FIGURE 1

CD8 α-chain sequences

NM_001768 & M27161
Homo sapiens (Human)
Complete CD8 alpha mRNA

Predicted polypeptide sequence

MALPVTALLLPLALLLHAARPSQFRVSPLDRTWNLGETVELKCQ

VLLSNPTSGCSWLFQPRGAAASPTFLLYLSQNKPKAAEGLDTQRFSGKRLGDTFVLTL

SDFRRENEGYYFCSALSNSIMYFSHFVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLR

PEACRPAAGGAVHTRGLDFACDIYIWAPLAGTCGVLLLSLVITLYCNHRNRRRVCKCP

RPVVKSGDKPSLSARYV

mRNA

1 gaaatcaggc tccgggccgg ccgaagggcg caactttccc ccctcggcgc cccaccggct
61 cccgcgcgcc tcccctcgcg cccgagcttc gagccaagca gcgtcctggg gagcgcgtca
121 tggccttacc agtgaccgcc ttgctcctgc cgctggcctt gctgctccac gccgccaggc
181 cgagccagtt ccgggtgtcg ccgctggatc ggacctggaa cctgggcgag acagtggagc
241 tgaagtgcca ggtgctgctg tccaacccga cgtcgggctg ctcgtggctc ttccagccgc
301 gcggcgccgc cgccagtccc accttcctcc tatacctctc ccaaaacaag cccaaggcgg
361 ccgaggggct ggacacccag cggttctcgg gcaagaggtt gggggacacc ttcgtcctca
421 ccctgagcga cttccgccga gagaacgagg gctactattt ctgctcggcc ctgagcaact
481 ccatcatgta cttcagccac ttcgtgccgg tcttcctgcc agcgaagccc accacgacgc
541 cagcgccgcg accaccaaca ccggcgccca ccatcgcgtc gcagcccctg tccctgcgcc
601 cagaggcgtg ccggccagcg gcgggggggcg cagtgcacac gagggggctg gacttcgcct
661 gtgatatcta catctgggcg cccttggccg ggacttgtgg ggtccttctc ctgtcactgg
721 ttatcaccct ttactgcaac cacaggaacc gaagacgtgt ttgcaaatgt ccccggcctg
781 tggtcaaatc gggagacaag cccagccttt cggcgagata cgtctaaccc tgtgcaacag
841 ccactacatt acttcaaact gagatccttc cttttgaggg agcaagtcct tccctttcat
901 tttttccagt cttcctccct gtgtattcat tctcatgatt attattttag tgggggcggg
961 gtgggaaaga ttacttttttc tttatgtgtt tgacgggaaa caaaactagg taaaatctac
1021 agtacaccac aagggtcaca atactgttgt gcgcacatcg cggtagggcg tggaaagggg
1081 caggccagag ctacccgcag agttctcaga atcatgctga gagagctgga ggcacccatg
1141 ccatctcaac ctcttccccg cccgttttac aaaggggggag gctaaagccc agagacagct
1201 tgatcaaagg cacacagcaa gtcagggttg gagcagtagc tggagggacc ttgtctccca
1261 gctcagggct ctttcctcca caccattcag gtctttcttt ccgaggcccc tgtctcaggg

FIGURE 1

1321 tgaggtgctt gagtctccaa cggcaaggga acaagtactt cttgatacct gggatactgt
1381 gcccagagcc tcgaggaggt aatgaattaa agaagagaac tgcctttggc agagttctat
1441 aatgtaaaca atatcagact ttttttttt ataatcaagc ctaaaattgt atagacctaa
1501 aataaaatga agtggtgagc ttaaccctgg aaaatgaatc cctctatctc taaagaaaat
1561 ctctgtgaaa cccctatgtg gaggcggaat tgctctccca gcccttgcat tgcagagggg
1621 cccatgaaag aggacaggct acccctttac aaatagaatt tgagcatcag tgaggttaaa
1681 ctaaggccct cttgaatctc tgaatttgag atacaaacat gttcctggga tcactgatga
1741 ctttttatac tttgtaaaga caattgttgg agagcccctc acacagccct ggcctctgct
1801 caactagcag atacagggat gaggcagacc tgactctctt aaggaggctg agagcccaaa
1861 ctgctgtccc aaacatgcac ttccttgctt aaggtatggt acaagcaatg cctgcccatt
1921 ggagagaaaa aacttaagta gataaggaaa taagaaccac tcataattct tcaccttagg
1981 aataatctcc tgttaatatg gtgtacattc ttcctgatta ttttctacac atacatgtaa
2041 aatatgtctt tctttttaa atagggttgt actatgctgt tatgagtggc tttaatgaat
2101 aaacatttgt agcatcctct ttaatgggta aacagcaaaa aaaaaaaaaa aaaaaaaaaa
2161 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
2221 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a

FIGURE 1

NM_171827

Homo sapiens secreted protein derived from alternate transcript

Predicted polypeptide

MALPVTALLLPLALLLHAARPSQFRVSPLDRTWNLGETVELKCQVLLSNPTSGCSWLFQPRGAAASPTI
LYLSQNKPKAAEGLDTQRFSGKRLGDTFVLTLSDFRRENEGYYFCSALSNSIMYFSHFVPVFLPAKPTT
PAPRPPTPAPTIASQPLSLRPEACRPAAGGAGNRRRVCKCPRPVVKSGDKPSLSARYV

mRNA

1 gaaatcaggc tccgggccgg ccgaagggcg caactttccc ccctcggcgc cccaccggct
61 cccgcgcgcc tcccctcgcg cccgagcttc gagccaagca gcgtcctggg gagcgcgtca
121 tggccttacc agtgaccgcc ttgctcctgc cgctggcctt gctgctccac gccgccaggc
181 cgagccagtt ccgggtgtcg ccgctggatc ggacctggaa cctgggcgag acagtggagc
241 tgaagtgcca ggtgctgctg tccaacccga cgtcgggctg ctcgtggctc ttccagccgc
301 gcggcgccgc cgccagtccc accttcctcc tatacctctc ccaaaacaag cccaaggcgg
361 ccgaggggct ggacacccag cggttctcgg gcaagaggtt gggggacacc ttcgtcctca
421 ccctgagcga cttccgccga gagaacgagg gctactattt ctgctcggcc ctgagcaact
481 ccatcatgta cttcagccac ttcgtgccgg tcttcctgcc agcgaagccc accacgacgc
541 cagcgccgcg accaccaaca ccggcgccca ccatcgcgtc gcagcccctg tccctgcgcc
601 cagaggcgtg ccggccagcg gcgggggggcg cagggaaccg aagacgtgtt tgcaaatgtc
661 cccggcctgt ggtcaaatcg ggagacaagc ccagcctttc ggcgagatac gtctaaccct
721 gtgcaacagc cactacatta cttcaaactg agatccttcc ttttgaggga gcaagtcctt
781 ccctttcatt ttttccagtc ttcctccctg tgtattcatt ctcatgatta ttatttttagt
841 gggggcgggg tgggaaagat tacttttttct ttatgtgttt gacgggaaac aaaactaggt
901 aaaatctaca gtacaccaca agggtcacaa tactgttgtg cgcacatcgc ggtagggcgt
961 ggaaaggggc aggccagagc tacccgcaga gttctcagaa tcatgctgag agagctggag
1021 gcacccatgc catctcaacc tcttccccgc ccgttttaca aaggggggagg ctaaagccca
1081 gagacagctt gatcaaaggc acacagcaag tcagggttgg agcagtagct ggagggacct
1141 tgtctcccag ctcagggctc tttcctccac accattcagg tctttctttc cgaggcccct
1201 gtctcagggt gaggtgcttg agtctccaac ggcaagggaa caagtacttc ttgatacctg
1261 ggatactgtg cccagagcct cgaggaggta atgaattaaa gaagagaact gcctttggca
1321 gagttctata atgtaaacaa tatcagactt tttttttta taatcaagcc taaaattgta
1381 tagacctaaa ataaaatgaa gtggtgagct taaccctgga aaatgaatcc ctctatctct
1441 aaagaaaatc tctgtgaaac ccctatgtgg aggcggaatt gctctcccag cccttgcatt
1501 gcagaggggc ccatgaaaga ggacaggcta cccctttaca aatagaattt gagcatcagt
1561 gaggttaaac taaggccctc ttgaatctct gaatttgaga tacaaacatg ttcctgggat
1621 cactgatgac tttttatact ttgtaaagac aattgttgga gagcccctca cacagccctg
1681 gcctctgctc aactagcaga tacagggatg aggcagacct gactctctta aggaggctga

FIGURE 1

1741 gagcccaaac tgctgtccca aacatgcact tccttgctta aggtatggta caagcaatgc

1801 ctgcccattg gagagaaaaa acttaagtag ataaggaaat aagaaccact cataattctt

1861 caccttagga ataatctcct gttaatatgg tgtacattct tcctgattat tttctacaca

1921 tacatgtaaa atatgtcttt ctttttaaa tagggttgta ctatgctgtt atgagtggct

1981 ttaatgaata aacatttgta gcatcctctt taatgggtaa acagcaaaaa aaaaaaaaaa

2041 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa

2101 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa

FIGURE 1

X60223
Pongo pygmaeus (Orangutan)
Complete CD8 alpha mRNA

Predicted polypeptide

MALPVTALLLPLALLLHAARPSQFRVSPLDRTWNLGETVELKCQ

VLLSNPTSGCSWLFQPRGAAASPTFLLYLSQNKPKAAEGLDTQRFSGKRLGDTFVLTL

SDFRRENEGYYFCSALSNSIMYFSHFVPVFLPVHTRGLDFACDIYIWAPLAGTCGVLL

LSLVITLYCNHRNRRRVCKCPRPVVKSGGKPSLSERYV

mRNA

1 atggccttac ccgtgaccgc cttgctcctg ccgctggcct tgctgctcca cgccgccagg
61 ccgagccagt tccgggtgtc gccgctggat cggacctgga acctgggcga gacggtggag
121 ctgaagtgcc aggtgctgct gtccaacccg acgtctggct gctcctggct cttccagccg
181 cgtggcgccg ccgccagtcc caccttcctc ctatacctct cccaaaacaa gcccaaggcg
241 gccgaggggc tggacaccca gcggttctcg ggcaagaggt tgggggacac cttcgtcctc
301 accctgagcg acttccgccg ggagaacgaa ggctactatt tctgctcggc cctgagcaac
361 tccatcatgt acttcagcca cttcgtgccg gtcttcctgc cagtgcacac gagggggctg
421 gacttcgcct gtgatatcta catctgggcg ccottggccg ggacctgtgg ggtccttctc
481 ctgtcactgg ttatcaccct ttactgcaac cacaggaacc gaagacgtgt ttgcaaatgt
541 ccccggcctg tggtcaaatc tggaggcaag cccagccttt cggagagata tgtctaa

FIGURE 1

XM_132621 & BC030679 & U34881
Mus musculus (Mouse)
Complete CD8 alpha mRNA

Predicted polypeptide

MASPLTRFLSLNLLLLGESIILGSGEAKPQAPELRIFPKKMDAE

LGQKVDLVCEVLGSVSQGCSWLFQNSSSKLPQPTFVVYMASSHNKITWDEKLNSSKLF

SAMRDTNNKYVLTLNKFSKENEGYYFCSVISNSVMYFSSVVPVLQKVNSTTTKPVLRT

PSPVHPTGTSQPQRPEDCRPRGSVKGTGLDFACDIYIWAPLAGICVALLLSLIITLIC

YHRSRKRVCKCPSIACLCLKLQGSKWYESVICSALAVSIRCNKSKSGELPLAVHLDIR

APCKNWEIAGSLVERYGKSGKHSPLSLKAVVESN

mRNA

1 atggcctcac cgttgacccg ctttctgtcg ctgaacctgc tgctgctggg tgagtcgatt
61 atcctgggga gtggagaagc taagccacag gcacccgaac tccgaatctt tccaaagaaa
121 atggacgccg aacttggtca gaaggtggac ctggtatgtg aagtgttggg gtccgtttcg
181 caaggatgct cttggctctt ccagaactcc agctccaaac tcccccagcc caccttcgtt
241 gtctatatgg cttcatccca caacaagata acgtgggacg agaagctgaa ttcgtcgaaa
301 ctgttttctg ccatgaggga cacgaataat aagtacgttc tcaccctgaa caagttcagc
361 aaggaaaacg aaggctacta tttctgctca gtcatcagca actcggtgat gtacttcagt
421 tctgtcgtgc cagtccttca gaaagtgaac tctactacta ccaagccagt gctgcgaact
481 ccctcacctg tgcaccctac cgggacatct cagccccaga gaccagaaga ttgtcggccc
541 cgtggctcag tgaaggggac cggattggac ttcgcctgtg atatttacat ctgggcaccc
601 ttggccggaa tctgcgtggc ccttctgctg tccttgatca tcactctcat ctgctaccac
661 aggagccgaa agcgtgtttg caaatgtccc agtatagcat gcttgtgcct caaactgcaa
721 ggaagcaagt ggtatgaatc tgtgatctgc tcagctctgg ctgtgagcat cagatgtaac
781 aaatcaaagt caggagaact gcctttagcg gtgcacctgg acatcagagc cccttgtaag
841 aactgggaaa ttgctggcag tctagtggag cggtacggta aatctggaaa acactccct
901 ctgtcactga aggctgtagt agaatccaat taa

Predcited polypeptide

MDAELGQKVDLVCEVLGSVSQGCSWLFQNSSSKLPQPTFVVYMA

SSHNKITWDEKLNSSKLFSAMRDTNNKYVLTLNKFSKENEGYYFCSVISNSVMYFSSV

VPVLQKVNSTTTKPVLRTPSPVHPTGTSQPQRPEDCRPRGSVKGTGLDFACDIYIWAP

LAGICVALLLSLIITLICYHRSRKRVCKCPRPLVRQEGKPRPSEKIV

FIGURE 1

mRNA

1 cgttgacccg ctttctgtcg ctgaacctgc tgctgctggg tgagtcgatt atcctgggga
61 gtggagaagc taagccacag gcacccgaac tccgaatctt tccaaagaaa atggacgccg
121 aacttggtca gaaggtggac ctggtatgtg aagtgttggg gtccgtttcg caaggatgct
181 cttggctctt ccagaactcc agctccaaac tcccccagcc caccttcgtt gtctatatgg
241 cttcatccca caacaagata acgtgggacg agaagctgaa ttcgtcgaaa ctgttttctg
301 ccatgaggga cacgaataat aagtacgttc tcaccctgaa caagttcagc aaggaaaacg
361 aaggctacta tttctgctca gtcatcagca actcggtgat gtacttcagt tctgtcgtgc
421 cagtccttca gaaagtgaac tctactacta ccaagccagt gctgcgaact ccctcacctg
481 tgcaccctac cgggacatct cagccccaga gaccagaaga ttgtcggccc cgtggctcag
541 tgaaggggac cggattggac ttcgcctgtg atatttacat ctgggcaccc ttggccggaa
601 tctgcgtggc ccttctgctg tccttgatca tcactctcat ctgctaccac aggagccgaa
661 agcgtgtttg caaatgtccc aggccgctag tcagacagga aggcaagccc agaccttcag
721 agaaaattgt gtaaaatggc accgccagga agctacaact actacatgac ttcagatctc
781 ttcttgcaag aggccaggcc ctccttttc aagtttcctg ctgtcttatg tattgccctc
841 tgtattgttt tagtaggggt gtgatgggga cagttccttt ttctttatga attctctttg
901 acacaaagca tacttgtatg catacaatgg gagtaatgag cagactgtaa caccagagct
961 agttccagtt tcggggtcca tgtcgctggt ggcctcagca cccacttgat ataaatctcc
1021 tgtctgccca tcatatagaa gaagctgaag atcagaggtg gaaacagcag gatctgtaga
1081 cccggagaga acccaagcta gaggaaccct cactgactgg tgcagggatc tcacccccat
1141 cccctgagct ctctgtttag gtatgtgtct ttagtatagc atgcttgtgc ctcaaactgc
1201 aaggaagcaa gtggtatgaa tctgtgatct gctcagctct ggctgtgagc atcagatgta
1261 acaaatcaaa gtcaggagaa ctgcctttag cggtgcacct ggacatcaga gcccccttgta
1321 agaactggga aattgctggc agtctagtgg agcggtacgg taaatctgga aaacactccc
1381 ctctgtcact gaaggctgta gtagaatcca attaaagcta ttcaaaccac aaaaaaaaaa
1441 aaaaaaaaaa aa

Predicted polypeptide

MASPLTRFLSLNLLLMGESIILGSGEAKPQAPELRIFPKKMDAE

LGQKVDLVCEVLGSVSQGCSWLFQNSSSKLPQPTFVVYMASSHNKITWDEKLNSSKLF

SAVRDTNNKYVLTLNKFSKENEGYYFCSVISNSVMYFSSVVPVLQKVNSTTTKPVLRT

PSPVHPTGTSQPQRPEDCRPRGSVKGTGLDFACDIYIWAPLAGICVAPLLSLIITLIC

YHRSRKRVCKCPRPLVRQEGKPRPSEKIV

mRNA

FIGURE 1

1 atggcctcac cgttgacccg ctttctgtcg ctgaacctgc tgctgatggg tgagtcgatt
61 atcctgggga gtggagaagc taagccacag gcacccgaac tccgaatctt tccaaagaaa
121 atggacgccg aacttggcca gaaggtggac ctggtatgtg aagtgttggg gtccgtttcg
181 caaggatgct cttggctctt ccagaactcc agctccaaac tcccccagcc caccttcgtt
241 gtctatatgg cttcatccca caacaagata acgtgggacg agaagctgaa ttcgtcgaaa
301 ctgttttctg ccgtgaggga cacgaataat aagtacgttc tcaccctgaa caagttcagc
361 aaggaaaacg aaggctacta tttctgctca gtcatcagca actcggtgat gtacttcagt
421 tctgtcgtgc cagtccttca gaaagtgaac tctactacta ccaagccagt gctgcgaact
481 ccctcacctg tgcaccctac cgggacatct cagccccaga gaccagaaga ttgtcggccc
541 cgtggctcag tgaaggggac cggattggac ttcgcctgtg atatttacat ctgggcaccc
601 ttggccggaa tctgcgtggc ccctctgctg tccttgatca tcactctcat ctgctaccac
661 aggagccgaa agcgtgtttg caaatgtccc aggccgctag tcagacagga aggcaagccc
721 agaccttcag agaaaattgt gtaa

FIGURE 1

NM_031538
Rattus norvegicus (Rat)
Complete CD8 alpha mRNA

Predicted polypeptide

MASRVICFLSLNLLLLDVITRLQVSGQLQLSPKKVDAEIGQEVK

LTCEVLRDTSQGCSWLFRNSSSELLQPTFIIYVSSSRSKLNDILDPNLFSARKENNKY

ILTLSKFSTKNQGYYFCSITSNSVMYFSPLVPVFQKVNSIITKPVTRAPTPVPPPTGT

PRPLRPEACRPGASGSVEGMGLGFACDIYIWAPLAGICAVLLLSLVITLICCHRNRRR

VCKCPRPLVKPRPSEKFV

mRNA

1 ccctagagcc ctagcttgac ctaaggtgct ggtgggacgc acaccatggc ctcacgggtg
61 atctgctttc tgtcgctgaa cctgctactg ctggatgtta tcactaggct ccaggtttcc
121 ggacagttac agttgtcacc aaagaaagtg gacgctgaaa ttggccagga ggtgaagcta
181 acatgcgaag tgctgcggga cacttcgcaa ggatgctctt ggctcttccg gaactccagc
241 tccgaactcc tccagcccac cttcatcatc tatgtatctt catcccggag caagctgaac
301 gatatactgg atccgaatct gttctctgcc cggaaggaaa acaacaaata catcctcacc
361 ctgagcaagt tcagcactaa aaaccaaggc tactatttct gctcaatcac cagcaactcg
421 gtgatgtact tcagtcctct ggtgccggtg tttcagaaag tgaactctat tatcaccaag
481 ccggtgacgc gagctcccac accagtgcct cctcctacag ggacaccccg gcccctacga
541 ccagaagctt gccgacccgg ggcgagtggc tcagtggagg gaatgggatt gggcttcgcc
601 tgcgatattt acatctgggc acccttggcc ggaatctgcg cggttcttct gctgtccctg
661 gtcatcactc tcatctgctg ccacaggaac cgaaggcgtg tttgcaaatg tcccaggccc
721 cttgtcaagc ccagaccttc agagaaattc gtgtaaaatg gcgccactag gaagccacaa
781 ctactacatg acttcagaga tttctcacaa gagaccgggc cctccttttt cagagtttcc
841 tgctggctta tatattgtcc tctgtattgt tttaggggta ggatggggac agttcctttt
901 tctttatgaa ttctctttga tacaaaacat acttgtatgc acacaatggg gtaaagatca
961 gactgtaaca ccagagatag tcccagtttc agggtcagcg tagctggtgg

FIGURE 1

AY303773
Cavia porcellus (Guinea Pig)
Complete CD8 alpha mRNA
Predicted polypeptide

MAPRGSAWLLLLPVALLLDAATAQGASQFRMSPRELVAQVGTKV

TLRCEVLVPNAPAGCSWLFQPRHDAKGPTFLLYHSASGTKLAPGLEQKRFSPSKSSNT

YTLTVNSFQKRDEGYYFCSVSGNMMLYFSPFVPVFLPAPRTTTPPPPPTTPTPSVQPT

SVRPETCVVSKGAAGARWLDLSCDVYIWAPLASTCAALLLALVITIICHRRNRQRVCK

CPRPQARSGGKPSPSGKLV

mRNA

1 gcaacttccc cactgcgcat cccctggctc ctggtggctc ctgggcggct cccttcacgc
61 ctggactcca ggctctgccc tgcgccgagg agcgcgcgcc atggccccgc gaggaagcgc
121 ctggctgctg ctgctgccgg tggccctgct gctcgacgcc gccacggccc aaggtgccag
181 tcagttccga atgtcacccc gtgaactggt cgcgcaagtc ggcaccaaag tgaccctgcg
241 ctgtgaggtg ctggtgccta acgcgccggc gggatgctcg tggctcttcc agccccgcca
301 cgacgccaaa ggtcccacct tcctcctgta ccattcggcg tccgggacca agttggcccc
361 agggctggaa cagaagcgat tcagcccctc gaagagcagt aacacctaca ccctcacggt
421 gaacagcttc cagaagcgag acgaaggcta ctacttctgc tcggtctccg gcaacatgat
481 gctctacttc agcccgttcg ttcccgtctt cctgccagct cctcgcacca cgacgccccc
541 tccccctccc accacgccga cccccagcgt gcagcccacg tcggtgcgcc ccgagacgtg
601 tgtggtctct aagggcgcag caggtgcgag gtggctggat ctctcctgtg atgtctacat
661 ctgggcgccc ctggccagca catgcgcggc ccttctgctg gcactggtca tcacgatcat
721 ctgccaccgc aggaacagac aacgcgtttg caaatgtcct aggccccaag ccaggtctgg
781 aggcaaaccc agcccttcag ggaagttagt ctaacaacat ggcgcccagc ctgtgcgaag
841 ccactacatg actttatact gagatcattc cttggacagc aagtgctcct cttttgggtt
901 tcccagtctt ccttcctatg tatttgttct cattactatt ttagtgggca tggggtggga
961 agagttgctt tttcgttaga caaaaaataa aaccatgtag catctgcagc tcacaagggt
1021 cacagggctg ttacctcaca caggggttag ggtagcaagc agggctctca ggtactggaa
1081 ttcactccct tccactcact tgagggtggg cagcacccac gggtcattta tccctcatca
1141 tgctcctcca cccacttgag ctcagatgcc acccaaagag cagtctatct aaacccaggc
1201 caaacacatg caactgcttt ttgaacccga gagcctaatt tatctgcaga gaatgcaagt
1261 gctcctttgt cacttatatc ttgtccatga cctttaataa atgtgctgct tttccctcaa
1321 aaaaaaaaaa

FIGURE 1

NM_174015
Bos taurus (Cow)
Complete CD8 alpha mRNA

Predicted polypeptide

MASLLTALILPLALLLLDAAKVLGSLSFRMSPTQKETRLGEKVE

LQCELLQSGMATGCSWLRHIPGDDPRPTFLMYLSAQRVKLAEGLDPRHISGAKVSGTK

FQLTLSSFLQEDQGYYFCSVVSNSILYFSNFVPVFLPAKPATTPAMRPSSAAPTSAPQ

TRSVSPRSEVCRTSAGSAVDTSRLDFACNIYIWAPLVGTCGVLLLSLVITGICYRRNR

RRVCKCPRPVVRQGGKPNLSEKYV

mRNA

1 gaattcggat ccaccatggc ctcactcttg accgccctga tcctgccgct ggccctgctg
61 ctgctcgatg ccgccaaggt cctcgggtcg ctctcgttcc ggatgtcgcc gacgcagaag
121 gagaccagac tgggcgagaa ggtggagctg caatgcgagt tgctgcagtc cggcatggcg
181 acagggtgct cctggctccg ccacataccc ggggacgacc ccagacccac cttcctaatg
241 tacctctccg cccaacgggt caagctagcc gagggactgg accccagaca catttccggc
301 gccaaggtct ccggcaccaa attccagctc accctgagca gcttcctcca ggaggaccaa
361 ggctactatt tttgctcggt cgtgagcaac tcgatactgt acttcagtaa cttcgtgcct
421 gtcttcttgc cagcgaagcc ggccaccacg ccggcgatgc ggccatccag cgcggcgccc
481 accagcgcgc cgcagactag gtcggtctct ccgcgatcag aggtgtgccg gacctcggcg
541 ggcagcgcag tggacacgag ccggctggac ttcgcctgca atatctacat ctgggctccc
601 ttggtcggga cctgcggcgt ccttctcctg tcattggtca tcacaggcat ctgctaccgc
661 cggaaccgaa gacgtgtctg caaatgtccc aggcctgtgg tccgacaagg aggcaagccc
721 aacctttcag agaaatatgt ctaacatggc gatgggcccc gtgtgacagc cactacaaga
781 cttcgcactg agaactctcc tgagatcctt ccctttgat ttctccctgc ttccttcctt
841 ctcgttatta ttatttttca tgggggtggg gtgggaagag ttacttttc tttattattt
901 actttgatac aaaacaagac actcgtgtct aaggcatacc acaagggtta tcatgctgtt
961 gtgctcccat actcgggtag agggcgggcg ggccagagct accgcaagct ctattctcag
1021 aacctggctg tgagaactgg tgggggcctc ggcacccact cagccccaac ttctcctcca
1081 cccattttac aaaagaggac gctgaggccc agagatgggg aacagctgga tcagagtccc
1141 agcagggctc cacacaactg agatctttct tctggaggcc tctgtctcag cgtggggagc
1201 tggatctcaa gcctcagaga actagttatt tctgaagcat ctgtgataga cccatgactg
1261 cacccagagc ctcgatgagg taatgaaata ggacaagaaa acttgacaga gttctgtgat
1321 actgctgaac aggatcagat tatttttttt ataatcaagc atgaaatgat acagataata
1381 ggaattcttc caatgaagtg gaaggagtga actgaatgat ggaaaatgag caacctgacc
1441 tctgaagaaa atctctggga aatcccagcc tggagatggt tctcccagcc cttgtattgc

FIGURE 1

1501 agaaggaccc tcaaagagga gaggccaccc tctgcaagca tgatttgagc gttaggaaag
1561 ttgaatggag ttcaagtctc tctaaacatt gagattccgt attcaaacat gctcctgggt
1621 tatcggtgag tttttatagt ttgtaaaggg agaattgtga ccgagcagct ggcacaggcc
1681 ctggcacccc aggctagcag ctgagggaat gtgcagacac tggtgaggag gctacgagcc
1741 cagctgcagc cctacaaggc atttccttcc ttactgtgtt ctgcaaaaaa tgcatgctca
1801 ctgggagaaa aaatgtagct aaggtagtaa gaatcatccg taattcttta cctcagggat
1861 aatccattgt taatattatg ggctacattc ttcctgatta ttttctgtgc cctacatata
1921 aaatatataa tttttaaaaa tgggattgca ctatgctttt ataaatggct ttaataaaca
1981 aacatttatg gcttacttct t

FIGURE 1

AY517855
Sus scrofa (Domestic pig)
Complete CD8 alpha mRNA

Predicted polypeptide

VELQCELMHSNTLTSCSWLYQKPGAASKPIFLMYLSKTRNKTAE

GLDTRYISGYKANDNFYLILHRFREEDQGYYFCSFLSNSVLYFSNFMSVFLPAKPTKT

PTTPPPKRTPTKASHAVSVAPEVCRPSGNADPRKLDLACDLYNWAPLVGTSGILLLSL

VITIICHRRNRRRVCKCPRPVVRQGGKASPSERFI

mRNA

1 gtggagctgc agtgcgagtt gatgcactcc aacacactga caagctgttc ctggctctac
61 cagaagccgg gggctgcctc caagcccatc ttcctcatgt acctctccaa aacccggaat
121 aagacagccg aggggctgga cacccgttac atctctggtt acaaggccaa tgacaacttc
181 tacctcatcc tgcaccgctt ccgcgaggag gaccaaggct actatttctg ctcgttcctg
241 agcaactcgg ttttgtattt cagcaacttc atgtccgtct tcttgccagc aaagcccacc
301 aagacgccga ctacgccacc acccaagcgg actcccacca aagcgtcgca cgccgtgtct
361 gtggccccag aggtgtgccg gccttcgggc aacgcagacc cgaggaagct ggacctcgcc
421 tgtgatctgt acaactgggc gcccctggtt gggacctccg gcatccttct cctgtcactg
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721 ttatttccat gggggtgggg tgggaagggt gacttttttct ttgggtgttt actttaattg
781 acacaaaacg agactctatc acgtctttgg tacgccgcag gggttcgaac accgttgtgc
841 tcacacacac aacggtgaag ggtgggcggg ccagagctac cgcaagctgt gttctcagaa
901 ccaggctgtg agagctggtg gggggtgggg aggccctcgg cacccacaca ggccaaacct
961 ctccccctgc cccccatttt acaaaggaat gaggctgagg cccagagatg gggggtggct
1021 ggatcagagc cccagcaagg ctccaggctc atcctccaca gcatttgggc ctctcttcca
1081 ggggcctctg tctcagctgg gggagctgtg tctcccacct caaggaaaca aggtttgctt
1141 gggcacctgt gatagactct gcactgtgcc cagagccccg gggaggcaat gcagtaagtc
1201 aaggggacgt gacagaggtc tacggtgcag ttgaacagga tcagatatat ttttttaat
1261 aatccagcat gaagttatat agataacagg aattcctcaa atagagtgga agggctgaac
1321 tgaatcctgg aaagtgaaca acacgacctc taaaggaaat ccaatgcaaa aaatctctaa
1381 gtggagacac agtggctctc ccaggggacc catgaaagag gggaagccgc cctttgcaaa
1441 tatgatttga gcatcgcgaa agtcgaacgg aggtcggccc tctctaaatg tgagatctga
1501 tatttgaacg tgctcctcgg atcattgatg ggtttttttg gtttgtaaac acagaattat
1561 gaccgagtag ctggcctccc ctggaccagc agctgtggat atggggcaga ctctgatgag

FIGURE 1

1621 gaggctagga gcccagactg ctgccctcta cgcgcatttc ctctcttaac catgttgtac

1681 aagaaatgcg tgctcgctgg aagaaaaaac taaataataa gagtcaccca taattcttta

1741 cttctggtat aactcattgt taatattatg gtgtacattc ttcctgatta ttttctatgc

1801 acgtatataa aatgtatact ttttaaaaat ggaattgtac tatgctttta gaagtggttt

1861 taataaacat ttctgctatg aaaaaaaaaa a

FIGURE 1

D16536
Felis catus (cat)
Complete CD8 alpha mRNA
Predicted polypeptide

MASPVTAQLLPLALLLHAAAAAGPSPFRLSPVRVEGRLGQRVEL

QCEVLLSSAAPGCTWLFQKNEPAARPIFLAYLSRSRTKLAEELDPKQISGQRIQDTLY

SLTLHRFRKEEEGYYFCSVVSNSVLYFSAFVPVFLPVKPTTTPAPRPPTQAPITTSQR

VSLRPGTCQPSAGSTVEASGLDLSCDIYIWAPLAGTCAFLLLSLVITVICNHRNRRRV

CKCPRPVVRAGGKPSPSERYV

mRNA

1 atggcctctc cggtgactgc ccagctcctg ccgctggcct tgctgcttca tgccgccgca
61 gccgccgggc cgagcccgtt ccgcttatcg cccgtgaggg tggagggcag gctcggccag
121 cgggtggagc tgcagtgcga ggtgctgctg tccagcgcgg cgccgggctg cacctggctc
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301 ctctacagtc tcaccctgca cagattccgc aaggaggaag aaggctacta tttctgctcg
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421 cccaccacta cgcccgcgcc gcgaccgccc acgcaggcgc ccatcaccac gtcgcagcgg
481 gtgtctctgc gcccggggac ctgccagcct tcagcgggca gcacagtgga agcaagtggg
541 ctggatttgt cctgtgacat ctacatctgg gcacccctgg ctgggacctg cgccttcctt
601 ctcctgtcgc tggtcatcac cgtcatctgc aaccacagga accgaagacg tgtttgcaaa
661 tgtccgaggc ccgtggtcag agcaggaggc aagcctagcc cgtcagagag atacgtctaa
721 catggagatg ggccccatgc accagccact acaagaccaa ataaaactct ctttatgagg
781 acagt

FIGURE 1

AY065643
Sigmodon hispidus (Hispid cotton rat)
Complete CD8 alpha mRNA
Predicted polypeptide

MAPRVTRFLCLTLLLEFIAELGGSKDFEMSPKKVVAHLGKEVRL

TCEVWVSTSQGCSWLFLEHGSGVKPTFLIYLSGSRNERNNKIPSTKLSGKKEDKKYTL

TLNNFAKEDEGYYFCSVTSNSVVYFSPLVSVFLPEKPTTPVPKPPTSVPTTAISRSLR

PEACRPGAGTSVEKKGWDFDCDIIILAPLAGLCGVLLLSLVTTLICCHRNRKRVCKCP

RPVVRQGGKPSPSGKLV

mRNA

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61 tctgtgcctg accctgctgc tggaatttat cgctgagctc ggaggctcga aagatttcga
121 aatgtctcct aagaaggtgg tcgcccacct tggcaaggag gtgaggctaa catgcgaagt
181 gtgggtgtct acttcgcaag gatgctcttg gctcttcctg gagcatggct ccggagttaa
241 acccactttc ctcatctatc tctctgggag ccgcaacgaa cggaataaca aaataccttc
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421 tcctctcgtg tcggtctttc tgccagagaa acctaccaca ccagtgccga aaccacccac
481 atcagtgccc actacggcga tatctcggtc cctgcgacca gaagcttgcc gacctggagc
541 cggcacctca gtggagaaga agggatggga cttcgactgt gatatcatca ttttggcacc
601 cttagctgga ctctgtgggg tccttctgct gtctctggtc accacactca tctgctgcca
661 caggaacaga aaacgagtct gcaaatgtcc caggcccgtg gtcagacaag gaggcaagcc
721 cagcccttca gggaaactcg tgtaagatgg cgccaagaaa ctacaactac tacttcagag
781 acctcttcat ctagagctcc agctctcctt cttcaatttt tctcaccttc ctatatattg
841 ttctttgtat tattttagtg ggggtaggac agggttggaa ccatttcctt tctttatgaa
901 ttcactttga cacaaaacaa gaccacataa tgtccacggg ataccataag ggcaggagct
961 gttgctgcgt acatagcatg tgggggaagt acagaacagc tgtctgggtt ctcaggatca
1021 gtggatgatc agcacccact tgatgatcta aatgccctgt ctgcccatta tatagaagag
1081 gttgaaggtc agaaatgggg tgggcaggat ctgtgcacca ggagagaacc caagctgacg
1141 aaatcctcac tggatggctc agggaacttg cctctatatc ctgagttctc tttattcagg
1201 cctgtgcctg gtagtgtgta ggctgagta

FIGURE 1

AJ130818
Saimiri sciureus (Common Squirrel Monkey)
Complete CD8 alpha mRNA

Predicted polypeptide

MASPVTALLLPLALLLHAARPSRFRVSPLDRTWNLGDKVELKCE

VLLSNPSSGCSWLFQKRGAAASPTFLLYISQTKPKVADGLDAQRFSGKKMGDSFILTL

RDFREEDQGFYFCSALSNSIMYFSPFVPVFLPAKPTTTPAPRPPTPEPTTASQPLSLR

PQACRPPAGGAVDTRGLDFACDIYIWVPLAGTCGVLLLSLVITVYCNHRNRRRVCKCP

RPAVKSGGKPSPSERYV

mRNA

```
   1 atggcctctc ccgtgaccgc cttgctcctg ccgctggccc tgctgctcca cgctgccagg
  61 ccgagccggt tccgggtgtc gccgctggat cggacctgga acttgggcga caaggtggag
 121 ctgaagtgcg aggtgctgct gtccaacccg tcctcgggct gctcgtggct cttccagaag
 181 cgcggcgctg ccgccagccc caccttcctc ctgtacatct cccaaaccaa gcccaaggtg
 241 gccgatgggc tggacgccca gcgcttctcc ggcaagaaga tgggggacag cttcattctc
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 361 tccatcatgt acttcagccc cttcgtgccg gtcttcctgc cagcgaagcc caccacgacg
 421 ccagcgccgc gaccacccac accggagccc accaccgcgt cgcagcccct gtccctgcgt
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 601 gtcatcaccg tttattgcaa tcacaggaac cgacgacgtg tttgcaaatg tccccggcct
 661 gcggtcaagt ctggaggcaa gcccagccct tcggagagat acgtctaa
```

Domains of the CD8 α-Chains

Leader
Transmembrane

Human CD8 α-Chain

Protein:

MALPVTALLL PLALLLHAAR PSQFRVSPLD RTWNLGETVE LKCQVLLSNP
TSGCSWLFQP RGAAASPTFL LYLSQNKPKA AEGLDTQRFS GKRLGDTFVL
TLSDFRRENE GYYFCSALSN SIMYFSHFVP VFLPAKPTTT PAPRPPTPAP
TIASQPLSLR PEACRPAAGG AVHTRGLDFA CDIYIWAPLA GTCGVLLLSL
VITLYCNHRN RRRVCKCPRP VVKSGDKPSL SARYV

mRNA - coding

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cgccgccagg ccgagccagt tccgggtgtc gccgctggat cggacctgga
acctgggcga gacagtggag ctgaagtgcc aggtgctgct gtccaacccg
acgtcgggct gctcgtggct cttccagccg cgcggcgccg ccgccagtcc
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Figure 2A

mouse CD8 α-Chain

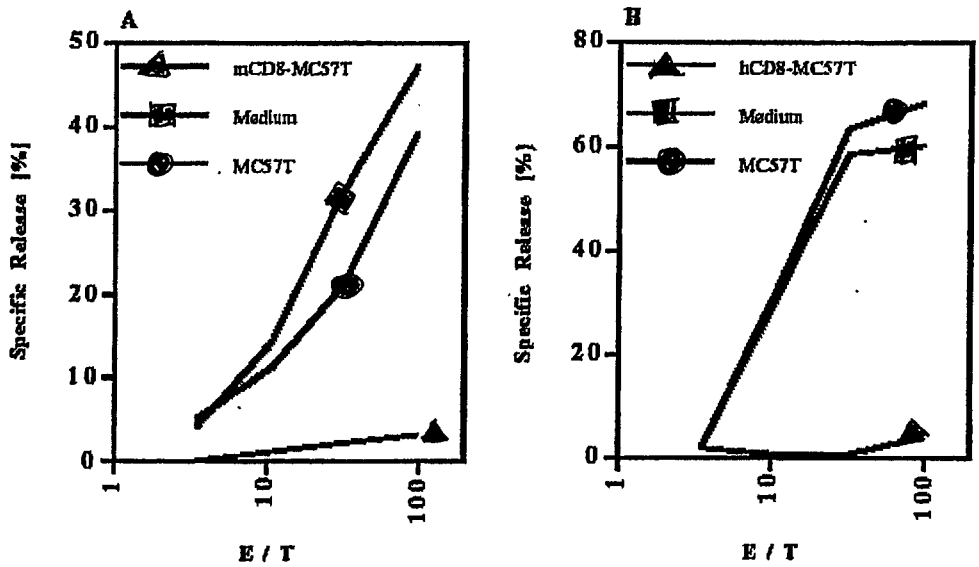
Protein:

MASPLTRFLS LNLLLLGESI ILGSGEAKPQ APELRIFPKK MDAELGQKVD
LVCEVLGSVS QGCSWLFQNS SSKLPQPTFV VYMASSHNKI TWDEKLNSSK
LFSAMRDTNN KYVLTLNKFS KENEGYYFCS VISNSVMYFS SVVPVLQKVN
STTTKPVLRT PSPVHPTGTS QPQRPEDCRP RGSVKGTGLD FACDIYIWAP
LAGICVALLL SLIITLICYH RSRKRVCKCP SIACLCLKLQ GSKWYESVIC
SALAVSIRCN KSKSGELPLA VHLDIRAPCK NWEIAGSLVE RYGKSGKHSP
LSLKAVVESN

mRNA - Coding

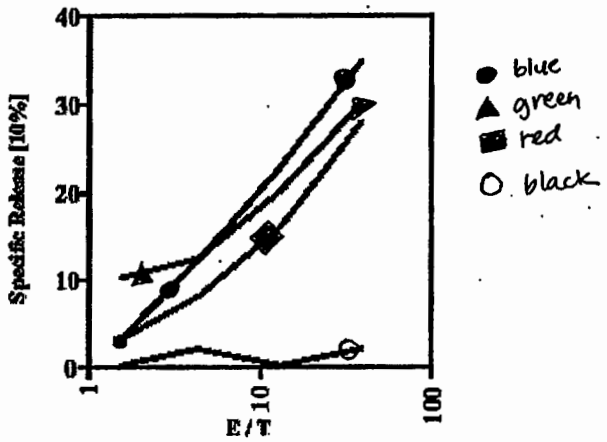
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tccgaatctt tccaaagaaa atggacgccg aacttggtca gaaggtggac
ctggtatgtg aagtgttggg gtccgtttcg caaggatgct cttggctctt
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cttcatccca caacaagata acgtgggacg agaagctgaa ttcgtcgaaa
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caagttcagc aaggaaaacg aaggctacta tttctgctca gtcatcagca
actcggtgat gtacttcagt tctgtcgtgc cagtccttca gaaagtgaac
tctactacta ccaagccagt gctgcgaact ccctcacctg tgcaccctac
cgggacatct cagccccaga gaccagaaga ttgtcggccc cgtggctcag
tgaaggggac cggattggac ttcgcctgtg atatttacat ctgggcaccc
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gcttgtgcct caaactgcaa ggaagcaagt ggtatgaatc tgtgatctgc
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Figure 2B



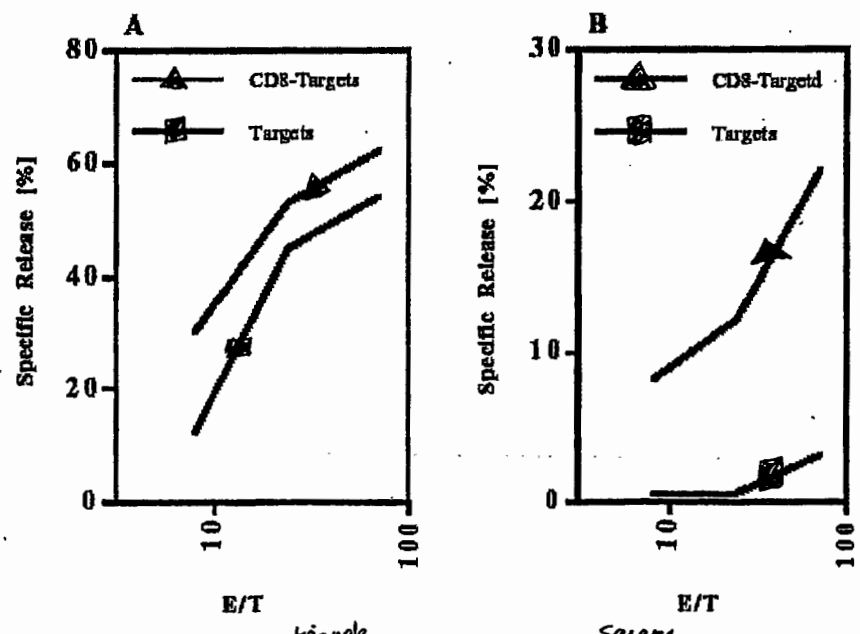
Balb/c spleen cells were stimulated with C57BL/6 spleen cells. Cultures were supplemented with normal fibroblasts (blue), medium (red) or fibroblasts with CD8 (green) of mouse (A) or human (B) origin. Cultures were harvested and tested for their lytic ability towards C57BL/6-derived target cells.

Figure 3



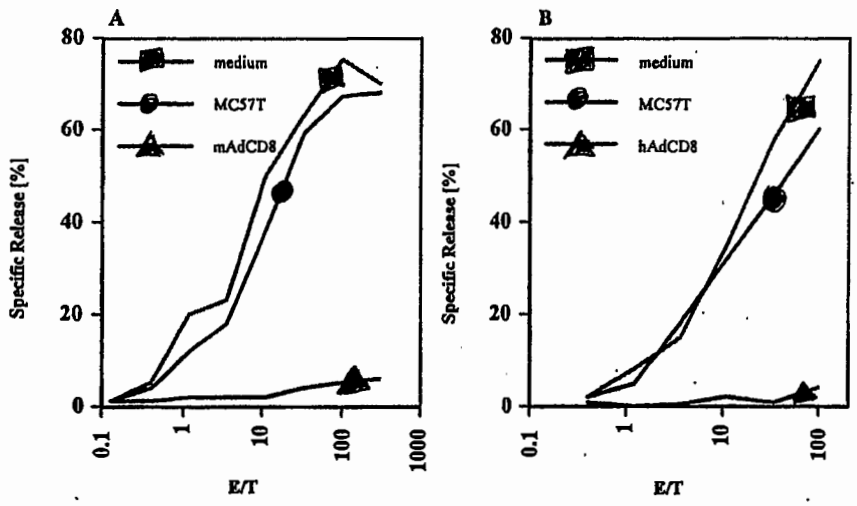
Balb/c (H-2d) mice were injected with control fibroblasts(red and green) or mCD8-transfected C57BL/6-(H-2b) derived (black and blue) fibroblasts. After two weeks animals were sacrifized, spleen cells were harvested, stimulated with C57BL/6 (H-2b) (red and black) or CBA/J (H-2k) (blue and green) spleen cells and tested for their lytic ability on EL4 (H-2b) (red and black) or S.AKR (H-2k) (blue and green) target cells.

Figure 4



Target cells (~~green~~ triangle) or CD8-expressing targets (~~red~~ square) were tested for their susceptibility to lysis by alloreactive T cells (A) or by antigen-specific CTLs (B).

Figure 5



circle MLCs (Balb/c anti-C57BL/6) were set up in the presence of normal fibroblasts (~~blue~~) and fibroblasts transduced with mAdCD8 (A, green) or hAdCD8 (B, ~~green~~). No fibroblasts were added to control cultures (red). The lytic activity of these cultures towards an C57BL/6-derived target was determined at the end of the culture period. triangle

Figure 6

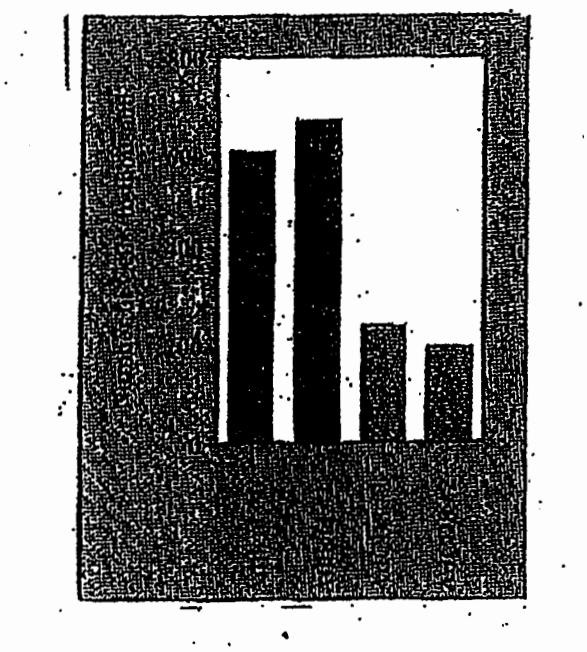


Figure 7

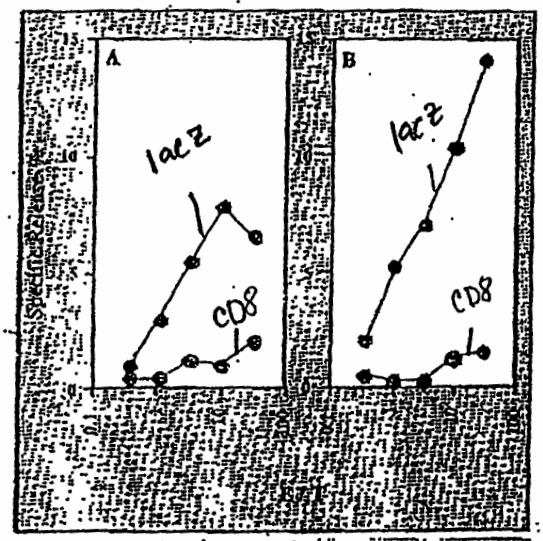
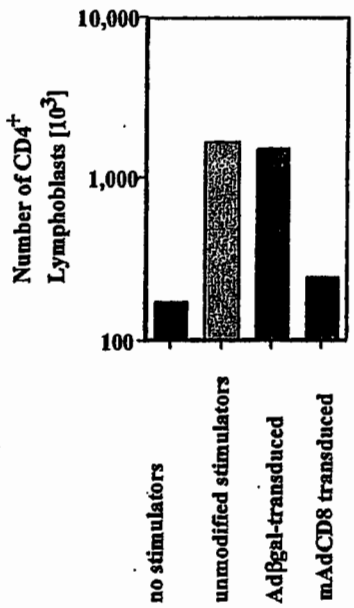


FIGURE 8



$3x10^6$ C7Bl/6 spleen cells were incubated with $1x10^6$ (or no) stimulator cells, transduced as indicated. After 4 days the cultures were analyzed for presence $CD4^+$ T lymphoblasts by immunofluorescence.

Figure 9

FIGURE 10A

Infected Cells: MC57T Fibroblasts
Panel 1: Mock-Infection; Panel 2: Infection with hAdCD8

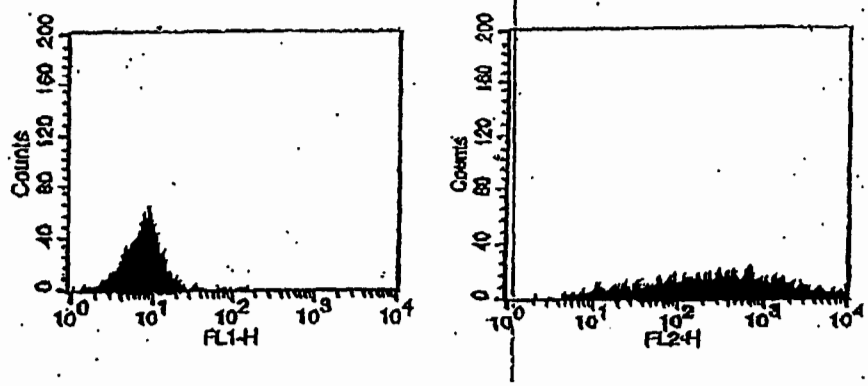


FIGURE 10B

Infected Cells: MC57T Fibroblasts
Panel 1: Mock-Infection; Panel 2: Infection with mAdCD8

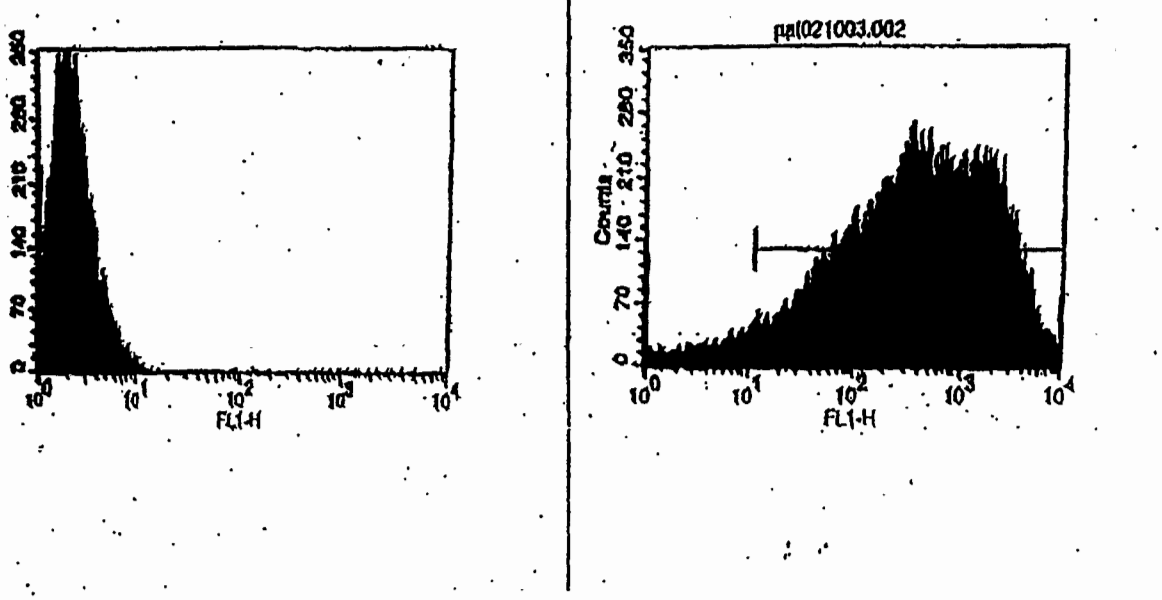


FIGURE 10C

Infected Cells: Balbc unselected bone marrow cells:
Panel 1: Infection with lacZ Adenoviral Vector (AdLacZ);
Panel 2: Infection with mAdCD8

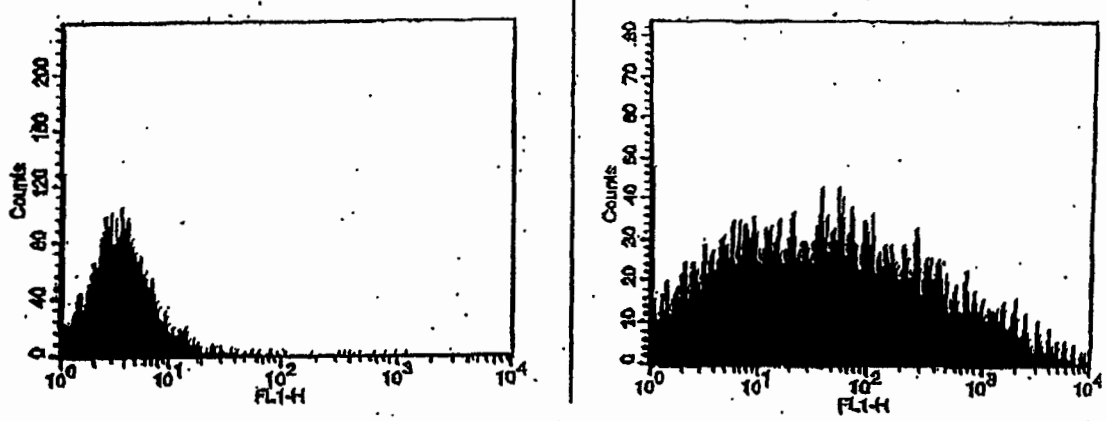
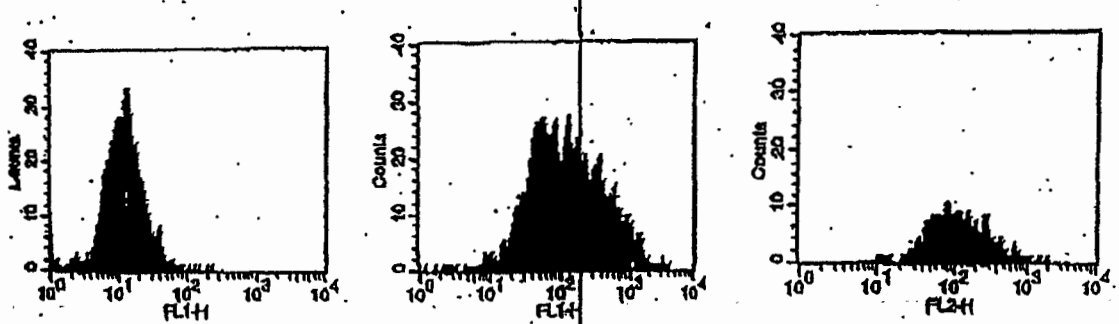
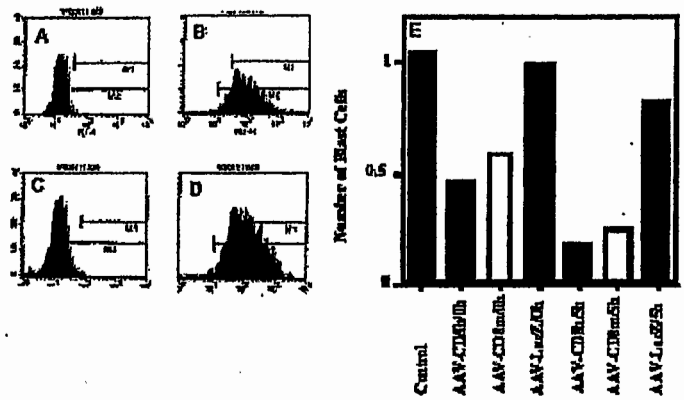


FIGURE 10D

Infected Cells: MC57T Fibroblasts
Panel 1: Mock-Infection;
Panel 2: Infection with pAAV-mCD8;
Panel 3: Infection with pAAV-hCD8





Fibroblasts were transduced with mAAVCD8 (B) or hAAVCD8 (D) or mock-infected (A and C). Surface expression of CD8 was detected by surface immunofluorescence (A through D). MLCs (Balb/c anti-C57BL/6) were set up in the presence of these fibroblasts that had been cultured for 0 or 5 hours after transduction before they were added to the MLCs. At end of cultures, the number of lymphoblasts was determined on a fluorescence activated cell analyzer.

Figure 11

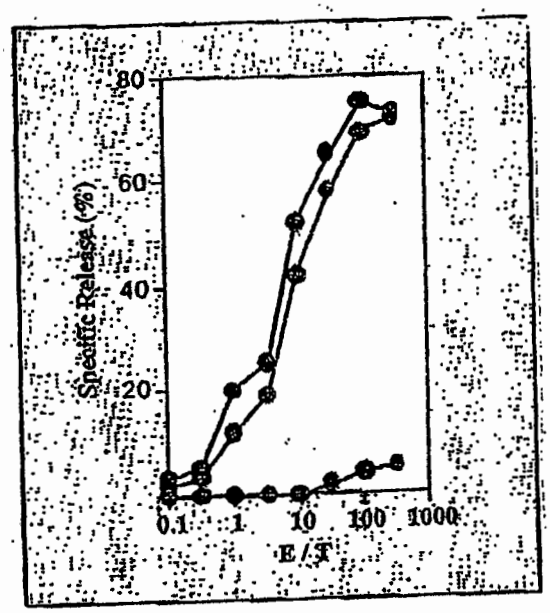
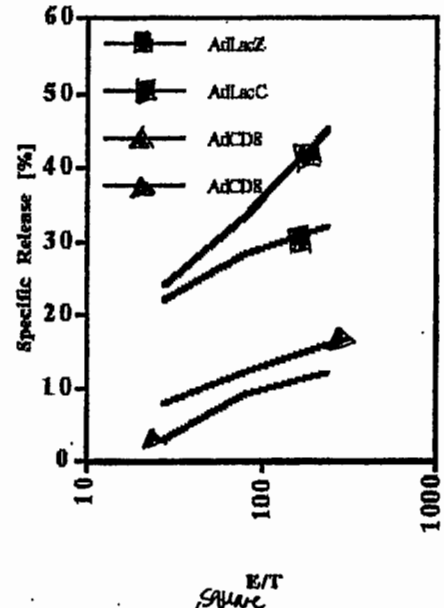
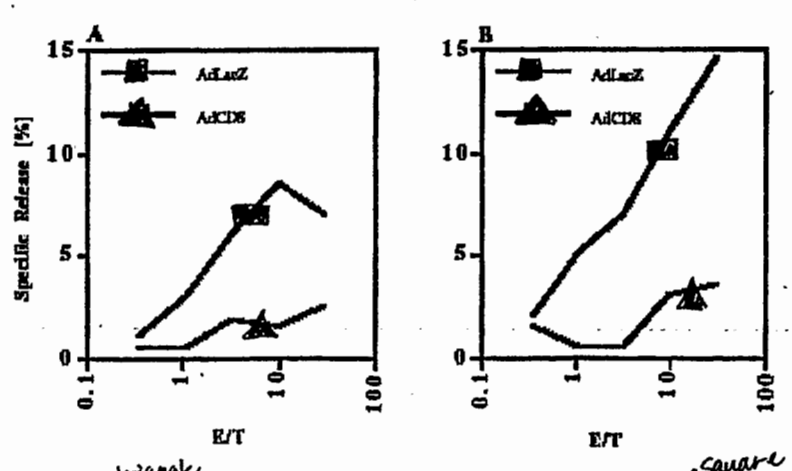


FIGURE 12



triangle square Balb/c mice were immunized with AdLacZ (green) or mAdCD8 (~~red~~). Their spleen cells were cultured in the presence of AdLacZ and tested for specific lytic activity against AdLacZ-infected syngeneic P815 target cells.

Figure 13



triangle square (A) C57BL/6 animals were immunized with AdLacZ (~~red~~) or mAdCD8 (green). They lytic activity of their spleen cells towards syngeneic AdLacZ EL4 target cells was tested. (B) Such animals were re-immunized with AdLacZ prior to testing their lytic activity against AdLaz-infected EL4 targets.

Figure 14A-B

Figure 15

Hemoglobin β

mRNA

1 acatttgctt ctgacacaac tgtgttcact agcaacctca aacagacacc atggtgcatc

61 tgactcctga ggagaagtct gccgttactg ccctgtgggg caaggtgaac gtggatgaag

121 ttggtggtga ggccctgggc aggctgctgg tggtctaccc ttggacccag aggttctttg

181 agtcctttgg ggatctgtcc actcctgatg ctgttatggg caaccctaag gtgaaggctc

241 atggcaagaa agtgctcggt gcctttagtg atggcctggc tcacctggac aacctcaagg

301 gcacctttgc cacactgagt gagctgcact gtgacaagct gcacgtggat cctgagaact

361 tcaggctcct gggcaacgtg ctggtctgtg tgctggccca tcactttggc aaagaattca

421 ccccaccagt gcaggctgcc tatcagaaag tggtggctgg tgtggctaat gccctggccc

481 acaagtatca ctaagctcgc tttcttgctg tccaatttct attaaaggtt cctttgttcc

541 ctaagtccaa ctactaaact gggggatatt atgaagggcc ttgagcatct ggattctgcc

601 taataaaaaa catttatttt cattgc

Figure 16

GATA-binding protein

mRNA

1 gcaaaggcca aggccagcca ggacaccccc tgggatcaca ctgagcttgc cacatcccca

61 aggcggccga accctccgca accaccagcc caggttaatc cccagaggct ccatggagtt

121 ccctggcctg gggtccctgg ggacctcaga gcccctcccc cagtttgtgg atcctgctct

181 ggtgtcctcc acaccagaat caggggtttt cttcccctct gggcctgagg gcttggatgc

241 agcagcttcc tccactgccc cgagcacagc caccgctgca gctgcggcac tggcctacta

301 cagggacgct gaggcctaca gacactcccc agtctttcag gtgtacccat tgctcaactg

361 tatggagggg atcccagggg gctcaccata tgccggctgg gcctacggca agacggggct

421 ctaccctgcc tcaactgtgt gtcccacccg cgaggactct cctccccagg ccgtggaaga

481 tctggatgga aaaggcagca ccagcttcct ggagactttg aagacagagc ggctgagccc

541 agacctcctg accctgggac ctgcactgcc ttcatcactc cctgtcccca atagtgctta

601 tgggggccct gacttttcca gtaccttctt ttctcccacc gggagccccc tcaattcagc

661 agcctattcc tctcccaagc ttcgtggaac tctccccctg cctccctgtg aggccaggga

721 gtgtgtgaac tgcggagcaa cagccactcc actgtggcgg agggacagga caggccacta

781 cctatgcaac gcctgcggcc tctatcacaa gatgaatggg cagaacaggc ccctcatccg

841 gcccaagaag cgcctgattg tcagtaaacg ggcaggtact cagtgcacca actgccagac

901 gaccaccacg acactgtggc ggagaaatgc cagtggggat cccgtgtgca atgcctgcgg

961 cctctactac aagctacacc aggtgaaccg gccactgacc atgcggaagg atggtattca

1021 gactcgaaac cgcaaggcat ctggaaaagg gaaaaagaaa cggggctcca gtctgggagg

1081 cacaggagca gccgaaggac cagctggtgg ctttatggtg gtggctgggg gcagcggtag

1141 cgggaattgt ggggaggtgg cttcaggcct gacactgggc cccccaggta ctgcccatct

1201 ctaccaaggc ctgggccctg tggtgctgtc agggcctgtt agccacctca tgcctttccc

1261 tggaccccta ctgggctcac ccacgggctc cttccccaca ggccccatgc cccccaccac

1321 cagcactact gtggtggctc cgctcagctc atgagggcac agagcatggc ctccagagga

1381 ggggtggtgt ccttctcctc ttgtagccag aattctggac aacccaagtc tctgggcccc

1441 aggcacccca tggcttgaac cttcaaagct tttgtaaaat aaaaccacca aagtcctgaa

1501 aaaaaaaaaa aaaaaaaaaa aa

FIGURE 17

d-aminoevulinate synthase

mRNA

1 cacctgtcat tcgttcgtcc tcagtgcagg gcaacaggac tttaggttca agatggtgac

61 tgcagccatg ctgctacagt gctgcccagt gcttgcccgg ggccccacaa gcctcctagg

121 caaggtggtt aagactcacc agttcctgtt tggtattgga cgctgtccca tcctggctac

181 ccaaggacca aactgttctc aaatccacct taaggcaaca aaggctggag gagattctcc

241 atcttgggcg aagggccact gtcccttcat gctgtcggaa ctccaggatg ggaagagcaa

301 gattgtgcag aaggcagccc cagaagtcca ggaagatgtg aaggctttca agacagatct

361 gcctagctcc ctggtctcag tcagcctaag gaagccattt tccggtcccc aggagcagga

421 gcagatctct gggaaggtca cacacctgat tcagaacaat atgcctggaa actatgtctt

481 cagttatgac cagtttttca gggacaagat catggagaag aaacaggatc acacctaccg

541 tgtgttcaag actgtgaacc gctgggctga tgcatatccc tttgcccaac atttctttga

601 ggcatctgtg gcctcaaagg atgtgtccgt ctggtgtagt aatgattacc tgggcatgag

661 ccgacaccct caggtcttgc aagccacaca ggagaccctg cagcgtcatg gtgctggagc

721 tggtggcacc cgcaacatct caggcaccag taagtttcat gtggagcttg agcaggagct

781 ggctgagctg caccagaagg actcagccct gctcttctcc tcctgctttg ttgccaatga

841 ctctactctc ttcaccttgg ccaagatcct gccagggtgc gagatttact cagacgcagg

901 caaccatgct tccatgatcc aaggtatccg taacagtgga gcagccaagt ttgtcttcag

961 gcacaatgac cctgaccacc taaagaaact tctagagaag tctaacccta agataccaa

1021 aattgtggcc tttgagactg tccactccat ggatggtgcc atctgtcccc tcgaggagtt

1081 gtgtgatgtg tcccaccagt atggggccct gaccttcgtg gatgaggtcc atgctgtagg

1141 actgtatggg tcccggggcg ctgggattgg ggagcgtgat ggaattatgc ataagattga

1201 catcatctct ggaactcttg gcaaggcctt tggctgtgtg ggcggctaca ttgccagcac

1261 ccgtgacttg gtggacatgg tgcgctccta tgctgcaggc ttcatcttta ccacttctct

1321 gccccccatg gtgctctctg gagctctaga atctgtgcgg ctgctcaagg gagaggaggg

1381 ccaagccctg aggcgagccc accagcgcaa tgtcaagcac atgcgccagc tactcatgga

1441 caggggcctt cctgtcatcc cctgccccag ccacatcatc cccatccggg tgggcaatgc

1501 agcactcaac agcaagctct gtgatctcct gctctccaag catggcatct atgtgcaggc

1561 catcaactac ccaactgtcc cccggggtga agagctcctg cgcttggcac cctcccccca

1621 ccacagccct cagatgatgg aagattttgt ggagaagctg ctgctggctt ggactgcggt

1681 ggggctgccc ctccaggatg tgtctgtggc tgcctgcaat ttctgtcgcc gtcctgtaca

1741 ctttgagctc atgagtgagt gggaacgttc ctacttcggg aacatggggc cccagtatgt

1801 caccacctat gcctgagaag ccagctgcct aggattcaca ccccacctgc gcttcacttg

1861 ggtccaggcc tactcctgtc ttctgctttg ttgtgtgcct ctagctgaat tgagcctaaa

1921 aataaagcac aaaccac

Figure 18

Glucose-6-phosphate-dehydrogenase

mRNA

1 agggacagcc cagaggaggc gtggccacgc tgccggcgga agtggagccc tccgcgagcg

61 cgcgaggccg ccggggcagg cggggaaacc ggacagtagg ggcggggccg ggccggcgat

121 ggggatgcgg gagcactacg cggagctgca cccgtgcccg ccggaattgg ggatgcagag

181 cagcggcagc gggtatggca ggcagccggc gggccggcct ccagcgcagg tgcccgagag

241 gcaggggctg gcctgggatg cgcgcgcacc tgccctcgcc ccgccccgcc cgcacgaggg

301 gtggtggccg aggccccgcc ccgcacgcct cgcctgaggc gggtccgctc agcccaggcg

361 cccgcccccg cccccgccga ttaaatgggc cggcggggct cagcccccgg aaacggtcgt

421 aacttcgggg ctgcgagcgc ggagggcgac gacgacgaag cgcagacagc gtcatggcag

481 agcaggtggc cctgagccgg acccaggtgt gcgggatcct gcgggaagag cttttccagg

541 gcgatgcctt ccatcagtcg gatacacaca tattcatcat catgggtgca tcgggtgacc

601 tggccaagaa gaagatctac cccaccatct ggtggctgtt ccgggatggc cttctgcccg

661 aaaacacctt catcgtgggc tatgcccgtt cccgcctcac agtggctgac atccgcaaac

721 agagtgagcc cttcttcaag gccaccccag aggagaagct caagctggag gacttctttg

781 cccgcaactc ctatgtggct ggccagtacg atgatgcagc ctcctaccag cgcctcaaca

841 gccacatgga tgccctccac ctggggtcac aggccaaccg cctcttctac ctggccttgc

901 ccccgaccgt ctacgaggcc gtcaccaaga acattcacga gtcctgcatg agccagatag

961 gctggaaccg catcatcgtg gagaagccct tcgggaggga cctgcagagc tctgaccggc

1021 tgtccaacca catctcctcc ctgttccgtg aggaccagat ctaccgcatc gaccactacc

1081 tgggcaagga gatggtgcag aacctcatgg tgctgagatt tgccaacagg atcttcggcc

1141 ccatctggaa ccgggacaac atcgcctgcg ttatcctcac cttcaaggag ccctttggca

1201 ctgagggtcg cgggggctat ttcgatgaat ttgggatcat ccgggacgtg atgcagaacc

1261 acctactgca gatgctgtgt ctggtggcca tggagaagcc cgcctccacc aactcagatg

1321 acgtccgtga tgagaaggtc aaggtgttga aatgcatctc agaggtgcag gccaacaatg

1381 tggtcctggg ccagtacgtg gggaaccccg atggagaggg cgaggccacc aaagggtacc

1441 tggacgaccc cacggtgccc cgcgggtcca ccaccgccac ttttgcagcc gtcgtcctct

1501 atgtggagaa tgagaggtgg gatggggtgc ccttcatcct gcgctgcggc aaggccctga

1561 acgagcgcaa ggccgaggtg aggctgcagt tccatgatgt ggccggcgac atcttccacc

1621 agcagtgcaa gcgcaacgag ctggtgatcc gcgtgcagcc caacgaggcc gtgtacacca

1681 agatgatgac caagaagccg ggcatgttct tcaaccccga ggagtcggag ctggacctga

1741 cctacggcaa cagatacaag aacgtgaagc tccctgacgc ctacgagcgc ctcatcctgg

1801 acgtcttctg cgggagccag atgcacttcg tgcgcagcga cgagctccgt gaggcctggc

1861 gtattttcac cccactgctg caccagattg agctggagaa gcccaagccc atcccctata

1921 tttatggcag ccgaggcccc acggaggcag acgagctgat gaagagagtg ggtttccagt

1981 atgagggcac ctacaagtgg gtgaaccccc acaagctctg agccctgggc acccacctcc

2041 acccccgcca cggccaccct ccttcccgcc gcccgacccc gagtcgggag gactccggga

2101 ccattgacct cagctgcaca ttcctggccc cgggctctgg ccaccctggc ccgcccctcg

2161 ctgctgctac tacccgagcc cagctacatt cctcagctgc caagcactcg agaccatcct

2221 ggcccctcca gaccctgcct gagcccagga gctgagtcac ctcctccact cactccagcc

2281 caacagaagg aaggaggagg gcgcccattc gtctgtccca gagcttattg gccactgggt

2341 ctcactcctg agtggggcca gggtgggagg gagggacaag ggggaggaaa ggggcgagca

2401 cccacgtgag agaatctgcc tgtggccttg cccgccagcc tcagtgccac ttgacattcc

2461 ttgtcaccag caacatctcg agcccctgg atgtcccctg tcccaccaac tctgcactcc

2521 atggccaccc cgtgccaccc gtaggcagcc tctctgctat aagaaaagca gacgcagcag

2581 ctgggacccc tcccaacctc aatgccctgc cattaaatcc gcaaacagcc aaaaaaaaaa

2641 aaaaaaaaaa

Figure 19

Ornithine carbamoyl transferase

mRNA

1 gagccccagg actgagatat ttttactata ccttctctat catcttgcac ccccaaaata

61 gcttccaggg cacttctatt tgtttttgtg gaaagactgg caattagagg tagaaaagtg

121 aaataaatgg aaatagtact actcagggct gtcacatcta catctgtgtt tttgcagtgc

181 caatttgcat tttctgagtg agttacttct actcaccttc acagcagcca gtaccgcagt

241 gccttgcata tattatatcc tcaatgagta cttgtcaatt gattttgtac atgcgtgtga

301 cagtataaat atattatgaa aaatgaggag gccaggcaat aaaagagtca ggatttcttc

361 caaaaaaaat acacagcggt ggagcttggc ataaagttca aatgctccta caccctgccc

421 tgcagtatct ctaaccaggg gactttgata aggaagctga agggtgatat tacctttgct

481 ccctcactgc aactgaacac atttcttagt ttttaggtgg cccccgctgg ctaacttgct

541 gtggagtttt caagggcata gaatcgtcct ttacacaatt aaaagaagat gctgtttaat

601 ctgaggatcc tgttaaacaa tgcagctttt agaaatggtc acaacttcat ggttcgaaat

661 tttcggtgtg gacaaccact acaaaataaa gtgcagctga agggccgtga ccttctcact

721 ctaaaaaact ttaccggaga agaaattaaa tatatgctat ggctatcagc agatctgaaa

781 tttaggataa aacagaaagg agagtatttg cctttattgc aagggaagtc cttaggcatg

841 atttttgaga aaagaagtac tcgaacaaga ttgtctacag aaacaggctt tgcacttctg

901 ggaggacatc cttgttttct taccacacaa gatattcatt tgggtgtgaa tgaaagtctc

961 acggacacgg cccgtgtatt gtctagcatg gcagatgcag tattggctcg agtgtataaa

1021 caatcagatt tggacaccct tgctaaagaa gcatccatcc caattatcaa tgggctgtca

1081 gatttgtacc atcctatcca gatcctggct gattacctca cgctccagga acactatagc

1141 tctctgaaag gtcttaccct cagctggatc ggggatggga acaatatcct gcactccatc

1201 atgatgagcg cagcgaaatt cggaatgcac cttcaggcag ctactccaaa gggttatgag

1261 ccggatgcta gtgtaaccaa gttggcagag cagtatgcca aagagaatgg taccaagctg

1321 ttgctgacaa atgatccatt ggaagcagcg catggaggca atgtattaat tacagacact

1381 tggataagca tgggacaaga agaggagaag aaaaagcggc tccaggcttt ccaaggttac

1441 caggttacaa tgaagactgc taaagttgct gcctctgact ggacattttt acactgcttg

1501 cccagaaagc cagaagaagt ggatgatgaa gtcttttatt ctcctcgatc actagtgttc

1561 ccagaggcag aaaacagaaa gtggacaatc atggctgtca tggtgtccct gctgacagat

1621 tactcacctc agctccagaa gcctaaattt tgatgttgtg ttacttgtca agaaagaagc

1681 aatgttcttc agtaacagaa tgagttggtt tatggggaaa agagaagaga atctaaaaaa

1741 taaacaaatc cctaacacgt ggtatgggtg aaccgtatga tatgctttgc cattgtgaaa

1801 ctttccttaa gcctttaatt taagtgctga tgcactgtaa tacgtgctta actttgctta

1861 aactctctaa ttcccaattt ctgagttaca tttagatatc atattaatta tcatatacat

1921 ttacttc

Figure 20

α-L-iduronidase

mRNA

1 gtcacatggg gtgcgcgccc agactccgac ccggaggcgg aaccggcagt gcagcccgaa

61 gccccgcagt ccccgagcac gcgtggccat gcgtcccctg cgcccccgcg ccgcgctgct

121 ggcgctcctg gcctcgctcc tggccgcgcc cccggtggcc ccggccgagg ccccgcacct

181 ggtgcaggtg gacgcggccc gcgcgctgtg gcccctgcgg cgcttctgga ggagcacagg

241 cttctgcccc ccgctgccac acagccaggc tgaccagtac gtcctcagct gggaccagca

301 gctcaacctc gcctatgtgg gcgccgtccc tcaccgcggc atcaagcagg tccggaccca

361 ctggctgctg gagcttgtca ccaccagggg gtccactgga cggggcctga gctacaactt

421 cacccacctg gacgggtact tggaccttct cagggagaac cagctcctcc cagggtttga

481 gctgatgggc agcgcctcgg gccacttcac tgactttgag gacaagcagc aggtgtttga

541 gtggaaggac ttggtctcca gcctggccag gagatacatc ggtaggtacg gactggcgca

601 tgtttccaag tggaacttcg agacgtggaa tgagccagac caccacgact ttgacaacgt

661 ctccatgacc atgcaaggct tcctgaacta ctacgatgcc tgctcggagg gtctgcgcgc

721 cgccagcccc gccctgcggc tgggaggccc cggcgactcc ttccacaccc caccgcgatc

781 cccgctgagc tggggcctcc tgcgccactg ccacgacggt accaacttct tcactgggga

841 ggcgggcgtg cggctggact acatctccct ccacaggaag ggtgcgcgca gctccatctc

901 catcctggag caggagaagg tcgtcgcgca gcagatccgg cagctcttcc ccaagttcgc

961 ggacaccccc atttacaacg acgaggcgga cccgctggtg ggctggtccc tgccacagcc

1021 gtggagggcg gacgtgacct acgcggccat ggtggtgaag gtcatcgcgc agcatcagaa

1081 cctgctactg gccaacacca cctccgcctt cccctacgcg ctcctgagca acgacaatgc

1141 cttcctgagc taccacccgc acccttcgc gcagcgcacg ctcaccgcgc gcttccaggt

1201 caacaacacc cgcccgccgc acgtgcagct gttgcgcaag ccggtgctca cggccatggg

1261 gctgctggcg ctgctggatg aggagcagct ctgggccgaa gtgtcgcagg ccgggaccgt

1321 cctggacagc aaccacacgg tgggcgtcct ggccagcgcc caccgccccc agggcccggc

1381 cgacgcctgg cgcgccgcgg tgctgatcta cgcgagcgac gacacccgcg cccaccccaa

1441 ccgcagcgtc gcggtgaccc tgcggctgcg cggggtgccc cccggcccgg gcctggtcta

1501 cgtcacgcgc tacctggaca acgggctctg cagccccgac ggcgagtggc ggcgcctggg

1561 ccggcccgtc ttccccacgg cagagcagtt ccggcgcatg cgcgcggctg aggacccggt

1621 ggccgcggcg ccccgcccct tacccgccgg cggccgcctg accctgcgcc ccgcgctgcg

1681 gctgccgtcg cttttgctgg tgcacgtgtg tgcgcgcccc gagaagccgc ccgggcaggt

1741 cacgcggctc cgcgccctgc ccctgaccca agggcagctg gttctggtct ggtcggatga

1801 acacgtgggc tccaagtgcc tgtggacata cgagatccag ttctctcagg acggtaaggc

1861 gtacaccccg gtcagcagga agccatcgac cttcaacctc tttgtgttca gcccagacac

1921 aggtgctgtc tctggctcct accgagttcg agccctggac tactgggccc gaccaggccc

1981 cttctcggac cctgtgccgt acctggaggt ccctgtgcca agagggcccc catccccggg

2041 caatccatga gcctgtgctg agccccagtg ggttgcacct ccaccggcag tcagcgagct

2101 ggggctgcac tgtgcccatg ctgccctccc atcacccccc ttgcaatata ttttatatt

2161 ttattatttt cttttatatc ttggtaaaaa aaaaaaa

Figure 21

β-glucosidase

mRNA

1 gctaacctag tgcctatagc taaggcaggt acctgcatcc ttgtttttgt ttagtggatc

61 ctctatcctt cagagactct ggaacccctg tggtcttctc ttcatctaat gaccctgagg

121 ggatggagtt ttcaagtcct tccagagagg aatgtcccaa gcctttgagt agggtaagca

181 tcatggctgg cagcctcaca ggtttgcttc tacttcaggc agtgtcgtgg gcatcaggtg

241 cccgcccctg catccctaaa agcttcggct acagctcggt ggtgtgtgtc tgcaatgcca

301 catactgtga ctcctttgac cccccgacct ttcctgccct tggtaccttc agccgctatg

361 agagtacacg cagtgggcga cggatggagc tgagtatggg gcccatccag gctaatcaca

421 cgggcacagg cctgctactg accctgcagc cagaacagaa gttccagaaa gtgaagggat

481 ttggaggggc catgacagat gctgctgctc tcaacatcct tgccctgtca ccccctgccc

541 aaaatttgct acttaaatcg tacttctctg aagaaggaat cggatataac atcatccggg

601 tacccatggc cagctgtgac ttctccatcc gcacctacac ctatgcagac acccctgatg

661 atttccagtt gcacaacttc agcctcccag aggaagatac caagctcaag ataccctga

721 ttcaccgagc cctgcagttg gcccagcgtc ccgtttcact ccttgccagc ccctggacat

781 cacccacttg gctcaagacc aatggagcgg tgaatgggaa ggggtcactc aagggacagc

841 ccggagacat ctaccaccag acctgggcca gatactttgt gaagttcctg gatgcctatg

901 ctgagcacaa gttacagttc tgggcagtga cagctgaaaa tgagccttct gctgggctgt

961 tgagtggata ccccttccag tgcctgggct tcacccctga acatcagcga gacttcattg

1021 cccgtgacct aggtcctacc ctcgccaaca gtactcacca caatgtccgc ctactcatgc

1081 tggatgacca acgcttgctg ctgccccact gggcaaaggt ggtactgaca gacccagaag

1141 cagctaaata tgttcatggc attgctgtac attggtacct ggactttctg gctccagcca

1201 aagccaccct aggggagaca caccgcctgt tccccaacac catgctcttt gcctcagagg

1261 cctgtgtggg ctccaagttc tgggagcaga gtgtgcggct aggctcctgg gatcgaggga

1321 tgcagtacag ccacagcatc atcacgaacc tcctgtacca tgtggtcggc tggaccgact

1381 ggaaccttgc cctgaacccc gaaggaggac ccaattgggt gcgtaacttt gtcgacagtc

1441 ccatcattgt agacatcacc aaggacacgt tttacaaaca gcccatgttc taccaccttg

1501 gccacttcag caagttcatt cctgagggct cccagagagt ggggctggtt gccagtcaga

1561 agaacgacct ggacgcagtg gcactgatgc atcccgatgg ctctgctgtt gtggtcgtgc

1621 taaaccgctc ctctaaggat gtgcctctta ccatcaagga tcctgctgtg ggcttcctgg

1681 agacaatctc acctggctac tccattcaca cctacctgtg gcatcgccag tgatggagca

1741 gatactcaag gaggcactgg gctcagcctg ggcattaaag ggacagagtc agctcacacg

1801 ctgtctgtga ctaaagaggg cacagcaggg ccagtgtgag cttacagcga cgtaagccca

1861 ggggcaatgg tttgggtgac tcactttccc ctctaggtgg tgcccagggc tggaggcccc

1921 tagaaaaaga tcagtaagcc ccagtgtccc cccagccccc atgcttatgt gaacatgcgc

1981 tgtgtgctgc ttgctttgga aactngcctg ggtccaggcc tagggtgagc tcactgtccg

2041 tacaaacaca agatcagggc tgagggtaag gaaaagaaga gactaggaaa gctgggccca

2101 aaactggaga ctgtttgtct ttcctagaga tgcagaactg ggcccgtgga gcagcagtgt

2161 cagcatcagg gcggaagcct taaagcagca gcgggtgtgc ccaggcaccc agatgattcc

2221 tatggcacca gccaggaaaa atggcagctc ttaaaggaga aaatgtttga gccca

Figure 22

α-galactosidase

mRNA

1 aggttaatct taaaagccca ggttacccgc ggaaatttat gctgtccggt caccgtgaca

61 atgcagctga ggaacccaga actacatctg ggctgcgcgc ttgcgcttcg cttcctggcc

121 ctcgtttcct gggacatccc tggggctaga gcactggaca atggattggc aaggacgcct

181 accatgggct ggctgcactg ggagcgcttc atgtgcaacc ttgactgcca ggaagagcca

241 gattcctgca tcagtgagaa gctcttcatg gagatggcag agctcatggt ctcagaaggc

301 tggaaggatg caggttatga gtacctctgc attgatgact gttggatggc tccccaaaga

361 gattcagaag gcagacttca ggcagaccct cagcgctttc ctcatgggat tcgccagcta

421 gctaattatg ttcacagcaa aggactgaag ctagggattt atgcagatgt tggaaataaa

481 acctgcgcag gcttccctgg gagttttgga tactacgaca ttgatgccca gacctttgct

541 gactggggag tagatctgct aaaatttgat ggttgttact gtgacagttt ggaaaatttg

601 gcagatggtt ataagcacat gtccttggcc ctgaatagga ctggcagaag cattgtgtac

661 tcctgtgagt ggcctcttta tatgtggccc tttcaaaagc ccaattatac agaaatccga

721 cagtactgca atcactggcg aaattttgct gacattgatg attcctggaa aagtataaag

781 agtatcttgg actggacatc ttttaaccag gagagaattg ttgatgttgc tggaccaggg

841 ggttggaatg acccagatat gttagtgatt ggcaactttg gcctcagctg gaatcagcaa

901 gtaactcaga tggccctctg ggctatcatg gctgctcctt tattcatgtc taatgacctc

961 cgacacatca gccctcaagc caaagctctc cttcaggata aggacgtaat tgccatcaat

1021 caggacccct tgggcaagca agggtaccag cttagacagg gagacaactt tgaagtgtgg

1081 gaacgacctc tctcaggctt agcctgggct gtagctatga taaaccggca ggagattggt

1141 ggacctcgct cttataccat cgcagttgct tccctgggta aaggagtggc ctgtaatcct

1201 gcctgcttca tcacacagct cctccctgtg aaaaggaagc tagggttcta tgaatggact

1261 tcaaggttaa gaagtcacat aaatcccaca ggcactgttt tgcttcagct agaaaataca

1321 atgcagatgt cattaaaaga cttactttaa