Hsapiens_DNase1

```
                                                β1                    α1
                                         1           10            20

1 Hsapiens_DNase1       ........................LKIAAFNIQTFGETKMSNATLVS
  Mmulatta_DNase1       ............MRGMRLLGALLALLALLQGAMSLKIAAFNIQTFGETKMSNATLVS
  Bmusculus_DNase1      ............MRGARLMGVLFALAALLQQALSLRIAAFNIRTFGETKMSNATLSN
  Btaurus_DNase1        ............MRGTRLMGLLLALAGLLQLGLSLKIAAFNIRTFGETKMSNATLAS
  Mmusculus_DNase1      ............MRYTGLMGTLLLTLVNLLQLAGTLRIAAFNIRTFGETKMSNATLSV
  Rnorvegicus_DNase1    ............MRYTGLMGILLTLVNLLQLAATLRIAAFNIRTFGDTKMSNATLSS
  Drerio_DNase1         ............MKFIITLGVLLVS...VHIGSSFLIGAFNIKSFGNSKVSNATLLD
  Acarolinensis_DNase1  YGGLSAFLPAQEGAMWGLWVLGLAAFVRPSLALRVSAFNIQTFGDSKLSNDTITD
  Ggallus_DNase1        ............MARLVLELLAAALLLRVAATLRISAFNIRTFGDSKMSNQTVAG
  Cpictabellii_DNase1   ............MGAMRPALALLSLAYVLRTAATLRICAFNIRTFGDSKLSNETIAG
2 Hsapiens_DNase1L2     ........................LRIGAFNIQSFGDSKVSDPACGS
  Mmulatta_DNase1L2     ............MSGPRALLAALWALEAARATALRIGAFNIQSFGDSKVSDPACGS
  Bmusculus_DNase1L2    ............MGGPVALLAALWALGAAGDAALRIGAFNIRSFGDSKVSDPACSG
  Btaurus_DNase1L2      ............MGGPLTLLAMLWALGASRAQALRIGAFNIQSFGDSKVSDPGCGG
  Mmusculus_DNase1L2    ............MGWPWAPLTAVWALGVMGATALRIGAFNVQSFGDSKVSDPDCGS
  Rnorvegicus_DNase1L2  ............MGWPWAPLTAFWALGIVGATALRIGAFNVQSFGDHKASDPDCGS
  Cpictabellii_DNase1L2 .........MGAMKPALALLS.LAYLLHT.AATLKICAFNIKSFGDSKLSDETTAG
  Acarolinensis_DNase1L2 .........MKQLLLLVFGLVSLAQT.VSPLRICAFNIQSFGDTKLSDEGTSK
  Ggallus_DNase1L2      ........MGTVVLALSLLS.TALLCPA.TAVLRIGAFNIQAFGDSKMSDESVAD
```

Hsapiens_DNase1

```
         α2              β2              α3          TT        β3
            30          40          50          60          70

1 Hsapiens_DNase1       YIVQILSRYDIALVQEVRDSHLTAVGKLLDNLNQ.DAPDTYHYVVSEPLGRNSYK
  Mmulatta_DNase1       YIVQILSRYDIALVQEVRDSHLTAVGKLLDNLNQ.DAPDTYHYVVSEPLGRNSYK
  Bmusculus_DNase1      YIVQILSRYDIALVQEVRDNHLMAVGRLLDKLNQ.DDPNTYHYVVSEPLGRNSYK
  Btaurus_DNase1        YIVRIVRRYDIVLIQEVRDSHLTAVGKLLDYLNQ.DDPNTYHYVVSEPLGRNSYK
  Mmusculus_DNase1      YFVKILSRYDIAVIQEVRDSHLVAVGKLLDELNR.DKPDTYRYVVSEPLGRKSYK
  Rnorvegicus_DNase1    YIVKILSRYDIAVVQEVRDTHLVAVGKLLDELNR.DIPDNYRYIISEPLGRKSYK
  Drerio_DNase1         IITKVVHRYDIILIQEVRDSDLSATSKLMDSVNGGSSPYQYDYIASEPLGRNTYK
  Acarolinensis_DNase1  LIVQIVSGYDITLVQEVRDADLSAVKKLMHRLNQ.ASAHPFSYVVSKPLGRSSYK
  Ggallus_DNase1        FIVSILVQYDITLVQEVRDADLSSVKKLVSQLNS.ASSYPYSFLSSIPLGRNSYK
  Cpictabellii_DNase1   IIVNIVQTYDIAVMQEVRDSDQSAIRKLMDQLNR.ASLQPYSYVVSEPLGRTSYK
2 Hsapiens_DNase1L2     IIAKILAGYDLALVQEVRDPDLSAVSALMEQINS.VSEHEYSFVSSQPLGRDQYK
  Mmulatta_DNase1L2     IIAKILAGYDLALVQEVRDPDLSAVSTLMEQINR.VSEHEYSFVSSQPLGRDQYK
  Bmusculus_DNase1L2    IIAQILAGYDITLVQEVRDSDLSAVSTLMEQINS.MSRHEYSFVSSEPLGRDQYK
  Btaurus_DNase1L2      VIAQILAGYDVMLVQEVRDPDLSAVSVLMEQINS.VSRHEYNFVSSEPLGRDQYK
  Mmusculus_DNase1L2    VIAQILAGYDIALVQEVRDPDLSAVSLLMEQINR.VSKHEYGFVSSKPLGRDQYK
  Rnorvegicus_DNase1L2  VIAQILAGYDIALVQEVRDPDLSAVSLLMEQINS.VSKHEYGFVSSKPLGRDQYK
  Cpictabellii_DNase1L2 IIVKILSRYDIALVQEVRDADLSAVTSLLDQLNS.ASKHQYSYEISEPLGRENYM
  Acarolinensis_DNase1L2 IIVKVLSRYDIALVQEVRDSDLSAVNELMERLNR.ASKEPYEFEISQSLGRENYK
  Ggallus_DNase1L2      VIINILRRYDIVLVQEVRDSDLSAVTELLEQLNS.VSSSPYDYEISGPLGRDNYK
```

Hsapiens_DNase1

```
         β4              β5          TT        β6              TT
            80          90          100         110         120

1 Hsapiens_DNase1       ERYLFVYRPDQVSAVDSYYYDDGCEPCGNDTFNREPAIVRFFS......RFTEVR
  Mmulatta_DNase1       ERYLFVYRPDQVSVVDSYYYDDGCEPCGNDTFSREPAIVRFSCPFTGSGRCTEVR
  Bmusculus_DNase1      ERYLFLFRPDQVSVLDSYQYDDGCEPCGNDSFSREPAVVKFSS......PFTQIK
  Btaurus_DNase1        ERYLFLFRPNKVSVLDTYQYDDGCESCGNDSFSREPAVVKFSS......HSTKVK
  Mmusculus_DNase1      EQYLFVYRPDQVSVLDSYYYDDGCEPCGNDTFSREPAIVKFFS......PYTEVQ
  Rnorvegicus_DNase1    ERYLFVYRPSQVSVLDSYHYDDGCEPCGNDTFSREPAIVKFFS......PYTEVR
  Drerio_DNase1         ERYLFVYRSESVSAVNSFHYDDGCEPCGTDTFNREPFVVMFSS......KTAVR
  Acarolinensis_DNase1  EQYLFIYRQDQASLLDSYFDDGCEPCGNDTFSREPFVVRFAA......PQTELG
  Ggallus_DNase1        EQYVFIYRSDIVSVLESYYYDDGCESCGTDIFSREPFIVKFSS......PTTQLD
  Cpictabellii_DNase1   EQYLFIYRTDMVSVVDSYYYDDGCEPCGSDTFSREPFIVKFSS......PYTEVQ
2 Hsapiens_DNase1L2     EMYLFVYRKDAVSVVDTYLYPD.....PEDVFSREPFVVKFSA......PGTGER
  Mmulatta_DNase1L2     EMYLFVYRKDAVSVVDTYQYPD.....PEDVFSREPFVVKFSA......PGS...
  Bmusculus_DNase1L2    ETYLFIYRKDVASVVDTYQYPD.....PEDAFSREPFVIKFSS......PGSGEA
  Btaurus_DNase1L2      EMYLFVYRKDTVSVVDTYQYPD.....AEDAFSREPFVVKVSA......PGS...
  Mmusculus_DNase1L2    EMYLFVYRKDVASVVSTYQYPD.....PEDAFSREPFVVKFSV......PSC...
  Rnorvegicus_DNase1L2  EMYLFVYRKDVVSVVSTYQYPD.....PEDAFSREPFVVKFSA......PGC...
  Cpictabellii_DNase1L2 EMYLFIYRTQVVSVVATYQYPD.....PSNTFSREPFIVKFSS......PNSSKQ
  Acarolinensis_DNase1L2 EMYLFIYRTSSVSVVDQYQFPS.....KSNAFSRAPFILKFSA......SESNGK
  Ggallus_DNase1L2      EMYLFIYRTDAVSVVDTYQYED.....PQDIFSREPFVLRVSA......PHSKAE
                                       ★   ★
```

Sequence alignment of DNase1 and DNase1L2 proteins.

```
Hsapiens_DNase1                        β7 ───▶        η1              α4
                                          130           140             150

1  Hsapiens_DNase1        ..........................EFAIVPLHAAPGDAVAEIDALYDVYLDVQ
   Mmulatta_DNase1        ..........................EFAIVPLHAAPEDAVAEIDALYDVYLDVQ
   Bmusculus_DNase1       ..........................EFAIVPLHAAPSDAVAEIDSLYDVYLDVW
   Btaurus_DNase1         ..........................EFAIVALHSAPSDAVAEINSLYDVYLDVQ
   Mmusculus_DNase1       ..........................EFAIVPLHAAPTEAVSEIDALYDVYLDVW
   Rnorvegicus_DNase1     ..........................EFAIVPLHSAPTEAVSEIDALYDVYLDVR
   Drerio_DNase1          ..........................DFRALVPQHTSPEVAVQEIDALHDVVLDTR
   Acarolinensis_DNase1   ..........................ELVLIPLHAAPNDAVLEIDALYDVYLDVK
   Ggallus_DNase1         ..........................EFVIVPLHAEPSSAPAEINALTDVYTDVI
   Cpictabellii_DNase1    ..........................EFVLVPLHTPPSEAVAEIDALYDVYLDVI
2  Hsapiens_DNase1L2      APPLPSRRALTPP......PLPAAAQNLVLIPLHAAPHQAVAEIDALYDVYLDVI
   Mmulatta_DNase1L2      .......................AQKLVLIPLHAAPHQAVAEIDALYDVYLDVI
   Bmusculus_DNase1L2     LPVPQAPPVPQAPSQPLTLPPPAAAEELVLIPLHAAPHQAVAEIDALYDVYLDVI
   Btaurus_DNase1L2       ......................AATELVLIPLHAAPHHAVAEIDALYDVYLDVI
   Mmusculus_DNase1L2     ......................ATKELVLIPLHAAPHQAVAEIDALYDVYLDVI
   Rnorvegicus_DNase1L2   ......................AAKELVLIPLHAAPNQAVAEIDALYDVYLDVI
   Cpictabellii_DNase1L2  S.................PLEFVLVPLHTPPSEAVAEIDALYDVYLDVI
   Acarolinensis_DNase1L2 .......................ELILVPLHTAPNDAVAEIDALYDVYLKII
   Ggallus_DNase1L2       .......................EFVMVPLHSAPHDAVAEIDALYDVYLAVV


Hsapiens_DNase1       β8 ───▶            η2      α5      β9 ───▶  TT
                    160       170          180      190      200         210

1  Hsapiens_DNase1        EKWGLEDVMLMGDFNAGCSYVRPSQWSSIRLWTSPTFQWLIPDSADTTATPTHCA
   Mmulatta_DNase1        DKWGLEDVMLMGDFNAGCSYVRPSQWSSIRLRTSPTFQWLIPDTADTTATSTHCA
   Bmusculus_DNase1       QKWDLENIMLMGDFNAGCSYVTPSQWSSIRLHKSPHFQWLIPDTADTTVTSTHCA
   Btaurus_DNase1         QKWHLNDVMLMGDFNADCSYVTSSQWSSIRLRTSSTFQWLIPDSADTTATSTNCA
   Mmusculus_DNase1       QKWGLEDIMFMGDFNAGCSYVTSSQWSSIRLRTSPIFQWLIPDSADTTVTSTHCA
   Rnorvegicus_DNase1     QKWGLEDIMFMGDFNAGCSYVTSSQWSSIRLRTSPIFQWLIPDSADTTATSTHCA
   Drerio_DNase1          QRLNTNNIMLMGDFNAGCRYVSNSAWANIRLRTDQSYTWLIPDSADTTVTHTNCP
   Acarolinensis_DNase1   HRWGTQDVLLLGDFNAGCSFVRAQDWAHIRLRTDPAFQWLIPDTADTTAGRSDCA
   Ggallus_DNase1         NKWETNNIFFMGDFNADCSYVTAEQWPSIRLRSLSSCEWLIPDSADTTVTSTDCA
   Cpictabellii_DNase1    DKWGTDNILFLGDFNADCSYVGPQDWPSIRLRTSDAFQWLIPDTADTTVSYTDCA
2  Hsapiens_DNase1L2      DKWGTDDMLFLGDFNADCSYVRAQDWAAIRLRSSEVFKWLIPDSADTTVGNSDCA
   Mmulatta_DNase1L2      DKWGTDDMLFLGDFNADCSYVRAQDWAAIRLRSSEVFKWLIPDSADTTVGNSDCA
   Bmusculus_DNase1L2     DKWGTDDMLFLGDFNADCSYVQSQDWPAIRLRSSEVFKWLIPDSADTTVGNSDCA
   Btaurus_DNase1L2       DKWGTDDILFLGDFNADCKYVREQDWPAIRLRSSEVFKWLIPDSADTTVGNSDCA
   Mmusculus_DNase1L2     DKWNTDDMLFLGDFNADCKYVKAHDWPSIRLRSSEVFKWLIPDSADTTVGNSDCA
   Rnorvegicus_DNase1L2   DKWNTDDMLFLGDFNADCKYVKAHDWPSIRLRSSQVFKWLIPDSADTTVGNSDCA
   Cpictabellii_DNase1L2  DKWGTDNIMFLGDFNADCSYVKKGDWGSIRLRTSEVFEWLIPDSADTTVGKSDCA
   Acarolinensis_DNase1L2 DKWGTDNMMFLGDFNADCSYVGKKDWASIRLRSSEVFKWLIPDEEDTTVGHSDCA
   Ggallus_DNase1L2       NKWGTDNIVFLGDFNADCSYVKQSDWASIRLRSSDVFKWLIPDSADTTVGKSDCA
                                          ★                                    ★


Hsapiens_DNase1   β10 ───▶     α6      TT  β11 ───▶  α7              α8           β12 ───▶
                    220          230          240             250           260

1  Hsapiens_DNase1        YDRIVVAGMLLRGAVVPDSALPFNFQAAYGLSDQ....LAQAISDHYPVEVMLK
   Mmulatta_DNase1        YDRIVVAGTLLQDAVVPDSALPFNFQAAYGLSDQ....LAQAISDHYPVEVMLK
   Bmusculus_DNase1       YDRIVVAGPLLQGAVVPNSAAPFDFQAAYGLSDQ.....TALAISDHYPVEVTLK
   Btaurus_DNase1         YDRIVVAGSLLQSSVVPGSAAPFDFQAAYGLSNE.....MALAISDHYPVEVTLT
   Mmusculus_DNase1       YDRIVVAGALLQAAVVPNSAVPFDFQAEYGLSNQ.....LAEAISDHYPVEVTLR
   Rnorvegicus_DNase1     YDRIVVAGALLQAAVVPSSAVPFDFQAEYRLTNQ.....MAEAISDHYPVEVTLR
   Drerio_DNase1          YDRIVATPDMMRG.VAPGSAQVFDFMEAHGLSQD.....WALAVSDHFPVEVKLM
   Acarolinensis_DNase1   YDRIVVGAHLQGGLLPGSAQVNNFQETFRLSYK....DALAVSDHYPVEVTLK
   Ggallus_DNase1         YDRIVACGSALRQAVEYGSATVNNFQETLRIQNK.....DALAISDHFPVEVTLK
   Cpictabellii_DNase1    YDRIVASGSELQRCMVARSAKVNNFQETFHLQRE.....DALAVSDHYPVEVTLR
2  Hsapiens_DNase1L2      YDRIVACGARLRRSLKPQSATVHDFQEEFGLDQT.....QALAISDHFPVEVTLK
   Mmulatta_DNase1L2      YDRIVACGARLRRSLKPQSATVHDFQEEFGLDQT.....QALAISDHFPVEVTLK
   Bmusculus_DNase1L2     YDRIVCGARLRSSLKPQSAAVHDFQEEFGLYQA.....QALAISDHFPVEVTLK
   Btaurus_DNase1L2       YDRIVCGSRLRKSLKHQSATVHDFQEEFGLDQT.....QALAISDHFPVEVTLK
   Mmusculus_DNase1L2     YDRIVSGAHLRRSLKPHSASVHNFQEEFDLDQT.....QALAISDHFPVEVTFK
   Rnorvegicus_DNase1L2   YDRIVSGAHMRKSVKPQSASVHNFQEEFDLDQT.....QALAISDHFPVEVTFK
   Cpictabellii_DNase1L2  YDRIVCGSKLKKSIKPKSAAVYNFQHTFKLED......AEVPWAETDPQRANI.
   Acarolinensis_DNase1L2 YDRIVSGAQMKKWVKPNSAKVFDFQEEFKLSQEKDFAVAKEPALDGGPSGQSLD
   Ggallus_DNase1L2       YDRIVCGAKLKRSIVPNSATVYNFQRAFQLEQE.....EALAVSDHYPVEVKLM
```

Hsapiens_DNase1

1 Hsapiens_DNase1   `.....................................`
   Mmulatta_DNase1   `.....................................`
   Bmusculus_DNase1   `RA...................................`
   Btaurus_DNase1   `.....................................`
   Mmusculus_DNase1   `KI...................................`
   Rnorvegicus_DNase1   `KT...................................`
   Drerio_DNase1   `.....................................`
   Acarolinensis_DNase1   `SN...................................`
   Ggallus_DNase1   `AR...................................`
   Cpictabellii_DNase1   `AR...................................`
2 Hsapiens_DNase1L2   `FHR..................................`
   Mmulatta_DNase1L2   `SHR..................................`
   Bmusculus_DNase1L2   `SHQ..................................`
   Btaurus_DNase1L2   `SH...................................`
   Mmusculus_DNase1L2   `TH...................................`
   Rnorvegicus_DNase1L2   `PH...................................`
   Cpictabellii_DNase1L2   `.....................................`
   Acarolinensis_DNase1L2   `TALAALEPGEKPCKEVQRSPCVTSNPPPPKGQRKHSSF`
   Ggallus_DNase1L2   `A....................................`