Table of tested synthetic Notch receptors

Constructs	AA sequence	Containing Domains
FNQ1	886-1772 (Fly)	10EGF, NRR, TM, PEST
FNQ2	1142-1772 (Fly)	5EGF,NRR, TM, PEST
FNQ3	1259-1772 (Fly)	3EGF, NRR, TM, PEST
FNQ4	1452-1772 (Fly)	NRR, TM, PEST
FNQ5	886-1772 (Fly)	10EGF, NRR, TM
FNQ6	1142-1772 (Fly)	5EGF, NRR, TM
FNQ7	1259-1772 (Fly)	3EGF, NRR, TM
FNQ8	1452-1806 (Fly)	NRR, TM
FNQ9	1452-1772 (Fly)	NRR, TM
MNQ	1427-1753 (Mouse)	NRR, TM
WNQ1	20-794 (Worm)	5EGF, NRR, TM, PEST
WNQ2	480-794 (Worm)	NRR, TM, PEST
WNQ3	480-794 (Worm)	NRR, TM

DNA Sequences used in the study.

Sequence of GBN:

GCCGATGTGCAGCTGGTGGAGTCTGGGGGAGCCTTGGTGCAGCCGGGGGGGTCTCTGAGACTCTCCTGTGCAGC
CTCTGGATTCCCCGTCAATCGCTATAGTATGGGGTGGTACCGCCAGGCTCCAGGGAAGGAGCGCGAGTGGGTCGC
GGGTATGAGTAGTGCTGGTGATCGTTCAAGTTATGAAGACTCCGTGAAGGGCCGATTCACCATCTCCAGAGACGA
CGCCAGGAATACGGTGTATCTGCAAATGAACAGCCTGAAACCTGAGGACACGGCCGTGTATTACTGTAATGTCAA
TGTGGGCTTTGAGTACTGGGGCCAGGGGACCCAGGTCACCGTCTCCTCA

Sequence of QF2.0 with 3XMyc tag:

CCACCCAAGCGCAAAACGCTTAACGCTGCGGCTGAGGCTAACGCTCATGCCGACGGACACGCCGACGGAAACGCC
GACGGACACGTGGCCAATACGGCCGCGTCCTCGAATAATGCGAGGTTCGCTGATCTCACTAACATCGATACTCCG
GGTCTGGGACCCACAACTACGACCCTGCTCGTGGAACCAGCACGCTCAAAGCGTCAACGAGTGTCCCGCGCATGC
GACCAGTGCCGTGCAGCCCGAGAGAAATGCGACGGAATACAGCCTGCGTGTTTCCCGTGCGTTTCCCAGGGAAG
GTCCTGCACTTATCAGGCTTCGCCGAAAAAGAGGGGAGTTCAAACCGGTTATATTCGTACGCTGGAGCTCGCCCTC
GCCTGGATGTTTGAAAATGTCGCGCGTTCCGAAGATGCCTTGCATAACCTCCTCGTCCGTGACGCCGGACAAGGAT
CAGCTCTGCTCGTTGGTAAAGATTCGCCGGCTGCCGAGCGACTCCATGCCCGTTGGGCTACTAGCCGTGTCAATAA
GAGCATTACCCGCCTCCTCCGTCAGTTGGAGCTCCCTCCTACCGCCACGGCTACGGCCTCGATAATGCCGCACGTG
ATGGAGCAGCCTCTCAGTACCAGCATTAACCCCGTCAACGACCGCTTCAACGGTATTCCCAACCCCACTCCGTATAA
CTCCGATGCAGCTCTCGATGCTATCACTCAGACCAACGATTATGGAAGCGTAAATACACATGGTATCCTCTCTACTT
ACCCGCCACCGGCTACGCACCTTAATGAAGCTTCCGTCGCTCTCGCTCCCGGTGGCGCCCCCCCCCGACCGCCTCCT
CCGTATGTTGACAGCACGACCAATCACCCGCCGTACCACTCGAATCTGGTTCCAATGGCGAACTTTGGTTACTCGA

CCGTTGATTACGATGCCATGGTTGACGATTTGGCTAGCATTGAATACACGGACGCTGTGGATGTCGACCCACAGTT
TATGACCAATCTGGGATTCGTTCCTGGATGTAACTTCTCCGACATTAATACATACGAACAGAGGCCTCTCGAGAGC
GGAGGCGGTGGCTCCGAACAGAAACTTATCAGCGAGGAGGATCTCGGCGAGCAGAAGCTGATTTCGGAAGAAG
ACCTTGGAGAGCAAAAGCTCATATCCGAAGAGGACCTGTCG

Sequence of SP-GFP-mcd8 (GFP sequence in green color):

ATGCCAACTTTGTACAAAAAAGCAGGCTTCAACATGGCCTCACCGTTGACCCGCTTTCTGTCGCTGAACCTGCTGCT
GCTGGGTGAGTCGATTATCCTGGGGAGTGGAGAAGCTAAGCCACAGGCACCCGGATCCGTGAGCAAGGGCGAG
GAGCTGTTCACCGGGGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCC
GGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTCATCTGCACCACCGGCAAGCTGCCCGT
GCCCTGGCCCACCCTCGTGACCACCCTGACCTACGGCGTGCAGTGCTTCAGCCGCTACCCCGACCACATGAAGCAG
CACGACTTCTTCAAGTCCGCCATGCCCGAAGGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACT
ACAAGACCCGCGCCGAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTC
AAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACTACAACAGCCACAACGTCTATATCATGGCCGAC
AAGCAGAAGAACGGCATCAAGGTGAACTTCAAGATCCGCCACAACATCGAGGACGGCAGCGTGCAGCTCGCCGA
CCACTACCAGCAGAACACCCCCATCGGCGACGGCCCCGTGCTGCTGCCCGACAACCACTACCTGAGCACCCAGTCC
GCCCTGAGCAAAGACCCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCCGGGATCACT
CTCGGCATGGACGAGCTGCGATCCAGATCAGGAGGCGGTGCTAGCGGAGGCGGCAGCGGAGGTGGAGGCTCGG
GAGGTGGTAGATCTGAACTCCGAATCTTTCCAAAGAAAATGGACGCCGAACTTGGTCAGAAGGTGGACCTGGTAT
GTGAAGTGTTGGGGTCCGTTTCGCAAGGATGCTCTTGGCTCTTCCAGAACTCCAGCTCCAAACTCCCCCAGCCCAC
CTTCGTTGTCTATATGGCTTCATCCCACAACAAGATAACGTGGGACGAGAAGCTGAATTCGTCGAAACTGTTTTCT
GCCATGAGGGACACGAATAATAAGTACGTTCTCACCCTGAACAAGTTCAGCAAGGAAAACGAAGGCTACTATTTC
TGCTCAGTCATCAGCAACTCGGTGATGTACTTCAGTTCTGTCGTGCCAGTCCTTCAGAAAGTGAACTCTACTACTAC
CAAGCCAGTGCTGCGAACTCCCTCACCTGTGCACCCTACCGGGACATCTCAGCCCCAGAGACCAGAAGATTGTCG
GCCCCGTGGCTCAGTGAAGGGGACCGGATTGGACTTCGCCTGTGATATTTACATCTGGGCACCCTTGGCCGGAAT
CTGCGTGGCCCTTCTGCTGTCCTTGATCATCACTCTCATCTGCTACCACAGCCGCTCTAGA

Sequence of Serrate cytosol domain:

AAACAGCGTCTGGCTTATCGCACCAGTTCGGGAATGAACTTAACTCCCTCGCTGGATGCACTGCGTCACGAGGAG
GAGAAGTCGAATAATCTGCAGAACGAGGAGAATCTGCGAAGGTATACAAATCCGCTGAAGGGCAGCACCAGTTC
CCTAAGAGCGGCCACCGGCATGGAACTAAGCCTCAATCCCGCTCCGGAATTAGCCGCCTCGGCGGCGAGTAGTTC
CGCCTTGCACAGATCGCAGCCACTATTCCCGCCATGCGATTTCGAGCGTGAGCTGGACTCCAGTACGGGCCTGAA
GCAGGCGCACAAGCGGAGCTCACAGATTCTGCTGCACAAAACCCAAAACTCGGACATGCGGAAGAACACTGTGG
GCTCGCTGGACAGTCCGCGTAAGGACTTTGGCAAGCGGTCGATCAACTGCAAGTCCATGCCACCCTCTTCGGGCG
ACGAGGGCTCCGATGTCCTTGCCACCACTGTGATGGTTTAG

Sequence of Dl cytosol domain:

TCGGTGGCGGATAACAACAATGCCAACTCAGACTTTTGTGTGGCTCCGCTACAAAGAGCCAAGTCGCAAAAGCAA
CTCAACACCGATCCCACGCTCATGCACCGCGGTTCGCCGGCAGGCAGCTCAGCCAAGGGAGCGTCTGGCGGAGG

ACCGGGAGCGGCGGAGGGCAAGAGGATCTCTGTTTTAGGCGAGGGTTCCTACTGTAGCCAGCGTTGGCCCTCGTT
GGCGGCGGCGGGAGTGGCCGGAGCCTGTTCATCCCAACTAATGGCTGCAGCTTCGGTAGCGGGCAGCGGAGCG
GGGACGGCGCAACAGCAGCGATCCGTGGTCTGCGGCACTCCGCATATGTAA

Sequence of LDL endocytosis signal:

GGTAACTTCGCTAACCCCGTGTACGAGTCCATGTAC

GPI anchoring sequence:

ACCAGCAATAGCCGCACCAGCACCGATAAGGGAGAGCCCAACACCGGCGGCGACCGTTACATCTATGGCCATACC
TGCCTGATTACCCTCACCGTCCTGCACGTTATGCTGTCCTTGATCGGCTACTTGACCAACTCCGCTACTTCCAGCTCC
AACAAGTCGATCTCGGTCTACCGCGATAAGCTCGTCAAGTGCGGCGGAATTTCGCTGCTGGTCCAGAACACCAGC
TGGATGCTCCTGTTGCTGCTGAGCCTGTCCCTCCTGCAGGCCCTGGATTTCATCTCCCTG

Fly Notch 10XEGF+NRR+TM domain:

AGCAAAATGGATCCCTGCGCCAGCAATCGTTGCAAAAACGAGGCGAAATGCACGCCAAGCTCGAATTTCCTGGAC
TTCTCCTGCACCTGCAAACTGGGCTATACGGGTCGCTATTGCGATGAGGACATAGACGAATGCTCACTGAGTTCAC
CCTGTCGGAATGGAGCTAGCTGTTTGAATGTTCCCGGATCGTATAGGTGCCTCTGCACCAAGGGCTATGAGGGCA
GAGATTGCGCCATCAATACGGACGATTGTGCCTCGTTTCCGTGCCAGAACGGTGGAACCTGTCTGGATGGGATCG
GTGACTATAGCTGCCTGTGCGTGGATGGCTTCGATGGCAAGCACTGCGAGACGGACATCAATGAGTGCTTGAGTC
AGCCGTGCCAGAATGGAGCCACGTGTAGTCAGTATGTGAATAGCTATACCTGCACCTGTCCACTCGGATTCTCCGG
CATCAATTGTCAGACGAACGATGAGGATTGCACGGAGAGCTCGTGCTTAAACGGTGGCAGTTGCATCGATGGCAT
CAATGGCTACAACTGTAGCTGTTTGGCTGGATATTCCGGTGCCAATTGTCAGTACAAGTTGAATAAGTGCGATTCG
AATCCCTGTTTGAACGGAGCCACCTGCCACGAGCAAAACAACGAGTACACATGCCATTGTCCCAGTGGCTTTACGG
GCAAACAGTGTTCCGAATATGTGGATTGGTGTGGTCAATCGCCGTGCGAGAATGGAGCGACCTGTAGCCAGATGA
AGCATCAGTTTAGCTGCAAATGCTCGGCAGGATGGACGGGTAAGCTGTGCGATGTTCAGACGATTTCGTGTCAGG
ATGCAGCAGATCGGAAGGGTCTGAGCCTGCGGCAGTTGTGCAACAATGGCACGTGCAAGGATTATGGAAATAGT
CATGTGTGCTACTGCTCCCAGGGATACGCGGGTAGCTATTGCCAAAAGGAGATCGACGAGTGCCAATCGCAACCG
TGCCAGAATGGTGGAACGTGCCGAGATCTCATCGGAGCCTACGAATGCCAGTGTCGCCAGGGATTTCAGGGTCAG
AATTGCGAACTGAACATCGATGACTGTGCACCGAATCCCTGCCAGAATGGCGGCACTTGCCACGACCGTGTGATG
AACTTTAGCTGCAGCTGTCCACCGGGAACGATGGGCATCATATGCGAGATCAACAAGGATGATTGCAAACCGGGA
GCATGCCACAACAACGGCAGCTGCATCGATCGCGTTGGAGGCTTCGAGTGCGTCTGTCAGCCCGGTTTTGTGGGT
GCCCGCTGCGAGGGCGACATCAACGAGTGCCTAAGCAATCCCTGTTCGAATGCCGGCACACTGGACTGCGTCCAG
TTGGTCAATAACTATCACTGCAACTGTCGACCTGGACATATGGGTCGGCACTGTGAGCACAAGGTGGACTTTTGTG
CCCAGAGTCCGTGCCAGAATGGTGGCAATTGTAATATCCGACAGAGTGGCCACCACTGCATCTGTAATAATGGATT
CTACGGTAAGAACTGTGAGCTGAGTGGTCAGGATTGTGATTCGAATCCCTGCCGTGTGGGTAACTGTGTTGTCGC
GGACGAGGGATTCGGCTATAGATGCGAGTGTCCAAGGGGCACACTGGGTGAGCACTGCGAGATTGATACGCTAG
ACGAATGTTCGCCGAATCCCTGTGCCCAGGGAGCTGCCTGCGAGGATTTGCTCGGTGATTACGAATGCCTCTGTCC
GAGCAAATGGAAAGGCAAACGCTGCGATATCTATGATGCCAACTATCCGGGATGGAATGGCGGTTCGGGATCCG
GAAATGATCGCTATGCCGCTGATTTGGAGCAACAACGTGCCATGTGCGATAAGCGAGGTTGCACCGAAAAGCAG

GGCAACGGCATTTGCGATTCCGATTGCAATACGTATGCCTGCAACTTTGATGGAAACGATTGCTCACTGGGCATCA
ATCCGTGGGCCAATTGCACGGCCAACGAGTGCTGGAACAAATTCAAGAACGGCAAATGCAACGAGGAGTGCAAC
AATGCTGCCTGCCACTACGATGGTCACGATTGCGAACGGAAATTGAAGAGTTGCGATAGCCTTTTCGATGCCTACT
GCCAGAAGCATTACGGCGATGGTTTCTGCGACTATGGATGCAATAATGCGGAATGCAGTTGGGACGGACTCGACT
GTGAGAACAAGACCCAGTCACCGGTTTTGGCCGAGGGTGCCATGTCCGTGGTGATGCTAATGAATGTGGAGGCAT
TCCGCGAGATTCAGGCTCAGTTCCTTAGGAATATGAGCCACATGCTGCGGACAACGGTGCGGTTGAAGAAGGACG
CTCTTGGTCATGACATCATTATCAATTGGAAGGACAATGTGCGCGTGCCGGAGATCGAGGATACGGACTTTGCGA
GAAAAAACAAGATTCTGTACACCCAACAGGTCCATCAGACGGGCATTCAAATCTATTTGGAGATTGACAATCGCAA
ATGCACCGAATGCTTTACGCACGCCGTTGAGGCAGCCGAATTTCTGGCTGCCACGGCGGCCAAACATCAGCTGCG
GAACGATTTTCAGATACACAGTGTTAGGGGCATCAAGAATCCCGGCGATGAGGACAATGGTGAGCCGCCGGCGA
ATGTGAAATACGTAATTACTGGCATTATACTGGTCATCATTGCATTGGCCTTCTTTGGCATGGTCTTGAGTACGCAA
AGAAAGCGGGCACAT

Fly Notch 5XEGF+NRR+TM domain:

GATGCAGCAGATCGGAAGGGTCTGAGCCTGCGGCAGTTGTGCAACAATGGCACGTGCAAGGATTATGGAAATAG
TCATGTGTGCTACTGCTCCCAGGGATACGCGGGTAGCTATTGCCAAAAGGAGATCGACGAGTGCCAATCGCAACC
GTGCCAGAATGGTGGAACGTGCCGAGATCTCATCGGAGCCTACGAATGCCAGTGTCGCCAGGGATTTCAGGGTCA
GAATTGCGAACTGAACATCGATGACTGTGCACCGAATCCCTGCCAGAATGGCGGCACTTGCCACGACCGTGTGAT
GAACTTTAGCTGCAGCTGTCCACCGGGAACGATGGGCATCATATGCGAGATCAACAAGGATGATTGCAAACCGGG
AGCATGCCACAACAACGGCAGCTGCATCGATCGCGTTGGAGGCTTCGAGTGCGTCTGTCAGCCCGGTTTTGTGGG
TGCCCGCTGCGAGGGCGACATCAACGAGTGCCTAAGCAATCCCTGTTCGAATGCCGGCACACTGGACTGCGTCCA
GTTGGTCAATAACTATCACTGCAACTGTCGACCTGGACATATGGGTCGGCACTGTGAGCACAAGGTGGACTTTTGT
GCCCAGAGTCCGTGCCAGAATGGTGGCAATTGTAATATCCGACAGAGTGGCCACCACTGCATCTGTAATAATGGA
TTCTACGGTAAGAACTGTGAGCTGAGTGGTCAGGATTGTGATTCGAATCCCTGCCGTGTGGGTAACTGTGTTGTCG
CGGACGAGGGATTCGGCTATAGATGCGAGTGTCCAAGGGGCACACTGGGTGAGCACTGCGAGATTGATACGCTA
GACGAATGTTCGCCGAATCCCTGTGCCCAGGGAGCTGCCTGCGAGGATTTGCTCGGTGATTACGAATGCCTCTGTC
CGAGCAAATGGAAAGGCAAACGCTGCGATATCTATGATGCCAACTATCCGGGATGGAATGGCGGTTCGGGATCC
GGAAATGATCGCTATGCCGCTGATTTGGAGCAACAACGTGCCATGTGCGATAAGCGAGGTTGCACCGAAAAGCA
GGGCAACGGCATTTGCGATTCCGATTGCAATACGTATGCCTGCAACTTTGATGGAAACGATTGCTCACTGGGCATC
AATCCGTGGGCCAATTGCACGGCCAACGAGTGCTGGAACAAATTCAAGAACGGCAAATGCAACGAGGAGTGCAA
CAATGCTGCCTGCCACTACGATGGTCACGATTGCGAACGGAAATTGAAGAGTTGCGATAGCCTTTTCGATGCCTAC
TGCCAGAAGCATTACGGCGATGGTTTCTGCGACTATGGATGCAATAATGCGGAATGCAGTTGGGACGGACTCGAC
TGTGAGAACAAGACCCAGTCACCGGTTTTGGCCGAGGGTGCCATGTCCGTGGTGATGCTAATGAATGTGGAGGCA
TTCCGCGAGATTCAGGCTCAGTTCCTTAGGAATATGAGCCACATGCTGCGGACAACGGTGCGGTTGAAGAAGGAC
GCTCTTGGTCATGACATCATTATCAATTGGAAGGACAATGTGCGCGTGCCGGAGATCGAGGATACGGACTTTGCG
AGAAAAAACAAGATTCTGTACACCCAACAGGTCCATCAGACGGGCATTCAAATCTATTTGGAGATTGACAATCGCA
AATGCACCGAATGCTTTACGCACGCCGTTGAGGCAGCCGAATTTCTGGCTGCCACGGCGGCCAAACATCAGCTGC
GGAACGATTTTCAGATACACAGTGTTAGGGGCATCAAGAATCCCGGCGATGAGGACAATGGTGAGCCGCCGGCG
AATGTGAAATACGTAATTACTGGCATTATACTGGTCATCATTGCATTGGCCTTCTTTGGCATGGTCTTGAGTACGCA
AAGAAAGCGGGCACAT

Fly Notch 3XEGF+NRR+TM domain:

AACAAGGATGATTGCAAACCGGGAGCATGCCACAACAACGGCAGCTGCATCGATCGCGTTGGAGGCTTCGAGTG
CGTCTGTCAGCCCGGTTTTGTGGGTGCCCGCTGCGAGGGCGACATCAACGAGTGCCTAAGCAATCCCTGTTCGAAT
GCCGGCACACTGGACTGCGTCCAGTTGGTCAATAACTATCACTGCAACTGTCGACCTGGACATATGGGTCGGCACT
GTGAGCACAAGGTGGACTTTTGTGCCCAGAGTCCGTGCCAGAATGGTGGCAATTGTAATATCCGACAGAGTGGCC
ACCACTGCATCTGTAATAATGGATTCTACGGTAAGAACTGTGAGCTGAGTGGTCAGGATTGTGATTCGAATCCCTG
CCGTGTGGGTAACTGTGTTGTCGCGGACGAGGGATTCGGCTATAGATGCGAGTGTCCAAGGGGCACACTGGGTG
AGCACTGCGAGATTGATACGCTAGACGAATGTTCGCCGAATCCCTGTGCCCAGGGAGCTGCCTGCGAGGATTTGC
TCGGTGATTACGAATGCCTCTGTCCGAGCAAATGGAAAGGCAAACGCTGCGATATCTATGATGCCAACTATCCGG
GATGGAATGGCGGTTCGGGATCCGGAAATGATCGCTATGCCGCTGATTTGGAGCAACAACGTGCCATGTGCGATA
AGCGAGGTTGCACCGAAAAGCAGGGCAACGGCATTTGCGATTCCGATTGCAATACGTATGCCTGCAACTTTGATG
GAAACGATTGCTCACTGGGCATCAATCCGTGGGCCAATTGCACGGCCAACGAGTGCTGGAACAAATTCAAGAACG
GCAAATGCAACGAGGAGTGCAACAATGCTGCCTGCCACTACGATGGTCACGATTGCGAACGGAAATTGAAGAGTT
GCGATAGCCTTTTCGATGCCTACTGCCAGAAGCATTACGGCGATGGTTTCTGCGACTATGGATGCAATAATGCGGA
ATGCAGTTGGGACGGACTCGACTGTGAGAACAAGACCCAGTCACCGGTTTTGGCCGAGGGTGCCATGTCCGTGGT
GATGCTAATGAATGTGGAGGCATTCCGCGAGATTCAGGCTCAGTTCCTTAGGAATATGAGCCACATGCTGCGGAC
AACGGTGCGGTTGAAGAAGGACGCTCTTGGTCATGACATCATTATCAATTGGAAGGACAATGTGCGCGTGCCGGA
GATCGAGGATACGGACTTTGCGAGAAAAAACAAGATTCTGTACACCCAACAGGTCCATCAGACGGGCATTCAAAT
CTATTTGGAGATTGACAATCGCAAATGCACCGAATGCTTTACGCACGCCGTTGAGGCAGCCGAATTTCTGGCTGCC
ACGGCGGCCAAACATCAGCTGCGGAACGATTTTCAGATACACAGTGTTAGGGGCATCAAGAATCCCGGCGATGAG
GACAATGGTGAGCCGCCGGCGAATGTGAAATACGTAATTACTGGCATTATACTGGTCATCATTGCATTGGCCTTCT
TTGGCATGGTCTTGAGTACGCAAAGAAAGCGGGCACAT

Fly Notch NRR+TM domain:

ATCTATGATGCCAACTATCCGGGATGGAATGGCGGTTCGGGATCCGGAAATGATCGCTATGCCGCTGATTTGGAG
CAACAACGTGCCATGTGCGATAAGCGAGGTTGCACCGAAAAGCAGGGCAACGGCATTTGCGATTCCGATTGCAAT
ACGTATGCCTGCAACTTTGATGGAAACGATTGCTCACTGGGCATCAATCCGTGGGCCAATTGCACGGCCAACGAG
TGCTGGAACAAATTCAAGAACGGCAAATGCAACGAGGAGTGCAACAATGCTGCCTGCCACTACGATGGTCACGAT
TGCGAACGGAAATTGAAGAGTTGCGATAGCCTTTTCGATGCCTACTGCCAGAAGCATTACGGCGATGGTTTCTGC
GACTATGGATGCAATAATGCGGAATGCAGTTGGGACGGACTCGACTGTGAGAACAAGACCCAGTCACCGGTTTTG
GCCGAGGGTGCCATGTCCGTGGTGATGCTAATGAATGTGGAGGCATTCCGCGAGATTCAGGCTCAGTTCCTTAGG
AATATGAGCCACATGCTGCGGACAACGGTGCGGTTGAAGAAGGACGCTCTTGGTCATGACATCATTATCAATTGG
AAGGACAATGTGCGCGTGCCGGAGATCGAGGATACGGACTTTGCGAGAAAAAACAAGATTCTGTACACCCAACA
GGTCCATCAGACGGGCATTCAAATCTATTTGGAGATTGACAATCGCAAATGCACCGAATGCTTTACGCACGCCGTT
GAGGCAGCCGAATTTCTGGCTGCCACGGCGGCCAAACATCAGCTGCGGAACGATTTTCAGATACACAGTGTTAGG
GGCATCAAGAATCCCGGCGATGAGGACAATGGTGAGCCGCCGGCGAATGTGAAATACGTAATTACTGGCATTATA
CTGGTCATCATTGCATTGGCCTTCTTTGGCATGGTCTTGAGTACGCAAAGAAAGCGGGCACAT

Fly Notch PEST domain:

TCGGGTCAAATGAATCCGCCCTCGATACAAAGTTCAATGTCCGGCTCATCGCCGTCGACCAATATGTTGTCGCCGT
CGTCGCAGCACAATCAGCAGGCCTTCTACCAGTACCTAACGCCTTCGAGCCAACATTCCGGCGGCCATACGCCGCA
GCATTTGGTCCAAACGTTGGATAGCTATCCGACGCCCTCGCCGGAGTCACCTGGCCACTGGTCCTCCTCGTCGCCG
CGATCGAATTCCGATTGGAGCGAGGGCGTTCAGTCGCCGGCGGCAAATAATCTTTACATATCCGGTGGCCATCAG
GCTAACAAGGGTTCCGAGGCCATCTACATT

Mouse Notch NRR+TM domain:

ATCCTGGACTACAGCTTCACAGGTGGCGCTGGGCGCGACATTCCCCCACCGCAGATTGAGGAGGCCTGTGAGCTG
CCTGAGTGCCAGGTGGATGCAGGCAATAAGGTCTGCAACCTGCAGTGTAATAATCACGCATGTGGCTGGGATGGT
GGCGACTGCTCCCTCAACTTCAATGACCCCTGGAAGAACTGCACGCAGTCTCTACAGTGCTGGAAGTATTTTAGCG
ACGGCCACTGTGACAGCCAGTGCAACTCGGCCGGCTGCCTCTTTGATGGCTTCGACTGCCAGCTCACCGAGGGAC
AGTGCAACCCCCTGTATGACCAGTACTGCAAGGACCACTTCAGTGATGGCCACTGCGACCAGGGCTGTAACAGTG
CCGAATGTGAGTGGGATGGCCTAGACTGTGCTGAGCATGTACCCGAGCGGCTGGCAGCCGGCACCCTGGTGCTG
GTGGTGCTGCTTCCACCCGACCAGCTACGGAACAACTCCTTCCACTTTCTGCGGGAGCTCAGCCACGTGCTGCACA
CCAACGTGGTCTTCAAGCGTGATGCGCAAGGCCAGCAGATGATCTTCCCGTACTATGGCCACGAGGAAGAGCTGC
GCAAGCACCCAATCAAGCGCTCTACAGTGGGTTGGGCCACCTCTTCACTGCTTCCTGGTACCAGTGGTGGGCGCCA
GCGCAGGGAGCTGGACCCCATGGACATCCGTGGCTCCATTGTCTACCTGGAGATCGACAACCGGCAATGTGTGCA
GTCATCCTCGCAGTGCTTCCAGAGTGCCACCGATGTGGCTGCCTTCCTAGGTGCTCTTGCGTCACTTGGCAGCCTCA
ATATTCCTTACAAGATTGAGGCCGTGAAGAGTGAGCCGGTGGAGCCTCCGCTGCCCTCGCAGCTGCACCTCATGTA
CGTGGCAGCGGCCGCCTTCGTGCTCCTGTTCTTTGTGGGCTGTGGGGTGCTGCTGTCCCGCAAGCGCCGGCGGCA
Gfwd21

Worm Notch 5EGF+NRR+TM domain:

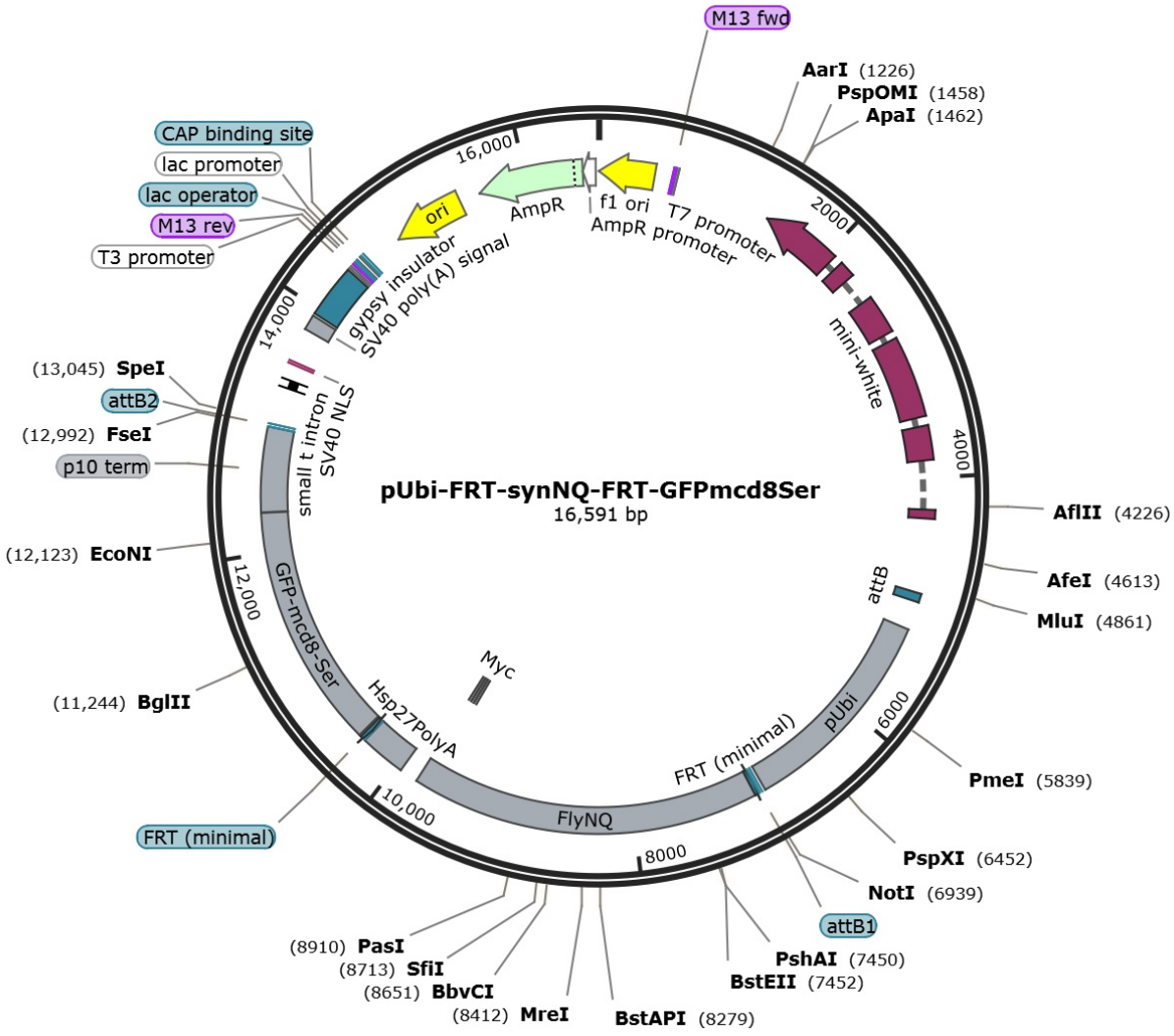
GGTGGAGAATGCGGAAGGGAAGGTGCTTGCTCCGTCAATGGAAAATGCTATAATGGAAAACTGATTGAGACATA
CTGGTGCCGTTGCAAAAAAGGATTCGGAGGTGCTTTCTGTGAACGTGAATGCGATTTGGATTGTAAACGAGGCGA
GAAGTGCATCTACGATGTTTATGGTGAAAATCCGACGTGTATCTGTCAAGATTGCGAAGACGAGACTCCTCCAACA
GAACGTACTCAAAAAGGCTGTGAAGAAGGCTATGGAGGTCCTGACTGCAAAACTCCTCTATTTTCGGGAGTAAAT
CCATGCGATTCGGATCCTTGCAACAACGGACTCTGCTATCCATTCTATGGTGGATTTCAGTGCATATGCAACAATG
GATATGGAGGATCGTATTGTGAAGAAGGAATCGATCATTGTGCTCAAAATGAATGCGCAGAAGGTTCAACGTGTG
TCAATAGTGTATACAACTATTACTGTGATTGCCCAATTGGAAAATCCGGTCGATATTGTGAACGAACTGAATGTGC
TTTGATGGGAAACATTTGCAATCATGGAAGATGTATTCCGAACAGAGATGAAGACAAGAACTTCAGATGTGTATG
CGACTCGGGATACGAGGGAGAATTTTGCAATAAGGATAAAAACGAATGCCTCATCGAAGAAACGTGTGTTAACAA
CTCTACATGTTTCAATTTGCACGGTGATTTTACTTGTACCTGTAAACCTGGATACGCTGGAAAGTATTGCGAGGAG
GCTATCGACATGTGCAAGGATTACGTTTGCCAAAATGATGGATACTGTGCCCATGACTCGAATCAGATGCCAATTT
GTTATTGCGAACAAGGATTCACTGGACAACGATGTGAGATTGAGTGTCCTTCAGGATTCGGGGGAATTCATTGTG
ATCTTCCACTACAGAGACCACACTGCTCTCGGAGCAATGGAACGTGTTACAACGATGGAAGATGTATAAATGGTTT
CTGTGTCTGTGAACCTGATTATATTGGAGATCGATGTGAGATTAATAGGAAAGATTTCAAGTTCCCAGATATTCAG
TCATGCAAATACAATCCGTGTGTGAATAATGCGACTTGTATCGATCTCAAAAACAGTGGATATTCATGTCATTGTCC
GCTTGGATTCTATGGATTGAACTGCGAGCAACATTTGTTGTGCACTCCAACTACATGTGCTAACGGAGGTACTTGT
GAAGGTGTGAATGGCGTTATCAGATGTAACTGCCCCAACGGATTCTCTGGAGATTACTGCGAAATAAAGGATAGA
CAGTTATGCTCCAGACATCCATGCAAGAACGGAGGAGTTTGTAAGAATACTGGATATTGCGAATGCCAATATGGA

TACACTGGACCCACTTGTGAAGAAGTTCTAGTTATCGAGAAATCAAAAGAGACTGTCATTCGTGATCTATGCGAGC
AACGAAAGTGTATGGATCTTGCTTCCAATGGTATTTGCAACCCGGAATGCAATTTGGAAGAATGTAATTTTGATGG
AGGTGATTGCTCAGGAGGGCAAAGACCATTCTCCAAATGTCAATACCCTGCAAGATGTGCTGATCAATTCGCAAAT
GGAGTCTGTAATCAGGAATGCAATAATGAAGAATGTCTTTACGATGGATTGGACTGTCAATCAGAGTTATTTCGAT
GCCCAGCTCATATTCGGAAACATTGTATTGAAAGACGAGGCGATGGAGTTTGTAATTTAGAATGCAGTTTCATTGG
ATGTGGTTTTGACGGTGGAGATTGCAATAACGGAACAGAAGCAATAATCCTCAGTGATATTCGTATAAAAGTTCAA
ATTGATCCTATTGAATTCCAAGCTACCGGAGGAGAAACACTAATGCAAATCAGTGCAAATCTTCGAGCAACCGTAC
GTATTCAACGGGATGAACTTGGACCTCTTGTATTCAGATGGGATGGTGAACATGAAATGGAAAGAGTTGAGATGA
ATAGTAGCAAGCTCGAAGATCAATTTGTACTTTCGCATCACGTTCGCAGGTATCGGCAAGCTGTTGTCACTGGAAT
TGTCTTGTATTTGGAAGTCGAAGAAATATGTAAACCCGAGTTTTGCCGATTTTCAACAGCGCAAAGTGTCGTTGAT
TTGATTGCTGCTGGACTTGTGAAGTCTGATGGTCGTATGTCTCTGGGTCTCCCAATTACGGAAGCAATGGTAGCTG
TTCCAAAGAGAAACGAAATCGATGAAGGATGGTCTCGCAGTCAAGTTATTCTGTTTGCATGTATTGCATTTTTGGC
TTTTGGAACTGTTGTCGCTGGTGTTATCGCAAAGAATGGTCCAGAAAGAAGTAGA

Worm Notch NRR+TM domain:

GAAGTTCTAGTTATCGAGAAATCAAAAGAGACTGTCATTCGTGATCTATGCGAGCAACGAAAGTGTATGGATCTT
GCTTCCAATGGTATTTGCAACCCGGAATGCAATTTGGAAGAATGTAATTTTGATGGAGGTGATTGCTCAGGAGGG
CAAAGACCATTCTCCAAATGTCAATACCCTGCAAGATGTGCTGATCAATTCGCAAATGGAGTCTGTAATCAGGAAT
GCAATAATGAAGAATGTCTTTACGATGGATTGGACTGTCAATCAGAGTTATTTCGATGCCCAGCTCATATTCGGAA
ACATTGTATTGAAAGACGAGGCGATGGAGTTTGTAATTTAGAATGCAGTTTCATTGGATGTGGTTTTGACGGTGG
AGATTGCAATAACGGAACAGAAGCAATAATCCTCAGTGATATTCGTATAAAAGTTCAAATTGATCCTATTGAATTC
CAAGCTACCGGAGGAGAAACACTAATGCAAATCAGTGCAAATCTTCGAGCAACCGTACGTATTCAACGGGATGAA
CTTGGACCTCTTGTATTCAGATGGGATGGTGAACATGAAATGGAAAGAGTTGAGATGAATAGTAGCAAGCTCGAA
GATCAATTTGTACTTTCGCATCACGTTCGCAGGTATCGGCAAGCTGTTGTCACTGGAATTGTCTTGTATTTGGAAGT
CGAAGAAATATGTAAACCCGAGTTTTGCCGATTTTCAACAGCGCAAAGTGTCGTTGATTTGATTGCTGCTGGACTT
GTGAAGTCTGATGGTCGTATGTCTCTGGGTCTCCCAATTACGGAAGCAATGGTAGCTGTTCCAAAGAGAAACGAA
ATCGATGAAGGATGGTCTCGCAGTCAAGTTATTCTGTTTGCATGTATTGCATTTTTGGCTTTTGGAACTGTTGTCGC
TGGTGTTATCGCAAAGAATGGTCCAGAAAGAAGTAGA

Full Sequence of *pUbi-FRT>synNQ.Stop.FRT>GFPmcd8Ser*



Sequence of the vector in Genebank format:

LOCUS Exported 16591 bp ds-DNA circular SYN 15-MAR-2017

DEFINITION synthetic circular DNA

ACCESSION .

VERSION .

KEYWORDS pUbiFRTflyQFRTmcd8

SOURCE synthetic DNA construct

ORGANISM synthetic DNA construct

REFERENCE 1 (bases 1 to 16591)

AUTHORS .

TITLE Direct Submission

JOURNAL Exported Wednesday, Mar 15, 2017 from SnapGene Viewer 3.3.2

http://www.snapgene.com

FEATURES Location/Qualifiers

source 1..16591

/organism="synthetic DNA construct"

/mol_type="other DNA"

rep_origin complement(6..461)

/direction=LEFT

/note="f1 ori"

/note="f1 bacteriophage origin of replication; arrow

indicates direction of (+) strand synthesis"

primer_bind 603..619

/note="M13 fwd"

/note="common sequencing primer, one of multiple similar

variants"

promoter 626..644

/note="T7 promoter"

/note="promoter for bacteriophage T7 RNA polymerase"

CDS complement(join(1444..2058,2129..2260,2481..2796,2858..3512,

3587..3860,4255..4326))

/codon_start=1

/gene="white"

/product="Drosophila white gene eye color pigment"

/note="mini-white"

/note="This is a modified version of the white gene lacking

part of the first intron."

/translation="MGQEDQELLIRGGSKHPSAEHLNNGDSGAASQSCINQGFGQAKNY

GTLLPPSPPEDSGSGSGQLAENLTYAWHNMDIFGAVNQPGSGWRQLVNRTRGLFCNERH
IPAPRKHLLKNVCGVAYPGELLAVMGSSGAGKTTLLNALAFRSPQGIQVSPSGMRLLNG
QPVDAKEMQARCAYVQQDDLFIGSLTAREHLIFQAMVRMPRHLTYRQRVARVDQVIQEL
SLSKCQHTIIGVPGRVKGLSGGERKRLAFASEALTDPPLLICDEPTSGLDSFTAHSVVQ
VLKKLSQKGKTVILTIHQPSSELFELFDKILLMAEGRVAFLGTPSEAVDFFSYVGAQCP
TNYNPADFYVQVLAVVPGREIESRDRIAKICDNFAISKVARDMEQLLATKNLEKPLEQP
ENGYTYKATWFMQFRAVLWRSWLSVLKEPLLVKVRLIQTTMVAILIGLIFLGQQLTQVG
VMNINGAIFLFLTNMTFQNVFATINVFTSELPVFMREARSRLYRCDTYFLGKTIAELPL
FLTVPLVFTAIAYPMIGLRAGVLHFFNCLALVTLVANVSTSFGYLISCASSSTSMALSV
GPPVIIPFLLFGGFFLNSGSVPVYLKWLSYLSWFRYANEGLLINQWADVEPGEISCTSS
NTTCPSSGKVILETLNFSAADLPLDYVGLAILIVSFRVLAYLALRLRARRKE"

protein_bind 4923..4992
/bound_moiety="phage phi-C31 integrase"
/note="attB"
/note="attB site for the phi-C31 integrase (Groth et al.,
2000)"

misc_feature 5219..6929
/note="pUbi"

protein_bind 6956..6980
/gene="mutant version of attB"
/bound_moiety="BP Clonase(TM)"
/note="attB1"
/note="recombination site for the Gateway(R) BP reaction"

protein_bind complement(6983..7016)
/bound_moiety="FLP recombinase from the Saccharomyces
cerevisiae 2u plasmid"
/note="FRT (minimal)"
/note="supports FLP-mediated excision but not integration
(Turan and Bode, 2011)"

misc_feature 7018..9798

/note="FlyNQ"

CDS 9697..9726

/codon_start=1

/product="Myc (human c-Myc oncogene) epitope tag"

/note="Myc"

/translation="EQKLISEEDL"

CDS 9730..9759

/codon_start=1

/product="Myc (human c-Myc oncogene) epitope tag"

/note="Myc"

/translation="EQKLISEEDL"

CDS 9763..9792

/codon_start=1

/product="Myc (human c-Myc oncogene) epitope tag"

/note="Myc"

/translation="EQKLISEEDL"

misc_feature 9946..10310

/note="Hsp27PolyA"

protein_bind complement(10322..10355)

/bound_moiety="FLP recombinase from the Saccharomyces

cerevisiae 2u plasmid"

/note="FRT (minimal)"

/note="supports FLP-mediated excision but not integration

(Turan and Bode, 2011)"

misc_feature 10371..12314

/note="GFP-mcd8-Ser"

misc_feature 12319..12994

/note="p10 term"

protein_bind complement(12996..13020)
/gene="mutant version of attB"
/bound_moiety="BP Clonase(TM)"
/note="attB2"
/note="recombination site for the Gateway(R) BP reaction"
intron 13327..13392
/note="small t intron"
/note="simian virus 40 (SV40) small t antigen intron"
CDS 13522..13542
/codon_start=1
/product="nuclear localization signal of SV40 large T
antigen"
/note="SV40 NLS"
/translation="PKKKRKV"
polyA_signal 13814..13935
/note="SV40 poly(A) signal"
/note="SV40 polyadenylation signal"
protein_bind 13957..14387
/bound_moiety="Su(Hw), CP190, and Mod(mdg4)67.2"
/note="gypsy insulator"
/note="chromatin insulator from Drosophila"
promoter complement(14406..14424)
/note="T3 promoter"
/note="promoter for bacteriophage T3 RNA polymerase"
primer_bind complement(14445..14461)
/note="M13 rev"
/note="common sequencing primer, one of multiple similar
variants"
protein_bind 14469..14485

/bound_moiety="lac repressor encoded by lacI"

/note="lac operator"

/note="The lac repressor binds to the lac operator to

inhibit transcription in E. coli. This inhibition can be

relieved by adding lactose or

isopropyl-beta-D-thiogalactopyranoside (IPTG)."

promoter complement(14493..14523)

/note="lac promoter"

/note="promoter for the E. coli lac operon"

protein_bind 14538..14559

/bound_moiety="E. coli catabolite activator protein"

/note="CAP binding site"

/note="CAP binding activates transcription in the presence

of cAMP."

rep_origin complement(14847..15435)

/direction=LEFT

/note="ori"

/note="high-copy-number ColE1/pMB1/pBR322/pUC origin of

replication"

CDS complement(15606..16466)

/codon_start=1

/gene="bla"

/product="beta-lactamase"

/note="AmpR"

/note="confers resistance to ampicillin, carbenicillin, and

related antibiotics"

/translation="MSIQHFRVALIPFFAAFCLPVFAHPETLVKVKDAEDQLGARVGYI

ELDLNSGKILESFRPEERFPMMSTFKVLLCGAVLSRIDAGQEQLGRRIHYSQNDLVEYS

PVTEKHLTDGMTVRELCSAAITMSDNTAANLLLTTIGGPKELTAFLHNMGDHVTRLDRW

EPELNEAIPNDERDTTMPVAMATTLRKLLTGELLTLASRQQLIDWMEADKVAGPLLRSA

LPAGWFIADKSGAGERGSRGIIAALGPDGKPSRIVVIYTTGSQATMDERNRQIAEIGAS

LIKHW"

promoter complement(16467..16571)

/gene="bla"

/note="AmpR promoter"

ORIGIN

1 cacctaaatt gtaagcgtta atattttgtt aaaattcgcg ttaaattttt gttaaatcag

61 ctcatttttt aaccaatagg ccgaaatcgg caaaatccct tataaatcaa aagaatagac

121 cgagataggg ttgagtgttg ttccagtttg gaacaagagt ccactattaa agaacgtgga

181 ctccaacgtc aaagggcgaa aaaccgtcta tcagggcgat ggcccactac gtgaaccatc

241 accctaatca agtttttttgg ggtcgaggtg ccgtaaagca ctaaatcgga accctaaagg

301 gagcccccga tttagagctt gacggggaaa gccggcgaac gtggcgagaa aggaagggaa

361 gaaagcgaaa ggagcgggcg ctagggcgct ggcaagtgta gcggtcacgc tgcgcgtaac

421 caccacaccc gccgcgctta atgcgccgct acagggcgcg tcccattcgc cattcaggct

481 gcgcaactgt tgggaagggc gatcggtgcg ggcctcttcg ctattacgcc agctggcgaa

541 agggggatgt gctgcaaggc gattaagttg ggtaacgcca gggttttccc agtcacgacg

601 ttgtaaaacg acggccagtg aattgtaata cgactcacta tagggcgaat tgggtacaag

661 cttcacgacc tgaggcgcgc ctccagtgaa atccaagcat tttctaaatt aaatgtattc

721 ttattattat agttgttatt tttgatatat ataaacaaca ctattatgcc caccattttt

781 ttgagatgca tctacacaag gaacaaacac tggatgtcac tttcagttca aattgtaacg

841 ctaatcactc cgaacaggtc acaaaaaatt accttaaaaa gtcataatat taaattagaa

901 taaatatagc tgtgagggaa atatatacaa atatattgga gcaaataaat tgtacataca

961 aatatttatt actaatttct attgagacga aatgaaccac tcggaaccat ttgagcgaac

1021 cgaatcgcgc ggaactaacg acagtcgctc caaggtcgtc gaacaaaagg tgaatgtgtt

1081 gcggagagcg ggtgggagac agcgaaagag caactacgaa acgtggtgtg gtggaggtga

1141 attatgaaga gggcgcgcga tttgaaaagt atgtatataa aaaatatatc ccggtgtttt

1201 atgtagcgat aaacgagttt ttgatgtaag gtatgcaggt gtgtaagtct tttggttaga

1261 agacaaatcc aaagtctact tgtggggatg ttcgaagggg aaatacttgt attctatagg

1321 tcatatcttg tttttattgg cacaaatata attacattag ctttttgagg gggcaataaa

1381 cagtaaacac gatggtaata atggtaaaaa aaaaaacaag cagttatttc ggatatatgt

1441 cggctactcc ttgcgtcggg cccgaagtct tagagccaga tatgcgagca cccggaagct

1501 cacgatgaga atggccagac ccacgtagtc cagcggcaga tcggcggcgg agaagttaag

1561 cgtctccagg atgaccttgc ccgaactggg gcacgtggtg ttcgacgatg tgcagctaat

1621 ttcgcccggc tccacgtccg cccattggtt aatcagcaga ccctcgttgg cgtaacggaa

1681 ccatgagagg tacgacaacc atttgaggta tactggcacc gagcccgagt tcaagaagaa

1741 gccgccaaag agcaggaatg gtatgataac cggcggaccc acagacagcg ccatcgaggt

1801 cgaggagctg gcgcaggata ttagatatcc gaaggacgtt gacacattgg ccaccagagt

1861 gaccagcgcc aggcagttga agaagtgcag cactccggcc cgcagtccga tcatcggata

1921 ggcaatcgcc gtgaagacca gtggcactgt gagaaaaagc ggtaattcgg caatcgtttt

1981 gcccagaaag tatgtgtcac agcgataaag tcgacttcgg gcctccctca taaaaactgg

2041 cagctctgag gtgaacacct aaatcgaatc gattcattag aaagttagta aattattaat

2101 atgcaaatgt attctaaaca agacttacat ttatcgtggc aaagacgttt tgaaaggtca

2161 tgttggtcag gaagaggaag atggctccgt tgatattcat cacgcccact tgcgtgagtt

2221 gttggcccaa aaagatgagg ccaatcaaga tggcaaccat ctgcaaatta aaatgttact

2281 cgcatctcat taatattcat atcttcaaca tgttcgcgag ttaaatgaaa tttatttatt

2341 ttctgcaaaa ctataaacta tacatctcat tgaaaaaaac taagaagggt gtggaatcag

2401 gcaattctaa ctaaaatcta gcgaatttgt ttccaagaat tgtaagcgtt atatcatttg

2461 tttccactgg aaccactcac cgttgtctga ataagtcgca cttttacgag gagtggttcc

2521 ttgagcaccg acagccagga tcgccacagg accgcccgga actgcatgaa ccaggtggcc

2581 ttgtaggtgt acccattctc cggctgctcc agtggcttct ccaaattttt ggtggccaac

2641 aactgctcca tatcccgggc tactttgcta atagcaaaat tgtcgcatat cttggcgatc

2701 cgatcacggg actcgatctc ccgtccgggc acaacggcca acacctgtac gtaaaagtcc

2761 gccggattgt agttggtagg acactgggca cccacgctgg ataggagttg agatgtaatg

2821 taatgctaga tacccttaat aaacacatcg aactcactag gaaaagaagt cgacggcttc

2881 gctgggagtg cccaagaaag ctaccctgcc ctcggccatc agaaggatct tgtcaaagag

2941 ctcaaacagc tcggaagacg gctgatgaat ggtcaggatg acggtcttgc ccttctgcga

3001 cagcttcttc agcacctgga cgacgctgtg ggcggtaaat gagtccagtc cggaggtggg

3061 ctcatcgcag atcagaagcg gcggatcggt tagtgcctcg gaggcgaatg ccagacgctt

3121 cctttctccg ccggacagac ctttcaccct gccgggcaca ccgatgatcg tgtgctgaca

3181 tttgctgagc gaaagctcct ggatcacctg atccacgcgg gccactcgct gccgataggt

3241 cagatgtcgt ggcatccgca ccatggcctg gaaaatcagg tgttccctgg ccgttaggga

3301 gccgataaag aggtcatcct gctggacata ggcgcacctg gcctgcatct ccttggcgtc

3361 cacaggttgg ccattgagca gtcgcatccc ggatggcgat acttggatgc cctgcggcga

3421 tcgaaaggca agggcattca gcagggtcgt ctttccggca ccggaactgc ccatcacggc

3481 caaaagttcg cccggatagg ccacgccgca aactgagttt caaattggta attggaccct

3541 ttattaagat ttcacacaga tcagccgact gcgaatagaa actcaccgtt cttgagcaaa

3601 tgtttcctgg gcgccggtat gtgtcgctcg ttgcagaata gtccgcgtgt ccggttgacc

3661 agctgccgcc atccggagcc cggctgattg accgccccaa agatgtccat attgtgccag

3721 gcataggtga ggttctcggc tagttggccg ctccctgaac cggagtcctc cggcggactg

3781 ggtggcagga gcgtgccgta gtttttggcc tgcccgaagc cctggttaat gcagctctgc

3841 gaagccgctc cgctgtcacc ctgcaatgat aggggatctc aaatatcaac tacaagcgtt

3901 atgctcatct aaccccgaac aaaacgaagt atcctacgaa gtaggtttat acttttattt

3961 atttttgtg catctaggat cagcttaaaa tatctggttg ttatattttt tgtaaaaaag

4021 aatgtagtcg aaaatgaatg cctttagatg tcttgatcat gatatgatct taaaaattgt

4081 cttatatagc gagcacagct accagaataa tctgtttcgt gtcactattt gtttgtgcga

4141 ttgcggtttg ggatttttgt gggtcgcagt tctcacgccg cagacaattt gatgttgcaa

4201 tcgcagttcc tatagatcaa gtgaacttaa gatgtatgca catgtactac tcacattgtt

4261 cagatgctcg gcagatgggt gtttgctgcc tccgcgaatt aatagctcct gatcctcttg

4321 gcccattgcc gggatttttc acactttccc ctgcttaccc acccaaaacc aatcaccacc

4381 ccaatcactc aaaaaacaaa caaaaataag aagcgagagg agttttggca cagcactttg

4441 tgtttaattg atggcgtaaa ccgcttggag cttcgtcacg aaaccgctga caaagtgcaa

4501 ctgaaggcgg acattgacgc taggtaacgc tacaaacggt ggcgaaagag atagcggacg

4561 cagcggcgaa agagacggcg atatttctgt ggacagagaa ggaggcaaac agcgctgact

4621 ttgagtggaa tgtcattttg agtgagaggt aatcgaaaga acctggtact tcaaataccc

4681 ttggatcgaa gtaaatttaa aactgatcag ataagttcaa tgatatccag tgcagtaaaa

4741 aataaaaaaa aaaaatgttt ttttttatct actttccgca aaaatgggtt ttattaactt

4801 acatacatgg cgcgccagat cgcaagaagc ttgatatcat cgatctcgag gctgcatcca

4861 acgcgttggg agctctccgg atcaattcgg cttcaggtac cgtcgacgat gtaggtcacg

4921 gtctcgaagc cgcggtgcgg gtgccagggc gtgcccttgg gctccccggg cgcgtactcc

4981 acctcaccca tctggtccat catgatgaac gggtcgaggt ggcggtagtt gatcccggcg

5041 aacgcgcggc gcaccgggaa gccctcgccc tcgaaaccgc tgggcgcggt ggtcacggtg

5101 agcacgggac gtgcgacggc gtcggcgggt gcggatacgc ggggcagcgt cagcgggttc

5161 tcgacggtca cggcgggcat gtcgacaagc cgaattgatc cactagaagg cctaattcgg

5221 cttgctgttc ttcgcgttca aaatctccag ctccattttg ctttcggtgc gcttgcaatc

5281 agtactgtcc aaaatcgaaa atcgccgaac cgtagtgtga cgtgcggggc tctgcgaaaa

5341 taaacttttt taggtatatg gccacacacg gggaaagcac agtggattat atgttttaat

5401 attataatat gcaggttttc attacttatc cagatgtaag cccacttaaa gcgatttaac

5461 aattatttgc cgaaagagta taaacaaatt tcacttaaaa aatggattaa gaaaagcttg

5521 tgtaagatta tgcgcagcgt tgccagatag ctccatttta aatttccagt caagctgcga

5581 gtttcaaaat tatagccggt agagaagaca gtgctatttc aaaagcaaac taacaagggt

5641 cttaaattcc aaaacaccaa tcctaacaag ccttggactt ttgtaagttt agatcaaagg

5701 tggcattgca ttcaatgtca tggtaagaag taggtcgtct aggtagaaat cctcattcag

5761 ccggtcaagt cagtacgaga aaggtctcaa tttgaaattg tcttaaaaat attttattgt

5821 tttgtactgt ggtgagttta aacgaaaaac acaaaaaaaa agtgatacac agaaatcata

5881 aaaaatttta atacaaggta ttcgtacgta tcaaaaacat ttcggcacaa ttttttttct

5941 ctgtactaaa gtgttacgaa cactacggta ttttttagtg attttcaacg gacaccgaag

6001 gtatataaac agcgttcgcg aacggtcgcc ttcaaaacca attgacattt gcagcagcaa

6061 gtacaagcag aaagtaaagc gcaatcagcg aaaaatttat acttaattgt tggtgattaa

6121 agtacaatta aaagaacatt ctcgaaagtc acaagaaacg taagttttta actcgctgtt

6181 accaattagt aataagagca acaagacgtt gagtaatttc aagaaaaact gcatttcaag

6241 gtctttgttc ggccattttt tttttattca acgctctacg taattacaaa ataagaaatt

6301 ggcagccacg catcttgttt tcccaatcaa ttggcatcaa aacgcaaaca aatctataaa

6361 taaaacttgc gtgttgattt tcgccaagat ttattggcaa attgtgaaat tcgcagtgac

6421 gcatttgaaa attcgagaaa tcacgaacgc actcgagcat ttgtgtgcat gttattagtt

6481 agttagttct ttgcttaatt gaagtatttt accaacgaaa tccacttatt tttagctgaa

6541 atagagtagg ttgcttgaaa cgaaagccac gtctggaaaa tttcttattg cttagtagtt

6601 gtgacgtcac catatacaca caaaataatg tgtatgcatg cgtttcagct gtgtatatat

6661 acatgcacac actcgcatta tgaaaacgat gacgagcaac ggaacaggtt tctcaactac

6721 ctttgttcct gtttcttcgc tttccttttgt tccaatattc gtagagggtt aataggggtt

6781 tctcaacaaa gttggcgtcg ataaataagt ttcccatttt tattccccag ccaggaagtt

6841 agtttcaata gttttgtaat ttcaacgaaa ctcatttgat ttcgtactaa ttttccacat

6901 ctctattttc tgcccgcaga ataatccaag gggatctgcg gccgcggctc gaatcacaag

6961 tttgtacaaa aaagcaggct tcgaagttcc tatactttct agagaatagg aacttcgatg

7021 gcctcaccgt tgacccgctt tctgtcgctg aacctgctgc tgctgggtga gtcgattatc

7081 ctggggagtg gagaagctaa gccacaggca cccggatccg ccgatgtgca gctggtggag

7141 tctgggggag ccttggtgca gccgggggggg tctctgagac tctcctgtgc agcctctgga

7201 ttccccgtca atcgctatag tatggggtgg taccgccagg ctccagggaa ggagcgcgag

7261 tgggtcgcgg gtatgagtag tgctggtgat cgttcaagtt atgaagactc cgtgaagggc

7321 cgattcacca tctccagaga cgacgccagg aatacggtgt atctgcaaat gaacagcctg

7381 aaacctgagg acacggccgt gtattactgt aatgtcaatg tgggctttga gtactggggc

7441 caggggaccc aggtcaccgt ctcctcaagc ccgcgcggag gcggtgctag cggaggcggc

7501 agcggaggtg gaggctcggg aggtggtccg cggggcctag ctgatttgat ctatgatgcc

7561 aactatccgg gatggaatgg cggttcggga tccggaaatg atcgctatgc cgctgatttg

7621 gagcaacaac gtgccatgtg cgataagcga ggttgcaccg aaaagcaggg caacggcatt

7681 tgcgattccg attgcaatac gtatgcctgc aactttgatg gaaacgattg ctcactgggc

7741 atcaatccgt gggccaattg cacggccaac gagtgctgga acaaattcaa gaacggcaaa

7801 tgcaacgagg agtgcaacaa tgctgcctgc cactacgatg gtcacgattg cgaacggaaa

7861 ttgaagagtt gcgatagcct tttcgatgcc tactgccaga agcattacgg cgatggtttc

7921 tgcgactatg gatgcaataa tgcggaatgc agttgggacg gactcgactg tgagaacaag

7981 acccagtcac cggttttggc cgagggtgcc atgtccgtgg tgatgctaat gaatgtggag

8041 gcattccgcg agattcaggc tcagttcctt aggaatatga gccacatgct gcggacaacg

8101 gtgcggttga agaaggacgc tcttggtcat gacatcatta tcaattggaa ggacaatgtg

8161 cgcgtgccgg agatcgagga tacggacttt gcgagaaaaa acaagattct gtacacccaa

8221 caggtccatc agacgggcat tcaaatctat ttggagattg acaatcgcaa atgcaccgaa

8281 tgctttacgc acgccgttga ggcagccgaa tttctggctg ccacggcggc caaacatcag

8341 ctgcggaacg attttcagat acacagtgtt aggggcatca agaatcccgg cgatgaggac

8401 aatggtgagc cgccggcgaa tgtgaaatac gtaattactg gcattatact ggtcatcatt

8461 gcattggcct tctttggcat ggtcttgagt acgcaaagaa agcgggcaca tggcgtcacc

8521 tggttcccgg agggattccg tgcaccggcg gcggttatgt cgcgacgtcg acgtgatcca

8581 cacggccaag agatgcggaa tctcaacaag caggacgtcc cacccaagcg caaaacgctt

8641 aacgctgcgg ctgaggctaa cgctcatgcc gacggacacg ccgacggaaa cgccgacgga

8701 cacgtggcca atacggccgc gtcctcgaat aatgcgaggt tcgctgatct cactaacatc

8761 gatactccgg gtctgggacc cacaactacg accctgctcg tggaaccagc acgctcaaag

8821 cgtcaacgag tgtcccgcgc atgcgaccag tgccgtgcag cccgagagaa atgcgacgga

8881 atacagcctg cgtgtttccc gtgcgtttcc cagggaaggt cctgcactta tcaggcttcg

8941 ccgaaaaaga ggggagttca aaccggttat attcgtacgc tggagctcgc cctcgcctgg

9001 atgtttgaaa atgtcgcgcg ttccgaagat gccttgcata acctcctcgt ccgtgacgcc

9061 ggacaaggat cagctctgct cgttggtaaa gattcgccgg ctgccgagcg actccatgcc

9121 cgttgggcta ctagccgtgt caataagagc attacccgcc tcctccgtca gttggagctc

9181 cctcctaccg ccacggctac ggcctcgata atgccgcacg tgatggagca gcctctcagt

9241 accagcatta accccgtcaa cgaccgcttc aacggtattc ccaaccccac tccgtataac

9301 tccgatgcag ctctcgatgc tatcactcag accaacgatt atggaagcgt aaatacacat

9361 ggtatcctct ctacttaccc gccaccggct acgcacctta atgaagcttc cgtcgctctc

9421 gctcccggtg gcgccccccc ccgaccgcct cctccgtatg ttgacagcac gaccaatcac

9481 ccgccgtacc actcgaatct ggttccaatg gcgaactttg gttactcgac cgttgattac

9541 gatgccatgg ttgacgattt ggctagcatt gaatacacgg acgctgtgga tgtcgaccca

9601 cagtttatga ccaatctggg attcgttcct ggatgtaact tctccgacat taatacatac

9661 gaacagaggc ctctcgagag cggaggcggt ggctccgaac agaaacttat cagcgaggag

9721 gatctcggcg agcagaagct gatttcggaa gaagaccttg gagagcaaaa gctcatatcc

9781 gaagaggacc tgtcgtaacg aattcataaa ttgacgtaag ctagtctaga cgtaccccaa

9841 ttccagctga gcgccggtcg ctaccattac cagttggtct ggtgtcaaaa ataataataa

9901 ccgggcaggg gggatcgatc ccccagatcc gtacgatcct ctagtaaaaa aaaaacaaaa

9961 ttttagtgtg tataattagg ctaaacaact ggaggattca ttgctccctt tgagtttata

10021 ctttttgtaa caagaacagg cgcaacactc gggagaattt tgcatttcat ttgtgaataa

10081 acgaatacaa taaatacaaa tacacgaaaa gaagtcagct gtcgagtttt tgttggtttt

10141 tttttccctt tttacttcga atctgcaaat gtatttgcat ttaagtaaac cggcttttgt

10201 tgggtgtcgt taactttcaa ggggtcttat gtacttattc tgttttcctt gtccttgaat

10261 tggacttgtg gaaaattaaa tggtcagcca attgcttaac ctttgtcgac ctgcagccaa

10321 ggaagttcct atactttcta gagaatagga acttcaagct tctcgagaaa atggcctcac

10381 cgttgacccg ctttctgtcg ctgaacctgc tgctgctggg tgagtcgatt atcctgggga

10441 gtggagaagc taagccacag gcacccggat ccgtgagcaa gggcgaggag ctgttcaccg

10501 gggtggtgcc catcctggtc gagctggacg gcgacgtaaa cggccacaag ttcagcgtgt

10561 ccggcgaggg cgagggcgat gccacctacg gcaagctgac cctgaagttc atctgcacca

10621 ccggcaagct gcccgtgccc tggcccaccc tcgtgaccac cctgacctac ggcgtgcagt

10681 gcttcagccg ctaccccgac cacatgaagc agcacgactt cttcaagtcc gccatgcccg

10741 aaggctacgt ccaggagcgc accatcttct tcaaggacga cggcaactac aagacccgcg

10801 ccgaggtgaa gttcgagggc gacaccctgg tgaaccgcat cgagctgaag ggcatcgact

10861 tcaaggagga cggcaacatc ctggggcaca agctggagta caactacaac agccacaacg

10921 tctatatcat ggccgacaag cagaagaacg gcatcaaggt gaacttcaag atccgccaca

10981 acatcgagga cggcagcgtg cagctcgccg accactacca gcagaacacc cccatcggcg

11041 acggccccgt gctgctgccc gacaaccact acctgagcac ccagtccgcc ctgagcaaag

11101 accccaacga gaagcgcgat cacatggtcc tgctggagtt cgtgaccgcc gccgggatca

11161 ctctcggcat ggacgagctg cgatccagat caggaggcgg tgctagcgga ggcggcagcg

11221 gaggtggagg ctcgggaggt ggtagatctg aactccgaat ctttccaaag aaaatggacg

11281 ccgaacttgg tcagaaggtg gacctggtat gtgaagtgtt ggggtccgtt tcgcaaggat

11341 gctcttggct cttccagaac tccagctcca aactcccccа gcccaccttc gttgtctata

11401 tggcttcatc ccacaacaag ataacgtggg acgagaagct gaattcgtcg aaactgtttt

11461 ctgccatgag ggacacgaat aataagtacg ttctcaccct gaacaagttc agcaaggaaa

11521 acgaaggcta ctatttctgc tcagtcatca gcaactcggt gatgtacttc agttctgtcg

11581 tgccagtcct tcagaaagtg aactctacta ctaccaagcc agtgctgcga actccctcac

11641 ctgtgcaccc taccgggaca tctcagcccc agagaccaga agattgtcgg ccccgtggct

11701 cagtgaaggg gaccggattg gacttcgcct gtgatattta catctgggca cccttggccg

11761 gaatctgcgt ggcccttctg ctgtccttga tcatcactct catctgctac cacagccgct

11821 ctagaaaaca gcgtctggct tatcgcacca gttcgggaat gaacttaact ccctcgctgg

11881 atgcactgcg tcacgaggag gagaagtcga ataatctgca gaacgaggag aatctgcgaa

11941 ggtatacaaa tccgctgaag ggcagcacca gttccctaag agcggccacc ggcatggaac

12001 taagcctcaa tcccgctccg gaattagccg cctcggcggc gagtagttcc gccttgcaca

12061 gatcgcagcc actattcccg ccatgcgatt tcgagcgtga gctggactcc agtacgggcc

12121 tgaagcaggc gcacaagcgg agctcacaga ttctgctgca caaaacccaa aactcggaca

12181 tgcggaagaa cactgtgggc tcgctggaca gtccgcgtaa ggactttggc aagcggtcga

12241 tcaactgcaa gtccatgcca ccctcttcgg gcgacgaggg ctccgatgtc cttgccacca

12301 ctgtgatggt ttagctcgag aatgaatcgt ttttaaaata acaaatcaat tgttttataa

12361 tattcgtacg attctttgat tatgtaataa aatgtgatca ttaggaagat tacgaaaaat

12421 ataaaaaata tgagttctgt gtgtataaca aatgctgtaa acgccacaat tgtgtttgtt

12481 gcaaataaac ccatgattat ttgattaaaa ttgttgtttt ctttgttcat agacaatagt

12541 gtgttttgcc taaacgtgta ctgcataaac tccatgcgag tgtatagcga gctagtggct

12601 aacgcttgcc ccaccaaagt agattcgtca aaatcctcaa tttcatcacc ctcctccaag

12661 tttaacattt ggccgtcgaa ttaacttcta aagatgccac ataatctaat aaatgaaata

12721 gagattcaaa cgtggcgtca tcgtccgttt cgaccatttc cgaaaagaac tcgggcataa

12781 actctatgat ttctctggac gtggtgttgt cgaaactctc aaagtacgca gtcaggaacg

12841 tgcgcgacat gtcgtcggga aactcgcgcg gaaacatgtt gttgtaaccg aacgggtccc

12901 atagcgccaa aaccaaatct gccagcgtca atagaatgag cacgatgccg acaatggagc

12961 tggcttggat agcgattcga gttaacggcc ggcccaccca gctttcttgt acaaagtggt

13021 gattcgaggg tacctctaga gcaaactagt tctgatctgc tagacaattg ttggcatcag

13081 gtaggcatca cacacgatta acaaccccta aaaatacact ttgaaaatat tgaaaatatg

13141 tttttgtata catttttgat attttcaaac aatacgcagt tataaaactc attagctaac

13201 ccatttttc tttgcttatg cttacagatt gcaaagaact agagccgcgg gatctttgtg

13261 aaggaacctt acttctgtgg tgtgacataa ttggacaaac tacctacaga gatttaaagc

13321 tctaaggtaa atataaaatt tttaagtgta taatgtgtta aactactgat tctaattgtt

13381 tgtgtatttt agattccaac ctatggaact gatgaatggg agcagtggtg gaatgccttt

13441 aatgaggaaa acctgttttg ctcagaagaa atgccatcta gtgatgatga ggctactgct

13501 gactctcaac attctactcc tccaaaaaag aagagaaagg tagaagaccc caaggacttt

13561 ccttcagaat tgctaagttt tttgagtcat gctgtgttta gtaatagaac tcttgcttgc

13621 tttgctattt acaccacaaa ggaaaaagct gcactgctat acaagaaaat tatggaaaaa

13681 tatttgatgt atagtgcctt gactagagat cataatcagc cataccacat ttgtagaggt

13741 tttacttgct ttaaaaaacc tcccacacct ccccctgaac ctgaaacata aaatgaatgg

13801 aattgttgtt gttaacttgt ttattgcagc ttataatggt tacaaataaa gcaatagcat

13861 cacaaatttc acaaataaag catttttttc actgcattct agttgtggtt tgtccaaact

13921 catcaatgta tcttatcatg tctggttcca gagctctggc cacgtaataa gtgtgcgttg

13981 aatttattcg caaaaacatt gcatattttc ggcaaagtaa aattttgttg catacctt at

14041 caaaaaataa gtgctgcata ctttttagag aaaccaaata atttttt att gcatacccgt

14101 ttttaataaa atacattgca taccctcttt taataaaaaa tattgcatac tttgacgaaa

14161 caaattttcg ttgcataccc aataaaagat tattatattg catacccgtt tttaataaaa

14221 tacattgcat accctctttt aataaaaaat attgcatacg ttgacgaaac aaattttcgt

14281 tgcataccca ataaaagatt attatattgc atacctttt c ttgccatacc atttagccga

14341 tcaattgtgc tcggcaacag tatatttgtg gtgtgccaac caacaacgag ctccagcttt

14401 tgttcccttt agtgagggtt aatttcgagc ttggcgtaat catggtcata gctgtttcct

14461 gtgtgaaatt gttatccgct cacaattcca cacaacatac gagccggaag cataaagtgt

14521 aaagcctggg gtgcctaatg agtgagctaa ctcacattaa ttgcgttgcg ctcactgccc

14581 gctttccagt cgggaaacct gtcgtgccag ctgcattaat gaatcggcca acgcgcgggg

14641 agaggcggtt tgcgtattgg gcgctcttcc gcttcctcgc tcactgactc gctgcgctcg

14701 gtcgttcggc tgcggcgagc ggtatcagct cactcaaagg cggtaatacg gttatccaca

14761 gaatcagggg ataacgcagg aaagaacatg tgagcaaaag gccagcaaaa ggccaggaac

14821 cgtaaaaagg ccgcgttgct ggcgtttttc cataggctcc gccccccctga cgagcatcac

14881 aaaaatcgac gctcaagtca gaggtggcga aacccgacag gactataaag ataccaggcg

14941 tttccccctg gaagctccct cgtgcgctct cctgttccga ccctgccgct taccggatac

15001 ctgtccgcct ttctcccttc gggaagcgtg gcgctttctc atagctcacg ctgtaggtat

15061 ctcagttcgg tgtaggtcgt tcgctccaag ctgggctgtg tgcacgaacc ccccgttcag

15121 cccgaccgct gcgccttatc cggtaactat cgtcttgagt ccaacccggt aagacacgac

15181 ttatcgccac tggcagcagc cactggtaac aggattagca gagcgaggta tgtaggcggt

15241 gctacagagt tcttgaagtg gtggcctaac tacggctaca ctagaaggac agtatttggt

15301 atctgcgctc tgctgaagcc agttaccttc ggaaaaagag ttggtagctc ttgatccggc

15361 aaacaaacca ccgctggtag cggtggtttt tttgtttgca agcagcagat tacgcgcaga

15421 aaaaaaggat ctcaagaaga tcctttgatc ttttctacgg ggtctgacgc tcagtggaac

15481 gaaaactcac gttaagggat tttggtcatg agattatcaa aaaggatctt cacctagatc

15541 cttttaaatt aaaaatgaag ttttaaatca atctaaagta tatatgagta aacttggtct

15601 gacagttacc aatgcttaat cagtgaggca cctatctcag cgatctgtct atttcgttca

15661 tccatagttg cctgactccc cgtcgtgtag ataactacga tacgggaggg cttaccatct

15721 ggccccagtg ctgcaatgat accgcgagac ccacgctcac cggctccaga tttatcagca

15781 ataaaccagc cagccggaag ggccgagcgc agaagtggtc ctgcaacttt atccgcctcc

15841 atccagtcta ttaattgttg ccgggaagct agagtaagta gttcgccagt taatagtttg

15901 cgcaacgttg ttgccattgc tacaggcatc gtggtgtcac gctcgtcgtt tggtatggct

15961 tcattcagct ccggttccca acgatcaagg cgagttacat gatcccccat gttgtgcaaa

16021 aaagcggtta gctccttcgg tcctccgatc gttgtcagaa gtaagttggc cgcagtgtta

16081 tcactcatgg ttatggcagc actgcataat tctcttactg tcatgccatc cgtaagatgc

16141 ttttctgtga ctggtgagta ctcaaccaag tcattctgag aatagtgtat gcggcgaccg

16201 agttgctctt gcccggcgtc aatacgggat aataccgcgc cacatagcag aactttaaaa

16261 gtgctcatca ttggaaaacg ttcttcgggg cgaaaactct caaggatctt accgctgttg

16321 agatccagtt cgatgtaacc cactcgtgca cccaactgat cttcagcatc ttttactttc

16381 accagcgttt ctgggtgagc aaaaacagga aggcaaaatg ccgcaaaaaa gggaataagg

16441 gcgacacgga aatgttgaat actcatactc ttccttttc aatattattg aagcatttat

16501 cagggttatt gtctcatgag cggatacata tttgaatgta tttagaaaaa taaacaaata

16561 ggggttccgc gcacatttcc ccgaaaagtg c

//