHRIT VYLREKKHSP CAWEVVRAEV WRALSSSVNL LPRLSEEKE

Fig. 14c:

MKKKIISAIL MSTVILSAAA PLSGVYAAGC DLPHTYNLRN KRALKVLAQM RRLPFLSCLK
DRQDFGFPLE KVDNQQIQKA QAIPVLRDLT QQTLNLFTSK ASSAAWNTTL LDSFCNDLHQ
QLNDLQTCLM QQVGVQEPPL TQEDALLAVR KYFHRITVYL REKKHSPCAW EVVRAEVWRA
LSSSVNLLPR LSEEKE

Fig. 15a:

```
      BglII
     -+----
   1 agatctgagc gttgtataag cttttatgtc tttctatatc aacttttaat agaaatataa

  61 agtaatataa atgtttttat aataaattat gtgagatata ttttttttgtc cgtactggta

 121 tagatttgac gattaagtct taaataagtt ataatctcaa ttgcgtaatt tcttaaatac
      -35 >>...>>

 181 agaaataaca actacattgg tagactgatt aaaaagtgta cttgatgaac tgttataaac
```

```
241  cttaaaaaaa taaaaataat agtttggggg atgttaaaga tgtataaaaa atatggagat
                                    >>............gadR.............>

301  tgttttaaaa agttgcgaaa ccaaaagaat ttagggttat catactttag taaacttgga
     >.............................gadR.............................>

361  atagaccgtt caaatatatc tagatttgaa catggaaaat gtatgatgag ttttgagcgt
     >.............................gadR.............................>

421  atagatttga tgttagaaga aatgcaagtt ccgttatctg agtacgaatt gattgtaaat
     >.............................gadR.............................>

481  aattttatgc cgaatttcca agaatttttt atattagaat tggaaaaagc tgaatttagc
     >.............................gadR.............................>

541  caaaatcgag ataaaataaa agagttgtat tctgaggtca aagaaacggg gaatcattta
     >.............................gadR.............................>

601  ctgacggtta ccgtgaaaac gaagcttggg aatataagtc agacagaagt taaagaaatt
     >.............................gadR.............................>

661  gaagcttatc tttgcaatat tgaagagtgg ggatattttg aacttacttt attttatttt
     >.............................gadR.............................>

721  gtatctgatt atctcaatgt caatcaatta gaattgctgc tttttaattt tgataaaaga
     >.............................gadR.............................>

781  tgtgaaaatt actgtagagt cttaaaatat agaaggagac tattgcaaat agcctataaa
     >.............................gadR.............................>

841  agtgttgcga tatacgcggc taaaggagaa agaaaaaaag ccgaaaatat tttagaaatg
     >.............................gadR.............................>

901  actaaaaaat atcgaactgt gggagtcgat ttatattcag aagtattaag acatcttgct
     >.............................gadR.............................>

961  agagctatca ttatttttaa ttttgaaaat gcagagattg gggaagaaaa aataaattat
     >.............................gadR.............................>

1021 gctcttgaga ttttggaaga atttggagga aagaagataa aagaattcta tcagaataaa
     >.............................gadR.............................>

1081 atggaaaagt atttgaaaag gtcaatttag tctcttttga gctgttgctt taaagcaaca
     >............gadR.............>>
                                    >>............IR1..............>

1141 gctcaaaaga gattttcttt attctagagc atatactaga gggtgaagat aggttgtctg
     >.....IR1....>>
                                         -10 >>..>>
                                                >>.....IR2.....>
                                              Start >

1201 aagcattata acttgtcttt taaaaaattc aatcataaat ataaggaggt atgatgaaga
     >.......IR2.......>>
                                                   >>.SD.>>
                                                       ssUSP45 >>....>

1261 aaaagattat tagtgcaatt ttaatgtcaa cggtcatctt aagcgctgct gccccattgt
     >..............................ssUSP45..............................>

1321 caggtgttta tgcagccgat atgtgggaat tagaaaaaga tgtttatgtt gtagaagttg
     >..ssUSP45...>>
```

```
                    >>.....................mIL12.....................>

1381  attggacacc agatgctcct ggtgaaacag ttaatttaac atgtgatact ccagaagaag
      >.............................mIL12.............................>

1441  atgatattac atggacatct gatcaacgac atggagttat tggtagtgga aaaacattaa
      >.............................mIL12.............................>

1501  caattacagt taaagaattt ttagatgctg gacaatatac ttgtcataaa ggaggtgaaa
      >.............................mIL12.............................>

1561  cattatctca ttcacattta ttattacata aaaaagaaaa tggtatttgg tcaactgaaa
      >.............................mIL12.............................>

1621  tcttaaaaaa ttttaaaaat aagacatttt taaaatgtga agctcctaat tattctggta
      >.............................mIL12.............................>

1681  gatttacttg ttcatggtta gttcaaagaa atatggattt aaaatttaat attaaatcaa
      >.............................mIL12.............................>

1741  gttcaagtag tcctgatagt agagctgtaa catgtggaat ggcaagttta tctgctgaaa
      >.............................mIL12.............................>

1801  aagtaacact tgatcaacgt gattatgaaa aatattctgt tagttgtcaa gaagatgtta
      >.............................mIL12.............................>

1861  cttgtccaac agctgaagaa acattaccaa ttgaattagc attagaagct agacaacaaa
      >.............................mIL12.............................>

1921  acaaatatga aaattatagt acatctttct ttattcgtga cattattaaa cctgatccac
      >.............................mIL12.............................>

1981  ctaaaaattt acaaatgaaa cctttaaaaa atagtcaagt tgaagttagt tgggaatatc
      >.............................mIL12.............................>

2041  cagattcatg gtcaacacca cattcatatt tttcattaaa attctttgtt agaattcaac
      >.............................mIL12.............................>

2101  gtaaaaaaga aaaaatgaaa gaaactgaag aaggttgtaa ccaaaaaggt gcatttttag
      >.............................mIL12.............................>

2161  ttgaaaaaac tagtactgaa gttcaatgta aaggtggtaa tgtatgtgtt caagctcaag
      >.............................mIL12.............................>

2221  atcgatatta taattctagt tgttcaaaat gggcatgtgt tccatgtaga gttcgtagtg
      >.............................mIL12.............................>

2281  gaggaggtgg aagtggtgga ggtggttcag gtggtggagg ttcacgtgta attccagttt
      >.............................mIL12.............................>

2341  caggacctgc tcgatgttta agtcaatctc gaaatttatt aaaaactaca gatgatatgg
      >.............................mIL12.............................>

2401  ttaaaactgc tagagaaaaa ttaaaacatt atagttgtac agctgaagat attgatcatg
      >.............................mIL12.............................>

2461  aagatattac acgtgatcaa acttcaacac ttaaaacatg tttaccactt gaattacata
      >.............................mIL12.............................>

2521  aaaatgaatc ttgtttagct actagagaaa ctagtagtac aactagaggt tcttgtttgc
      >.............................mIL12.............................>

2581  ctccacaaaa aacatcatta atgatgacat tatgtttagg ttctatttat gaagatttga
```

```
     >.............................mIL12.............................>

2641 aaatgtatca aactgaattt caagcaatta atgctgcttt acaaaatcat aatcatcaac
     >.............................mIL12.............................>

2701 aaattatttt agataaaggt atgttagttg caattgatga attaatgcaa tctttaaatc
     >.............................mIL12.............................>

2761 ataatggtga aactcttaga caaaaaccac ctgttggaga agcagaccct tatcgagtga
     >.............................mIL12.............................>

2821 aaatgaaatt atgtatcttg ttgcacgctt tttcaacacg ggtagtcaca attaatcgtg
     >.............................mIL12.............................>

2881 taatgggata tttgagtagt gcataataaa cgcgtattaa taaggaggct aactaatgaa
     >........mIL12.........>>
                                          >>.....RBS atpG......>>
                                                        ssUsp45 >>..>

2941 aaagaaaatc atttcagcga ttttgatgtc aacggttatt ttaagcgcag cagctccatt
     >............................ssUsp45............................>

3001 atctggagtt tatgcagcaa attttggtag attacattgt acaacagcag taatacgtaa
     >...ssUsp45....>>
                      >>.....................mIL-18.....................>

3061 tattaatgat caagttttat ttgttgataa aagacaacct gtttttgaag atatgactga
     >............................mIL-18.............................>

3121 tattgatcaa tctgcatctg aaccacaaac tagattaata atttatatgt ataaagatag
     >............................mIL-18.............................>

3181 tgaagttaga ggattagctg taacattaag tgttaaagat agtaaaatga gtacattatc
     >............................mIL-18.............................>

3241 atgtaaaaac aaaataattt catttgaaga aatggaccca cctgaaaata ttgatgatat
     >............................mIL-18.............................>

3301 tcaatcagat ttaattttct ttcaaaaacg tgttccaggt cataacaaaa tggaatttga
     >............................mIL-18.............................>

3361 atctagttta tatgaaggtc acttttagc ttgtcaaaaa gaagatgatg cttttaaatt
     >............................mIL-18.............................>

3421 aattttaaag aaaaaagatg aaaatggaga taaatcagtt atgtttacat taactaattt
     >............................mIL-18.............................>

3481 acatcaatca taataaacgc gtgaaattta ggaggtagtc caaatgaaaa aaaagattat
     >.......>> mIL-18
                                  >>.....RBS lacA.....>>
                                                        >>....ssUSP45.....>

3541 ctcagctatt ttaatgtcta cagtgatact ttctgctgca gccccgttgt caggtgttta
     >............................ssUSP45.............................>

3601 cgctgcctgt gatttaccac atacttataa tttaagaaat aagcgtgctt taaaagtttt
     >.>> ssUSP45
          >>.........................mIFNa.............................>

3661 agcacaaatg agacgtttac catttttaag ttgtttaaaa gatagacaag attttggttt
     >............................mIFNa.............................>

3721 tccattagaa aaagtagata atcaacaaat tcaaaaagct caagcaattc ctgttttaag
```

```
      >.............................mIFNa.............................>

3781  agatttaaca caacaaacat taaatttatt tactagtaaa gctagtagtg cagcttggaa
      >.............................mIFNa.............................>

3841  tgcaacatta ttagatagtt tttgtaatga tttacatcaa caattaaatg atttacaaac
      >.............................mIFNa.............................>

3901  atgtttaatg caacaagtag gagttcaaga acctccatta actcaagaag atgcattatt
      >.............................mIFNa.............................>

3961  agctgttaga aaatattttc atagaataac cgtttattta agagaaaaga aacatagtcc
      >.............................mIFNa.............................>

4021  ttgtgcttgg gaagtagtta gagctgaagt ttggagagct ttaagttcat cagttaattt
      >.............................mIFNa.............................>

                                                                 SphI
                                                                -----+
4081  attacctaga ttaagtgaag aaaaagaata ataaccatgg gtactgcag gcatgc
      >...........mIFNa...........>>
```

Fig. 15b:

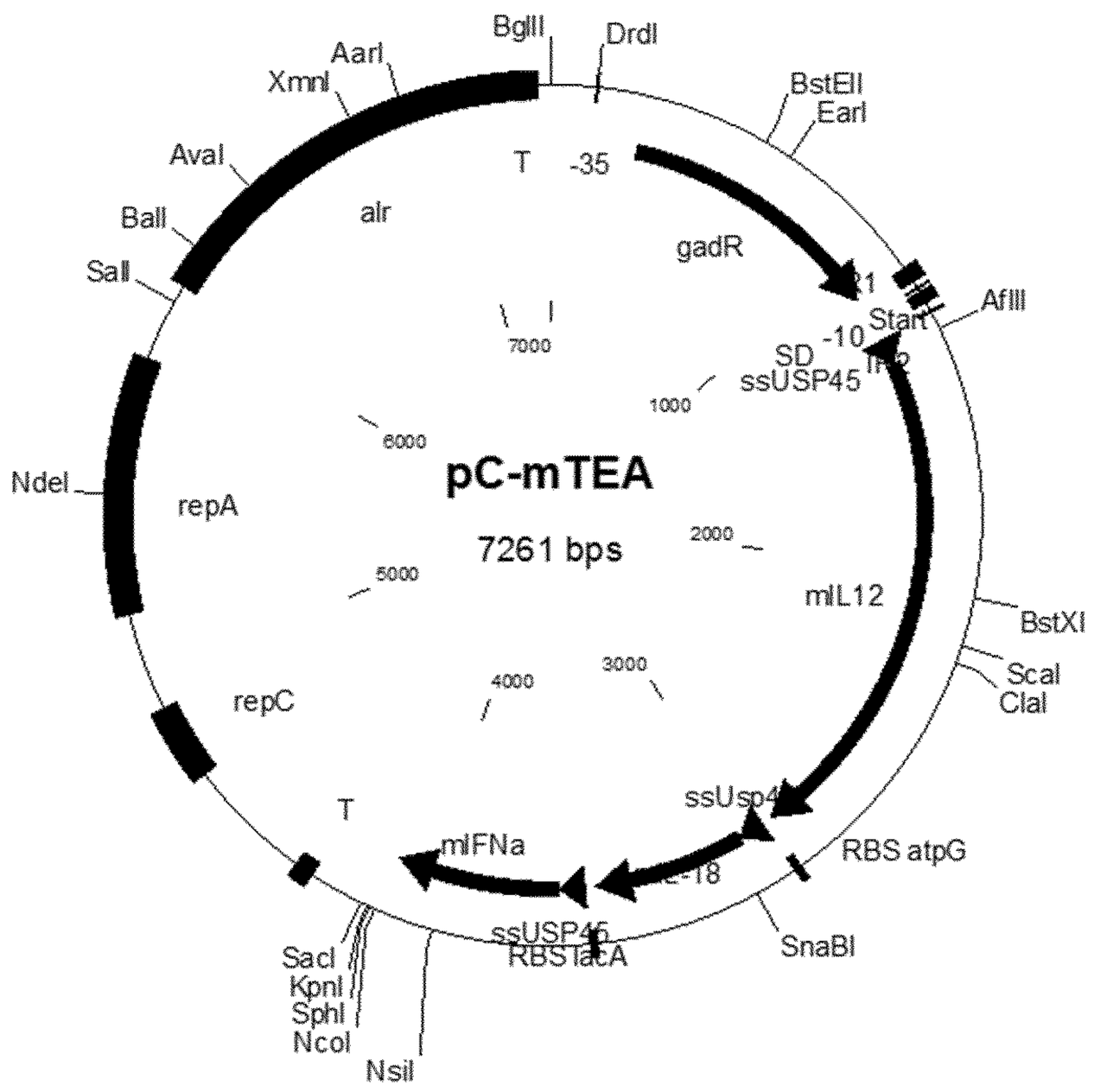


Fig. 15c:

```
    1  gatctgagcg ttgtataagc ttttatgtct ttctatatca acttttaata gaaatataaa

   61  gtaatataaa tgtttttata ataaattatg tgagatatat ttttttgtcc gtactggtat

  121  agatttgacg attaagtctt aaataagtta taatctcaat tgcgtaattt cttaaataca
```

```
     -35 >>..>>

181  gaaataacaa ctacattggt agactgatta aaaagtgtac ttgatgaact gttataaacc

241  ttaaaaaaat aaaaataata gtttggggga tgttaaagat gtataaaaaa tatggagatt
                                  >>............gadR.............>

301  gttttaaaaa gttgcgaaac caaaagaatt tagggttatc atactttagt aaacttggaa
     >.........................gadR.............................>

361  tagaccgttc aaatatatct agatttgaac atggaaaatg tatgatgagt tttgagcgta
     >.........................gadR.............................>

421  tagatttgat gttagaagaa atgcaagttc cgttatctga gtacgaattg attgtaaata
     >.........................gadR.............................>

481  attttatgcc gaatttccaa gaatttttta tattagaatt ggaaaaagct gaatttagcc
     >.........................gadR.............................>

541  aaaatcgaga taaaataaaa gagttgtatt ctgaggtcaa agaaacgggg aatcatttac
     >.........................gadR.............................>

601  tgacggttac cgtgaaaacg aagcttggga atataagtca gacagaagtt aaagaaattg
     >.........................gadR.............................>

661  aagcttatct ttgcaatatt gaagagtggg gatattttga acttacttta ttttattttg
     >.........................gadR.............................>

721  tatctgatta tctcaatgtc aatcaattag aattgctgct ttttaatttt gataaaagat
     >.........................gadR.............................>

781  gtgaaaatta ctgtagagtc ttaaaatata gaaggagact attgcaaata gcctataaaa
     >.........................gadR.............................>

841  gtgttgcgat atacgcggct aaaggagaaa gaaaaaaagc cgaaaatatt ttagaaatga
     >.........................gadR.............................>

901  ctaaaaaata tcgaactgtg ggagtcgatt tatattcaga agtattaaga catcttgcta
     >.........................gadR.............................>

961  gagctatcat tatttttaat tttgaaaatg cagagattgg ggaagaaaaa ataaattatg
     >.........................gadR.............................>

1021 ctcttgagat tttggaagaa tttggaggaa agaagataaa agaattctat cagaataaaa
     >.........................gadR.............................>

1081 tggaaaagta tttgaaaagg tcaatttagt ctcttttgag ctgttgcttt aaagcaacag
     >............gadR............>>
                                  >>.............IR1..............>

1141 ctcaaaagag attttcttta ttctagagca tatactagag ggtgaagata ggttgtctga
     >....IR1....>>
                                -10 >>..>>
                                                    >>.....IR2......>
                                                Start >

1201 agcattataa cttgtctttt aaaaaattca atcataaata taaggaggta tgatgaagaa
     >.......IR2......>>
                                                   >>.SD.>>
                                                       ssUSP45 >>.....>

1261 aaagattatt agtgcaattt taatgtcaac ggtcatctta agcgctgctg ccccattgtc
     >.........................ssUSP45.............................>
```

```
1321  aggtgtttat gcagccgata tgtgggaatt agaaaaagat gtttatgttg tagaagttga
      >..ssUSP45..>>
                    >>.....................mIL12.....................>

1381  ttggacacca gatgctcctg gtgaaacagt taatttaaca tgtgatactc cagaagaaga
      >.........................mIL12.........................>

1441  tgatattaca tggacatctg atcaacgaca tggagttatt ggtagtggaa aaacattaac
      >.........................mIL12.........................>

1501  aattacagtt aaagaatttt tagatgctgg acaatatact tgtcataaag gaggtgaaac
      >.........................mIL12.........................>

1561  attatctcat tcacatttat tattacataa aaaagaaaat ggtatttggt caactgaaat
      >.........................mIL12.........................>

1621  cttaaaaaat tttaaaaata agacattttt aaaatgtgaa gctcctaatt attctggtag
      >.........................mIL12.........................>

1681  atttacttgt tcatggttag ttcaaagaaa tatggattta aaatttaata ttaaatcaag
      >.........................mIL12.........................>

1741  ttcaagtagt cctgatagta gagctgtaac atgtggaatg gcaagtttat ctgctgaaaa
      >.........................mIL12.........................>

1801  agtaacactt gatcaacgtg attatgaaaa atattctgtt agttgtcaag aagatgttac
      >.........................mIL12.........................>

1861  ttgtccaaca gctgaagaaa cattaccaat tgaattagca ttagaagcta gacaacaaaa
      >.........................mIL12.........................>

1921  caaatatgaa aattatagta catctttctt tattcgtgac attattaaac ctgatccacc
      >.........................mIL12.........................>

1981  taaaaattta caaatgaaac ctttaaaaaa tagtcaagtt gaagttagtt gggaatatcc
      >.........................mIL12.........................>

2041  agattcatgg tcaacaccac attcatattt ttcattaaaa ttctttgtta gaattcaacg
      >.........................mIL12.........................>

2101  taaaaaagaa aaaatgaaag aaactgaaga aggttgtaac caaaaaggtg catttttagt
      >.........................mIL12.........................>

2161  tgaaaaaact agtactgaag ttcaatgtaa aggtggtaat gtatgtgttc aagctcaaga
      >.........................mIL12.........................>

2221  tcgatattat aattctagtt gttcaaaatg ggcatgtgtt ccatgtagag ttcgtagtgg
      >.........................mIL12.........................>

2281  aggaggtgga agtggtggag gtggttcagg tggtggaggt tcacgtgtaa ttccagtttc
      >.........................mIL12.........................>

2341  aggacctgct cgatgtttaa gtcaatctcg aaatttatta aaaactacag atgatatggt
      >.........................mIL12.........................>

2401  taaaactgct agagaaaaat taaaacatta tagttgtaca gctgaagata ttgatcatga
      >.........................mIL12.........................>

2461  agatattaca cgtgatcaaa cttcaacact taaaacatgt ttaccacttg aattacataa
      >.........................mIL12.........................>

2521  aaatgaatct tgtttagcta ctagagaaac tagtagtaca actagaggtt cttgtttgcc
```

```
     >.............................mIL12.............................>

2581 tccacaaaaa acatcattaa tgatgacatt atgtttaggt tctatttatg aagatttgaa
     >.............................mIL12.............................>

2641 aatgtatcaa actgaatttc aagcaattaa tgctgcttta caaaatcata atcatcaaca
     >.............................mIL12.............................>

2701 aattatttta gataaaggta tgttagttgc aattgatgaa ttaatgcaat ctttaaatca
     >.............................mIL12.............................>

2761 taatggtgaa actcttagac aaaaaccacc tgttggagaa gcagaccctt atcgagtgaa
     >.............................mIL12.............................>

2821 aatgaaatta tgtatcttgt tgcacgcttt ttcaacacgg gtagtcacaa ttaatcgtgt
     >.............................mIL12.............................>

2881 aatgggatat ttgagtagtg cataataaac gcgtattaat aaggaggcta actaatgaaa
     >........mIL12........>>
                                          >>.....RBS atpG......>>
                                                        ssUsp45 >>...>

2941 aagaaaatca tttcagcgat tttgatgtca acggttattt taagcgcagc agctccatta
     >.............................ssUsp45.............................>

3001 tctggagttt atgcagcaaa ttttggtaga ttacattgta caacagcagt aatacgtaat
     >...ssUsp45...>>
                     >>.....................mIL-18.....................>

3061 attaatgatc aagttttatt tgttgataaa agacaacctg tttttgaaga tatgactgat
     >.............................mIL-18.............................>

3121 attgatcaat ctgcatctga accacaaact agattaataa tttatatgta taaagatagt
     >.............................mIL-18.............................>

3181 gaagttagag gattagctgt aacattaagt gttaaagata gtaaaatgag tacattatca
     >.............................mIL-18.............................>

3241 tgtaaaaaca aaataatttc atttgaagaa atggacccac ctgaaaatat tgatgatatt
     >.............................mIL-18.............................>

3301 caatcagatt taattttctt tcaaaaacgt gttccaggtc ataacaaaat ggaatttgaa
     >.............................mIL-18.............................>

3361 tctagtttat atgaaggtca ctttttagct tgtcaaaaag aagatgatgc ttttaaatta
     >.............................mIL-18.............................>

3421 attttaaaga aaaaagatga aaatggagat aaatcagtta tgtttacatt aactaattta
     >.............................mIL-18.............................>

3481 catcaatcat aataaacgcg tgaaatttag gaggtagtcc aaatgaaaaa aaagattatc
     >......>> mIL-18
                               >>.....RBS lacA.....>>
                                                    >>....ssUSP45.....>

3541 tcagctattt taatgtctac agtgatactt tctgctgcag ccccgttgtc aggtgtttac
     >.............................ssUSP45.............................>

3601 gctgcctgtg atttaccaca tacttataat ttaagaaata agcgtgcttt aaaagtttta
     >>> ssUSP45
        >>.............................mIFNa.............................>

3661 gcacaaatga gacgtttacc atttttaagt tgtttaaaag atagacaaga ttttggtttt
```

```
      >.............................mIFNa.............................>

3721  ccattagaaa aagtagataa tcaacaaatt caaaaagctc aagcaattcc tgttttaaga
      >.............................mIFNa.............................>

3781  gatttaacac aacaaacatt aaatttattt actagtaaag ctagtagtgc agcttggaat
      >.............................mIFNa.............................>

3841  gcaacattat tagatagttt ttgtaatgat ttacatcaac aattaaatga tttacaaaca
      >.............................mIFNa.............................>

3901  tgtttaatgc aacaagtagg agttcaagaa cctccattaa ctcaagaaga tgcattatta
      >.............................mIFNa.............................>

3961  gctgttagaa aatattttca tagaataacc gtttatttaa gagaaaagaa acatagtcct
      >.............................mIFNa.............................>

4021  tgtgcttggg aagtagttag agctgaagtt tggagagctt taagttcatc agttaattta
      >.............................mIFNa.............................>

4081  ttacctagat taagtgaaga aaaagaataa taaccatggg tactgcaggc atgcggtacc
      >...........mIFNa..........>>

4141  actagttcta gagagctcaa gctttctttg aaccaaaatt agaaaaccaa ggcttgaaac

4201  gttcaattga aatggcaatt aaacaaatta cagcacgtgt tgctttgatt gatagccaaa

4261  aagcagcagt tgataaagca attactgata ttgctgaaaa attgtaattt ataaataaaa
                                                    >>......T.......>

4321  atcacctttt agaggtggtt tttttattta taaattattc gtttgatttc gctttcgata
      >..................T...................>>

4381  gaacaatcaa atcgtttctg agacgtttta gcgtttattt cgtttagtta tcggcataat

4441  cgttaaaaca ggcgttatcg tagcgtaaaa gcccttgagc gtagcgtggc tttgcagcga

4501  agatgttgtc tgttagatta tgaaagccga tgactgaatg aaataataag cgcagcgtcc

4561  ttctatttcg gttggaggag gctcaaggga gtttgaggga atgaaattcc ctcatgggtt

4621  tgattttaaa aattgcttgc aattttgccg agcggtagcg ctggaaaatt tttgaaaaaa

4681  atttggaatt tggaaaaaaa tgggggggaaa ggaagcgaat tttgcttccg tactacgacc
                           >>...................repC.....................>

4741  ccccattaag tgccgagtgc caatttttgt gccaaaaacg ctctatccca actggctcaa
      >.............................repC.............................>

4801  gggtttgagg ggtttttcaa tcgccaacga atcgccaacg ttttcgccaa cgttttttat
      >.............................repC.............................>

4861  aaatctatat ttaagtagct ttatttttgt ttttatgatt acaaagtgat acactaattt
      >.........................repC.........................>>

4921  tataaaatta tttgattgga gttttttaaa tggtgatttc agaatcgaaa aaaagagtta

4981  tgatttctct gacaaaagag caagataaaa aattaacaga tatggcgaaa caaaaagatt

5041  tttcaaaatc tgcggttgcg gcgttagcta tagaagaata tgcaagaaag gaatcagaac

5101  aaaaaaaata agcgaaagct cgcgttttta gaaggatacg agttttcgct acttgttttt
```

```
5161  gataaggtaa ttatatcatg gctattaaaa atactaaagc tagaaatttt ggatttttat
                        >>.....................repA.....................>

5221  tatatcctga ctcaattcct aatgattgga aagaaaaatt agagagtttg ggcgtatcta
      >.............................repA.............................>

5281  tggctgtcag tcctttacac gatatggacg aaaaaaaaga taaagataca tggaatagta
      >.............................repA.............................>

5341  gtgatgttat acgaaatgga aagcactata aaaaaccaca ctatcacgtt atatatattg
      >.............................repA.............................>

5401  cacgaaatcc tgtaacaata gaaagcgtta ggaacaagat taagcgaaaa ttggggaata
      >.............................repA.............................>

5461  gttcagttgc tcatgttgag atacttgatt atatcaaagg ttcatatgaa tatttgactc
      >.............................repA.............................>

5521  atgaatcaaa ggacgctatt gctaagaata aacatatata cgacaaaaaa gatattttga
      >.............................repA.............................>

5581  acattaatga ttttgatatt gaccgctata taacacttga tgaaagccaa aaaagagaat
      >.............................repA.............................>

5641  tgaagaattt acttttagat atagtggatg actataattt ggtaaataca aaagatttaa
      >.............................repA.............................>

5701  tggcttttat tcgccttagg ggagcggagt ttggaatttt aaatacgaat gatgtaaaag
      >.............................repA.............................>

5761  atattgtttc aacaaactct agcgccttta gattatggtt tgagggcaat tatcagtgtg
      >.............................repA.............................>

5821  gatatagagc aagttatgca aaggttcttg atgctgaaac gggggaaata aaatgacaaa
      >.............................repA.............................>>

5881  caaagaaaaa gagttatttg ctgaaaatga ggaattaaaa aaagaaatta aggacttaaa

5941  agagcgtatt gaaagataca gagaaatgga agttgaatta agtacaacaa tagatttatt

6001  gagaggaggg attattgaat aaataaaagc ccccctgacg aaagtcgaca tggtcgatgt

6061  ctagatgctt aaactagaga aaggtttaaa agatgaaaac ttcaccacat cgtaatactt
                                          >>...........alr............>

6121  cagctattgt tgatttaaaa gcgattagaa ataatattga aaaatttaaa aagcatatta
      >.............................alr.............................>

6181  accctaatgc agagatttgg ccagcagtga aagcagatgc ttatggtcat ggctcgattg
      >.............................alr.............................>

6241  aggtttctaa agcggtgagc gatttggtag gtggtttttg tgtatcaaac ctagatgagg
      >.............................alr.............................>

6301  caattgaatt acgaaatcat ctggtgacta aaccgatttt agttttatcc ggaattgttc
      >.............................alr.............................>

6361  cagaagatgt tgatattgca gctgccctta atattagtct tactgccccg agtttagaat
      >.............................alr.............................>

6421  ggttgaaatt ggttgttcaa gaagaagcag aactttcaga tttaaaaatt catattggtg
      >.............................alr.............................>
```

```
6481  tagattctgg tatgggtcgg attggtattc gtgatgttga agaagctaat cagatgattg
      >.............................alr.............................>

6541  aacttgctga taaatatgcg attaattttg aaggaatttt cactcatttt gcgactgcgg
      >.............................alr.............................>

6601  atatggctga tgaaacaaaa tttaaaaatc aacaggcaag atttaacaaa attatggccg
      >.............................alr.............................>

6661  gattatcacg tcaaccaaaa tttatacact caactaatac ggccgctgct ttatggcata
      >.............................alr.............................>

6721  aggaacaagt tcaagctatt gaacgtttag ggatttcaat gtatggcttg aatccaagtg
      >.............................alr.............................>

6781  gtaaaacttt ggaacttcct tttgaaattg aacccgctct ctctttagtt tctgaattga
      >.............................alr.............................>

6841  ctcatataaa aaaaatagct gcaggtgaaa cggttggtta tggtgcaact tatgagacga
      >.............................alr.............................>

6901  gtgaagaaac ttggattgga actgttccaa ttggttacgc tgacgggtgg acccgtcaaa
      >.............................alr.............................>

6961  tgcaaggttt caaagtgctt gttgatggaa agttttgtga gattgttggt cgagtttgta
      >.............................alr.............................>

7021  tggatcaaat gatgataaaa cttgataagt cttacccttt gggaacgaag gtcactttga
      >.............................alr.............................>

7081  ttggtcgaga taaggctaat gaaatcacga caacagacgt tgctgattgg cgtggaacga
      >.............................alr.............................>

7141  ttaattatga agtgctttgc ttactttctg atagaatcaa aagaatctat aaataaaatt
      >.............................alr.............................>>

7201  aaaaaaactg tatttttaca gtttttttgt tttctgttaa aagcagatga taacctcact
      >>............T.............>>

7261  a
```

Figure 16a

```
       BglII
      -+----
   1  agatctgagc gttgtataag cttttatgtc tttctatatc aacttttaat agaaatataa

  61  agtaatataa atgtttttat aataaattat gtgagatata ttttttttgtc cgtactggta

 121  tagatttgac gattaagtct taaataagtt ataatctcaa ttgcgtaatt tcttaaatac
        -35 >>..>>

 181  agaaataaca actacattgg tagactgatt aaaaagtgta cttgatgaac tgttataaac

 241  cttaaaaaaa taaaaataat agtttggggg atgttaaaga tgtataaaaa atatggagat
                                    >>............gadR.............>

 301  tgttttaaaa agttgcgaaa ccaaaagaat ttagggttat catactttag taaacttgga
      >.............................gadR.............................>

 361  atagaccgtt caaatatatc tagatttgaa catggaaaat gtatgatgag ttttgagcgt
      >.............................gadR.............................>
```

```
421  atagatttga tgttagaaga aatgcaagtt ccgttatctg agtacgaatt gattgtaaat
     >.............................gadR.............................>

481  aattttatgc cgaatttcca agaatttttt atattagaat tggaaaaagc tgaatttagc
     >.............................gadR.............................>

541  caaaatcgag ataaaataaa agagttgtat tctgaggtca aagaaacggg gaatcattta
     >.............................gadR.............................>

601  ctgacggtta ccgtgaaaac gaagcttggg aatataagtc agacagaagt taaagaaatt
     >.............................gadR.............................>

661  gaagcttatc tttgcaatat tgaagagtgg ggatattttg aacttacttt attttatttt
     >.............................gadR.............................>

721  gtatctgatt atctcaatgt caatcaatta gaattgctgc tttttaattt tgataaaaga
     >.............................gadR.............................>

781  tgtgaaaatt actgtagagt cttaaaatat agaaggagac tattgcaaat agcctataaa
     >.............................gadR.............................>

841  agtgttgcga tatacgcggc taaaggagaa agaaaaaaag ccgaaaatat tttagaaatg
     >.............................gadR.............................>

901  actaaaaaat atcgaactgt gggagtcgat ttatattcag aagtattaag acatcttgct
     >.............................gadR.............................>

961  agagctatca ttatttttaa ttttgaaaat gcagagattg gggaagaaaa aataaattat
     >.............................gadR.............................>

1021 gctcttgaga ttttggaaga atttggagga aagaagataa aagaattcta tcagaataaa
     >.............................gadR.............................>

1081 atggaaaagt atttgaaaag gtcaatttag tctcttttga gctgttgctt taaagcaaca
     >............gadR.............>>
                                  >>..............IR1..............>

1141 gctcaaaaga gattttcttt attctagagc atatactaga gggtgaagat aggttgtctg
     >....IR1.....>>
                                -10 >>..>>
                                                    >>.....IR2.....>
                                                Start >

1201 aagcattata acttgtcttt taaaaaattc aatcataaat ataaggaggt atgatgaaga
     >.......IR2.......>>
                                                      >>.SD.>>
                                                          ssUsp45 >>....>

1261 aaaagattat tagtgcaatt ttaatgtcaa cggtcatctt aagcgctgct gccccattgt
     >.............................ssUsp45.............................>

1321 caggtgttta tgcagcccca acacgtagtc caataacagt aactagacct tggaaacatg
     >...ssUsp45..>>
                     >>.....................mGM-CSF.....................>

1381 ttgaagcaat taaagaagca ttaaatttat tagatgatat gccagtaaca ttaaatgaag
     >.............................mGM-CSF.............................>

1441 aagttgaagt agtaagtaat gaatttagtt ttaaaaaatt aacatgtgtt caaactagat
     >.............................mGM-CSF.............................>

1501 taaaaatttt tgaacaagga ttaagaggta attttactaa attaaaaggt gctttaaata
```

```
      >.........................mGM-CSF.........................>

1561  tgacagctag ttattatcaa acatattgtc caccaacacc tgaaactgat tgtgaaacac
      >.........................mGM-CSF.........................>

1621  aagtaactac atatgctgat tttattgatt cattaaaaac atttttaact gatattcctt
      >.........................mGM-CSF.........................>

1681  ttgaatgtaa aaaaccagga caaaaataat aaacgcgtat taataaggag gctaactaat
      >.........mGM-CSF.........>>
                                          >>.....RBS atpG......>>
                                                        ssUsp45 >>

1741  gaaaaagaaa atcatttcag cgattttgat gtcaacggtt attttaagcg cagcagctcc
      >.........................ssUsp45.........................>

1801  attatctgga gtttatgcag ccgatatgtg ggaattagaa aaagatgttt atgttgtaga
      >......ssUsp45....>>
                          >>.................mIL12.................>

1861  agttgattgg acaccagatg ctcctggtga aacagttaat ttaacatgtg atactccaga
      >.........................mIL12.........................>

1921  agaagatgat attacatgga catctgatca acgacatgga gttattggta gtggaaaaac
      >.........................mIL12.........................>

1981  attaacaatt acagttaaag aatttttaga tgctggacaa tatacttgtc ataaaggagg
      >.........................mIL12.........................>

2041  tgaaacatta tctcattcac atttattatt acataaaaaa gaaaatggta tttggtcaac
      >.........................mIL12.........................>

2101  tgaaatctta aaaaatttta aaaataagac atttttaaaa tgtgaagctc ctaattattc
      >.........................mIL12.........................>

2161  tggtagattt acttgttcat ggttagttca aagaaatatg gatttaaaat ttaatattaa
      >.........................mIL12.........................>

2221  atcaagttca agtagtcctg atagtagagc tgtaacatgt ggaatggcaa gtttatctgc
      >.........................mIL12.........................>

2281  tgaaaaagta acacttgatc aacgtgatta tgaaaaatat tctgttagtt gtcaagaaga
      >.........................mIL12.........................>

2341  tgttacttgt ccaacagctg aagaaacatt accaattgaa ttagcattag aagctagaca
      >.........................mIL12.........................>

2401  acaaaacaaa tatgaaaatt atagtacatc tttctttatt cgtgacatta ttaaacctga
      >.........................mIL12.........................>

2461  tccacctaaa aatttacaaa tgaaaccttt aaaaaatagt caagttgaag ttagttggga
      >.........................mIL12.........................>

2521  atatccagat tcatggtcaa caccacattc atatttttca ttaaaattct ttgttagaat
      >.........................mIL12.........................>

2581  tcaacgtaaa aaagaaaaaa tgaaagaaac tgaagaaggt tgtaaccaaa aaggtgcatt
      >.........................mIL12.........................>

2641  tttagttgaa aaaactagta ctgaagttca atgtaaaggt ggtaatgtat gtgttcaagc
      >.........................mIL12.........................>

2701  tcaagatcga tattataatt ctagttgttc aaaatgggca tgtgttccat gtagagttcg
```

```
      >.............................mIL12.............................>

2761  tagtggagga ggtggaagtg gtggaggtgg ttcaggtggt ggaggttcac gtgtaattcc
      >.............................mIL12.............................>

2821  agtttcagga cctgctcgat gtttaagtca atctcgaaat ttattaaaaa ctacagatga
      >.............................mIL12.............................>

2881  tatggttaaa actgctagag aaaaattaaa acattatagt tgtacagctg aagatattga
      >.............................mIL12.............................>

2941  tcatgaagat attacacgtg atcaaacttc aacacttaaa acatgtttac cacttgaatt
      >.............................mIL12.............................>

3001  acataaaaat gaatcttgtt tagctactag agaaactagt agtacaacta gaggttcttg
      >.............................mIL12.............................>

3061  tttgcctcca caaaaaacat cattaatgat gacattatgt ttaggttcta tttatgaaga
      >.............................mIL12.............................>

3121  tttgaaaatg tatcaaactg aatttcaagc aattaatgct gctttacaaa atcataatca
      >.............................mIL12.............................>

3181  tcaacaaatt attttagata aaggtatgtt agttgcaatt gatgaattaa tgcaatcttt
      >.............................mIL12.............................>

3241  aaatcataat ggtgaaactc ttagacaaaa accacctgtt ggagaagcag acccttatcg
      >.............................mIL12.............................>

3301  agtgaaaatg aaattatgta tcttgttgca cgctttttca acacgggtag tcacaattaa
      >.............................mIL12.............................>

3361  tcgtgtaatg ggatatttga gtagtgcata ataaacgcgt gaaatttagg aggtagtcca
      >...........mIL12...........>>
                                                  >>....RBS lacA....>>

3421  aatgaaaaaa aagattatct cagctatttt aatgtctaca gtgatacttt ctgctgcagc
      >>.........................ssUSP45.........................>

3481  cccgttgtca ggtgtttacg ctgcaaattt tggtagatta cattgtacaa cagcagtaat
      >.......ssUSP45.......>>
                              >>...............mIL-18...............>

3541  acgtaatatt aatgatcaag ttttatttgt tgataaaaga caacctgttt ttgaagatat
      >.............................mIL-18.............................>

3601  gactgatatt gatcaatctg catctgaacc acaaactaga ttaataattt atatgtataa
      >.............................mIL-18.............................>

3661  agatagtgaa gttagaggat tagctgtaac attaagtgtt aaagatagta aaatgagtac
      >.............................mIL-18.............................>

3721  attatcatgt aaaaacaaaa taatttcatt tgaagaaatg gacccacctg aaaatattga
      >.............................mIL-18.............................>

3781  tgatattcaa tcagatttaa ttttctttca aaaacgtgtt ccaggtcata acaaaatgga
      >.............................mIL-18.............................>

3841  atttgaatct agtttatatg aaggtcactt tttagcttgt caaaaagaag atgatgcttt
      >.............................mIL-18.............................>

3901  taaattaatt ttaaagaaaa aagatgaaaa tggagataaa tcagttatgt ttacattaac
      >.............................mIL-18.............................>
```

```
                                                          SphI
                                                         -----+
3961  taatttacat caatcataat aaccatgggt actgcaggca tgc
      >....mIL-18....>>
```

Figure 16b

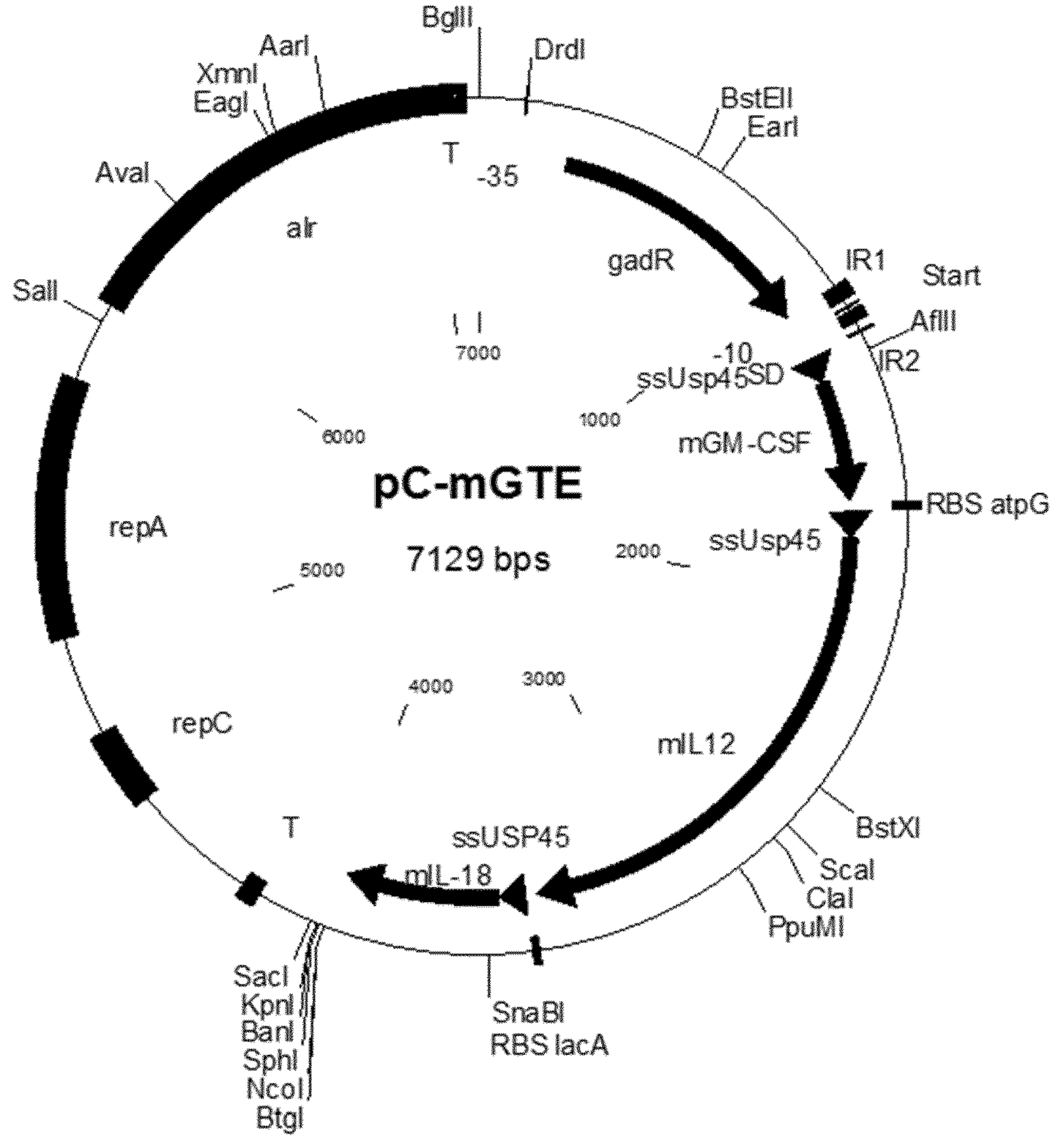


Figure 16c

```
   1  gatctgagcg ttgtataagc ttttatgtct ttctatatca acttttaata gaaatataaa

  61  gtaatataaa tgtttttata ataaattatg tgagatatat ttttttgtcc gtactggtat

 121  agatttgacg attaagtctt aaataagtta taatctcaat tgcgtaattt cttaaataca
      -35 >>..>>

 181  gaaataacaa ctacattggt agactgatta aaaagtgtac ttgatgaact gttataaacc

 241  ttaaaaaaat aaaaataata gtttgggggа tgttaaagat gtataaaaaa tatggagatt
                                    >>.............gadR.............>

 301  gttttaaaaa gttgcgaaac caaaagaatt tagggttatc atactttagt aaacttggaa
      >.............................gadR.............................>
```

```
361  tagaccgttc aaatatatct agatttgaac atggaaaatg tatgatgagt tttgagcgta
     >.........................gadR.............................>

421  tagatttgat gttagaagaa atgcaagttc cgttatctga gtacgaattg attgtaaata
     >.........................gadR.............................>

481  attttatgcc gaatttccaa gaatttttta tattagaatt ggaaaaagct gaatttagcc
     >.........................gadR.............................>

541  aaaatcgaga taaaataaaa gagttgtatt ctgaggtcaa agaaacgggg aatcatttac
     >.........................gadR.............................>

601  tgacggttac cgtgaaaacg aagcttggga atataagtca gacagaagtt aaagaaattg
     >.........................gadR.............................>

661  aagcttatct ttgcaatatt gaagagtggg gatattttga acttacttta ttttattttg
     >.........................gadR.............................>

721  tatctgatta tctcaatgtc aatcaattag aattgctgct ttttaatttt gataaaagat
     >.........................gadR.............................>

781  gtgaaaatta ctgtagagtc ttaaaatata gaaggagact attgcaaata gcctataaaa
     >.........................gadR.............................>

841  gtgttgcgat atacgcggct aaaggagaaa gaaaaaaagc cgaaaatatt ttagaaatga
     >.........................gadR.............................>

901  ctaaaaaata tcgaactgtg ggagtcgatt tatattcaga agtattaaga catcttgcta
     >.........................gadR.............................>

961  gagctatcat tatttttaat tttgaaaatg cagagattgg ggaagaaaaa ataaattatg
     >.........................gadR.............................>

1021 ctcttgagat tttggaagaa tttggaggaa agaagataaa agaattctat cagaataaaa
     >.........................gadR.............................>

1081 tggaaaagta tttgaaaagg tcaatttagt ctcttttgag ctgttgcttt aaagcaacag
     >............gadR............>>
                                 >>.............IR1..............>

1141 ctcaaaagag attttcttta ttctagagca tatactagag ggtgaagata ggttgtctga
     >....IR1....>>
                                 -10 >>..>>
                                                    >>.....IR2......>
                                                 Start >

1201 agcattataa cttgtctttt aaaaaattca atcataaata taaggaggta tgatgaagaa
     >.......IR2......>>
                                                   >>.SD.>>
                                                       ssUsp45 >>.....>

1261 aaagattatt agtgcaattt taatgtcaac ggtcatctta agcgctgctg ccccattgtc
     >..........................ssUsp45..........................>

1321 aggtgtttat gcagccccaa cacgtagtcc aataacagta actagacctt ggaaacatgt
     >..ssUsp45..>>
                  >>.....................mGM-CSF.....................>

1381 tgaagcaatt aaagaagcat taaatttatt agatgatatg ccagtaacat taaatgaaga
     >..........................mGM-CSF.........................>

1441 agttgaagta gtaagtaatg aatttagttt taaaaaatta acatgtgttc aaactagatt
     >..........................mGM-CSF.........................>
```

```
1501  aaaaattttt gaacaaggat taagaggtaa ttttactaaa ttaaaaggtg ctttaaatat
      >.............................mGM-CSF.............................>

1561  gacagctagt tattatcaaa catattgtcc accaacacct gaaactgatt gtgaaacaca
      >.............................mGM-CSF.............................>

1621  agtaactaca tatgctgatt ttattgattc attaaaaaca tttttaactg atattccttt
      >.............................mGM-CSF.............................>

1681  tgaatgtaaa aaaccaggac aaaaataata aacgcgtatt aataaggagg ctaactaatg
      >.........mGM-CSF........>>
                                                  >>.....RBS atpG......>>
                                                                ssUsp45 >>>

1741  aaaaagaaaa tcatttcagc gattttgatg tcaacggtta ttttaagcgc agcagctcca
      >.............................ssUsp45.............................>

1801  ttatctggag tttatgcagc cgatatgtgg gaattagaaa aagatgttta tgttgtagaa
      >.....ssUsp45....>>
                          >>.....................mIL12.....................>

1861  gttgattgga caccagatgc tcctggtgaa acagttaatt taacatgtga tactccagaa
      >.............................mIL12.............................>

1921  gaagatgata ttacatggac atctgatcaa cgacatggag ttattggtag tggaaaaaca
      >.............................mIL12.............................>

1981  ttaacaatta cagttaaaga atttttagat gctggacaat atacttgtca taaaggaggt
      >.............................mIL12.............................>

2041  gaaacattat ctcattcaca tttattatta cataaaaaag aaaatggtat ttggtcaact
      >.............................mIL12.............................>

2101  gaaatcttaa aaaattttaa aaataagaca tttttaaaat gtgaagctcc taattattct
      >.............................mIL12.............................>

2161  ggtagattta cttgttcatg gttagttcaa agaaatatgg atttaaaatt taatattaaa
      >.............................mIL12.............................>

2221  tcaagttcaa gtagtcctga tagtagagct gtaacatgtg gaatggcaag tttatctgct
      >.............................mIL12.............................>

2281  gaaaaagtaa cacttgatca acgtgattat gaaaaatatt ctgttagttg tcaagaagat
      >.............................mIL12.............................>

2341  gttacttgtc caacagctga agaaacatta ccaattgaat tagcattaga agctagacaa
      >.............................mIL12.............................>

2401  caaaacaaat atgaaaatta tagtacatct ttctttattc gtgacattat taaacctgat
      >.............................mIL12.............................>

2461  ccacctaaaa atttacaaat gaaaccttta aaaaatagtc aagttgaagt tagttgggaa
      >.............................mIL12.............................>

2521  tatccagatt catggtcaac accacattca tatttttcat taaaattctt tgttagaatt
      >.............................mIL12.............................>

2581  caacgtaaaa aagaaaaaat gaaagaaact gaagaaggtt gtaaccaaaa aggtgcattt
      >.............................mIL12.............................>

2641  ttagttgaaa aaactagtac tgaagttcaa tgtaaaggtg gtaatgtatg tgttcaagct
      >.............................mIL12.............................>
```

```
2701  caagatcgat attataattc tagttgttca aaatgggcat gtgttccatg tagagttcgt
      >.............................mIL12.............................>

2761  agtggaggag gtggaagtgg tggaggtggt tcaggtggtg gaggttcacg tgtaattcca
      >.............................mIL12.............................>

2821  gtttcaggac ctgctcgatg tttaagtcaa tctcgaaatt tattaaaaac tacagatgat
      >.............................mIL12.............................>

2881  atggttaaaa ctgctagaga aaaattaaaa cattatagtt gtacagctga agatattgat
      >.............................mIL12.............................>

2941  catgaagata ttacacgtga tcaaacttca acacttaaaa catgtttacc acttgaatta
      >.............................mIL12.............................>

3001  cataaaaatg aatcttgttt agctactaga gaaactagta gtacaactag aggttcttgt
      >.............................mIL12.............................>

3061  ttgcctccac aaaaaacatc attaatgatg acattatgtt taggttctat ttatgaagat
      >.............................mIL12.............................>

3121  ttgaaaatgt atcaaactga atttcaagca attaatgctg ctttacaaaa tcataatcat
      >.............................mIL12.............................>

3181  caacaaatta ttttagataa aggtatgtta gttgcaattg atgaattaat gcaatcttta
      >.............................mIL12.............................>

3241  aatcataatg gtgaaactct tagacaaaaa ccacctgttg gagaagcaga cccttatcga
      >.............................mIL12.............................>

3301  gtgaaaatga aattatgtat cttgttgcac gctttttcaa cacgggtagt cacaattaat
      >.............................mIL12.............................>

3361  cgtgtaatgg gatatttgag tagtgcataa taaacgcgtg aaatttagga ggtagtccaa
      >...........mIL12..........>>
                                    >>....RBS lacA.....>>

3421  atgaaaaaaa agattatctc agctatttta atgtctacag tgatactttc tgctgcagcc
      >>............................ssUSP45............................>

3481  ccgttgtcag gtgtttacgc tgcaaatttt ggtagattac attgtacaac agcagtaata
      >.......ssUSP45......>>
                             >>................mIL-18.................>

3541  cgtaatatta atgatcaagt tttatttgtt gataaaagac aacctgtttt tgaagatatg
      >.............................mIL-18.............................>

3601  actgatattg atcaatctgc atctgaacca caaactagat taataattta tatgtataaa
      >.............................mIL-18.............................>

3661  gatagtgaag ttagaggatt agctgtaaca ttaagtgtta aagatagtaa aatgagtaca
      >.............................mIL-18.............................>

3721  ttatcatgta aaaacaaaat aatttcattt gaagaaatgg acccacctga aaatattgat
      >.............................mIL-18.............................>

3781  gatattcaat cagatttaat tttctttcaa aaacgtgttc caggtcataa caaaatggaa
      >.............................mIL-18.............................>

3841  tttgaatcta gtttatatga aggtcacttt ttagcttgtc aaaaagaaga tgatgctttt
      >.............................mIL-18.............................>
```

```
3901  aaattaattt taaagaaaaa agatgaaaat ggagataaat cagttatgtt tacattaact
      >.........................mIL-18.........................>

3961  aatttacatc aatcataata accatgggta ctgcaggcat gcggtaccac tagttctaga
      >....mIL-18...>>

4021  gagctcaagc tttctttgaa ccaaaattag aaaaccaagg cttgaaacgt tcaattgaaa

4081  tggcaattaa acaaattaca gcacgtgttg ctttgattga tagccaaaaa gcagcagttg

4141  ataaagcaat tactgatatt gctgaaaaat tgtaatttat aaataaaaat caccttttag
                                      >>............T.............>

4201  aggtggtttt tttatttata aattattcgt ttgatttcgc tttcgataga acaatcaaat
      >............T...........>>

4261  cgtttctgag acgttttagc gtttatttcg tttagttatc ggcataatcg ttaaaacagg

4321  cgttatcgta gcgtaaaagc ccttgagcgt agcgtggctt tgcagcgaag atgttgtctg

4381  ttagattatg aaagccgatg actgaatgaa ataataagcg cagcgtcctt ctatttcggt

4441  tggaggaggc tcaagggagt ttgagggaat gaaattccct catgggtttg attttaaaaa

4501  ttgcttgcaa ttttgccgag cggtagcgct ggaaaatttt tgaaaaaaat ttggaatttg

4561  gaaaaaaatg gggggaaagg aagcgaattt tgcttccgta ctacgacccc ccattaagtg
            >>.........................repC.........................>

4621  ccgagtgcca atttttgtgc caaaaacgct ctatcccaac tggctcaagg gtttgagggg
      >.............................repC.............................>

4681  tttttcaatc gccaacgaat cgccaacgtt ttcgccaacg ttttttataa atctatattt
      >.............................repC.............................>

4741  aagtagcttt atttttgttt ttatgattac aaagtgatac actaatttta taaaattatt
      >.................repC................>>

4801  tgattggagt tttttaaatg gtgatttcag aatcgaaaaa aagagttatg atttctctga

4861  caaaagagca agataaaaaa ttaacagata tggcgaaaca aaaagatttt tcaaaatctg

4921  cggttgcggc gttagctata gaagaatatg caagaaagga atcagaacaa aaaaaataag

4981  cgaaagctcg cgtttttaga aggatacgag ttttcgctac ttgtttttga taaggtaatt

5041  atatcatggc tattaaaaat actaaagcta gaaattttgg atttttatta tatcctgact
            >>.........................repA.........................>

5101  caattcctaa tgattggaaa gaaaaattag agagtttggg cgtatctatg gctgtcagtc
      >.............................repA.............................>

5161  ctttacacga tatggacgaa aaaaaagata aagatacatg gaatagtagt gatgttatac
      >.............................repA.............................>

5221  gaaatggaaa gcactataaa aaaccacact atcacgttat atatattgca cgaaatcctg
      >.............................repA.............................>

5281  taacaataga aagcgttagg aacaagatta agcgaaaatt ggggaatagt tcagttgctc
      >.............................repA.............................>

5341  atgttgagat acttgattat atcaaaggtt catatgaata tttgactcat gaatcaaagg
      >.............................repA.............................>
```

```
5401  acgctattgc taagaataaa catatatacg acaaaaaaga tattttgaac attaatgatt
      >.............................repA.............................>

5461  ttgatattga ccgctatata acacttgatg aaagccaaaa aagagaattg aagaatttac
      >.............................repA.............................>

5521  ttttagatat agtggatgac tataatttgg taaatacaaa agatttaatg gcttttattc
      >.............................repA.............................>

5581  gccttagggg agcggagttt ggaattttaa atacgaatga tgtaaaagat attgtttcaa
      >.............................repA.............................>

5641  caaactctag cgcctttaga ttatggtttg agggcaatta tcagtgtgga tatagagcaa
      >.............................repA.............................>

5701  gttatgcaaa ggttcttgat gctgaaacgg gggaaataaa atgacaaaca aagaaaaaga
      >.....................repA....................>>

5761  gttatttgct gaaaatgagg aattaaaaaa agaaattaag gacttaaaag agcgtattga

5821  aagatacaga gaaatggaag ttgaattaag tacaacaata gatttattga gaggagggat

5881  tattgaataa ataaaagccc ccctgacgaa agtcgacatg gtcgatgtct agatgcttaa

5941  actagagaaa ggtttaaaag atgaaaactt caccacatcg taatacttca gctattgttg
                           >>.................alr...................>

6001  atttaaaagc gattagaaat aatattgaaa aatttaaaaa gcatattaac cctaatgcag
      >.............................alr.............................>

6061  agatttggcc agcagtgaaa gcagatgctt atggtcatgg ctcgattgag gtttctaaag
      >.............................alr.............................>

6121  cggtgagcga tttggtaggt ggtttttgtg tatcaaacct agatgaggca attgaattac
      >.............................alr.............................>

6181  gaaatcatct ggtgactaaa ccgattttag ttttatccgg aattgttcca gaagatgttg
      >.............................alr.............................>

6241  atattgcagc tgcccttaat attagtctta ctgccccgag tttagaatgg ttgaaattgg
      >.............................alr.............................>

6301  ttgttcaaga agaagcagaa ctttcagatt taaaaattca tattggtgta gattctggta
      >.............................alr.............................>

6361  tgggtcggat tggtattcgt gatgttgaag aagctaatca gatgattgaa cttgctgata
      >.............................alr.............................>

6421  aatatgcgat taattttgaa ggaattttca ctcattttgc gactgcggat atggctgatg
      >.............................alr.............................>

6481  aaacaaaatt taaaaatcaa caggcaagat ttaacaaaat tatggccgga ttatcacgtc
      >.............................alr.............................>

6541  aaccaaaatt tatacactca actaatacgg ccgctgcttt atggcataag gaacaagttc
      >.............................alr.............................>

6601  aagctattga acgtttaggg atttcaatgt atggcttgaa tccaagtggt aaaactttgg
      >.............................alr.............................>

6661  aacttccttt tgaaattgaa cccgctctct ctttagtttc tgaattgact catataaaaa
      >.............................alr.............................>
```

```
6721  aaatagctgc aggtgaaacg gttggttatg gtgcaactta tgagacgagt gaagaaactt
      >.............................alr.............................>

6781  ggattggaac tgttccaatt ggttacgctg acgggtggac ccgtcaaatg caaggtttca
      >.............................alr.............................>

6841  aagtgcttgt tgatggaaag ttttgtgaga ttgttggtcg agtttgtatg gatcaaatga
      >.............................alr.............................>

6901  tgataaaact tgataagtct tacccttggg gaacgaaggt cactttgatt ggtcgagata
      >.............................alr.............................>

6961  aggctaatga aatcacgaca acagacgttg ctgattggcg tggaacgatt aattatgaag
      >.............................alr.............................>

7021  tgctttgctt actttctgat agaatcaaaa gaatctataa ataaaattaa aaaaactgta
      >.....................alr.....................>>
                                                    >>....T.....>

7081  tttttacagt ttttttgttt tctgttaaaa gcagatgata acctcacta
      >.......T......>>
```

Fig. 17a.

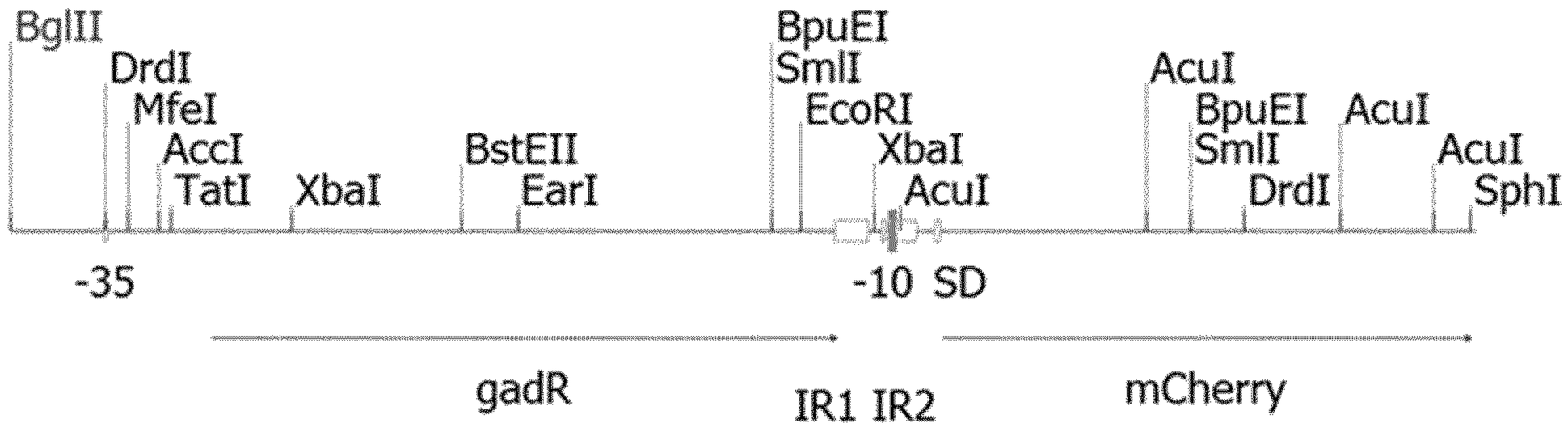


Fig. 17b.

```
       BglII
      -+----
  1   agatctgagc gttgtataag cttttatgtc tttctatatc aacttttaat agaaatataa

 61   agtaatataa atgtttttat aataaattat gtgagatata ttttttttgtc cgtactggta

121   tagatttgac gattaagtct taaataagtt ataatctcaa ttgcgtaatt tcttaaatac
       -35 >>...>>

181   agaaataaca actacattgg tagactgatt aaaaagtgta cttgatgaac tgttataaac

241   cttaaaaaaa taaaaataat agtttggggg atgttaaaga tgtataaaaa atatggagat
                                     >>.............gadR.............>

301   tgttttaaaa agttgcgaaa ccaaaagaat ttagggttat catactttag taaacttgga
      >.............................gadR.............................>

361   atagaccgtt caaatatatc tagatttgaa catggaaaat gtatgatgag ttttgagcgt
      >.............................gadR.............................>
```

```
421  atagatttga tgttagaaga aatgcaagtt ccgttatctg agtacgaatt gattgtaaat
     >.............................gadR.............................>

481  aattttatgc cgaatttcca agaatttttt atattagaat tggaaaaagc tgaatttagc
     >.............................gadR.............................>

541  caaaatcgag ataaaataaa agagttgtat tctgaggtca aagaaacggg gaatcattta
     >.............................gadR.............................>

601  ctgacggtta ccgtgaaaac gaagcttggg aatataagtc agacagaagt taaagaaatt
     >.............................gadR.............................>

661  gaagcttatc tttgcaatat tgaagagtgg ggatattttg aacttacttt attttatttt
     >.............................gadR.............................>

721  gtatctgatt atctcaatgt caatcaatta gaattgctgc tttttaattt tgataaaaga
     >.............................gadR.............................>

781  tgtgaaaatt actgtagagt cttaaaatat agaaggagac tattgcaaat agcctataaa
     >.............................gadR.............................>

841  agtgttgcga tatacgcggc taaaggagaa agaaaaaaag ccgaaaatat tttagaaatg
     >.............................gadR.............................>

901  actaaaaaat atcgaactgt gggagtcgat ttatattcag aagtattaag acatcttgct
     >.............................gadR.............................>

961  agagctatca ttatttttaa ttttgaaaat gcagagattg gggaagaaaa aataaattat
     >.............................gadR.............................>

1021 gctcttgaga ttttggaaga atttggagga aagaagataa aagaattcta tcagaataaa
     >.............................gadR.............................>

1081 atggaaaagt atttgaaaag gtcaatttag tctcttttga gctgttgctt taaagcaaca
     >............gadR............ >>
                                  >>.............IR1................>

1141 gctcaaaaga gattttcttt attctagagc atatactaga gggtgaagata ggttgtctg
     >.....IR1....>>
                                  -10 >>..>>
                                                        >>.....IR2.....>
                                                  Start >

1201 aagcattata acttgtcttt taaaaaattc aatcataaat ataaggaggt atgatgagca
     >........IR2......>>
                                                      >>.SD.>>
                                                          mCherry >>....>

1261 aaggagaaga agataacatg gcaatcatca aagaatttat gcgtttcaaa gttcacatgg
     >.............................mCherry.............................>

1321 aaggttctgt aaacggacac gaatttgaaa ttgaaggtga aggtgaaggc cgtccttatg
     >.............................mCherry.............................>

1381 aaggaacaca aacggcaaag ctgaaagtaa caaaaggcgg accgcttccg tttgcatggg
     >.............................mCherry.............................>

1441 atatcctttc tccgcaattc atgtacggtt caaaagcata cgtgaagcat ccggctgata
     >.............................mCherry.............................>

1501 ttcctgatta tttgaagctg tcattccctg aaggcttcaa atgggagcgt gtgatgaact
     >.............................mCherry.............................>
```

```
1561  ttgaagatgg cggtgttgtt actgttactc aagattcaag ccttcaagac ggtgaattta
      >.........................mCherry.........................>

1621  tttacaaagt gaagctgcgc ggaacaaact tcccatctga cggacctgtc atgcaaaaga
      >.........................mCherry.........................>

1681  aaacaatggg ctgggaagca agctctgaac gcatgtatcc agaggacggt gctttaaaag
      >.........................mCherry.........................>

1741  gagaaatcaa acagcgtttg aagctgaaag acggcggaca ctatgacgct gaagtgaaaa
      >.........................mCherry.........................>

1801  caacttacaa agcgaaaaag ccggttcagc ttccaggtgc ttacaacgta aacatcaaac
      >.........................mCherry.........................>

1861  ttgatattac aagccacaat gaagattata cgattgttga acaatatgaa cgcgctgaag
      >.........................mCherry.........................>

                                                          SphI
                                                         -----+
1921  gccgtcattc aactggcgga atggatgagc tttacaaata ataagcatgc
      >.................mCherry.................>>
```

Fig. 18a:

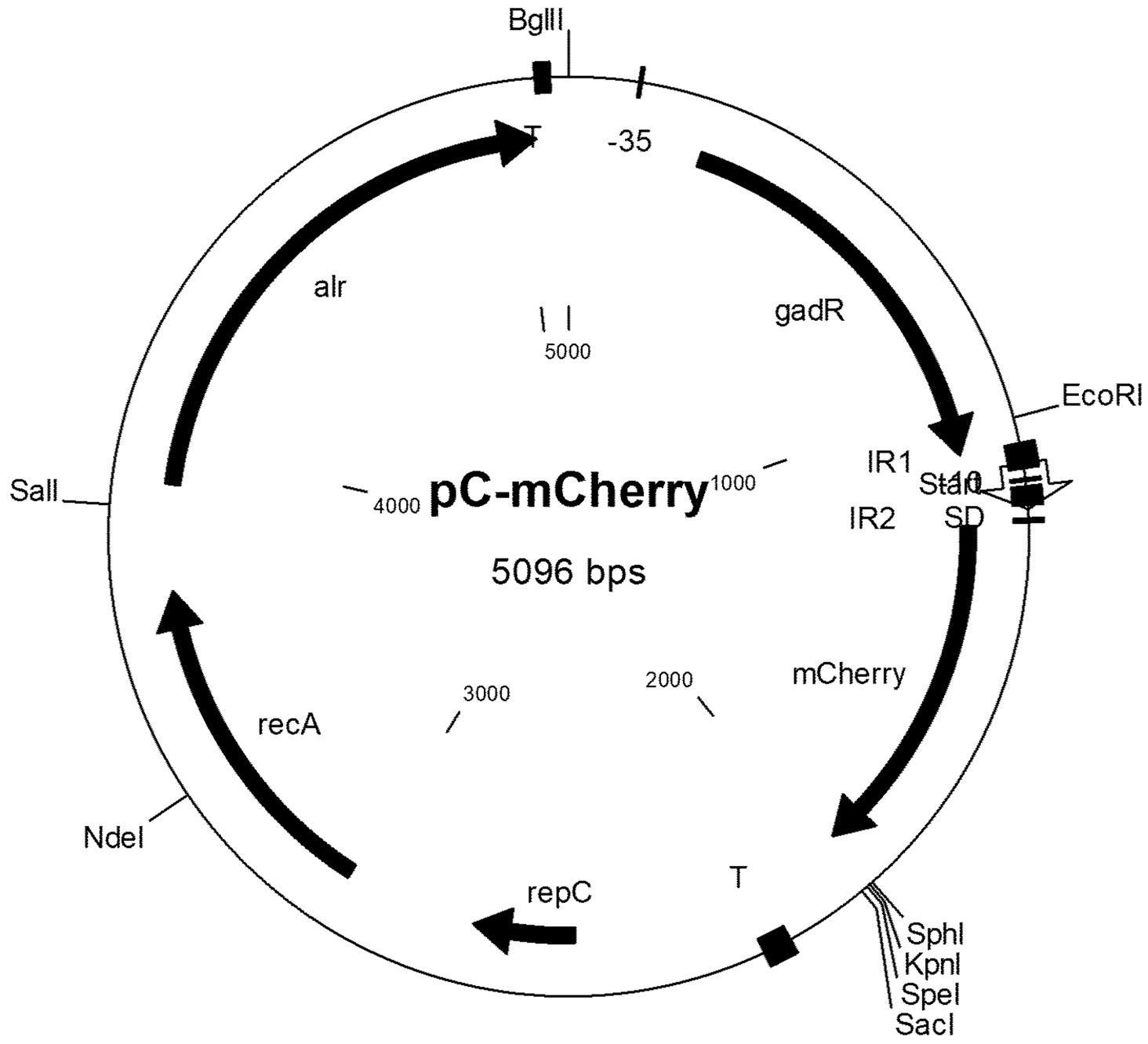


Fig. 18b:

```
   1  gatctgagcg ttgtataagc ttttatgtct ttctatatca acttttaata gaaatataaa

  61  gtaatataaa tgtttttata ataaattatg tgagatatat ttttttgtcc gtactggtat

 121  agatttgacg attaagtctt aaataagtta taatctcaat tgcgtaattt cttaaataca
      -35 >>..>>

 181  gaaataacaa ctacattggt agactgatta aaaagtgtac ttgatgaact gttataaacc

 241  ttaaaaaaat aaaaataata gtttggggga tgttaaagat gtataaaaaa tatggagatt
                                    >>.............gadR.............>

 301  gttttaaaaa gttgcgaaac caaaagaatt tagggttatc atactttagt aaacttggaa
      >.........................gadR.............................>

 361  tagaccgttc aaatatatct agatttgaac atggaaaatg tatgatgagt tttgagcgta
      >.........................gadR.............................>

 421  tagatttgat gttagaagaa atgcaagttc cgttatctga gtacgaattg attgtaaata
      >.........................gadR.............................>

 481  attttatgcc gaatttccaa gaatttttta tattagaatt ggaaaaagct gaatttagcc
      >.........................gadR.............................>

 541  aaaatcgaga taaaataaaa gagttgtatt ctgaggtcaa agaaacgggg aatcatttac
      >.........................gadR.............................>

 601  tgacggttac cgtgaaaacg aagcttggga atataagtca gacagaagtt aaagaaattg
      >.........................gadR.............................>

 661  aagcttatct ttgcaatatt gaagagtggg gatattttga acttacttta ttttattttg
      >.........................gadR.............................>

 721  tatctgatta tctcaatgtc aatcaattag aattgctgct ttttaatttt gataaaagat
      >.........................gadR.............................>

 781  gtgaaaatta ctgtagagtc ttaaaatata gaaggagact attgcaaata gcctataaaa
      >.........................gadR.............................>

 841  gtgttgcgat atacgcggct aaaggagaaa gaaaaaaagc cgaaaatatt ttagaaatga
      >.........................gadR.............................>

 901  ctaaaaaata tcgaactgtg ggagtcgatt tatattcaga agtattaaga catcttgcta
      >.........................gadR.............................>

 961  gagctatcat tatttttaat tttgaaaatg cagagattgg ggaagaaaaa ataaattatg
      >.........................gadR.............................>

1021  ctcttgagat tttggaagaa tttggaggaa agaagataaa agaattctat cagaataaaa
      >.........................gadR.............................>

1081  tggaaaagta tttgaaaagg tcaatttagt ctcttttgag ctgttgcttt aaagcaacag
      >............gadR............>>
                                    >>.............IR1..............>

1141  ctcaaaagag attttcttta ttctagagca tatactagag ggtgaagata ggttgtctga
      >....IR1....>>
                                    -10 >>..>>
                                                      >>.....IR2......>
                                                 Start >

1201  agcattataa cttgtctttt aaaaaattca atcataaata taaggaggta tgatgagcaa
```

```
      >.......IR2......>>
                                                    >>.SD.>>
                                                        mCherry >>.....>

1261  aggagaagaa gataacatgg caatcatcaa agaatttatg cgtttcaaag ttcacatgga
      >.........................mCherry.........................>

1321  aggttctgta aacggacacg aatttgaaat tgaaggtgaa ggtgaaggcc gtccttatga
      >.........................mCherry.........................>

1381  aggaacacaa acggcaaagc tgaaagtaac aaaaggcgga ccgcttccgt ttgcatggga
      >.........................mCherry.........................>

1441  tatcctttct ccgcaattca tgtacggttc aaaagcatac gtgaagcatc cggctgatat
      >.........................mCherry.........................>

1501  tcctgattat ttgaagctgt cattccctga aggcttcaaa tgggagcgtg tgatgaactt
      >.........................mCherry.........................>

1561  tgaagatggc ggtgttgtta ctgttactca agattcaagc cttcaagacg gtgaatttat
      >.........................mCherry.........................>

1621  ttacaaagtg aagctgcgcg gaacaaactt cccatctgac ggacctgtca tgcaaaagaa
      >.........................mCherry.........................>

1681  aacaatgggc tgggaagcaa gctctgaacg catgtatcca gaggacggtg ctttaaaagg
      >.........................mCherry.........................>

1741  agaaatcaaa cagcgtttga agctgaaaga cggcggacac tatgacgctg aagtgaaaac
      >.........................mCherry.........................>

1801  aacttacaaa gcgaaaaagc cggttcagct tccaggtgct tacaacgtaa acatcaaact
      >.........................mCherry.........................>

1861  tgatattaca agccacaatg aagattatac gattgttgaa caatatgaac gcgctgaagg
      >.........................mCherry.........................>

1921  ccgtcattca actggcggaa tggatgagct ttacaaataa taagcatgcg gtaccactag
      >.................mCherry.................>>

1981  ttctagagag ctcaagcttt ctttgaacca aaattagaaa accaaggctt gaaacgttca

2041  attgaaatgg caattaaaca aattacagca cgtgttgctt tgattgatag ccaaaaagca

2101  gcagttgata aagcaattac tgatattgct gaaaaattgt aatttataaa taaaaatcac
                                                  >>.........T.........>

2161  cttttagagg tggtttttt atttataaat tattcgtttg atttcgcttt cgatagaaca
      >...............T..............>>

2221  atcaaatcgt ttctgagacg ttttagcgtt tatttcgttt agttatcggc ataatcgtta

2281  aaacaggcgt tatcgtagcg taaaagccct tgagcgtagc gtggctttgc agcgaagatg

2341  ttgtctgtta gattatgaaa gccgatgact gaatgaaata ataagcgcag cgtccttcta

2401  tttcggttgg aggaggctca agggagtttg agggaatgaa attccctcat gggtttgatt

2461  ttaaaaattg cttgcaattt tgccgagcgg tagcgctgga aaatttttga aaaaaatttg

2521  gaatttggaa aaaaatgggg ggaaaggaag cgaattttgc ttccgtacta cgacccccca
                    >>.....................repC.....................>
```

```
2581  ttaagtgccg agtgccaatt tttgtgccaa aaacgctcta tcccaactgg ctcaagggtt
      >.............................repC.............................>

2641  tgaggggttt ttcaatcgcc aacgaatcgc caacgttttc gccaacgttt tttataaatc
      >.............................repC.............................>

2701  tatatttaag tagctttatt tttgttttta tgattacaaa gtgatacact aattttataa
      >.......................repC.....................>>

2761  aattatttga ttggagtttt ttaaatggtg atttcagaat cgaaaaaaag agttatgatt

2821  tctctgacaa aagagcaaga taaaaaatta acagatatgg cgaaacaaaa agatttttca

2881  aaatctgcgg ttgcggcgtt agctatagaa gaatatgcaa gaaaggaatc agaacaaaaa

2941  aaataagcga aagctcgcgt ttttagaagg atacgagttt tcgctacttg tttttgataa

3001  ggtaattata tcatggctat taaaaatact aaagctagaa attttggatt tttattatat
                 >>.........................recA.........................>

3061  cctgactcaa ttcctaatga ttggaaagaa aaattagaga gtttgggcgt atctatggct
      >.............................recA.............................>

3121  gtcagtcctt tacacgatat ggacgaaaaa aaagataaag atacatggaa tagtagtgat
      >.............................recA.............................>

3181  gttatacgaa atggaaagca ctataaaaaa ccacactatc acgttatata tattgcacga
      >.............................recA.............................>

3241  aatcctgtaa caatagaaag cgttaggaac aagattaagc gaaaattggg gaatagttca
      >.............................recA.............................>

3301  gttgctcatg ttgagatact tgattatatc aaaggttcat atgaatattt gactcatgaa
      >.............................recA.............................>

3361  tcaaaggacg ctattgctaa gaataaacat atatacgaca aaaaagatat tttgaacatt
      >.............................recA.............................>

3421  aatgattttg atattgaccg ctatataaca cttgatgaaa gccaaaaaag agaattgaag
      >.............................recA.............................>

3481  aatttacttt tagatatagt ggatgactat aatttggtaa atacaaaaga tttaatggct
      >.............................recA.............................>

3541  tttattcgcc ttaggggagc ggagtttgga attttaaata cgaatgatgt aaaagatatt
      >.............................recA.............................>

3601  gtttcaacaa actctagcgc ctttagatta tggtttgagg gcaattatca gtgtggatat
      >.............................recA.............................>

3661  agagcaagtt atgcaaaggt tcttgatgct gaaacggggg aaataaaatg acaaacaaag
      >.............................recA.............................>>

3721  aaaaagagtt atttgctgaa aatgaggaat taaaaaaaga aattaaggac ttaaaagagc

3781  gtattgaaag atacagagaa atggaagttg aattaagtac aacaatagat ttattgagag

3841  gagggattat tgaataaata aaagcccccc tgacgaaagt cgacatggtc gatgtctaga

3901  tgcttaaact agagaaaggt ttaaaagatg aaaacttcac cacatcgtaa tacttcagct
                                    >>..............alr..............>

3961  attgttgatt taaaagcgat tagaaataat attgaaaaat ttaaaaagca tattaaccct
```

```
     >.............................alr.............................>

4021 aatgcagaga tttggccagc agtgaaagca gatgcttatg gtcatggctc gattgaggtt
     >.............................alr.............................>

4081 tctaaagcgg tgagcgattt ggtaggtggt ttttgtgtat caaacctaga tgaggcaatt
     >.............................alr.............................>

4141 gaattacgaa atcatctggt gactaaaccg attttagttt tatccggaat tgttccagaa
     >.............................alr.............................>

4201 gatgttgata ttgcagctgc ccttaatatt agtcttactg ccccgagttt agaatggttg
     >.............................alr.............................>

4261 aaattggttg ttcaagaaga agcagaactt tcagatttaa aaattcatat tggtgtagat
     >.............................alr.............................>

4321 tctggtatgg gtcggattgg tattcgtgat gttgaagaag ctaatcagat gattgaactt
     >.............................alr.............................>

4381 gctgataaat atgcgattaa ttttgaagga attttcactc attttgcgac tgcggatatg
     >.............................alr.............................>

4441 gctgatgaaa caaaatttaa aaatcaacag gcaagattta acaaaattat ggccggatta
     >.............................alr.............................>

4501 tcacgtcaac caaaatttat acactcaact aatacggccg ctgctttatg gcataaggaa
     >.............................alr.............................>

4561 caagttcaag ctattgaacg tttagggatt tcaatgtatg gcttgaatcc aagtggtaaa
     >.............................alr.............................>

4621 actttggaac ttccttttga aattgaaccc gctctctctt tagtttctga attgactcat
     >.............................alr.............................>

4681 ataaaaaaaa tagctgcagg tgaaacggtt ggttatggtg caacttatga gacgagtgaa
     >.............................alr.............................>

4741 gaaacttgga ttggaactgt tccaattggt tacgctgacg ggtggacccg tcaaatgcaa
     >.............................alr.............................>

4801 ggtttcaaag tgcttgttga tggaaagttt tgtgagattg ttggtcgagt ttgtatggat
     >.............................alr.............................>

4861 caaatgatga taaaacttga taagtcttac cctttgggaa cgaaggtcac tttgattggt
     >.............................alr.............................>

4921 cgagataagg ctaatgaaat cacgacaaca gacgttgctg attggcgtgg aacgattaat
     >.............................alr.............................>

4981 tatgaagtgc tttgcttact ttctgataga atcaaaagaa tctataaata aaattaaaaa
     >.............................alr.............................>>
                                                                >>T.>

5041 aactgtattt ttacagtttt tttgttttct gttaaaagca gatgataacc tcacta
     >...........T..........>>
```

Fig. 19a:

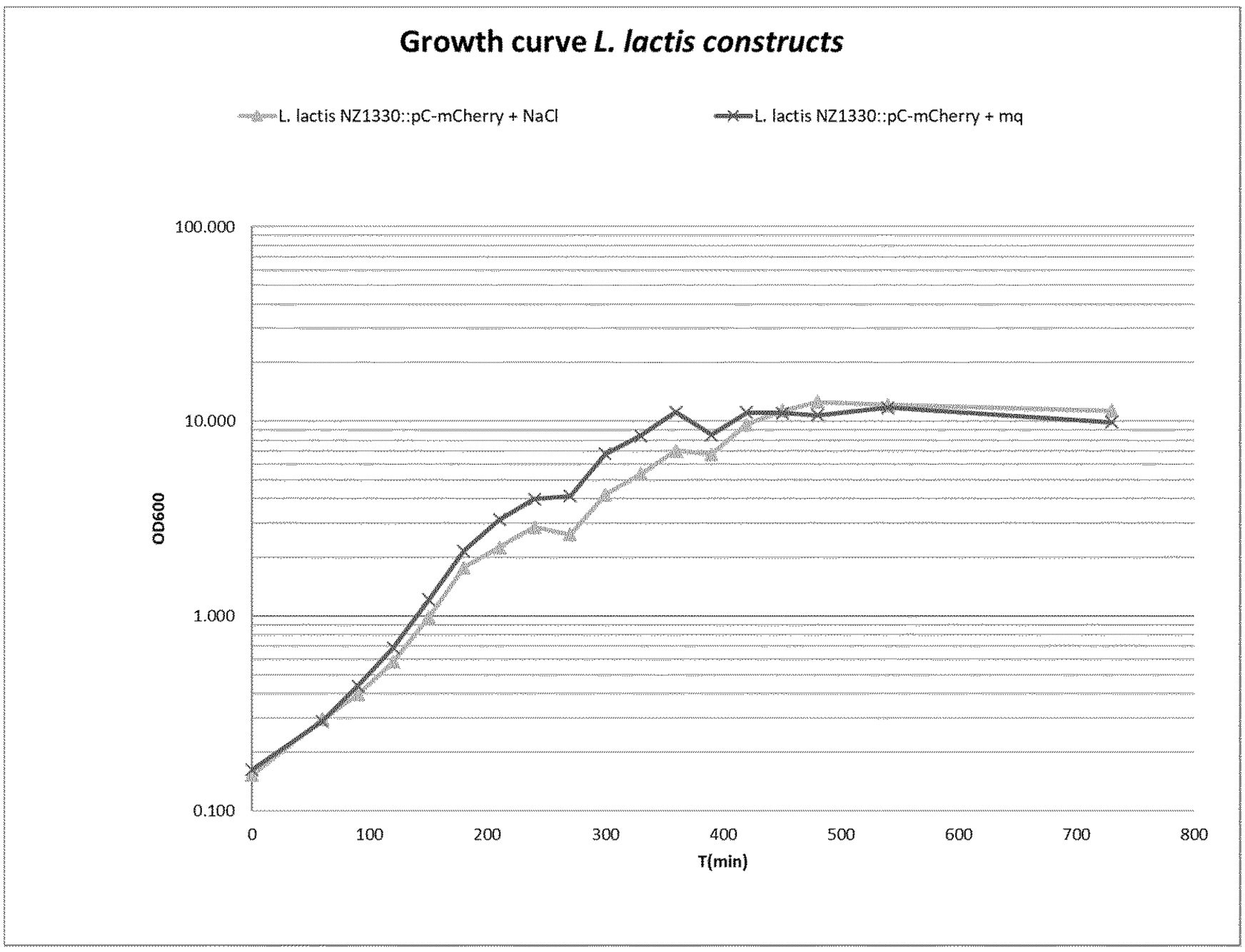


Fig. 19b:

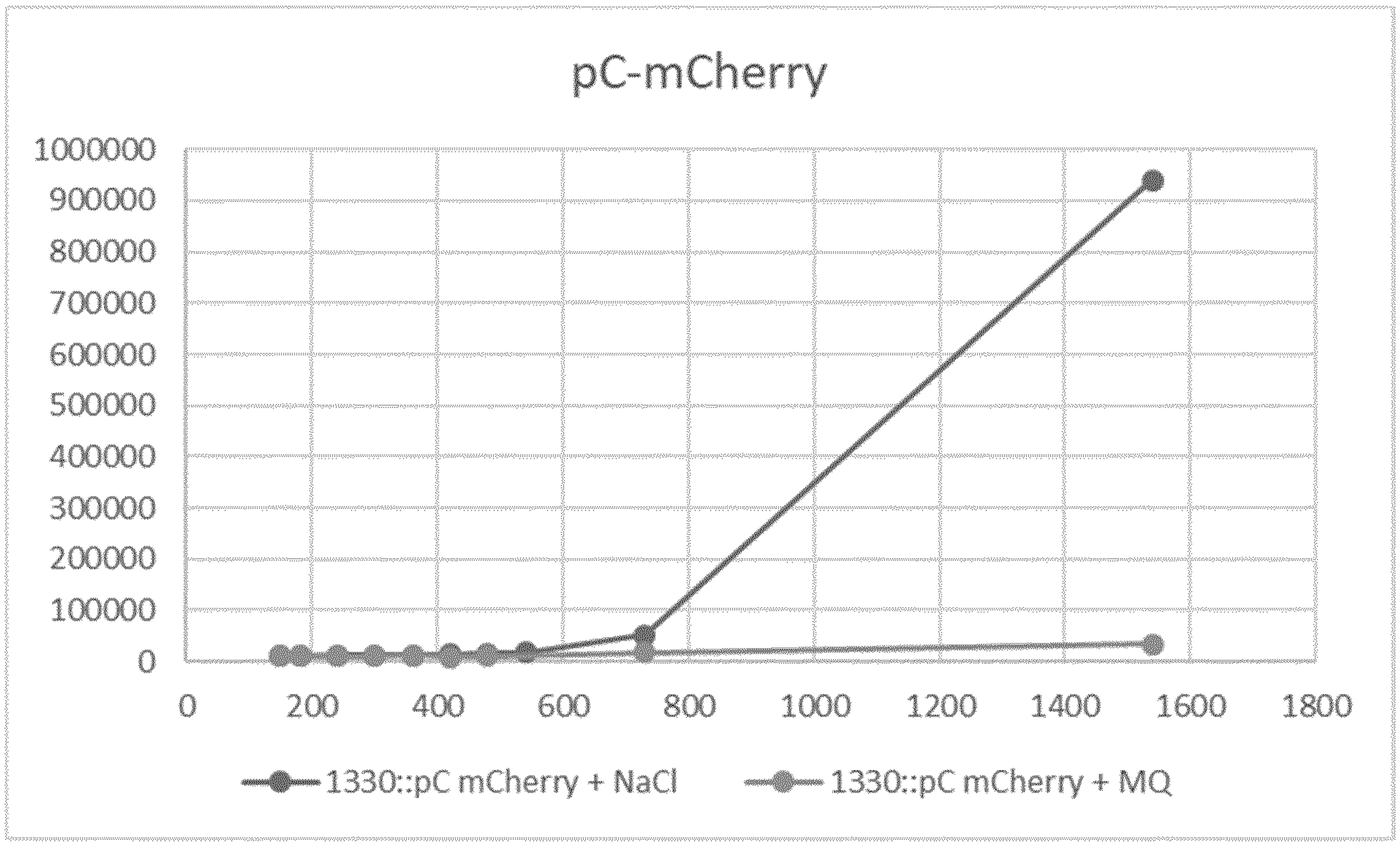
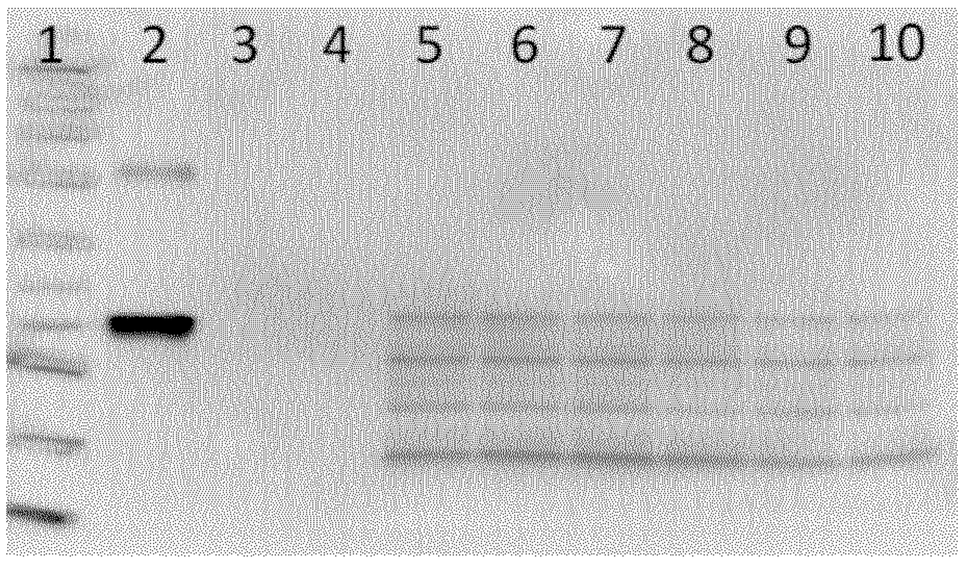


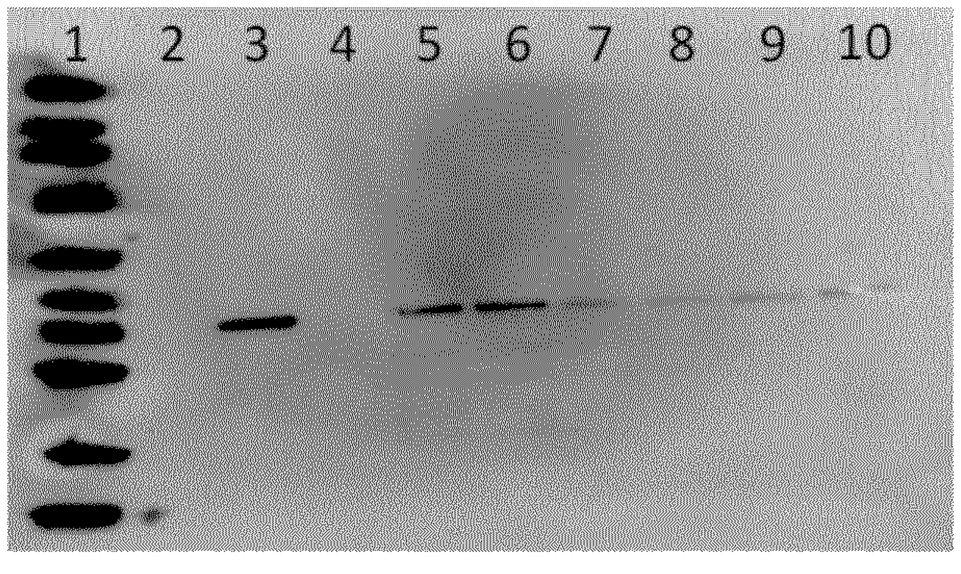
Fig. 20a:

Lane	Sample	Factors
1	SeeBlue marker	
2	Recomb. CSF-1	
3	Recomb. FGF-2	
4	Recomb. IL-4	
5	AUP1602-C	FGF-2, IL-4 and CSF-1
6	AUP1602-C	FGF-2, IL-4 and CSF-1
7	AUP1602-C	FGF-2, IL-4 and CSF-1
8	AUP1602-C	FGF-2, IL-4 and CSF-1
9	AUP1602-C	FGF-2, IL-4 and CSF-1
10	AUP1602-C	FGF-2, IL-4 and CSF-1

:anti-CSF-1



:anti-FGF-2



:anti-IL-4

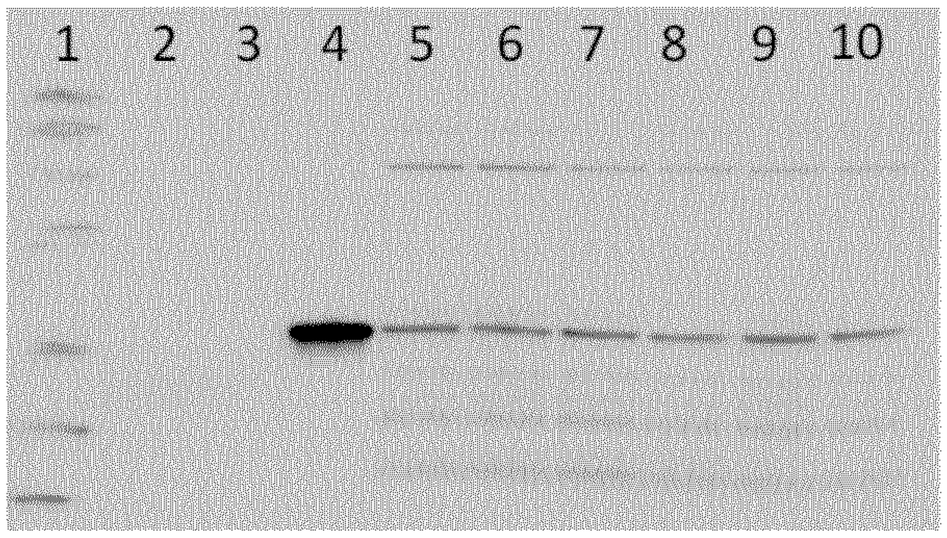


Fig. 20b:

Lane	Sample	Factors
1	AUP5563-C	IL-12, IL-18 and GM-CSF
2	AUP5563-C	IL-12, IL-18 and GM-CSF
3	AUP5563-C	IL-12, IL-18 and GM-CSF
4	AUP5563-C	IL-12, IL-18 and GM-CSF
5	AUP5563-C	IL-12, IL-18 and GM-CSF
6	Marker	
7	Recomb. mGM-CSF	(100 ng)

:anti-GM-CSF

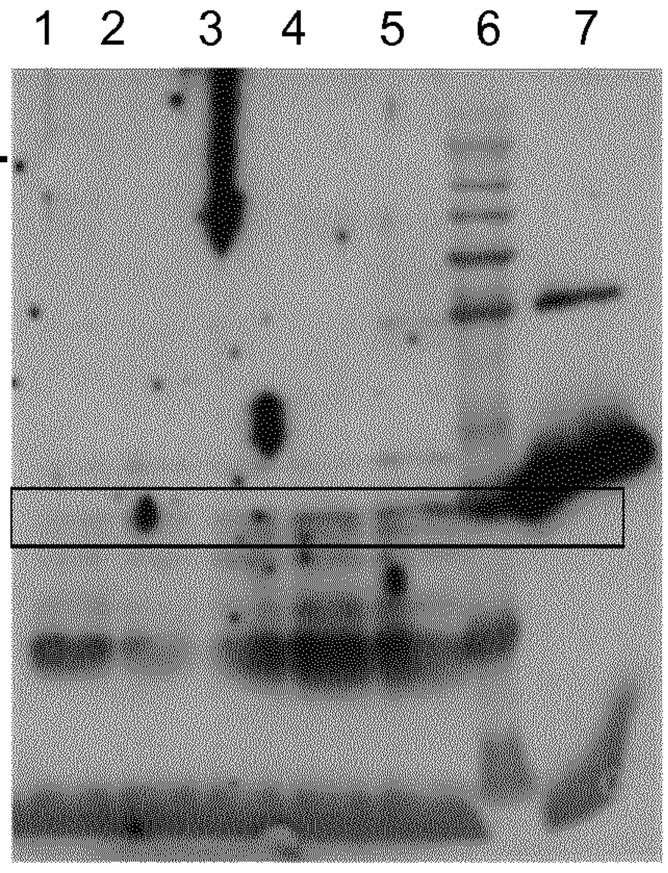


Fig. 20c:

Lane	Sample	Factors
1	AUP5563-C	IL-12, IL-18 and GM-CSF
2	AUP5563-C	IL-12, IL-18 and GM-CSF
3	AUP5563-C	IL-12, IL-18 and GM-CSF
4	AUP5563-C	IL-12, IL-18 and GM-CSF
5	AUP5563-C	IL-12, IL-18 and GM-CSF
6	Marker	
7	Recomb. mIL-18	(100 ng)

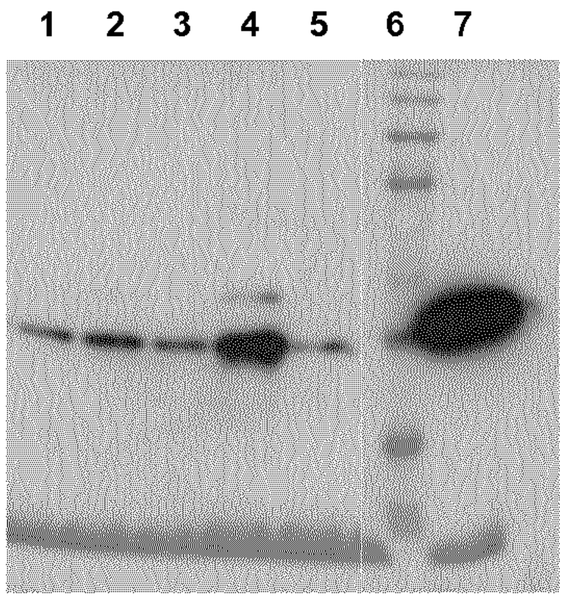


Fig. 20d:

Lane	Sample	Factors
1	Marker	
2	AUP5551m-C	IL-12, IL-18 and IFN-α
3	AUP5551m-C	IL-12, IL-18 and IFN-α
4	AUP5551m-C	IL-12, IL-18 and IFN-α
5	AUP5563-C	IL-12, IL-18 and GM-CSF
6	AUP5563-C	IL-12, IL-18 and GM-CSF
7	AUP5563-C	IL-12, IL-18 and GM-CSF
8	AUP5563-C	IL-12, IL-18 and GM-CSF
9	Recomb. IL-12	(0.06 ng)
10	Recomb. IL-12	(0.12 ng)
11	Recomb. IL-12	(0.37 ng)
12	Recomb. IL-12	(1.1 ng)
13	Recomb. IL-12	(3.3 ng)
14	Recomb. IL-12	(10 ng)
15	Recomb. IL-12	(30 ng)
16	Marker	

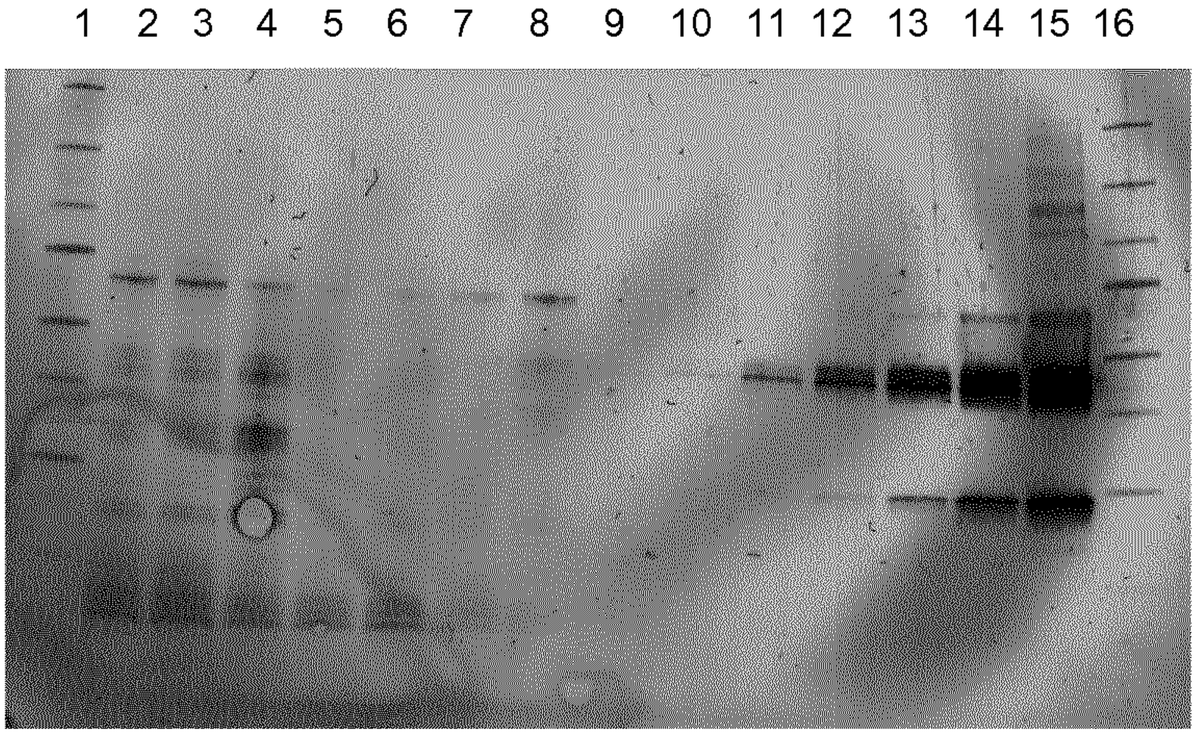
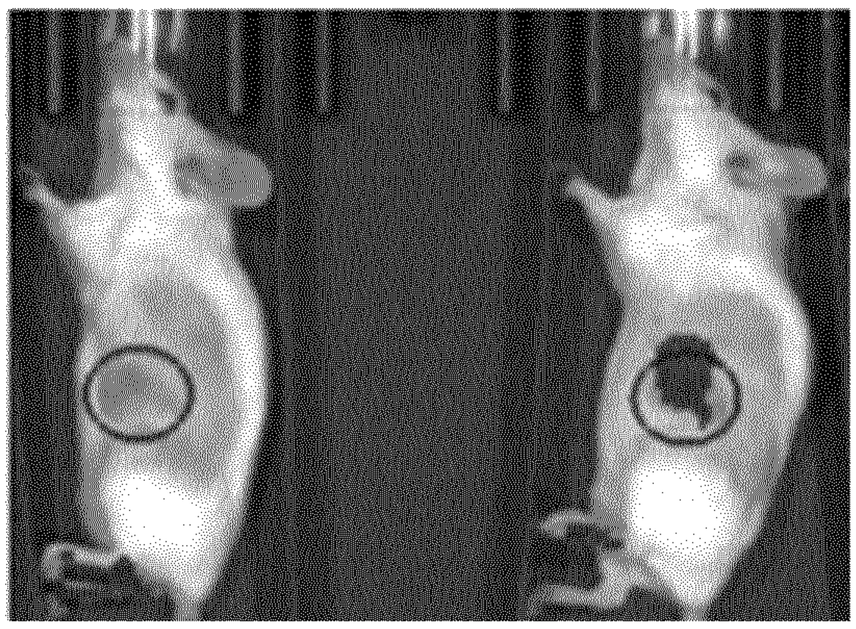


Fig. 21:



L. Lactis (control) PGAD- mCherry

Fig. 22

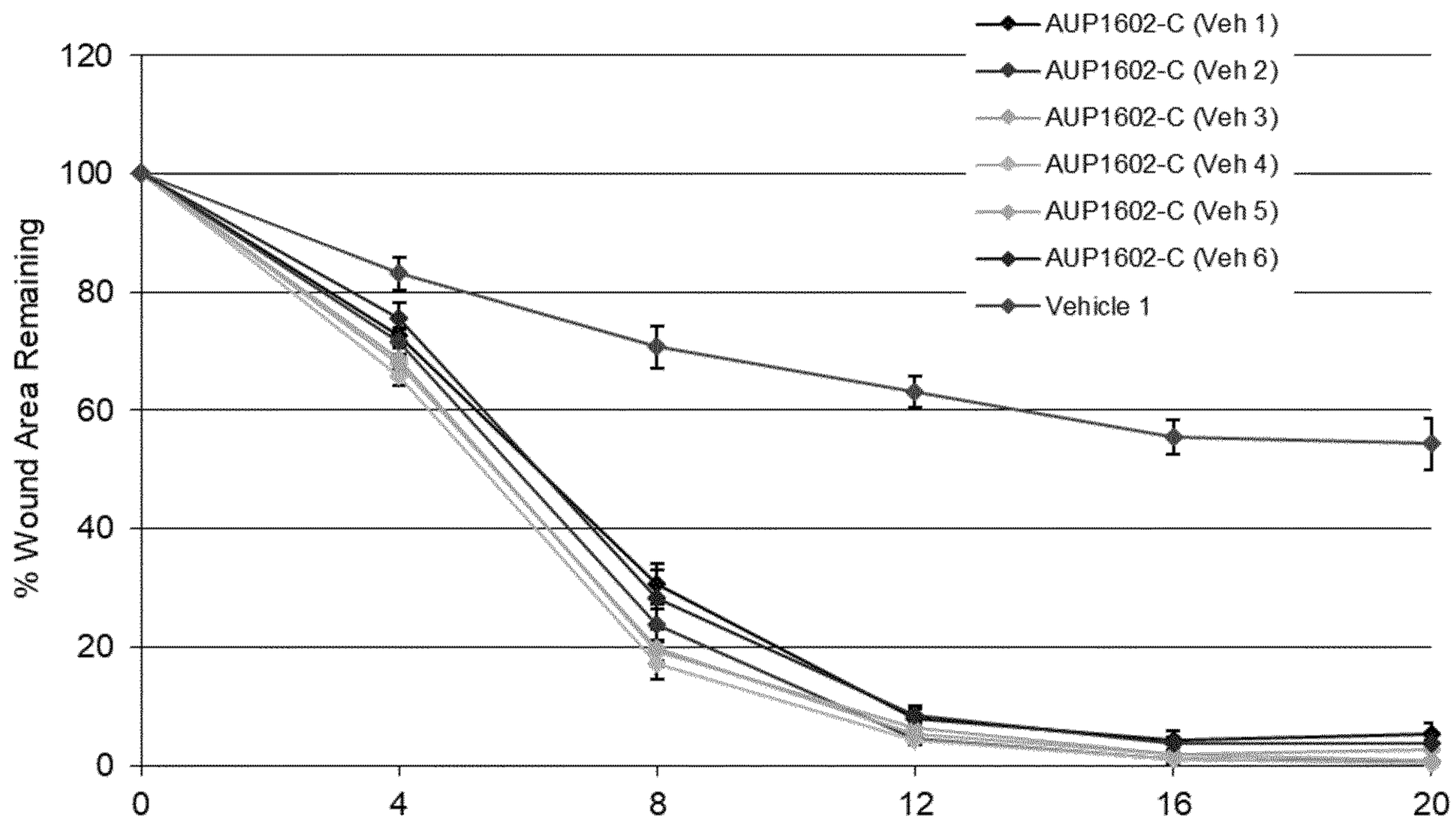


Fig. 23

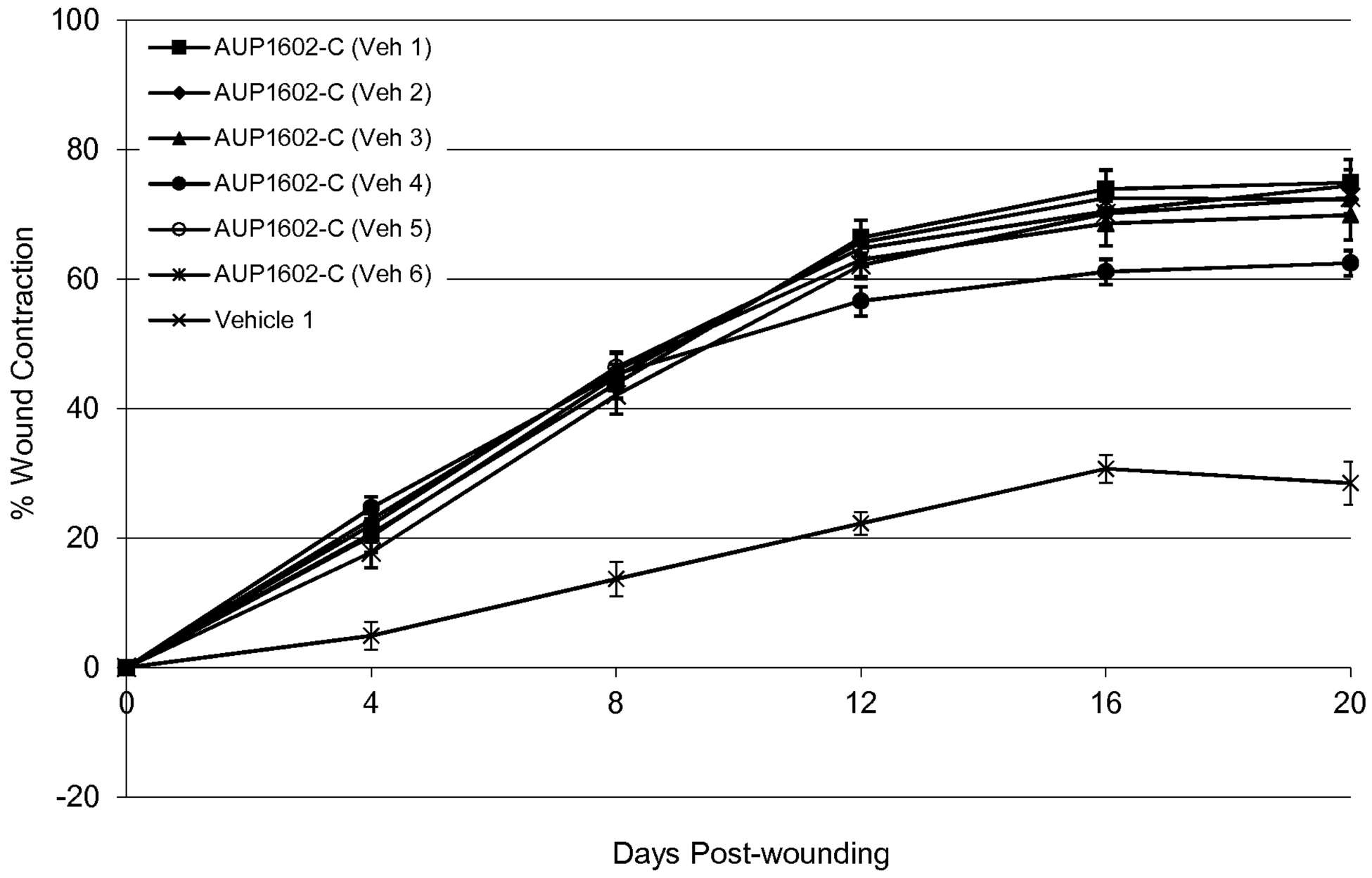

100
80
60
40
20
0
-20
% Wound Contraction
0
4
8
12
16
20
Days Post-wounding
AUP1602-C (Veh 1)
AUP1602-C (Veh 2)
AUP1602-C (Veh 3)
AUP1602-C (Veh 4)
AUP1602-C (Veh 5)
AUP1602-C (Veh 6)
Vehicle 1

Fig. 24

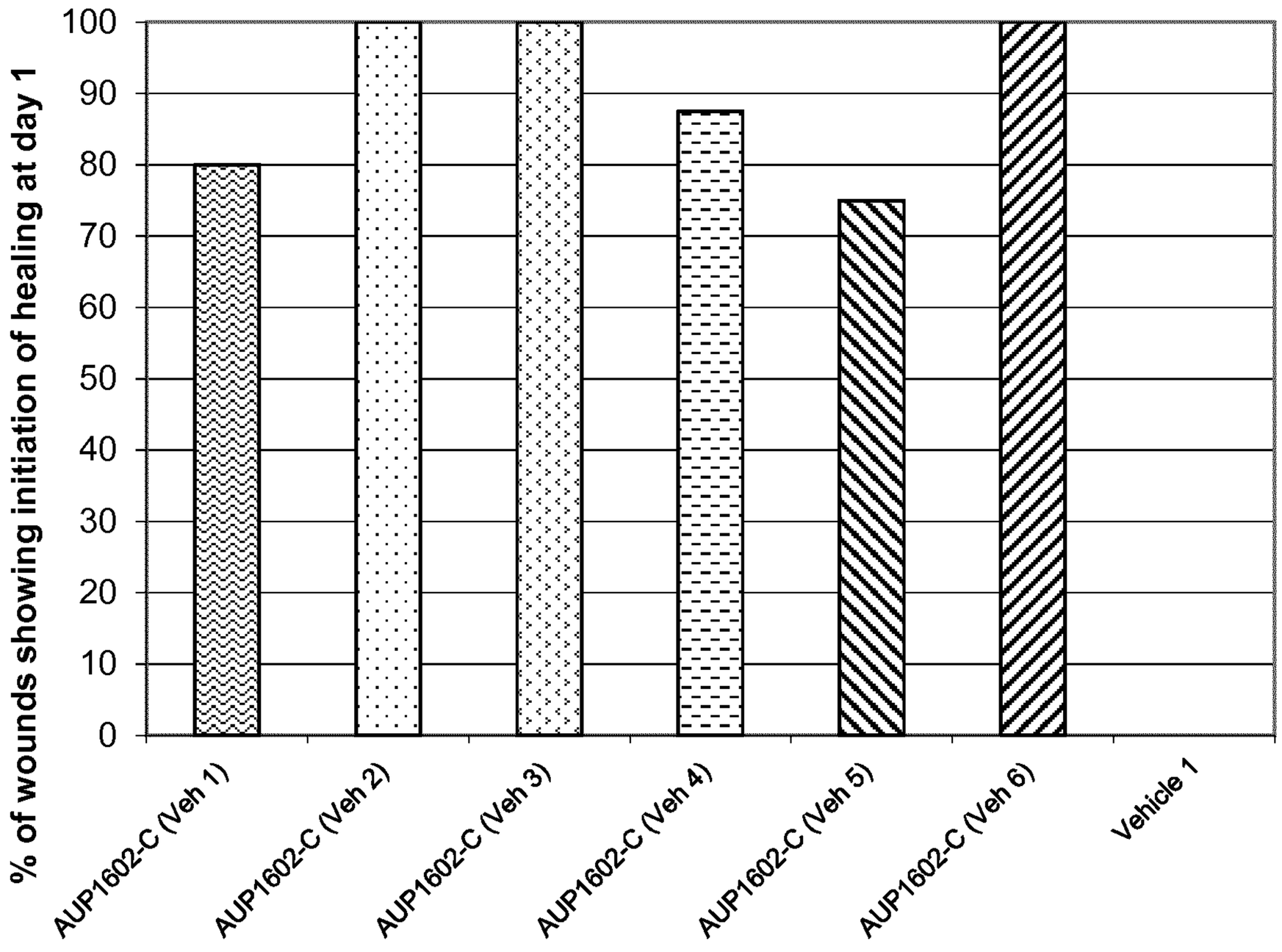

100
90
80
70
60
50
40
30
20
10
0
% of wounds showing initiation of healing at day 1
AUP1602-C (Veh 1)
AUP1602-C (Veh 2)
AUP1602-C (Veh 3)
AUP1602-C (Veh 4)
AUP1602-C (Veh 5)
AUP1602-C (Veh 6)
Vehicle 1

Fig. 25a

N=1														
Lane	1	2	3	4	5	6	7	8	9	10	11	12	13	
Label	MW	NO2 25µl	NO3 25µl	NO4 25µl	NO2 10µl	NO3 10µl	NO4 10µl	MW	STD 10mg	STD 3.3ng	STD 1.1ng	STD 0.37ng	STD 0.12ng	
ID														

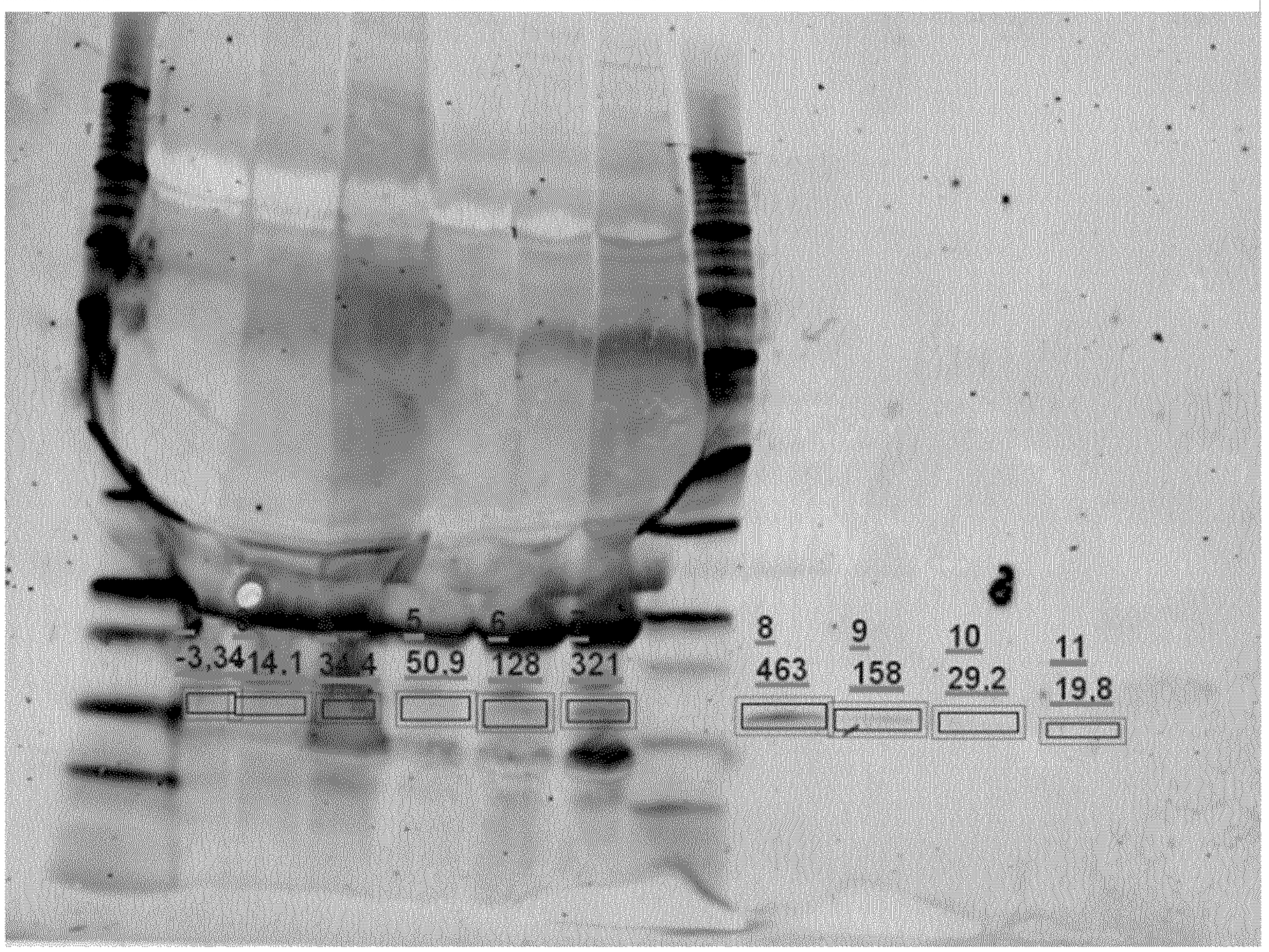


Fig. 25b:

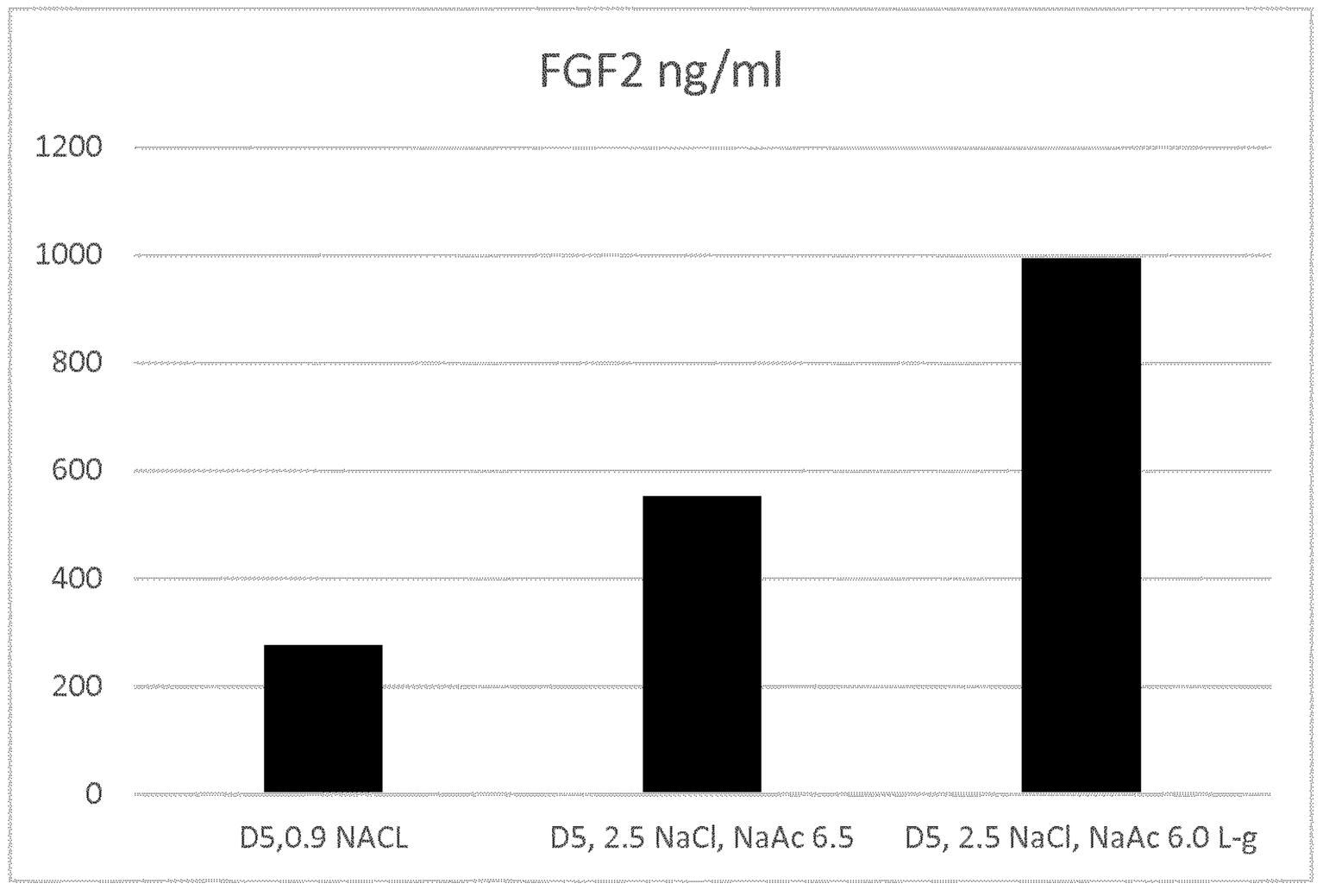


Fig. 26a

N=1													
Lane	1	2	3	4	5	6	7	8	9	10	11	12	13
Label	MW	NO2 25µl	NO3 25µl	NO4 25µl	NO2 10µl	NO3 10µl	NO4 10µl	MW	STD 10ng	STD 3.3ng	STD 1.1ng	STD 0.37ng	STD 0.12ng
ID													

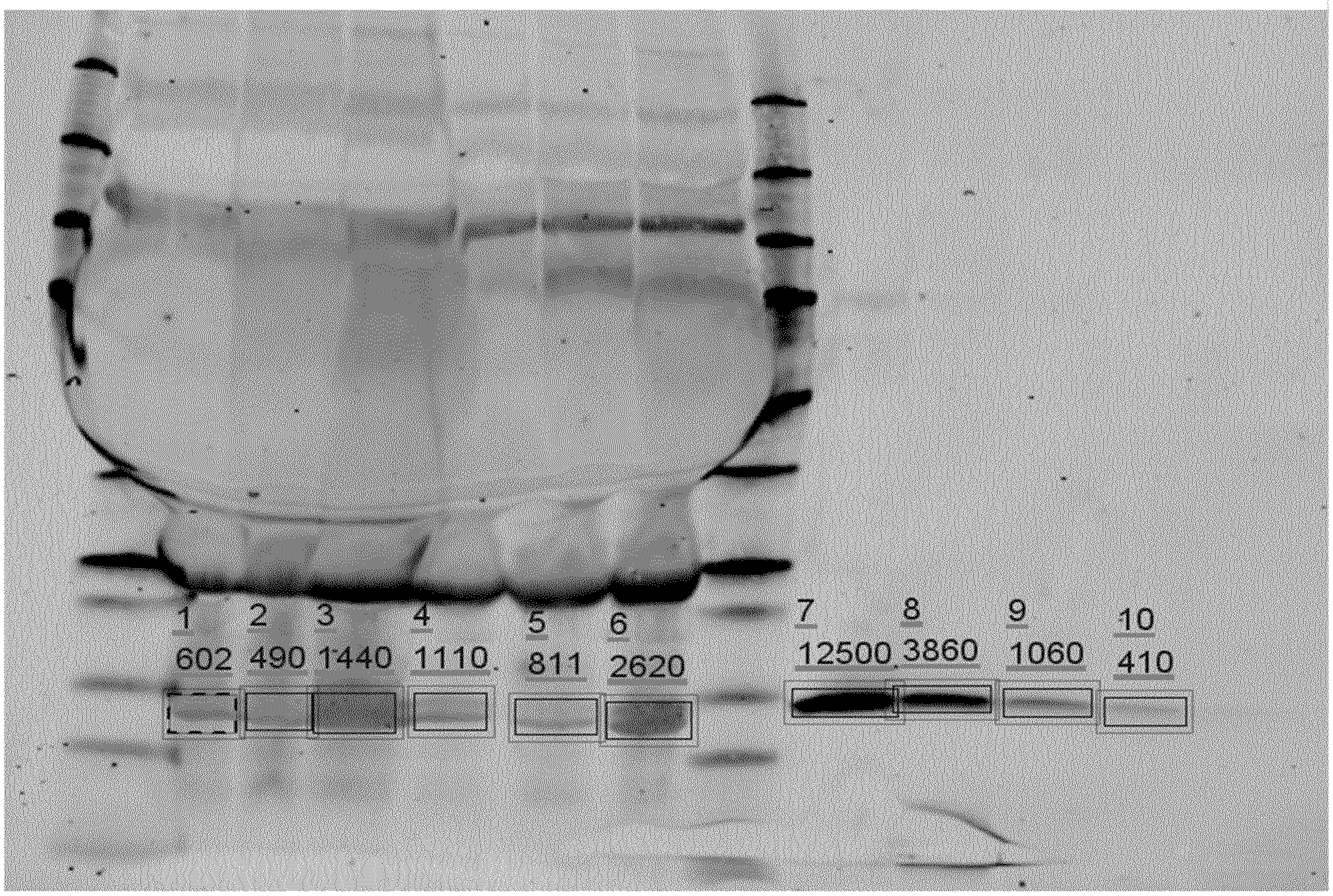


Fig. 26b

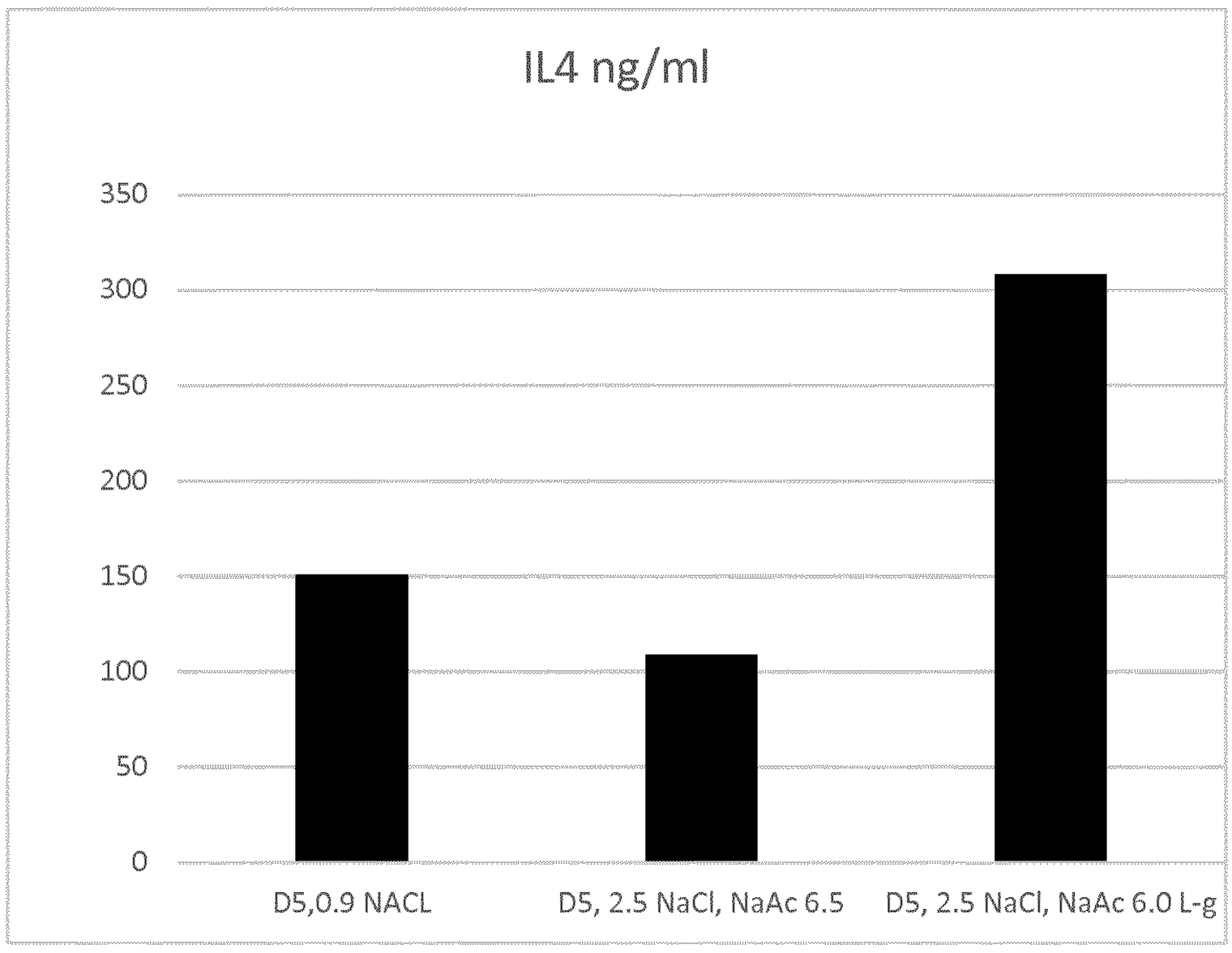


Fig. 27a:

N=1													
Lane	1	2	3	4	5	6	7	8	9	10	11	12	13
Label	MW	NO2 25µl	NO3 25µl	NO4 25µl	NO2 10µl	NO3 10µl	NO4 10µl	MW	STD 10mg	STD 3.3ng	STD 1.1ng	STD 0.37ng	STD 0.12ng
ID													

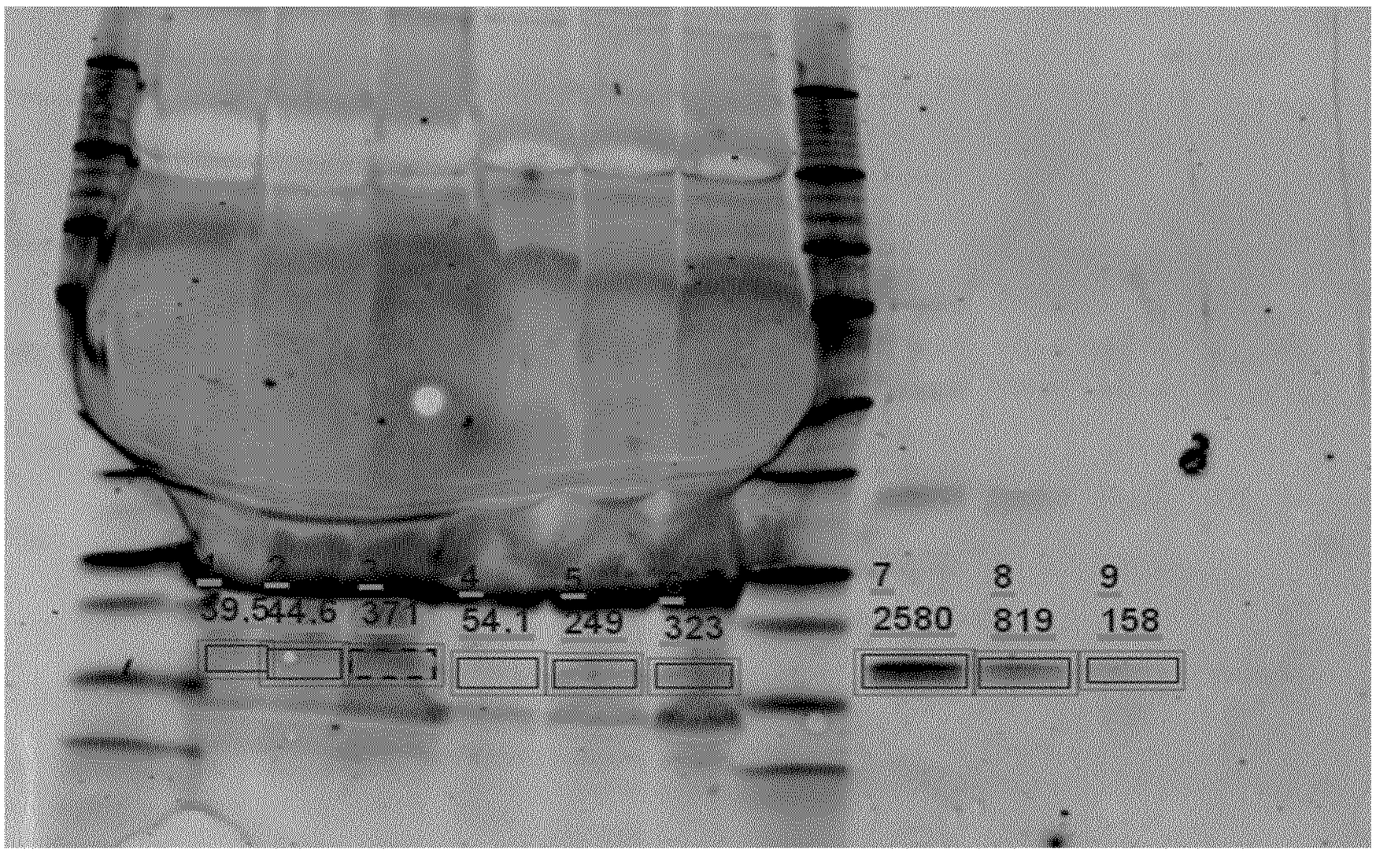


Fig. 27b:

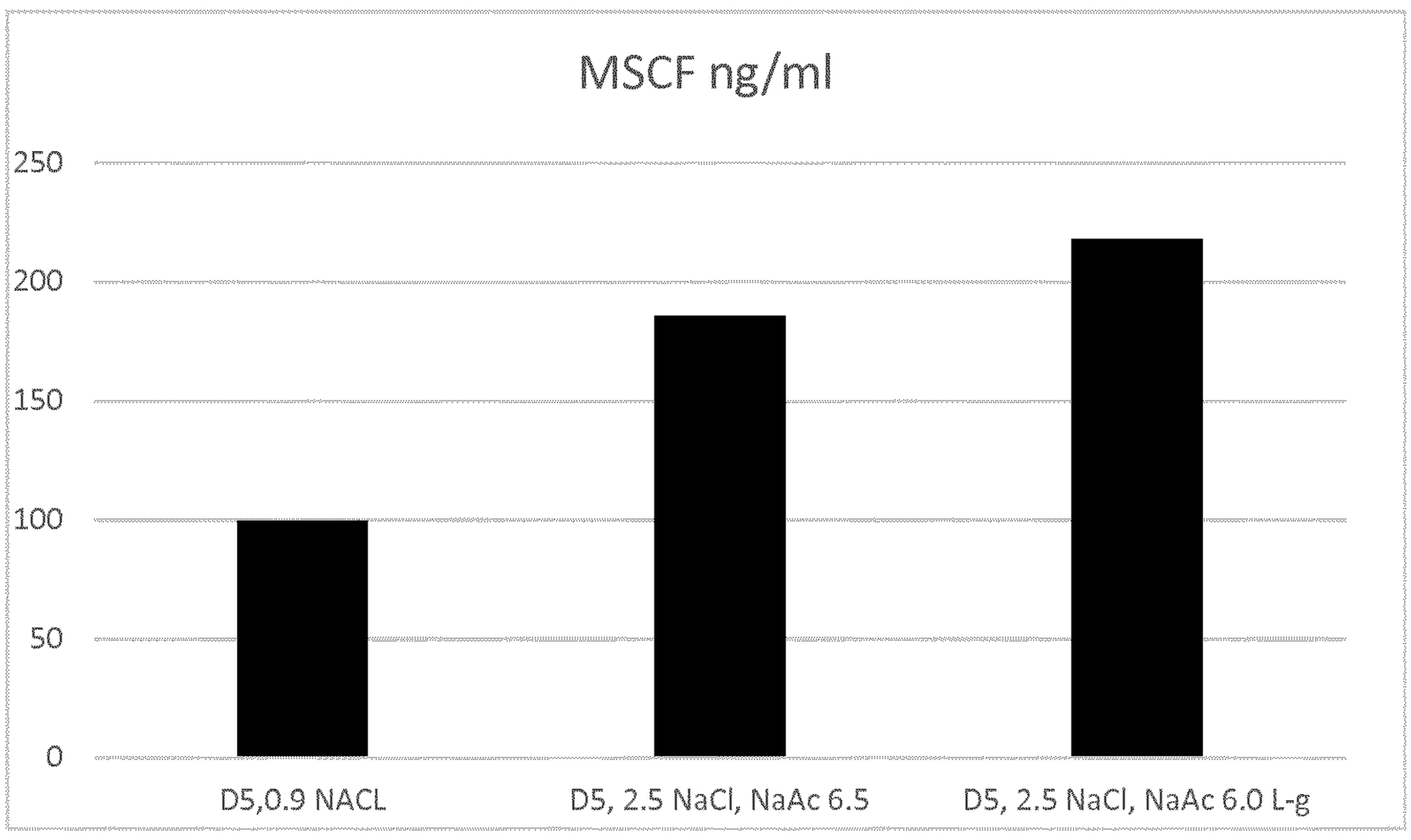


Fig. 28a:

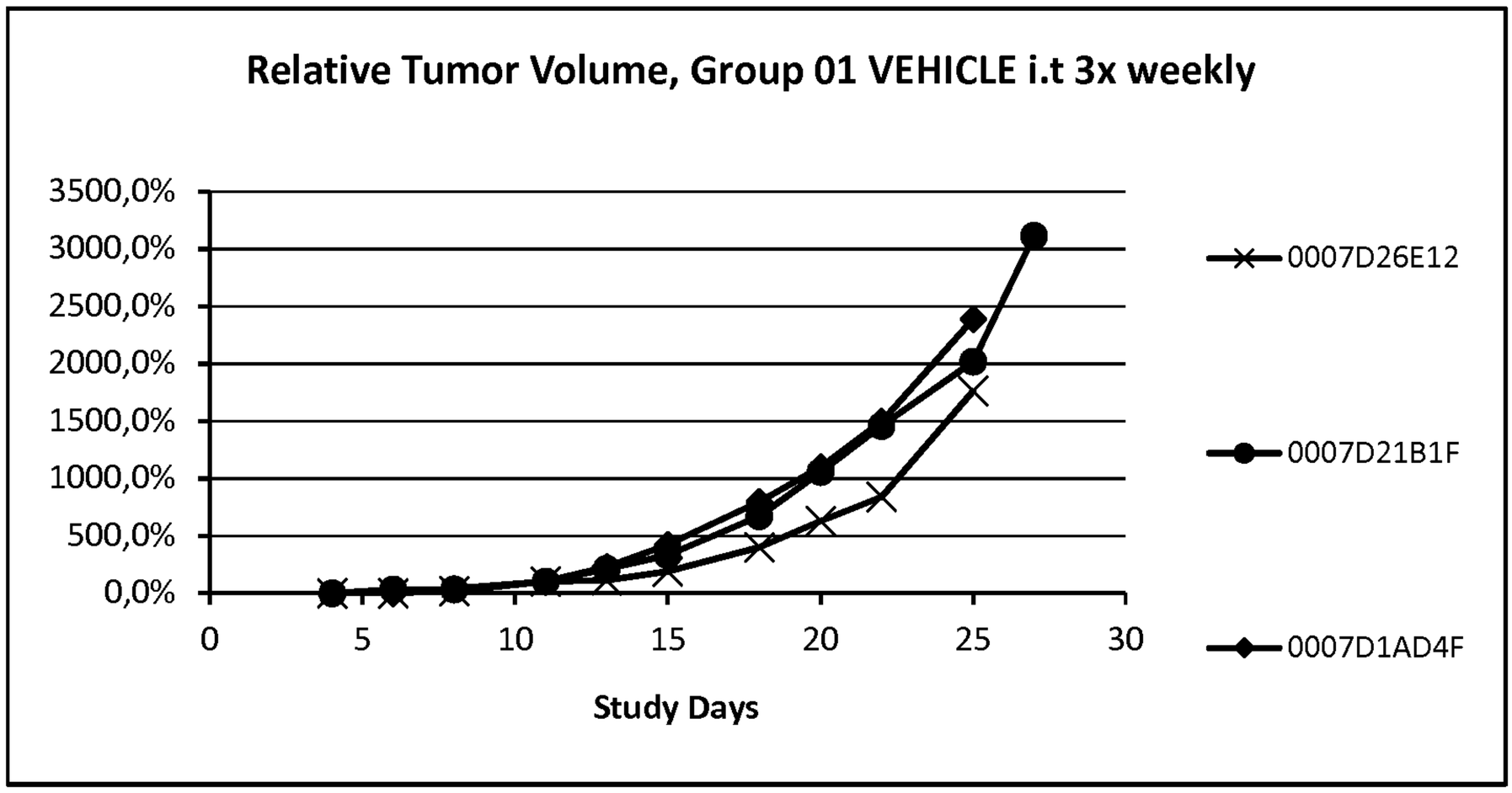


Fig. 28b:

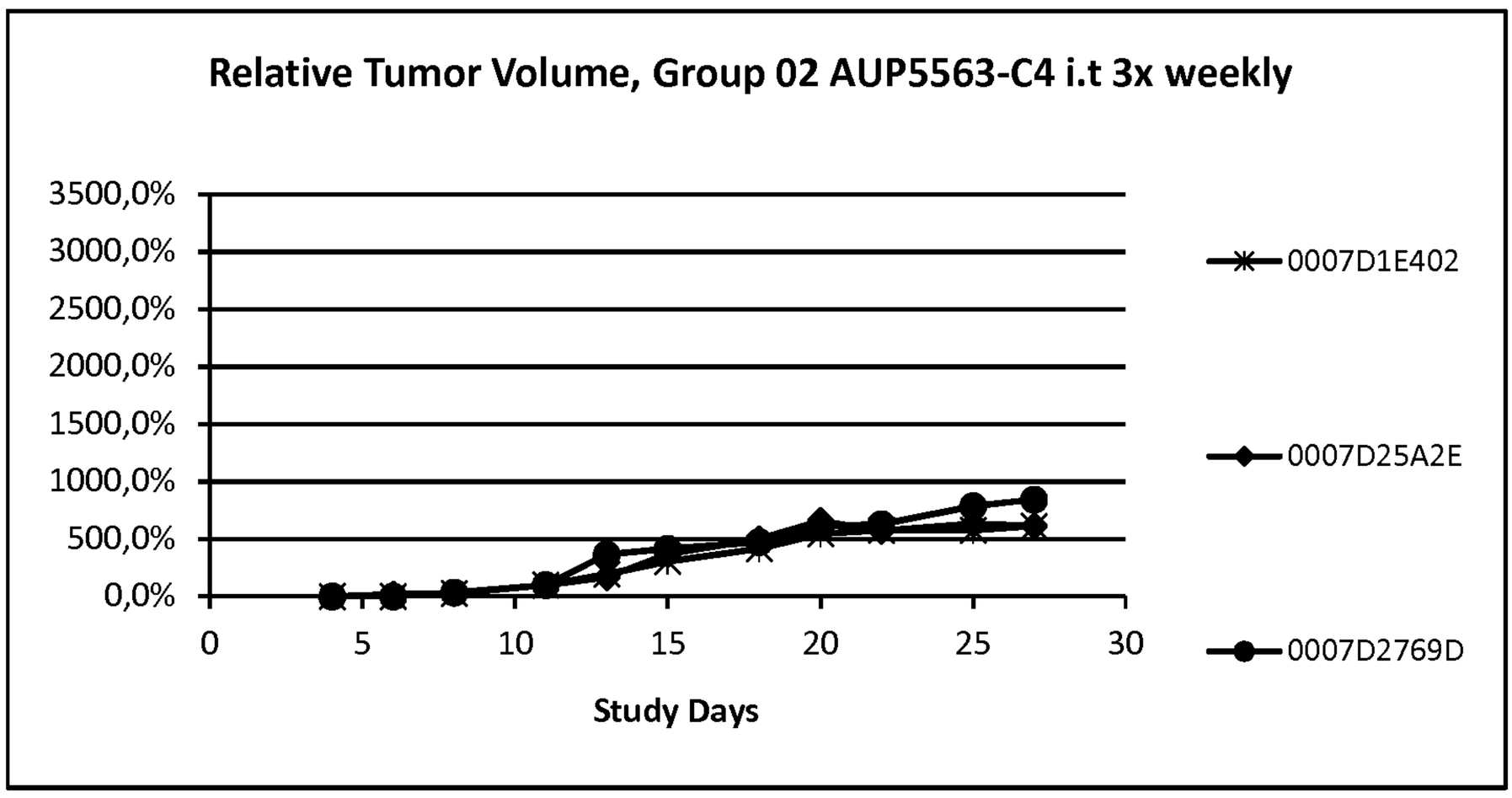


Fig. 28c:

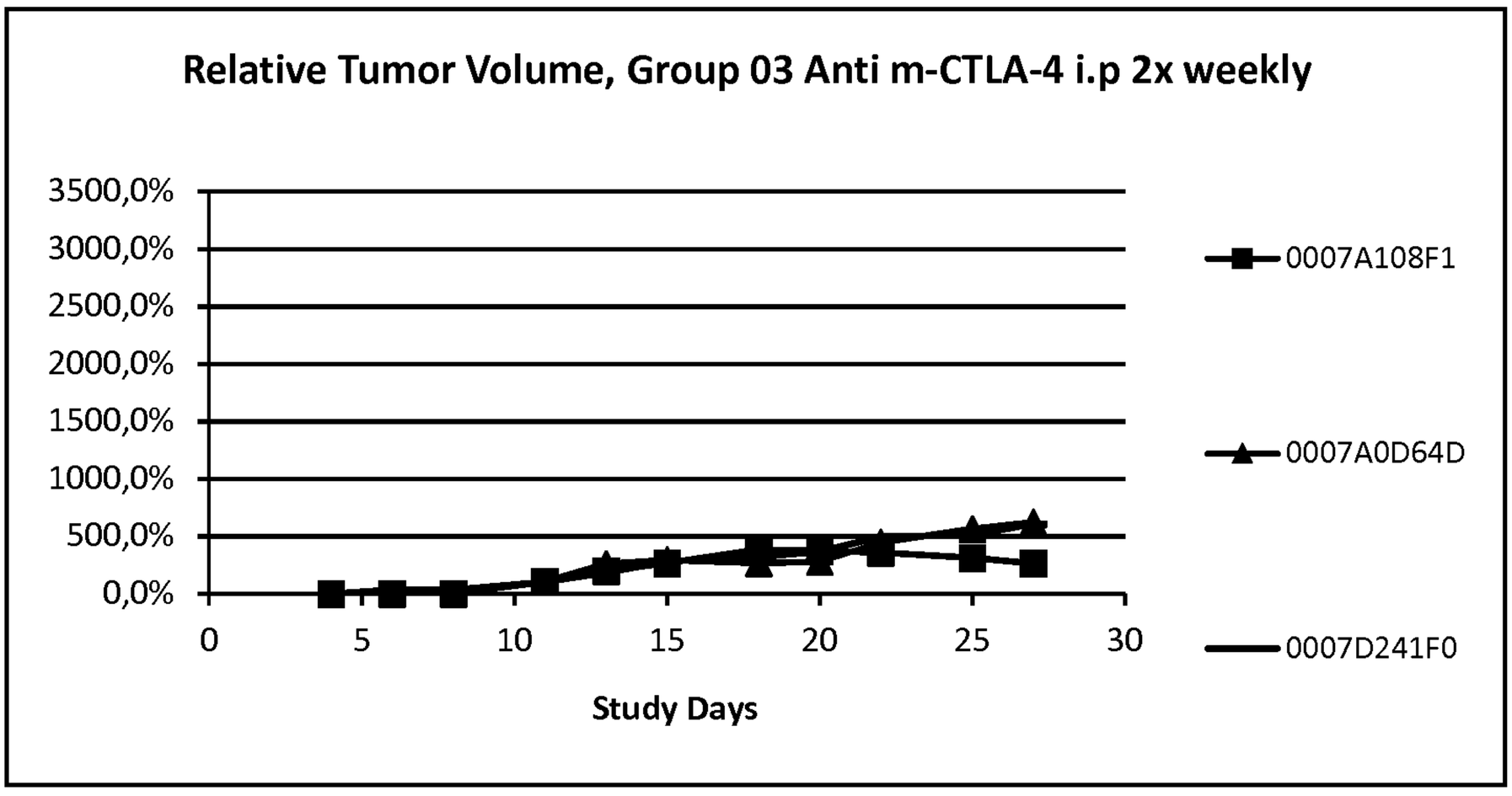
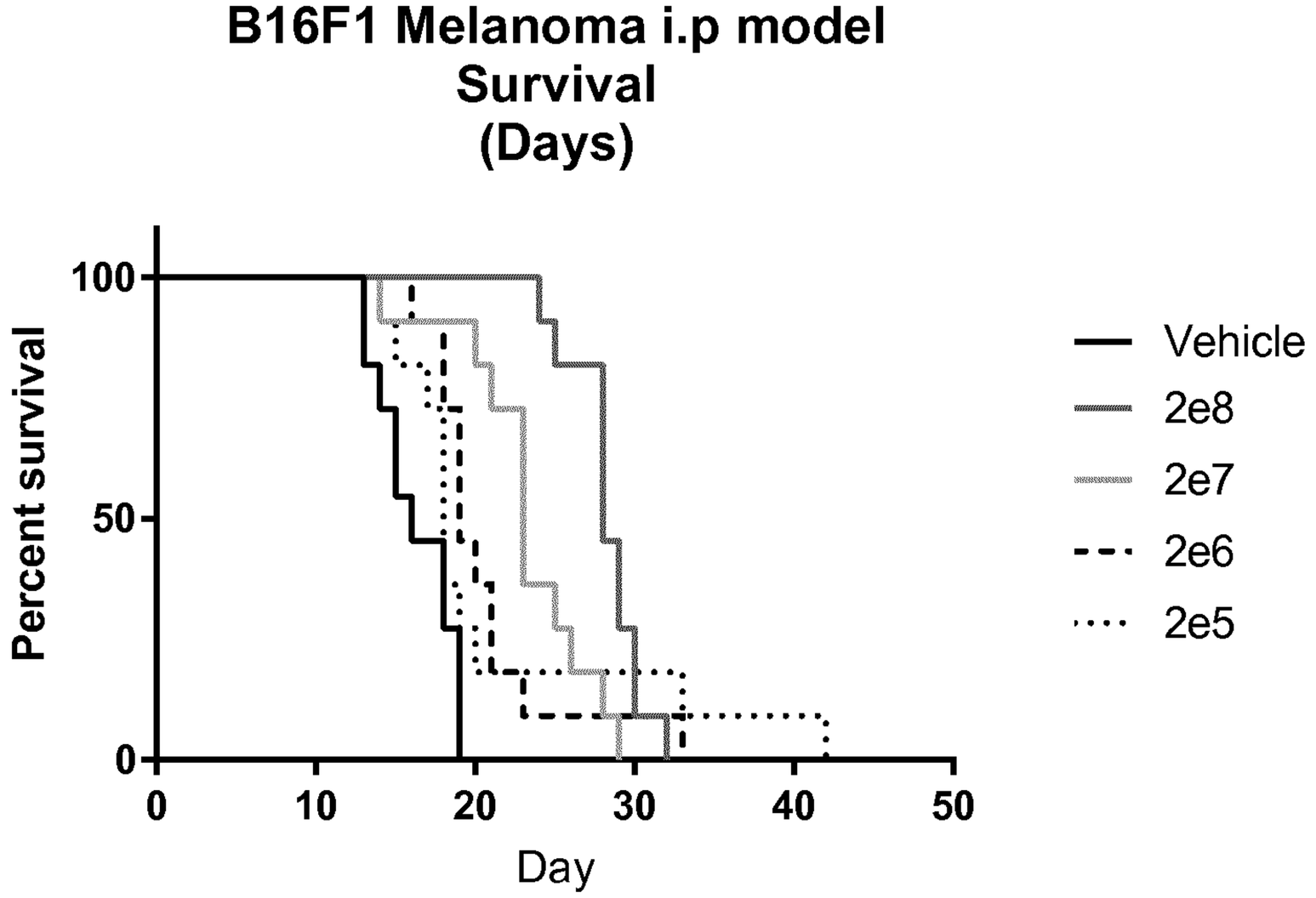


Fig. 29



	Vehicle	2e8	2e7	2e6	2e5
Median survival	16	28	23	19	18

Log-rank (Mantel-Cox) test vs vehicle			
2,00E+08 **** p < 0.0001	2,00E+07 **** p < 0.0001	2,00E+06 ** p = 0.0032	2,00E+05 ns p = 0.1045