

TTTAATTCAACCCAACACAATATATTATAGTTAAATAAGAATTATTATCAAATCATTGT	60
AAATTAAGTTGGGTTGTGTATATAATATCAATTTATTCTTAATAATAGTTTAGTAAACA	
F N S T Q H N I L . L N K N Y Y Q I I C	
	NcoI
ATATTAATTAAAATACTATACTGTAAATTACATTTTATTTACAATCAAAGGAGATATACC	120
TATAATTAATTTTATGATATGACATTTAATGTAAAATAAATGTTAGTTTTCCTCTATATGG	
I L I K I L Y C K L H F I Y N Q R R Y T	
ATGGCACACCATCACCACCATCACGGATCTGTGAGCAAGGGCGAGGAGCTGTTACCGGG	180
TACCGTGTGGTAGTGGTGGTAGTGCCTAGACACTCGTTCCCGCTCCTCGACAAGTGGCCC	
M A H H H H H H G S V S K G E E L F T G	
GTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGTTCAGCGTGTCC	240
CACCACGGGTAGGACCAGCTCGACCTGCCGCTGCATTTGCCGGTGTTCAAGTCGCACAGG	
V V P I L V E L D G D V N G H K F S V S	
GGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACCCTGAAGTTGATCTGCACCACC	300
CCGCTCCCGCTCCCGCTACGGTGGATGCCGTTGACTGGGACTTCAACTAGACGTGGTGG	
G E G E G D A T Y G K L T L K L I C T T	
	PstI
GGCAAGCTGCCCCTGCCCTGGCCACCCCTCGTGACCACCCTCGGCTACGGCCTGCAGTGC	360
CCGTTTCGACGGGCACGGGACCGGGTGGGAGCACTGGTGGGAGCCGATGCCGGACGTCACG	
G K L P V P W P T L V T T L G Y G L Q C	
TTCGCCCCTACCCCGACCACATGAAGCAGCACGACTTCTTCAAGTCCGCCATGCCCGAA	420
AAGCGGGCGATGGGGCTGGTGTACTTCGTCTGTCTGAAGAAGTTCAGGCGGTACGGGCTT	
F A R Y P D H M K Q H D F F K S A M P E	

GGCTACGTCCAGGAGCGCACCATCTTCTTCAAGGACGACGGCAACTACAAGACCCGCGCC	480
CCGATGCAGGTCCTCGCGTGGTAGAAGAAGTTCCTGCTGCCGTTGATGTTCTGGGCGCGG	
G Y V Q E R T I F F K D D G N Y K T R A	
GAGGTGAAGTTCGAGGGCGACACCCTGGTGAACCGCATCGAGCTGAAGGGCATCGACTTC	540
CTCCACTTCAAGCTCCCGCTGTGGGACCACTTGGCGTAGCTCGACTTCCCGTAGCTGAAG	
E V K F E G D T L V N R I E L K G I D F	
AAGGAGGACGGCAACATCCTGGGGCACAAGCTGGAGTACAACACAAGCCACAACGTC	600
TTCTCTCTGCCGTTGTAGGACCCCGTGTTCGACCTCATGTTGATGTTGTGGTGTTCGAG	
K E D G N I L G H K L E Y N Y N S H N V	
TATATCACCGCCGACAAGCAGAAGAACGGCATCAAGGCAAACCTCAAGATCCGCCACAAC	660
ATATAGTGGCGGCTGTTTCGTCTTCTTGCCGTAGTCCGTTTGAAGTTCTAGCGGTGTTG	
Y I T A D K Q K N G I K A N F K I R H N	
ATCGAGGACGGCGGCGTGCAGCTCGCCGACCACTACCAGCAGAACACCCCCATCGGCGAC	720
TAGCTCCTGCCGCCGACGTCGAGCGGCTGGTGATGGTCGTCTTGTGGGGTAGCCGCTG	
I E D G G V Q L A D H Y Q Q N T P I G D	
GGCCCCGTGTGCTGCCCGACAACCACTACCTGAGCTACCAGTCCAAACTGAGCAAAGAC	780
CCGGGGCACGACGACGGGCTGTTGGTGATGGACTCGATGGTCAGGTTTGACTCGTTTCTG	
G P V L L P D N H Y L S Y Q S K L S K D	
CCCAACGAGAAGCGCGATCACATGGTCCTGCTGGAGTTCGTGACCGCCGCCGGGATCACT	840
GGGTTGCTCTTCGCGCTAGTGTACCAGGACGACCTCAAGCACTGGCGGCGGCCCTAGTGA	
P N E K R D H M V L L E F V T A A G I T	
	BamHI
CTCGGCATGGACGAGCTGTACAAGGGTCTGGATCCTTGGCTACTACACTTGAACGTATT	900
GAGCCGTACCTGCTCGACATGTTCCCAAGACCTAGGAACCGATGATGTGAACCTGCATAA	
L G M D E L Y K G S G S L A T T L E R I	
mVenus Stop	
LOV Start Leu404	

GAGAAGAACTTTGTCACTTACTGACCCAAGGTTGCCAGATAATCCCATTATATTCGCGTCC  
CTCTTCTTGAACAGTAATGACTGGGTTCACCGTCTATTAGGTAATATAAGCGCAGG  
E K N F V I T D P R L P D N P I I F A S

960

PstI

GATAGTTTCTTGCAGTTGACAGAATATAGCCGTGAAGAAATTTTGGGAAGAACTGCAGG  
CTATCAAAGAACGTCAACTGTCTTATATCGGCACCTCTTTAAACCCCTTCTTTGACGTCC  
D S F L Q L T E Y S R E E I L G R N C R

1020

TTTCTACAAGGTCCTGAAACTGATCGCGCGACAGTGAGAAAAATTAGAGATGCCATAGAT  
AAAGATGTTCCAGGACTTTGACTAGCGCGCTGTCACTCTTTTAAATCTCTACGGTATCTA  
F L Q G P E T D R A T V R K I R D A I D

1080

AACCAAACAGAGGTCACGTTCAGCTGATTAATTATACAAAGAGTGGTAAAAAGTTCTGG  
TTGGTTTGTCTCCAGTGACAAGTCGACTAATTAATATGTTTCTCACCATTTTCAAGACC  
N Q T E V T V Q L I N Y T K S G K K F W

1140

Scal

AACCTCTTTCACTTGCAGCCTATGCGAGATCAGAAGGGAGATGTCCAGTACTTTATTGGG  
TTGGAGAAAGTGAACGTCGGATACGCTCTAGTCTTCCTCTACAGGTCATGAAATAACCC  
N L F H L Q P M R D Q K G D V Q Y F I G

1200

GTTCAAGTTGGATGGAACAGAGCATGTCCGAGATGCTGCCGAGAGAGAGGGAGTCATGCTG  
CAAGTCAACCTACCTTGACTCGTACAGGCTCTACGACGGCTCTCTCTCCCTCAGTACGAC  
V Q L D G T E H V R D A A E R E G V M L

1260

PstI

ATTAAGAAAAGTGCAGAAAATATTGATGAGGCGGCAAAAGAACTTATCAAGTGTGTGGTG  
TAATTCTTTTGACGTCTTTTATAACTACTCCGCCGTTTCTTGAATAGTTTACACACCAC  
I K K T A E N I D E A A K E L I K C V V

1320

LOV Stop Leu546

Rac1 Start Ile4

GTGGGAGACGGAGCTGTAGGTAAACTTGCCTACTGATCAGTTACACAACCAATGCATTT  
CACCTCTGCCTCGACATCCATTTTGAACGGATGACTAGTCAATGTGTTGGTTACGTAA  
V G D G A V G K T C L L I S Y T T N A F

1380

CCTGGAGAATATATCCCTACTGTCTTTGACAATTATTCTGCCAATGTTATGGTAGATGGA  
GGACCTCTTATATAGGGATGACAGAACTGTTAATAAGACGGTTACAATACCATCTACCT  
P G E Y I P T V F D N Y S A N V M V D G

1440

Agel

AAACCGGTGAATCTGGGCTTATGGGATACAGCTGGACTAGAAGATTATGACAGATTACGC  
TTTGGCCACTTAGACCCGAATACCCTATGTTCGACCTGATCTTCTAATACTGTCTAATGCG  
K P V N L G L W D T A G L E D Y D R L R

1500

Q61L

CCCCTATCCTATCCGCAACAGATGTGTTCTTAATTGCTTTTCCCTTGTGAGTCCTGCA  
GGGATAGGATAGGCGTTTGTCTACACAAGAATTAAACGAAAAGGGAACACTCAGGACGT  
P L S Y P Q T D V F L I C F S L V S P A

1560

TCATTCCACCACGTCCGTGCAAAGTGGTATCCTGAGGTGCGGCACCACTGTCCCAACACT  
AGTAAGGTGGTGAGGCACGTTTACCATAGGACTCCACGCCGTGGTGACAGGGTTGTGA  
S F H H V R A K W Y P E V R H H C P N T

1620

E91H/N92H

CCCATCATCCTAGTGGGAACTAACTTGATCTTAGGGATGATAAAGACACGATCGAGAAA  
GGGTAGTAGGATCACCTTGATTTGAACTAGAATCCCTACTATTCTGTGTAGCTCTTT  
P I I L V G T K L D L R D D K D T I E K

1680

PvuI

CTGAAGGAGAAGAAGCTGACTCCCATCACCTATCCGACGGGTCTAGCCATGGCTAAGGAG  
GACTTCCTCTTCTTCGACTGAGGGTAGTGGATAGGCGTCCAGATCGGTACCGATTCTC  
L K E K K L T P I T Y P Q G L A M A K E

1740

NcoI

ATTGGTGCTGTAAAATACCTGGAGTGCTCGGCGCTCACACAGCGAGGCCTCAAGACAGTG  
+-----+  
TAACCACGACATTTTATGGACCTCACGAGCCGCGAGTGTGTGCTCCGGAGTTCTGTCAC  
I G A V K Y L E C S A L T Q R G L K T V

1800

TTTGACGAAGCGATCCGAGCAGTCTCTGCCCCGCCTCCCGTGAAGAAGAGGAAGAGAAAA  
+-----+  
AAACTGCTTCGCTAGGCTCGTCAGGAGACGGGCGGAGGGCACTTCTTCTCCTTCTCTTTT  
F D E A I R A V L C P P P V K K R K R K

1860

HindIII

NotI

AccI

TGCCTGCTGTTGTAAAAGCTTGCGGCCGCACAGCTGTATACACGTGCAAGCCAGCCAGAA  
+-----+  
ACGGACGACAACATTTTTCGAACGCCGCGGTGTCGACATATGTGCACGTTTCGGTCGGTCTT  
C L L L . K L A A A Q L Y T R A S Q P E

1920

Aval

Aval  
XhoI

DrallI

CTCGCCCCGGAAGACCCCGAGGATCTCGAGCACCACCATCACCATCACCATCACTAAGTG  
+-----+  
GAGCGGGGCCTTCTGGGGCTCCTAGAGCTCGTGGTGGTAGTGGTAGTGGTAGTGATTAC  
L A P E D P E D L E H H H H H H H . V

1980

ATTAACCTCAGGTGCAGGCTGCCTATCAGAAGGTGGTGGCTGGTGTGGCCA  
+-----+  
TAATTGGAGTCCACGTCCGACGGATAGTCTTCCACCACCGACCACACCGGT  
I N L R C R L P I R R W W L V W P

2031