

SspI

```
GCAC TTTTCGGG GAAATGTGCGCGGAACCCCTATTTGTTTATTTTCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCGTATAAATGCTTCAATAATATTGAAAAAGGA
CGTGAAAAGCCCCTTTACACGCGCCTTGGGGATAAAACAATAAAAAGATTTATGTAAGTTTATACATAGGCGAGTACTCTGTTATTGGGACTATTTACGAAGTTATTATAACTTTTTCTCT
H F S G K C A R N P Y L F I F L N T F K Y V S A H E T I T L I N A S I I L K K E
AGAGTATGAGTATTC AACATTTCCGTGTCGCCCTTATTCCTTTTTTTCGGGCATTTTGCCTTCCTGTTTTTGTCTACCCAGAAACGCTGGTGAAAGTAAAAGATGCTGAAGATCAGTTGG
TCTCATACTCATAAGTTGTAAGGCACAGCGGAATAAGGGAAAAACGCCGTA AAAACGGAAGGACAAAAACGAGTGGGCTTTTGC GACCAC TTTTCA TTTTCTACGACTTCTAGTCAACC
E Y E Y S T F P C R P Y S L F C G I L P S C F C S P R N A G E S K R C . R S V G
GTGCACGAGTGGGTTACATCGAACTGGATCTCAACAGCGGTAAGATCCTTGAGAGTTTTTCGCCCCGAAGAACGTTTTTCCAATGATGAGCACTTTTAAAGTTCTGCTATGTGGCGCGGTAT
CACGTGCTACCCCAATGTAGCTTGACCTAGAGTTGTCGCCATTCTAGGAACTCTCAAAGCGGGGCTTCTTGCAAAGGTTACTACTCGTGAAAAATTTCAAGACGATACACCGCGCCATA
C T S G L H R T G S Q Q R . D P . E F S P R R T F S N D E H F . S S A M W R G I
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Scal

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TATCCCGTATTGACGCCGGGCAAGAGCAACTCGGTCGCCATACACTATTCTCAGAATGACTTGGTTGAGTACTACCAGTCACAGAAAAGCATCTTACGGATGGCATGACAGTAAGAG
ATAGGGCATAACTGCGGCCCGTCTCTCGTTGAGCCAGCGCGTATGTGATAAGAGTCTTACTGAACCAACTCATGAGTGGTCAGTGTCTTTTCGTAGAAATGCCTACCGTACTGTCATTCTC
I P Y . R R A R A T R S P H T L F S E . L G . V L T S H R K A S Y G W H D S K R
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PvuI

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AATTATGCAAGTGTGCCATAACCATGAGTGATAAACTGCGGCCAACTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAACATGGGGATCATGTAAGTC
TTAATACGTCACGACGGTATTGGTACTCACTATTGTGACGCCGGTTGAATGAAGACTGTTGCTAGCCTCCTGGCTTCTCGATTGGCGAAAAAACGTTGTGATCCCCCTAGTACATTGAG
I M Q C C H N H E . . H C G Q L T S D N D R R T E G A N R F F A Q H G G S C N S
GCCTTGATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACGATGCCTGTAGCAATGGCAAC AACGTTGCGCAAAC TATTAAC TGCGGAAC TACTTACTC
CGGAAC TAGCAACCC TTGGCCTCGACTTACTTCGGTATGGTTTGTGCTCGCACTGTGGTGTACGGACATCGTTACCGTTGTTGCAACGCGTTTGATAATTGACCGCTTGATGAATGAG
P . S L G T G A E . S H T K R R A . H H D A C S N G N N V A Q T I N W R T T Y S
TAGCTTCCCGGCAACAATTAATAGACTGGATGGAGGCGGATAAAGTTGCAGGACCACCTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTTATTGCTGATAAATCTGGAGCCGGTGAGCGTG
ATCGAAGGGCCGTTGTTAATTATCTGACCTACCTCCGCCCTATTTCAACGCTCTGGTGAAGACGCGAGCCGGGAAGGCCGACCAAAATAACGACTATTTAGACCTCGGCCACTCGCAC
S F P A T I N R L D G G G . S C R T T S A L G P S G W L V Y C . . I W S R . A W
GGTCTCGCGGTATCATTGCAGCACTGGGGCCAGATGGTAAGCCCTCCCGTATCGTAGTTATCTACACGACGGGGAGTCAGGCAACTATGGATGAACGAAATAGACAGATCGCTGAGATAG
CCAGAGCGCCATAGTAACGTCGTGACCCCGGTCTACCATTCGGGAGGGCATAGCATCAATAGATGTGCTGCCCTCAGTCCGTTGATACCTACTTGCTTTATCTGTCTAGCGACTCTATC
V S R Y H C S T G A R W . A L P Y R S Y L H D G E S G N Y G . T K . T D R . D R
```

GTGCCTCACTGATTAAGCATTGGTAACTGTCAGACCAAGTTTACTCATATATACTTTAGATTGATTTAAAACCTTCATTTTTAATTTAAAAGGATCTAGGTGAAGATCCTTTTTGATAATC 1080  
CACGGAGTGACTAATTCGTAACCAATTGACAGTCTGGTTCAAATGAGTATATATGAAATCTAACTAAATTTGAAGTAAAAATTAATTTTCTAGATCCACTTCTAGGAAAAACTATTAG  
C L T D . A L V T V R P S L L I Y T L D . F K T S F L I . K D L G E D P F . . S  
TCATGACCAAAATCCCTTAACGTGAGTTTTCTGTTCCACTGAGCGTCAGACCCCGTAGAAAAGATCAAAGGATCTTCTTGAGATCCTTTTTTCTGCGCGTAATCTGCTGCTTGCAAACAA 1200  
AGTACTGGTTTTAGGGAATTGCACCTCAAAGCAAGGTGACTCGCAGTCTGGGGCATCTTTCTAGTTTCTAGAAGAACTCTAGGAAAAAAGACGCGCATTAGACGACGAACGTTTGT  
H D Q N P L T . V F V P L S V R P R R K D Q R I F L R S F F S A R N L L L A N K  
AAAAACCACCGCTACCAGCGGTGTTTTGTTTCCGGATCAAGAGCTACCAACTCTTTTTCCGAAGGTAACGGCTTCAGCAGAGCGCAGATACCAAACTGTCCTTCTAGTGTAGCCGT 1320  
TTTTTGGTGGCGATGGTCCACCAACAACAGGCCTAGTTCTCGATGGTTGAGAAAAGGCTTCCATTGACCGAAGTCTGCTCGCGTCTATGGTTTATGACAGGAAGATCACATCGGCA  
K T T A T S G G L F A G S R A T N S F S E G N W L Q Q S A D T K Y C P S S V A V  
AGTTAGGCCACCCTCAAGAAGTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCCTGTTACCAGTGGCTGCTGCCAGTGGCGATAAGTCGTGCTTACCAGGTTGGACTCAAGAC 1440  
TCAATCCGGTGGTGAAGTTCTTGAGACATCGTGGCGGATGATGGAGCGAGACGATTAGGACAATGGTCACCGACGACGGTACCCTATTTCAGCAGCAATGGCCCAACCTGAGTTCTG  
V R P P L Q E L C S T A Y I P R S A N P V T S G C C Q W R . V V S Y R V G L K T  
GATAGTTACCGGATAAGGCGCAGCGGTGGGGCTGAACGGGGGTTCTGTCACACAGCCAGCTTGGAGCGAACGACCTACACCGAAGTGAAGTACCTACAGCGTGAAGTATGAGAAAGCG 1560  
CTATCAATGGCTATTCGGCGTCCAGCCGACTTGGCCCCAAGCAGTGTGTCGGTGAACCTCGCTTGCTGGATGTGGCTTGACTCTATGGATGTCGCCTGACTACTCTTTCCG  
I V T G . G A A V G L N G G F V H T A Q L G A N D L H R T E I P T A . A M R K R  
CCACGCTTCCCAGGGGAGAAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGGAGAGCGCACGAGGGAGCTTCCAGGGGAAACGCCTGGTATCTTTATAGTCTGTCCGGT 1680  
GGTGCAGAGGGCTTCCCTCTTTCCGCTGTCCATAGGCCATTCCGCGTCCAGCCTTGTCTCTCGCTGCTCCCCTGAAAGTCCCCTTTGCGGACCATAGAATATCAGGACAGCCCA  
H A S R R E K G G Q V S G K R Q G R N R R A H E G A S R G K R L V S L . S C R V  
TTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGGGCGGAGCCTATGGAAAACGCCAGCAACGCGGCCTTTTTACGGTTCCGCTTTTGTGGCCTTTTGTGCTC 1800  
AAGCGGTGGAGACTGAACTCGACGTAATAACACTACGAGCAGTCCCCCGCTCGGATACCTTTTTGCGGTGCTGCGCGGAAAAATGCCAAGGACCGGAAAAACGACCGGAAAAACGAG  
S P P L T . A S I F V M L V R G A E P M E K R Q Q R G L F T V P G L L L A F C S  
ACATGTTCTTCTGCGTTATCCCCTGATTCTGTGGATAACCGTATTACCGCTTTGAGTGAAGTATACCGCTCGCCGACGCCAACGACCGAGCGCAGCGAGTCAAGTGAAGCGGAAG 1920  
TGTACAAGAAAGGACGCAATAGGGGACTAAGACACCTATTGGCATAATGGCGGAACTCACTCGACTATGGCAGCGCGCTGGCTTGTGGCTCGCTCGCTCAGTCACTCGCTCCTTC  
H V L S C V I P . F C G . P Y Y R L . V S . Y R S P Q P N D R A Q R V S E R G S

PvuII

CGGAAGAGCGCCCAATACGCAAACCGCTCTCCCCGCGCTTGGCCGATTCAATGCAGCTGGCACGACAGGTTTCCCGACTGGAAAGCGGGCAGTGAGCGCAACGCAATTAATGTGA  
GCCTTCTCGCGGTTATGCGTTTGGCGGAGAGGGGCGCGCAACCGGCTAAGTAATTACGTCGACCGTGTCTCAAAGGGCTGACCTTTCGCCGTCACCTCGCGTTGCGTTAATTACACT

2040

G R A P N T Q T A S P R A L A D S L M Q L A R Q V S R L E S G Q . A Q R N . C E

GTTAGCTCACTCATTAGGCACCCAGGCTTTACACTTTATGCTTCCGGCTCGTATGTTGTGTGGAATTGTGAGCGGATAACAATTTACACAGGAAACAGCTATGACCATGATTACGCCA  
CAATCGAGTGAGTAATCCGTGGGGTCCGAAATGTGAAATACGAAGGCCGAGCATACAACACACCTTAACACTCGCCTATTGTTAAAGTGTGTCCTTTGTCGATACTGGTACTAATGCGGT

2160

L A H S L G T P G F T L Y A S G S Y V V W N C E R I T I S H R K Q L . P . L R Q

Acc65I  
KpnI

AGCTCGAAATTAACCTCACTAAAGGGAACAAAAGCTGGTACCCCGCATTGATGGTTTCGCTAAAAAGATGTTTTAATAGCAAATTAATACTACACTTTAAAAGGAAAAGGAACGTTC  
TCGAGCTTTAATTGGGAGTGATTTCCCTTGTTCGACCATGGGGCGTAAACTACCAAAGCGGATTTTCTACAAAATTATCGTTAATTATGATGTGAAATTTTCCTTTCCCTTGAAG

2280

*cdc21 promoter*

A R N . P S L K G T K A G T P H L M V S P K K M F . . Q I N T T L . K E K E R S

EcoRI

CACTATGCAGTGGAAATTCATCTCTTAAAGGGCCTTGAAAAGACATAAGCCAATTTTTGTATCATCGTTAATGGCATCAATAGTAAAACAGAATAAACCCAGTTTTCCCAATTATACATAG  
GTGATACGTCACCTTAAGTAGAGAATTTCCCGGAACTTTCTGTATTCCGGTAAAAACATAGTAGCAATTACCGTAGTTATCATTTTGTCTTATTTGGTCAAAGTGGTTAATATGTATC

2400

*cdc21 promoter*

T M Q W N S S L K G P . K D I S Q F L Y H R . W H Q . . N R I N Q F S P I I H R

AAGAAAATCAAGATACAATAAATGTCTATAATCCTTTCAGGTTTTGAAGAGCAAACATAATCGAGAAAAAGTATGCGTCTACACAATGGTATTTCACTAGAAAATAATAGAAAAATACA  
TTCTTTTAGTTCTATGTTATTACAGATATTAGGAAAGTCCAAAACCTCTCGTTTTGTATTAGCTCTTTTTCATACGCAGGATGTGTACCATAAAGTGATCTTTATTATCTTTTATGT

2520

*cdc21 promoter*

R K S R Y N K C L . S F Q V L K S K T . S R K S M R P T Q W Y F T R N N R K I H

TTCATACACTATTTGAAATTCACACCATATAACTCATAATATACAGACTTAAGTTTTTTTTATTAGAGACAGTCCAGTAGTCGAATGGTCAAATGAACTCTACAAATGGTTAATATAATA  
AAGTATGTGATAAACTTTAAGTGTGGTATATTGAGTATTATATGCTGAATTCAAAAAATAATCTCTGTGAGTCCATCAGCTTACCAGTTACTTGAGATGTTTACCAATTATATTAT

2640

*cdc21 promoter*

S Y T I . N S H H I T H N I Q T . V F F I R D S P V V E W S N E L Y K W L I . .

ACA A C T C A G G T A T T C A A T A T G A G A G A A A A T T C A A A T A A A C C T T A T T T T A G A A A T A T T A T T A G T A A A A T T A C T A A A T C A C C A T C T G C C C T C T T C A A T T A G C G T C A A A T C A C A G T T A A T A  
T G T T G A G T C C A T A A G T T A T A C T C T C T T T T A A G T T T A T T T G G A A T A A A A T T C T T T A T A A T A A T C A T T T A A T G A T T T A G T G G T A G A C G G G A G A A G T T A A T C G C A G T T T A G T G T C A A T T A T

2760

SspI

Q L R Y S I . E K I Q N K P Y F K K Y Y . . N Y . I T I C P L Q L A S N H S . .

G A T T C G A C C T T C A A A T A C A A C T G G T A G T T C C A A A T T G C A A A A C G A T C A T C T C A A A A T G T T A A A C T A G C A T A A C G T T T A A T T A A A G C A A T G T A A T C C T T T A T T T C A A C A T T C T T T T C A T A  
C T A A G C T G G A A G T T T A T G T T G A C C A T C A A G G T T T A A C G T T T T G C T A G T A G A G T T T A C A A T T T G A T C G T A T T G C A A A T T A A T T T C G T T A C A T T A G G A A A T A A A G T T G T A A G A A A A G T A T

2880

I R P S N T T G S S K L Q K R S S Q N V K L A . R L I K A M . S F I S T F F S Y

T T T C T T T C A T T C G T C C A A A A A A T A G A A T A T C A C T T A A A G G A A G T A A G T C A A T A C A A A T T C A T A A T A C C T T A T T T A T G A T A C A A A T T T G C T T T A A T T G A T C C T A A T A T C T A G T G T C  
A A A G A G A A G T A A G C A G G T T T T T T A T C T T A T A G T G A A T T T C T T C A T T C A G T T A T T G T T A A G T A T T A T G G A A T A A A T A C T A T T G T T T A A A C G A A A T T A A C T A G G A T T A T A G A T C A C A G

3000

F S S F V Q K N R I S L K R K . V N N K F I I P Y L . . Q I C F N . S . Y L V S

G C A A A G T T T T T A G T T T A C A T T T C A T A G T C A A T T A C T G G T A G C T T G A T G A T C A A T G G A G A A T A T G A C A A A T T G T T A A A A A T T A T A C A A A T T C C A A T T A T T T A A A T C T T T G C T A T G C T  
C G T T T C A A A A A T C A A A T G T A A A G T A T C A G T T A A T G A C C A T C G A A C T A C T A G T T A C C T C T T A T A C T G T T T A A C A A T T T T T A A T A T G T T T A A A G G T T A A T A A A T T T A G A A A C G A T A C G A

3120

Q S F L V Y I F I V N Y W . L D D Q W R I . Q I V K K L Y K F P I I . I F A M L

A T T T A T C T T T C A T T G T T G T A T G T T T A T G A G T A G T T A C T C T A C C C T T A C A C T G T C T T T C T A C A C C A C C A C G G G C C C C T G C T T A T C T T T C T T C C G A A A G T G C T A C T T C A G A A A G  
T A A A T A G A G A A G T A A C A C A T A C A A A T A C T A T C A T C A A T G A G A T G A G G A A T G T G A C A G A A A G A T G T G G T G G T G C C C G G G G A C G A A T A G A A A G A A G G C T T T C A C G A T G A A G T C T T T C

3240

Apal

F I S S L L Y V Y E . L L Y S L T L S F Y T H H G A P A Y L S S S E S A T S E R

A G C A A G A A C T G T A C G G A T A A G G A T A G T A T A T C T T A T C T A C T A C A A T A C G A C A A G A A C T C T C G A A C T C C C T C C C A C T T T A C T T T A A C T A A T A G A T T A T G C A G A T T T T C G T C A A G A C  
T C G T T C T T G A C A T G C C T A T T C C T A T T C A T A T A G A A G A T A G A T G A T G T T A T G C T G T T C T T G A G A G C T T G A G A G G G A G G G T G A A A T G A A A T T G A T T A T C T A A T A C G T C T A A A A G C A G T T C T G

3360

A R T V R I R I S I S S I Y Y N T T R T L E L S L P L Y F N . . I M Q I F V K T

ubiquitin

BstXI

TTTGACCGGTA AAAACCAT AACATTGGAAGTTGAATCTCCGATACCATCGACAACGTTAAGTCGAAAATTC AAGACAAGGAAGGTATCCCTCCAGATCAACAAAGATTGATCTTTGCCGG  
AAACTGGCCATTTTGGTATTGTAACCTTCAACTTAGAAGGCTATGGTAGCTGTTGCAATTCAGCTTTTAAAGTCTGTTCCCTCCATAGGGAGGTCTAGTTGTTTCTAACTAGAAACGGCC

3480

ubiquitin

L T G K T I T L E V E S S D T I D N V K S K I Q D K E G I P P D Q Q R L I F A G

BamHI

TAAGCAGCTAGAAGACGGTAGAACGCTGTCTGATTACAACATTCAGAAGGAGTCCACCTTACATCTTGTGCTAAGGCTAAGAGGTGGTAGGCACGGATCCGGCATCATGGTTCGACCATT  
ATTCTGTCGATCTTCTGCCATCTTGCACAGACTAATGTGTAAGTCTTCCACAGGTGGAATGTAGAACACGATTCGGATTCTCCACCATCCGTGCC TAGGCCGTAGTACCAAGCTGGTAA

3600

ubiquitin



DHFR degron

K Q L E D G R T L S D Y N I Q K E S T L H L V L R L R G G R H G S G I M V R P L

Scal

GAACTGCATCGTCGCCGTGCCAAAATATGGGGATTGGCAAGAACGGAGACCTACCCTGGCCTCCGCTCAGGAACGAGTTCAAGTACTTCCAAGAATGACCACAACCTTTCAGAGGA  
CTTGACGTAGCAGCGGCACAGGGTTTTATACCCCTAACCGTCTTGGCTCTGGATGGACCGGAGGCGAGTCTTGTCTCAAGTTCATGAAGGTTTCTTACTGGTGTGGAGAAGTCTCCT

3720

DHFR degron

N C I V A V S Q N M G I G K N G D L P W P P L R N E F K Y F Q R M T T T S S E E

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TCCATTTGTCTTAGACCACTAATACCCATCCTTTGGACCAAGAGGTAAGGACTCTTCTTAGCTGAAAATTTCTGTCTTAATTATCAAGAGTCATCTCTTGAGTTTCTTGGTGGTGC

3840

DHFR degron

G K Q N L V I M G R K T W F S I P E K N R L L K D R I N I V L S R E L K E P P R

SacI

BstXI

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TCCTCGAGTAAAAGAACGGTTTTCAAACTACTACGGAATCTGAATAACTTGTGGCCTTAACCGTTCAATTCATCTGTACCAAACCTATCAGCCTCCGTCAAGACAAATGGTCCCTCG

3960

DHFR degron

G A H F L A K S L D D A L R L I E Q P E L A S K V D M V W I V G G S S V Y Q E A

CATGAATCAACCAGGCCACCTCAGACTCTTTGTGACAAGGATCATGCAGGAATTTGAAAGTGACACGTTTTTCCCAGAAATTGATTTGGGAAATATAAACTTCTCCAGAAATACCCAGG 4080  
GTACTTAGTTGGTCCGGTGGAGTCTGAGAAACACTGTTCCCTAGTACGTCCTTAAACTTTCACTGTGCAAAAAGGGTCTTTAACTAAACCCCTTTATATTTGAAGAGGGTCTTATGGGTCC

DHFR degron

M N Q P G H L R L F V T R I M Q E F E S D T F F P E I D L G K Y K L L P E Y P G

EcoNI

Acc65I  
KpnI

CGTCCTCTCTGAGGTCCAGGAGGAAAAAGGCATCAAGTATAAGTTTGAAGTCTACGAGAAGAAAGACGGTACCTACCCATACGATGTTCCAGATTACGCTGCATTTTTAGGAGGGCAAGC 4200  
GCAGGAGAGACTCCAGGTCCCTCTTTTCCGTAGTTCATATTCAAACTTCAGATGCTCTCTTTCTGCCATGGATGGGTATGCTACAAGGTCTAATGCGACGTA AAAATCCTCCCGTTCCG

long oligo 2 (rev -

DHFR degron

V L S E V Q E E K G I K Y K F E V Y E K K D G T Y P Y D V P D Y A A F L G G Q A

Aval  
XhoI

BglII

Aval  
SmaI

HindIII

CTCGAGGGTAGATCTGGTGGCCCGGGTGGTGCTGGTGCCGGAGCCGGTGCTGGTGCTGAAGCTTTAATGAGTAAAGGAGAAGAACTTTTCACTGGAGTTGTCCCAATTCCTGTTGAATTA 4320  
GAGCTCCCATCTAGACCACGGGCCCCACCACGACCACGGCTCGGCCACGACCACGACTTCGAAATTACTCATTTCTCTTCTTGAAAAGTGACCTCAACAGGGTTAAGAACAACCTAAT

→  
-long oligo 2 (rev J

→  
-DHFR J

→  
sites for inserting n term →

S R V D L V P G V V L V P E P V L V L K L . . V K E K N F S L E L S Q F L L N .

NcoI

GATGGTGATGTTAATGGGCACAAATTTCTGTCAAGTGGAGAGGGTGAAGGTGATGCAACATACGGAAAACCTACCTTAAATTTATTTGCACTACTGGAAAACCTGTTCCATGGCCA 4440  
CTACCACTACAATTACCCGTGTTAAAAGACAGTCACCTCTCCCACTTCCACTACGTTGTATGCCTTTTGAATGGGAATTTAAATAAACGTGATGACCTTTTGATGGACAAGGTACCCGGT

M V M L M G T N F L S V E R V K V M Q H T E N L P L N L F A L L E N Y L F H G Q

NdeI

ACACTTGTCACTACTTTCTTTATGGTGTCAATGCTTTTCAAGATACCCAGATCATATGAAGCGGCACGACTTCTTCAAGAGCGCCATGCCTGAGGGATACGTGCAGGAGAGGACCATC 4560  
TGTGAACAGTGATGAAAGAGAATACCACAAGTTACGAAAAGTTCTATGGGTCTAGTATACTTCGCCGTGCTGAAGAAGTTCTCGCGGTACGGACTCCCTATGCACGTCCTCTCTGGTAG

H L S L L S L M V F N A F Q D T Q I I . S G T T S S R A P C L R D T C R R G P S

ClaI

TTCTTCAAGGACGACGGAACTACAAGACACGTGCTGAAGTCAAGTTTGAGGGAGACACCCCTCGTCAACAGGATCGAGCTTAAGGAATCGATTTCAAGGAGGACGGAAACATCCTCGGC 4680  
AAGAAGTTCTGTGCCCTTGATGTTCTGTGCACGACTTCAGTTCAAACCTCCTGTGGGAGCAGTTGTCTAGCTCGAATTCCTTAGCTAAAGTTCTCTCGCCTTTGTAGGAGCCG  
S S R T T G T T R H V L K S S L R E T P S S T G S S L R E S I S R R T E T S S A

ClaI

CACAAGTTGGAATACAACACTACAACCTCCACAACGTATACATCATGGCCGACAAGCAAAGAACGGCATCAAAGCCAACCTCAAGACCCGCCACAACATCGAAGACGGGCGGTGCAACTC 4800  
GTGTTCAACCTTATGTTGATGTTGAGGGTGTGCATATGTAGTACCGGCTGTTCGTTTTCTTGCCGTAGTTTCGGTTGAAGTTCTGGGCGGTGTTGAGCTTCTGCCGCCGACGTTGAG  
T S W N T T T T P T T Y T S W P T S K R T A S K P T S R P A T T S K T A A C N S

ClaI

GCTGATCATTATCAACAAAATACTCCAATTGGCGATGGCCCTGTCTTTTACCAGACAACCATTACCTGTCCACACAATCTGCCCTTTCGAAAGATCCCAACGAAAAGAGAGACCACATG 4920  
CGACTAGTAATAGTTGTTTTATGAGGTTAACCGCTACCGGGACAGGAAAATGGTCTGTTGGTAATGGACAGGTGTGTTAGACGGGAAAGCTTCTAGGGTTGCTTTTCTCTCTGGTGTAC  
L I I I N K I L Q L A M A L S F Y Q T T I T C P H N L P F R K I P T K R E T T W

PvuII      Sall      BamHI      SacI

GTCCTTCTTGAGTTTGTAAACAGCTGCTGGGATTACACATGGCATGGATGAACTATACAACATGATGAGCTTGTGCGACGGATCCTGAGCTCCAATTGCGCCTATAGTGAGTCGTATTACA 5040  
CAGGAAGAAGCTCAAACATTGTCGACGACCTAATGTGTACCGTACCTACTTGATATGTTTGTACTACTCGAACAGCTGCCTAGGACTCGAGGTTAAGCGGGATATCACTCAGCATAATGT  
S F L S L . Q L L G L H M A W M N Y T N M M S L S T D P E L Q F A L . . V V L Q

PvuII

ATTCACTGGCCGTCGTTTTACAACGCTGCTGACTGGGAAAACCTGGCGTTACCCAACCTAATCGCCTTGCAGCACATCCCCCTTTCGCCAGCTGGCGTAATAGCGAAGAGGCCCGCACCG 5160  
TAAGTGACCGGCAGCAAATGTTGCAGCACTGACCCTTTTGGGACCGCAATGGGTGAATTAGCGGAACGTCGTAGGGGGAAAGCGGTCGACCGCATTATCGCTTCTCCGGGCGTGGC  
F T G R R F T T S . L G K P W R Y P T . S P C S T S P F R Q L A . . R R G P H R

PvuI

ATCGCCCTTCCAACAGTTGCGCAGCCTGAATGGCGAATGGGACGCGCCCTGTAGCGGCGCATTAAAGCGGGCGGGTGTGGTGGTTACGCGCAGCGTGACCGCTACACTTGCCAGCGCCC 5280  
TAGCGGGAAGGGTTGCAACGCGTCGGACTTACCCTTACCCTGCGCGGGACATCGCCGCGTAATTTCGCGCCGCCACACCACCAATGCGCGTGCCTGCGACTGCGATGTGAACGGTTCGCGG  
S P F P T V A Q P E W R M G R A L . R R I K R G G C G G Y A Q R D R Y T C Q R P

NcoMIV      NsiI

TAGCGCCGCTCCTTTTCGCTTTCTTCCCTTCTTCTCGCCACGTTTCGCCGCTTAGCTACAAAATCCCACTGGCTATATGTATGCATTTGTGTTAAAAAAGTTTGTATAGATTATTTAAT 5400  
ATCGCGGGCAGGAAAGCGAAAGAAGGAAGGAAAGAGCGGTGCAAGCGGCGCAATCGATGTTTGGGTGACCGATATACATACGTAACACAAATTTTTCAAACATATCTAATAAATTA  
S A R S F R F L P F L S R H V R R L S Y K S H W L Y V C I C V K K V C I D Y L I

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CTACTCAGCATTCTTTCTCTAAATAGGAATTTGTTACTTAAATGGAGAAAAAATGTTTCGATTTACCTAGTGTATTTGTTTGATACTCAGTTTAAATTTCAAACATCCATTCTATCTTG
5520
GATGAGTCGTAAGAAAGAGATTATCTCTTAAACAATGAATTACCTCTTTTTTACAAAAGCTAAATGGATCACATAAACAACATATGAGTGCAAATTAAGTTTGTAGGTAAGATAGAAC
Y S A F F L . I G I C Y L M E K K M F R F T . C I C L Y T H V . F Q T S I L S C
TGTAATTTTTGGCATGGTGAAGAAAGATAATCAGCCTTATAATCTTTACAAAAGTAAGAAATCTGTAATAAGCCTTAATGCCCTTGCTTTAAATTTAAATGGTTCTTTTTCATGATAAT
5640
ACATTAAAAACCGTACCACCTTTTCTATTAGTCGGAATATTAGAAATGTTTTCACTCTTTAAGACATTTATTCGGAATTCACGGAACGAAATTTAATTTTACCAAGAAAAAGTACTATTA
V I F G M V K K I I S L I I F T K V R N S V N K P . C P C F K L K W F F F M I M
GTTTGCACCTTTGTGAATATATTTAGATAGTTCTGTGAGGTATAATTAAGATGTTTGTAGAGACTTATACAATTTTGTCTTTATAAATCTTAATTGATTTTACCATCCCAGTTTAACTAT
5760
CAAACGTGAAACACTTATATAAAATCTATCAAGACACTCCATATTAATTCACAAAATCTCTGAATATGTTAAAACAGAAATATTTAAGAATTAACATAAATGGTAGGGTCAAATTGATA
F A L C E Y I L D S S V R Y N . D V L E T Y T I L S L . I L N . F Y H P S L T M
GCTTCGTCGGCATCTCTGCACATGTCGTGTTTTCTTACCCTATTGTCCTACCAAGAACCTCTTTTTGCTTGGATCGAAATTAAGGTTTAAAAGCAAAGTTATGGATGCTAGAGTATTT
5880
CGAAGCAGCCGTAGAGAGCGTGTACAGCACAAAAGAATGGCATAACAGGATGGTCTTGGAGAAAAACGAACCTAGCTTTAATTTCAAATTTTCTGTTTCAATACCTACGATCTCATAAA
L R R H L C T C R V F L P Y C P T K N L F F A W I E I K G L K A K L W M L E Y F
CAAAGCTATTCAGCTAGAGCTGAGGGGATGAAAAATCCCATTGCCAAGGAATGTTGGCTTTGATGGAAGAAAAGCAAAGCAACTTGTCAGTCGCGGTGCGATTTGACGAAGAAATCCGAA
6000
GTTTCGATAAGTCGATCTCGACTCCCCTACTTTTTAGGGTAACGGTTCCTTAACAACCGAAACTACCTCTTTTCGTTTCGTTGAACAGTCAGCGCCAGCTAAACTGCTTCTTTAGGCTT
K A I Q L E L R G . K I P L P R N C W L . W K K S K A T C Q S R S I . R R N P K
ATCTTAGAATTGGTAGATAAAAATGGACCCATGCTGTGTTATCAAGACACATATTGACGTTGTCGAGGATTTGACCAGGATATGGTAGAAAACTGGTGGCCTTAGGTAAAAAGCAT
6120
TAGAATCTTAACCATCTATTTAACCTGGGATACAGACACAATAGTCTGTGTATAACTGCAACAGCTCCTAAAGCTGGTCCATACCATCTTTTGGACCACCGGAATCCATTTTTCGTA
S . N W . I K L D P M S V L S R H I L T L S R I S T R I W . K N W W P . V K S I
Nsil
CGTTTTCTTATCTTTGAGGATCGCAAATTCGCAGACATTGGAAATACCGTCAAGCTACAATATGCATCTGGTGTGTACAAAATGCTTCTTGGGCTCATATCACAAAATGGCATAACAGTG
6240
GCAAAGAATAGAAACTCCTAGCGTTTAAGCGTCTGTAACCTTTATGGCAGTTCGATGTATACGTAGACCACACATGTTTTAACGAAGAACCAGTATAGTGTAAACGGTATGTCAC
V F L S L R I A N S Q T L E I P S S Y N M H L V C T K L L L G L I S Q I A I Q C
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6360
GGTCCGCTCCATAATATGTTCCGGAGTTTCTCAACCAATGGAAACCTGCAACAGAGAACGAAAACCGACTTTACAGAAGGTTTCCGAGAACCAGTACCAAGGATGTGCTCTTT
Q A R V L Y K A S K K L V Y L W D V V S C F W L K C L P K A L W L L V P T Q R K
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ACCTTAGAATGGTTTGAGAAGCATAACCGATTTTTGCTTTGGCTTTATAGCTGGTCTGCGATTTCTAACCTTCAAAGCGACTACATAACTATGTCCCCTGGTATCGGCTTGGATGTTAAA  
TGGAACTTTACCAAACCTCTTCGTATGGCTAAAAACGAAACCGAAATATCGACCAGCAGCTAAAGGATTGGAAGTTTCGCTGATGTATTGATACAGGGGACCATAGCCGAACCTACAATTT  
P . N G L R S I P I F A L A L . L V V D F L T F K A T T . L C P L V S A W M L K

6480

EcoRV

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CCTCTGCCCGACCTGTCGTTATAGCATGAGGACTTCTTCACTAACATTTGACGCCATCGCTATAGTAGTAACAACAGCACCTCAGATACCTCGACCAGCATTAGGACAACAGCTTCGG  
E T G W D S N I V L L K K . L . T A V A I S S L L V V E S M E L V V I L L S K P

6600

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TTCTCTATATCTTTCGACCAACCTCCGTATAGTCGTTCTGAAAGAGTCGTAATTTTTCTGATTACATTTTAAAAAACCAACCAATAACTTTTTTCAGCTACGGAAACAAACGCAA  
R D I E K L V G R H I S K D F L S I K K R L M . N F F G W L L K K S M P C L R L

6720

Scal

Sspl

GTTTTCTAGGCGTTTTATGTCAGAAGGCATTTAGAATTAGTATACAAGTACTCTTTGGTAAAAATTTATGTAGCGACTAAAATATTAACATTTATAGATAAACACCTTGGGAATAAAAA  
CAAAAGGATCCGCAAATACAGTCTTCCGTAATCTTAATCATATGTTTCATGAGAAACATTTTAAAAATACATCGCTGATTTTATAATTGATAAATATCTATTTTGTGAACCTTATTTTT  
F S . A F Y V R R H L E L V Y K Y S L V K F Y V A T K I L T I I D K H L G N K K

6840

GTAATTTGCTATAGTAATTTATTAACATGCTCCTACAACATTACCACAATCTTTCTCTGGATTGACATTGAATAAGAAAAGAGTGAATTTTTTTAGACTTGTAAATGATAACTATGTA  
CATTAAACGATATCATTAAATAATTTGTACGAGGATGTTGTAATGGTGTAGAAAAGAGAACCTAACTGTAACCTTATTTCTCACTTAAAAAAATCTGAACATTACTATTGATACAT  
. F A I V I Y . T C S Y N I T T I F S L G L T L N K K R V N F F R L V M I T M Y

6960

CAAAGCCAATGAAAGATGTATGTAGATGAATGTAATAACCATGTAGACAACAAGATAAACTTGGTTATAAACATTGGTGTGGAACAGAATAAATAGATGTCAAAAAGTTTCGTCA  
GTTTCGGTTACTTTCTACATACATCTACTTACATTTTATGGTACATCTGTTTGTCTATTTTGAACCAATATTGTAACCACAACCTTGTCTTATTTAATCTACAGTTTTTCAAAGCAGT  
K A N E R C M . M N V K Y H V D K Q D K T W L . T L V L E Q N K L D V K K F R Q

7080

NgoMIV

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Y H K P A F P V K L . I G G S L . G S D L V L Y G T S T P K N L I R V M V H V V

7200

GGGCCATCGCCCTGATAGACGGTTTTTCGCCCTTTCAGCTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTCCAAACTGGAACAACACTCAACCTTCTCGGTCTATTCTTTTGT  
CCCGGTAGCGGGACTATCTGCCAAAAAGCGGGAACTGCAACCTCAGGTGCAAGAAATTATCACCTGAGAACAAGTTTGACCTTGTGTGAGTTGGGATAGAGCCAGATAAGAAAAC  
G H R P D R R F F A L . R W S P R S L I V D S C S K L E Q H S T L S R S I L L I

7320

SspI

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AATATTCCTAAAACGGCTAAAGCCGGATAACCAATTTTTACTCGACTAAATTGTTTTAAATTGCGCTTAAAATTGTTTTATAATTGCGAATGTTAAATCCAC  
Y K G F C R F R P I G . K M S . F N K N L T R I L T K Y . R L Q F R W