

Babesia microti strain RI mitochondria, complete genome

GenBank: LN871600.2

FASTA Graphics

Go to:

LOCUS LN871600 11149 bp DNA linear INV

20-APR-2017

DEFINITION Babesia microti strain RI mitochondria, complete genome.

ACCESSION LN871600 FO082868

VERSION LN871600.2

DBLINK BioProject: PRJEA72411

BioSample: SAMEA3139016

KEYWORDS Babesia microti, complete genome.

SOURCE Babesia microti strain RI

ORGANISM Babesia microti strain RI

Eukaryota; Sar; Alveolata; Apicomplexa; Aconoidasida; Piroplasmida;

Babesiidae; Babesia.

REFERENCE 1 (bases 1 to 11149)

AUTHORS Cornillot,E., Hadj-Kaddour,K., Dassouli,A., Noel,B., Ranwez,V.,

Vacherie,B., Augagneur,Y., Bres,V., Duclos,A., Randazzo,S.,

Carcy,B., Debierre-Grockiego,F., Delbecq,S., Moubri-Menage,K.,

Shams-Eldin,H., Usmani-Brown,S., Bringaud,F., Wincker,P.,

Vivares,C.P., Schwarz,R.T., Schetters,T.P., Krause,P.J.,

Gorenflot,A., Berry,V., Barbe,V. and Ben Mamoun,C.

TITLE Sequencing of the smallest Apicomplexan genome from the human
pathogen Babesia microti

JOURNAL Nucleic Acids Res. 40 (18), 9102-9114 (2012)

PUBMED 22833609

REFERENCE 2

AUTHORS Cornillot,E., Dassouli,A., Garg,A., Pachikara,N., Randazzo,S.,
Depoix,D., Carcy,B., Delbecq,S., Frutos,R., Silva,J.C., Sutton,R.,
Krause,P.J. and Mamoun,C.B.

TITLE Whole genome mapping and re-organization of the nuclear and
mitochondrial genomes of Babesia microti isolates

JOURNAL PLoS ONE 8 (9), E72657 (2013)

PUBMED 24023759

REMARK Publication Status: Online-Only

REFERENCE 3 (bases 1 to 11149)

AUTHORS Silva,J.C., Cornillot,E., McCracken,C., Usmani-Brown,S.,
Dwivedi,A., Ifeonu,O.O., Crabtree,J., Gotia,H.T., Virji,A.Z.,
Reynes,C., Colinge,J., Kumar,V., Lawres,L., Pazzi,J.E., Pablo,J.V.,
Hung,C., Brancato,J., Kumari,P., Orvis,J., Tretina,K., Chibucos,M.,
Ott,S., Sadzewicz,L., Sengamalay,N., Shetty,A.C., Su,Q., Tallon,L.,
Fraser,C.M., Frutos,R., Molina,D.M., Krause,P.J. and Ben Mamoun,C.

TITLE	Genome-wide diversity and gene expression profiling of Babesia microti isolates identify polymorphic genes that mediate host-pathogen interactions		
JOURNAL	Sci Rep 6, 35284 (2016)		
PUBMED	27752055		
REMARK	Publication Status: Online-Only		
REFERENCE	4 (bases 1 to 11149)		
AUTHORS	Genoscope -,C.E.A.		
TITLE	Direct Submission		
JOURNAL	Submitted (02-FEB-2012) Genoscope - Centre National de Sequencage : BP 191 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr - Web : www.genoscope.cns.fr)		
COMMENT	On Jan 26, 2017 this sequence version replaced LN871600.1.		
FEATURES	Location/Qualifiers		
source	1..11149		
	/organism="Babesia microti strain RI"		
	/mol_type="genomic DNA"		
	/strain="RI"		
	/db_xref="taxon:1133968"		
gene	2557..3978		

/locus_tag="BMR1_M05g00001"

mRNA 2557..3978

/locus_tag="BMR1_M05g00001"

CDS 2557..3978

/locus_tag="BMR1_M05g00001"

/EC_number="1.9.3.1"

/codon_start=1

/product="Cytochrome c oxidase subunit 1"

/protein_id="SIW61565.1"

/translation="MLFTSICANHKVVGISYLVLSYIFGIVGFYLSLIIRGELGSSGD

RFIAIDIVDIYNLAFTLHGVIMIFFNIMPGLFGGIGNYLLPILVGAPEVVFPRANLYS

LLLQPLAFALVVSSLYCEVSGGTGWTLYPPLSTSITTLSVDLIISGLIISGIASVMSS

VNFVCTFNSLKCIGMLLDRQLPTSWSIYITSVLLLVTLPVLTAALCMLLADRHYNTML

FDPTNAGDPILYQHLEFWVFGHPEVYVLILPAFGIISLILACTTSKEVFGNQTMIIAMA

SIAIGCLVWVHHMYTSGVEVDTRSIFTTTTILIALPTGNKIFNWICTLQSTVVNRYL

GIIQIVIAFIVTFTLGTTGVVLGNAGIDVSLHDTAYVVAHFHFVLSIGAILALLAFI

AFTQRLMLEVVITNRCLIVLPIMVLAILLTFTPMHFLGFATLPRRIPDYGDEVWSWN

ALCSIGSTMLFIKILLLYILTL"

exon 2557..3978

/locus_tag="BMR1_M05g00001"

gene 4713..5717

/locus_tag="BMR1_M05g00002"

mRNA 4713..5717

/locus_tag="BMR1_M05g00002"

CDS 4713..5717

/locus_tag="BMR1_M05g00002"

/codon_start=1

/product="Cytochrome b(N-terminal)/b6/petB"

/protein_id="SIW61566.1"

/translation="MQILTGVILSFNYVAVAPDAYYSIAYILEDIHNGYLYRYLHSNG

VCLFFMFMYAHLIKGLWYSCTYLPLSWYTGIVILMLSYAIGFMGYVLPYGQMSYWGAT

VIINLFYWKNKGLTELLGNYSVNSSTLGRFYILHFILPFVMLLMIVIHIIYYLHLNSSS

NPLSVVDSYSSIRFSPTVLASDIYMMAITSMMLIVSQLAYAIPLFTGSDNSLLADPL

MTPLHIVPEWYLLPFYGTKLLPTKLSGLVTMLVFIQTLVQTVEQRNNATVLSLYNVH

RTYSHRRVLLIPLLVTIGYLGMYHLNLFTTQVGIVLLLYLLIGQTSVTCSSSTRLRSL

"

exon	4713..5717
	/locus_tag="BMR1_M05g00002"
gene	8739..9329
	/locus_tag="BMR1_M05g00003"
mRNA	8739..9329
	/locus_tag="BMR1_M05g00003"
CDS	8739..9329
	/locus_tag="BMR1_M05g00003"
	/codon_start=1
	/product="hypothetical protein"
	/protein_id="SIW61567.1"

/translation="MFLVNVVLSLLSTLQENAETLTFTVYSIIGSVILSELLLFISLI

YSVLHSTVCKDPVDLSQATECIESLTDSLGLGCAATTLLLFEGRDRCYTLYSKYNDVC

TL SAILYSYIQSNEYNNMLNYVNTSSIQGLFYCITVVHALHVLLGVSLIMIDSINHSE

YYDNIIVDSYLYLYIATYWHFVEAVWLSLLSLLYMY"

exon 8739..9329

/locus_tag="BMR1_M05g00003"

ORIGIN

1 atagattagt acttgacta agctacataa taggctatag tagcatatag aattactgt
61 tagttcttct ataggtaaa cactatctat tcgcagtata ttagtggtg tagctattgc
121 agatacatc gcatgtaata gatgtgcggc agtactaagg tgctacaac taataccata
181 acgtatcatt acgttaatat atcctaaagt atcaatagat gctttatgat aactccatta
241 gtacataggt atactagtag atgtattgct actagcaggt aactatatat agtgactagc
301 actatgctac tactaccata ccatacaatg attagatggt ccggtagaga tcattgtatc
361 ccatgctatg atatgtgta gttgatcaa tcaactatta atgcacaata tcaacagatt
421 attgcgatta actacaaatc aactcgcag taacgatatg tcgtgataac atcgtacaga
481 tgcactaat aagcgtatac catgataccc agaggtaaa actagcaact agttaggggt
541 aaagctgcaa agcttgatat ccttgactgc ccgctgtgtg agctgacgtg gcctatgccg
601 ctgtagatat acagatggca gggagataag ccagtaccaa cgtaagagct tagcttatca
661 gtcacgtggt ataatggctg ctaatagtta gcagttacca ctacttgat actgtaagt
721 tataagtggg tagttcaact atggctacga gtacagaact attgacaat agaacttcag
781 ttcccgcat ttaagtgtaa ctgttattag tgactgttg gtggttagt tgtagggta
841 ttccatcgca cctgatagtg atgcgcatca caggaaggga ggatcctatg agaggggaata
901 gcttgggcaa caaccaagtg aacgtagtga acgtagatac ccaccatgca gaacagtatg
961 tggaacagag tgttcaggaa gcgtagcgtt agcgaagcga atgtagtaga acaattcata

1021 tctacgtatg aaattcgcta tggcctttcg gccatagcga aagggttacc ttcgtactat
1081 tgaaagtaat cccattcatt ctacgacatt tcattcctaa caacttctac aaatgtttca
1141 catctgctta cgttgcctct ataggcacac ggcctatgca gcatttagct tcgttcggca
1201 gaatactgtc atgacatata cagcgcagtt agagtgttt gctgttatca ataagttgcg
1261 attaactcta cagcaaatag cgcaagaatc tatgcagata taagcaatta aacattgctt
1321 taacacatag catgctaatt tactttaatt caacataaag atgtcgttta tattttgaga
1381 gaatggttta tttctcttag gtatttacta ttcataatat atttaccg tagtgagagt
1441 tttatttacc tcactactcg tattataaga gatatgttt ctgatagact ttgtctattc
1501 aaagacttta catgttctgt ttatttcgat agttagtga tgacttaatt aattacctg
1561 aactaagaaa gagacgatct ttgtaggta gatagttga agatattctt cttcaatagg
1621 tacatgtagt gttattttgt atactgataa tgatcagat cgtacctatt gaagagaaat
1681 atatctaaaa gcaaagctat taaaacttat ctataggatg tttctcttc gatgtgaata
1741 ttaaacacat ctgtgattgt tgccaggcac acagtgtta gtaagcatga gcttctcat
1801 gcagggtgat cctgtcatct actcagcttt ataacacttc attctttgtg ttataacatg
1861 ctttctatac agcgactgt tgtttgctgt tatcgttga actagactaa gcaaataaca
1921 atacactgct atttcggtat tcttatctat ttagatatc ttaataact catagcttta
1981 gtgcgtacta tctagttatc caaaacactt atcagtgttg tcttttaac tatacttacc
2041 aactgtttta gctagtctat aactgtagca ctaactatcc ctcagaatat gtgtagagag
2101 tcattcttct ctgagtacca catatcccag tgaataccat ataaagctgc ttggtatgt
2161 acacaatctg cgtagacat atctgttagt cttactgct agcaaatagt caatcaagct
2221 agaagcttcc acagactctt gaagctttgt agaccgtaac agtatacaaa acgaggccta
2281 tcgtacctat tgaagaagca taaacttct ccgttaattg gttctcaatc cagcagcatg

2341 ctagtattgt gatatgtata ctatcaatta ccatacatgt ttctttaacc caaaacaaaa
2401 catggattaa catgtaggta tattgtagtg cagtgagtg atgtacatca ctttatagta
2461 gataatatgc ttgtggtgta ctataggacc ataagatatt atgtacgtat gagcgaatgc
2521 actcattggt atatgacatt atgagccttc aaggcaatgt tattcacatc aatatgtgct
2581 aaccataaag tcgtaggtat tagctacctt tggctatcct atatatttgg catagtaggt
2641 ttttacctta gcctaattat tagaggagag ctaggtagta gtggagatag gttcatagct
2701 attgatatag tagatatcta taacctagct ttcaccttac atggcggtat catgatattc
2761 ttcaacatca tgccaggcct gtttgagggt ataggtaact acctactacc catactggtc
2821 ggtgctcccg aggttgctt cccaagagct aacttgata gtttactatt acagccattg
2881 gcatttgctc ttgtggttc ttcactttat tgtgaagtaa gtggaggtagc aggatggaca
2941 ttatcctc cttaagtagc atccattaca acacttagtg tagatttgat aatctctgga
3001 ttgattatat caggtagagc aagcggtatg agtagtgta acttggttg cactttaac
3061 agcttgaagt gtataggaat gctgtagat agacagttac caacttctg gtctatctat
3121 ataacatctg tgttattgtt agtaacatta ccagtgttaa cagcagcact atgtatgctt
3181 cttgctgata ggcactataa cactatgcta tttgatccta caaatgcagg tgatccaata
3241 ttgtatcaac atctattctg ggtctttgga catccagaag tgtatgtact aatattacca
3301 gcatttggtg tcattagctt gatcttagcc tgtactacct ccaaagaggt gtttggtaac
3361 cagactatga ttatagcaat ggcacttata gcgataattg gatgtcttgt atgggtacac
3421 catatgtata catccggagt agaagtagat actagaagtt atttactac tactacaatc
3481 ttgatcgctg tgccaactgg taacaagata ttcaattgga tatgtacttt gcaaagtact
3541 gtagtcaata gatattcttg tataatacag atagcatag cttcatagt tacctttaca
3601 ctaggtggta ctactggagt agtcctaggg aatgcaggta ttgacgtgtc ttacacgat

3661 acagcgtatg tggtagtca cttccactc gtcttaagta ttggtgcaat tcttgctcta
3721 ttggcattta ttgcatttac acaaagacta atgttagaag tagttatcac taacagatgt
3781 ttgatagtac tagttccaat tatggtatta gcaatactgt tgacattcac tccaatgcac
3841 ttcttaggct ttgcaacatt gccagaaga atacctgact acggagacga agtctggcta
3901 tggaaatgcat tatgtagtat aggttcaaca atgctattta tcattaagat actattacta
3961 tacatcttaa cgctatagtt atgttacata ctaggcatgc aataccgaac aaagggccat
4021 ctatatgtta gtgtcattat attgttcatt atgtacttta cagttaataa tctaaacaat
4081 aaaccagaac ttcattagat taggacatgc taagtaaaca cttatagcta actatttgta
4141 caataattat gtcaaataga atacctaaag agtctactag atagattcta tcctatctaa
4201 attagaactc attcactatt cttatagaat actaatgaat tctctaata gttcttatat
4261 gggtacacct atgattagtg tcaccattgt cttgcaatgc cagatacagc gagaagggaa
4321 ttgtgcttct atagaatact atatagtttt agaatcacgt tgagctgaat tatattacca
4381 atgtaataga tagggaacta actgccttgt ggcgttatta acccaactca cgtatcattg
4441 aatatgatga actatcatta ctatcaatct tgattcaagt aataaagtac attatatacc
4501 aattatgaag ttagttgaat aacctatgat ctatacatag taaaggaact tgacaagtat
4561 catactataa ctataggaat agggctataa ccaacaatat aacagttaga ttgcagtaa
4621 atctattatt atcgcaactt attagttatt cgtacctat taacctaat agtaattgga
4681 atataggttt catattagga atagtactag ttatgcagat actaacaggg gtaatactgt
4741 catttaacta tgtagctgta gccctgatg cctactacag tattgcatat attcttgaag
4801 atatccataa tggatattta tacagatatc tgcataagtaa tggagtatgt ctgttcttca
4861 tgtttatgta cgctcatcta attaagggaac tatgggtattc atgcacatat ctcccttat
4921 cgtgggtatac aggtatagtt atactaatgt taccctacgc tattggcttc atgggatatg

4981 tattaccata tggccaaatg agctactggg gagctacggg aatcattaac ttgttctact

5041 ggaacaaaagg actaactgag ttactactag gtaattactc tgtaaatagt agtaccttag

5101 gtaggttcta tatattacat ttatactac catttgtaat gttacttatg atagttatac

5161 atatatatta cctacatcta aactcaagta gtaatccttt gagcgtagta gatagctatt

5221 catctatcag atttcacca acagtgttag cttctgatat ctatatgatg gctataacat

5281 caatgttaat agtgagtcag ttagcatatg caattattcc actattcaca ggtgatagtg

5341 ataatagctt attagctgat cactgatga caccattaca tatagtacct gaatggtatc

5401 tcttaccttt ttatgggtact ctcaaactac taccaactaa actatcaggt ttagtaacaa

5461 tgctagtgtt tattcagaca ctagtacaga cagtggagca gaggaacaat gctacagtgt

5521 tatcactcta caatgttcat agaacatatt cacatagaag agtgttatta atacctctat

5581 tagtaactat aggttaccta ggtatgtatc atcttaacct cttactacc caagtaggta

5641 tctatgtact tctactgtac ctactaatag gacaaacaag tgtaacttgt agcagtacac

5701 gactacgatc cctataggat ggcttagcca ggaagtctgc atctacatgt cttgtttcta

5761 cagtactaac atgtgaaaca cctgagtacg taaggaaaag gaaagggttaa ccgctatcct

5821 ttaccaagtt ctgtggttaag actatactac tgtatcatgc gatagccact gcattcgctc

5881 atacgtacat aatatcttat ggtcctatag tacaccacaa gcatattatc tactataaag

5941 tgatgtacat acactcactg cactacaata tacctacatg ttaatccatg tttgttttg

6001 gggttaaagaa acatgtatgg taattgatag tatacatatc acaatactag catcgtgctg

6061 gattgagaac caattaacgg aggaagtta tgcttcttca ataggtagca taggcctcgt

6121 tttgtatact gttacggctc acaaagcttc aagagtctgt gaaagcttct agcttgattg

6181 actatttgct agcagttaag actaacagat atgtctaacg cagattgtgt acataccaaa

6241 gcagctttat atggtattca ctgggatatg tgggtactcag acaaagatga ctctctacac

6301 atattctgag ggatagttag tgctacagtt atagactagc taaaacagtt ggtaagtata
6361 gttaaaagac aaacactgat aagtgttttg gataactaga tagtacgcac taaagctatg
6421 aagtattaaa gatatctaaa atagataaga ataccgaaat agcagtgtat tgttatttgc
6481 ttagtctagt tacaacgata acagcaaaca acagtgcgct gtatagaaag catgttataa
6541 cacaagaat gaagtgttat aaagctgagt agatgacagg atacacctgc atgaagaagc
6601 tcatgcttac taagcactgt gtgcctggca acaatcacag atgtgtttaa tattcacatc
6661 gaagaagaaa catcctatag ataagtttta atagctttgc ttttagatat atttctcttc
6721 aataggtacg atactgatca ttatcagtat acaaaataac actacatgta cctattgaag
6781 aagaatatct tcaaactatc tacctaaca agatcgtctc tttcttagtt cgaggtaatt
6841 aattaagtca tacactaact atcgaaataa acagaacatg taaagtcttt gaatagacaa
6901 agtctatcag aaaacatatc tcttataata cgagtagtga gataaataaa actctcacta
6961 cgatgtaaat atattatgaa tagtaaatac ctaagagaaa taaaccattc tctcaaaata
7021 taaacgacat ctttatgttg aattaaagta aattagcatg ctatgtgtta aagcaatgtt
7081 taattgctta tatctgcata gattcttgcg ctatttgctg tagagttaat cgcaacttat
7141 tgataacagc aaacaactct aactgcgctg tatatgtcat gacagtattc tgccgaacga
7201 agctaaatgc tgcataggcc gtgtgcctat agaggcaacg taagcagatg tgaacattt
7261 gtagaagttg ttaggaatga aatgtcgtag aatgaatggg attactttca atagtacgaa
7321 ggtaaccctt tcgctatggc cgaaaggcca tagcgaattt catacgtaga tatgaattgt
7381 tctactacat tcgcttcgct aacgctacgc ttctgaaca ctctgttcca catactgttc
7441 tgcattggtg gtatctacgt tcactacgtt cacttggttg ttgcccaagc tattccctct
7501 cataggatcc tcccttctg tgatgcgcat cactatcagg tgcatggaa taccctaaca
7561 actaaaccac ccaacagtca ctaataacag ttacacttaa atgacgggaa ctgaagttct

7621 attgtcaa at agttctgtac tcgtagccat agttgaacta accacttata cacttacagt
7681 atacaagtag tggtaactgc taactattag cgaccattat accacgtgac tgataagcta
7741 agctcttacg ttggtactgg cttatctccc tgccatctgt atatctacag cggcataggg
7801 cacgtcagct cacacagcgg gcagtcaagg atatcaagct ttgcagcttt aaccctaact
7861 agttgctagt ttgtacctct gggtatcatg gtatacgctt attagtgaca tctgtacgat
7921 gttatcacga catatcggtta catgcgagtt gattttagt taatcgcaat aatctgttga
7981 tattgtgcat taatagttga ttggatcaac taacacatat catagcatgg gatacaatga
8041 tctctaccgg accatcta at cattgtatgg tatggtagta gtagcatagt gctagtcaat
8101 atatatagtt acctgctagt agcaatacat gtactagtat acctatgtac taatggagtt
8161 atcataaagc atctattgat actttaggat atattaacgt aatgatacgt tatggatta
8221 gttgtaggca ccttagtact gccgcacatc tattacatgc gtatgtatct gcaatagcta
8281 caccactaca tatactgcga atagatagtg ttgtacctat agaagaacta acaagtaatt
8341 ctatagcta ctatagccta ttatgtagct tagtacaagt actaatctat tagtatgcca
8401 ttatataata atatcttatg gtccatatag acaccacaag catattatcc agttaatggt
8461 tgtaaggata agacattctc ctttagatgt gtctaaatgt cattatacta atactatgga
8521 ctctgtaagt taaactattg agtctagtat ggattaacat tatagatcgc agaagtctct
8581 ttaatgtatt taaccatagc taatactcga tattaatctt aaagtacagg actagatccc
8641 tgggataata atcccatact aagattatat acttcatagt agtctatagt tacattaaca
8701 gtctctactc ctctaccctg aaagagttat cttcaggaat gttcttagtt aacgtagtgc
8761 tatcactgct atctacttta caagagaatg cagagacatt gacgttcaat gtttactcga
8821 taataggcag tggtattctg tctgaattac tctgtttat tagcttgatt tatagtgtac
8881 tcatagcac tgtgtgcaaa gatccagtag atctatctca agcaactgaa tgcataaggt

8941 cattaactga ctctcttgga ttaggttggtg cagcaacaac actgctactc ttcgagggtg
9001 gggatagatg ttacacactt tatagtaagt acaatgatgt atgtacattg tctgctatac
9061 tgtattctta catacagagc aatgaatata ataacatggt gaactatggt aatacaagta
9121 gcatacaagg actatcttac tgtattacag tagtacatgc acttcatgtg ttacttggtg
9181 taagtttgat tatgatagat agtatcaatc atagtgaata ctacgataat atcatagttg
9241 attcttatct atacctatac atagcaacat actggcattt cgtagaagct gtagggctat
9301 cactattatc cttattgtac atgtattaat acatgctata gttctactat atacaattat
9361 gcctatagtg gtaatagata tgagtcattg atacgttagg attgacagta aaagccatta
9421 tgataatgta ctgacattat atagctttaa tgatcccatg ctaatattaa acatattact
9481 agctacgtat cataactata ctaatcaaga tgaatccgta ttcaatgatg ttatatcaat
9541 gatgcgatac ttacatctca taaacacact gcccgcacgc tatcaatagt tactaatact
9601 attatatcaa tgctaagggt acttagttaa atgatctcat agtctaacat tgatgctaag
9661 ttcattgtagg acgtatacac attaatagta cgatacaatg taattatgat aaagattatt
9721 gactaataca tctgtttctt tacatgtttc agctacaagt tcaactgtcag ctaccttggt
9781 tcgacttcgt attgactgtg tgagcaacta cgctatctat tgatattgca ttcaattgga
9841 attgtattct aagaagcgtc tgtttataca aacacaagat actgctaaca tagatatcta
9901 tgtatagtct ctggatatctg ttcagtggta tgtaaccaa caacgattgt aagatcacia
9961 tgtacctatt agatgaataa ttatcatcta atgcaacgat agcacgactt cttcattgtc
10021 tctactatgt agtctacgaa atagaactag tcttgaatat gaggctacat gtaatgtgac
10081 ggatagtccc tatgcacctt agccatcatc tcttcatagc tacattaaat taagccatga
10141 tgagtcgaca tggagggtatc aatagagtaa cacgatacga gctcatgtta ttcattgacc
10201 tgttaccctt agcgtacctt ctagctagta ctacatacag ttctgtattg taataagcag

10261 acatagcttg ttactgaatc atctcgcaat gaactccttt aatgcttggc attgatgtat
10321 catactcgag tcattcatag tgtaaccgct actgctggca ctagatggtg ctacaatgta
10381 ttacatcaac tctaattgat tgctgctctc aagcatacat gacactacta taaaacttga
10441 aaagtataag cagttgaaca tagttatggt aatgatgcta gatcgttcca cgtcatttga
10501 tgttgacgta tatcaacgac tcttacttcc atcatcttga catgaattat attaacttct
10561 ctcaattact atatactata ttaactatat acatatgaat gttaagttac catatcattc
10621 actgatctga tgttggtat catataacaa tactaagtat acataatcca aataatctag
10681 cacagaatgt gttatattct ttgcttggat acatatgtgt agcattagta accatattat
10741 gtgttattga gatgaacgct aacggaacat gttcgtaat cgatacgact cgttcgatct
10801 tactagctca tcattgcttt aaatagctaa taacactata aagattgtga tcaatctaca
10861 taatatttac aagaatgtat atgagtatac acaatgtact ttaaattatgt gtagatagta
10921 gatattattct agacgaacaa tcaatagata gttatctatg aaatctacta ttagagagta
10981 ttataacata atgacttact atacatgtgt tataatccta tgtgatatct gttatttcta
11041 ctactaaaat tagcataatt atagaaggat attcacatac tcaaaggat ggataattat
11101 tacttccatc ggactatcat ataataatta tgaagtacct tatgctatc

//