



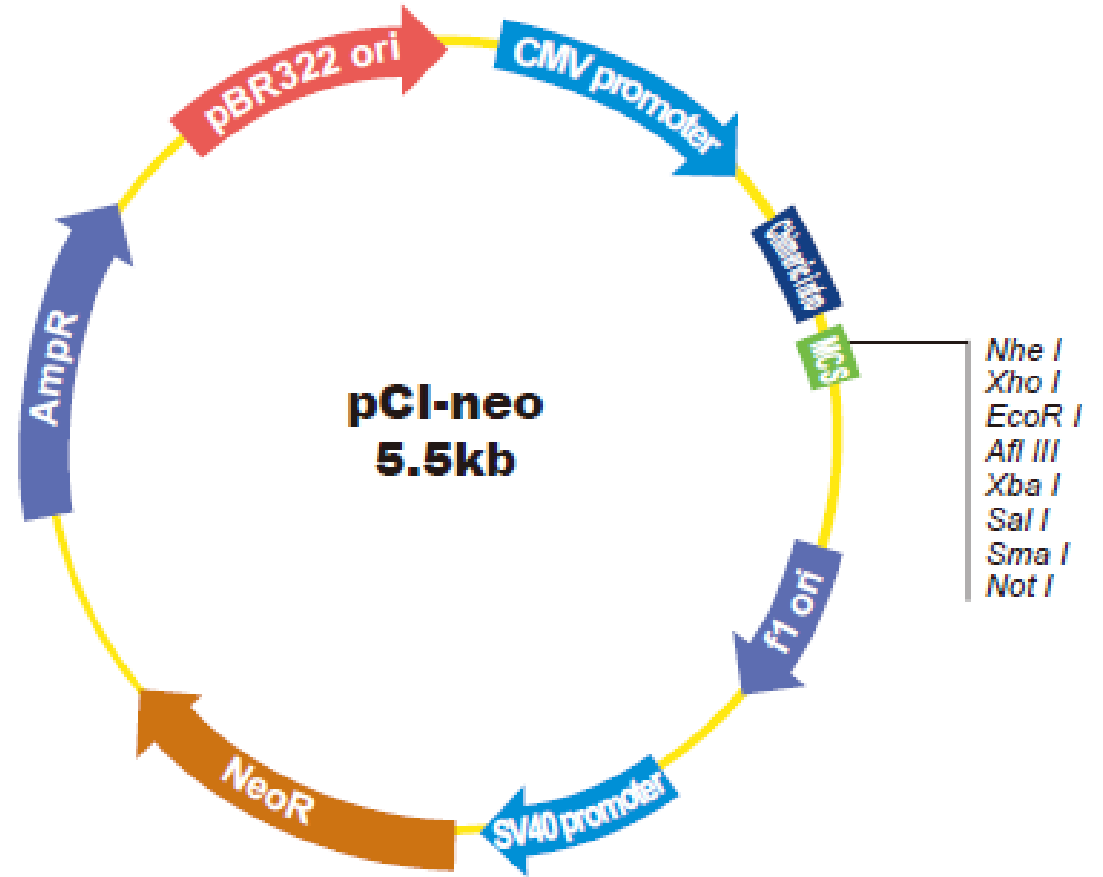
LISTA DE VETORES DE EXPRESSÃO

Vetores para expressão em mamíferos.

VETORES DE EXPRESSÃO EM MAMÍFEROS

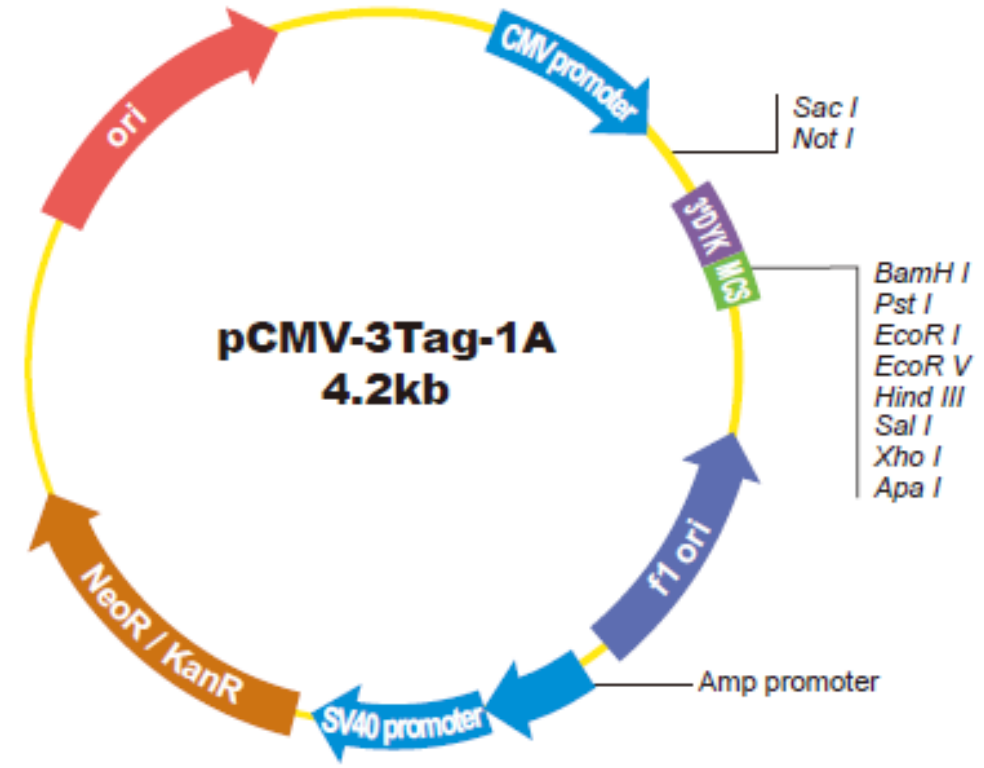
pCI-neo	pcDNA3.1(+)	pcDNA3.1(+)-N-6His	pcDNA3.1(+)-N-eGFP	pcDNA3.1(-)-myc-His A
pCMV-3Tag-1a	pcDNA3.1(+)-C-6His	pcDNA3.1(+)-N-DYK	pcDNA3.1(+)-P2A	pcDNA3.1(-)-myc-His B
pCMV-3Tag-1a-P2A	pcDNA3.1(+)-C-DYK	pcDNA3.1(+)-N-DYK-P2A	pcDNA3.1(+)-P2A-eGFP	pcDNA3.1(-)-myc-His C
pCMV-3Tag-2a	pcDNA3.1(+)-C-DYK-P2A	pcDNA3.1(+)-N-GST(TEV)	pcDNA3.1(+)-myc-His A	pcDNA3.1/Hygro(+)
pCMV-3Tag-3a	pcDNA3.1(+)-C-HA	pcDNA3.1(+)-N-GST(trombin)	pcDNA3.1(+)-myc-His B	pcDNA3.1/Hygro(-)
pCMV-3Tag-3a-P2A	pcDNA3.1(+)-C-Myc	pcDNA3.1(+)-N-HA	pcDNA3.1(+)-myc-His C	pcDNA3.1/Zeo(+)
pCMV-3Tag-4a	pcDNA3.1(+)-C-eGFP	pcDNA3.1(+)-N-Myc	pcDNA3.1(-)	pcDNA3.1/Zeo(-)

pCI-neo



--- TAG GCT AGC CTC GAG AAT TCA CGC GTG GTA CCT CTA GAG TCG ACC CGG GCG GCC GCT ---
Nhe I *Xho I* *EcoR I* *Afl III* *Xba I* *Sal I* *Sma I* *Not I*

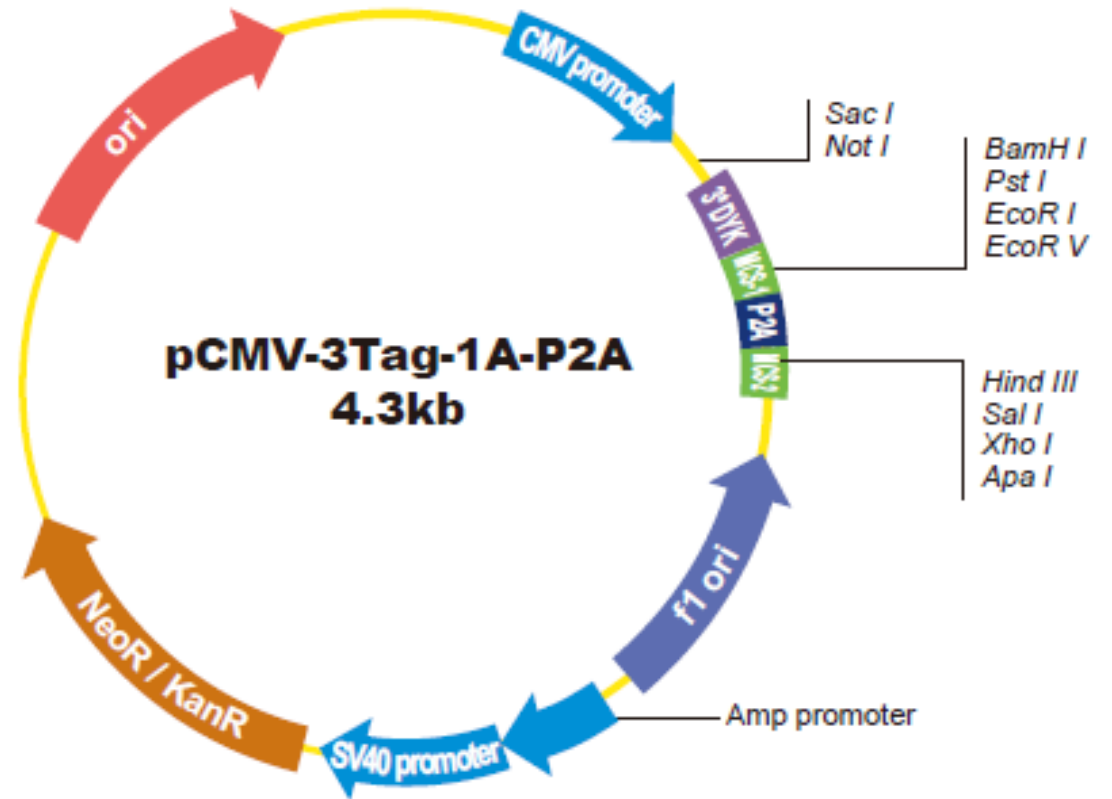
pCMV-3Tag-1a



```

--- G AGC TCC ACC GCG GTG GCG GCC GCC ACC ATG GAT TAC AAG GAT GAC GAC GAT AAG GAC TAT AAG GAC GAT GAT
      Sac I          Not I          M D Y K D D D D K D Y K D D D
                                     3x DYK tag
GAC AAG GAC TAC AAA GAT GAT GAC GAT AAA GCC CGG GCG GGA TCC CCC GGG CTG CAG GAA TTC GAT ATC AAG CTT
D K D Y K D D D D K          BamH I          Pst I EcoR I EcoR V Hind III
ATC GAT ACC GTC GAC CTC GAG GGG GGG CCC ---
          Sal I Xho I Apa I
    
```

pCMV-3Tag-1a-P2A



```

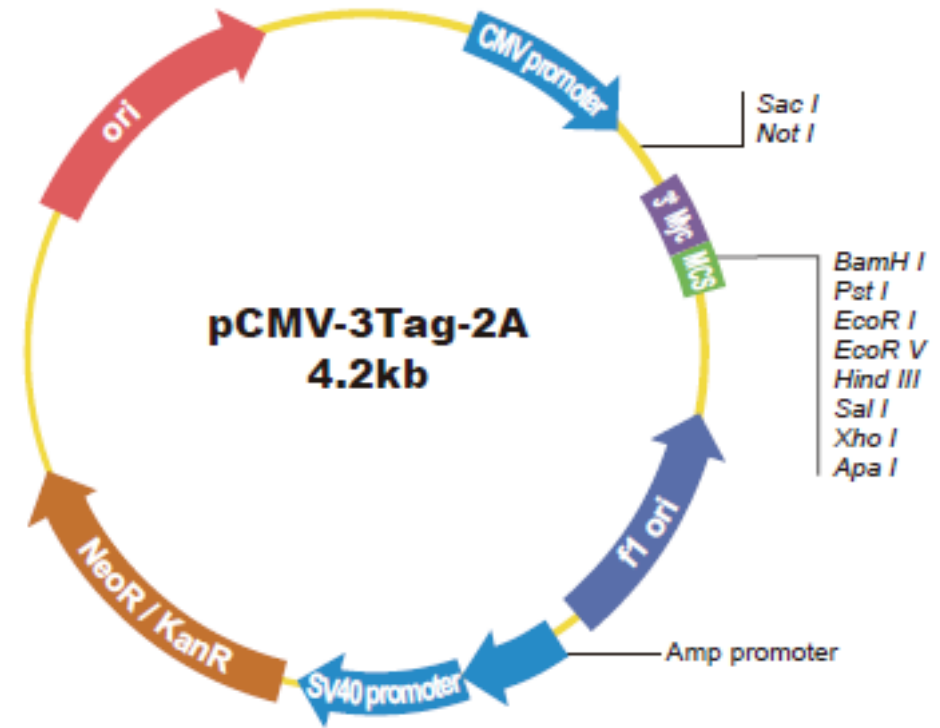
--- G AGC TCC ACC GCG GTG GCG GCC GCC ACC ATG GAT TAC AAG GAT GAC GAC GAT AAG GAC TAT AAG GAC GAT GAT
      Sac I                               Not I                               M D Y K D D D D K D Y K D D D
                                     3x DYK tag

GAC AAG GAC TAC AAA GAT GAT GAC GAT AAA GCC CGG GCG GGA TCC CCC GGG CTG CAG GAA TTC GAT ATC
D K D Y K D D D D K                               BamH I                               Pst I EcoR I EcoR V
                                     3x DYK tag

GGA AGC GGA GCT ACT AAC TTC AGC CTG CTG AAG CAG GCT GGA GAC GTG GAG GAG AAC CCT GGA CCT AAG CTT
G S G A T N F S L L K Q A G D V E E N P G P                               P2A                               Hind III

ATC GAT ACC GTC GAC CTC GAG GGG GGG CCC GGT ACC TTA ATT AAT TAA
      Sal I Xho I Apa I                               Stop
    
```

pCMV-3Tag-2a

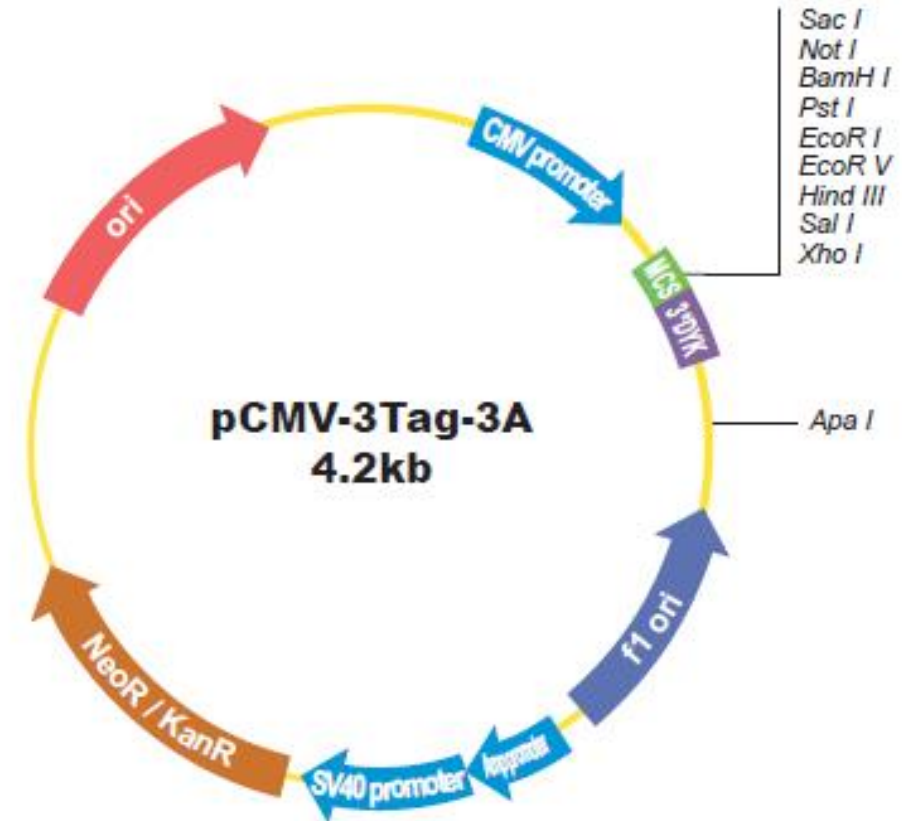


--- G AGC TCC ACC GCG GTG GCG GCC GC ATG GAG CAG AAA CTC ATC TCT GAA GAA GAT CTG GAA CAA AAG TTG ATT ---
Sac I Not I M E Q K L I S E E D L E Q K L I

TCA GAA GAA GAT CTG GAA CAG AAG CTC ATC TCT GAG GAA GAT CTG GCC CGG GCG GGA TCC CCC GGG CTG CAG
S E E D L E Q K L I S E E D L BamHI Pst I

GAA TTC GAT ATC AAG CTT ATC GAT ACC GTC GAC CTC GAG GGG GGG CCC ---
EcoR I EcoR V Hind III Sal I Xho I Apa I

pCMV-3Tag-3a



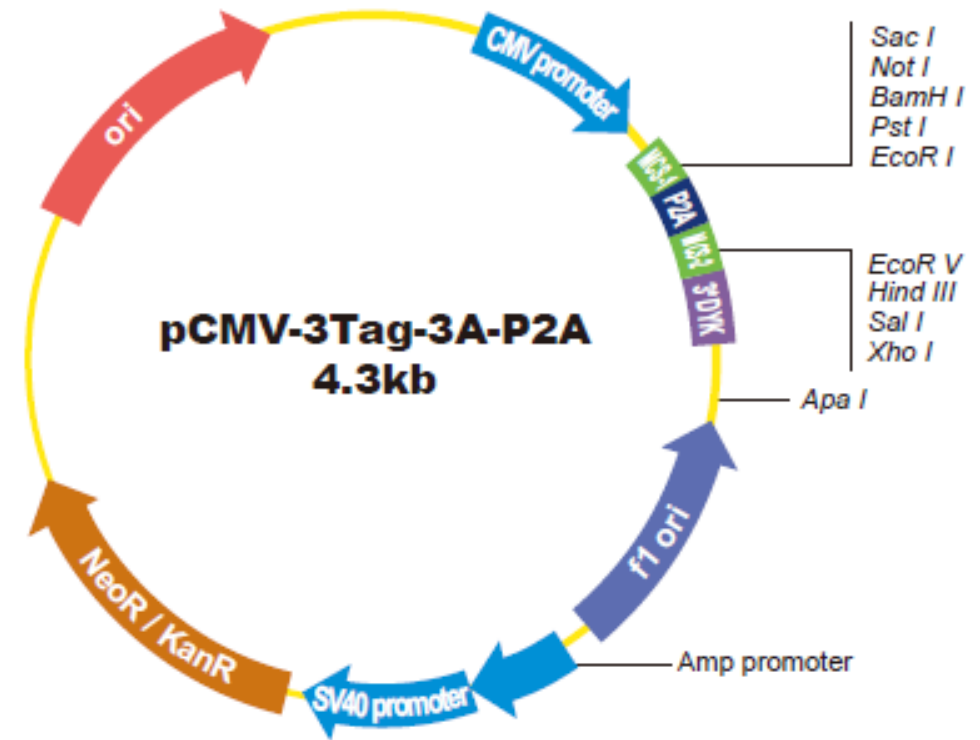
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--- GAG CTC CAC CGC GGT GGC GGC CGC TCT AGC CCG GGC GGA TCC CCC GGG CTG CAG GAA TTC GAT ATC AAG CTT ATC
   Sac I           Not I           BamH I           Pst I   EcoR I   EcoR V   Hind III

                                     3x DYK tag
GAT ACC GTC GAC CTC GAG GAT TAC AAG GAT GAC GAC GAT AAG GAC TAT AAG GAC GAT GAT GAC AAG GAC TAC AAA
   Sal I   Xho I   D Y K D D D D K D Y K D D D D K D Y K

3x DYK tag
GAT GAT GAC GAT AAA TAG GGC CCG GTA CCT TAA T TAA T TAA ---
D D D D K Stop Apa I           Stop Stop Stop
    
```

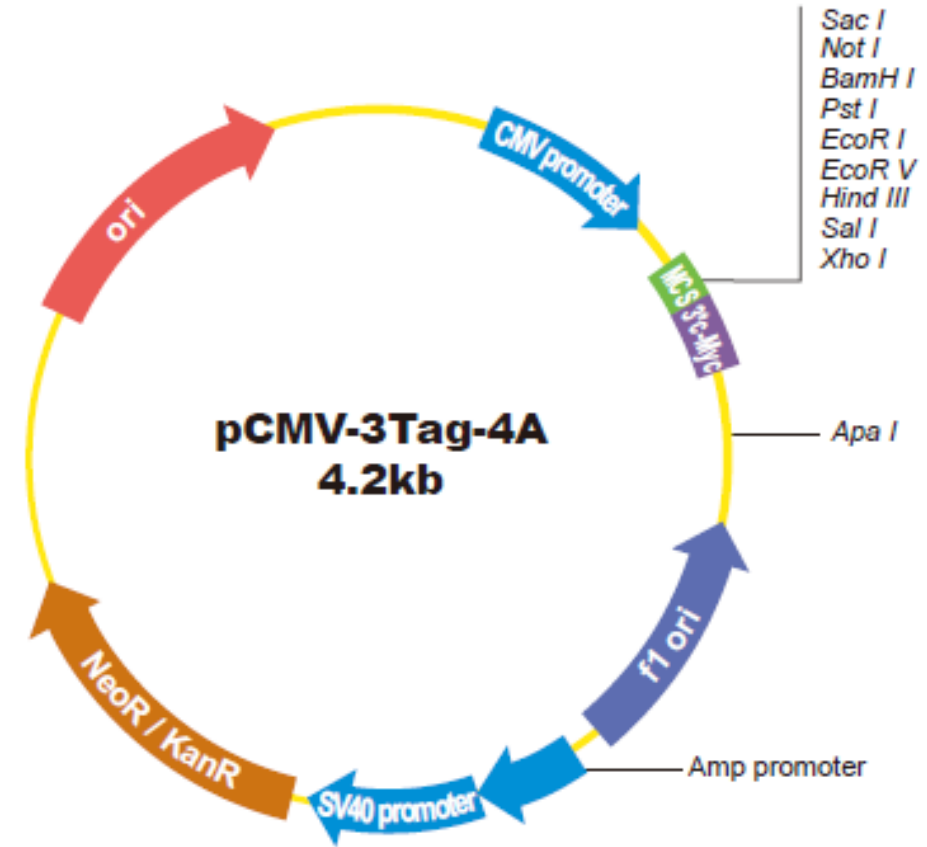
pCMV-3Tag-3a-P2A



```

--- GAG CTC CAC CGC GGT GGC GGC CGC TCT AGC CCG GGC GGA TCC CCC GGG CTG CAG GAA TTC GGA AGC GGA GCT ACT
      Sac I           Not I           BamH I           Pst I   EcoR I   G S G A T
                                     P2A
AAC TTC AGC CTG CTG AAG CAG GCT GGA GAC GTG GAG GAG AAC CCT GGA CCT GAT ATC AAG CTT ATC GAT ACC GTC GAC
N F S L L K Q A G D V E E N P G P EcoR V Hind III Sal I
                                     3x DYK tag
CTC GAG GAT TAC AAG GAT GAC GAC GAT AAG GAC TAT AAG GAC GAT GAT GAC AAG GAC TAC AAA GAT GAT GAC GAT AAA
Xho I D Y K D D D D K D Y K D D D D K D Y K D D D K
TAG GGC CCG GTA CCT TAA T TAA T TAA ---
Stop Apa I           Stop Stop Stop
    
```


pCMV-3Tag-4a



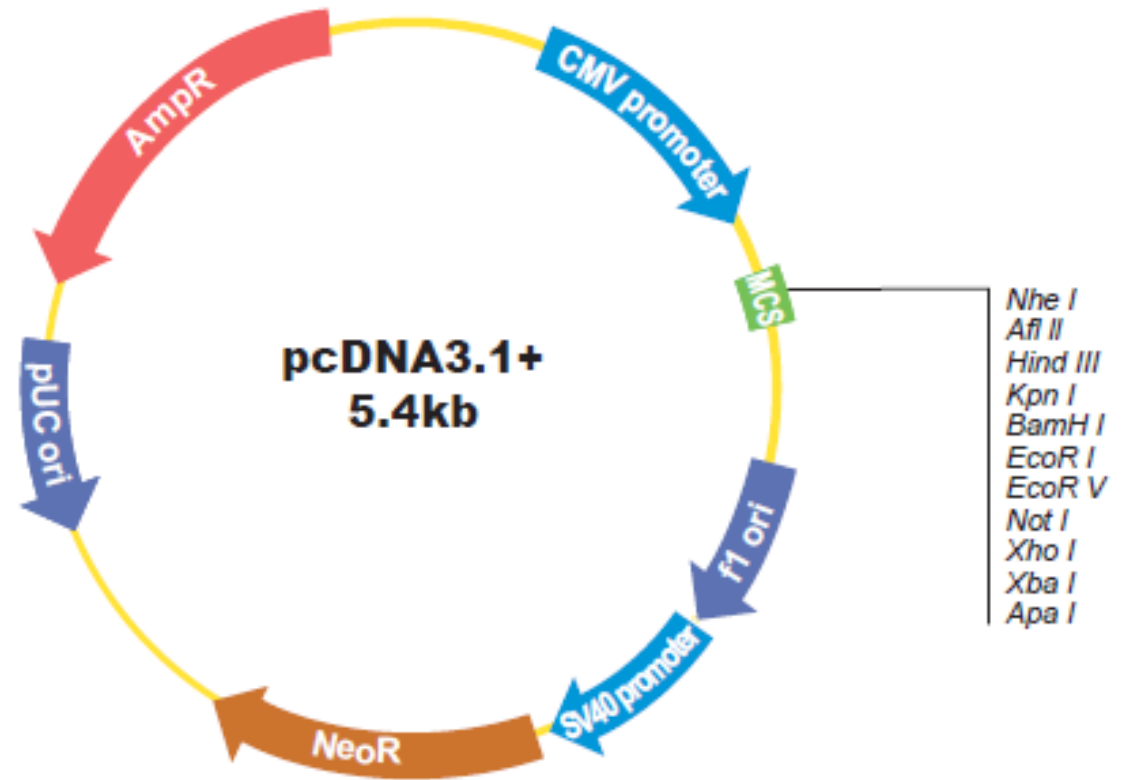
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--- GAG CTC CAC CGC GGT GGC GGC CGC TCT AGC CCG GGC GGA TCC CCC GGG CTG CAG GAA TTC GAT ATC AAG CTT ATC
   Sac I           Not I           BamH I           Pst I   EcoR I   EcoR V   Hind III

                                     3x Myc tag
GAT ACC GTC GAC CTC GAG GAG CAG AAA CTC ATC TCT GAA GAA GAT CTG GAA CAA AAG TTG ATT TCA GAA GAA GAT
   Sal I   Xho I           E Q K L I S E E D L E Q K L I S E E D

3x Myc tag
CTG GAA CAG AAG CTC ATC TCT GAG GAA GAT CTG TAA GGG CCC GGT ACC T TAA T TAA T TAA ---
L E Q K L I S E E D L Stop  Apa I           Stop Stop Stop
  
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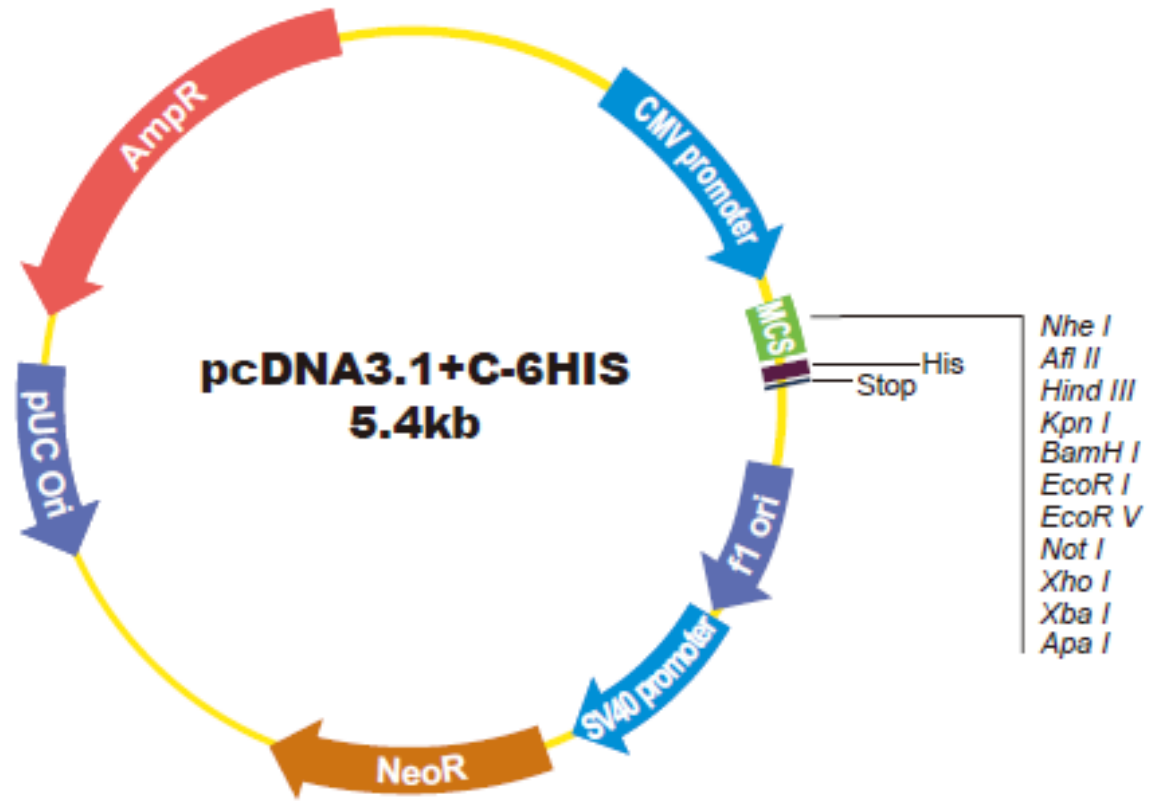
pcDNA3.1(+)



```

--- AGC TGG CTA GCG TTT AAA CTT Hind III GGT ACC GAG CTC GGA TCC ACT AGT CCA GTG TGG TGG AAT TCT
      Nhe I      Afl II      Kpn I      BamH I      EcoR I
GCA GAT ATC CAG CAC AGT GGC GGC CGC TCG AGT CTA GAG GGC CCG TTT AAA C ---
      EcoR V      Not I      Xho I      Xba I      Apa I
  
```

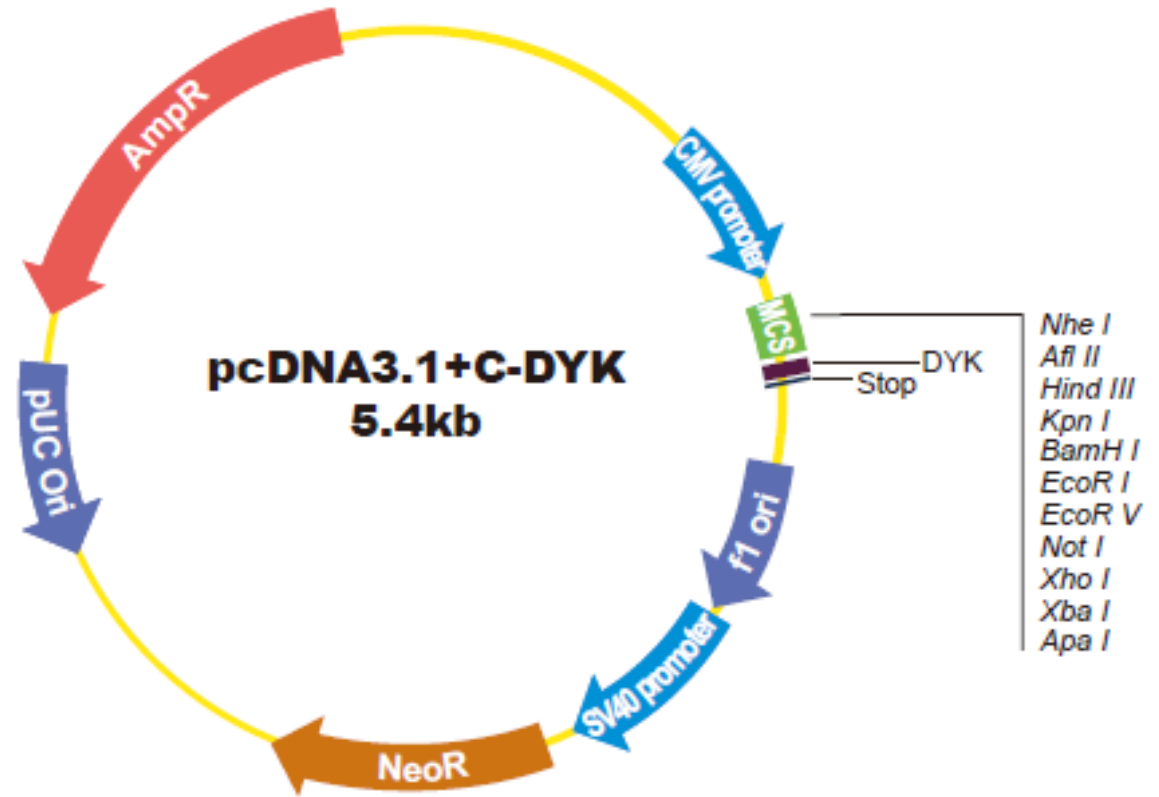
pcDNA3.1(+)-C-6His



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC GAA TTC TGC AGA TAT CCA
                Nhe I           Afl II           Kpn I           BamH I           EcoR I           EcoR V
                        Hind III
GCA CAG TGG CGG CCG CTC GAG TCT AGA GGG CCC CAT CAT CAC CAT CAC CAT TGA TAA ---
                Not I           Xho I           Xba I           Apa I           His tag           Stop Stop
    
```

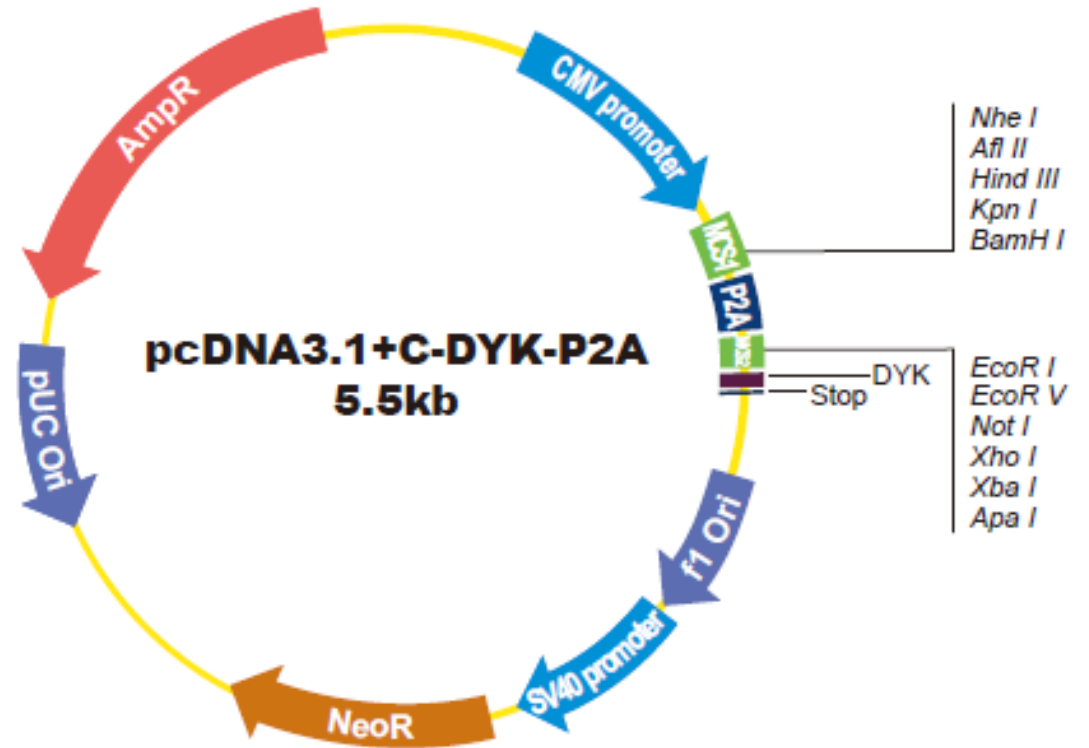
pcDNA3.1(+)-C-DYK



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC GAA TTC TGC AGA TAT CCA
      Nhe I      Afl II      Kpn I      BamH I  EcoR I      EcoR V
                                Hind III
GCA CAG TGG CGG CCG CTC GAG TCT AGA GGG CCC GAT TAC AAG GAT GAC GAC GAT AAG TGA TAA ---
      Not I      Xho I      Xba I      Apa I      D Y K D D D D K Stop Stop
                                DYK tag
  
```

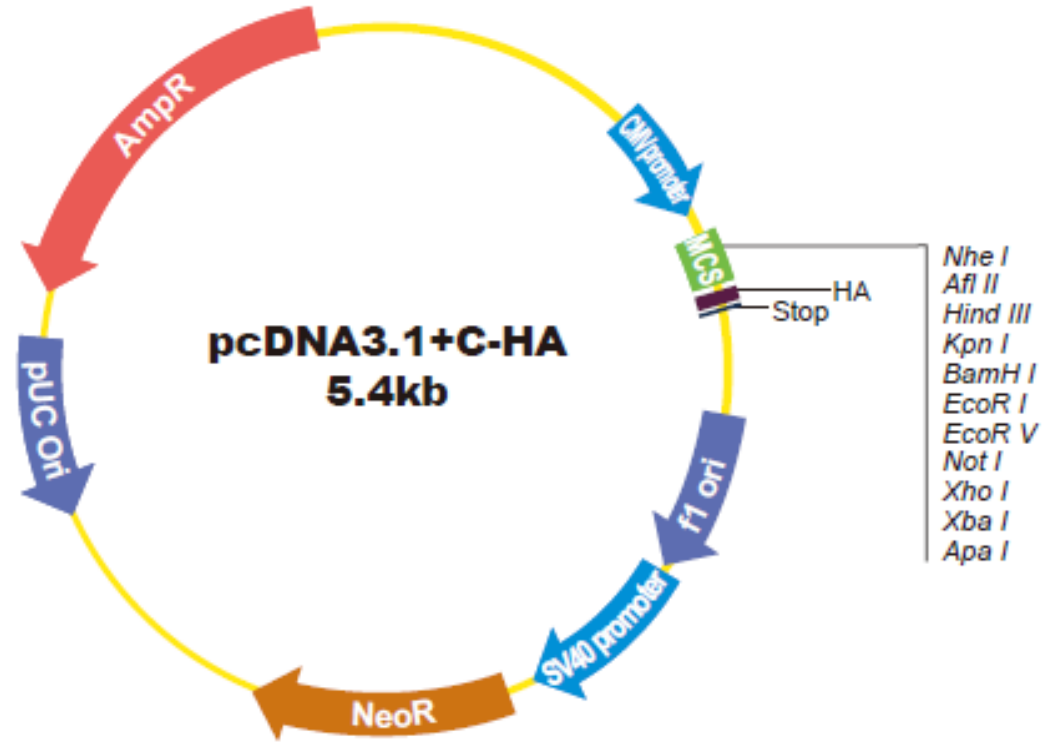
pcDNA3.1(+)-C-DYK-P2A



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--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC GGA AGC GGA GCT ACT AAC TTC AGC
      Nhe I      Afl II      Kpn I      BamH I      G S G A T N F S
                                     P2A
CTG CTG AAG CAG GCT GGA GAC GTG GAG GAG AAC CCT GGA CCT GAA TTC TGC AGA TAT CCA GCA CAG TGG CGG CCG
L L K Q A G D V E E N P G P EcoR I EcoR V Not I
                                     DYK tag
CTC GAG TCT AGA GGG CCC GAT TAC AAG GAT GAC GAC GAT AAG TGA TAA ---
Xho I Xba I Apa I D Y K D D D D K Stop Stop
    
```

pcDNA3.1(+)-C-HA

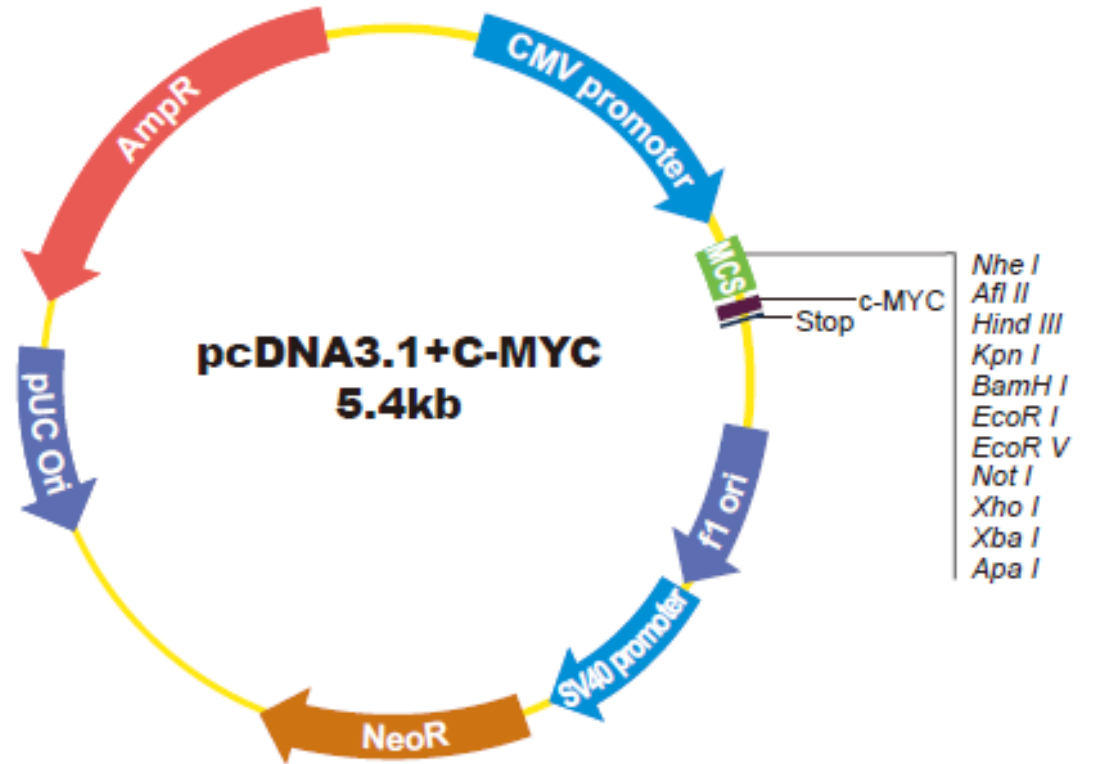


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--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC GAA TTC TGC AGA TAT CCA
      Nhe I           Afl II           Kpn I           BamH I   EcoR I           EcoR V
      Not I
GCA CAG TGG CGG CCG CTC GAG TCT AGA GGG CCC TAC CCA TAC GAT GTT CCA GAT TAC GCT TGA TAA ---
      Xho I   Xba I   Apa I   Y P Y D V P D Y A Stop Stop
  
```

HA tag

pcDNA3.1(+)-C-Myc

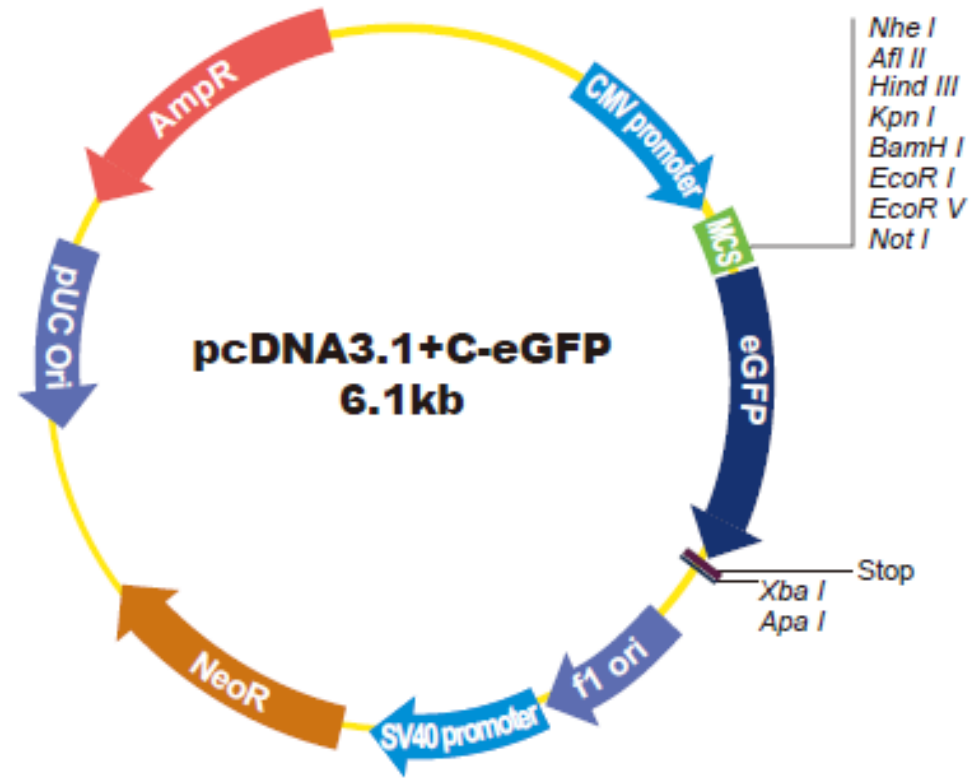


```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC GAA TTC TGC AGA TAT CCA
      Nhe I           Afl II           Kpn I           BamH I           EcoR I           EcoR V
                        Not I
GCA CAG TGG CGG CCG CTC GAG TCT AGA GGG CCC GAG CAG AAA CTC ATC TCT GAA GAG GAT CTG
                        Xho I           Xba I           Apa I           E Q K L I S E E D L

TGA TAA ---
Stop Stop
  
```

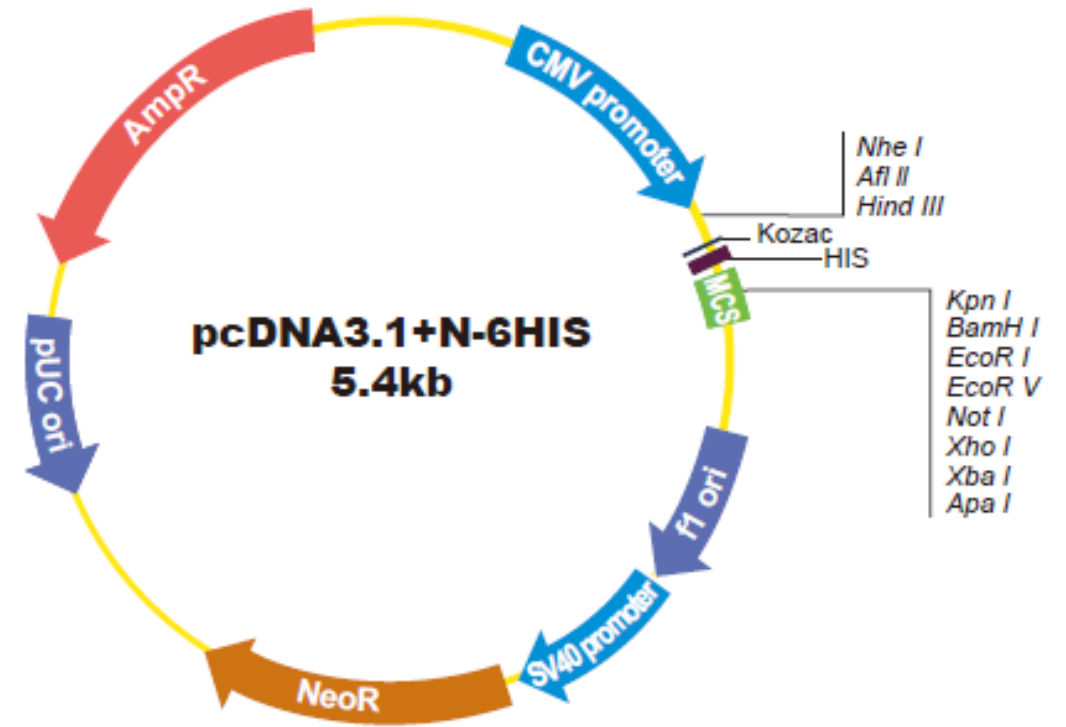
pcDNA3.1(+)-C-eGFP



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC ACT AGT CCA GTG TGG TGG AAT TCT
      Nhe I           Afl II           Kpn I           BamH I           EcoR I
                                eGFP
GCA GAT ATC CAG CAC AGT GGC GGC CGC ATG AGC AAG GGC ... 690bp ... GAG CTG TAC AAG TAA TCT AGA GGG CCC ---
      EcoR V           Not I           M   S   K   G ... 230 aa ...   E   L   Y   K   Stop   Xba I   Apa I
    
```


pcDNA3.1(+)-N-6His

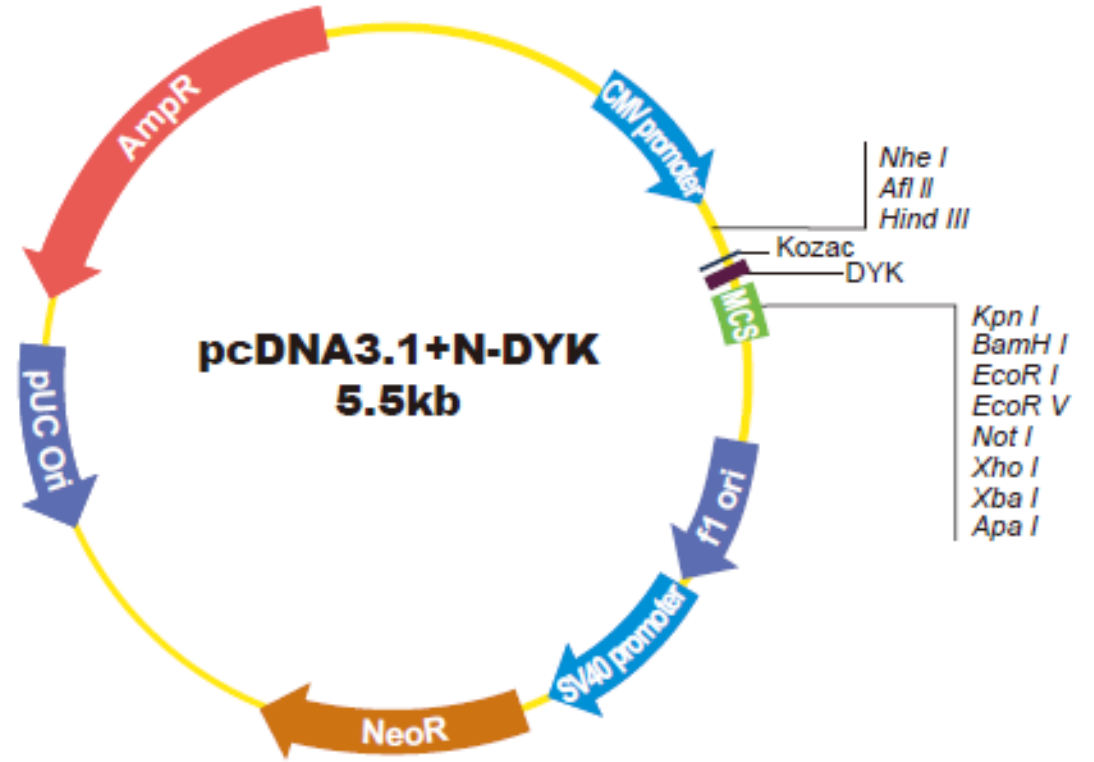


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--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GCC ACC ATG CAT CAT CAC CAT CAC CAT
      Nhe I           Afl II           Kozak seq M H H H H H H
                                     His tag
                                     _____
GTT ACC GAG CTC GGA TCC GAA TTC TGC AGA TAT CCA GCA CAG TGG CGG CCG CTC GAG
      Kpn I           BamH I           EcoR I           EcoR V           Not I           Xho I
                                     _____

TCT AGA GGG CCC GTT TAA ---
      Xba I           Apa I           Stop
    
```

pcDNA3.1(+)-N-DYK

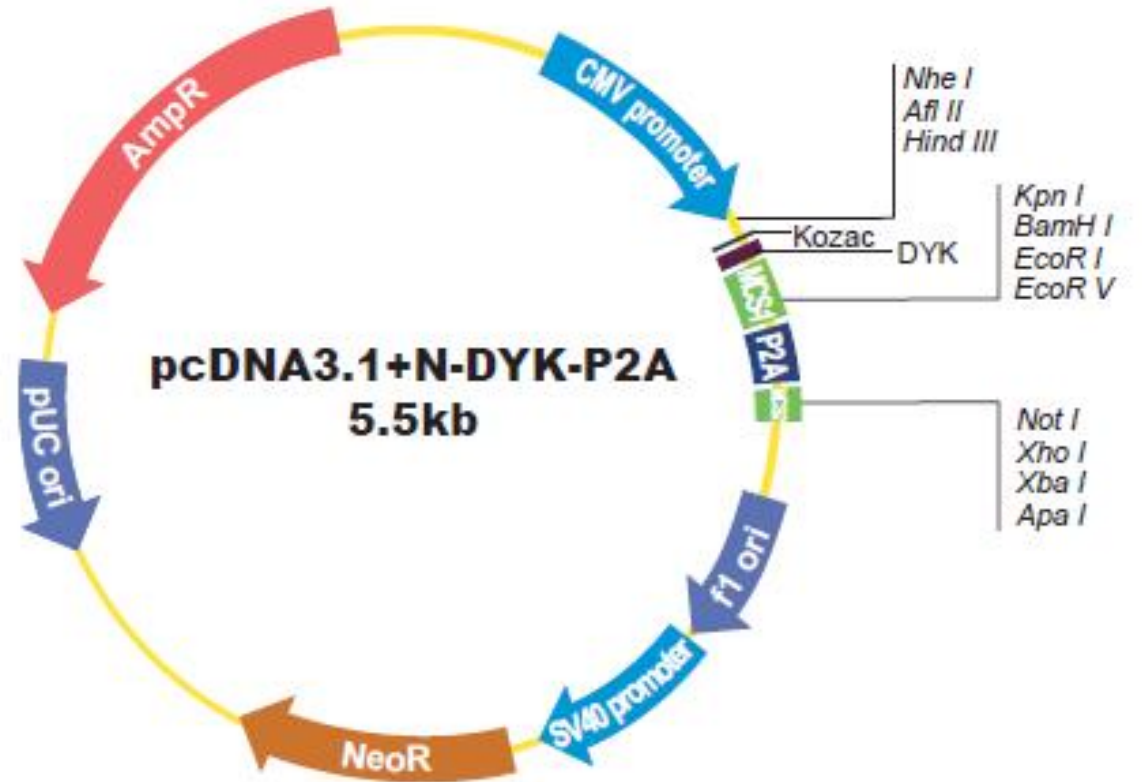


--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GCC ACC ATG GAT TAC AAG GAT GAC GAC
Nhe I *Afl II* Kozak seq M D Y K D D D **DYK tag**

DYK tag
GAT AAG GGT ACC GAG CTC GGA TCC TGA TAA GAA TTC TGC AGA TAT CCA GCA CAG
D K *Kpn I* *BamH I* Stop Stop *EcoR I* *EcoR V*

Not I
TGG CGG CCG CTC GAG TCT AGA GGG CCC GTT TAA ---
Xho I *Xba I* *Apa I* Stop

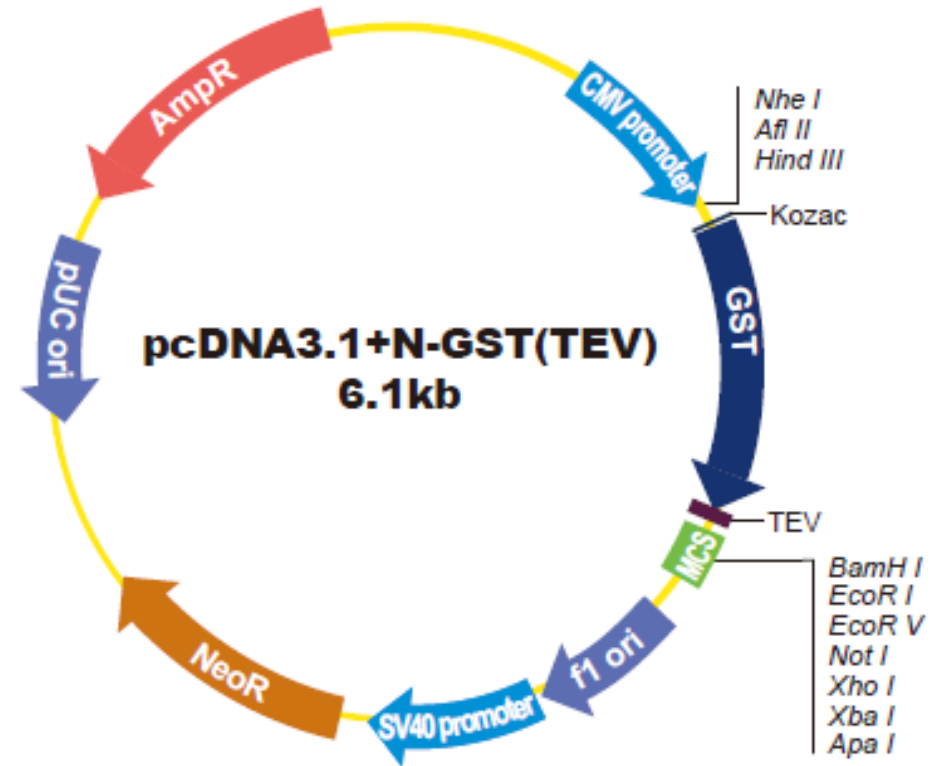
pcDNA3.1(+)-N-DYK-P2A



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GCC ACC ATG GAT TAC AAG GAT GAC GAC GAT AAG GGT ACC GAG CTC
      Nhe I      Afi II      Kozak seq M D Y K D D D D K Kpn I
                                Hind III      DYK tag
GGA TCC GAA TTC TGC GAT ATC GGA AGC GGA GCT ACT AAC TTC AGC CTG CTG AAG CAG GCT GGA GAC GTG GAG GAG
BamH I EcoR I EcoR V G S G A T N F S L L K Q A G D V E E
                                P2A
AAC CCT GGA CCT GCG GCC GCT CGA GAT TCT AGA GGG CCC GTT TAA ---
N P G P Xho I Xba I Apa I Stop
                                Not I
    
```

pcDNA3.1(+)-N-GST(TEV)



--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GCC ACC ATG TCC CCT ATA TCG GAT CTG
Nhe I *Afl II* Kozak seq M S P I S D L

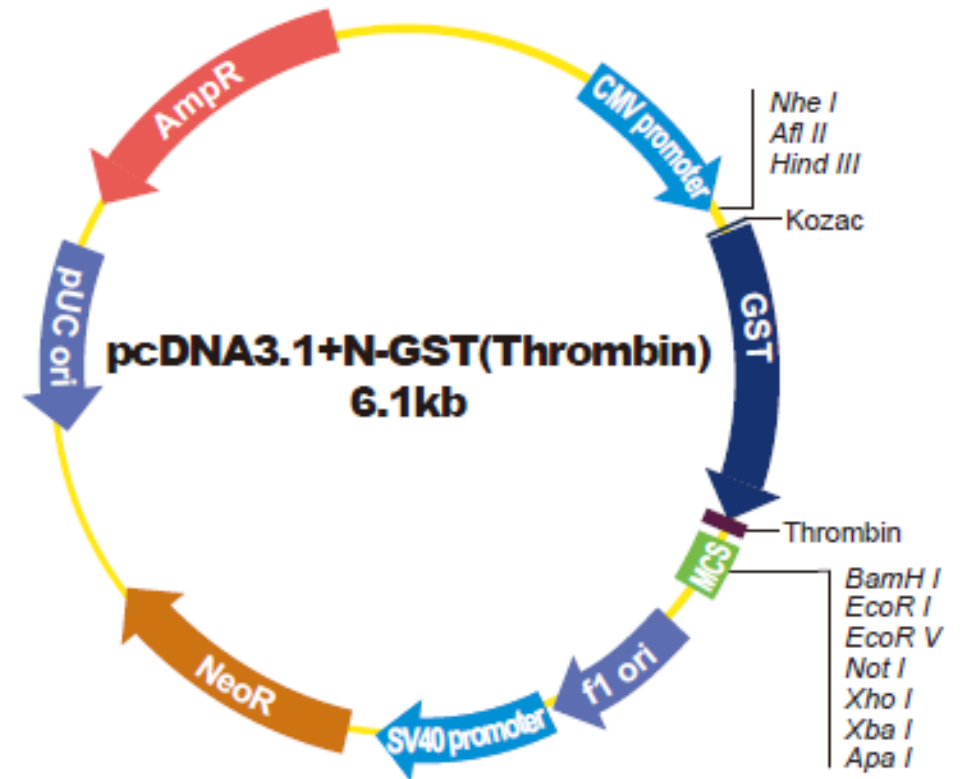
GST tag

GAA AAC CTG TAT TTT CAG GGC GGA TCC GAA TTC TGC AGA TAT CCA GCA CAG
 E N L Y F Q G *BamH I* *EcoR I* *EcoR V*

TEV Cleavage site

TGG CGG CCG CTC GAG TCT AGA GGG CCC GTT TAA ---
Not I *Xho I* *Xba I* *Apa I* Stop

pcDNA3.1(+)-N-GST(thrombin)

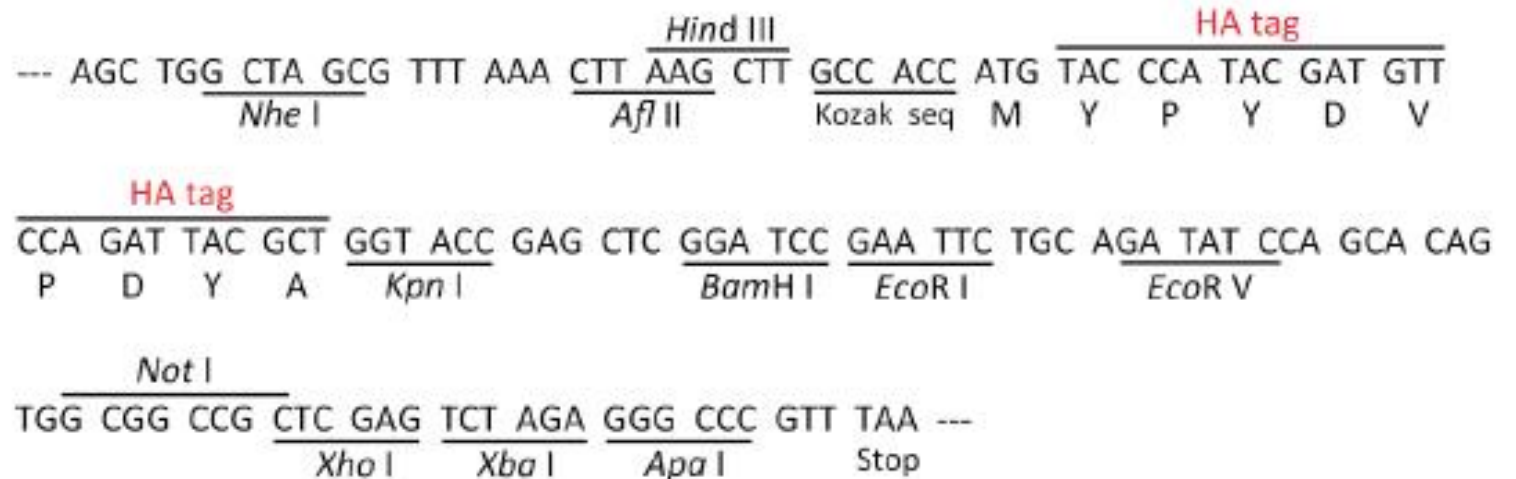
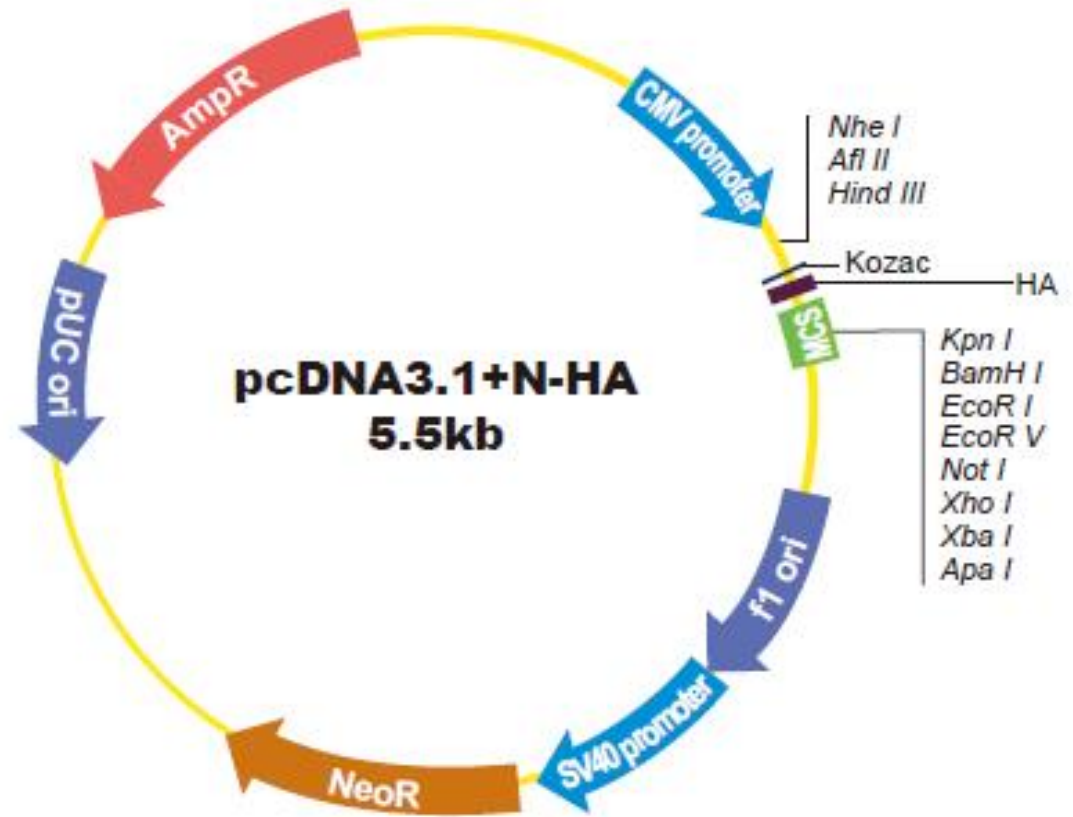


--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GCC ACC ATG TCC CCT ATA TCG
Nhe I *Afl II* Kozak seq M S P I S

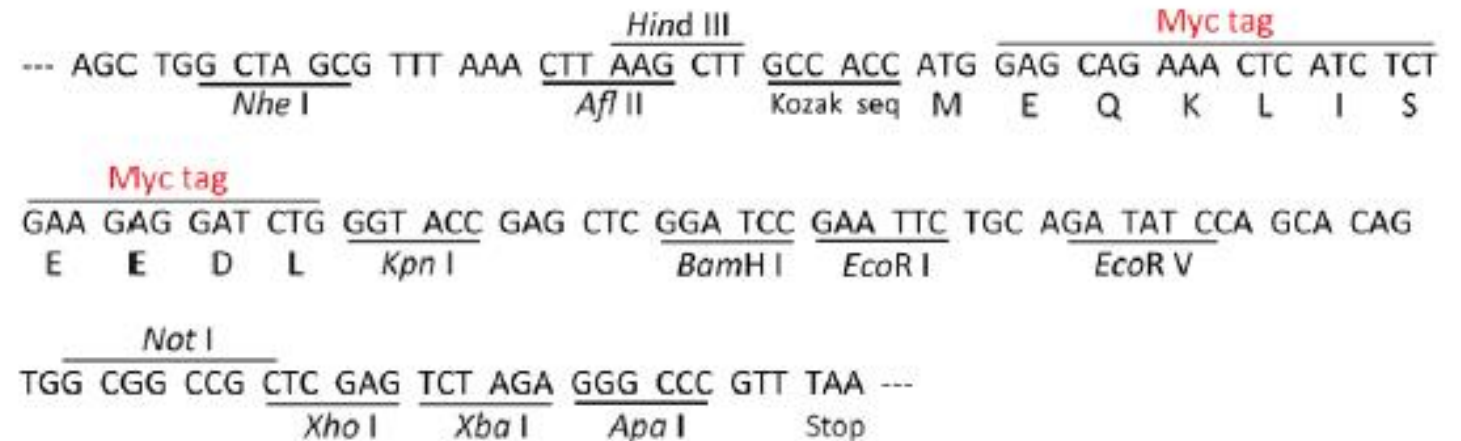
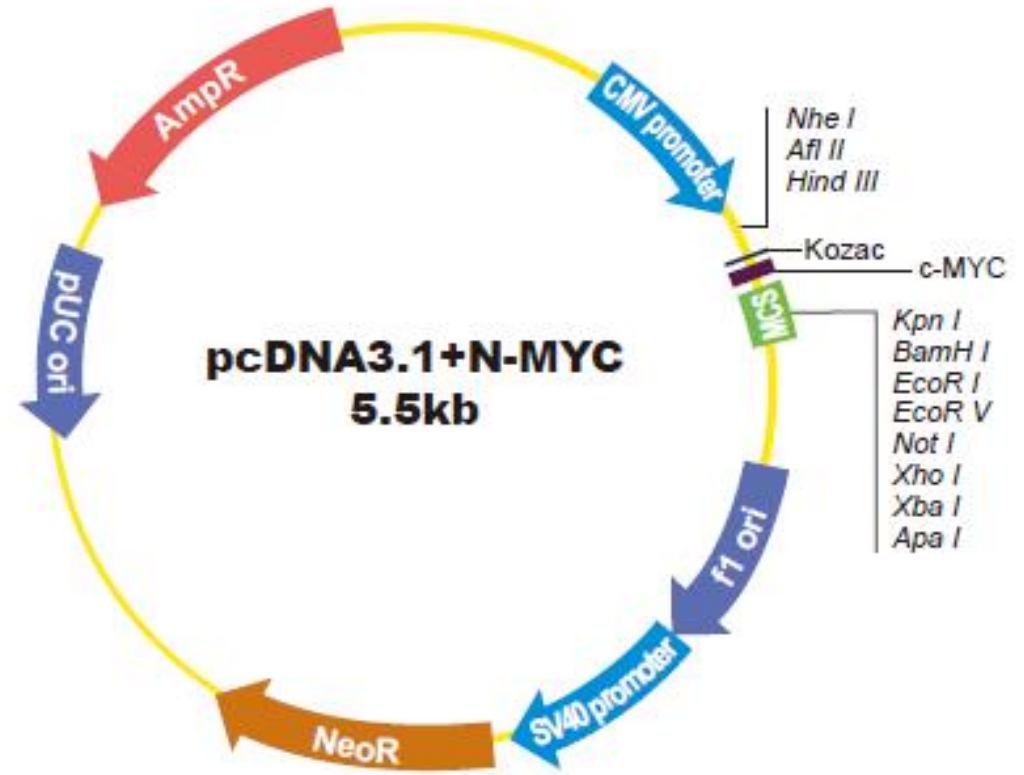
GAT CTG GTT CCG CGT GGA TCC GAA TTC TGC AGA TAT CCA GCA CAG
 D L V P R G S *EcoR I* *EcoR V*
 Thrombin Cleavage site

TGG CGG CCG CTC GAG TCT AGA GGG CCC GTT TAA ---
Xho I *Xba I* *Apa I* Stop

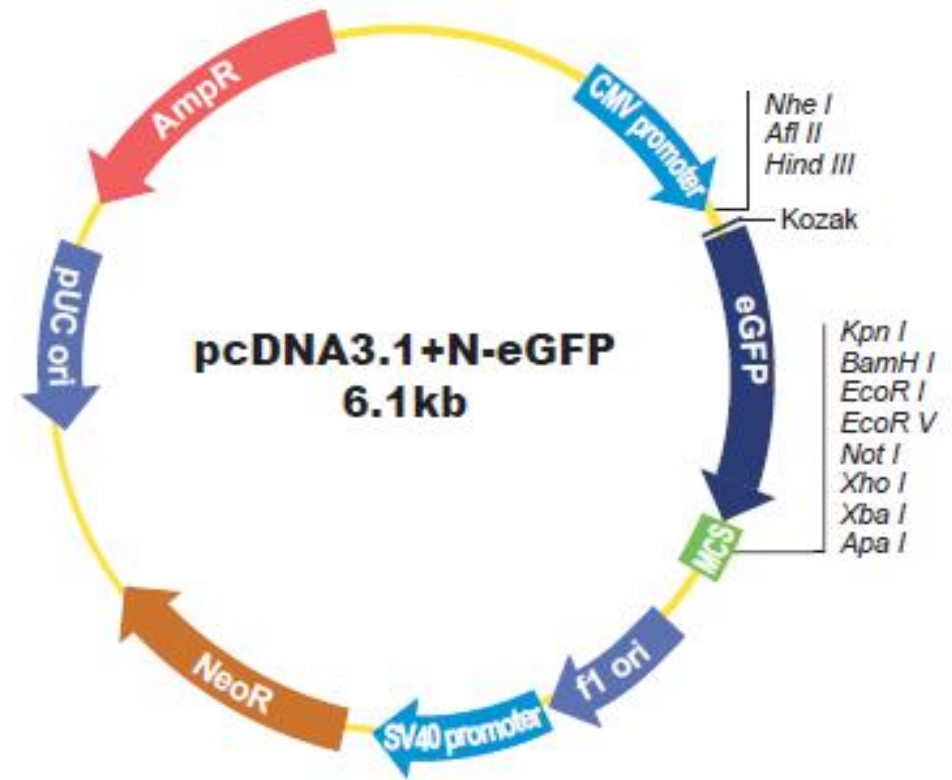
pcDNA3.1(+)-N-HA



pcDNA3.1(+)-N-Myc



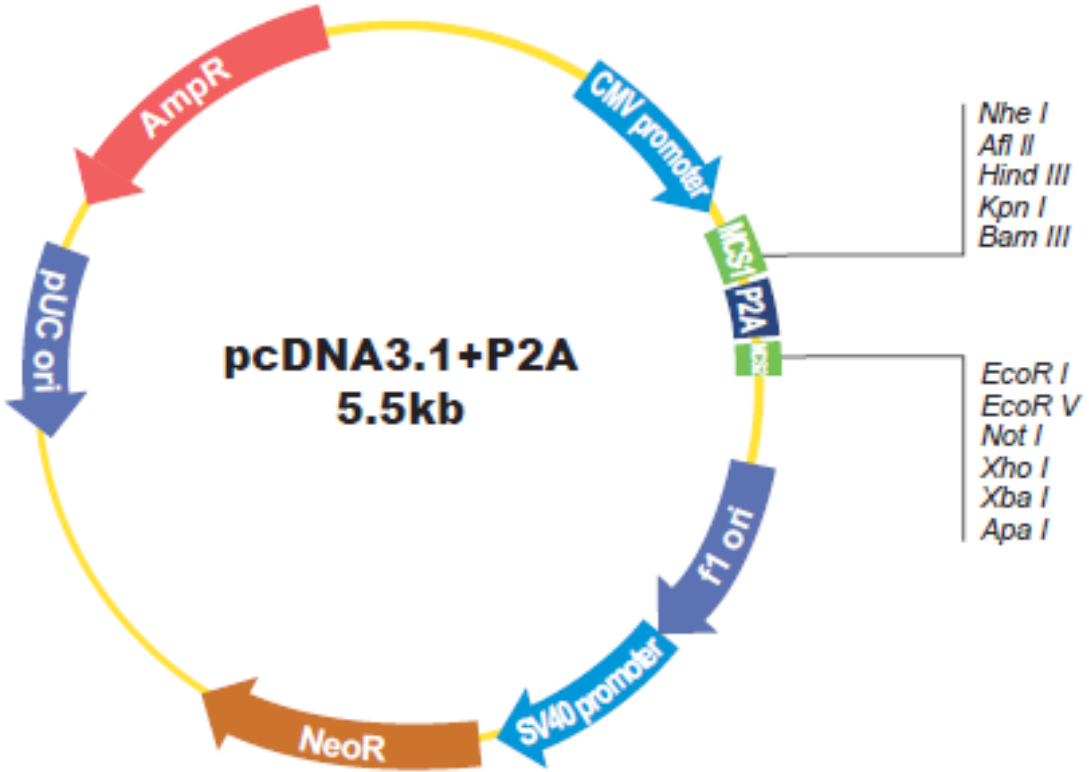
pcDNA3.1(+)-N-eGFP



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GCC ACC ATG AGC AAG GGC ... 684bp ... ATG GAC GAG CTG TAC AAG
      Nhe I           Afl II           Kozak seq M S K G ... 228aa ... M D E L Y K
                        Hind III
GGT ACC GAG CTC GGA TCC GAA TTC TGC AGA TAT CCA GCA CAG TGG CGG CCG CTC GAG TCT AGA GGG CCC GTT TAA AC ---
      Kpn I           BamH I           EcoR I           EcoR V           Xho I           Xba I           Apa I           Stop
    
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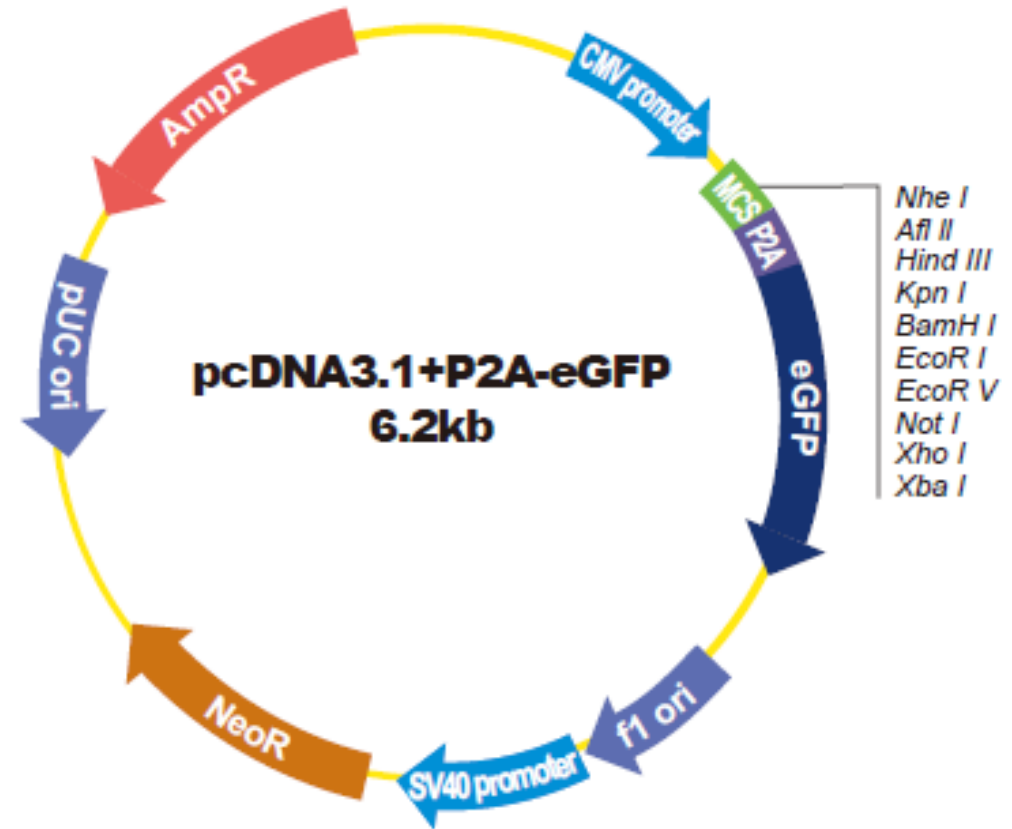

pcDNA3.1(+)-P2A



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC GGA AGC GGA GCT ACT AAC TTC AGC
      Nhe I      Afl II      Kpn I      BamHI      G S G A T N F S
                                     P2A
CTG CTG AAG CAG GCT GGA GAC GTG GAG GAG AAC CCT GGA CCT GAA TTC TGC AGA TAT CCA GCA CAG TGG CGG CCG
L L K Q A G D V E E N P G P EcoR I EcoR V
                                     Not I
CTC GAG TCT AGA GGG CCC GTT TAA AC ---
Xho I Xba I Apa I stop
    
```

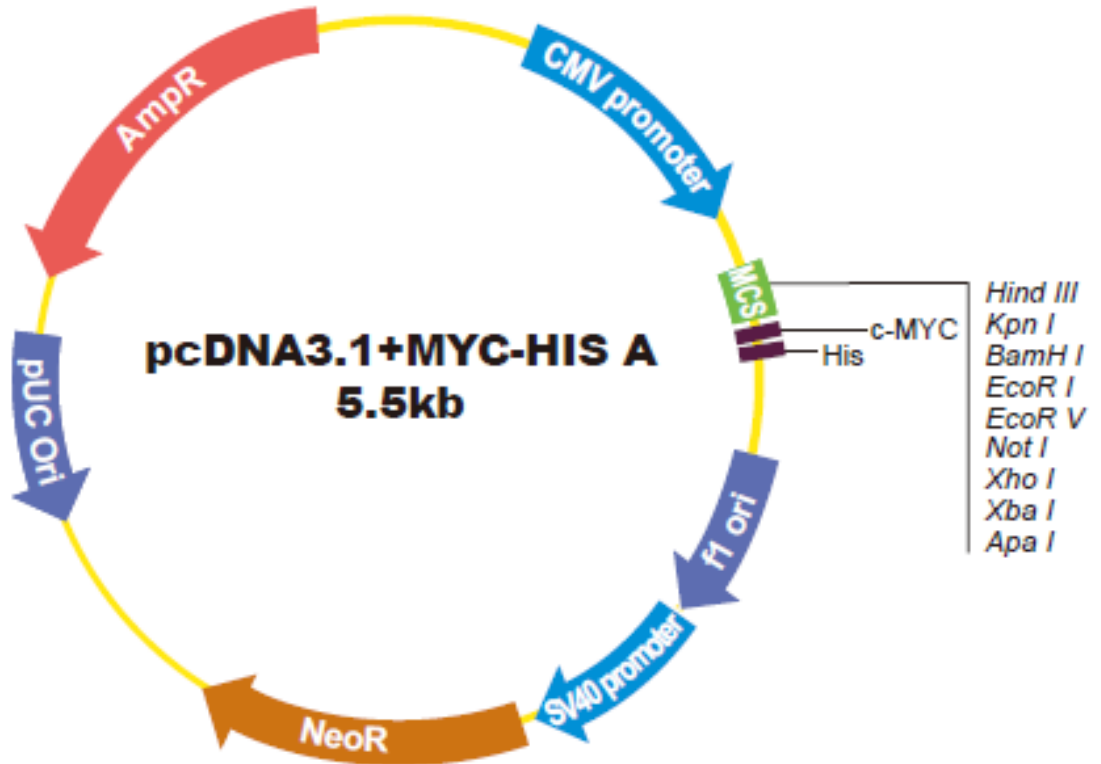
pcDNA3.1(+)-P2A-eGFP



```

--- CTG GCT AGC GTT TAA ACT TAA GCT TGG TAC CGA GCT CGG ATC CAC TAG TCC AGT GTG GTG GAA TTC TGC
      Nhe I      Afl II      Kpn I      BamH I      EcoR I
AGA TAT CCA GCA CAG TGG CGG CCG CTC GAG TCT AGA GGA AGC GGA GCT ACT AAC TTC AGC CTG CTG AAG CAG GCT
      EcoR V      Xho I      Xba I      P2A
G S G A T N F S L L K Q A
GGA GAC GTG GAG GAG AAC CCT GGA CCT ATG AGC AAG GGC ... 690bp ... GAG CTG TAC AAG TAA GGG CCC ---
G D V E E N P G P M S K G ... 230aa ... E L Y K Stop
    
```

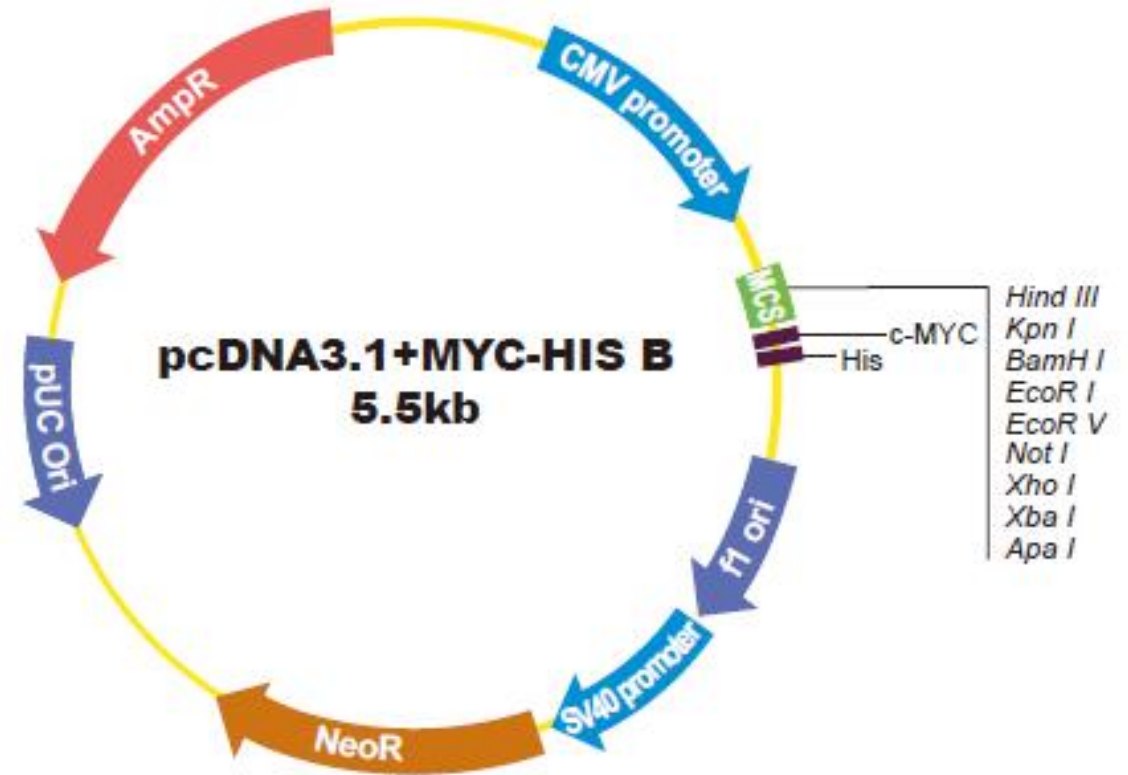
pcDNA3.1(+)-myc-His A



```

--- AGT TAA GCT TGG TAC CGA GCT CGG ATC CAC TAG TCC AGT GTG GTG GAA TTC TGC AGA TAT CCA GCA CAG TGG
      Hind III Kpn I BamH I EcoR I EcoR V
      Not I
CGG CCG CTC GAG TCT AGA GGG CCC TTC GAA CAA AAA CTC ATC TCA GAA GAG GAT CTG AAT ATG CAT ACC GGT CAT
      Xho I Xba I Apa I E Q K L I S E E D L
His tag
CAT CAC CAT CAC CAT TGA ---
H H H H H Stop
  
```

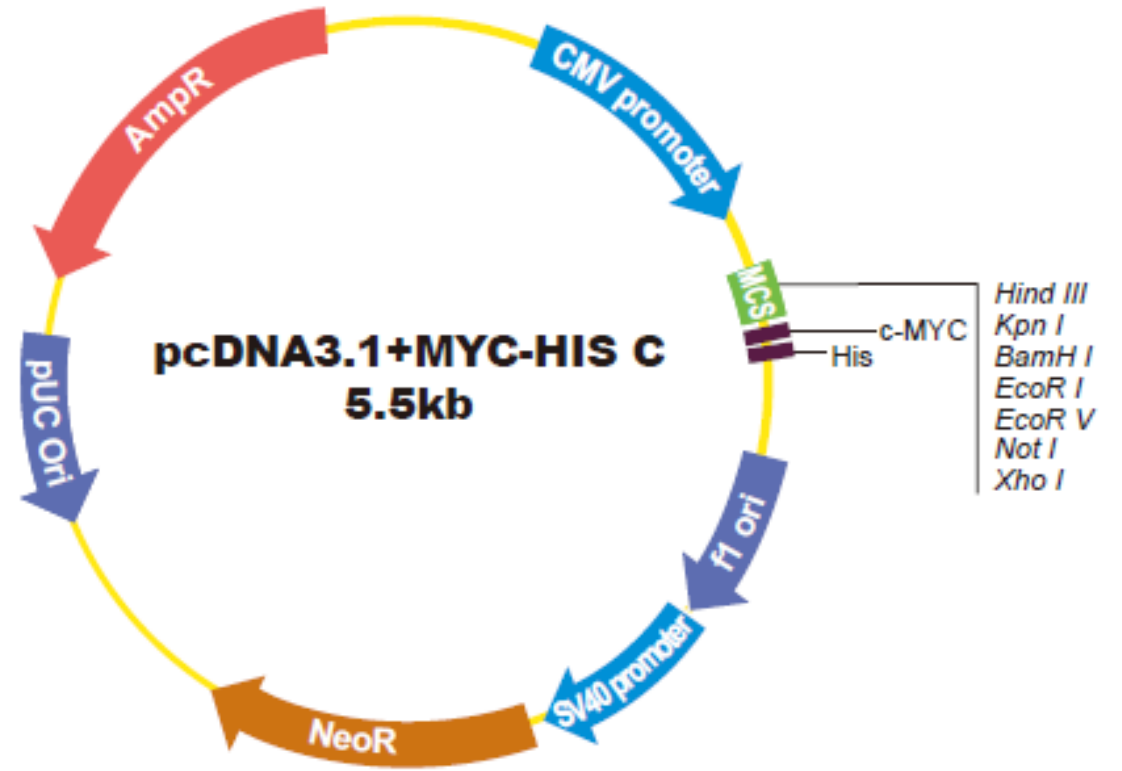
pcDNA3.1(+)-myc-His B



```

--- GTT AAG CTT GGT ACC GAG CTC GGA TCC ACT AGT CCA GTG TGG TGG AAT TCT GCA GAT ATC CAG CAC AGT GGC
      Hind III  Kpn I      BamH I
      Not I
GGC CGC TCG AGT CTA GAG GGC CCG CGG TTC GAA CAA AAA CTC ATC TCA GAA GAG GAT CTG AAT ATG CAT ACC GGT
      Xho I  Xba I  Apa I
      Myc tag
      His tag
CAT CAT CAC CAT CAC CAT TGA ---
H H H H H H Stop
  
```

pcDNA3.1(+)-myc-His C



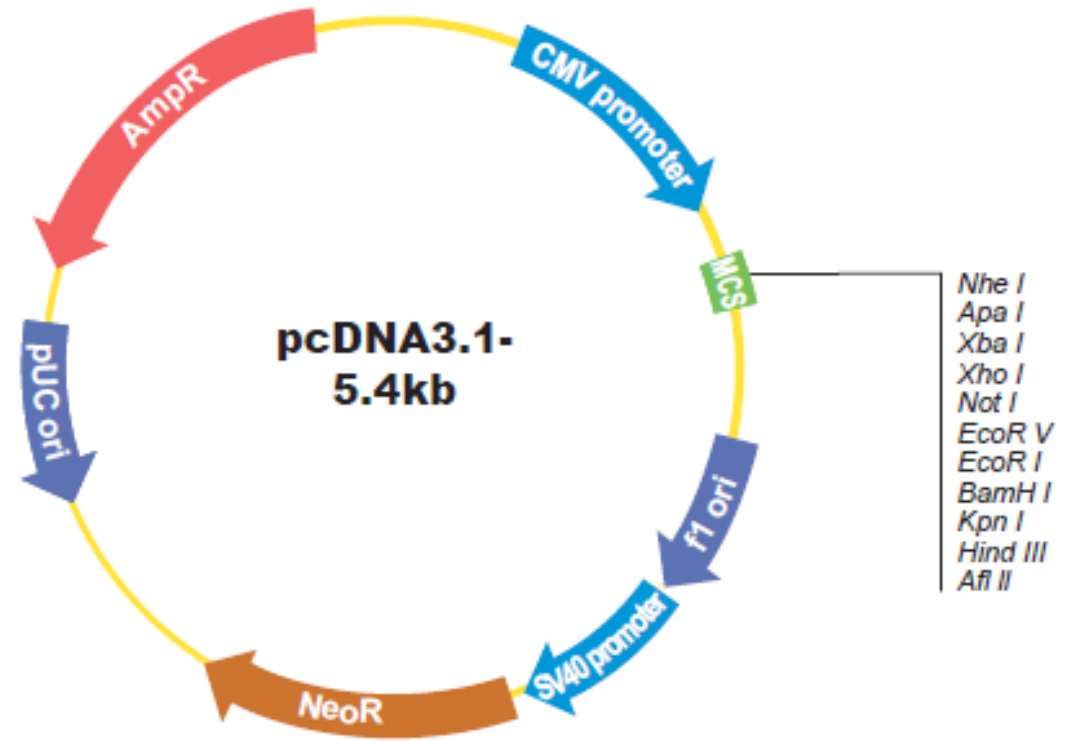
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--- TTA AGC TTG GTA CCG AGC TCG GAT CCA CTA GTC CAG TGT GGT GGA ATT CTG CAG ATA TCC AGC ACA GTG GCG
      Hind III  Kpn I          BamH I          EcoR I          EcoR V

GCC GCT CGA GGT CAC CCA TTC GAA CAA AAA CTC ATC TCA GAA GAG GAT CTG AAT ATG CAT ACC GGT CAT CAT CAC
      Xho I          Myc tag                                     His tag
                        E Q K L I S E E D L                                     H H H

His tag
CAT CAC CAT TGA ---
H H H Stop
  
```

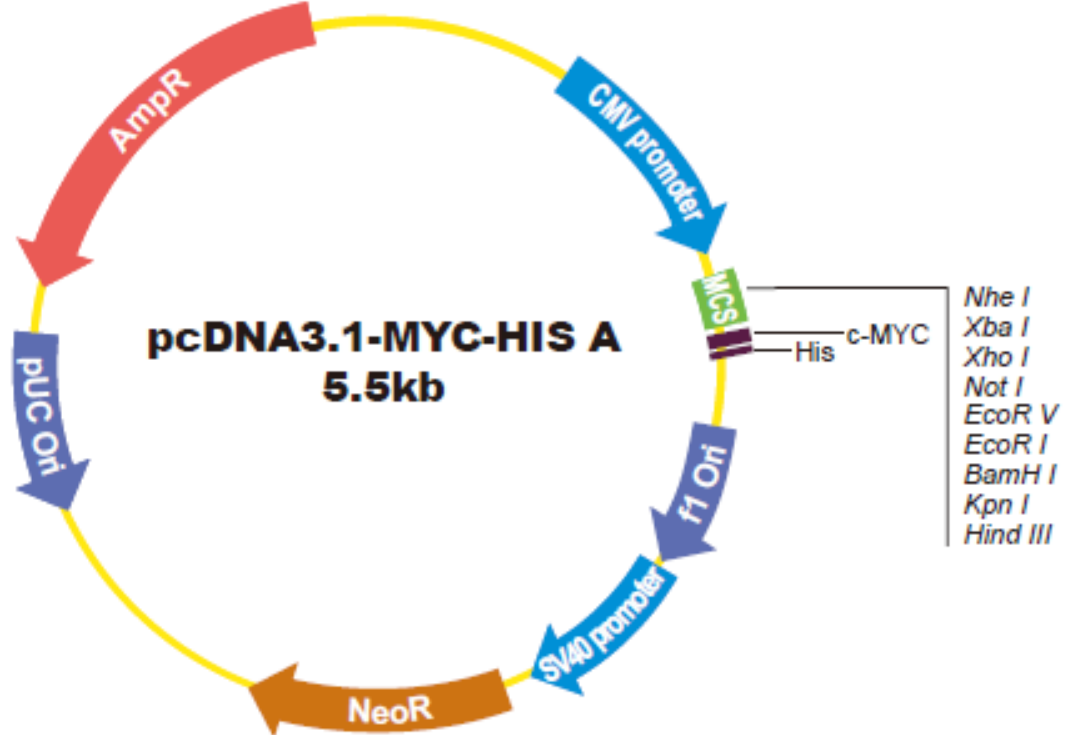
pcDNA3.1(-)



```

--- AGC TGG CTA GCG TTT AAA CGG GCC CTC TAG ACT CGA GCG GCC GCC ACT GTG CTG GAT ATC TGC AGA ATT
           Nhe I           Apa I   Xba I           Xho I           Not I           EcoR V           EcoR I
           BamH I           Kpn I   Hind III
CCA CCA CAC TGG ACT AGT GGA TCC GAG CTC GGT ACC AAG CTT AAG TTT AAA C ---
    
```

pcDNA3.1(-)-myc-His A



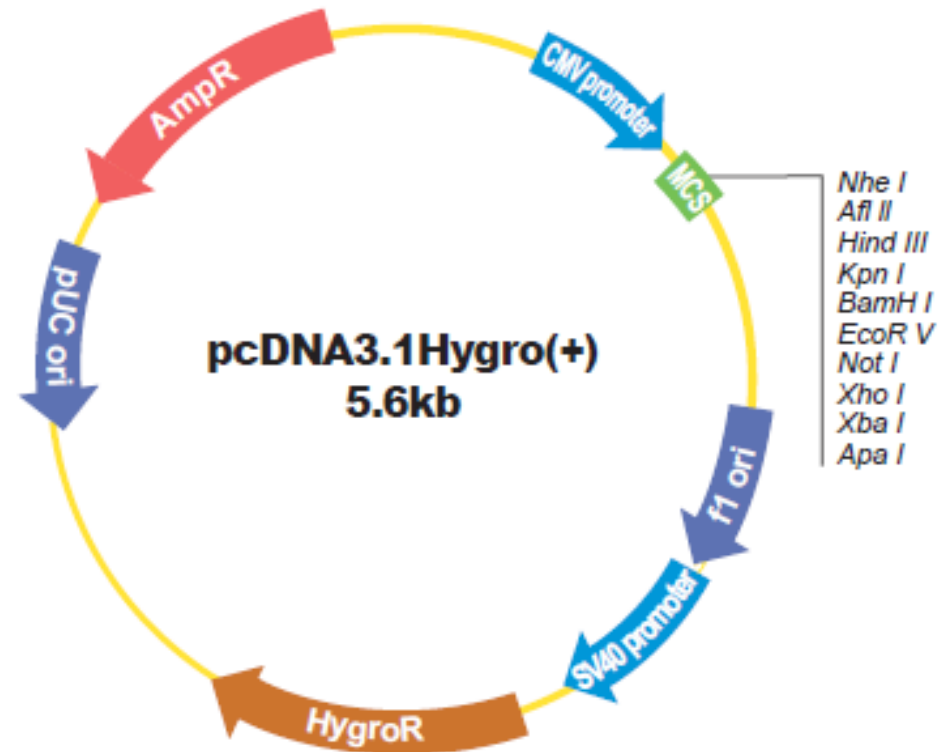
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      Nhe I                Xba I Xho I Not I                EcoR V EcoR I
--- AGC TGG CTA GCG TTT AAA CGG GCC CTC TAG ACT CGA GCG GCC GCC ACT GTG CTG GAT ATC TGC AGA ATT

      BamH I                Kpn I Hind III                Myc tag
_ CCA CCA CAC TGG ACT AGT GGA TCC GAG CTC GGT ACC AAG CTT GGG CCC GAA CAA AAA CTC ATC TCA GAA
      E Q K L I S E

His tag
GAG GAT CTG AAT AGC GCC GTC GAC CAT CAT CAT CAT CAT CAT TGA GTT TAA ---
      E D L                H H H H H H Stop Stop
  
```

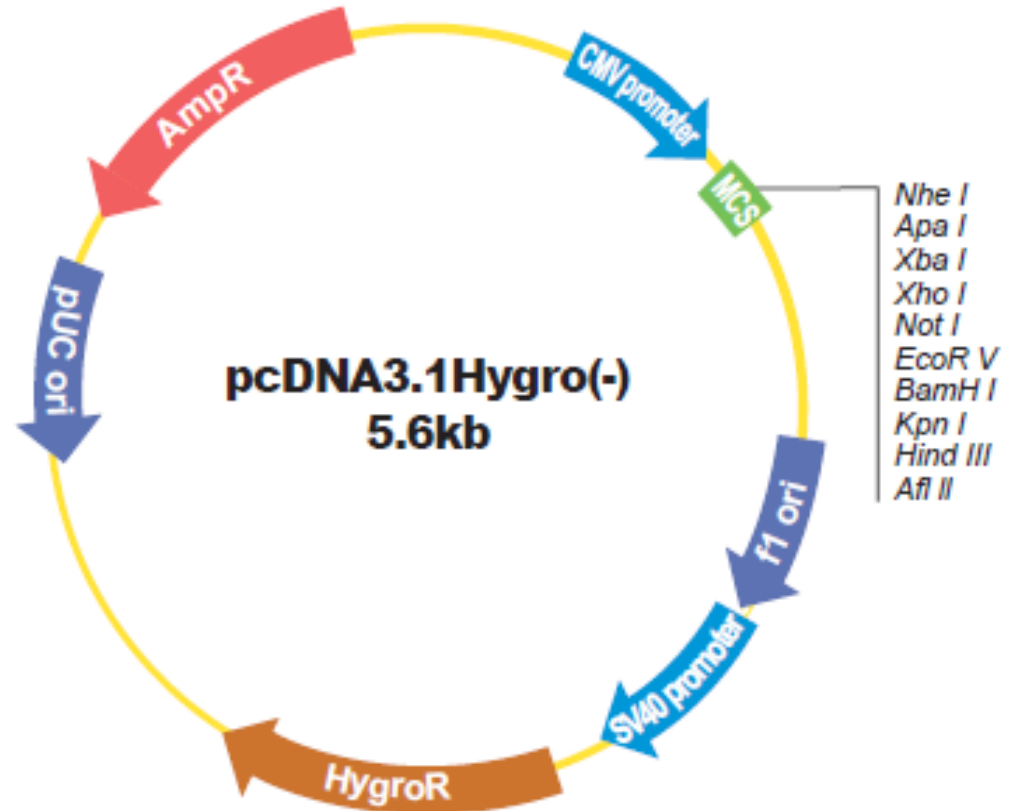

pcDNA3.1 / Hygro(+)



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC ACT AGT CCA GTG TGG TGG AAT TCT
                Nhe I      Afl II      Kpn I      BamH I
                        Xho I
GCA GAT ATC CAG CAC AGT GGC GGC CGC TCG AGT CTA GAG GGC CCG ---
        EcoR V      Not I      Xba I      Apa I
  
```

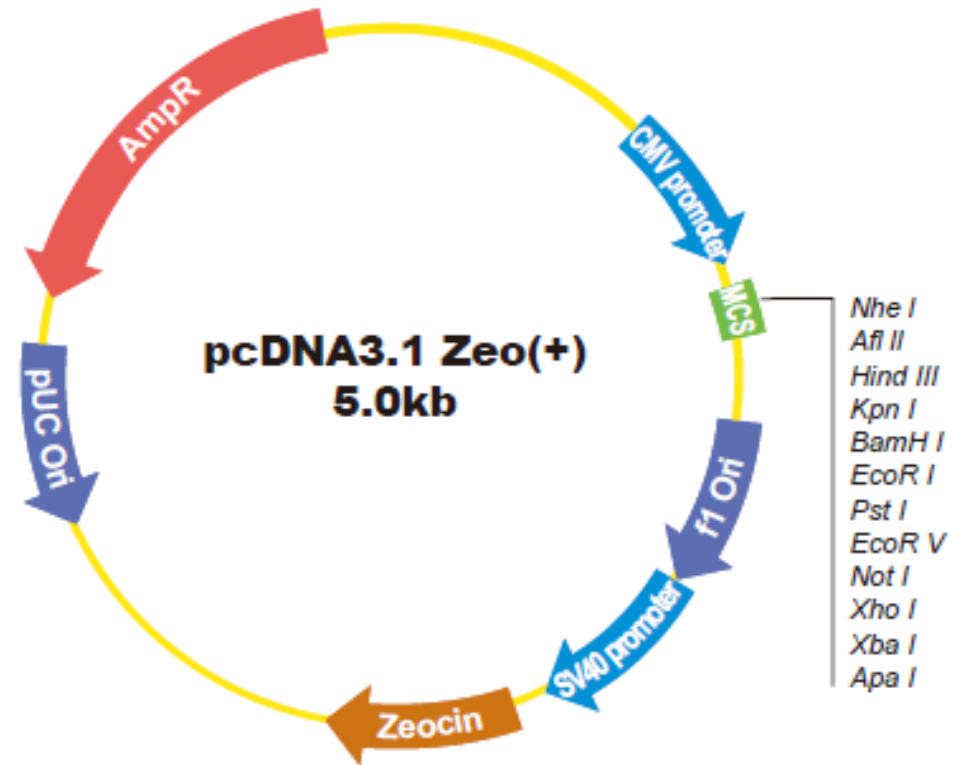
pcDNA3.1 / Hygro(-)



```

--- AGC TGG CTA GCG TTT AAA CGG GCC CTC TAG ACT CGA GCG GCC GCC ACT GTG CTG GAT ATC TGC AGA ATT
           Nhe I           Apa I  Xba I           Xho I           Not I           EcoR V
                                     Afl II
CCA CCA CAC TGG ACT AGT GGA TCC GAG CTC GGT ACC AAG CTT AAG ---
           BamH I           Kpn I  Hind III
    
```

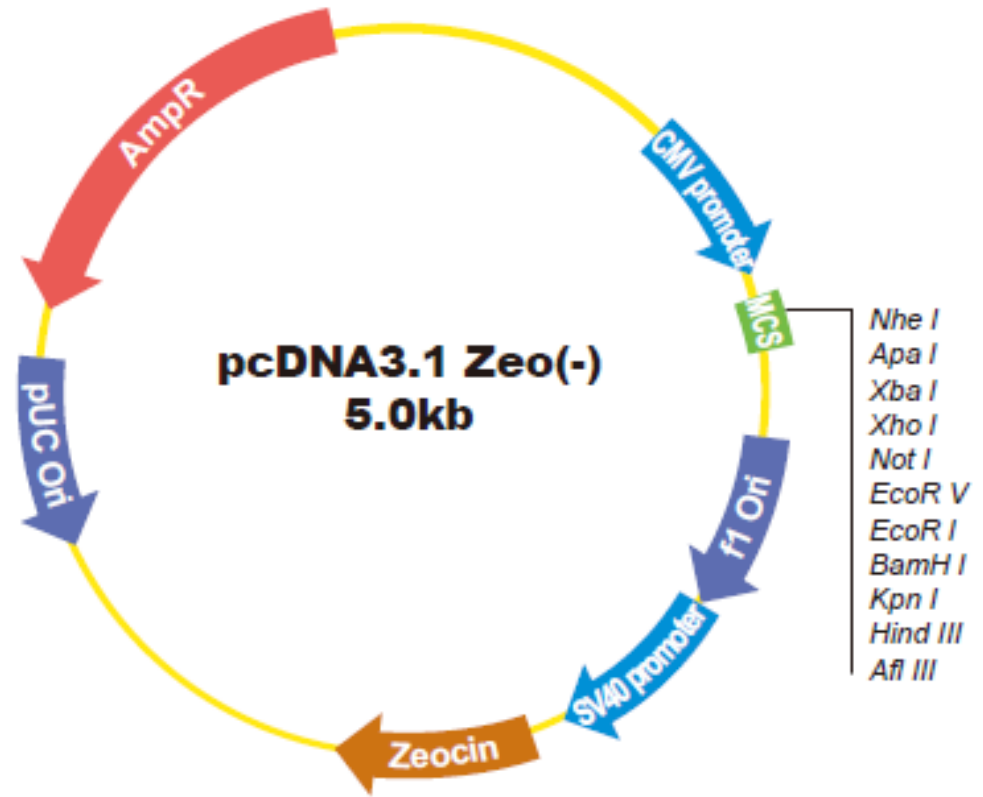
pcDNA3.1/Zeo(+)



```

--- AGC TGG CTA GCG TTT AAA CTT AAG CTT GGT ACC GAG CTC GGA TCC ACT AGT CCA GTG TGG TGG AAT TCT ---
      |         |         |         |         |         |         |         |         |         |
      Pst I     Nhe I     Afl II    Kpn I     BamH I                                EcoR I
      |         |         |         |         |         |         |         |         |
GCA GAT ATC CAG CAC AGT GGC GGC CGC TCG AGT CTA GAG GGC CCG ---
      |         |         |         |         |         |         |         |         |
      EcoR V    Not I    Xba I     Apa I
    
```

pcDNA3.1 / Zeo(-)



--- AGC TGG CTA GCG TTT AAA CGG GCC CTC TAG ACT CGA GCG GCC GCC ACT GTG CTG GAT ATC TGC AGA ATT
Nhe I Apa I Xba I Xho I Not I EcoR V EcoR I

CCA CCA CAC TGG ACT AGT GGA TCC GAG CTC GGT ACC AAG CTT AAG ---
BamH I Kpn I Hind III Afl II